Annual report of the Department of Health, Ontario, Canada.

DEPARTMENT OF HEALTH

Thirteenth Annual Report

OF THE

Department of Health

Ontario, Canada

FOR THE YEAR

1937

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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SESSIONAL PAPER No. 14, 1938

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To The Honourable Albert Matthews, LL.D.,

Lieutenant-Governor of the Province of Ontario.

May It Please Your Honour:

I herewith beg to present for your consideration the Thirteenth Annual Report of the Department of Health, for the year 1937.

Respectfully submitted,

Harold J. Kirby,

Minister of Health.

To The Honourable Harold J. Kirby, K.C.,
Minister of Health.

Sir,—I have the honour to submit for your approval the Thirteenth Annual Report of the Department of Health, made in conformity with and under the provisions of The Public Health Act, for the year 1937.

I have the honour to be, Sir,

Your obedient servant,

B. T. McGhie,
Deputy Minister of Health.

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DEPARTMENT OF HEALTH

Minister

HONOURABLE HAROLD J. KIRBY, K.C.

Deputy Minister

B. T. McGHIE, M.D.

Chief Medical Officer of Health

JOHN T. PHAIR, M.B., D.P.H.

Solicitor's Branch

K. G. GRAY, M.D. ..... Solicitor to the Department

Child Hygiene and Public Health Nursing

John T. Phair, M.B., D.P.H. ..... Director
Edna L. Moore, Reg. N. ..... Chief Public Health Nurse

Preventable Diseases Branch

A. L. McKay, B.A., M.B., D.P.H. ..... Director and Epidemiologist
R. P. Hardman, M.D., D.P.H. ..... Associate Epidemiologist

Tuberculosis Prevention Branch

G. C. Brink, M.B. ..... Director
K. M. Shorey, M.B. ..... Clinical Specialist
G. W. Cragg, M.B. ..... Clinical Specialist
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A. A. Powers, M.D., Physician in Charge, Travelling Chest Clinic ..... Ottawa
G. G. Brearley, M.D., Physician in Charge, Travelling Chest Clinic ..... Belleville
J. W. Smith, M.D., Physician in Charge, Travelling Chest Clinic ..... Fort William
G. B. Lane, M.D., Physician in Charge, Travelling Chest Clinic ..... Timmins

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O. V. Ball, B.A.Sc. ..... Assistant Sanitary Engineer
G. A. H. Burn, B.A.Sc. ..... Assistant Sanitary Engineer
E. W. Johnston, B.A.Sc. ..... Assistant Sanitary Engineer
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G. M. Galimbert, B.A.Sc. ..... Assistant Sanitary Engineer
W. R. Edmonds, M.A.Sc. ..... Assistant Sanitary Engineer
L. A. Kay, M.A.Sc. ..... Assistant Sanitary Engineer
J. G. Duncan, B.A.Sc. ..... Assistant Chemist
H. G. Tyler ..... Sanitary Investigator

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A. R. Bonham, B.A.Sc., F.C.I.C. ..... Chemist
Wallace McClure, M.B., D.P.H. ..... Bacteriologist
A. D. McClure, B.A. ..... Bacteriologist
J. E. Bates, B.A., M.B. ..... Pathologist
J. E. Fasken, B.A.Sc. ..... Assistant Chemist

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A. J. Slack, Ph.C., M.D., D.P.H., Director.....London
James Miller, M.D., F.R.C.S. (Edin.), Director.....Kingston
J. W. Bell, M.B., Director.....Fort William
N. F. W. Graham, M.B., Director.....Sault Ste. Marie
W. M. Wilson, M.D., Director.....North Bay
C. B. Waite, M.B., Director.....Peterborough
F. L. Letts, M.B., D.P.H., Director.....Ottawa

Industrial Hygiene Branch

J. G. Cunningham, B.A., M.B., D.P.H.....Director
A. R. Riddell, B.A., M.B., D.P.H.....Clinical Specialist
F. M. R. Bulmer, M.B., B.Sc., Med.....Special Research
H. E. Rothwell, B.A.Sc., F.C.I.C.....Chemist
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L. B. Leppard, M.A., Ph.D.....Physicist
D. McKee.....Chief Sanitary Inspector
J. Richardson, Sanitary Inspector.....North Bay
John Sime, A.R., San. I.....Fort William
R. B. McCauley, Sanitary Inspector.....Sault Ste. Marie
Hugh McIntyre, A.R. San. I.....Kirkland Lake
A. S. O'Hara, M.R. San.I., C.S.I. (C.) A.M.I.S.E.....Kenora
Sydney Harris, Sanitary Inspector.....Geraldton

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A. M. Munn, Reg. N.....Director
E. R. Dick, Reg.N.....Inspector of Training School for Nurses
E. A. Rothery, Reg.N.....Inspector of Nursing, Provincial Hospitals

Dental Services Branch

W. G. Thompson, D.D.S.....Director

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Mary Power, B.A.....Director

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A. Hardisty Sellers, B.A., M.D., D.P.H.....Medical Statistician

Library

Fredrita Henley Wright.....Librarian

Honourary Consultants

Public Health Administration..... J. G. Fitzgerald, M.D., F.R.S.C.
Pediatrics..... Alan Brown, B.A., M.B.
Obstetrics.....William B. Hendry, M.B., D.S.O.
Deantal Services.....Harold Keith Box, D.D.S.
Pathology.....Oskar Klotz, M.B., F.R.S.C.
Public Health Nursing.....Miss Elizabeth Smellie, C.B.E., Reg.N.

ANNUAL REPORT

of the

Department of Health

For the Calendar Year Ending December 31st, 1937

While the annual report of the Department of Health for the calendar year 1937 is, in the main, a consummation of anticipated progress, the unfortunate highlight of the year was the tragic outbreak of Anterior Poliomyelitis which swept through the south-western, central and extreme eastern portions of the province, during the months of August, September and October. Anticipating a probable material increase in the normal incidence rate of this disease, the Department during the early summer did concern itself with possible control measures. The previous experience with this disease in Ontario did not, however, warrant the presumption that the epidemic would reach the proportion which it did. I believe I am justified in saying, however, that once conscious of the widespread nature of the outbreak, the Department, ably supported by the Adminstration, did everything that special knowledge and administrative ingenuity could devise. Even in a brief statement like this, reference must be made to two of the many items in the list of services rendered by the Department, namely, the consultant service offered the physicians of the affected areas and the attempt to lessen permanent crippling by making gratuitously available, splints, hospitalization of the paralyzed and the professional advice of the orthopaedic surgeons of the province.

The Department's efforts to further lessen the prevalence of tuberculosis were continued. The clinic service was further extended, two additional clinic centres being opened and needed accommodation was made available by additions to five of the existing sanatoria. Substantial grants towards the cost of these additions were made by the Government.

There has been an increased response to the Department's generous offer of financial assistance to the municipalities which are not served by clinics for the treatment of venereal disease. The plan initiated in 1936, whereby the Department reimbursed the municipality to the extent of 50 per cent. of its expenditure in the treatment of those suffering from this disease, has been a manifest stimulus to the smaller centres to supply the necessary treatment for those unable to secure it for themselves.

The activities of the various divisions of the Department follow in detail.

REPORT OF THE SOLICITOR

K. G. GRAY, M.D., *Solicitor to the Department*

Much of the legal work in the Department is in the nature of opinion, either verbal or in writing, relating to some matter within the various divisions of the Department of Health, or to the local boards of health, medical officers, municipal officials, public hospitals and sanