

Report of the City Health Department / City of Winnipeg.

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CITY OF WINNIPEG

REPORT
of the
Health Department



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For the Year ending
31st December 1931



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CITY OF WINNIPEG

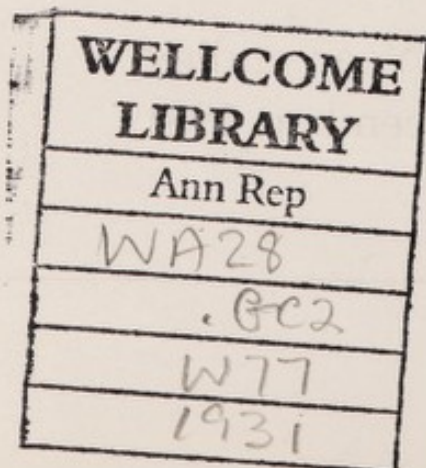
REPORT
of the
Health Department



For the Year ending
31st December 1931

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COMMITTEE ON HEALTH

1931

Alderman W. B. Simpson, Chairman.

Alderman H. Andrews.

Alderman W. A. Cuddy.

Alderman R. Maybank.

Alderman A. J. Roberts.

Alderman M. A. Gray.

His Worship Mayor R. H. Webb,
(Ex-officio).

STAFF

(December, 1931)

Medical Health Officer

A. J. Douglas, M.D.

Laboratory

Bacteriologist—M. S. Lougheed, 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.

Communicable Diseases Division

Chief Inspector—W. J. T. Watt	Tuberculosis Nurse—Miss K. M. Vanetta.
Inspector—A. Paull.	“ “ —Miss H. Smyth.
“ —C. H. Hargrave.	“ “ —Miss M. Simpson.
“ —H. H. Marshall.	Inspector's Clerk—G. Moore.
“ —H. Robinson.	Junior Clerk—L. G. Williams.

STAFF (Continued)

Sanitary Inspections Division

Chief Inspector—E. W. J. Hague.*	Housing and Supervising Inspector—
“ “ —A. Officer.**	P. Pickering.**
Smoke Inspector—D. Little.**	Supervising Insp.—B. C. Brough.**
Inspector's Clerk—G. Duffield.***	Junior Clerk—S. Steele.
Inspectors: J. McHardy,	Inspectors: A. G. Isaac,
A. Aitken,	G. W. Kelly,
A. Barclay,	E. Officer,
F. C. Austin,	D. G. Johnson,
J. Shepherd,	A. Cross.°
B. Davies.	

*Retired, Jan. 7th.

**Promoted, Jan. 7th.

***Died, Jan. 15th.

°Appointed, Jan. 7th.

Dairy Division

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

Food Division

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

Bureau of Child Hygiene

Manager—A. G. Lawrence.
Nurses: Miss M. M. Wonnacott,
Miss A. J. Attrill,
Miss L. Spratt,
Miss C. Maddin,
Miss A. Moore,
Miss C. Munro,
Miss L. A. Schwalm,
Miss E. A. Bennett,
Miss M. M. Harper.

Nurses: Miss A. M. Wilkins,
Miss H. A. Carter,
Miss C. W. Thom,
Mrs. C. E. Smith,
Miss M. B. Bowles.
Dietitian—Miss M. A. Graham.
Senior Helper—Mrs. J. MacDonald.
Junior Helper—Mrs. H. Twist.
“ “ —Mrs. A. B. Gibson.
Caretaker—G. Wade.

Attending Physicians: R. F. Rorke, M.D.

F. G. Schwalm, M.D.

Division of Records and Statistics

Secretary—A. G. Lawrence.
Clerk—Miss E. S. Halliday.

Junior Clerk—Miss E. Fraser.
“ “ Miss F. J. V. Orr.

Street Cleaning Division

Chief of Division—E. A. Wood.
Supt. of Scavenging—J. Shannon.
Supt. of Street Cleaning—L. Woodhall.
Clerk—J. J. Higgins.
“ —J. McTavish.
Office Assistant—Miss N. Deering.

Public Baths Division

Superintendent—G. A. Harrison.
Matron—Mrs. J. Harrison.
Life Saving Attendants: F. Barnes,
A. Dennis.

Engineers: A. Stiles,
H. Irons.
Office Attendant—Mrs. G. Baker.

Report of the Medical Health Officer

City Health Department,

Winnipeg, Man., February 29, 1932.

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 1931. This includes the reports of the heads of Divisions together with a statement of the cost of the year's work.

STATISTICS

The number of deaths, excluding stillbirths, was 1,709. Assuming the population to be 212,815 (City Assessor's figures), this gives a gross death rate of 8.03 per 1,000 population. The rate for 1930 was 8.63. The corrected number of deaths, excluding stillbirths, was 1,499, giving a corrected rate of 7.04.

The number of registered deaths in children under one year of age was 218, giving a crude mortality rate of 49.3 per 1,000 living births. In 1930 the rate was 57.9.

Registered stillbirths numbered 169, giving a rate per 1,000 live births of 38.2. In 1930 there were 201 stillbirths and the rate was 43.3.

Further details regarding births and deaths will be found in the report of the Statistician. These figures, with the analysis and explanations given, are of interest and should be studied.

FINANCIAL STATEMENT

This statement is divided into three parts, the first covering those services concerned with the control and prevention of disease; the second, concerned with refuse collection and disposal, and street-cleaning services; and the third, the operation of the public baths and comfort stations.

CONTROL AND PREVENTION OF DISEASE, 1931

SUMMARY

(a) Personal Services.....	\$104,942.25
(b) Outside Services.....	7,935.18
(c) Material, supplies and repairs.....	8,307.17
(d) Equipment and replacements.....	1,762.23
(e) Fuel, water, light and power.....	1,269.47
(f) Other expenses.....	565.00
(i) Interest	600.00
	<hr/>
	\$125,381.36
	<hr/>

EXPENDITURE BY DIVISIONS

C-1 Administration and Statistics (Controllable)	\$ 13,249.15
C-2 Bacteriological Laboratory (Controllable)	\$ 7,245.87
C-3 Treatment and Prevention of Communicable Diseases:	
C-3-1 Acute Communicable Diseases (Controllable).....	\$ 13,205.60
C-3-2 Tuberculosis (Controllable)	6,398.08
C-3-3 Smallpox and Diphtheria Prevention (Control- lable)	2,026.79
C-3-4 Automobile Services (Controllable).....	994.00
C-3-5 Fixed Charges on Debenture Debt (Uncontrol- lable)	600.00
	<hr/>
Total Treatment and Prevention of Com- municable Diseases	\$ 23,224.47
C-4 Sanitary Inspection (Controllable)	\$ 29,565.52
C-5 Food and Dairy Inspection (Controllable):	
C-5-1 Dairy Inspection	\$ 9,521.22
C-5-2 Food Inspection	6,291.20
C-5-3 Food Inspection Automobile	376.87
	<hr/>
Total Food and Dairy Inspection.....	\$ 16,189.29
C-6 Child Welfare (Controllable):	
C-6-1 Babies' Milk Depot.....	\$ 12,102.05
C-6-2 Visiting Nurses	21,735.13
	<hr/>
Total Child Welfare.....	\$ 33,837.18
C-7 Medical Relief (Controllable):	
C-7-1 District Physicians	\$ 2,069.82
	<hr/>
Gross Expenditure, Control and Prevention of Disease	\$125,381.30

REVENUE

(Credited to City's Revenue Account)

Police Court Fines and Costs.....	\$ 34.00	
Fees for Laboratory Work.....	158.00	
Sale of Infants' Feedings at Milk Depot.....	435.10	
		627.10
Net Expenditure		\$124,754.20

**REFUSE COLLECTION AND DISPOSAL AND STREET CLEANING,
1931**

SUMMARY

(a) Personal Services.....	\$232,681.63
(b) Outside Services.....	48,788.88
(c) Material, Supplies and Repairs.....	37,198.99
(d) Equipment, Additions and Replacements.....	2,825.00
(e) Fuel, Water, Light and Power.....	2,500.06
(f) Other Expenses	250.00
(g) Capital Outlay	53.00
(i) Interests	9,745.00
(ii) Sinking Fund	4,174.46
	\$338,217.02

EXPENDITURE BY DIVISIONS

C-8 Refuse Collection and Disposal:

C-8-1 Scavenging	\$142,799.72
C-8-3 Nuisance Ground Operating.....	5,149.31
C-8-6 Crematory No. 2, Operating	11,726.73
C-8-7 Crematory No. 2, Maintenance	1,133.61
C-8-8 Crematory No. 3, Operating	18,348.75
C-8-9 Crematory No. 3, Operating	1,770.21
C-8-10 Ash Removal.....	43,245.08
C-8-11 Fixed Charges on Debenture Debt.....	13,919.46

Total, Refuse Collection and Disposal..... \$238,092.77

D Street Cleaning and Flushing:

D-1-1 Administration	\$ 7,228.15
D-1-2 Automobile Services.....	345.13
D-4-1 Asphalt Pavement Cleaning.....	75,958.32
D-4-2 Macadam Pavement Cleaning.....	2,630.99
D-4-4 Paved Lane Cleaning and Paper Picking.....	3,893.45
D-4-6 Street Sprinkling and Flushing.....	4,048.44
D-5-3 Cutting Noxious Weeds.....	4,134.52
D-5-4 Yards Maintenance	1,885.25

Total Street Cleaning and Flushing..... \$100,124.25

Grand Total

\$338,217.02

REVENUE

(Credited to City's Revenue Account)

Scavenging	\$1,253.74	
Deposits Workmen's Closet.....	1,383.00	
Incinerator Number 2.....	1,476.52	
Incinerator Number 3.....	1,695.28	
Ash Boxes and Garbage Cans.....	3.00	
Sale of Steam.....	1,200.00	
		\$ 7,011.54
		<hr/>
Net Expenditure		\$331,205.48
		<hr/>

PUBLIC COMFORT STATIONS AND BATHS, 1931**C-10 Public Comfort Stations:****SUMMARY**

(a) Personal Services.....	\$ 19,972.35
(b) Outside Services.....	42.00
(c) Material, Supplies and Repairs.....	2,454.70
(d) Equipment, Additions and Replacements.....	46.40
(e) Fuel, Water, Light and Power.....	3,255.66
(i) Interest	2,792.64
(ii) Sinking Fund	945.43
	<hr/>
	\$ 29,509.18
	<hr/>
C-10-1 Administration (Controllable)	\$ 585.10
C-10-2 Operation (Controllable)	24,223.57
C-10-3 Maintenance (Controllable)	962.44
	<hr/>
Total Controllable	\$ 25,771.11
C-10-4 Fixed Charges on Debenture Debt (Uncontrollable)	\$ 3,738.07
	<hr/>
Total Public Comfort Stations.....	\$ 29,509.18

REVENUE

Comfort Stations	\$ 335.35
	<hr/>
Net Expenditure for Public Comfort Stations	\$ 29,173.83
	<hr/>

F-2 Public Baths:

SUMMARY

(a) Personal Services.....	\$ 16,512.29
(b) Outside Services.....	272.63
(c) Material, Supplies and Repairs.....	6,255.64
(d) Equipment, Additions and Replacements.....	474.64
(e) Fuel, Water, Light and Power.....	12,231.11
(f) Other Expenses	36.00
(g) Capital Outlay.....	15,179.02
(i) Interest	13,100.00
(ii) Sinking Fund.....	5,495.62
	<hr/>
	\$ 69,556.95
	<hr/>
F-2-1 Administration (Controllable)	\$ 2,079.54
F-2-2 Operation (Controllable)	29,791.02
F-2-3 Maintenance of Buildings (Controllable).....	19,090.77
	<hr/>
Total Controllable	\$ 50,961.33
F-2-4 Fixed Charges on Debenture Debt (Uncontrollable)	\$ 18,595.62
	<hr/>
Total Public Baths.....	\$ 69,556.95

REVENUE

Pritchard Baths (January to October) \$ 5,245.00	
Sherbrook Baths (March to December) 16,906.00	
	<hr/>
	\$ 22,151.00
	<hr/>
Net Expenditure for Public Baths.....	\$ 47,405.95

RESUME OF NET HEALTH DEPARTMENT EXPENDITURES, 1931

Control and Prevention of Disease.....	\$124,754.20
Scavenging and Refuse Disposal.....	231,081.23
Street Cleaning and Flushing.....	100,124.25
Public Comfort Stations.....	29,173.83
Public Baths	47,405.95
	<hr/>
	\$532,539.46

NET COST PER CAPITA

(Population 212,815)

Control and Prevention of Disease.....	\$.59
Scavenging and Refuse Disposal.....	1.09
Street Cleaning and Flushing.....	.47
Public Comfort Stations.....	.14
Public Baths.....	.22
	<hr/>
Total Cost per Capita.....	\$2.51

COMMUNICABLE DISEASES

The total number of reports of communicable diseases was 6,786 cases and 144 deaths, as compared with 4,552 cases and 167 deaths for 1930.

Measles and Mumps provided the largest increases, but Scarlet Fever, Typhoid Fever and Influenza also showed increased prevalence.

There were 40 non-resident deaths, as compared with 37 for the preceding year.

Corrected deaths for the City numbered 129, as compared with 160 for 1930; this figure is arrived at by deducting non-resident deaths and adding deaths of Winnipeg citizens which occurred in St. Boniface Hospital, and Ninette and St. Boniface Sanatoriums.

DIPHTHERIA

The total number of cases of Diphtheria recorded for the year was 279, deaths 15, as compared with 343 cases and 14 deaths for the preceding year. Rate per 100,000 population being 7.4, with a death rate of 5.3 per 100 cases.

After deducting 4 non-resident deaths and adding 2 deaths of Winnipeg children who died in St. Boniface, we have corrected rates of 6.1 and 5.2 respectively.

During November and December the disease increased in prevalence and virulence, as the following comparison for the first ten months and the last two months of 1931, shows:

Diphtheria Cases and Deaths, 1931

	Residents		Non-Residents	
	Cases	Deaths	Cases	Deaths
January to October	147	3	20	3
November and December.....	103	10	9	1

Mortality Rate per 100,000 Population

January to October.....	1.6	Corrected City Rate
November and December.....	28.2	Corrected City Rate

Mortality Rate per 100 Cases

January to October.....	2.0	Corrected City Rate
November and December.....	9.7	Corrected City Rate

Age at Death

Physician Called In

Under One Year.....	2	On 1st day of illness.....	2
One Year to Two Years.....	3	On 2nd day of illness.....	6
Four Years to Five Years.....	3	On 3rd day of illness.....	4
Six Years.....	2	On 7th day of illness.....	1
Eight Years.....	1		
Nine Years.....	2		
Deaths of Residents.....	13		13

Diphtheria carriers totalled 32 for the year as compared with 58 for 1930.

Diphtheria Antitoxin distributed during the year amounted to 1,228,000 units.

TOXOID ADMINISTRATION

During the months of May and June this Department, with the co-operation of the Medical Inspection of Schools and the City's nurses from the Bureau of Child Hygiene, made an effort to reach the pre-school age children and have them receive immunizing treatment. Accommodation was secured in City schools in the districts selected.

Four schools were chosen which were thought to be suitable, but we believe now that we were trying to draw from too large a district. One school in the down-town centre gave very poor attendance, while the outlying districts, one in the west-end and two in the north-end, responded very well. Two hundred and three received complete treatment while 135 received only one and two doses.

TOXOID IN CITY SCHOOLS, 1931

The number of children receiving the Schick Test was 2,625; of this number 2,074 were positive and 1,660 received the complete immunizing treatment of three doses of Toxoid.

Diphtheria Toxoid received for free distribution to physicians and also for use in the preventive work in schools, institutions, etc., was as follows:

Toxoid	Ampoules	Toxoid Packets	Schick
1st Dose	226	449 One-Person	228 Packets
2nd Dose	147	62 Two-Person	
3rd Dose	151	173 Three-Person	

The total of the above amounts is equal to 3,159 persons receiving complete immunization.

The Diphtheria situation for the past year has been unsatisfactory. We have altogether too much of this disease. It is necessary that more effort be placed upon its control. What is wanted is an extensive Toxoid campaign, paying particular attention to children of pre-school age. Our efforts to immunize pre-school children in 1931 did not at all meet with our expectations. The response that we received from the public fell far short of what we desired. We hope, during the coming year, to

carry on a more intensive effort of reaching pre-school children and feel sure that if proper response is given by parents and guardians of young children, that we will be able to show very much reduced morbidity and mortality rates in the near future. This is one disease which can be practically eradicated from a community if preventive measures are carried out to the fullest extent.

SCARLET FEVER

There was a slight increase in the number of cases of Scarlet Fever reported for the year, 467 cases and 3 deaths, against 327 cases and 3 deaths for the preceding year.

During the first half of the year, cases were reported in small numbers and scattered throughout the City. The month of August recorded one case in Ward Three and one Institutional case. September and October provided us with local outbreaks in all Wards and necessitated house to house visiting and close checking for unrecognized cases. November provided a large increase and widely scattered infection in Ward One; this, however, was well in hand by the end of the year and December's total cases was well below the figures for the preceding month.

There was no milk-borne infection traced during the year.

The total number of non-resident cases for the year was 34, institutions contributed 34, leaving a total of 399 in all Wards.

Secondary cases totalled 62; return cases none; unrecognized cases 27; whilst 58 were treated as suspects.

TYPHOID FEVER

Typhoid Fever shows a decided increase when compared with the figures for the preceding year. Cases totalled 46, against 15; deaths 3, against 0. Death rate of 1.4 per 100,000, against .0 for 1930.

Of the forty-six cases recorded, sixteen were non-resident cases admitted to City hospitals for treatment. Nine were citizens who contracted the disease whilst residing outside the City. Four were infected in institutions, leaving seventeen cases developing in the City without any common source of infection being traced. Of this number, however, seven had visited friends outside the City or engaged in picnicking at a distance from the City. One case was thought to have received infection from a maid, who had a history of having suffered an attack of Typhoid Fever and also of being associated with two subsequent cases in a place where she had been previously employed.

A woman who nursed her grand-daughter, who was suffering from an intestinal infection, developed Typhoid Fever and died. In spite of the fact that the grand-daughter's condition remained undiagnosed, the history points to this as being the most probable source of infection.

Difficulties are often experienced in tracing the probable source of infection. In one case a man who contracted Typhoid lived in a home where another relative had recently recovered from an illness (influenza); he worked in a neighboring municipality and had visited and taken meals in the municipality where he was employed.

Trips to the country by automobile, carelessly prepared meals, doubtful water and food supplies, can and do enter into the probable source of infection of some of our cases.

SMALLPOX

Four cases are recorded for the year; two of these were non-resident patients admitted to the City Isolation Hospital for treatment, the remaining two were citizens of Winnipeg. One was traced to contact with a non-resident case, the other contracted the disease while travelling through the western provinces between Alberta and Manitoba. The history of the first three cases is interesting and demonstrates the necessity of keeping all known immediate contacts under observation. The first case, a young man of 24 years, had been hunting in Saskatchewan and decided to visit his brother, a resident in St. James, Manitoba. While residing there, he took ill and visited the outdoor clinic of the Winnipeg General Hospital six days after his initial illness. A check-up of his contacts in St. James included a man who stated he had previously had Smallpox and did not wish to be vaccinated. Two weeks later this man developed the disease and, while convalescing, without the knowledge of the authorities had several days freedom in Winnipeg following his occupation as a truck driver. His contacts were checked up and kept under observation but he forgot to include the owner of a gasoline station whom he had visited prior to being admitted to the Isolation Hospital. The owner of the gasoline station sickened two weeks later and without knowledge of his exposure reported for medical attention during the eruptive period. His case was recognized and no further cases developed.

Vaccination Status:

None of the patients had been previously vaccinated.
Ages: 25, 26, 26, 28 years.

TUBERCULOSIS OF THE LUNGS

The total number of cases of Pulmonary Tuberculosis was 252, deaths 83, as compared with 231 cases and 97 deaths for the preceding year.

Crude rates per 100,000 population were 39.0 and 32.9 per 100 cases respectively, corrected rate arrived at by deducting 31 non-resident deaths and adding 18 deaths of Winnipeg residents which occurred in St. Boniface Hospital, and Ninette and St. Boniface Sanatoriums, is 32.9.

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

	1931	1930
King Edward Memorial Hospital.....	62	58
Ninette Sanatorium	24	10
Chest Clinics	80	70
Death Registration	11	24
City Laboratory	8	10
St. Roch's Hospital	11	26
Physicians and Others	4	8
Non-resident	40	25
St. Boniface Sanatorium.....	12	....
	—	—
Total Cases.....	252	231
	—	—

As was mentioned in last year's report, the opening of the new Central Clinic has meant some changes in the methods of procedure of the nurses employed by this Division. The Chest Clinic work of the Winnipeg General Hospital and the Children's Hospital has been taken over by the staff of the Central Clinic, thereby releasing our nurses from attending clinics and allowing them full time to visit homes and supervise follow-up work.

There has also been added to the Tuberculosis work of this Province the new Sanatorium situated in St. Vital, seven miles from the City. This Sanatorium has a bed accommodation for 250 patients.

The King Edward Memorial Hospital was able to take care of part of the overflow in this work by utilizing a floor of the King George Hospital when some of the wards were empty as the result of a falling-off in cases of acute communicable disease.

The staff of the Municipal Hospital conduct their own daily clinics, examining contacts to cases admitted to Hospital.

Sixty-five patients were on the free milk-list for all or part of the year; 13,814 quarts of milk were supplied.

Tables in greater detail relating to the work are embodied in the report of the Division of Communicable Diseases.

MEASLES

Twenty-eight hundred and thirty-six cases were recorded and one death, against 461 cases and six deaths for 1930. The outstanding feature of this year's figures is the low death rate.

The epidemic reached its height in the month of May, when 972 cases were recorded. The outbreak originated in the centre of Ward Two and spread to outlying districts in Wards One and Three.

Control of this disease, once it has got a hold, presents a very difficult problem, especially when the type is mild, as is borne out by the extremely low death rate accompanying this epidemic.

It is impossible to check diagnosis of all cases reported but where there was any reasonable doubt and no doctor in attendance, steps were taken to clear the case.

During the first half of the year cases of German Measles were being recorded principally in Wards Two and Three, 169 calls being recorded. These are included in calls made from this division in checking up sick calls and rashes, etc., reported by visiting nurses, parents and others.

WHOOPING COUGH

The total number of cases reported for the year was 197, deaths 2, giving a death rate of .94 per 100,000 population and a death rate of 1.01 per hundred cases.

There has been a decided drop in the number of cases recorded as compared with the two preceding years.

The following figures show the reduction in cases by Wards during the past three years.

	WARD I		WARD II		WARD III	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
1929	258	2	246	4	382	3
1930	184	2	423	5	179	3
1931	10	..	49	2	133	..

It is certainly pleasing to see such a reduction in cases and deaths particularly in Wards One and Two.

CHICKENPOX

Nine hundred and sixty-six cases were recorded against 1,301 cases for the preceding year. The table showing age-period groups shows a total of 727 cases occurring in two age groups—5-9 years, 605; 10-14 years, 122. These groups embrace children of school-age and many of these reach us through notifications from the nurses of the Medical School Inspection Department.

MUMPS

Fifteen hundred and sixty cases were recorded for the year, as compared with 868 for the preceding year. The increase was general in all Wards and as usual most of our notifications reached us through the Schools.

ERYSIPELAS

The total number of cases of Erysipelas was 68 with two deaths, as compared with 81 cases and five deaths for 1930.

ANTERIOR POLIOMYELITIS

Two cases were recorded for the year; no deaths. One was a non-resident admitted from Snowflake, Man., for treatment in our Isolation Hospital. The City case was that of a child eight years old. This patient was reported as having suffered an attack of the disease when three months old.

CEREBRO-SPINAL FEVER

Five cases were reported for the year with one death, as compared with six cases and two deaths for the preceding year.

LETHARGIC ENCEPHALITIS

One non-resident case, which terminated fatally, was recorded for the year. There were no City cases.

INFLUENZA

Sixty-four cases and 26 deaths were recorded for the year, against 16 cases and 14 deaths for 1930. Of the 64 cases reported, 51 were recorded from February to April. Seventeen of the 26 deaths occurred in persons aged over 45 years.

MEDICAL RELIEF

The number of Medical Relief calls attended to at the office of the Medical Health Officer shows a decided increase over the figure of preceding years, and, as was stated in last year's report, this increase in the past two years is the reflection of unemployment and financial stress.

The number of examinations and persons attended to totalled 1,138, against 797 for the preceding year.

Outside calls made by Dr. Lougheed totalled 262, while 721 were seen by Mr. Watt. Many of these calls are referred by the nurses employed by the School Board and nurses of the Margaret Scott Mission.

Two hundred and twelve calls were referred to the Margaret Scott Mission for attention.

Vaccinations performed at the City Hall totalled 798; at City Schools, 1,684.

School certificates issued totalled 4,465.

Insulin distributed free totalled 568,900 units; the number of patients receiving this was 50.

MOSQUITO PREVENTION

The citizens of Winnipeg are again indebted to the gentlemen who conducted the Anti-Mosquito Campaign in this City and its surroundings. Particular credit is due to Dr. H. M. Speechley and Mr. J. P. Tully, for the amount of thought and effort they have put forth to make this campaign a success.

PUBLIC BATHS

During the year the Department of Public Baths and Comfort Stations was, by order of the City Council, incorporated as a Division of the Health Department. A report concerning the workings of this Division is embodied with reports of sub-heads.

LEGISLATION ENACTED

By the Province of Manitoba:

Under "The Minimum Wage Act", Regulation 4, Governing the Occupation of Female Employees and Boys under 18 years of age in all departments of Beauty Parlors, Barber Shops and Hairdressing Establishments. 1. Condition of Labor. (1) Cleanliness—Every room and the floors, walls, ceilings, windows, and every other part thereof, and all fixtures therein shall at all times be kept in a clean and sanitary condition. (2) Drinking Water—A sufficient quantity of safe, fresh drinking water within reasonable access of all workers, and on the same floor as any regular working room, shall be provided with sanitary appliances for drinking. A common drinking cup shall not be used. When the water is iced, the ice shall not be in the same container as the water. (3) Lighting—Artificial illumination in every workroom shall be installed, arranged and used, so that the light furnished will at all times be sufficient for the work carried on therein and prevent unnecessary strain to the vision or glare to the eyes of the worker. (4) Ventilation—There shall be 400 cubic feet of air space for each employee in each workroom. All windows and sashes shall open freely. Air shafts shall provide for a free circulation of fresh air. Storm sashes shall either be on hinges or have a portion of at least eighty square inches in size which can be readily opened. In any workroom which cannot be ventilated by these means, mechanical appliances shall be installed. (5) Toilet Rooms—There shall be provided, suitable and convenient toilets, separate from those used by the opposite sex, and the number of such toilets shall not be less than one to each twenty persons employed at one time or fraction thereof. Such toilets must be thoroughly ventilated and open to the outside air, and must be kept in a clean and sanitary condition, and privacy assured at all times. (6) Wash Basins, etc.—Wash basins shall be provided in at least the proportion of one to every twenty persons employed at one time, or fraction thereof, and shall be separate from those used by the opposite sex. Individual towels, either cloth or paper, shall be furnished to the workers

and shall be kept in a clean and sanitary condition. (7) Temperature—There shall be a thermometer in each workroom, and the temperature during working hours shall be between 60 deg. and 75 deg. Fahrenheit, except when the temperature outdoors exceeds 75 degrees Fahrenheit.

(8) Health and Injuries—All machinery and danger points shall be protected as far as possible by the best safety devices known. All protection possible against occupational diseases shall be provided. Each establishment shall keep a First-Aid Kit to be approved by the Bureau of Labor, and at least one reliable member of the working force shall be trained in its use. A couch or stretcher shall be provided for emergencies, and where no dressing room or similar apartment exists, a screen shall be provided. (9) Lunch and Rest Room—Where employees remain for lunch, suitable provision shall be made for dining and rest purposes.

Regulations of the Department of Health and Public Welfare respecting Plumbing and Drainage. These regulations are too lengthy to set out fully in this report. Moreover, they are designed for use in the smaller cities and towns of the Province, and are not intended to supercede the Plumbing and Drainage By-law of the City of Winnipeg. However, there are several sections dealing with conditions not covered by our By-law, that we may find useful.

Regulations of the Department of Health and Public Welfare respecting the registration, management, conduct and granting of permits for the operation of Children's Boarding Homes, Day Nurseries and other forms of child caring institutions. The inspection and supervision of these institutions is carried out by the Department of Health and Public Welfare, but occasionally we are called upon for assistance in remedying sanitary defects, etc.

In last year's report, reference was made to the Regulations of the Department of Health and Public Welfare respecting Pasteurization Plants. It was pointed out that whilst there are some desirable requirements in the above regulations, in so far as the City of Winnipeg is concerned, those sections requiring inspection and approval of pasteurizing plants by the Provincial Authorities as well as by the Medical Health Officer, are superfluous and unnecessary. Dual inspections and divided authority are not desirable. This has now been corrected by an amendment which reads: "16. That these regulations shall not apply to any pasteurization plant located within the City of Winnipeg."

By the City of Winnipeg:

By-law 14050, passed in accordance with the Zoning By-law, and creating special zones or districts for the Elmwood and Glenwood Districts, and regulating and controlling the use to which property therein may or may not be applied. This By-law, passed at the end of 1930, was not referred to in last year's report.

By-law 14055, to create special zones or districts in that portion of the City bounded by the Assiniboine River, Dorchester Avenue and Cambridge Street; and by Dorchester Avenue, Hector Avenue, Lilac Street and Cambridge Street.

By-law 14129, creating special zones or districts for the area bounded by Gertrude and Hetherington Avenues, Red River and Lilac Street.

Legislation Required

Plumbing—

In last year's report I made reference to suggested amendments to the Health By-law in which were specified in detail, the number and class of plumbing fixtures which should be installed in various kinds of buildings, and pointed out that it had been decided to insert these in the Building By-law.

As other changes in the Building By-law are contemplated, the amendments we desire are being included.

Mechanical and Chemical Refrigerators—

We received from the Provincial Department of Public Works, a copy of the "Safety Code for Mechanical Refrigeration" adopted by the American Standard Association, with a communication stating that it was proposed to recommend to the Government for adoption, a Safety Code similar to the above. We were requested to offer any suggestions as to alterations that might be of use to the Committee charged with the duty of formulating same. We took advantage of the opportunity to make a number of recommendations that should be given effect to when a Provincial Safety Code was under consideration. Towards the end of the year we received a draft copy of "Rules and Regulations for the Construction, Installation, Inspection, Operation and Maintenance of Mechanical Refrigerating Systems." In response to a request contained in the communication accompanying same, inviting criticism and comments, a reply was sent, in which reference was made to our recommendations previously forwarded and pointing out that none of these had been given effect to. A committee, consisting of representatives of various organizations, including the Employers' Association, Canadian Manufacturers' Association, Manufacturers and Installers of Refrigerating Machinery, Building owners, and others, have the matter in hand. It may be noted that there is no Public Health Official on the committee.

Installation of Plumbing

A good deal of work in the extension of sewer and water mains was accomplished during the year. Much of this was done by the Public Utilities Committee under Unemployed Relief measures. Only eight new houses were built beyond sewer and water mains. There were six notices served requiring the installation of sewer and water connections.

Nineteen outside privies were removed but eight new pit closets were built in connection with dwellings where there are no sewer and water mains. There were 419 new houses built during the year and all were provided with plumbing except the eight referred to above. Outside closets still in use are as follows:

December 31, 1930		December 31, 1931	
Brick pit closets.....	265	Brick pit closets.....	254
Earth pit closets.....	1	Earth pit closets.....	1
	—		—
Total	266	Total	255
	—		—

This is an extremely small number of outside closets 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	887
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	358	359
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
December 31, 1930.....	.....	1	265	266
December 31, 1931.....	.....	1	254	255

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 SEWERS AND WATER MAINS

December 31st, 1931.

1—FORT ROUGE

Street	Block	Houses	Total	Remarks
Lindsay St.	Haskins to Jackson	2	3	at Midland Railway Shop.
Lindsay St.	Jackson to Lennon	1	1	at Signal Box.
Lindsay St.	Lennon to Mathers	6		
		—	9	
Ash St.	C.P.R. to C.N.R. Tracks	5		
		—	5	
Oak St.	Haskins to Jackson	1		
Oak St.	C.P.R. to C.N.R. Tracks	3		
		—	4	(1 new.)
Cambridge St.	Jackson to Scotland	8		
Cambridge St.	Scotland to Mathers	6		
		—	14	
Fleet Ave.	Harrow to Guelph	1		(new.)
Fleet Ave.	Guelph to Wilton	2		
Fleet Ave.	Wilton to Rockwood	2		(1 new.)
		—	5	
Lorette Ave.	Harrow to Guelph	5		
Lorette Ave.	Guelph to Wilton	1		
Lorette Ave.	Wilton to Rockwood	2		
		—	8	
Scotland Ave.	Wentworth to Stafford	1		(Coal Yards.)
Scotland Ave.	Stafford to Guelph	1		
Scotland Ave.	Guelph to Wilton	5		
Scotland Ave.	Wilton to Rockwood	2		
Scotland Ave.	Rockw'd to Cambridge	3		
		—	12	
Weatherdon Ave.	Harrow to Guelph	9		
Weatherdon Ave.	Rockwood to Nathaniel	4		
Weatherdon Ave.	Nathaniel to Cambridge	3		
		—	16	
Carter Ave.	Harrow to Guelph	5		(2 new.)
Carter Ave.	Nathaniel to Beaumont	1		
Carter Ave.	Beaumont to Cambridge	2		
		—	8	
Hector Ave.	Stafford to Harrow	9		
		—	9	

Street	Block	Houses	Total	Remarks
Pembina H'way ..	(Scattered)	9		
		—	9	
Ebby Ave.....	Wentworth to Stafford	4		
	Beaumont to Cambridge	2		
		—	6	
			105	
On streets with fewer than four houses, or in which sewers or water mains have recently been laid.....			29	
Total.....			134	

2—ASSINIBOINE RIVER TO HIGGINS AVENUE

Centre St.....	Calder to Ellice.....	2		
Centre St.....	Ellice to Sargent.....	3		
		—	5	
Keewatin St.....	Rapelji to St. Matthews	2		
Keewatin St.....	St. Matthews to Ellice	2		
Keewatin St.....	Ellice to William.....	3		
Keewatin St.....	Logan to C.P.R.....	1		
		—	8	
			13	
On streets with fewer than four houses, or in which sewers or water mains have recently been constructed.....			24	
Total.....			37	

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

Mountain Ave.....	McPhillips to Fife.....	7		
		—	7	
Atlantic Ave.....	Airlies to McPhillips....	4		
Atlantic Ave.....	McPhillips to Fife.....	1		
		—	5	
Lansdowne Ave...Farr to C.P.R. Beach Track		3		
Lansdowne Ave...C.P.R. Beach Track to Sinclair		1		
Lansdowne Ave...Sinclair to Airlies.....		1		
		—	5	
Kitchener St.	Hearn to Keewatin.....	4		(Dairies.)
		—	4	
			21	

Street	Block	Houses Total	Remarks
On streets with fewer than four houses, or in which sewers or water mains have been recently constructed.....		33	
Total.....		54	

4—ELMWOOD

Beach Ave.....	Foster to Cameron.....	2	
Beach Ave.....	Kent to Keenleyside....	1	(942.)
Beach Ave.....	Keenleyside to E. City Limits	3	
		—	6
Herbert Ave.	Foster to Green.....	6	
Herbert Ave.	Kent to Keenleyside....	3	
		—	9
			15
On streets with fewer than four houses, or in which sewers or water mains have recently been constructed.....		15	
Total.....		30	

SUMMARY

Fort Rouge	105
Assiniboine River to Higgins Ave.....	13
C.P.R. Main Line to North City Limits.....	21
Elmwood	15
<hr/>	
	154
On streets with less than four houses, or in which sewers or water mains have recently been constructed.....	101
<hr/>	
Total Outside Closets in use, December 31, 1931....	255

**TABLE SHOWING ADDITIONS AND REMOVALS
DURING 1931**

Outside closets in use, December, 1930.....	266
New closets built, 1931.....	8
<hr/>	
	274
Less closets removed during 1931.....	19
<hr/>	
Remaining, December 31, 1931.....	255
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HOUSING

During the year 419 new houses were built. There were 12 apartment blocks built or blocks re-arranged for residential purposes, providing an increase of 254 suites of rooms. At the end of the year there were 500 vacant houses and 1,530 vacant suites.

The total number of houses in the city is 35,667, and 655 apartment blocks with 10,497 suites. The population was 209,286 in 1930 and 212,815 in 1931, an increase of 3,529. When we deduct the houses and one apartment block removed, we find that the additional accommodation provided is barely sufficient to take care of the increase in population. Additional material on Housing will be found in the reports of the Chief Inspector of the Division of Sanitation and the Housing Inspector.

EDUCATIONAL WORK

Lectures and addresses on various public health topics were given, as usual, by members of the staff, at the request of a number of organizations.

The following educational programme for the improvement of the staff was arranged for the Winter season of 1930-1931, and the meetings were well attended:

1930

- Nov. 15—Opening Address—Dr. A. J. Douglas, Medical Health Officer.
- Nov. 22—"Milk Supply"—Mr. E. C. Brown, Chief Dairy Inspector.
- Nov. 29—Discussion on above Subject, led by Messrs. J. M. Jackson and T. J. Booth.
- Dec. 6—"The Value of a Knowledge of Chemistry to the Sanitary Inspector"—Mr. J. Foggie, Chief Sanitary Inspector, Province of Manitoba.
- Dec. 13—Discussion on above Subject, led by Messrs. P. Pickering and D. G. Johnson.
- Dec. 20—"Training Sanitary Inspectors for Public Health Units"—Mr. James Arkle, Sanitary Inspector, St. James.

1931

- Jan. 10—Debate, "Resolved, that, where practicable, legislation should be enacted requiring the proper pasteurization of milk supplied to consumers in Urban Centres."—Affirmative: Messrs. G. Kelly and L. G. Williams; Negative: Messrs. D. G. Johnson and A. G. Isaac.
- Jan. 17—"Water"—Mr. A. Blackie, City Chemist.

- Jan. 24—Discussion on above Subject, led by Messrs. B. Davies and E. B. Officer.
- Jan. 31—"The Necessity for the Inspection of Food"—Mr. R. McQuillan, Food Inspector.
- Feb. 7—Discussion on above Subject, led by Messrs. B. C. Brough and D. Little.
- Feb. 14—"The Importance of Good Housing"—Mr. E. W. J. Hague, Chief Health Inspector.
- Feb. 21—Discussion on above Subject, led by Messrs. A. Barclay and F. C. Austin.
- Feb. 28—"Recent Developments in Plumbing"—Mr. W. Todd, Plumbing Inspector.
- Mar. 7—Discussion on above Subject, led by Messrs. J. McHardy and A. G. Isaac.
- Mar. 14—"Preventive Measures as a Factor in the Control of Communicable Disease"—Mr. W. J. T. Watt, Chief, Communicable Disease Division.
- Mar. 21—Discussion on above Subject, led by Messrs. H. H. Marshall and H. Robinson.
- Mar. 28—Social Evening.

STAFF

It is with regret that I announce the death of Mr. George Duffield, Inspector's Clerk, which took place early in January, 1931. Mr. Duffield had a distinguished record in the army, and was very seriously wounded in the retreat from Mons. On his return from Overseas, he resumed his connection with the Department and carried on faithfully and conscientiously in spite of serious physical disabilities. He leaves a memory, an example of devotion to duty carried on right up to the end of his life.

On January 7th, Mr. E. W. J. Hague, Chief of the Division of Sanitation and Housing, retired on pension. Mr. Hague had been connected with the Department for thirty-four years. During this time he rendered exceptional and distinguished service to the City and bore a major part in the many improvements in sanitation and public health administration which have taken place during his term of office. Mr. Hague deserves a place among the pioneer health workers of Western Canada, starting in as he did, when modern public health practice was in its infancy, and carrying on through the many important reforms that have taken place since the nineteenth century. Mr. Hague has more than a local reputation and is known throughout Canada as one of the leaders in the work to which he gave so many years of his life. It is a

matter of regret that, owing to his having reached the age limit for Civic employees, his retirement became necessary. The entire personnel of the Department extends to Mr. Hague its best wishes for his health and prosperity in the future.

Mr. Alexander Officer was promoted to the position formerly occupied by Mr. Hague, as Chief of the Division of Sanitation and Housing.

Mr. P. Pickering was promoted to Mr. Officer's former position, as Housing and Supervising Inspector.

Mr. Douglas Little was promoted to the position formerly occupied by Mr. P. Pickering, as Smoke and Supervising Inspector.

Mr. B. C. Brough was promoted to the position formerly occupied by Mr. Douglas Little, as Supervising Inspector.

Mr. Alexander Cross was appointed Inspector in the Division of Sanitation and Housing.

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 a report on the work performed in the Bacteriological Laboratory for the year ending December 31, 1931.

A summary of the samples and specimens examined is shown in the following table:

1931	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	319— 3	41— 0	37— 4	8— 1	108	127	17	5	33	695
February	186— 0	36— 0	15— 2	4— 0	106	162	21	2	17	549
March	104— 1	25— 2	27— 4	0— 0	119	141	12	2	1	431
April	151— 4	48— 4	14— 1	2— 2	109	135	22	5	45	531
May	279— 3	20— 3	13— 1	10— 0	116	133	9	2	476	1058
June	971— 4	21— 2	31— 1	0— 0	126	162	15	10	84	1420
July	1816— 0	16— 2	12— 4	4— 1	128	133	7	9	4	2129
August	1271— 0	29— 6	19— 6	8— 0	121	133	19	6	1	1607
September	333— 1	28— 2	19— 3	12— 4	143	134	13	8	57	747
October	443— 0	20— 3	18— 1	8— 2	134	162	14	6	21	826
November	369— 9	20— 0	29— 1	6— 0	149	130	25	6	10	744
December	464— 8	37— 2	13— 0	6— 1	156	97	23	4	4	804
1931 Totals	6706— 33	341— 26	247— 28	68— 11	1515	1649	197	65	753	11541
1930 Totals	8613— 91	415— 37	304— 23	43— 10	1303	1968	163	103	795	13707
1929 Totals	9374— 228	390— 35	375— 40	35— 7	1231	1719	176	89	892	14281

WATER SAMPLES

During the year 1,515 samples of water were examined. This is a record number in this laboratory. There has been a steady increase since 1921, when the number of samples was 469.

In order to handle this work with our equipment it has been necessary to make use of the Durham inverted tube for fermentation tests in place of the Smith tubes used heretofore. This has greatly facilitated the examining of the large number of samples and permitted the use of larger portions of each sample.

Another alteration has been the use of the lactose broth with all samples in place of glucose broth as used formerly in the fermentation tests. With the routine use of Endo's agar and Eosin-Methylene blue agar plates, this laboratory is now in a position, for the first time, of doing a completed test for coli-aerogenes organisms in water in accordance with standard methods. The result of the examinations for the year are tabulated in this report.

	No. of Samples	Yearly Average Count of Organisms per c.c.	No. of Counts Over 100	Coli-Aerogenes Findings in Lactose Broth	
				10% Gas in 24 hrs.	Gas in 48 hrs.
Drinking Water:					
Tap Water (lab.).....	365	7.6	5	0	86
Pumping Station after Chlorination.....	30	5	0	0	6
River Mains:					
Elmwood No. 1.....	103	9	4	1	33
Elmwood No. 2.....	103	12	5	0	27
Fort Rouge No. 1.....	103	14	5	0	30
Fort Rouge No. 2.....	103	34	8	0	20
River Heights No. 1.....	103	11	3	0	27
River Heights No. 2.....	103	11	4	1	29
Deep Wells.....	31	13	0	0	2
Royal Alexandra Hotel (cold).....	56	24	4	0	18
Royal Alexandra Hotel (hot).....	51	4	0	0	0
Baths:					
Sherbrooke Street.....	52	50*	11	2	3
Pritchard Avenue.....	40	7000	33	10	4
Winter Club.....	10	12	2	0	0
Y.M.C.A.....	53	32	10	0	4
Y.W.C.A.....	52	260	11	0	0
Sutherland Ave. Mission.....	28	1500	17	11	6
Stella Avenue Mission.....	28	700	13	5	5
Pools (Wading).....	5	....	5	3	2
Miscellaneous.....	67				
River Waters.....	27				
Total No. of Samples.....	1515				

*For period July-December inclusive.

BATHS

(Public and Semi-public.)

Samples from seven baths are examined weekly while in operation. Of these at least three do not come up to the standard of quality for baths and swimming pools set by the American Public Health Association and this also applies to the so-called wading pools.

RIVER WATERS FOR POLLUTION

In November we undertook the bacteriological examination of samples from the Red and Assiniboine Rivers under the extensive investigation which is now being made. This is a new departure for this laboratory and the results are given in a table.

EXAMINATION OF WATER SAMPLES FROM THE RED AND ASSINIBOINE RIVERS FOR POLLUTION

Source	No. of Samples	NOVEMBER			DECEMBER		
		Agar Count at 37° C.	Agar Count at Room Temp.	Coli-Aerogenes 24 hrs.	Agar Count at 37° C.	Agar Count at Room Temp.	Coli-Aerogenes 24 hrs.
Elm Park Bridge.....	3	1,000	1,800	14	605	562	12
Norwood Bridge.....	3	125	225	5	1,460	2,225	17
Assiniboine Park Bridge.....	3	No growth	50	0	112	153	14
Maryland Bridge.....	2	6,250	2,100	13	500	950	25
Main Street Bridge.....	3	5,200	6,800	35	14,100	5,000	1,700
Provencher Bridge.....	1	10,900	23,000	180+			
Louise Bridge.....	2	10,600	8,600	90	12,000	16,900	500
Redwood Bridge.....	2	5,000	2,800	160	7,100	4,800	80
Matheson Avenue.....	2	6,850	2,800	350	14,900	12,400	130
Bergen Cut-off.....	5	9,200	11,800	180+	13,350	13,100	1,300
	26						

Agar counts are for 1 c.c.
Coli-Aerogenes counts are for 100 c.c.

DIPHTHERIA CULTURES

Cultures examined totalled 6,706, the lowest number since 1915. The total of positive findings was 33, the lowest recorded since the laboratory opened. These totals correspond with the rapidly falling case rate for this disease.

These cultures were made for Doctors, Nurses, Health Inspectors, School Nurses, Margaret Scott Nursing Mission Nurses, and others. During June, July and August a large number of cultures were taken from the throats of children going to various Summer camps.

MILK AND CREAM

The number of samples examined totalled 1,649. These were examined for butter fat content and the milk for water and solids. There were 800 bacterial counts made, a 30% increase over last year and the largest number done in this laboratory. Ten years ago the number of bacterial counts was less than 200 and before the War less than 50 per year.

A discussion of the results will be found in the report of the Chief Dairy Inspector.

DISPENSARY SERVICE

Adults come for free medical advice, the more serious being referred to hospitals. Over 250 house calls were made under Medical Relief and these cases disposed of at the time, if necessary by having the patient transferred to hospital. Vaccinations for the year totalled 753.

The examination of school children for freedom from contagious diseases and the issuing of certificates for return to school has been continued as formerly. Other functions of this laboratory of which no records are kept, are medical examination of applicants for admission to Homes and Institutions at the request of the Social Welfare Commission, the issuing of sick certificates for the members of the Police Force, the visiting of prisoners at the central Police Station who complain of illness. These various items constitute a fair proportion of the duties connected with this Division.

In conclusion, I wish to express my appreciation for the friendly assistance of Doctor Cadham of the Provincial Laboratory and the co-operation of the Admitting Staff of the Winnipeg General Hospital and for the manner in which the other members of this Division, Miss Wilson and Mr. Bentham, have fulfilled their respective duties.

Respectfully submitted,

M. S. LOUGHEED,
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 1931.

The total number of Communicable Diseases recorded for the year was 6,786, deaths 144, as compared with 4,552 cases and 167 deaths for the preceding year.

Summaries showing these in monthly form, by Wards, including non-resident and institutional cases, also table showing age incidence of cases and deaths of all diseases is attached hereto.

Measles and Mumps accounted for the large increase in number of cases recorded over the figures for 1930, there being a combined total for these diseases of 4,396 cases as compared with 1,329 for 1930.

As the type was mild in the former disease and cases appeared in greatest numbers during the spring and early summer months an extraordinary low mortality rate was recorded.

It was necessary to receive assistance from the Division of Sanitation and Housing during the measles outbreak; 1,027 releases being referred to them for attention.

Several groups of Scarlet Fever appeared in widely separated districts during the fall months; this necessitated house to house visiting and close checking in order to locate unrecognized cases and place under observation any that might be considered necessary.

Quite a number of suspects, some of which were found to be desquamating and giving a history of previous illness, appear on our records for the year. Occasionally the first intimation the Department receives of such cases is through reports from the nurses of the Medical Inspection Department of Schools. Their co-operation in this work is of utmost value in dealing with such outbreaks.

This feature of our work has been mentioned in previous reports but can bear repeating; their assistance in the handling of outbreaks of disease affecting children of school age we feel is one of the main cogs in the wheel of control and prevention, providing valuable returns in the year's work.

Diphtheria increased in numbers during the latter part of the year. The type was noticeably severe in certain sections of the City; Ward Two alone suffered eleven deaths from this disease.

While we record an increase in numbers of cases of Typhoid Fever for the year, it at no time reached serious proportions; this appears to coincide with the experience of the Province as a whole. Less than a fourth of the City total cases were credited to the City and these remained untraced.

DIPHTHERIA IMMUNIZATION

The work of Diphtheria prevention in City Schools was proceeded with as formerly. A table showing numbers receiving this treatment is attached to this report.

An attempt was made to reach children of pre-school age and while only four centres were selected, the numbers responding was rather disappointing. The district which suffered most in the Diphtheria outbreak of November and December had given the poorest response to the immunization programme of the early summer months; had they availed themselves of the Department's offer our Diphtheria records would have had a much more creditable showing.

We hope to pursue a more vigorous campaign in the coming year and trust for greater returns.

SMALLPOX PREVENTION

The Department followed the usual policy of setting a date for City Schools to secure consent cards from the parents of children in the primary grades for Vaccination. Institutions for the care of children are also advised from time to time for this as well as for immunization against Diphtheria.

SICK CALLS, ETC.

Calls made to homes, where cases of an infectious nature are not seen by a physician, and reported for attention by School visiting nurses, parents, etc., shows a large increase over the figures of the preceding year, there being 721 as compared with 391. Included in these are calls referred to the Department by physicians for check-up on diagnosis.

INSPECTORS' REPORTS

Total number of visits made by Inspectors of the Division was 9,252, as compared with 6,058 for the preceding year.

Such calls necessitated the reporting upon 5,766 cases, the placing of quarantine and raising same on termination of disease. Other calls totalled 2,357, these include all calls outside those noted on the report summary.

In the course of their work relating to the release from quarantine of School Children, 2,766 School Certificates were issued.

Inspectors supervised the disinfection of bedding, linen, etc., in 766 homes.

"Other calls", 2,357 calls were made as compared with 1,947 during 1930.

The greatest number of such calls is made in connection with the vaccinating and toxoid work done at the Schools. Inspectors from this Division having the care of the necessary supplies, etc.

TUBERCULOSIS VISITING NURSES

Under this heading total number of cases and deaths recorded for the year are summarized in Wards and Districts as follows:

	WARDS			Institu- tional	Non- resident	Total
	1	2	3			
Cases	52	79	80	1	40	252
Deaths ..	10	17	25	..	31	83
Population, 1931....	65,346	70,410	77,059	..	..	212,815

The following summaries show morbidity and mortality rates per 100,000 population by Wards.

Morbidity Rates per 100,000 Population by Wards

	WARDS		
	1	2	3
1931	79.5	112.2	103.8
1930	45.8	117.9	121.5
1929	83.3	105.1	110.0
1928	51.1	122.4	94.8

Mortality Rates per 100,000 Population by Wards

	WARDS		
	1	2	3
1931	15.3	24.1	32.4
1930	22.1	54.6	40.5
1929	24.5	35.0	43.7
1928	24.7	28.3	30.7

Districts remain the same, being regulated by amount of territory to cover rather than number of cases to visit.

Summary: showing number and classification of patients in each District:

	Total	Positive	Clinically Positive	Suspect	Family Contact
District 1....	125	41	58	8	18
District 2....	216	60	89	23	44
District 3....	172	33	90	20	29

Cases in Hospitals and Sanatoriums; as they appear on our records at the end of the year:

	DISTRICT			Total	Total
				1931	1930
	1	2	3		
King Edward Memorial Hospital....	44	38	30	112	87
Ninette Sanatorium.....	42	8	12	62	29
St. Boniface Sanatorium.....	26	6	8	40	....
St. Roch's Hospital.....	....	1	..	1	16

Deaths, showing length of time known to the Department:

	DISTRICT			Total
	1	2	3	
Under 1 month	1	2	1	4
1 month	4	2	..	6
2 months .....	..	2	..	2
3 months	1	..	1	2
4 months .....	..	2	2	4
5 months	1	..	..	1
6 months .....	..	..	..	..
Over 6 months	8	5	10	23
Death Registration	4	2	4	10
				—
				52 City Deaths
Non-resident				31
				—
Total				83

CASES

Age Period	CITY CASES			NON-RESIDENT CASES		
	Male	Female	Total	Male	Female	Total
0-10	6	4	10	2	..	2
11-20	12	15	27	2	1	3
21-30	26	49	75	6	8	14
31-40	29	17	46	8	6	14
41-50	15	9	24	4	1	5
51-60	12	5	17	1	..	1
61-70	5	5	10	..	1	1
71-80	1	..	1	..	..	..
81 and over.....	1	1	2	..	..	..
	—	—	—	—	—	—
Totals.....	107	105	212	23	17	40

The above table shows age period and sex of all cases recorded during 1931.

Age Period	DEATHS CITY DEATHS			NON-RESIDENT DEATHS		
	Male	Female	Total	Male	Female	Total
0-10	2	..	2	2	..	2
11-20	3	1	4	1	1	2
21-30	9	10	19	3	4	7
31-40	5	..	5	6	5	11
41-50	9	..	9	5	1	6
51-60	3	2	5	2	..	2
61-70	4	1	5	..	1	1
71-80	1	1	2	..	..	..
81 and over.....	..	1	1	..	..	..
Total.....	36	16	52	19	12	31

NATIONALITY OF CASES REPORTED DURING 1931

	DISTRICT			Total
	1	2	3	
American	1	1	..	2
Austrian .....	..	1	1	2
Bohemian .....	..	..	1	1
Canadian	48	..	5	53
Czecho-Slovakian .....	..	..	1	1
Chinese	1	1	..	2
English	13	5	..	18
French .....	..	2	..	2
German .....	..	4	10	14
Hungarian .....	..	1	4	5
Icelandic	10	..	..	10
Indian .....	..	4	..	4
Irish	4	1	2	7
Italian	3	1	..	4
Jewish .....	..	5	3	8
Norwegian	2	1	..	3
Polish	1	17	11	29
Roumanian	1	..	1	2
Russian	1	1	1	3
Ruthenian .....	..	..	5	5
Scotch	7	1	1	9
Swedish	3	..	..	3
Syrian .....	..	..	1	1
Ukrainian	2	14	6	22
Welsh .....	..	..	1	1
Non-resident .....	..	..	..	40
Institutional .....	..	..	..	1
Total.....	97	60	54	252

CHEST CLINIC

Nurses from this Division continued to assist at the Winnipeg General Hospital Chest Clinic up to the end of August, when the work was moved over to the Central Clinic. The present arrangement now is, that nurses from this Division meet once a month in conference with the staff of the Central Clinic.

DISTRICT VISITING

Total number of visits made during the year to homes of patients was 5,370 as compared with 5,200 for 1930. First visits totalled 217 while subsequent visits and visits to old cases totalled 4,965. New cases added to their districts totalled 211. They arranged for the hospitalization of 26 patients in the King Edward Memorial Hospital. Arrangements were also made for the admission of 7 patients to Ninette Sanatorium and a total of 9 patients in all to St. Roch's Hospital, Children's Hospital and St. Boniface Sanatorium.

The referring to Social Agencies of families in need, distribution of material necessary in the care and treatment of patients at home, co-operating with Hospital and Sanatorium Staffs re information about patients and contacts, the education and general supervision of the patient in the home, carrying on the necessary arrangements for examination of contacts at the Clinic, are some of the points to which the visiting nurse gives her time and attention.

It is not possible to say what is accomplished in any one year, but we believe the efforts made in this branch of the Health Department's activities are bearing fruit and results are reflected in the figures and rates struck this year.

In conclusion, we are pleased again to record our sincere appreciation for assistance always kindly rendered by the staffs of our City Hospitals, particularly the Winnipeg General Hospital, in providing accommodation for many needy patients seen by the District Physicians and our own Medical Staff in the handling of medical relief cases.

We are also very grateful for the assistance and help provided by the staff of the Municipal Hospitals. This co-operation means a great deal to us in the control of communicable diseases within our city.

The Margaret Scott Nursing Mission continues to function in our medical relief work admirably. It is with deep regret that I record here the loss sustained this year of its founder, Mrs. Margaret Scott, with whom it had been my privilege to have personal acquaintance for over twenty-five years.

The Medical Inspection Department of Public Schools has co-operated with this division in its activities where Diphtheria and Smallpox preventive measures were conducted in the city schools and during outbreaks of disease.

To the Social Welfare Commission and other relief agencies we are indebted for assistance and co-operation in dealing with medical relief, also in the care of needy patients and their families.

Yours obediently,

W. J. T. WATT,

Chief, Division of Communicable Diseases.

COMMUNICABLE DISEASES—1931

DISEASES	Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Totals 1931		Totals 1930				
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths			
Anterior Poliomyelitis																															
Cerebro S. Fever					2	1			1																2		9	2			
Chickenpox	245		87		87	66			77		94		53		40		22		40		85		70		966		5	1	6	2	
Diphtheria	20		11		16	1			19		12		7		19		2		27		52		60		279		15	343	14		
Diphtheria Carriers	2				2				1		3				2				1		3		17		32		58				
Erysipelas	11		10		12	2		7	5		6		1		2		4		3		5		2		68		2	81	5		
Influenza			30	8	16	7		5	3		4		2	1			1		1		2		1		64		26	16	14		
Leth. Encephalitis		1																													
Measles	26		79		219				972		638		131		26		20		53		56		31		2836		1	1	2	2	
Mumps	194		221		348				225		139		23		3		26		49		26		48		1560		7	7	8	8	
Puerperal Fever		2							2		1		1								2		2								
Scarlet Fever	45	1	29		17				23		18		18		2		35		79		110		73		467		3	327	3		
Smallpox		2																													
Tuberculosis, Pul.	20	7	19	11	44	10		8	24		14		5	24	6	23	13	4	13	4	14	6	25	3	252	83	231	97			
Typhoid Fever	2				1			4	6				4	4	5	2	10		7		4		3		46	3	15				
Whooping Cough	26		31		21			16	21		12		7	7	11	1	20		1		8		14		197	2	820	15			
Totals	593	11	520	19	785	21	989	12	1380	12	941	9	269	7	133	18	180	5	283	7	369	15	344	8	6786	144	4552	167			

COMMUNICABLE DISEASES—1931

	CASES						DEATHS											
	WARDS			Non-Res.	Inst.	TOTAL CASES	WARDS			Non-Res.	Inst.	TOTAL DEATHS						
	1	2	3				1	2	3									
Anterior Poliomyelitis.....		1		1		2												
Cerebro Spinal Fever.....		1		3		5											1	
Chickenpox.....	182	324	410	3	47	966												
Diphtheria.....	71	108	54	29	17	279	1	9	1	4							15	
Diphtheria Carriers.....	3	6	5		18	32											2	
Erysipelas.....	11	22	20	8	7	68		2										
Influenza.....	13	24	18	2	7	64	8	11	6	1							2	
Lethargic Encephalitis.....				1		1											2	
Measles.....	791	1165	791	11	78	2836											1	
Mumps.....	390	697	446	1	26	1560		1									1	
Puerperal Fever.....	1	2	1	3		7												
Scarlet Fever.....	147	133	119	34	34	467	1	2	1	3							7	
Smallpox.....		2		2		4											3	
Pulmonary Tuberculosis.....	52	79	80	40	1	252	10	17	25	31							83	
Typhoid Fever.....	11	8	9	14	4	46		2									3	
Whooping Cough.....	10	49	133	3	2	197											2	
Totals.....	1683	2621	2089	152	241	6786	20	46	36	40	2						144	
																		25

St. Boniface and Ninette Deaths

NOTIFIED CASES OF COMMUNICABLE DISEASES, BY AGE AND SEX, 1931

	Under 1 Year		1 Year		2 Years		3 Years		4 Years		5-9 Years		10-14 Years		15-19 Years		20-24 Years		25-34 Years		35-44 Years		45-64 Years		65 Yrs. and over		All Ages				
	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.	T'tl		
Anterior Poliomyelitis																															
Cerebro-Spinal Fever			1								1																		2		
Chickenpox	10	15	19	12	25	27	26	28	324	281	1	1	62	4	6	4	7	7	6	1									2	3	5
Diphtheria	1	4	12	3	5	6	10	8	7	39	35	17	18	5	18	13	23	17	7	4									491	475	966
Diphtheria Carriers								1	2	2	2	3	3	2	2	13	3	2	2	3	3	2	2	10	9	4	2	7	25	32	
Erysipelas	1	1			1	1		1	1	2	1	2	1	1	5	2	1	5	3	7	10	7	10	10	9	4	2	33	35	68	
Influenza	1		1	2	1	2		3		2	3	2	2	2	2	5	1	12	2	5						2	47	17	64		
Lethargic Encephalitis																															
Measles	23	27	78	68	96	105	114	110	140	126	852	809	96	101	11	26	8	22	4	11	1	5							1	1	
Mumps	1		1	6	12	6	16	11	27	16	484	440	196	171	28	44	14	34	8	26	8	8	2	1					1423	1413	2836
Puerperal Septicemia																															
Scarlet Fever			9	3	9	3	17	16	18	16	98	109	47	39	19	11	9	16	10	7	5	4	2								
Smallpox																															
Pulmonary Tuberculosis	1	1			2		1		1	4	2	2	3	4	8	11	15	36	44	26	29	16	25	12	7	4	138	114	252		
Typhoid Fever	6	10	10	12	9	11	12	5	9	14	46	48	1	3	2	9	5	3	5	3	5	6	2	4	3		28	18	46		
Whooping Cough																												94	103	197	

COMMUNICABLE DISEASES

	1931				1930				1929				1928			
	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.....	2				9	2	.95	22.2	19	5	2.4	26.3	279	17	8.4	6.1
Cerebro-Spinal Fever.....	5	1	.47	20.0	6	2	.95	20.0	1				8	3	1.5	
Chickenpox.....	966				1301				1155				997			
Diphtheria.....	279	15	7.4	5.3	343	14	6.7	4.08	475	21	10.2	4.4	605	22	10.9	3.6
Diphtheria Carriers.....	32				58				53				72			
Erysipelas.....	68	2	.94	2.9	81	5	2.4	6.2	108	13	6.3	12.0	101	7	3.4	6.9
Influenza.....	64	26	12.2	40.6	16	14	6.7	87.5	48	27	13.1	56.2	48	24	11.8	50.0
Lethargic Encephalitis.....	1	1	.47		2	2	.95		3	3	1.5		4	4	2.0	
Measles.....	2836	1	.47	.035	461	6	2.9	1.3	4658	19	9.3	.4	1595	7	3.4	.4
Mumps.....	1560				868				905	1			411			
Puerperal Fever.....	7	7	3.3		8	8	3.8		9	9	4.4		10	10	4.9	
Scarlet Fever.....	467	3	1.4	.64	327	3	1.4	.9	512	6	2.9	1.2	764	3	1.5	.4
Smallpox.....	4				6				13				20			
Tuberculosis of Lungs.....	252	83	39.0	33.2	231	97	46.3	42.0	229	83	40.5	36.2	209	73	36.1	34.9
Tuberculosis, All Forms.....		106	49.8			131	62.6			116	56.6			114	56.3	
Typhoid Fever.....	46	3	1.4	6.5	15				38	5	2.4	13.1	18	2	1.0	11.1
Typhoid Fever Corrected.....		3	1.4							1	.5	4.5		2	1.0	.0
Whooping Cough.....	197	2	.94	1.01	820	14	6.7	1.7	933	10	4.9	1.1	340	4	2.0	1.2

INSPECTORS' REPORT—1931

	Totals 1931	Totals 1930
Number of Visits	9,252	6,058
Houses Quarantined.....	5,241	3,134
Quarantines Raised	1,185	565
Quarantines Inspected.....	469	412
Other Calls.....	2,357	1,947
New Cases Investigated.....	5,766	3,593
Rooms Fumigated.....	5	2
Bedding, etc., Disinfected.....	766	730
Rooms Sprayed	190	153
Houses Sprayed.....	5	8
School Certificates Issued.....	2,766	787

TUBERCULOSIS—VISITING NURSES' REPORT—1931

	Totals 1931	Totals 1930
Number of Visits.....	5,370	5,200
To Old Cases.....	4,965	4,718
To New Cases.....	217	201
To Suspects	12	18
On Behalf of Patients.....	114	170
Other Calls.....	62	93
Patients sent to King Edward Memorial Hospital	26	40
Patients sent to Ninette Sanatorium.....	7	9
Patients sent to St. Roch's Hospital.....	4	12
Patients sent to Children's Hospital.....	2	..
Patients sent to St. Boniface Sanatorium.....	3	..
New Cases added to District.....	211	192

TOXOID ADMINISTRATION, SCHOOL CHILDREN, 1931

	Ward 1	Ward 2	Ward 3	Total
Schick Tests	673	961	991	2,625
Positive Schick Tests	533	755	786	2,074
Completed Toxoid.....	395	607	658	1,660

TOXOID ADMINISTRATION, PRE-SCHOOL AGE CHILDREN, 1931

	Ward 1	Ward 2	Ward 3	Total
Completed Toxoid	15	79	109	203
Not Completed Toxoid.....	4	31	100	135

DIPHTHERIA—NUMBER OF CASES AND DEATHS

	City		Non-Resident		Immunized Children		Non-Immunized Children Ages 6—12		Children Immunized in Schools
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
1931	250	11	29	4	8	...	56	5	(Grades 1-2) 1660
1930	293	8	50	6	17	...	61	2	(Grades 1-2) 1678
1929	397	14	76	7	14	1	137	5	(Grades 1-2) 1538
1928	528	15	77	7	18	...	149	4	(Grades 1-4) 1310
1927	463	25	79	9	10	...	167	5	(Grades 1-4) 2039
1926	468	14	86	6	6	1	139	12	(Grades 1-4) 2526
1925	439	19	76	7	4	...	148	8	(Grades 1-4) 2284
1924	478	17	107	5	...	...	303	9	(Grades 1-4) 1562
1923	1125	25	160	9	...	...	488	...	(Grades 1-4) 3 Schools Completed

DIPHTHERIA IN IMMUNIZED CHILDREN, SHOWING YEAR IMMUNIZED
(*) Shows Cases Receiving 2 Doses Toxoid.

	1931	1930	1929	1928	1927	1926	1925	1924	Total
1931								8
1930	3	4	1	4*	4*	2	....	17
1929	3	3*+1	8*	4	....	14 (1 death immunized 1925)
1928	1	1*	9*	2	....	18
1927	1	6*	4*	3	3	10
1926	5	1	6 (1 death immunized 1925)
1925	1	3	4
1924
	3	4	6	15	25	17	7	77 (inc. 39 second doses)

3 Schools, 1923; 9 Schools, 1924; 36 Schools, 1925. Schools have been attended to each subsequent year. October, 1923, to November, 1925, Toxin-antitoxin used. November, 1925, to November, 1927, Toxoid used (2 doses). November, 1927, to date, Toxoid used (3 doses). 1930 includes private physicians two, 1928 and 1926.

SLEEPING ACCOMMODATION OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS

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	Sleeping in same Room but Separate Bed	Sleeping in same Bed as Patient	Totals
1 Room	7	2	9	18	2	14	16
2 Rooms	1	.....	11	12	4	14	18
3 Rooms	13	2	17	32	11	17	28
4 Rooms and Over	99	4	39	142	29	40	69

Report of Chief Inspector Division of Sanitation and Housing

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

Dear Sir:

I have the honor to submit the following report of the work accomplished during 1931 by this Division of the Health Department, as set forth in my own report; also those of the Housing Inspector and Smoke Inspector.

ABATEMENT OF NUISANCES

The large table which follows, presents in a concise form a summary of the work performed by the Inspectors of this Division.

The total number of inspections and re-inspections was 32,332. As there are ten District Inspectors, this equals 3,233 inspections per man.

Complaints received numbered 2,525, or 43 less than in 1930. Of the complaints received, 565 were unfounded, or were rectified previous to inspection.

SANITARY INSPECTIONS FOR THE YEAR 1931

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Complaints received in Office.....	89	94	124	220	191	195	206	211	176	142	131	99	1878
Complaints made to Inspector.....	44	48	38	48	66	70	66	54	54	44	59	56	647
Total.....	133	142	162	268	257	265	272	265	230	186	190	155	2525
Of Above:													
Complaints re non-removal of garbage, etc.....	14	20	16	31	43	42	52	20	28	19	36	30	351
Complaints re nuisances, etc.....	119	122	146	237	214	223	220	245	202	167	154	125	2174
Total.....	133	142	162	268	257	265	272	265	230	186	190	155	2525
Complaints well founded.....	108	105	132	202	211	193	205	220	170	151	142	123	1960
Complaints unfounded or rectified previous to inspection.....	25	37	30	66	46	72	67	45	60	35	48	32	565
Total.....	133	142	162	268	257	265	272	265	230	186	190	155	2525
Written notices (informal).....	79	133	43	81	99	186	157	111	104	102	109	119	1323
Written notices (statutory).....	85	67	80	149	183	146	179	127	184	112	80	74	1466
Verbal notices or warnings.....	746	1056	920	1071	1074	1275	1014	872	778	843	892	685	11226
Total.....	910	1256	1043	1301	1356	1607	1350	1110	1066	1057	1081	878	14015

SANITARY INSPECTIONS FOR THE YEAR 1931—Continued

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Yards, sheds, areas, etc.....	317	354	335	626	608	700	518	408	404	467	435	296	5468
Vacant lots (nuisances).....	44	64	38	88	96	80	73	54	44	63	49	50	743
Streets and lanes (nuisances).....	395	397	218	316	192	345	238	145	263	263	279	229	3280
Contractors' Closets.....	15	12	34	55	70	66	61	51	31	42	22	19	478
Infectious diseases (houses placarded, disinfected, etc.).....	...	...	...	15	523	486	...	...	...	...	...	...	1027
Zoning By-law.....	1	...	...	1	...	...	...	...	...	...	1	...	3
Total number of inspections.....	1417	1448	1290	1834	2185	2300	1503	1194	1358	1520	1419	1402	18870
Re-inspections.....	828	886	975	1021	1511	1403	1215	1180	1303	1129	1137	874	13462
Total number of inspections and re-inspections.....	2245	2334	2265	2855	3696	3703	2718	2374	2661	2649	2556	2276	32332
SMOKE NUISANCES													
Chimneys and smoke stacks (observa- tions).....	72	56	35	34	37	43	23	17	34	48	51	47	497
Furnaces, boilers, fuels, etc., inspec- tions of.....	80	51	24	27	34	24	9	12	25	35	44	41	406
Total.....	152	107	59	61	71	67	32	29	59	83	95	88	903
Notices, statutory.....	...	2	...	...	...	...	...	...	2	3	...	2	9
Notices, verbal.....	67	49	35	34	34	24	9	12	23	32	51	39	409
Total.....	67	51	35	34	34	24	9	12	25	35	51	41	418

SANITARY INSPECTIONS FOR THE YEAR 1931

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
DEFECTS AND NUISANCES DISCOVERED AND ABATED													
Drains, choked or defective.....	18	11	14	20	32	19	23	15	17	19	23	10	221
Sinks and wash-basins, choked or defective.....	10	15	13	20	18	18	20	17	17	15	14	9	186
Water-closets and fittings, choked or defective.....	27	22	15	23	31	19	29	17	28	18	27	15	271
Baths and fittings, choked or defective	1	2	.....	.....	.....	2	1	4	2	2	2	.....	16
Urinals and fittings, choked or defec- tive.....	3	4	2	2	9	1	2	3	1	2	1	.....	30
Soil-pipes, clean-outs, etc., choked or defective.....	5	13	14	10	17	12	10	10	20	9	9	14	143
Catch-basins and traps, choked or de- fective.....	8	8	13	14	11	10	11	14	12	9	16	11	137
W. C. compartments, defective light and ventilation.....	3	2	1	.....	1	.....	3	1	3	3	.....	.....	17
Plumbing and water pipes, frozen.....	17	16	11	7	1	.....	.....	.....	.....	.....	5	2	59
Vent stacks, frozen.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Sewer connections, frozen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Water services, defective or cut off.....	24	15	21	20	18	11	8	13	14	9	6	5	164
Plumbing fixtures, insufficient.....	1	1	.....	6	4	1	5	1	3	1	3	2	28
New plumbing, notice to install.....	4	.....	.....	6	2	4	2	4	3	1	1	.....	27
Total plumbing defects.....	121	110	106	128	144	97	114	99	120	88	107	68	1302

SANITARY INSPECTIONS FOR THE YEAR 1931—Continued.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Dirty yards, courts, sheds, etc.....	232	349	313	447	412	509	303	279	277	304	316	204	3945
Poultry kept in dwelling.....	.....	1	.....	2	3	5	4	4	.....	11	8	5	43
Pigeons kept in dwelling.....	.....	1	.....	.....	.....	1	.....	.....	.....	2	3	2	9
Animals kept in dwelling.....	2	3	5	2	2	1	1	.....	2	1	1	4	24
Poultry kept under insanitary conditions.....	.....	3	1	5	5	16	12	10	12	17	10	10	101
Cows or other cattle kept under insanitary conditions.....	4	6	3	9	8	5	.....	2	8	.....	4	3	52
Cows or other cattle kept too close to dwelling.....	.....	1	.....	.....	2	.....	.....	1	2	.....	1	.....	7
Hogs, unlawfully keeping.....	1	2	3	5	6	9	12	8	6	5	5	9	71
Horses, insanitary stables.....	148	83	99	118	272	524	440	177	208	204	132	101	2506
Garbage receptacles.....	38	25	26	45	29	51	19	44	28	19	32	26	382
Refuse receptacles.....	10	26	20	22	19	19	16	14	17	18	18	23	222
Manure bins, defective.....	46	18	11	8	4	3	5	2	4	5	12	23	141
Ash receptacles.....	12	18	18	19	11	13	12	9	13	9	14	10	158
Paper receptacles.....	12	8	12	11	23	21	22	18	10	16	28	13	194
Cellars and basements, defective.....	4	6	3	8	3	5	11	9	5	3	13	4	74
Dwellings, dilapidated and insanitary Tenements, dilapidated and insanitary.....	2	1	.....	5	2	2	1	1	.....	.....	.....	.....	14
Offices and workshops, dilapidated and insanitary.....	.....	.....	.....	.....	6	1	3	1	.....	1	1	3	16
Dilapidated and insanitary other buildings.....	2	.....	1	4	2	1	3	4	2	5	2	3	29
Overcrowding (day inspections).....	18	22	18	24	12	18	18	22	11	22	19	23	227
Overcrowding (night inspections).....	1	.....	2	1	1	.....	.....	.....	.....	.....	1	.....	6
Overcrowding (notices).....	6	4	2	6	5	6	3	4	1	9	11	8	65
Rat-infested buildings.....	3	2	3	1	5	2	2	5	3	2	1	5	34
Cockroach infested buildings.....	4	2	7	4	9	5	13	12	11	8	10	5	90
Bed-bug infested buildings.....	4	7	12	13	15	22	36	32	24	13	8	5	191

FROZEN WATER PIPES AND PLUMBING

We had only 59 cases, these being almost entirely in very old buildings; also the past two winters have not been very severe, and there has been less trouble in consequence.

OTHER PLUMBING DEFECTS

A total of 1,243 cases of defective plumbing were dealt with, being a decrease of 207 as compared with last year. The defects included drains, water-closets, sinks, baths, washbasins, urinals, soil-pipes, clean-outs, waste pipes, catch-basins, etc., that were found to be either choked, broken, of imperfect construction, or otherwise insanitary. There were 27 notices served where new or additional plumbing fixtures were required. During the year 419 new dwellings were constructed, and of these only 8 were built on streets where there were no sewer or water mains. There are now only 255 houses in the City that are without plumbing, a record of which we may justly be proud.

DEFECTIVE ROOFS, EAVESTROUGHS AND RAIN WATER LEADERS

We dealt with 104 defective roofs and 117 defects in eavestroughs or rain water leaders.

GARBAGE, MANURE AND OTHER RECEPTACLES

A great deal of work was undertaken by our Inspectors in checking up on the number and condition of containers for garbage, manure and other refuse. During the Summer, the usual garbage can campaign was conducted, with the result that 1,611 new garbage cans were provided. While this cannot be said to be a large number of replacements of receptacles that were worn out, in view of the hard times that householders had during a year of depression, it is a very good showing; also in the past few years many new garbage cans were secured which do not yet require to be replaced.

Notices served in connection with this work were as follows:

To provide garbage cans or covers.....	2,506
To provide receptacles for incombustible refuse	382
To provide or repair manure bins.....	222
To provide receptacles for ashes.....	141
To provide receptacles for paper.....	158
Total.....	3,409

SCAVENGING

The Scavenging of the City is carried out by the Street Cleaning Division, and, as formerly, the fullest co-operation exists with that

Division. During their routine work, our Inspectors have ample opportunity for observing the manner and frequency of this work; indeed, it is a part of their duties to note conditions in this regard. Complaints relating to non-removal of garbage, incombustible refuse, ashes, etc., numbered 351. Frequently householders are themselves to blame for not providing proper storage facilities, mixing the various classes of refuse, etc. If, for some reason, removal has been overlooked, a memo to the Scavenging Division is given immediate attention.

Requests were sent to the Street Cleaning Division as follows:

Cleaning of contractors' closets.....	178
Removal of garbage	29
Removal of dead animals	1
Removal of ashes	15
Cleaning of brick pit closets.....	19
Removal of infected bedding	1
Removal of manure from streets and lanes....	3
Removal of tins and other incombustible refuse	26
	272

CONTRACTORS' CLOSETS

There were 416 permits issued, being 96 less than last year. Inspections and re-inspections made were 478 and notices served for construction, cleaning, repairing or removal of same numbered 303. We had a good deal of trouble during the year with contractors who were careless about these conveniences, and in three instances had to resort to prosecution.

FEED AND SALE STABLES

Permits were issued for 11 of these and 148 inspections made. Special attention was given to the storage and removal of manure, especially during the fly season.

PRIVATE STABLES

There were 717 inspections made. Constant supervision is maintained by our Inspectors of all premises where cows and horses are kept. During the year a number of stables were improved, concrete floors provided, windows and doors screened, manure bins repaired or rebuilt, etc., in order that citizens may not be annoyed by offensive odors, also that flies and rats may be suppressed. Forty-one notices were served.

KEEPING OF ANIMALS

Occasionally we come across dilapidated and insanitary sheds and other outbuildings used as stables for animals of various kinds. It is

not the policy of the Department to discourage the keeping of animals, so long as this can be done without causing nuisance to other residents in the vicinity. The undernoted summary serves to show instances that were dealt with during the year:

Cows kept in insanitary sheds, etc.....	8
Calves kept in insanitary sheds, etc.....	2
Horses kept in insanitary sheds, etc.....	10
Goats kept in insanitary sheds, etc.....	3
	<hr/>
Total.....	23
	<hr/>

Action taken and results:

Stables vacated and placarded.....	1
Stables vacated but not placarded.....	1
Stables put into sanitary condition.....	3
Number of animals removed.....	4
	<hr/>
Total.....	9
	<hr/>

In addition to the above, we were called upon to regulate the keeping of other animals in dwellings and suites—mostly dogs and cats—in 24 instances. One complaint referred to the keeping of a monkey in the room of a tenement.

POULTRY

Poultry kept in dwellings	43
Poultry kept in insanitary pens, sheds, etc... ..	101
Pigeons kept in dwellings.....	9
	<hr/>
Total.....	153
	<hr/>

LICENSED DOG KENNELS

Total inspections made, 109. Permits issued, 23; in 1930, 26 permits were issued and in 1929, 30.

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

Dirty yards, courts, sheds, etc.....	3,945
Stagnant water on vacant lots.....	41
Other nuisances on vacant lots.....	694
Nuisances on streets and lanes.....	3,226
	<hr/>
Total.....	7,906
	<hr/>

The large number of nuisances dealt with shows the necessity for frequent supervision of outside conditions. There is a large class of citizens who lack civic pride and who carelessly or through indifference

think nothing of placing or storing refuse of all kinds in outbuildings, vacant lots, streets and lanes. This practice appears to be more prevalent during the Winter, for then the material is soon covered with snow. The regulation of such conditions entails a great deal of work and it is seldom possible to get evidence as to the offender. The dumping of manure on vacant lots is hard to control although our Inspectors are sometimes on duty in plain clothes in the evening. Occasionally we find a load of manure dumped in a lane, this having been done in the early morning. In many cases we have to ask the Street Cleaning Division to remove the refuse.

COMPULSORY SEWER NOTICES

None were served this year.

APPLICATIONS FOR CITY INSTALLED PLUMBING

Several applications were made to the Department, but in each case they were withdrawn by the applicant, on the understanding that given a little longer time, the work would be done by the owner.

OVERCROWDING

Inspections for overcrowding numbered 233, of which 6 were made at night. We find that overcrowding is more in evidence among families living in rented rooms, than is the case amongst those living in single family dwellings. Many families are finding it hard to make ends meet during these trying times, and for this reason we are inclined in many instances to take a lenient view. In a number of cases, we discovered families in straitened circumstances compelled to share their accommodation with another family. In other instances we came across families so hard pressed that they were obliged to go into rented rooms in tenements, and live in one or two rooms. We found a family with little children living in a poorly-lighted attic room, compelled to cook, sleep and do the clothes washing in crowded quarters in Winter with storm sashes securely fastened. In addition to being overcrowded, the air in the room was hot and humid. This was one of a number of cases where we were able to persuade the owners to provide other or additional space. We served 65 notices to abate overcrowding.

HOUSING

There were 419 new houses constructed during the year. This is 101 less than in 1930. There were 84 houses demolished during the year, so that the net increase was 335 only.

Twelve apartment blocks were built, or blocks rearranged for residential purposes, providing an increase of 254 suites of rooms; thus the new construction provides a total increase of 589 lettings.

During the month of December we made our Annual Survey of Vacant Houses and Vacant Suites. The total number of vacant houses was 500, as against 587 the previous year. Included in this number are 80 unfinished houses.

The Survey shows that there are 35,667 houses in the City, including dwellings in connection with stores. The vacancies, therefore, represent only 1.4% of all houses, which is a very small proportion.

The total number of vacant suites in apartment blocks was 1,530, as against 1,046 last year; an increase of 484. There are 655 apartment blocks, containing 10,497 suites. The vacant suites, therefore, are 14.5% of the whole. Last year the vacancies were 10.4% and the year previous 7.3%.

Of the vacant suites, 1,137 were in residential blocks and 393 in mixed business and residential blocks. The new apartment blocks added this year consist of 8 residential and 4 mixed residential and business blocks, and these contain 254 suites, of which 33 are vacant. There were 14 blocks removed from our list this year, on account of change in the grade of occupancy. For example, instead of being rented individually to separate occupiers, they have been leased in each case to one tenant, who in turn rents out suites and rooms for short periods. One block was demolished.

The percentage of new houses and new suites provided during the past few years is as follows:

	New Houses	New Suites
1925	85.0%	15.0%
1926	65.4%	34.6%
1927	69.4%	30.6%
1928	59.2%	40.8%
1929	49.0%	51.0%
1930	67.0%	33.0%
1931	62.3%	37.7%

In order to ascertain our total housing accommodation, a careful check was made of all houses and blocks. As already pointed out, certain adjustments have been made with regard to apartment blocks that are not now being occupied as such. Our total housing accommodation is as under:

Dwelling houses	34,557
Dwellings in connection with stores.....	1,110
Suites in apartment blocks.....	10,497
	<hr/>
Total lettings.....	46,164
	<hr/>

There does not appear to be any improvement in our general housing conditions. From observations throughout the year, we are compelled to conclude that there are more houses occupied as tenements

than previously. At any time, but during the present period of depression especially, most families prefer small houses. Of the 500 vacant houses, recorded in the recent Survey report, only 52 were of four rooms or less. This includes, however, those houses that are dilapidated, also those that require extensive repairs before occupation.

There are still a great many single-family houses occupied as multiple dwellings. These places are mostly occupied by families who have not the means to purchase houses of their own. It has been stated in previous reports that these families, especially those with children, would rent small cottages or houses, if these were available. Accommodation in apartment blocks does not appear to fill the want, else there would be fewer vacant suites. It would seem that the construction of apartment blocks is becoming greater than the demand. There were 338 vacant suites in 1926; 392 in 1927; 385 in 1928; 729 in 1929; 1,046 in 1930; and 1,530 in 1931. The inference is, that there is more than adequate accommodation for families who wish to live in apartment blocks and not sufficient provision for those who desire small dwellings. It is this latter class that should be provided for now. The erection for rent of small dwellings does not appeal to the average builder and apparently it is difficult to obtain money for this purpose.

There is too much congestion in the centre of the City; too many families living in one or two rooms of houses that are suitable for one family; and, unfortunately, many of these people are becoming accustomed to this mode of life. There can be no doubt that personal and community hygiene—even the morals of the people—depend in no small measure upon our housing conditions. We cannot even think of applying pressure with the object of reducing the number of families housed in the tenements, until something like adequate accommodation is available elsewhere, under more favorable conditions.

ZONING

Two additional Zoning By-laws were passed during the year. We dealt with 5 infractions and in each case satisfactory adjustments were made.

GAS STOVES AND FITTINGS

There is no by-law governing the installation and subsequent inspection of these. In 14 instances we dealt with defective gas fixtures, pipes and fittings. There are numerous gas stoves found in houses unlawfully occupied as tenements. Sometimes the rooms in these houses are cold and the occupants are obliged to keep the gas burning in the ovens. There is always a possibility of an escape of gas in small quantities from defective pipes, especially where the connections are made by some incompetent person, or by the use of rubber tubing instead of metal pipes.

CHEMICAL AND MECHANICAL REFRIGERATORS

The Department of Public Works of the Provincial Government has on hand the preparation of "Rules and Regulations for the Construction, Installation, Inspection, Operation and Maintenance of Mechanical Refrigerating Systems." On request, we offered a number of suggestions in this connection. Following a report of poisoning due to a leakage from a refrigerator, we made an inspection of the suite where the accident occurred. The refrigerator was of the unit type (Sulphur-Dioxide) and installed in the kitchen. We found that the fixture had been accidentally overturned and that the occurrence was due to this and not to any mechanical defect. The incident emphasizes the importance of having all these fixtures securely fastened to the floor. In another instance we made an investigation into the circumstances relative to alleged Methyl-Chloride poisoning. This accident also occurred in a large apartment block. We found that there were two multiple systems of refrigeration installed, one for each side of the block. The machinery was housed in separate rooms in the basement, with entrances from a corridor. The refrigerant was Methyl-Chloride with a proportion of Sulphur-Dioxide to act as an irritant in case of leakage. The total amount of refrigerant used was twenty-nine to thirty-nine pounds in each system, but we were unable to ascertain the actual proportion of SO_2 added. The pipe lines were of copper enclosed in conduits and metal boxes with covers were installed at all points where soldered connections to fittings were made. The fittings were all of bronze and all joints of the sweated type. All joints and connections were carefully examined and it was noted that one pipe was soldered on the outside of the bend at a point about one and a half inches from the fitting. This may have been due to a little carelessness during the sweating or soldering of the joints, or there may have been a defect in the pipe, which had been soldered. This, however, was only conjecture, as drawn pipe does not usually split; but there are occasions when pipes of this nature may be unevenly "drawn" during manufacture, and bending at a weak point may be the cause of fracture. It was found that one of the refrigerator cabinets had been raised to permit of linoleum being placed underneath. We feel sure that most, if not all the trouble in this case, was due to a leak in the fittings, caused by the moving of the refrigerator. We have therefore recommended that all cabinets be rigidly secured to the floors.

CROSS CONNECTIONS—WATER SUPPLIES

Inspections were made of 49 premises where private wells are in operation. These are all deep, bored wells, properly constructed and protected, in large buildings and manufacturing plants. Several cross connections found are controlled by valves.

FACTORIES, WORKSHOPS, AND OFFICE BUILDINGS

The number of inspections of factories and workshops was 418, and of office buildings 87. A number of defects and irregularities were

dealt with, such as lack of adequate natural light; lack of proper means of ventilation; lack of proper air movement; excessive temperatures; impervious floors required in lavatory apartments; defective plumbing; dirty lavatory fixtures; dirty walls and ceilings in workrooms and lavatories; common drinking cups; roller towels; etc. In several instances we informed the Provincial Bureau of Labor and obtained co-operation in having repairs and alterations carried out. A high standard of sanitation is maintained in our office buildings generally and usually such defects as may be found are rectified without the necessity of serving notices.

RATS

We received 34 complaints regarding rat-infested buildings. The bounty paid for 7,301 rat tails was \$365.05. This is more than ten times the amount paid in 1930, and serves to indicate, not so much that there is an abnormal increase in the rodents, but that more people were interested in their extermination. There was also an increase in boxes of Extirmo distributed, 1,924 this year as against 1,077 last year.

PUBLIC BATHS AND COMFORT STATIONS

Inspections of baths totalled 67 and comfort stations 225. Samples of water were taken from the Y.M.C.A., Y.W.C.A., Winnipeg Winter Club, All People's Mission, Stella Avenue Mission, Pritchard Avenue and Sherbrook Street baths. Our baths and comfort stations are well cared for and any suggestions for correction of defects or advice for improved conditions are usually acted upon promptly.

UNDERTAKING ESTABLISHMENTS

Seven inspections were made and 7 permits issued for licenses. The premises were all in a sanitary and well ordered condition.

COMMON DRINKING CUPS AND TOWELS

We do not make systematic inspections, but when inspecting premises for other purposes, if drinking cups or towels are found to be used in common, warnings are given or notices served, drawing the attention of the management to the Regulations of the Provincial Board of Health in this matter.

CHIMNEYS AND FURNACES

Only 22 defective chimneys and 41 defective furnaces, stoves, and pipes in connection with same, were brought to our attention. Furnaces, especially hot air furnaces, are fixtures that ordinarily do not receive the care and attention that is necessary.

BILLIARD ROOMS

Inspections made, 267; and permits issued, 64. Frequent inspection is necessary of many of these in order to maintain proper sanitary conditions.

SECOND-HAND DEALERS AND JUNK YARDS

Inspections made, 379; and permits issued, 128.

WIPING RAGS

There were 38 inspections made. Under the Regulations of the Provincial Board of Health, if the Health Officer is not satisfied that consignments have been properly sterilized and laundered, he has power to require that these be subjected to re-sterilization and re-laundering. We held up two shipments of Japanese wiping rags on account of the lack of proper sterilization certificates and prohibited their use until the regulations were complied with.

BEDDING AND UPHOLSTERY FACTORIES

Inspections made, 19. The manufacturers of this class of goods are aware of the Regulations of the Provincial Board of Health and fully in accord with same. A close check is apparently necessary, however, in the smaller establishments.

BARBER SHOPS

One hundred and twenty-six inspections were made. A number of complaints regarding the lack of plumbing fixtures, the want of a proper supply of hot water, etc., were investigated and, where necessary, notices were served.

VERMIN

Complaints relating to vermin-infested premises are on the increase. We dealt with 90 buildings infested with cockroaches, as against 62 last year; and buildings infested with bedbugs, 191 this year as against 161 last year. Reference has already been made to rats. We have no by-law or regulations on this subject, and it is frequently difficult to place responsibility in the matter. Sometimes premises are found to be infested after occupation, and occasionally tenants bring in vermin in their bedding, etc. Destruction of heavily infested articles, removal of wallpaper, picture moulding, and the spraying with suitable substances, also fumigation, has to be resorted to both by owners and occupiers.

THEATRES AND PLACES OF AMUSEMENT

Inspections made, 76. In the course of structural alterations to one of our theatres, a duct in the ventilation system was cut, with the result that odors from occupied premises in the basement were carried into the auditorium of the theatre. We were called upon to suggest such changes as we thought necessary. Our recommendations were carried out and the trouble corrected.

SCHOOLS AND PUBLIC BUILDINGS

Only 24 inspections were made this year.

LAUNDRIES

Hand laundries are becoming fewer each year. This year only 97 permits were issued. In 1930 there were 100, and in 1929, 105. Inspections this year were 613 of hand laundries and 11 of steam laundries.

HOTELS

There were 60 permits issued and 116 inspections made. A good deal of work was done, such as cleansing of basements and cellars, repapering, kalsomining, and painting of rooms, renewal of beds and bedding, etc. The hotels are in very good order and a number are in excellent condition.

LODGING HOUSES

Permits were issued for 127 licensed lodging houses and 393 inspections were made.

MARKETS

Several new public markets were opened during the year. One of these consisted of an uncovered piece of ground divided by lanes or passageways leading from the sidewalk to the rear. On each side of these lanes, stalls were erected from which market gardeners sold their produce. Not long afterward a number of nondescript structures were erected by hucksters. In some cases there was only a rough frame covered over and around with canvas or sacking; others were of rough lumber, some of old packing cases; a few were of a more substantial character, being sufficiently well constructed to afford protection during Winter. Foodstuffs were being sold from crates and boxes in the open. The original intention of establishing a market where garden produce could be sold direct was departed from and the whole character of the premises changed. The appearance of the erections indicated that each structure was a store, the occupiers of which were in unfair competition with other merchants paying much larger rents and business taxes; the Health Department was, of course, not interested in this phase of the matter. The Public Health Act and Health By-law requires that all buildings fronting a street where there are sewer and water mains, must be provided with adequate sinks and water-closets. Closing notices were served and the structures vacated. Later, these make-shift stores were all removed by order of the City Engineer's Department; their erection should have been prohibited in the first place. During the warm weather, inspection is made at least once each day, of all markets.

NOISE

By-law 13982 provides that "No person shall make or cause to be made within the City any unnecessary noise or noises which are or may be prejudicial to the Public Health, either by reason of interfering to a greater or less degree with the rest or comfort of citizens, or other-

wise." A number of complaints were received during the year and inspections made. These all related to excess volume from radios. In each case the nuisance was abated without the necessity of serving notice. It is surprising that we do not receive complaints of everyday noises, such as street cars, auto horns, rigs and trucks on hard road beds, locomotive and factory whistles, etc.

HYDROCYANIC ACID

The regulation prohibiting the use of hydrocyanic (or prussic) acid in or upon any premises, as an insecticide, has been repealed. New regulations have been passed by the Provincial Board of Health providing for and regulating that hydrocyanic acid may now be used under conditions briefly set forth as follows: 1. The material may not be used except by a person holding a permit issued by the Department of Public Health. 2. The Municipal Medical Health Officer, the Municipal Police and Fire Departments to be notified of the location where the fumigation is to be carried out, such notification to be given on a prescribed form and received a full twenty-four hours prior to the commencement of the fumigation. 3. The entire building to be unoccupied during the time the fumigant is in use. The onus of seeing that no human being is present in the building is placed on the fumigator. 4. Adequate measures are to be taken to prevent the entrance of the gas to adjacent buildings. 5. All crevices, cracks or openings to be properly sealed. 6. The doors, windows and other openings to be securely sealed and fastened so as to prevent entrance and a white card with the word "danger" printed in red block letters not less than three inches in height; also the words "premises under fumigation with a deadly poisonous gas, keep out," printed in black block letters at least one inch in height. 7. A capable watchman to be employed to see that no one enters the building. 8. Gas masks to be used by the fumigator and attendants handling the residues. 9. The premises to be sufficiently ventilated after fumigation. 10. Permit in writing to be obtained from the Provincial Department of Health; permits granted for one year; may be renewed; and may be cancelled for failure to comply with the regulations; each applicant to furnish a satisfactory bond.

Only two persons in the City hold permits as above. Seven premises were fumigated and in each case the work was done strictly in accordance with the Regulations.

CELLAR OCCUPATION

We note a tendency on the part of many people to construct living rooms in cellars. This is most in evidence in new buildings. We discovered a number of these rooms occupied as bedrooms by the domestic help. Some of the rooms were very nicely fitted up and furnished; but due to their depth in the ground are liable to become damp; also there is usually a lack of adequate natural light and proper means of ventilation. The Public Health Act is quite specific on this

matter and states that: "Cellars shall not be used for day or night occupation. For the purposes of this section a cellar is any basement of any house or building whatsoever, more than one-half of the height of which under the ceiling is beneath the surface of the ground around the building, and whose light area is not equal to one-tenth the surface of the floor." We took suitable action to have such rooms vacated and have requested the co-operation of the Building Commissioner with the view to preventing such infractions in the future.

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	4
Tenement houses.....	4
Basement and cellar dwellings.....	4
Dark rooms (dwellings).....	4
Stores occupied as dwellings.....	10
Factories and workshops.....	5
Stables	6
Overcrowding	1
	<hr/> 65
Notices served on owners and agents.....	64
Notices served on occupants.....	69
Results:	
Notices complied with (premises put into sanitary condition)	45
Premises closed and placarded.....	19
Cases still pending.....	1
	<hr/> 65
Remaining closed on December 31st, 1930.....	138
Premises repaired or demolished during 1931	31
	<hr/> 107
Premises closed during 1931 (dwellings, 12; stables, 3; other premises, 4).....	19
	<hr/> 126
Remaining closed on December 31st, 1931....	

WORK DONE FOR OTHER DIVISIONS OR DEPARTMENTS

During the months of April, May and June our Inspectors assisted the Communicable Diseases Division by attending 1,027 cases of infectious diseases. A number of complaints relating to non-removal of garbage and other refuse were investigated for the Street Cleaning Division. Reports on the condition of the various swimming pools were prepared each month and sent to the Y.W.C.A., Y.M.C.A., Winnipeg Winter Club; and others when requested. Special inspections were made and reports sent on request to the Social Welfare Commission, the Unemployed Relief Committee, the Child Welfare Division of the Department of Health and Public Welfare, and others. Monthly inspections are made and reports submitted on the City baths and comfort stations. Several calls were made for the Statistician in respect of birth registrations and numerous inspections made for the License Department.

PROSECUTIONS

Only three cases were taken to court by this Division. Two were for neglect in construction of closet accommodation for workmen at new buildings and one for defective construction of same. In each case a fine of three dollars was imposed. Needless to state, it is only when other means have failed that prosecution is resorted to.

STAFF

Mr. E. W. J. Hague, Chief Inspector of this Division, retired from office in January. Mr. Hague was a very clever sanitarian and probably the most capable layman in the field of Public Health work in this country. His standard of efficiency will remain for many years as an incentive to those who succeed him. Moreover, he was very popular with the members of the staff under his supervision.

Mr. P. Pickering, Smoke and Supervising Inspector, was promoted to Housing and Supervising Inspector following my appointment as Chief Inspector of this Division. Mr. D. Little, Supervising Inspector, was promoted Smoke Inspector, and Mr. B. C. Brough, District Sanitary Inspector, was advanced to Supervising Inspector. The vacancy thus created was filled by the appointment of Mr. A. Cross, a fully qualified and certificated man.

We lost by death, Mr. G. Duffield, our Senior Clerk. This vacancy was filled by Mr. A. Barclay, one of our district inspectors, who is suffering from a disability, but is able to give good service in the office.

The vacancy caused by the above transfer has not yet been filled. As a result, several districts have had to be enlarged again and their size is now such that systematic house-to-house inspection is not possible.

The inspectors and clerks of the Division have all shown a keen and intelligent interest in their work. This is strengthened by a spirit of harmony and co-operation in evidence at all times, but especially when any member of the staff is off sick or on holiday, when additional work has to be undertaken, or special duties of an urgent nature performed on short notice.

Respectfully submitted,

ALEX. OFFICER,

Chief Inspector,
Division of Sanitation and Housing.

Report of Housing Inspector

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

Dear Sir:

I respectfully submit herewith a report on housing inspections and information relating to general housing conditions.

APARTMENT BLOCKS

The majority of complaints received during the year referred to irregular storage of garbage and the remainder formed a miscellaneous list comprised of plumbing defects, odours, lack of heat, overcrowding, animals in suites, vermin and dirty condition of hallways.

In one instance extensive plumbing defects were discovered and a considerable amount of money was spent on the necessary repairs. Odours were often due to the putrefaction of dead rats. The destruction of bed-bugs and roaches was accomplished by the use of insecticides. We have no jurisdiction regarding the temperature of suites or rooms, except in instances where there is sickness or when the plumbing is frozen. These conditions more often exist in the older class of building where the majority of the complaints originate. Overcrowding conditions frequently prevail in this type of structure, also there is a tendency to neglect to maintain cleanliness in halls and stairways. The irregular storage of garbage is usually due to dilapidated garbage receptacles or in neglecting to provide suitable metal covers to same. General sanitary conditions, on the whole, were satisfactory.

LODGING HOUSES

The regulations regarding lodging houses and compulsory licensing of such premises, have been instrumental in raising the standard of housing previously existing. Before permits for license are issued each year, the premises are thoroughly inspected and the necessary repairs are insisted upon. Moreover, they are also reinspected several times during the year, and any untoward condition receives immediate attention. Plumbing defects and the presence of bugs, are the most common nuisances found. Occasionally, cellars are found occupied as bedrooms, and we found, in one instance, there were seven beds. It is seldom there is overcrowding to any extent owing to each room being carded. The number of persons allowed to occupy such rooms is stated on the cards and generally the occupants inform us if the number is exceeded.

DWELLINGS

A number of notices were issued, relative to overcrowding. We have, however, taken into consideration the adverse conditions prevailing, and in many instances it has been somewhat of a problem to cope with the matter judiciously. Owners of property, in some instances could not afford the cost of repairs or alterations. In other cases, temporary partitions have been erected in order to arrange additional rooms for sub-letting. Families who have hitherto rented a house or suite, have been compelled to move into one or two rooms owing to financial circumstances. By co-operating with the City Unemployed Relief, we have, on many occasions, been able to regulate very unsatisfactory housing conditions and also to report certain occurrences of interest to them. On one occasion, we found a garage of frame construction occupied by a man, wife and two children. The size of the structure was sixteen feet by seven feet and the average height was seven and a half feet. The floor was constructed of rough lumber and the total glass area was equal to only one-thirtieth of the total floor area. There were no toilet facilities, of course, except in the dwelling of the owner nearby. Rent was eight dollars per month. We insisted on the family vacating.

CONVERSION OF STORES INTO DWELLINGS

There were many applications for permission to convert the rear portion of one-storey lock-up stores into dwellings. In this respect we are governed by the Manitoba Provincial Health Act, which states that no building may be occupied as a dwelling unless there are sash windows on two sides of the structure. Where the building is located on a corner lot, the installation of additional windows is allowed. When the building is located on an inside lot, it is impossible to comply with the requirements unless there are vacant lots adjoining. Even then, occupation could only be allowed until the adjoining lots are built upon.

TENEMENTS

The problem of maintaining satisfactory sanitary conditions in rooming or light housekeeping premises is not yet solved. There are families occupying one room as kitchen and bedroom, unventilated gas stoves are in use: the number of sanitary fixtures are inadequate and attic rooms on third floors are occupied by families. The rooms are often used for the washing and drying of clothes which results in high relative humidity conditions. Should there be any lowering of the inside temperature, condensation of the water vapor occurs and a condition of dampness prevails. Oil stoves are often used to supplement the heating system and means for ventilation of the rooms during the Winter months are seldom provided.

There were several instances where the lessee of the premises had sub-let practically all of the rooms, reserving one room on the ground

floor as a kitchen and occupying the cellar as bedroom for themselves and children. On one occasion, we found six children under twelve years of age and in another case there were two children, ages eleven and four respectively, housed under these conditions. In both instances, prompt action was taken.

The housing of families under these conditions is far from satisfactory, especially when one takes into consideration the fact that, in many cases, the monetary gain by the lessee is considerable. Our objections to this class of building may be summarized from the following viewpoints, viz.: Sanitary, Fire Hazard, Morals and Environment.

Conditions from the sanitary viewpoint have already been enumerated and require no further comment excepting the overcrowding of rooms and the vitiation of the interior atmosphere owing to slight leakages where gas ranges are installed. To what extent the occupants are affected is problematical. We do know, however, that the combination of the conditions mentioned is such, as to render the occupants more susceptible to disease by impairing their physical resistance.

The use of attic rooms by families is not desirable. In many instances, natural light is inadequate, ceilings are too low, and there is no special provision, in many cases, for escape in case of fire. Stairways are often narrow and winding and would act as a flue.

Two examples regarding the occupation of tenement houses, dealt with during the past year, may be cited. Both dwellings are of frame construction, each contain seven rooms, are semi-modern in type and two storeys high. There is a small cellar in each dwelling, walls are constructed of wood in poor state of repair and floors are partially concrete; remainder of floors, earth. No provision is made for natural light or means for ventilation. The total sanitary fixtures are one water-closet located in a dark compartment on the hallway of the second floor and one sink in the kitchen. We found each room of both premises occupied by a separate family. Occupants of the rear rooms on the ground floors had to re-enter the dwelling from the front, in order to obtain access to the sanitary accommodation provided. Smokepipes from the cooking ranges in each room passed through stud and plaster partitions without provision for fire protection. Walls and ceilings throughout were coated with soot and the atmosphere was loaded with smoke. The plumbing was out of order, and the halls and stairways were filthy. The rent obtained from each house was forty-two dollars per month. We notified the tenants to vacate and closed the premises as insanitary.

From the moral viewpoint, the occupation of one bedroom by mixed sexes of various ages, is far from desirable. In all such instances we find that poverty is the cause. Environment and the moral viewpoint are synonymous.

Tenements similar to those indicated above, are located in the poorer class districts, consequently the children, owing to poverty, are often deprived of the playground facilities provided for them by the citizens. As a result, they are confined to the vicinity in which they reside, they cannot associate with more fortunate children, and, in consequence, there may be a tendency to promote what may be termed a slum complex.

It is apparent from the above remarks, that two things are necessary, viz.: regulations governing the conversion of dwellings to tenements or apartment blocks and the erection of cheaper but substantial dwellings for the lower paid workers.

One must admit, that if it is necessary to regulate the construction of apartment blocks for the safety and general welfare of the occupants (because there are three or more families in residence), then surely it is advisable to insist on similar protection in tenements. Indeed, there is, in my opinion, greater necessity for regulation of the latter for the reason that the majority of dwellings occupied as tenements are large houses of frame construction, there is not the same general supervision as in the former instance, the environment has a tendency to promote carelessness and the fire hazard is much greater. Fortunately, so far, there has been no serious results due to fire; to be fore-warned is to be fore-armed, however.

Many of these dwellings which have been converted to tenements could, by making a few alterations, be made to comply very satisfactorily with our suggestions, both as regards the sanitary and fire viewpoints. We realize, also, that many of these dwellings are too large for the average family, also that the owners of the property must be given consideration. In my opinion, the expense involved would be money well invested, as the owner would obtain additional revenue instead of the present lessees, whose aim is monetary gain only.

The necessity for the erection of cheaper dwellings is quite evident; houses to rent at twenty-five dollars and under per month are required. How this is to be accomplished, is a problem not easily solved. In order to reduce costs, houses would have to be semi-modern in type, arranged in terrace form to reduce land costs, etc., and contain three to four rooms in addition to accommodation for the sanitary fixtures. A small cellar would be advisable for protection of the plumbing below the floor and in order to prevent settlement and undue depreciation of the structure, concrete posts carried to a point below the frost line would be necessary. The superstructure may be one or two storey high with separate entrances to each floor. Construction may be frame or preferably brick with hollow tile inside walls.

The use of a large tract of land where the cost was reasonable, and the provision of land area for gardening and playground purposes is actually required. Standardization of construction and the erection of a large number of dwellings would cheapen the cost appreciably.

Although it is unlikely that private enterprise could be encouraged to finance such operations, it is not out of the question to suggest that, as housing conditions are to a great extent a matter of health, it may be worth while for certain corporations to consider a combined method of insurance, embracing house purchase, life and sickness insurance, fire insurance, etc.

There are many persons who cannot save sufficient money for the first payment on a house, yet have sufficient security in the form of an insurance policy. Given the opportunity to utilize the insurance as security and provided the total monthly payments were spread over a reasonable number of years, they could easily meet their indebtedness. Corporations could purchase material and land on a cash basis which would cheapen construction costs appreciably, they could also exercise close supervision as to the method of construction and maintenance. Consequently, it is reasonable to suggest, that there would be a considerable increase in the business of the Corporations. The general public would have the opportunity to commence the purchase of a home without accumulating additional cash and the price would be reduced. There would be an incentive for persons to own their home comparatively early in life, therefore, thrift would become a matter of fact. Construction would improve labor conditions and the City would have additional revenue. The principal point to be emphasized is, that the rate of interest and overhead charges should be reasonable and be based on the fact that the corporation's funds are, after all, the funds of the contributors.

As regards the very low paid worker the solution of housing problems will only be solved, in my opinion, when special apartment blocks or tenements are constructed either by the Civic or Provincial authorities or under some special scheme controlled by the Dominion Government.

Yours obediently,

P. PICKERING,

Housing and Supervising Inspector.

Report of Smoke Inspector

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

Sir:

Herewith is respectfully submitted a report on smoke nuisances and their abatements for the year 1931.

SMOKE INSPECTIONS

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS
Observations:													
Chimneys & Smoke Stacks	72	56	35	34	37	43	23	17	34	48	51	47	497
Inspections of furnaces, boilers, fuel, etc.....	80	51	24	27	34	24	9	12	25	35	44	41	406
Total.....	152	107	59	61	71	67	32	29	59	83	95	88	903
Notices:													
Statutory.....		2							2	3		2	9
Verbal.....	67	49	35	34	34	24	9	12	23	32	51	39	409
Total.....	67	51	35	34	34	24	9	12	25	35	51	41	418

There were no prosecutions during the year, this being due to a willingness on the part of the citizens to co-operate with the Department. Structural alterations were made to a number of plants without even a notice being served. This is as it should be.

In any community, it is logical to assume that some effort should be made to construct the plants, so that the fuel of that particular district, which will probably be the cheapest, may be used without any resultant violations of the law governing smoke nuisances, and this applies to our own City. There is a general feeling amongst our larger coal dealers, that Canadian coals should be used exclusively. This attitude is commendable, but there are many obstacles that should first be overcome, and changes made. For instance, hand fired boilers with unsuitable settings; settings too low; grate bars so constructed as not to permit proper air flow; combustion chambers and chimneys too small; and erratic attention on the part of the fireman.

It is often said that the nuisance from objectionable smoke can easily be remedied, but the statement is not easily proven. Under ordinary circumstances, black smoke can be prevented, but there are

factors which enter into the matter, such as the human element, which constantly recur to prevent this.

Boiler efficiency depends upon maintaining perfect combustion, which means the conversion of all combustible parts of the coal into heat units. When all of the combustible parts of the fuel are consumed there is no smoke. In other words, if all parts of the fuel are not burned, smoke is the result.

The bulk of all furnace smoke, whether dark or light, is made up of colorless gases, and in these gases float the particles of soot. It is these particles of soot that constitute the visible part of smoke.

Much of the trouble arising in the City from smoke, has been found in the firing of boilers used exclusively for heating. If the boiler is large enough for its work, and has adequate draught and means for the supplying of secondary air, the results rest with the fireman and he is told so. Insufficient boiler power necessitates the forcing of fires; this wastes fuel, as there is not sufficient time given for perfect combustion and black smoke is the result.

Chimneys and flues that are too small are responsible for defective draught on the fires. This is another point that has not received the attention that it deserves. The time may come when urban centres will fix a minimum height for chimneys. If this were done, it would go far towards abatement of many intolerable nuisances which now exist.

It has always been our policy to treat the problem of smoke prevention in a practical and commonsense manner, giving the minimum amount of interference to the owners of the offending plants, but at the same time getting the maximum of results.

Incinerators in Apartment Blocks have given considerable trouble during the year. Complaints were received from time to time of smoke nuisances from these, also nuisances caused by foul odors given off by the burning garbage. Most of these complaints were justified, and several of the worst were only abated by having the chimneys of the incinerators in question extended to a point well above the surrounding properties where the nuisance existed. A number of complaints about incinerators were eliminated by having the janitor in each case give a more careful timing to the firing of the incinerator in question, as wind direction appeared to be the determining factor in lighting same. Advice was also given in a number of cases with regard to the proper wrapping of the garbage, and the securing of same in small tied bundles. In order to avoid choking of the shaft, this was important.

A number of complaints were received from citizens living in proximity to small garages and repair shops, of nuisance and annoyance caused by the burning of old auto tires, oily rags, and such like. A warning was usually sufficient as there were very few recurrences.

District heating is still making progress within the City, and it is worthy of note that there has not been a single complaint received during the year of smoke from any of the districts served by this modern system of heating. This concentration of service emanating from a centralized steam plant, has undoubtedly been the means of eliminating smoke. The following figures in connection with the District Heating Systems within the City may be of interest:

City Hydro Electric—

(Steam); 244 customers on line.

Northern Engineering and Development Company, Ltd.:

(Steam); 1225 customers on line.

Northern Engineering & Development Company, Ltd.:

River Heights (Hot Water); 518 customers on line.

West End (Hot Water); 833 customers on line.

Total customers on line—2,820.

In addition to those duties required for smoke abatement, special inspections were made of the following premises: Hotels, Undertaking Parlors, Public Baths, Comfort Stations, and Swimming Pools. Special inspections were also made in connection with other branches of work as requested.

Yours obediently,

DOUGLAS LITTLE,

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 an abstract of the duties performed, observations made, facts and figures obtained, and opinions arrived at by the Dairy Division during the year 1931.

In endeavoring to exercise such control over our milk supply as stipulated in our By-law, the Public Health Act and the City Charter, we find that whereas the health and welfare of the consumer may be amply protected up to a certain point, yet beyond that are unseen and unknown or unexpected economic forces which are liable to break out, and that in order to cope with these conditions something more reasoning than a mere statute or regulation is desirable. We must have a policy judiciously applied with an ultimate objective embracing first the stability, adequacy, quality and safety of our supply, ensuring the maximum benefit to the consumer; and, secondly, we must endeavor to assist and encourage the producer, distributor and all other co-relative interests by giving them all protection possible compatent with our duty to the citizens.

Whenever we have a surplus production of any farm product, the law of supply and demand for the moment appears slow to function, competition becomes keen, and price cutting prevalent, while outside forces creep in, until finally the condition becomes acute and is liable to end in chaos if not handled with care and discernment. Each group of interests has its own pet panacea for the ailment at all times embracing the welfare of the public but which if applied would most likely favor the proponent at the expense of the others. Winnipeg provides a market for a limited amount of milk and in the general scheme must give some consideration to those who have built up businesses and homes and now form an integral part of the machine.

Control or setting of prices does not come within the purviews of the city authorities but there seems to be no valid reason why the various interests cannot be fair and reasonable in their dealings with each other, and so avoid aggravating a condition which has arisen through no fault of producer, distributor or consumer.

A year ago we mentioned the depressed conditions affecting business, farming, and industrial life, and expressed the hope that the worst was over. Unfortunately, we have had more trials and sterner problems to face. Two years ago the dairy farmer was in fair shape, while one year ago he was still holding his own, but towards the end of the present

year the general deflation hit dairy products, and this at a time when the prices of beef, veal, pork, mutton, poultry and vegetables had all reached a very low level, and during a Winter when feed in many cases was scarce and the wherewithal of obtaining same absent.

Many grain farmers, in an effort to produce something which could be cashed, commenced keeping a few cows and canvassed every possible avenue in order to get their product on the market in its most profitable form.

The drought in certain sections of Saskatchewan resulted in crop failure, and the absence of water, pasture and feed caused quite a migration of farmers with cattle from those districts and several of these have settled in Manitoba. Fortunately there was a large increase in dairy production all through the country, such increase being exceptionally large in the prairie provinces. The increase in butter alone has changed a shortage into a surplus over home consumption, and now we are once again on the export market. An increase in the number of cattle exported, and an increase in the number of farmers keeping live stock, all indicate the possibility of mixed farming which is highly desirable.

During the past year the Department has been besieged with enquiries and interviews from farmers in all parts of Manitoba and from as far as Regina, Moose Jaw and Saskatoon, desirous of moving in with their herds and equipment close to Winnipeg and getting their product on the local market. Our policy in dealing with these was to explain fully the local conditions and not to advise any to move unless they were prepared to settle in rural Manitoba and rely on the market for butter-fat until a more opportune time arrived for them to get in on the City milk market, the local district around Winnipeg being already well supplied with dairy farms which already have more cattle than can conveniently be provided with pasture. At the present time there is anywhere between a 25% and 50% surplus of milk in sight and this surplus could easily be doubled with very little encouragement.

A large number of farmers and dairymen have sought our advice during the past year, some being despondent and almost ready to dispose of their stock and holdings at prevailing ruinous prices. We have advised them to sit tight, to avoid obligations, and on no account dispose of their foundation stock, and we are pleased to note that the great majority are sticking.

The milk companies also have their troubles, lower prices mean a lower margin of profit to them, and yet the establishment has to be kept going at full strength and the overhead expense is not materially reduced. It is gratifying to note that despite a reduction in units on the average load that the drivers still enjoy their usual privileges.

Many years ago we used to congratulate ourselves that Winnipeg was the only large milk-consuming centre of the Province and that we had an almost unlimited territory from which to draw our supply. Today, however, this does not appear such a great blessing to the producer who is given no alternate market to choose from and knows that should he fail to establish himself on the fluid milk market, that his only alternative is to market his product along some other line such as butter-fat or milk for cheese-making and that the best of these alternatives will only realize about half the amount obtained from whole milk.

THE MILK SITUATION

The abnormal conditions relative to the milk supply which came to a head in the fall of 1931 gave rise to a series of agitated discussions which have been continued throughout the entire Winter; reminding us very much of similar discussions taking place twelve years previous, in 1919; with, however, this difference: Milk at that period was scarce and for many years previous Winter milk had been imported from the South, while in 1918 "milkless days" were imposed on the consumer. The producer, during the Winter of 1919-1920, received the highest price in the history of this City, and the consumer paid the highest price we ever recorded, namely, 16c per quart.

Quoting from our Annual Report of 1919: "In view of the fact that the milk question has received so much attention during the past year: It has been discussed, criticised, and debated from various angles by producers, distributors, and consumers, and some very erratic opinions have been expressed. We have been threatened with milk famines and informed that producers would refuse to produce, or refuse to ship, that heifer calves would be vealed and dairy cows sent to the block, and that dairy herds were being sold out and dispersed."

The above, written at a time when prices were the highest in our history, appears applicable to the present time, when prices are at the lowest level for twenty years.

In the fall of 1919 milk was scarce and prices were high, but in the fall of 1931 milk was abundant and prices were low.

These facts indicate that milk prices are not arbitrary nor are they based on costs of production, but they are based on the natural law of supply and demand with the trade in other dairy products (butter and cheese) for domestic consumption and for export a controlling factor. Another feature which must be considered as of indirect importance is the possibility of profits in producing veal, pork and poultry, or raising young stock by utilizing skim-milk, the value of which on the farm fluctuates in direct ratio with the above-mentioned products.

Throughout the years 1930 and 1931, grain prices continued to drop until finally they reached a point considered by many as below the cost of production. As a consequence the grain grower came to take

stock of himself and found that he was faced with several alternatives: expense of production might be decreased, yield per acre might be increased, quality might be improved, new markets or improved marketing might be secured, or some other lines of farming might be introduced; thus many drifted into the keeping of live stock and dairying.

The effect of this latter departure is reflected in the tremendous increase in butter production in 1931 over 1930; some 40,000,000 pounds increase for the whole of Canada, of which Manitoba, Saskatchewan and Alberta were responsible for approximately 5,000,000 pounds each; a total of 15 million.

Dairy products were practically the last of all farm products to feel the effects of deflation. The butter market had barely recovered from the huge importations from New Zealand during 1930 when the effect of our own increased production and a lowering of the export price came into evidence, thus, during the Summer of 1931, we had a steady fall in the price of butter-fat which rapidly disturbed the normal balance as between butter-fat and fluid milk.

For many years milk prices have been raised in the Fall for the Winter schedule and lowered in late Spring and the producer naturally was expecting this raise, but abnormal conditions have arisen, butter-fat dropped to 18c per pound, point of shipment, and the milk producer was still receiving \$1.80 per 100, f.o.b. City. Out of consideration for their shippers, the City milk companies strenuously endeavored to hold the Summer price, having already recognized the impossibility of giving the usual Winter raise, but unfortunately butter-fat instead of going up continued down, finally reaching 14-15 cents, and milk prices were lowered accordingly to both producer and consumer. No local body or organization could have controlled this situation, because it was not a local condition, nor did it indicate a local "milk war", as some would have us believe.

Returns from all important urban centres indicate that similar conditions existed all over Canada and over the border line into the adjoining States of the Union.

The average price to the consumer in all Canadian cities for December, 1931, was 2c per quart lower than that of December, 1930, and the same applies to 35 U.S. cities in the adjoining states.

In all centres where production was abundant, that is, in dairying districts, the Winter price to the producer was either kept at Summer level or lowered, and in many cases where the reduction did not mature before the end of December, it took place immediately after the new year.

The following instances illustrate just what has happened:

Comparing December, 1931, with December, 1930, in the United States:

Buffalo, N.Y., dropped from 12c retail to 7c.

Pittsburg, Pa., dropped from 13c retail to 9c.

Kalamazoo, Mich., dropped from 13c retail to 10c.

Out of 35 U.S. cities in 1930, only five sold as low as 10c; of the same 35 U.S. cities in 1931, 25 sold at 10c or less.

Similar comparisons for Canadian cities, Winter to Winter:

Vancouver, B.C., dropped from 11c retail to 8 1-3 cents.

Saskatoon, Moose Jaw and Regina dropped from 13c retail to 10c.

Winnipeg and Brandon dropped from 12c retail to 10c.

Brantford, Ont., dropped from 12½c retail to 9c.

Kitchener and London dropped from 11c retail to 9c.

Three Rivers, P.Q., dropped from 13c retail to 9c.

Out of 35 Canadian cities in 1930, only five sold as low as 10c; of the same 35 Canadian cities in 1931, 20 sold at 10c or less.

The primary factors in bringing about these conditions may be summed up as follows: Heavily increased production, low price of butter-fat, most producers trying to get on the milk wagon, export trade for butter and cheese and declining quotations on same, low valuation of skim-milk on farm due to lowering of practically all other farm products.

MILK COSTS

Experience teaches us that there is no such thing as a standard cost of production regarding milk. Out of hundreds of producers, it is almost impossible to find a half dozen operating under similar conditions. Variations in land, locality, feeds grown, feeds purchased, handling of herd, business ability, hired help, all tend to confuse the issue, but confirm our opinion that there are large gaps between the various producers, ranging from 50% to 100%. Both producer and consumer are apt to make invidious comparisons and refer to the milk company as charging 10 cents for an article for which he pays only 2 or 3 cents.

Basic milk is the amount contracted for with the producer and is paid for on a ratio determined by the amount of retail and wholesale milk the company can dispose of. Surplus milk is that shipped in, which the company cannot dispose of as milk, which they have not contracted for as milk, and which at salvage prices is worth the value of the butter-fat which it contains. When the market is flooded with milk many shippers are sending in large volumes of surplus and then complain bitterly of the price received.

The spread on a quart of milk in Winnipeg for many years now has been around 6c and the margin of profit is so small that the producer would notice no benefit were it given to him. Although the official price of retail milk delivered to the consumer is 10c we know that the average price is barely 9½ cents, because the milk companies give a 10% discount on all milk supplied for social welfare, unemployment relief and other public or semi-public organizations.

On the wholesale market, stores are supplied with case lots, hospitals and institutions with bulk milk at prices around three-fifths of the retail figure and the company stands all breakages and losses due to unsold or returned milk, and all bad debts. Now suppose the company does pay for milk f.o.b. Winnipeg 3½ cents and sells same for 9½ cents, just how is the 6 cents spread absorbed?

Delivery, charges, wages, horse and equipment upkeep..	3 ¼ c
Weighing in, testing, checking and clarifying.....	¼ c
Pasteurization, including heating, holding, cooling.....	¼ c
Bottling and capping.....	¼ c
Cold storage, checking and handling in and out.....	¼ c
Bottle washing, cleansing and sterilization.....	¼ c
Replacement of lost and broken bottles.....	¼ c
Bad debts and losses on unsold or returned milk.....	¼ c
Interest on plant and equipment.....	¼ c
Management, office staff, postage, stationery.....	½ c
Possible margin of profit.....	¼ c
	6c
Total.....	

From the above it will be seen that delivery charges alone absorb half the spread, and it is only by handling a large volume of business that profit can be shown. We have not written this with any idea of holding a brief for the milk companies, but the real facts are so often misrepresented, and, after all, these are our companies; they are an integral part of our City's business life, they pay taxes, they employ hundreds of our citizens, they pay fair wages, and they purchase from the farmers several million dollars worth of milk products annually. We know that the milk companies did their level best in an effort to uphold the price to the producer, and suffered themselves in consequence; but when a continent-wide condition sets in, what could they do towards a solution?

The price paid for fluid milk always includes a bonus of some kind over and above the actual value of the constituents, sufficient to cover transportation is always allowed and the bonus when the market is flooded with milk will be as low as 10c per 100 over and above the freight charge. With a normal supply in sight this bonus will be freight plus 25-45c but with a possible shortage, it will go up to 75c or more.

The idea of the bonus is to compensate the producer for the extra care and attention required and time taken up by shipping daily whole milk, and it is adjusted from time to time in order to regulate the flow, if at all possible.

The value of milk may be arrived at as follows: Butter-fat at current rates:—Solids not fat, milk sugar as cane sugar, protein as wheat flour.

Average milk contains 12½% solids, of which 3½% is butter-fat, 4% milk sugar, 5% protein.

Ex. 1. Butter-fat at 20c, sugar at 5c, flour at 2c:

3½ lbs. butter-fat, at 20c.....	\$.70
4 lbs. sugar, at 5c.....	.20
5 lbs. protein, at 2c.....	.10
	<hr/>
Total value of milk.....	\$1.00
Transportation, add .....	.25
Milk bonus, add.....	.10
	<hr/>

Thus, for a flooded market, price is..... \$1.35 per 100 lbs.
 In normal times, add 35c more..... \$1.70 per 100 lbs.
 If shortage threatens, add 30c more..... \$2.00 per 100 lbs.

Ex. 2. Better prices and better markets for all products:

Butter-fat at 30c, sugar at 6¼c, flour at 3c:	
3½ lbs. butter-fat, at 30c.....	\$1.05
4 lbs. sugar, at 6¼c.....	.25
5 lbs. protein, at 3c.....	.15
	<hr/>
Total value of milk.....	\$1.45
Transportation, add25
Milk bonus, add.....	.10
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Abundance in sight, price is..... \$1.80 per 100 lbs.
 Normal supply only, add 35c more..... \$2.15 per 100 lbs.
 If shortage threatens, add 30c more..... \$2.45 per 100 lbs.

From the above examples it will be seen that when butter-fat dropped in value to 15c and below during this Winter, milk prices could not possibly move up, until substantial improvement in the butter trade is established and confirmed.

MILK AND DAIRY INSPECTION

Summary of Inspections, Visits and Examinations

	1929	1931
Private Cow-keepers' stables.....	428	149
Cattle Dealers' and Sales stables.....	79	60
Pasteurizers and recorders.....	427	565
City Plants and Milk Depots.....	48	99
City Creameries.....	43	378
Milk stores and Refrigerators.....	60	964
Delivery wagons and trucks.....	2,907	1,779
Special City investigations.....	21	36
Total for City.....	4,013	4,030
Licensed Dairy Farms.....	1,131	1,011
Milk producers.....	150	304
Cream shippers.....	49	56
Milk and Cream stations.....	32	13
Country Creameries.....	22	96
Suburban Milk Depots.....	32	49
Suburban Pasteurizers.....	.....	125
Special country investigations.....	52	31
Total for Country.....	1,468	1,685
Quality tests for milk.....	1,377	1,371
Quality tests for cream.....	141	97
Plate counts.....	560	801
Sediment tests.....	1,156	1,226
Chemical tests.....	300	284
Total Examinations.....	3,534	3,779
General notices or circulars.....	115	267
Special notices or letters.....	76	78
Formal notices.....	9	96
Verbal instructions.....	549	706
Consultations and advice.....	37	98
Total.....	786	1,245
Milk and cream condemned.....	2,934	2,990
Country sickness investigated.....	17	7
Mileage (country).....	14,257	15,875
Cattle tuberculin tested.....	6,503	10,187
Reactors condemned.....	584	130
Compensation paid.....	\$20,906	\$5,522

MILK VENDORS

A total of 104 Permits authorizing issue of licenses were granted during the year, including 99 dairies and 5 pasteurizing plants. Two applications for plant licenses were held over pending improvements. Four dairy licenses were waived and two transferred, leaving 95 in active operation, of which 90 distribute their own product at retail.

	1927	1929	1931
Dairy Licenses issued.....	125	110	99
Dairy Licenses active.....	122	107	95
Plant Licenses issued.....	10	6	5
Plant Licenses active.....	7	6	5
Total Licenses issued.....	135	116	104
Total Licenses active.....	129	111	100

Revenue from license fees, etc., amounted to \$2,635.00 as against \$2,544.50 for 1930, the increase being due to increased fees from suburban plants.

99 Dairy License Fees.....	\$1,730.00
5 Plant License Fees	888.00
2 Transfer Fees	4.00
Inspection Fees	13.00
Total	\$2,635.00

City Revenue, \$534.50:

7 Dairy Herds located inside City.....	\$ 133.50
3 Plants located inside City.....	388.00
Inspection Fees—City	13.00
Total	\$ 534.50

Country Revenue, \$2,101.50:

92 Dairy Herds located outside City.....	\$1,601.50
2 Plants located outside City.....	500.00
Total	\$2,101.50

Basis of Revenue:

982 milch cows, at \$1.00 each.....	\$ 982.00
1,496 milch cows, at .50 each	748.00
2 Transfers, at 2.00 each	4.00
26 Inspection fees, at .50 each	13.00
194 Vehicles, at 2.00 each	388.00
50 Vehicles, at 10.00 each.....	500.00
Total	\$2,635.00

Dairy licenses are fixed on a basis per number of milch cows and milk plants on the number of delivery vehicles employed.

THE LICENSED DAIRIES

These dairies, 99 in number, keep their own cows, and are instrumental in distributing approximately 30% of our total supply, employing 125 delivery vehicles for this purpose. Two of these dairies milk less than 10 cows each and two keep approximately 100 head or more;—average, 40 head.

TOTAL CATTLE IN HERDS

	June, 1931	Approx. Average per Herd
Milking Cows	2,478	25
Dry Cows and Springers.....	536	5
Herd Bulls	96	1
Feeding Steers	82	1
Heifers, coming 2 yr. old.....	423	4
Yearlings and Calves.....	410	4
	<hr/>	<hr/>
Total	4,025	40

THE TUBERCULIN TEST

(Year ending March 31, 1931)

Herds under the test.....	104
Total cattle tested.....	10,187
Tested for first time.....	5,420
Re-tests conducted	6,363
Total number of tests.....	11,783
Number of reactors.....	130
Animals slaughtered	152
Percentage of reactors.....	1.3%

First tests, 5,420, represents necessary additions to herds plus the natural increases held for raising, and also includes cows tested on approval. Total cattle tested less the number of first tests represents the normal number in the herds together with a large number of floaters at certain times of the year. Reactors slaughtered includes 22 carried forward from end of previous year. Compensation is down to one-third of the previous year's figure. The percentage of reactors down to 1.3% is the lowest in the history of this City and indicates that real progress has been achieved.

Year Ending	Reactors	Compensation
March 31, 1923.....	3,970	\$158,037.33
March 31, 1924.....	1,568	63,049.33
March 31, 1925.....	952	38,479.00
March 31, 1926.....	901	28,802.16
March 31, 1927.....	616	19,211.00
March 31, 1928.....	568	17,450.00
March 31, 1929.....	584	20,906.66
March 31, 1930.....	471	16,554.83
March 31, 1931.....	130	5,522.00
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	9,760	\$368,012.71

MILK STORES

Approximately 775 stores of various classes handle bottled milk for distribution chiefly on the cash and carry plan. Around 100 of these stores were found without the necessary equipment or facilities for handling milk and have each been instructed to make improvements; the majority appear willing to comply.

The following classifications are given in approximate round figures:

Grocery Stores	350 approx.
Confectionery Stores	175
Chain Stores	75
Co-operative Chains	50
Grocery and Meats.....	25
General Stores	25
Meat Markets	25
Restaurants	25
Bakeries	20
Produce Markets	5
	<hr/>
Total.....	775
	<hr/>

BRANDS HANDLED

Stores handling one brand only	250 approx.
Stores handling two brands only.....	350
Stores handling three brands only	150
Stores handling four brands only	25
	<hr/>
Total.....	775
	<hr/>

CLASS OF MILK HANDLED

Handling Pasteurized Milk only	600 approx.
Handling Pasteurized and Raw Milk	150
Handling Raw Milk only	25
	<hr/>
Total.....	775
	<hr/>

CONDITION OF STORES

Stores with first class facilities.....	550 approx.
Stores with fair facilities	150
Stores without required facilities	75
	<hr/>
Total.....	775
	<hr/>

These figures indicate that the great majority of the stores favor the sale of pasteurized milk and cream only, and also that a large proportion of the stores are suitable, and well-equipped for this purpose. The Department is at present endeavoring to have the remainder install refrigeration or other suitable equipment in order that they may be amply qualified to handle milk.

CLASSIFICATION OF DAILY SUPPLY

Pasteurized Milk, bottled	11,100	gallons—	44,400	quarts
Pasteurized Milk, in bulk.....	630	“ —	2,520	“
Raw Milk, bottled	1,365	“ —	5,460	“
Raw Milk, in bulk	3,000	“ —	12,000	“
Raw Milk, Certified	35	“ —	140	“
Raw Milk, Special	900	“ —	3,600	“
Raw Milk, Private Cows	220	“ —	880	“
Total Fluid Milk.....	17,250	“ —	69,000	“
Pasteurized Cream, bottled	920	gallons—	14,720	half pts.
Pasteurized Cream, in bulk.....	580	“ —	9,280	“ “
Raw Cream, bottled	60	“ —	960	“ “
Raw Cream, in bulk	5	“ —	80	“ “
	1,565	“	25,040	“ “

PERCENTAGE CLASSIFICATION

	1928	1930	1931
Pasteurized Milk	60.0 %	65.0 %	68.0 %
Certified Milk	1.5	0.5	0.2
Raw Milk T. Tested.....	37.0	33.	30.5
Raw Milk, Private.....	1.5	1.5	1.3

DAILY PER CAPITA CONSUMPTION

Fluid Milk only—Imperial Measure.....	0.65	pints
Milk and Cream basis—Imperial Measure.....	0.90	“
Fluid Milk only—U.S. Measure	0.81	“
Milk and Cream Basis—U.S. Measure.....	1.125	“

CLASSIFICATION BY GRADE

Grade	Brands	Gallons	%
Class 1. 90% or more.....	14	10,000	58.0
Class 1. 80% to 90%	17	4,000	23.2
Class 2. Ave. 40 gals.	25	1,000	5.8
Class 3. Ave. 35 gals.	58	2,030	11.7
Private Cows .....	.....	220	1.3
	114	17,250	100.0

We have no pasteurized milk in class 3, which includes 58 raw milk dairies only. Thus, over half of our raw milk dairies handle barely 12% of our total supply. The class 3 milk is all dipped. Milk handled by these methods must be eliminated eventually.

CONSUMPTION AND DISTRIBUTION

Showing total daily consumption, daily per capita consumption and number of delivery routes during the past 13 years:

	Gallons per Day	Pints per Capita	Delivery Routes	Stores Selling Milk at a Cut Rate. Cash & Carry
1919	12,500	0.52	230	
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	155
1930	17,000	0.65	350	650
1931	17,250	0.65	350	775

DISTRIBUTION TO CONSUMER

	1929	1930	1931	
Delivered to Consumer.....	15,500	14,250	13,500	gallons
Accommodation Stores	500	250	150	"
Cut Rate Stores	750	2,500	3,600	"
Total.....	16,750	17,000	17,250	"

The total of delivery vehicles employed remained fairly constant during the year at 350, including 333 retail and 17 wholesale, a falling off in routes by some concerns being off-set by an increase on the part of others. The wholesale vehicles are occupied mainly in servicing the large chain stores taking milk in several case lots. The smaller stores taking milk in case lots or less, are chiefly serviced by the retail routes where these are convenient.

In 1930 we had a falling off in consumption during the year, but in 1931 this process was reversed. During the Winter, 1930-31, consumption dropped from 0.65 to 0.64 pints per capita. Commencing the year 1931 with a per capita consumption of 0.64, rising to 0.65 in September, and to 0.66 in December; thus the effect of cheaper milk almost immediately raised consumption from 64 to 66, being a 3% increase, or approximately 500 gallons per day.

NORMAL AVERAGES AND PERCENTAGES
First Class Brands, 1931

	Brand	Sediment Test	Plate Count	Butter- Fat	Total Solids	%
1.	Raw Special	1	2.000	3.85	13.00	93.7
2.	Pasteurized Special	1.2	15.000	4.1	13.25	93.6
3.	Pasteurized Special	1.1	4.000	3.3	12.10	93.4
4.	Pasteurized Special	1.1	4.000	3.3	12.15	93.4
5.	Pasteurized	1.1	15.000	3.4	12.20	92.0
6.	Pasteurized	1.1	20.000	3.6	12.30	92.0
7.	Raw Special	1.1	3.000	3.8	12.75	91.8
8.	Raw Special	1.1	6.000	3.8	12.90	91.6
9.	Raw Special	1	5.000	3.6	12.40	91.4
10.	Pasteurized	1.2	30.000	3.9	12.75	91.2
11.	Raw Special	1.1	6.000	3.8	12.70	91.2
12.	Pasteurized	1.1	25.000	3.4	12.20	90.8
13.	Pasteurized	1.2	25.000	3.75	12.75	90.4
14.	Raw Special	1.2	13.000	4.1	13.50	90.0
15.	Raw	1.1	6.000	3.3	12.10	89.0
16.	Pasteurized	1.4	15.000	3.8	12.75	88.8
17.	Raw	1.1	25.000	3.75	12.75	88.6
18.	Raw	1.3	6.000	3.6	12.50	88.4
19.	Raw	1.1	25.000	3.6	12.60	88.0
20.	Pasteurized	1.4	40.000	3.8	12.75	87.9
21.	Pasteurized	1.3	50.000	3.7	12.60	87.6
22.	Raw	1.2	15.000	3.4	12.30	87.2
23.	Raw	1.3	20.000	3.7	12.40	86.4
24.	Raw	1.1	25.000	3.2	11.80	85.6
25.	Raw	1	65.000	3.5	12.50	84.8
26.	Raw	1.1	50.000	3.4	12.20	84.2
27.	Raw	1.3	35.000	3.5	12.40	84.2
28.	Raw	1.1	70.000	3.6	12.30	83.2
29.	Pasteurized	1.3	75.000	3.6	12.40	83.0
30.	Raw	1.2	75.000	3.7	12.30	82.0
31.	Raw	1.1	90.000	3.4	12.10	80.8

This class accounts for 14,000 gallons, 81.2% of our total daily supply. All brands of pasteurized milk sold in the City come under the above classification.

NORMAL AVERAGES AND PERCENTAGES

Second Class Brands, 1931

	Brand	Sediment Test	Plate Count	Butter- Fat	Total Solids	%
32.	Raw	1.5	7.000	3.6	12.4	86.0
33.	Raw	1.5	5.000	3.4	12.2	85.6
34.	Raw	1.5	10.000	3.5	12.3	85.0
35.	Raw	1.5	25.000	3.3	12.3	82.8
36.	Raw	1.5	25.000	3.3	11.9	82.0
37.	Raw	1.5	50.000	3.5	12.25	80.5
38.	Raw	1.5	50.000	3.6	12.10	80.4
39.	Raw	1.1	125.000	3.4	12.30	78.4
40.	Raw	1.5	100.000	3.8	12.50	77.6
41.	Raw	2.2	10.000	3.8	12.40	78.8
42.	Raw	2.0	25.000	3.6	12.50	78.8
43.	Raw	2.0	50.000	3.5	12.50	76.0
44.	Raw	2.0	50.000	3.4	12.40	75.6
45.	Raw	2.0	40.000	3.3	12.00	75.4
46.	Raw	2.0	50.000	3.4	12.10	75.0
47.	Raw	2.0	75.000	3.7	12.70	74.8
48.	Raw	2.0	75.000	3.7	12.40	74.2
49.	Raw	2.0	90.000	3.8	12.75	73.8
50.	Raw	2.2	50.000	3.5	12.30	73.6
51.	Raw	2.0	100.000	3.7	12.70	72.8
52.	Raw	2.0	100.000	3.7	12.50	72.4
53.	Raw	2.0	100.000	3.7	12.50	72.4
54.	Raw	2.0	95.000	3.4	12.40	72.0
55.	Raw	2.0	125.000	3.7	12.50	71.4
56.	Raw	2.0	125.000	3.4	12.20	69.2

Numbers 32 to 40 comprise a group of 9 brands of raw milk which with a little more care should be in Class 1.

Numbers 41 to 56 all show too much sediment and have no hopes of being advanced unless this feature is first eliminated.

In 1930, only 6 Brands rated 90%—5 Raw—1 Pasteurized.

In 1931, we find 14 Brands rated 90%—6 Raw—8 Pasteurized.

Twenty-four of the 35 Brands rated in 1930 show an increase in % in 1931. All brands of pasteurized milk distributed shared in this advance.

FIRST CLASS BRANDS OF MILK—PLATE COUNTS

	0 to 2,000	2,000 to 10,000	10,000 to 40,000	40,000 to 100,000	Total
1. Raw Special	13	4	2	1	20
2. Pasteurized Special	3	4	5	3	15
3. Pasteurized Special	4	3	3	1	11
4. Pasteurized Special	4	4	2	1	11
5. Pasteurized	4	10	12	4	30
6. Pasteurized	9	6	8	7	30
7. Raw Special	6	9	..	..	15
8. Raw Special	5	8	6	1	20
9. Raw Special	4	9	1	1	15
10. Pasteurized .....	..	1	8	2	11
11. Raw Special	3	6	1	1	11
12. Pasteurized	3	5	6	6	20
13. Pasteurized .....	..	4	5	2	11
14. Raw Special	3	1	4	3	11
15. Raw Special	4	7	4	..	15
16. Pasteurized	4	4	5	2	15
17. Raw	3	5	2	5	15
18. Raw	5	6	3	1	15
19. Raw	3	2	3	3	11
20. Pasteurized	5	4	8	13	30
21. Pasteurized	1	1	7	11	20
22. Raw .....	..	6	9	5	20
23. Raw	1	4	8	2	15
24. Raw	1	3	6	5	15
25. Raw	1	1	2	7	11
26. Raw .....	..	2	4	5	11
27. Raw .....	..	2	8	3	13
28. Raw .....	..	1	4	10	15
29. Pasteurized .....	..	2	2	7	11
30. Raw .....	..	..	3	8	11
31. Raw .....	..	1	1	13	15
Totals.....	89	125	142	133	489
Percentage	18 ¼ %	25 ½ %	29 %	27 ¼ %	100 %

All brands of milk in this class have a normal average of under 1.5 Sediment Test and a Plate Count of less than 100,000.

SECOND CLASS BRANDS OF MILK—PLATE COUNTS

	1,000 to 10,000	10,000 to 40,000	40,000 to 100,000	Over 100,000	Total
32. Raw	9	5	1	..	15
33. Raw	12	1	1	1	15
34. Raw	9	5	..	1	15
35. Raw	4	3	4	..	11
36. Raw	2	6	3	..	11
37. Raw	2	6	6	1	15
38. Raw	3	3	3	2	11
39. Raw	2	..	4	5	11
40. Raw	2	1	8	2	13
41. Raw	9	..	1	1	11
42. Raw	1	8	2	..	11
43. Raw .....	..	3	8	..	11
44. Raw	1	3	7	..	11
45. Raw	2	4	4	1	11
46. Raw	3	3	4	1	11
47. Raw	2	3	5	1	11
48. Raw	4	1	4	2	11
49. Raw	1	2	6	2	11
50. Raw	3	2	6	..	11
51. Raw .....	..	4	4	3	11
52. Raw	1	..	6	4	11
53. Raw .....	..	..	10	1	11
54. Raw	2	3	3	3	11
55. Raw	1	3	2	5	11
56. Raw	1	1	6	3	11
57. Raw .....	..	4	2	..	6
58. Raw .....	..	..	4	8	12
Totals.....	76	74	114	47	311
Percentage	24½ %	24 %	36½ %	15 %	100 %

Numbers 32 to 38 and 41 to 46 have the necessary percentage to place them in the first class but are relegated to second on account of average Sediment Tests running to 1.5. Number 39 is in second class on account of high Normal Average Plate Count. Number 40, also has abnormal plate count and 1.5 sediment test. Numbers 47 to 56 have a high plate count and 2.0 sediment test. Number 57 is a discontinued brand and number 58 relates to shippers' milk.

SEDIMENT TESTS—PLATE COUNTS—PERCENTAGES

Improvement 1931 in 35 Brands 1930.

1930 Brand	1930 S.T. Plate Count	1931 S.T. Plate Count	1930 %	1931 %	1931 % Increases		
1. Raw	1	3.000	1	2.000	92.2	93.7	1.5
2. Raw	1	4.000	1.1	6.000	92.0	91.6	
3. Raw	1.1	3.000	1.1	3.000	91.2	91.8	0.6
4. Raw	1.3	7.000	1.2	13.000	91.2	90.0	
5. Raw	1	10.000	1	5.000	90.4	91.4	1.0
6. PAST.	1.2	45.000	1.2	15.000	90.0	93.6	3.6
7. Raw	1.2	15.000	1.1	6.000	88.8	89.0	1.0
8. Raw	1.2	10.000	1.5	5.000	88.8	85.6	
9. Raw	1.2	10.000	1.2	15.000	88.0	87.2	
10. Raw	1.1	15.000	1	65.000	87.4	84.8	
11. PAST.	1.2	60.000	1.1	20.000	87.0	92.0	5.0
12. Raw	1.2	25.000	1.1	6.000	86.4	91.2	4.8
13. PAST.	1.7	20.000	1.4	40.000	86.4	87.9	1.5
14. Raw	1.1	21.000	1.1	25.000	86.4	85.6	
15. Raw	1.1	70.000	1.1	70.000	85.4	83.2	
16. PAST.	1.4	50.000	1.1	15.000	85.2	92.0	6.8
17. Raw	1.4	20.000	1.5	10.000	85.2	85.0	
18. Raw	1.1	80.000	1.1	125.000	81.2	78.4	
19. Raw	1.2	55.000	1.1	25.000	84.0	88.0	4.0
20. Raw	1	100.000	1.1	40.000	84.0	87.8	3.8
21. Raw	1.3	40.000	1.3	20.000	83.8	86.4	2.6
22. Raw	1.1	75.000	1.1	25.000	82.2	88.6	6.4
23. Raw	1.6	30.000	1.3	6.000	81.8	88.4	6.6
24. Raw	1.7	30.000	2	25.000	81.6	78.8	
25. Raw	1	100.000	1.1	90.000	81.4	80.8	
26. Raw	1.7	25.000	1.3	35.000	81.2	84.2	3.0
27. PAST.	1.5	95.000	1.1	25.000	80.6	90.8	10.2
28. PAST.	1.5	100.000	1.3	50.000	80.4	87.6	7.2
29. PAST. 2....	1.8	90.000	1.4	15.000	79.2	88.8	9.6
30. Raw 2	1.7	60.000	1.5	50.000	77.6	80.5	2.9
31. Raw 2	1.6	100.000	1.5	7.000	77.2	86.0	8.8
32. PAST. 2....	1.7	100.000	1.3	75.000	77.0	83.0	6.0
33. Raw 2	1.8	100.000	2	50.000	72.4	75.6	3.2
34. Raw 2	2	100.000	2	40.000	70.0	75.4	5.4
35. Raw 2	2	100.000	2	75.000	69.8	74.8	5.0

Increases in percentages indicate a general improvement.

MILK SUPPLY OF 42 CANADIAN CITIES

	Pasteurization %	Population 1931 Census
Saskatoon, Sask.	100	43,291
Hamilton, Ont.	100	155,547
Niagara Falls, Ont.	100	19,046
Oshawa, Ont.	100	23,439
St. Catherines, Ont.	100	24,753
Toronto, Ont.	100	631,207
Windsor, Ont.	100	63,108
Verdun, Que.	100	60,745
Westmount, Que.	100	24,235
Fort William, Ont.	98	26,277
Ottawa, Ont.	98	126,872
Regina, Sask.	96	55,209
Kitchener, Ont.	95.8	30,793
Brantford, Ont.	95	30,107
Lachine, Que.	95	18,630
Montreal, Que.	95	818,577
Calgary, Alta.	94.7	83,761
Vancouver, B.C.	93	246,593
Stratford, Ont.	90	17,742
St. John, N.B.	90	47,514
Halifax, N.S.	90	59,275
Fort Arthur, Ont.	82	19,818
Sarnia, Ont.	82	18,191
London, Ont.	80	71,148
Peterborough, Ont.	75	22,327
Hull, Que.	75	29,433
Moose Jaw, Sask.	74	21,299
Edmonton, Alta.	70	79,197
Winnipeg, Man.	68	218,785
Trois Rivieres, Que.	65.3	35,450
New Westminster, B.C.	65	17,524
Guelph, Ont.	65	21,075
Kingston, Ont.	50	23,439
St. Thomas, Ont.	50	15,430
Quebec, Que.	40	130,594
Victoria, B.C.; Brandon, Man.; Sault Ste. Marie, Ont.	30%	
Sherbrooke, Que.; Charlottetown, P.E.I.	25%	
Moncton, N.B.; Sydney, N.S.	15%	

1931 PRICES OF PASTEURIZED MILK IN 39 CANADIAN CITIES

Delivered Bottled to the Consumer

(Cents per 40-oz. Quart)

	March	June	September	December	
Vancouver, B.C.	11	9	8 1/3	8 1/3	
Victoria, B.C.	15	15	15	14	
New Westminster, B.C.	11	8 1/3	8 1/3	8 1/3	
Calgary, Alta.	11	10	10	10	
Edmonton, Alta.	11 1/2	10	10	10	
Moose Jaw, Sask.	12	12	12	12	*10
Regina, Sask.	13	12	12	12	*10
Saskatoon, Sask.	13	11	11	11	*10
Brandon, Man.	10	10	10	10	
Winnipeg, Man.	12	11	11	10	
Fort William, Ont.	12 1/2	11	11	11	
Port Arthur, Ont.	11	11	11	11	
Brantford, Ont.	12	11	10	9	
Guelph, Ont.	12	10	10	10	
Hamilton, Ont.	12	11	11	11	
Kingston, Ont.	11	10	10	10	
Kitchener, Ont.	13	11	9	9	
London, Ont.	9	9	9	9	
Niagara Falls, Ont.	13	11	11	11	
Ottawa, Ont.	12	12	12	12	*11
Peterborough, Ont.	10	10	10	10	
St. Catherines, Ont.	12 1/2	11	11	11	
St. Thomas, Ont.	10	10	10	10	
Sarnia, Ont.	11	11	11	11	
Stratford, Ont.	10	10	10	10	
Toronto, Ont.	12	11	11	11	*10
Windsor, Ont.	12	11	11	11	
Lachine, Que.	11	10	10	10	
Montreal, Que.	11	10	10	10	
Quebec, Que.	14	12	12	12	
Sherbrooke, Que.	8	8	8	8	
Trois Rivieres, Que.	12	9	9	9	
Verdun, Que.	12	10	10	11	
Westmount, Que.	12	11	11	11	
Moncton, N.B.	10	10	10	10	
St. John, N.B.	14	13	12	12	
Halifax, N.S.	12 1/2	12 1/2	12 1/2	12 1/2	
Sydney, N.S.	13	13	13	13	
Charlottetown, P.E.I.	10	10	10	8 1/2	

*Price lowered after New Year.

1931 BASIC PRICE TO PRODUCER, 36 CANADIAN CITIES

Fluid Milk f.o.b. City per cwt., or per lb. B.F.

	Last Winter	Summer, 1931	This Winter	
Vancouver, B.C.	\$.73	\$.64-.40	\$.40	per lb. B.F.
Victoria, B.C. ....	.70	.70	.65	per lb. B.F.
Calgary, Alta.	2.30	1.90	1.90	3.6% base
Edmonton, Alta.	2.20	1.80	1.80	
Moose Jaw, Sask. ....	.65	.58	.45	per lb. B.F.
Regina, Sask. ....	.75	.60	.60-.45	per lb. B.F.
Saskatoon, Sask. ....	.85	.65	.58-.48	per lb. B.F.
Brandon, Man.	2.15	1.85	1.45	3.5% base
Winnipeg, Man.	2.15	1.85	1.70-1.40	3.5% base
Fort William, Ont.	2.80	2.00	2.00	3.4% base
Port Arthur, Ont. ....	.....	2.20	2.20	
Erantford, Ont.	2.20	1.90	1.70-1.40	
Guelph, Ont.	2.16	1.50	1.60	3.4% base
Hamilton, Ont.	2.20	1.85	1.85	
Kingston, Ont.	2.00	1.60	1.60	3.4% base
Kitchener, Ont.	2.20	1.85	1.40	
London, Ont.	1.85	1.25	1.35	
Niagara Falls, Ont.	2.80	2.00	2.00	
Ottawa, Ont.	2.20	1.80	1.80-1.50	
Peterborough, Ont. ..	1.70	1.70	1.70	3.4% base
St. Catherines, Ont. ..	2.20	1.85	1.85	3.4% base
St. Thomas, Ont. ....	.....	1.50	1.50	3.4% base
Sarnia, Ont. ....	.....	2.20	2.20	
Toronto, Ont.	2.25	2.25	1.85-1.45	3.4% base
Windsor, Ont.	1.85	1.65	1.65	3.4% base
Lachine, Que. ....	.....	1.60	1.60	
Montreal, Que.	2.03	1.75	1.75	
Quebec, Que.	2.25	1.60	1.80	
Sherbrooke, Que.	2.00	1.60	1.60	
Trois Rivieres, Que. ..	1.90	1.90	1.90	
Verdun, Que.	2.35	1.90	2.00	
Westmount, Que.	2.03	1.70	1.70	
Moncton, N.B.	1.75	1.75	1.75	
St. John, N.B.	2.50	2.00	2.00	
Halifax, N.S.	2.60	2.60	2.60	3.5% base
Sydney, N.S.	3.25	2.80	2.80	

Note: This Winter's price as at December, 1931. Where two rates are quoted, the lower came into effect after New Year.

1931 PRICES OF PASTEURIZED MILK IN 35 U.S. CITIES

Delivered Bottled to the Consumer

(Cents per 32-oz. Quart)

	March	June	Sept.	Dec.	December Price to Producer, per 100 lbs.
Seattle, Wash.	11	10	10	11	\$2.00-1.85
Everett, Wash.	9	9	9	9	
Portland, Ore.	11	10	10	10	1.92
Salem, Ore.	10	9	10	10	1.85
Butte, Mont.	13	13	13	12	2.38
Lewiston, Mont.	10	10	10	10	
Grand Forks, N.D.	10	10	10	10	2.00
Mandan, N.D.	11	10	10	10	1.75
Aberdeen, S.D.	10	10	10	10	1.90
Sioux Falls, S.D.	10	10	10	10	2.00
Minneapolis, Minn.	10	10	10	9	1.70
Duluth, Minn.	11	10	10	11	
Winona, Minn.	11	8	7	8	2.07
Milwaukee, Wis.	10	10	10	9	2.20
Madison, Wis.	10	10	10	10	2.40
Wasau, Wis.	9	8	8	8	1.40-1.33
Detroit, Mich.	12	11	12	11	
Lansing, Mich.	11	10	10	10	
Battle Creek, Mich. ..	10	10	10	10	1.80
Kalamazoo, Mich.	11	10	10	10	1.85
Chicago, Ill.	13	13	13	13-12	2.67-2.36
Peoria, Ill.	13	10	10	10	2.13-1.70
Rockford, Ill.	11	11	11	11-9	1.75-1.50
Indianapolis, Ind.	10	10	10	10	1.40
South Bend, Ind.	10	10	10	10	1.75
Columbus, Ohio	11	10	10	10	
Cincinnati, Ohio	13	13	13	13	2.15
Cleveland, Ohio	11	11	10	10	2.05
Scranton, Pa.	13	13	13	12	1.90-1.75
Pittsburg, Pa.	12	12	12	9	1.70
Albany, N.Y.	13	13	13	13	2.69
Buffalo, N.Y.	12	12	12	7	
Manchester, N.H.	12	12	12 ½	11	2.16
Portsmouth, N.H.	12	12	12	12	2.52
Burlington, Vt.	10	8	10	10	

Note: Where two rates are quoted in the December columns, the lower came into effect after New Year.

THE DAIRY INDUSTRY

	1930	1931
Butter Exported	1,180,400 lbs.	10,680,500 lbs.
Butter Imported	38,606,055 lbs.	2,821,317 lbs.
Cheese Exported.....	80,163,700 lbs.	84,788,400 lbs.
Cheese Imported	1,787,776 lbs.	1,446,147 lbs.
Exports of Butter show an increase of.....		9,500,100 lbs.
Imports of Butter show a decrease of.....		35,784,738 lbs.
Exports of Cheese show an increase of.....		4,624,700 lbs.
Imports of Cheese show a decrease of.....		341,629 lbs.
Holdings of Butter, Jan. 1, 1932, over 1931.....		2,000,000 lbs.
Holdings of Cheese, Jan. 1, 1932, over 1931.....		5,000,000 lbs.
Butter production in Manitoba increased approx.....		5,000,000 lbs.
Total increase in the Prairie Provinces, approx.....		15,000,000 lbs.
Total increase for the whole of Canada, approx.....		40,000,000 lbs.
Value of Manitoba Dairy Products 1931, approx.....		\$12,000,000.00

The above figures are significant and indicate a healthy condition as regards production and marketing of dairy products and while the price has been low, this is almost offset by the increase in volume.

CONCLUSION

Winnipeg is now nearing the end of the tenth year under the present By-law; and the time is approaching when steps might well be taken towards something more advanced and more in line with the problems of a modern urban milk supply. The most gratifying features noted during the year are evidenced in the increased consumption of pasteurized milk, and in the improved quality of all brands of this product. A heavy increase in milk and cream consumption set in during the Winter, but this was too late in the season to effect any noticeable change in our 1931 figures. In the event of retail prices remaining low, we will without doubt have an opportunity of demonstrating these increases in the near future.

I have the honor to be, Sir,

Your obedient servant,

E. C. BROWN,
Chief Dairy Inspector.

Report of the Chief Food Inspector

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

Dear Sir:

I herewith submit the report of the activities of the Food Division for the year 1931.

The number of premises under inspection, 2,050, shows a substantial increase over 1930, when 1,890 were listed. I attribute the increase to the present state of business, those out of employment who have a little money trying to make a living by starting a business of their own.

There were five cases of supposed food poisoning reported. Two of these were from private concerns which provide for their employees.

In one case samples of left-over food were submitted to the Chemist and Bacteriologist. Nothing of either a chemical or bacterial nature that would cause symptoms of food poisoning were found. In the other case none of the food was left over, so that no samples were obtainable. We made a thorough survey of both premises but could find nothing that would lead to the slightest suspicion of contamination from the equipment.

Two of the other cases were treated in like manner. Surveys were made and samples from one were brought away, but nothing either chemical or bacteriological of an injurious nature was found. In the other case, none of the food was obtainable for examination, all having been consumed or discarded.

In the fifth case, a quantity of wormy and rancid biscuits, wormy candy and blown canned goods was found. These goods were seized and the party prosecuted.

ABATTOIRS

There was practically no change in the abattoirs. All plants in the city were renovated before licenses were issued. These plants are under Federal inspection and are run in a very efficient and cleanly manner. In addition to the abattoirs in the city, there are two packing plants, one of which is under Federal inspection, although only comminuted meats are packed, and the other is principally engaged in the sausage and bacon industry.

There are several abattoirs situated in adjacent municipalities which, with the exception of one, are under Federal inspection. The latter is licensed by both the Provincial and Municipal Governments but when it is borne in mind that only one official for meat and other foods is engaged for the whole Province, apart from Winnipeg, it stands to

reason that he can spare little time for inspection work at this place. We are informed, on good authority, that as many as four hundred head of cattle, hogs, sheep and calves are slaughtered here per week in the Fall. The need of your Inspectors having Provincial rights, so that frequent inspections could be made while actual killing is in progress, can be readily seen.

BAKERIES

There are now sixty bakeries operating within the city, an increase over the number reported for last year. With the price cutting of bread, that was in vogue for a great part of the year among the larger baking companies, the small or individual baker has found it rather hard to hold his clientele unless he can meet the competitive prices, and yet others have started and made the situation worse. On the whole, the bakers are turning out a well-baked and clean product, baked under the most hygienic conditions possible in the premises they are occupying. We had on several occasions to call attention to the fly nuisance and requested the co-operation of the proprietors to rid their premises of these pests.

BOTTLING PLANTS

The number of bottling plants remain practically the same as in former years. One of these plants closed down in the Fall of 1930 but was taken over by another firm and renovated and re-opened in the Spring. While several of the plants claim a record sale for the hot days during the past Summer, on the whole business has been poor, no doubt owing to the depression and the number of people out of work.

The bacterial counts taken during the Summer indicate that the method of washing and sterilizing the bottles is fairly efficient.

BUTCHER SHOPS

Butcher shops are on the increase not only in the number actually handling meat but because a large number of groceries are adding meats to their stocks and these on the whole are handling meat in a satisfactory manner, most, if not all, having installed Frigidaire or other counters in which to display their meat.

CONDEMNATIONS

As was indicated in 1930, this year again shows a decrease in the amount of poultry condemned, namely 3,636 pounds; a decrease of approximately 25%. The greater part of the poultry and veal condemnations was for greenings, no doubt due to the very mild weather during the fall months.

Cut of 14,299 pounds of poultry condemned 5.7% was for Tuberculosis. This is quite a considerable increase in the amount of T.B. compared with the year previous and it behooves the breeders to pause and take cognizance of this, as T.B. when it once gets into a flock is very difficult to eradicate.

Winnipeg is quite a busy poultry market and inspections, especially in the fall months and before Christmas, tax the staff to capacity. In addition a number of citizens receive birds from the country, which on being drawn prove suspicious and accordingly they request a report from this Department. There was a large increase in the amount of poultry shipped to the city this year and it was no doubt due to better methods of handling and packing that so little was condemned.

FRESH FRUIT AND VEGETABLES

There is a noted increase in the amount of fresh fruit condemned this year compared with 1930, but the bulk was practically one shipment which was near a month in transit from the Southern States and when it reached the consignee was unfit for market.

Particular attention is paid to all imported vegetables for spray residue. When it is borne in mind that as high as 20 grains of Arsenic Trioxide per pound was found on a cabbage by the Baltimore Health Department, the greatest care has to be exercised in inspections of such vegetables, but so far Winnipeg has been particularly free from such trouble.

In comparison with former years the Department had no complaints regarding frozen potatoes. No doubt this was due to the mild weather all through the fall months.

Several complaints were received by the Department in regard to oranges. These, upon inspection, showed black centres, owing to the growth of certain bacteria and also the length of time they were held in storage, as some of the importers tried to evade the duty that was applicable to such, and the oranges had to be packed in a very green condition for early shipment and did not ripen as anticipated by the importer.

GROCERY STORES

The number of grocery stores increased from two hundred and eighty-three to two hundred and ninety-five. Several of the stores operating during the good times before the depression and the advent of the chain stores, have gone to the wall, but persons who think that the grocer makes an easy living are always willing to slip in and try. In this way numerous stores changed hands and were either renovated or remodelled, and fifteen new stores were built and fitted up with all modern conveniences.

ICE CREAM PARLORS

There was a large increase in this class of business, namely from 280 to 311; an increase of 31, 25 of which were new modern, while the others were renovated. These all installed the most modern means of refrigeration and while this is modern at the present time, there is no doubt it will be obsolete in a few years, as the very latest in this

field is electro-magnetic. For this type of preserving foodstuffs, it is claimed that eggs, milk and fish can be properly preserved for a year or more.

HAWKERS

The Department had very few complaints in regard to foodstuff sold by hawkers. The few that were made were regarding eggs and dressed poultry, none in regard to fruit and vegetables. The number of these itinerant vendors of merchandise increased from 80 to 133. This year several of these, we understand, are not fully licensed although given a permit. We are in the habit, if suspicious of conditions under which returns are kept at the homes of these vendors, to have inspections made to see under what conditions fruit and vegetables are stored if returned after the day's peddling is completed.

Constant supervision is exercised over the wagons, etc., that the wares are sold from, but the question arises, is this enough? A large number, if these wagons are any indication, are kept in and under the best of conditions, but there are always a few that prove the exception to the rule.

MARKETS

The City has in the past spent a considerable sum of money in trying to establish City markets without success. This year private enterprise took up this work, and a number of markets were established, one of which has fallen by the wayside and the others are just carrying on. The most notable of these was an open-air market instituted by the Market Gardeners' Association, which rented a site fronting on Main Street between Stella and Flora Avenues, where a wholesale and retail business was done. In trying to make rental, this Association sub-let stalls to all and sundry and in a short time the site was covered with a heterogeneous assortment of nondescript booths, etc., none of which complied with the building by-laws and for which no permit had been taken out at the Building Inspector's office. Later the Association complied with the request of the Health Department to install suitable water-closets and wash-basin accommodation.

The nondescript booths gave the market the appearance of a gypsy camp rather than a proper market. When this developed, we extended all the leniency which our by-law allows as regards the sale of farm products. Unfortunately some of the nearby storekeepers took advantage of this to expose at all times and under any conditions, fruit and other products. While we can hardly take exception to the exposure of foodstuffs, like potatoes and other vegetables, which have to be cooked before being ingested, provided they are raised off the ground away from dogs, the exposure of fruits which are liable to be eaten without any further precaution is another matter, and the habit of customers, all and sundry, in handling such exposed food render it highly desirable that the regulations governing this should be enforced to the letter of the law.

The other markets established, five in all besides the open-air one, were opened in buildings fairly suitable for the purpose and with very little alteration were readily adapted for such purposes. Several were opened in what had been formerly public garages and these had sewer and water connection and ample toilet accommodation, together with concrete floors and available wood racks which were readily adapted for the washing of vegetables.

RESTAURANTS

These also showed an increase over the previous year, namely from 336 to 361, an addition of 25. Several of the old ones changed hands, when they were remodelled and brought up to the grade where they can be classed as new modern. These, with these extra 25, make a total of 43 in this class for the year. A number of restaurants are really only light lunch counters but to obtain a license they must comply with the restaurant regulations. Owing to the increased drain on the City finances for the unemployed, the City installed five depots where free meals were given, and we are gratified to find them conducted in such a cleanly manner. The food supplied was always good and wholesome.

In conclusion, I wish to express my appreciation for the close and always willing co-operation of Inspectors Mines and McQuillan.

Yours respectfully,

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	.....	.....	3	.....	.....
Auction Rooms.....	1	.....	.....	.....	.....	.....
Bakeries.....	68	4	.....	27	4	3
Biscuit and Cereal Factories.....	7	.....	.....	4	.....	.....
Bottling Plants.....	14	1	.....	3	.....	.....
Breweries.....	5	.....	.....	2	.....	.....
Butcher Stores.....	227	20	1	84	3	8
Butter Rooms.....	2	.....	.....	1	.....	.....
Candy Factories.....	30	5	1	12	2	2
Cold Storage Plants.....	7	.....	.....	2	.....	.....
Canning Factories.....	1	.....	.....	.....	.....	.....
Commission and Produce Houses.....	49	9	.....	1	.....	.....
Confectioners and Ice Cream Parlors.....	311	25	.....	79	7	11
Cone Factories.....	2	.....	.....	.....	.....	.....
Delicatessen Shops.....	5	2	.....	1	.....	.....
Fish Stores.....	14	2	.....	3	.....	.....
Fruit Stores.....	28	2	.....	8	.....	.....
General Stores.....	375	5	.....	55	.....	.....
Grocers (Retail).....	295	15	.....	105	9	18
Grocers (Wholesale).....	30	.....	.....	5	.....	1
Hawkers' Vehicles.....	133	.....	.....	40	.....	.....
Hotel Kitchens.....	19	.....	.....	12	.....	.....
Jam Factories.....	4	1	.....	1	.....	1
Markets.....	7	4	.....	.....	.....	.....
Packing Plants.....	2	.....	.....	.....	.....	.....
Peanut Butter Factories.....	1	.....	.....	1	.....	.....
Pickle and Vinegar Factories.....	9	.....	.....	4	.....	.....
Railway and Express Companies.....	8	1	.....	5	.....	.....
Restaurants.....	361	43	2	203	8	41
Sausage Factories.....	20	3	2	9	1	2
Tea, Coffee and Spice Houses.....	6	.....	.....	1	.....	.....
Yeast Factories.....	1	.....	.....	.....	.....	.....
Totals.....	2050	142	6	671	34	87

PROSECUTIONS

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Insanitary Premises.....
Unsound Food.....	1	1
Exposing to Contamination.....
No Permits.....
Amount of Fine and Costs.....	\$25.00	\$25.00

FOOD INSPECTIONS—1931

PREMISES	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS
Abattoirs and Packers	5	2	3	3	4	2	3	4	5	3	4	4	42
Bakeries	72	67	66	80	75	56	55	70	66	77	72	67	823
Bakery Vehicles	32	26	17	28	28	31	19	21	21	26	28	21	308
Biscuit Factories and Cereal	2	1	2	3	1	2	1	7	1	1	3	3	27
Breweries	19	14	12	14	14	15	11	10	9	14	11	10	153
Butchers' Shops	176	217	210	208	217	192	195	185	205	239	227	209	2480
Butter and Cheese	1	1	1	1	1	1	1	1	1	1	1	1	3
Candy Factories	18	22	17	23	19	15	9	17	14	17	16	12	199
Cold Storage Plants	5	4	4	4	3	2	1	2	3	3	8	10	49
Cone Factories	1	1	1	1	1	1	1	1	1	1	1	1	7
Fish Stores	14	9	10	9	8	14	9	9	15	12	7	7	123
Fruit Stores	64	48	32	28	34	37	29	49	43	34	24	26	448
General Stores	388	416	343	423	399	379	336	312	445	417	400	209	4467
Grocers	270	257	262	271	301	214	239	267	279	281	270	183	3094
Hawkers' Vehicles	114	95	130	124	89	91	106	113	65	118	83	43	1171
Hotel Kitchens	9	12	12	13	15	17	11	11	32	9	8	6	155
Ice Cream Parlors and Confectionery	222	209	216	254	255	229	219	143	210	219	240	210	2626
Jam, Pickle and Spice Factories	6	4	3	6	4	6	4	5	34	7	6	4	89
Markets and Auction Rooms	3	5	4	3	5	2	5	26	5	39	33	17	147
Produce, Commission and Eggs	28	18	28	47	28	23	18	34	24	28	22	25	323
Peanut Butter	3	1	1	1	1	1	3	2	2	1	1	1	18
Restaurant and Lunch Counters	325	300	284	323	316	294	313	275	315	332	286	269	3632
Sausage Factories	16	12	13	17	16	13	9	11	20	16	15	24	182
Special	127	145	211	159	66	81	94	132	108	110	86	40	1359
Delicatessen	6	4	2	5	3	5	4	2	2	1	1	1	34
Poultry Slaughterhouse	6	4	8	3	2	2	2	2	4	4	6	5	48
Railway Express	4	4	2	2	3	4	1	3	5	4	1	2	35
Totals	1835	1897	1893	2053	1927	1728	1697	1791	1933	2013	1867	1408	22042
Notices to Improve Conditions	125	143	124	180	169	141	109	129	128	104	125	79	1556

Bureau of Child Hygiene

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

Dear Sir:

I have the honor to submit my thirteenth annual report on the work of the Bureau of Child Hygiene.

INFANT MORTALITY LOWEST RECORDED

The crude infant mortality rate for 1931 was 49.3, against 57.9 for 1930 and 56.0 for 1929, our previous lowest rates. The corrected rate, i.e., excluding live births in Winnipeg hospitals to non-residents and including live births to Winnipeg mothers confined in the St. Boniface Hospital, was 52.5, against 57.9 for 1930. These are our lowest recorded corrected rates. The present remarkably low rate was brought about chiefly through lessened mortality from diseases of early infancy, and it is also gratifying to note that this decline was not accompanied by an increase in the stillbirths, as these also show a drop from 44.7 per 1,000 live births in 1930 to 41.7 in 1931, both figures corrected.

The combined infant death and stillbirth rate per 1,000 total births is a more reliable index than the infant mortality rate per 1,000 live births, as a low rate for the latter is often brought about by an unusually high stillbirth rate. From 1927, our combined rate has fallen from 106 per 1,000 total births to 90 in 1931.

LIVE BIRTHS

The live births, corrected, numbered 3,526 in 1931, or 101 less than in 1930. This figure gave a corrected birth rate of 16.4 per 1,000 population, the lowest yet recorded.

VISITING NURSES

Our first line of defence against disease amongst infants and pre-school age children is the Visiting Nurses, 13 in number. During 1931, 39,797 calls to babies' homes and 180 to infants' boarding homes were made, a decline as compared to 1930 owing to the greater number of afternoons spent at the Child Welfare Stations, but as the children visiting these well-baby stations numbered 9,125, the total contacts of the nurses with their cases was 49,102, the highest yet recorded. This figure, plus the 6,628 attendance of sick babies at the Milk Depot Clinic, gives a total for the year of contacts with infants and pre-school age children of 55,550, or 1,068 a week.

The new cases visited numbered 3,072, or 87% of the corrected live births to Winnipeg mothers, the balance being births where the infant died before a visit was made or cases where the parents' circumstances did not suggest our nurses' visits would be required.

Sick calls numbered 965, against 944 for 1930; cases referred to private physicians totalled 404, against 374; and cases referred to the Babies' Clinic numbered 348, against 290 for 1930.

These figures indicate that there was more sickness prevalent in 1931 than in the previous year, but no serious outbreaks of disease occurred and the year ended with a record low rate.

Further particulars of the nurses' work appears on page 112.

CHILD WELFARE STATIONS

The six Child Welfare Stations form our second line of defence and they are proving extremely useful for keeping in contact with infants who do not require regular visiting, and for pre-school age children who have been dropped from the nurses' visiting lists.

The attendance showed increases at five of the six stations but the increase at the Home Street station was most marked and it was necessary to place three nurses on duty to handle the attendance, which reached as high as 113 for an afternoon. This is far too many cases to handle and I hope this year that funds may be provided to permit our opening up an additional station in an adjoining district to relieve this pressure.

The attendance at the Stations in 1931 was 9,125 for 289 afternoons, divided as follows:

	Afternoons	Attendance	Average
Home St. United Church (Nurses Maddin and Wilkins).....	48	2,985	68
McLean Mission (Nurse Bowles)....	52	654	13
Sutherland Mission (Nurse Carter)	48	1,009	21
Crescent United Church (Nurse Smith)	48	1,260	26
Elmwood School (Nurse Moore).....	42	1,392	33
Robertson House (Nurses Bennett and Munro alternately).....	51	1,189	23
Totals.....	289	8,489	29

At the Milk Depot (Miss Spratt), 636 babies were brought to be weighed in the afternoons, an average of 12 a week.

SICK BABY CLINIC

The Babies' Clinic for feeding cases at the Milk Depot forms our third line of defense. To it are referred cases which require modified feedings when the parents are unable to afford a private physician.

Last year I pointed out that the attendance at the Babies' Clinic was a barometer of economic conditions, stating that from a low of 424

cases in 1928 the cases had risen to 552 in 1930. In 1931, the cases numbered 636, a 50% increase over the cases in the prosperous year 1928. The attendance also greatly increased, and, if conditions do not improve, will still increase. In 1931, the attendance was 6,628; in 1930, 5,686.

The new 1931 cases came from the following districts; the 1928 cases are given for comparison:

	I	II	III	IV	V	VI	VII	City	Non-Res.	Total
1931	35	56	108	115	170	114	34	632	4	636
1928	35	24	57	82	105	74	37	414	10	424

Dr. R. F. Rorke and Dr. F. G. Schwalm continued to act as attending physicians on alternate mornings.

The peak month for attendance was September, when 641 infants were brought to the Clinic as feeding cases; May gave the lowest attendance, 464.

Whenever possible the visiting nurses instruct the mothers how to prepare feedings at home, but if the baby is very ill or if the feeding is too complicated for the mother to prepare, the preparation is undertaken in the Milk Dispensary.

MILK DISPENSARY

This is our last line of defense; if a case cannot be handled through any of the four channels here outlined, it is referred to a medical relief physician or sent to hospital. For the latter service, if the parents be in poor circumstances, the City pays \$1.75 a day and the Province 50 cents a day.

The number of feedings prepared totalled 30,216 against 27,555 for 1930. In spite of the increased number of feedings the revenue collected decreased from \$773.65 in 1930 to \$435.10. This increase in the number of feedings prepared and falling off of revenue collected has been a regular feature since the depression commenced. When sick children have to be cared for, it is naturally impossible to reduce expenditures; the chief aim of the Bureau has been to prevent children from becoming sick through the visiting nurses and child welfare stations, and if they do become sick, to endeavor to head off hospital treatment through the Clinic, Milk Dispensary, and Medical Relief services. In order to reduce the cost of medical relief, a nurse first visits children reported sick and a physician is sent if the patient requires medical attention.

COST OF SERVICES

In these days of economy, the public is more than usually interested in the cost of public services. In keeping with your policy of carrying out the duties imposed upon the department as economically as possible, I have, since taking charge of the Bureau in 1919, reduced expenditures in every possible direction without interfering with efficiency.

It is to be noted that the cost of Child Welfare services have decreased 17.6% since 1920, when the cost was \$41,054, exclusive of capital expenditures. The 1931 expenditures were \$33,827. The 1920 cost per year was 21.3 cents per capita; the 1931, 15.9 cents per capita.

The average cost during 1931, allowing for a division of office expenses, heat, light, repairs, etc., for the Bureau of Child Hygiene services, are:

Average cost per nurse's visit or consultation.....	\$.40
Average cost per physician's consultation at Clinic.....	.83
Net Average cost per feeding supplied by Milk Depot.....	.26

For other medical relief services, the costs are:

Cost per visit Medical Relief Physician.....	3.00
Cost per day for indigent patient in hospital (City \$1.75, Province 50c)	2.25

INFANT MORTALITY ACCORDING TO SECTIONS OF CITY

The swing of sectional infant mortality gave the lowest rate for 1931 in III S., Assiniboine to Ellice, Maryland to limits, and the highest in V E., Point Douglas:

III S., 340 Live Births, 11 Infant Deaths, 3.2 deaths per 100 births.

V E., 226 Live Births, 21 Infant Deaths, 9.3 deaths per 100 births.

The corrected figures for each section, excluding non-residents but including St. Boniface registrations of Winnipeg residents, are shown below:

Nursing Section			Live Births	Infant Deaths	Death Rate per 100 Births
I	W	Fort Rouge, west of Pembina.....	291	14	4.8
I	E	Fort Rouge, east of Pembina.....	204	12	5.9
II		Red River to Spence Street.....	368	22	6.0
III	SE	Young, Ellice and Sherbrook Sts... 109	109	7	6.4
III	S	Assiniboine River to Ellice Ave.... 340	340	11	3.2
III	N	Ellice Ave. to Notre Dame Ave..... 291	291	10	3.4
III	NE	Young, Ellice and Sherbrook Sts... 121	121	5	4.1
IV	W	Notre Dame to C.P.R. Tracks..... 193	193	8	4.2
IV	C	Sherbrook St. to Main St..... 280	280	11	3.9
V	E	Point Douglas, south of C.P.R. and north of C.P.R. Tracks..... 226	226	21	9.3
V	S	C.P.R. Tracks to Selkirk Ave..... 237	237	14	5.9
V	N	Pritchard Ave. to Burrows Ave.... 201	201	12	6.0
VI	W	Burrows to Limits, W. of No. 500.. 238	238	17	7.1
VI	E	Burrows to Limits, E. of No. 499... 255	255	11	4.3
VII		Elmwood	172	10	5.8
City Residents, corrected figures.....			3,526	185	5.2
Non-Resident Registrations (excluded above) 1,239			1,239	61	4.9
St. Boniface Registrations (included above).. 343			343	28	8.2

MATERNAL MORTALITY

Twenty-two puerperal deaths occurred in 1931 as compared with 21 for 1930. This gives a crude rate of 5.0 per 1,000 live births, against 4.5 for 1930.

Of these twenty-two deaths, seven were non-residents. No puerperal deaths occurred amongst Winnipeg mothers in St. Boniface Hospital so that the corrected rate for the City is 4.2.

MEDICAL ATTENDANTS

Eleven physicians each attended seventy or more live births in Winnipeg in 1931, making a total of 1,940. Of the remaining 2,482 live births registered in the City, 2,407 were attended by 208 physicians. In the first group the mortality rate for infants under fifteen days was 21 per 1,000 live births; in the second group, the rate is 33.

Of the 4,422 live births registered in Winnipeg in 1931, 3,672, or 83% occurred in hospitals and maternity homes, this percentage being again an increase over the previous year. In 1917 the percentage was 36.3, and in 1912, 31.5%.

LIVE BIRTHS, STILLBIRTHS AND EARLY INFANT DEATHS IN HOSPITALS, 1931

Hospitals	Live Births	Still-births	Infant Deaths 1-14 days	Rate per 1,000 Live Births	
				Still-births	Infants 1-14 days
Grace	1,000	40	21	40	21
General	1,045	42	19	40	18
Misericordia	761	26	28	34	37
Victoria	385	17	18	44	47
St. Joseph's	314	18	12	57	38
Concordia	113	1	..	9	..
Healthwin	53	2	4	..	..
King George	1	..	..	..	..
St. Boniface*	343	18	18	52	52
<hr/>					
All Hospitals	4,015	164	120	41	30
Private Homes	750	23	22	31	29
<hr/>					
Total Births**	4,765	187	142	39	30
Non-Residents	1,239	40	37	32	30
Winnipeg Residents—					
Corrected Totals....	3,526	147	105	42	30

*Winnipeg Residents only.

**Including St. Boniface registrations of Winnipeg residents.

CAUSES OF INFANT DEATHS

The following table is a summary of the causes of infant deaths in 1931 and 1930:

	Corrected Totals			
	1931		1930	
	Deaths	Rate	Deaths	Rate
Diseases of Early Infancy and Malformations	110	31.2	125	34.5
Diseases of Digestive System.....	19	5.4	21	5.8
Diseases of Respiratory System.....	23	6.5	17	4.7
All other Diseases.....	33	9.4	47	12.9
	<hr/>	<hr/>	<hr/>	<hr/>
	185	52.5	210	57.9

The low rate for 1931 is mainly due to the fewer deaths from diseases of early infancy, the rate of 31.2 being exceptionally low. This low rate was, fortunately, not accompanied by an increase in the still-birth rate, so that 1931 shows a real improvement in causes of death associated with birth and early infancy.

Diseases of the respiratory system, although slightly higher than in 1930, make a most satisfactory showing, being well below the average for the past five years.

Diseases of the digestive system again show a reduction, only nineteen infants dying from this group of diseases during the entire year.

STAFF

There were no changes in the Bureau of Child Hygiene staff during the year. Nurses Carter, Bowles and Thom relieved Miss Graham, the dietitian, in the dispensary, and Nurse Spratt continued in charge of the daily clinic. The nursing, dispensary and recording staffs have carried out their work in their usual devoted manner, and I wish to place on record my sincere appreciation of their loyal co-operation in these days when their services are so much required.

Respectfully submitted, I am,

Yours obediently,

A. G. LAWRENCE,

Manager, Bureau of Child Hygiene.

BUREAU OF CHILD HYGIENE—CHILD WELFARE NURSES—1931

1931	Days on Duty	Days on District	Days in Depot and Conventions	Total Live Births Visited	Deaths of Infants visited more than once	Visits to Babies	Visits to Infant's Homes	Other Visits	Special Calls	Calls to Sick Babies	Requested Calls	Cases Referred to Physicians	Cases Referred to Milk Depot	Cases Referred to Social Welfare	Cases Referred to Hospital	Cases Referred to M.S.N. Mission	Cases Referred to Fresh Air Camp	Private Demonstrations	Treatment to Babies	Pre-natal Instruction given	Lectures given
January	299	246½	52½	255	7	3568	19	...	1	112	162	24	38	3	31	4	...	10	97	50	8
February	275½	232	43½	206	5	3241	9	...	1	136	184	25	22	1	34	3	...	6	98	49	5
March	300½	244	56½	256	...	3473	21	...	1	81	127	42	26	...	15	2	...	9	91	50	5
April	271	222½	48½	235	7	3241	19	...	...	109	136	26	23	1	20	6	3	10	81	46	1
May	282½	228½	54	210	3	3498	17	...	7	83	147	34	22	3	23	10	13	10	70	48	...
June	283	230	53	198	3	3910	15	...	8	68	131	30	36	3	22	6	15	15	43	51	...
July	254½	197	57½	266	3	2937	9	...	...	40	109	16	40	1	16	5	8	15	45	38	...
August	229½	174	55½	203	2	2995	10	...	1	56	108	23	30	...	17	5	2	13	38	30	...
September	266	217	49	245	4	3278	12	...	3	54	130	52	28	...	17	12	...	15	38	50	...
October	290½	237½	53	214	2	3349	14	...	1	51	138	33	23	...	21	5	...	9	64	46	...
November	278	229½	48½	195	4	3344	18	2	...	59	153	51	28	...	25	7	...	11	43	50	2
December	301	242½	58½	203	3	3263	17	...	2	116	205	48	32	...	32	4	...	11	78	47	...
Totals	3331	2701	630	2686	40	39797	180	2	25	965	1730	404	348	12	273	69	41	134	786	555	21

BUREAU OF CHILD HYGIENE—BABIES' MILK DEPOT, 1931

1931	FEEDINGS MILK DEPOT										FEEDINGS PREPARED						MILK USED		
	Total Attendance at Clinic	Cases on Dispensary List at 1st of Month (including Children's Hospital)	Children's Hospital Feedings	Paid Feedings	Free Feedings	Total Feedings (excluding Children's Hospital)	Grand Total Feedings (including Children's Hospital)	Cash Collected Dispensary	Cash Collected Children's Hospital	Cases Attending for First Time	Lactic Acid	Protein	Casein	Evaporated Milk	Acidified	Condensed Milk	Whole Milk (Quarts)	Cream (Quarts)	Skim Milk (Quarts)
January.....	546	85	348	352	2260	2612	2960	\$ 50.50	\$ 61.10	76	109	61	.....	58	24	5	1386	37	702
February.....	476	97	465	320	2068	2388	2853	74.85	77.10	40	53	26	.....	96	97	.....	1246	45 3/4	776
March.....	565	87	382	359	1941	2300	2682	45.10	65.75	51	33	39	.....	91	167	.....	1072	57 1/4	692
April.....	514	89	403	268	1589	1857	2260	41.75	69.05	37	23	48	.....	73	129	.....	972	33 1/4	448
May.....	464	64	406	209	1409	1618	2024	30.95	69.10	43	61	43	6	46	109	.....	960	30	460
June.....	537	71	450	124	1485	1609	2059	31.05	74.30	56	89	46	.....	44	199	.....	924	33 1/4	484
July.....	554	69	431	214	1771	1985	2416	31.75	74.05	69	94	79	.....	31	196	.....	1004	45 3/4	636
August.....	544	67	307	201	1505	1706	2013	22.70	51.00	55	113	42	.....	12	141	.....	784	42 1/4	624
September.....	641	69	531	204	1541	1745	2276	31.40	99.00	54	174	122	16	25	156	.....	896	41 1/4	712
October.....	562	83	834	189	1750	1939	2773	30.80	151.10	46	89	221	.....	67	144	.....	1124	29	764
November.....	624	89	508	133	2103	2236	2744	16.05	89.60	53	38	69	16	18	183	.....	1172	30	676
December.....	601	107	451	225	2480	2705	3156	28.20	68.85	56	53	7	.....	20	172	.....	1440	40 1/4	770
Totals.....	6628	977	5516	2798	21902	24700	30216	\$435.10	\$950.00	636	929	803	38	581	1717	5	12980	465 1/2	7744

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 1931. 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.

As in 1930, this report shows both crude and corrected totals and rates, the corrected figures being obtained by eliminating non-residents and including residents of Winnipeg who died in the adjoining City of St. Boniface, the St. Boniface Sanatorium and the Ninette Sanatorium.

Respectfully submitted,

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).

	1931	1930
Population (City Assessor's figures).....	212,815	209,286
Persons per acre of land.....	14.32	14.08

Corrected

Deaths, excluding stillbirths.....	1,499	1,603
Corrected rate per 1,000 population.....	7.04	7.66
Deaths of infants under 1 year.....	185	210
Corrected infant mortality rate per 1,000 live births	52.5	57.9
Deaths, measles, scarlet fever, whooping cough, and diphtheria, combined	18	23
Corrected rate per 100,000 population.....	8.5	11.0

VITAL STATISTICS

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	1931	1930
Births, excluding stillbirths.....	3,526	3,627
Corrected live birth rate per 1,000 population....	16.57	17.33
Stillbirths	147	162
Corrected rate per 1,000 live births.....	41.7	44.7
Natural increase, excess of births over deaths.....	2,027	2,024
Corrected rate per 1,000 population.....	9.52	9.67

Crude

Deaths, excluding stillbirths.....	1,709	1,806
Rate per 1,000 population.....	8.03	8.63
Deaths of infants under 1 year.....	218	269
Infantile mortality rate per 1,000 living births....	49.3	57.9
Births, excluding stillbirths.....	4,422	4,645
Rate per 1,000 population.....	20.78	22.19
Stillbirths	169	201
Rate per 1,000 live births.....	38.22	43.27
Marriages	2,452	2,660
Rate per 1,000 population.....	11.52	12.71

TYPHOID FEVER MORTALITY RATES PER 100,000 POPULATION, 1904-31

Year	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
248.3	40.6	38.4	31.6	17.1	10.8	9.7	7.9	3.5	9.5	8.2	7.6	10.3	5.7	5.1	1.5	2.5	3.1	3.1	4.0	3.0	1.0	2.4	.0	1.4
Corrected Rate for City		7.9	5.4	4.3	3.9	2.0	7.5	6.0	6.5	7.4	.0	.0	.5	1.0	1.0	1.5	.0	.5	1.0	1.5	.0	.5	.0	1.9

CRUDE MORTALITY RATES PER 100,000 POPULATION FOR LEADING CAUSES OF DEATH, 1913-1931

Year	Population	Tuberculosis of Lungs (31)	Tuberculosis, other forms (32-37)	Cancer (all forms) (43-49)	Meningitis (71)	Cerebral Haemorrhage (74)	Diseases of the Heart (87-90)	Diseases of the Arteries (91)	Acute and Chronic Bronchitis (99)	Pneumonia, all forms (100-101)	Appendicitis and Typhitis (117)	Hernia, Intestinal Obstruction (118)	Acute and Chronic Nephritis (128-129)	Puerperal Deaths (143-150)	External Causes (165-203)
1931	212,815	39.0	10.8	128.3	1.9	51.2	110.9	13.2	7.5	48.4	16.4	15.0	27.7	10.3	55.4
1930	209,286	46.3	16.2	113.2	6.7	52.6	122.8	15.8	3.3	54.0	17.7	11.5	33.9	10.0	59.2
1929	205,083	40.5	16.1	120.9	4.9	55.1	117.5	8.3	4.9	71.7	9.3	12.7	38.0	13.6	64.8
1928	202,377	36.1	20.3	105.2	6.4	48.9	129.0	10.9	5.9	62.3	15.8	15.8	34.1	11.4	65.2
1927	198,932	37.2	9.5	102.5	5.0	38.1	112.6	10.1	5.5	75.5	16.1	11.1	30.7	12.6	57.8
1926	197,125	44.6	14.2	100.4	7.6	39.1	105.5	12.2	4.0	70.5	15.7	12.2	32.5	12.7	62.9
1925	195,148	41.5	11.8	95.3	7.2	41.5	84.0	9.7	7.2	68.1	20.0	9.2	33.8	12.8	57.9
1924	194,850	44.6	16.9	88.8	8.7	42.6	96.5	11.3	7.7	80.6	13.8	6.7	20.5	13.3	43.6
1923	199,300	48.2	16.0	82.3	6.0	28.6	87.8	13.5	5.5	77.3	9.5	9.5	28.6	13.0	52.2
1922	199,129	52.7	11.0	93.4	6.0	45.2	87.4	15.0	5.0	87.4	19.1	9.5	29.1	12.5	40.7
1921	196,947	50.8	26.4	87.3	8.1	32.0	91.9	15.7	4.6	84.8	14.2	4.6	18.3	10.7	46.7
1920	192,571	71.7	20.8	79.4	13.0	45.7	68.6	11.9	13.5	132.9	14.0	9.9	25.3	28.0	47.3
1919	183,378	72.0	24.5	73.1	10.9	30.5	72.0	9.8	18.0	105.2	17.4	13.6	33.3	15.3	57.2
1918	183,595	86.6	26.7	80.6	7.6	32.1	78.5	9.3	10.9	117.6	19.1	10.9	38.7	19.1	49.0
1917	182,848	74.4	24.1	62.4	14.2	24.6	72.2	19.7	13.7	114.8	14.2	4.9	31.2	19.7	41.0
1916	200,090	79.5	24.4	63.5	20.5	25.0	71.5	17.5	21.0	129.4	12.5	9.0	29.0	20.5	41.5
1915	201,981	79.2	16.8	48.5	17.3	20.8	59.9	15.3	21.8	91.1	13.4	11.4	28.2	12.9	52.9
1914	203,255	72.8	19.7	44.3	12.8	19.2	53.1	10.3	22.1	93.0	6.4	6.4	28.0	26.1	60.5
1913	184,730	71.4	26.0	51.4	21.6	21.6	68.2	11.9	13.0	109.9	10.3	8.7	35.7	21.1	68.2

STILLBIRTHS, LIVEBIRTHS AND DEATHS, CRUDE AND CORRECTED FIGURES, BY MONTH AND SEX—1931

1931	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.	12	5	17	2	1	16	190	200	390	105	24	309	94	56	150	31	13	132
Feb.	14	7	21	4	...	17	174	137	311	77	25	259	78	72	150	27	21	144
Mar.	9	3	12	4	1	9	211	196	407	109	20	318	90	80	170	37	12	145
April.	8	6	14	3	...	11	187	193	380	106	50	324	90	48	138	23	12	127
May.	9	5	14	4	1	11	172	186	358	110	22	270	73	63	136	23	5	118
June.	11	6	17	3	2	16	192	198	390	113	43	320	75	60	135	30	19	124
July.	8	7	15	5	1	11	215	199	414	112	30	332	72	63	135	40	16	111
Aug.	5	5	10	3	2	9	182	200	382	97	30	315	63	67	130	35	17	112
Sept.	11	4	15	...	4	19	194	178	372	107	24	289	62	56	118	27	9	100
Oct.	10	3	13	7	2	8	162	207	369	113	30	286	78	67	145	36	9	118
Nov.	4	11	15	4	1	12	170	159	329	100	24	253	82	65	147	35	14	126
Dec.	3	3	6	1	3	8	172	148	320	90	21	251	93	62	155	28	15	142
Totals	104	65	169	40	18	147	2221	2201	4422	1239	343	3526	950	759	1709	372	162	1499

Year	Population	STILLBIRTHS			LIVE BIRTHS			DEATHS					
		CRUDE			CORRECTED			CRUDE			CORRECTED		
		Totals	*Rate	†Rate	Totals	*Rate	†Rate	Totals	†Rate	‡Rate	Totals	†Rate	‡Rate
1931	212,815	169	38.2	147	41.7	4,422	20.78	3,526	16.57	1,709	8.03	1,499	7.04
1930	209,286	201	43.3	162	44.7	4,645	22.19	3,627	17.33	1,806	8.63	1,602	7.66
1929	205,083	225	49.8	168	46.7	4,515	22.01	3,597	17.54	1,817	8.86	1,581	7.71
1928	202,377	182	40.7	138	38.5	4,475	22.11	3,580	17.69	1,806	8.92	...	...
1927	198,932	200	44.8	162	45.4	4,463	22.44	3,566	17.92	1,650	8.29	...	...
1926	197,125	156	35.1	135	38.2	4,444	22.54	3,530	17.91	1,698	8.61	...	...
1925	195,148	188	40.6	...	...	4,632	23.73	3,781	19.37	1,619	8.30	...	...
1924	194,850	223	46.8	...	...	4,762	24.44	3,880	19.90	1,544	7.78	...	...
1923	199,300	211	40.5	...	...	5,214	26.16	...	...	1,698	8.52	...	...
1922	199,129	252	44.8	...	...	5,629	28.27	...	...	1,801	9.04	...	...
1921	196,947	238	39.5	...	...	6,029	30.61	...	...	1,721	8.74	...	...
1920	192,571	251	40.6	...	...	6,174	32.06	...	...	2,270	11.79	...	...

*Per 1,000 Live Births. †Per 1,000 Population. ‡Per 1,000 Population.

DEATHS BY MONTHS, SEX AND AGE PERIOD, 1931

	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		Over 100		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.	M.	F.		
1931																																
January.....	13	6	1	1	2	2	2	2	3	3	4	4	5	5	16	16	4	4	12	12	14	13	10	10	8	3	3	1	..	..	94	56
February.....	14	4	3	1	..	..	..	..	2	2	3	4	4	4	10	10	12	8	8	18	19	9	14	10	4	6	1	1	..	..	78	72
March.....	12	11	2	1	..	..	..	..	3	3	3	3	6	6	11	11	4	4	15	15	18	15	12	12	3	7	2	2	..	..	90	80
April.....	16	9	1	2	..	..	..	..	3	3	5	3	4	4	14	14	4	4	10	22	4	6	12	6	3	3	1	1	..	..	90	48
May.....	7	6	1	..	..	..	..	..	4	4	2	3	8	6	11	11	7	10	10	9	13	13	7	2	2	2	1	1	..	..	73	63
June.....	10	8	1	3	2	2	2	2	3	3	4	7	3	8	7	7	8	10	12	12	5	17	5	3	3	4	1	1	..	..	75	60
July.....	10	4	2	1	..	..	..	..	2	3	2	1	6	8	10	10	7	6	8	11	10	16	17	..	5	2	1	1	..	..	72	63
August.....	12	8	2	2	..	..	..	..	3	3	3	3	3	5	8	8	10	10	8	14	6	6	5	11	1	7	1	1	..	..	63	67
September.....	8	7	3	1	1	1	1	1	2	2	1	3	2	3	10	10	6	10	10	6	5	4	9	10	2	1	2	2	..	..	62	56
October.....	9	10	2	2	1	1	1	1	5	2	6	5	6	3	4	4	13	13	12	7	10	12	7	10	8	6	..	..	78	67		
November.....	9	5	3	2	1	1	1	1	4	3	5	5	6	8	16	16	6	15	11	8	7	8	11	2	3	3	..	..	82	65		
December.....	11	9	3	2	2	2	2	2	2	1	2	9	1	5	10	10	5	16	4	17	8	11	19	4	2	1	2	2	..	..	93	62
Totals.....	131	87	28	18	9	7	28	18	27	30	55	54	70	54	127	127	75	133	101	158	115	124	139	51	50	8	11	1	950	759		
Crude Totals.....	218	46	16	16	46	46	46	46	57	57	109	124	124	124	202	202	234	234	273	273	263	263	242	101	101	19	1	1	1709	372		
Non-res. Dctd.....	61	10	5	5	12	12	12	12	20	20	29	51	51	51	49	49	45	45	47	47	35	35	14	8	8	..	..	..	162	162		
Residents Added.....	28	1	1	1	2	2	2	2	6	6	9	19	19	19	28	28	26	26	20	20	20	20	242	101	101	19	1	1	1499	1499		
Corrected Totals.....	185	37	12	12	36	36	36	36	43	43	89	92	92	92	181	181	215	215	246	246	242	242	101	101	101	19	1	1	1499	1499		
Crude, per cent.....	12.7	2.7	.9	.9	2.7	2.7	2.7	2.7	3.3	3.3	6.4	7.3	7.3	7.3	11.8	11.8	13.7	13.7	16.0	16.0	15.4	15.4	5.9	5.9	5.9	1.1	.1	.1	100%	100%		
Corrected, per cent.....	12.3	2.5	.8	.8	2.4	2.4	2.4	2.4	2.9	2.9	5.9	6.1	6.1	6.1	12.1	12.1	14.3	14.3	16.4	16.4	16.1	16.1	6.8	6.8	6.8	1.3	.1	.1	100%	100%		

NATIVITY OF DECEDENTS, 1931

(Deaths as Registered)

Winnipeg	309	Finland	3
Manitoba (rest of)	145	France	5
Nova Scotia.....	13	Galicia	4
Prince Edward Island.....	4	Germany	18
New Brunswick.....	5	Holland	4
Quebec	50	Hungary	6
Ontario	249	Iceland	24
Saskatchewan	14	Italy	8
British Columbia.....	1	Lithuania	1
Canada	5	Norway	3
England and Wales.....	251	Poland	96
Ireland	74	Roumania	13
Scotland	134	Russia	107
Australia	3	Sweden	14
Bermuda	1	Ukraine	6
Barbadoes	1	China	7
British West Indies.....	1	India	1
New Zealand	1	Syria	1
Austria	44	U. S. A.....	59
Belgium	3	Unknown	10
Bukowinia	1		
Czecho-Slovakia	4	Crude Total.....	1,709
Denmark	6		

SUMMARY

(Deaths as Registered)

	Deaths		Per Cent of Total	
	1931	1930	1931	1930
Canada	795	903	46.5	50.0
British Isles	459	466	26.9	25.8
Europe (excluding British Isles).....	370	356	21.6	19.7
United States	59	56	3.5	3.1
Asia	9	12	.5	.7
Other Countries	7	....	.4	....
Unknown	10	13	.6	.7
Totals.....	1,709	1,806	100.0	100.0

RATIO OF MALES TO 100 FEMALES, 1924-31

(As Registered)

	1931	1930	1929	1928	1927	1926	1925	1924
Stillbirths	160	116	165	109	130	129	132	137
Live Births	101	103	107	102	110	110	108	100
Deaths	125	120	122	117	123	108	110	113

SOCIAL STATUS OF DECEDENTS, 1931

(As Registered)

	Male	Female	Totals	% of Total
Single, under 16 years.....	209	145	354	20.7
Single, 16 years and over.....	149	83	232	13.6
Total: Single	358	228	586	34.3
Married	482	331	813	47.6
Widowed	99	200	299	17.5
Divorced	8	....	8	.4
Unknown	3	....	3	.2
Crude Totals	950	759	1,709	100.0

ATTENDANT AT BIRTH

(As Registered)

	1931		1930		1918*	
Physicians.....	4,339	98.1%	4,558	98.1%	4,707	80.2%
Midwives.....	78		83			
Unattended.....	5	1.9%	4	1.9%	1,159	19.8%
Unknown.....	....		....

*Includes Stillbirths.

INFANTS BORN OUT OF WEDLOCK

(Including Stillbirths)

	1931	1930	1929	1926	1921	1920	1917	1912
Infants born out of Wedlock..	338	374	406	313	317	262	267	383
Per Cent of Total Births	7.6	7.7	8.6	6.8	5.0	4.1	4.7	7.6

PLURAL LIVE BIRTHS

	1931	1930	1929	1928	1927	1926	1925	1924
Twin Births.....	46	46	53	62	51	50	48	57
Triple Births....	..	..	1	..	..	1	..	..

ORDER OF LIVE BIRTHS, 1931

(Corrected and Crude Figures)

	Corrected Crude			Corrected Crude	
First	1,449	1,819	Eleventh	5	7
Second	821	990	Twelfth	2	4
Third	495	620	Thirteenth	7	11
Fourth	307	369	Fourteenth	6	8
Fifth	166	231	Fifteenth	1	2
Sixth	102	138	Sixteenth	1	3
Seventh	68	81	Seventeenth .....	..	1
Eighth	53	69			
Ninth	26	43	Total.....	3,526	4,422
Tenth	17	26			

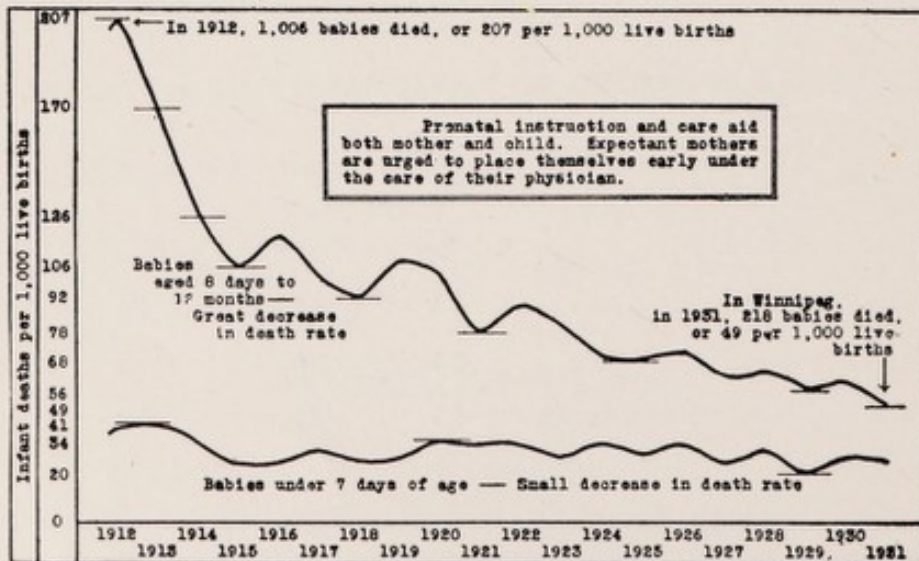
	Corrected	Crude
First Children	41.1 %	41.1 %
Second Children	23.3 %	22.4 %
Third Children	14.0 %	10.0 %
Fourth Children	8.7 %	8.4 %
Fifth to Seventeenth Children....	12.9 %	14.1 %
	100.0 %	100.0 %

STILLBIRTHS ACCORDING TO NATIONALITY OF MOTHERS, 1931

	Rates per 1,000 Live Births			
	Corrected		Crude	
	Stillbirths	Rate	Stillbirths	Rate
Canadian	74	47	80	38
British	33	39	43	43
Southern and Central European	35	37	38	35

INFANT MORTALITY, 1912-31

	Corrected			Crude		
	Live Births	Infant Deaths	Rate per 1,000 Births	Live Births	Infant Deaths	Rate per 1,000 Births
1931	3,526	185	52.5	4,422	218	49.3
1930	3,627	210	57.9	4,645	269	57.9
1929	3,579	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



INFANT MORTALITY—CAUSE OF DEATH—1931
Number of Deaths

	Corrected Crude	
Acute Communicable Diseases.....	7	8
Other general diseases.....	11	13
Of nervous system and of organs of special sense.....	8	12
Of respiratory system	23	21
Of digestive system	19	24
Malformations and diseases of early infancy.....	110	129
All other diseases.....	7	11
Totals.....	185	218

Rates per 1,000 Live Births

	Corrected Crude	
Acute Communicable Diseases.....	2.0	1.8
Other general diseases.....	3.1	2.9
Of nervous system and of organs of special sense.....	2.3	2.7
Of respiratory system.....	6.5	4.8
Of digestive system.....	5.4	5.4
Malformations and diseases of early infancy.....	31.2	29.2
All other diseases.....	2.0	2.5
Totals.....	52.5	49.3

Per Cent of Total

	Corrected Crude	
Acute Communicable Diseases.....	3.8	3.7
Other general diseases.....	5.9	6.0
Of nervous system and of organs of special sense.....	4.3	5.5
Of respiratory system	12.4	9.6
Of digestive system.....	10.3	11.0
Malformations and diseases of early infancy.....	59.5	59.2
All other diseases.....	3.8	5.0
Totals.....	100.0	100.0

**CLASSIFICATION OF AGES OF DECEDENTS UNDER ONE YEAR
OF AGE—1931**

	Corrected Rate per			Crude Rate per		
	No. of Deaths	1,000 Births	Per Cent. of Total	No. of Deaths	1,000 Births	Per Cent. of Total
Minutes to 1 week.....	95	26.9	51.4	116	26.2	53.2
Over 1 to 2 weeks....	10	2.8	5.4	8	1.8	3.7
Over 2 to 3 weeks....	3	.9	1.6	4	.9	1.8
Over 3 wk's to 1 m'th	7	2.0	3.8	4	.9	1.8
<hr/>						
Minutes to 1 month....	115	32.6	62.2	132	29.8	60.5
Over 1 to 2 months....	16	4.6	8.6	18	4.1	8.3
Over 2 to 3 months....	6	1.7	3.2	7	1.6	3.2
<hr/>						
Minutes to 3 months	137	38.9	74.0	157	35.5	72.0
Over 3 to 6 months..	22	6.2	11.9	31	7.0	14.2
Over 6 to 9 months..	12	3.4	6.5	14	3.2	6.4
Over 9 and under 12 months	14	4.0	7.6	16	3.6	7.4
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	185	52.5	100.0	218	49.3	100.0

For comparison with the above, the final figures for the years 1930 and 1912 are given below:

	Crude		
	No. of Deaths	Rate per 1,000 Births	Per Cent. of Total
1930			
Minutes to 3 months.....	191	41.1	71.0
Over 3 to 6 months.....	29	6.3	10.8
Over 6 to 9 months.....	22	4.7	8.2
Over 9 and under 12 months.....	27	5.8	10.0
<hr/>			
	269	57.9	100.0

	Crude		
	No. of Deaths	Rate per 1,000 Births	Per Cent. of Total
1912			
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
<hr/>			
	1,006	206.6	100.0

**INFANT MORTALITY ACCORDING TO NATIONALITY OF
MOTHERS, 1931**

	Corrected			Crude		
	Live Births	Infant Deaths	Rate per 1,000 Births	Live Births	Infant Deaths	Rate per 1,000 Births
Canadian	1,562	81	52	2,092	112	53
English and Welsh	469	24	51	572	24	42
Irish	90	4	44	103	5	5
Scotch	277	15	54	315	13	41
American (U.S.A.)	130	4	31	174	4	23
Scandinavian	55	2	36	77	3	4
Southern and Central European....	931	55	59	1,078	56	52
All others	12	..	..	11	1	9

INFANT MORTALITY STATISTICS

For further particulars regarding infantile mortality, see report of the Manager, Bureau of Child Hygiene, pages 106 to 113.

CAUSE OF DEATH BY AGE AND SEX CRUDE FIGURES (As Registered; Non-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
60. Diseases of the thyroid gland:																	
(a) Exophthalmic goiter.....	1	4							1	2	2						5
(b) Other diseases of the thyroid gland.....		2								1	1						2
62. Diseases of the thymus gland.....	5	3	7	1													8
65. Leukemia and Hodgkin's disease:																	
(a) Leukemia.....	8	2				3	1	1	1		3		1				10
(b) Hodgkin's disease.....	1							1									1
66. Alcoholism (acute or chronic).....	4							2	1	1							4
69. Other general diseases.....	1										1						1
Totals, Class II.....	192	167	10	2	2	9	6	14	26	46	76	88	60	18	2		359
III.—Diseases of the Nervous System and of the Organs of Special Sense.																	
70. Encephalitis.....	1	5		2	1		1	2									6
71. Meningitis:																	
*(a) Simple meningitis.....	2	2	4						1								4
72. Tabes dorsalis (locomotor ataxia).....	1																1
74. Cerebral hemorrhage, apoplexy:																	
(a) Cerebral hemorrhage.....	36	62		1				1	1	9	14	23	33	14	2		98
(b) Cerebral embolism and thrombosis.....	8	3		1		1				2	2	5					11
75. Paralysis without specified cause:																	
(a) Hemiplegia.....		5									3		2				5
76. General paralysis of the insane.....	2								1	1							2

1931

CAUSE OF DEATH BY AGE AND SEX

CRUDE FIGURES

(As Registered; Non-Residents included)

CAUSE OF DEATH BY AGE AND SEX CRUDE FIGURES (As Registered; Non-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
			80	56	21	12	1	1	6	3	12	11	16		16	17	13	7	136
105. Asthma.....		1							1								1
107. Other diseases of the respiratory system (T.b. excepted).....																	
(b) Diseases of the mediastinum.....	1			1													1
(c) Others under this title.....	3							1	1	1							3
Totals, Class V.....	80	56	21	12	1	1	6	3	12	11	16	16	17	13	7		136
VI.—Diseases of the Digestive System.																	
109. Diseases of the pharynx and tonsils (including adenoids vegetations):																	
*(b) Others under this title.....	5	7		1	2	1	1	2		1	1	1	2				12
111. Ulcer of the stomach and duodenum:																	
(a) Ulcer of the stomach.....	10	5					1	1	1	5	2	3	1	1			15
(b) Ulcer of the duodenum.....	6	2							4	2	1	1					8
112. Other diseases of the stomach (cancer excepted).....	4	1		1					3	1							5
113. Diarrhea and enteritis (under 2 years of age).....	13	5		16	2												18
114. Diarrhea and enteritis (2 years and over).....	4	2								2			1	1			6
117. Appendicitis and typhlitis.....	23	12		1			4	8	7	2	5	3	4	1			35
118. Hernia, intestinal obstruction:																	
(a) Hernia.....	7	1		1													8
(b) Intestinal obstruction.....	11	13		5	2				3	1	4	6	2	1			24
119. Other diseases of the intestines.....	1	1															2
122. Cirrhosis of the liver:																	
(b) Not specified as alcoholic.....	1	1															2
123. Biliary calculi.....		2															2
124. Other diseases of the liver.....	5	15							1	7	6	2	4				20

126. Peritonitis without specified cause.....	1	2	2	3	5	10	13	12	28	1	13	18	4	3
Totals, Class VI.....	91	69	24	7	3	5	10	13	12	28	13	18	4	160
VII.—Non-venereal Diseases of the Genitourinary System and Annexa.														
128. Acute nephritis (inc. unspecified under 10 years of age).....	1	2				1	1	1	1	1				3
129. Chronic nephritis (inc. unspecified 10 years and over).....	29	27				2	2	6	12	7	12	9	6	56
131. Other diseases of the kidneys and annexa.....	2	3	1			1			1	1	1		1	5
132. Calculi of the urinary passages.....	1								1	1				1
133. Diseases of the bladder.....										1				1
134. Diseases of the urethra, urinary abscess, etc.: (b) Others under this title.....	1	1							1				1	2
135. Diseases of the prostate.....	18										4	10	3	18
137. Cysts and other benign tumors of the ovary.....	1						1							1
138. Salpingitis and pelvic abscess (female).....	5	5				3	1	1	5	1				5
139. Benign tumors of the uterus.....	5								5					5
141. Other diseases of the female genital organs.....	1					1								1
Totals, Class VII.....	52	46	1			4	8	7	18	12	17	19	11	98
VIII.—The Puerperal State.														
143. Accidents of pregnancy: (b) Ectopic gestation.....		2					1	1						2
(c) Others under this title.....		1						1		2				1
144. Puerperal hemorrhage.....		4				1	1							4
145. Other accidents of labor: *(c) Others under this title.....		1					1							1
146. Puerperal septicemia.....		7				1	2	3	1					7
148. Puerperal albuminuria and convulsions.....		7					3	4						7
Totals, Class VIII.....		22				2	8	9	3					22
IX.—Diseases of the Skin and of the Cellular Tissue.														
151. Gangrene.....	2	2	1									1	2	4
152. Furuncle.....	2	1							1					2
153. Acute abscess.....	1						1							1
154. Other diseases of the skin and annexa.....	1	2	2											2
Totals, Class IX.....	5	4	4				1		1		1	1	2	9

CAUSE OF DEATH BY AGE AND SEX CRUDE FIGURES (As Registered; Non-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
X.—Diseases of the Bones and of the Organs of Locomotion.																	
155. Diseases of the bones (tuberculosis excepted).....	7	2	1				4	1	1	1	1						
156. Diseases of the joints (T.b. and rheumatism excepted).....	1									1	1						
Totals, Class X.....	8	2	1				4	1	1	1	2					10	
XI.—Malformations.																	
159. Congenital malformations (stillbirths not included).....																	
*(a) Congenital hydrocephalus.....	2	2	3			1											
*(b) Congenital malformations of the heart.....	5	2	7														
*(c) Others under this title.....	6	6	12														
Totals, Class XI.....	13	10	22			1										23	
XII.—Early Infancy.																	
160. Congenital debility, icterus, and sclerema.....	6	5	11														
161. Premature birth; Injury at birth:																	
*(a) Premature birth (not stillborn).....	38	26	64														
*(b) Injury at birth (not stillborn).....	12	5	17														
162. Other diseases peculiar to early infancy.....	9	6	15														
Totals, Class XII.....	65	42	107													107	
XIII.—Old Age.																	
164. Senility.....	3	8											1	7	3		
Totals, Class XIII.....	3	8											1	7	3	11	

XIV.—External Causes.																			
165.	Suicide by solid or liquid poisons (corrosive substances excepted)	2	1					1	1	1									3
166.	Suicide by corrosive substances	2								2									2
167.	Suicide by poisonous gas	1	1						1	1									2
168.	Suicide by hanging or strangulation	2								1	1								2
169.	Suicide by drowning	7						1	2	2	1								7
171.	Suicide by cutting or piercing instruments	1	1						2	2									2
173.	Suicide by crushing	1								1									1
175.	Poisoning by food	1								1									1
177.	Other acute accidental poisonings (gas excepted)	4						1	1	1									4
179.	Accidental burns (conflagration excepted)	8	2	1	5		1	1	1	2									10
181.	Accidental absorption of irrespirable, irritating, or poisonous gas	6	1					1		4	2								7
182.	Accidental drowning	2					2												2
185.	Accidental traumatism by fall	18	1	1			2		1	3	3	5	2	6	1				25
187.	Accidental traumatism by machines	5						2		2				1					5
188.	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):																		
	* (a) Railroad accidents	2								2									2
	* (b) Street-car accidents	1								1									1
	* (c) Automobile accidents	8	10				1	4	2	2	3			4					18
	* (f) Injuries by other vehicles	6						1		2	2			1					6
190.	Wounds of war	1								1									1
193.	Excessive cold	1								1									1
194.	Excessive heat	3								1				1					3
197.	Homicide by firearms	3	2				1	2		1	1								5
198.	Homicide by cutting or piercing instruments	1							1										1
199.	(a) Criminal abortion	1							1										1
201.	Fracture (cause not specified)	1																	1
202.	Other external violence	3	2	1	1		1	1	1										5
Totals, Class XIV.		90	28	3	7	3	9	7	9	27	19	8	10	6	1				118
GRAND TOTALS		950	759	218	46	16	46	57	109	124	202	234	273	263	101	19			1 1709

CAUSE OF DEATH BY AGE AND SEX CORRECTED FIGURES (Non-Residents excluded; St. Boniface, Ninette and St. Bon- face Sanitarium Registrations of Winnipeg Residents inc.)	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
			80	53	23	11	1	5	1	10	12	17	14		17	15	7	133
105. Asthma.....		1							1								1
106. Pulmonary emphysema.....	1									1							1
107. Other diseases of the respiratory system (T.b. excepted).....	1																1
(b) Diseases of the mediastinum.....	2						1										2
(c) Others under this title.....																	
Totals, Class V.....	80	53	23	11	1	5	1	10	12	17	14	17	15	7		133	
VI.—Diseases of the Digestive System.																	
108. Diseases of the mouth and annexa.....	2					1			1								2
109. Diseases of the pharynx and tonsils (including adenoid vegetations):																	
*(a) Adenoid vegetations.....	2		1						1								2
*(b) Others under this title.....	4	6		1	1	1	1			1	1	1	2				10
111. Ulcer of the stomach and duodenum:																	
(a) Ulcer of the stomach.....	6	3					1			3	2	2		1			9
(b) Ulcer of the duodenum.....	4	1						2	2	1							5
112. Other diseases of the stomach (cancer excepted).....	2							1	1								2
113. Diarrhea and enteritis (under 2 years of age).....	8	4	10	2													12
114. Diarrhea and enteritis (2 years and over).....	4	3		2					2				1	1			7
117. Appendicitis and typhlitis.....	19	8	1		3	4	6	3	5	2	2	1					27
118. Hernia, intestinal obstruction:																	
(a) Hernia.....	6		1											1			6
(b) Intestinal obstruction.....	8	9	5	1			1			3	3	2	2				17
119. Other diseases of the intestines.....	1	1															2
120. Acute yellow atrophy of the liver.....	1																1
122. Cirrhosis of the liver:																	
(b) Not specified as alcoholic.....	1	1												1			2
123. Biliary calculi.....		2															2
124. Other diseases of the liver.....	5	14							8	5	2	4					19

126. Peritonitis without specified cause.....	1	2										1							3
Totals, Class VI.....	74	54	19	6	3	4	6	9	6	28	17	14	12	4					128
VII:—Non-venereal Diseases of the Genitourinary System and Annexa.																			
128. Acute nephritis (inc. unspecified under 10 years of age).....	1	2					1	1				1							3
129. Chronic nephritis (inc. unspecified 10 years and over).....	31	24					1	1	7	12	8	11	9	6					55
131. Other diseases of the kidneys and annexa.....	1	2	1							1	1	1	1	1					3
132. Calculi of the urinary passages.....	2	1								1	1	1	1	1					2
133. Diseases of the bladder.....																			1
134. Diseases of the urethra, urinary abscess, etc.: (b) Others under this title.....	1	1								1				1					2
135. Diseases of the prostate.....	9											3	3	2	1				9
138. Salpingitis and pelvic abscess (female).....		5					3	1		1									5
139. Benign tumors of the uterus.....		3								3									3
141. Other diseases of the female genital organs.....		2					1			1									2
Totals, Class VII.....	45	40	1				2	6	8	16	14	14	12	11	1				85
VIII.—The Puerperal State.																			
143. Accidents of pregnancy: (b) Ectopic gestation.....		2						1	1										2
(c) Others under this title.....		1							1										1
144. Puerperal hemorrhage.....		4					1	1	2										4
145. Other accidents of labor: *(c) Others under this title.....		1								1									1
146. Puerperal septicemia.....		4						1	2	1									4
148. Puerperal albuminuria and convulsions.....		3						3											3
Totals, Class VIII.....		15					1	7	4	3									15
IX:—Diseases of the Skin and of the Cellular Tissue.																			
151. Gangrene.....	3	1											1	3					4
152. Furuncle.....	1	1																	1
153. Acute abscess.....	1	1						1		1									2
Totals, Class IX.....	5	2	1					1		1			1	3					7

CAUSE OF DEATH BY AGE AND SEX CORRECTED FIGURES	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
			3	1	1	1	1	1	1	1	1	1	1	1		1	1
X.—Diseases of the Bones and of the Organs of Locomotion.																	
155. Diseases of the bones (tuberculosis excepted).....	3	1	1								1						4
Totals, Class X.....	3	1	1								1						4
XI.—Malformations.																	
159. Congenital malformations (stillbirths not included).....	3	2	4	1													5
* (a) Congenital hydrocephalus.....	5	1	6														6
* (b) Congenital malformations of the heart.....	4	3	7														7
* (c) Others under this title.....																	
Totals, Class XI.....	12	6	17	1													18
XII.—Early Infancy.																	
160. Congenital debility, icterus, and sclerema.....	4	5	9														9
161. Premature birth; Injury at birth:																	
* (a) Premature birth (not stillborn).....	32	27	59														59
* (b) Injury at birth (not stillborn).....	13	2	15														15
162. Other diseases peculiar to early infancy.....	7	3	10														10
Totals, Class XII.....	56	37	93														93
XIII.—Old Age.																	
164. Senility.....	3	8											1	7	3		11
Totals, Class XIII.....	3	8											1	7	3		11

XIV.—External Causes.														
165.	Suicide by solid or liquid poisons (corrosive substances excepted)	2	1							1	1	1	2	3
166.	Suicide by corrosive substances	2												2
167.	Suicide by poisonous gas													1
168.	Suicide by hanging or strangulation	2											1	2
169.	Suicide by drowning	7											1	7
171.	Suicide by cutting or piercing instruments	1											1	1
173.	Suicide by crushing	1											1	1
177.	Other acute accidental poisonings (gas excepted)	4											1	4
179.	Accidental burns (conflagration excepted)	7			5					1	1	2		8
181.	Accidental absorption of irrespirable, irritating, or poisonous gas	6	1										4	7
182.	Accidental drowning	2			2									2
185.	Accidental traumatism by fall	13	7	1	1	2				1	1	3	4	20
187.	Accidental traumatism by machines	4				1							1	4
188.	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	*(b) Street-car accidents	1												1
	*(c) Automobile accidents	6	8		1	4	2			1	1	1	3	14
	*(f) Injuries by other vehicles	4								1	1	2		4
	*(g) Landslides, other crushing	1											1	1
190.	Wounds of war													1
194.	Excessive heat	3												3
197.	Homicide by firearms	3	2			1	2						1	5
199.	Homicide by other means	1								1				1
199.	(a) Criminal abortion	1												1
201.	Fracture (cause not specified)	1												1
202.	Other external violence	2	1	1									1	3
Totals, Class XIV.													97	
GRAND TOTALS													11499	

Report of Chief of the Street Cleaning Division

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

Dear Sir:

I have the honor to submit herewith the report of the Street Cleaning and Scavenging Division, for the year 1931:

SCAVENGING

The cost of scavenging for the year 1931 amounted to \$14,687.00 less than the costs for the previous year. Notwithstanding this substantial reduction in costs, the volume of work performed in 1931 was considerably greater than last year. The collection of organic matter showed an increase of 2,142 tons, and the inorganic matter 1,550 tons. The average quantity of organic matter collected showed a per capita increase from 211.4 lbs. in 1929 to 235.4 lbs. in 1931.

No new equipment was purchased during the year.

It is interesting to note that the scavenging costs in 1921 amounted to \$203,716.87, as compared with an expenditure of \$142,799.72 in 1931.

INCINERATORS

The revenue earned at the two incinerators showed an increase of \$383.88 in 1931 over 1930. The operating costs showed a slight decrease in 1931 as compared with the previous year, although the quantity of refuse destroyed increased by 2,151 tons.

ASH REMOVAL

The quantity of ashes removed during the year, showed a decrease of 4,443 tons as compared with 1930. The expenditure on this class of work amounted to \$43,245.08 or \$1.13 per dwelling.

NUISANCE GROUND

This Division is continuing its efforts to improve the appearance of these grounds by covering the unsightly portions with ashes. The contract price for the privilege of removing junk from the Nuisance Grounds for the year 1931 amounted to \$1,325.00 as compared with \$2,025.00 in 1930.

STREET CLEANING

Eight miles of new pavement were laid during 1931, bringing the total mileage to 260. During the cleaning season, an average of 92.8 cubic yards of sweepings, per mile, were collected, or a total of 24,131 cubic yards.

In the year 1921 the expenditure on Street Cleaning amounted to \$98,365.69, or \$531.70 per mile of paved street or lane. In 1931 the expenditure was \$82,482.76, or \$327.31 per mile. The appropriations have been reduced by 16%, whereas the street mileage has increased 40% in that period.

FLUSHING

The motor-driven power flusher purchased in 1930 has performed excellent work during the year.

WOOD CAMP OPERATIONS

During the wood camp year, which ended April 30th, 1931, a total of 16,855 cords were cut, as compared with 5,074 cords the previous year. The quantity purchased amounted to 7,243 cords as compared with 1,748 the previous year. The cordage delivered to civic buildings and departments reached a total of 13,016 as compared with 4,378 the previous year.

Cutting of cordwood increased	332 %
Purchases increased	414 %
Deliveries increased	278 %

A surplus of \$5,077.84 was created during the year.

MISCELLANEOUS

During the year three employees of the Division retired on pension. In conclusion I again 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 and
Scavenging Division.

GARBAGE COLLECTION—1931

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.....	995	2,946,840	105	262,590	44	115,790	1144	3,325,220
Feb.....	899	2,697,810	88	223,400	36	98,890	1023	3,020,100
Mar.....	975	2,968,800	100	253,300	41	113,170	1116	3,335,270
April.....	985	3,634,580	100	277,540	37	125,990	1122	4,038,110
May.....	965	3,762,220	101	304,250	42	151,140	1108	4,217,610
June.....	987	4,036,310	112	338,550	46	179,990	1145	4,584,850
July.....	1027	4,490,970	113	364,780	54	213,150	1194	5,068,900
Aug.....	970	4,067,940	114	367,450	50	207,230	1134	4,642,620
Sept.....	994	4,758,570	120	403,030	43	188,390	1157	5,349,990
Oct.....	1008	4,205,130	114	357,000	44	161,610	1166	4,723,740
Nov.....	942	3,419,400	101	280,150	43	137,020	1086	3,836,570
Dec.....	1054	3,467,320	113	306,940	49	181,490	1216	3,955,750
	11801	44,485,890	1,281	3,738,980	529	1,873,860	13611	50,098,730

Table Showing Average Weight Per Load

	Number of Loads	Total Weight	Average Wgt. per Load (Lbs.)
Trucks and Trailers.....	11,801	44,485,890	3761
City Teams and Singles.....	1,281	3,738,980	2911
Hired Teams.....	529	1,873,860	3542
	13,611	50,098,730	3674

Table Showing Percentage of Collection by Units

	Weight (Lbs.)	Percentage of Total Weight
Trucks and Trailers.....	44,485,890	88.8%
City Teams and Singles.....	3,738,980	7.4%
Hired Teams.....	1,873,860	3.8%
	50,098,730	100.0%

COLLECTION OF INCOMBUSTIBLE REFUSE—1931

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.....	275	711,510	193	398,830	88	428,060	556	1,538,400
Feb.....	273	763,470	88	223,400	31	76,460	392	1,063,330
Mar.....	261	646,430	229	466,620	32	81,870	522	1,194,920
April.....	543	1,521,620	272	525,940	858	2,562,020	1673	4,609,580
May.....	760	2,363,070	337	806,320	923	2,819,780	2020	5,989,170
June.....	931	2,702,411	318	731,440	898	2,801,030	2147	6,234,881
July.....	814	2,394,970	154	331,590	50	187,030	1018	2,913,590
Aug.....	826	2,231,800	135	331,900	49	171,460	1010	2,735,160
Sept.....	761	2,094,600	192	420,520	42	180,990	995	2,696,110
Oct.....	931	2,084,440	179	418,950	110	460,300	1220	2,963,690
Nov.....	766	2,206,840	183	418,410	106	376,270	1055	3,001,520
Dec.....	354	908,570	140	305,750	45	136,990	539	1,351,310
	7495	20,629,731	2420	5,379,670	3232	10,282,260	13147	36,291,661

Table Showing Average Weight Per Load

	Number of Loads	Total Weight Lbs.	Average Wgt. per Load Lbs.
Trucks and Trailers.....	7,495	20,629,731	2,752
City Teams and Singles.....	2,420	5,379,670	2,223
Hired Teams.....	3,232	10,282,260	3,181
	13,147	36,291,661	2,715

Table Showing Percentage of Collection Units

	Weight Lbs.	Percentage of Total Weight
Trucks and Trailers.....	20,629,731	57.0%
City Teams and Singles.....	5,379,670	14.8%
Hired Teams.....	10,282,260	28.2%
	36,291,661	100.0%

ELMWOOD INCINERATOR OPERATIONS—1931

Month	City Garbage		Private Garbage		Animals		Total	Revenue Earned	
	No. Lds.	Weight	No. Lds.	Weight	No.	Weight	Weight	\$	c.
Jan.....	483	1,378,740	30	66,270	1	960	1,445,970	\$	52.51
Feb.....	428	1,245,530	32	50,030	.....	.....	1,295,560		39.87
Mar.....	469	1,364,860	31	51,030	.....	.....	1,415,890		28.47
April.....	400	1,493,740	40	59,820	.....	.....	1,553,560		59.70
May.....	465	1,790,300	74	145,930	.....	.....	1,936,230		244.69
June.....	478	2,152,100	86	137,190	2	1,900	2,291,190		228.78
July.....	493	2,167,160	87	133,780	1	100	2,301,040		210.28
Aug.....	467	2,063,610	64	91,860	.....	.....	2,155,470		133.22
Sept.....	475	2,322,800	67	100,100	1	1,210	2,424,110		145.28
Oct.....	533	2,234,310	60	104,050	1	1,390	2,339,750		154.56
Nov.....	505	1,806,680	63	111,980	.....	.....	1,918,660		173.18
Dec.....	500	1,559,650	38	54,990	.....	.....	1,614,640		57.83
	5696	21,579,480	672	1,107,030	6	5,560	22,692,070	\$1,528.	37

SASKATCHEWAN AVENUE INCINERATOR OPERATION—1931

Month	City Garbage		Private Garbage		Animals		Total	Revenue Earned		
	No. Lds.	Weight	No. Lds.	Weight	No.	Weight	Weight	\$	c.	
Jan.....	663	1,946,480	204	171,728	.....	.....	2,118,208	\$	131.48
Feb.....	595	1,774,570	174	140,030	.....	.....	1,914,600		131.27
Mar.....	647	1,970,410	192	161,170	.....	.....	2,131,580		108.00
April.....	722	2,544,370	250	234,970	.....	.....	2,779,340		226.90
May.....	643	2,428,110	211	179,910	.....	.....	2,608,020		166.88
June.....	667	2,632,740	253	230,200	.....	.....	2,862,940		214.85
July.....	701	2,901,620	247	235,820	.....	.....	3,137,440		203.25
Aug.....	669	2,578,980	265	318,030	.....	.....	2,897,010		258.75
Sept.....	682	3,027,710	203	157,070	.....	.....	3,184,780		98.30
Oct.....	633	2,489,430	186	139,790	.....	.....	2,629,220		79.65
Nov.....	581	2,029,890	166	117,020	.....	.....	2,146,910		67.95
Dec.....	716	2,376,090	161	115,160	.....	.....	2,491,250		67.15
	7919	28,700,400	2512	2,200,898	.....	.....	30,901,298	\$1,754.	43
	Sale of Steam.....								1,200.	00
									\$2,954.	43

**REPORT OF REFUSE DEPOSITED ON ELMWOOD NUISANCE GROUND
1931**

Month	Tins Hauled by City		Ashes Hauled by City		Street Sweepings		Privately Hauled Refuse		Combined Totals	
	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight
Jan.....	235	812,680	424	2,809,550	.....	.....	203	713,450	862	4,335,680
Feb.....	181	526,090	363	2,197,130	.....	.....	189	627,690	733	3,350,910
Mar.....	160	432,380	148	867,650	112	707,480	185	590,860	605	2,598,370
April.....	500	1,426,400	304	1,652,470	776	4,787,530	206	697,330	1786	8,563,730
May.....	784	2,513,080	64	272,570	106	728,370	213	716,790	1167	4,230,810
June.....	608	1,863,420	48	1,719,940	87	433,520	224	749,240	967	3,218,120
July.....	557	1,779,730	62	236,260	130	716,610	188	625,420	937	3,358,020
Aug.....	291	909,730	46	145,920	104	401,130	204	644,990	645	2,101,770
Sept.....	302	995,830	44	145,100	91	548,320	191	636,990	628	2,326,240
Oct.....	303	979,350	49	159,360	152	899,280	216	692,870	720	2,730,860
Nov.....	269	836,790	56	227,620	36	216,810	193	614,770	554	1,895,990
Dec.....	163	490,380	222	1,371,580	.....	.....	180	586,170	565	2,448,130
	4353	13,565,860	1830	10,257,150	1594	9,439,050	2392	7,896,570	10169	41,158,630

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

Month	Tins Hauled by City		Ashes Hauled by City		Street Sweepings		Privately Hauled Refuse		Combined Totals	
	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight	No. Lds.	Weight
Jan.....	321	725,720	321	2,025,000	.....	.....	337	1,271,470	979	4,022,190
Feb.....	314	681,000	214	1,296,000	.....	.....	391	1,275,540	919	3,252,540
Mar.....	362	762,540	122	618,700	.....	.....	270	891,020	754	2,272,260
April.....	1173	2,955,180	316	1,983,100	.....	.....	424	1,428,990	1913	6,667,270
May.....	1236	3,476,090	233	1,317,500	.....	.....	352	899,440	1821	5,693,030
June.....	1485	4,099,521	220	1,354,350	.....	.....	396	1,041,000	2101	6,494,871
July.....	450	1,100,720	147	718,500	.....	.....	473	1,065,840	1070	2,885,060
Aug.....	681	1,691,210	146	784,600	.....	.....	364	941,100	1191	3,416,910
Sept.....	693	1,677,710	187	992,750	.....	.....	287	770,350	1167	3,440,810
Oct.....	698	1,806,180	184	1,030,800	.....	.....	306	844,410	1188	3,681,390
Nov.....	682	1,723,220	230	1,205,600	.....	.....	316	858,620	1228	3,787,440
Dec.....	366	835,830	663	3,194,300	.....	.....	267	695,810	1296	4,725,940
	8461	21,534,921	2983	16,521,200	.....	.....	4183	11,983,590	15627	50,039,711

MISCELLANEOUS DATA

Month	Cubic Yards of Street Sweepings Collected	Cubic Yards of Ashes Collected	Gallons of Water Used in Flushing Streets
January.....	.....	15,016	.....
February.....	.....	11,190	.....
March.....	723	8,908	.....
April.....	6,155	17,474	.....
May.....	2,374	2,420	.....
June.....	2,308	609	348,331
July.....	2,097	260	837,209
August.....	2,094	63	767,365
September.....	2,359	22	418,145
October.....	4,286	304	.....
November.....	1,735	2,520	.....
December.....	.....	7,929	.....
	24,131	66,715	2,371,050

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
1930.....	13,557	45,814,030
1931.....	13,611	50,098,730

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
1930.....	11,396	33,189,930
1931.....	13,147	36,291,661

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
1930.....	24,212	108,954,000
1931.....	22,235	100,057,500

Report of Public Baths Superintendent, 1931

Dr. A. J. Douglas,
Medical Health Officer.

Dear Sir:

I have the honor to submit herewith a report on the Public Baths for the year 1931.

SHERBROOK STREET BATHS

The Sherbrook Street Baths were opened for inspection on February 28th, 1931, at 2 p.m., by His Worship Mayor Webb. Over three thousand people visited the Baths, every available seat in the balcony (which accommodates 700) being occupied. Those who could not obtain a seat in the balcony moved through the other portions of the building inspecting the plant. On March 2nd, 1931, the Baths were opened for use by the general public and during the ten months following (ending December 31st, 1931) the attendance was as follows:

Women	Girls	Men	Boys	Slipper Baths	Playground Children	Total
33,062	15,743	53,652	30,949	350	5,905	139,661

The above paid for admission as follows: Adults, 15c; Children, 5c; Slipper Baths, 25c; Playground Children, 4c (paid for by Playground Commission); also 50 unemployed men from Grace Church were admitted to the Baths free in accordance with instructions of the Committee on Health.

There were four successful Galas held at Sherbrook Street Baths during 1931:

- Canadian Amateur Swimming Club, in April.
- Canadian Amateur Swimming Club, in May.
- Women's Amateur Swimming Club, in October.
- Victoria Ladies' Swimming Club, in December.

The Gala in May was sponsored by the Canadian Amateur Swimming Association for Helene Madison, the world's greatest lady swimmer, who visited Winnipeg at that time to give an exhibition of her ability.

Mrs. Harrison's Water Babies have been very active during the past year, having given exhibitions at all Galas. There are 85 small children, ranging from 3 to 14 years. When they feel they are too big for Water Babies they graduate to the Water Nymphs. I might state that most of these children are qualified for Life-saving and have their Certificate

(Elementary) for life-saving. There were several life-saving classes conducted by Mrs. Harrison during the past year; sixty men and women passed their test for Proficiency and Bronze Medallion; and for the Award of Merit ten men and eight girls passed.

PRITCHARD BATHS

The Pritchard Baths were closed on October 15th, 1931, for repairs during the winter months, and opened on May 15th, 1932. I might state that we have had filters transferred from the old Cornish Baths to the Pritchard Baths. A chlorinator has also been installed. The interior of the building was decorated and new glass placed in the windows around the swimming pool, which has made a marked improvement.

Three life-saving classes were conducted at the Pritchard Baths by Mrs. Harrison during the past year. All candidates were successful in receiving their awards, Proficiency Certificates, Bronze Medallions and Award of Merit.

During the ten and a half months the Baths were opened in 1931, the attendance was as follows:

Women	Girls	Men	Boys	Playground Children	Total
6,377	3,477	30,937	14,666	7,824	63,279

The above paid for admission as follows: Adults, 10c; Children, 5c; Playground Children (paid for by Playgrounds Commission), 4c; there were also about 500 unemployed returned soldiers allowed free bathing during 1931.

Yours obediently,

G. A. HARRISON,

Superintendent, Public Baths.

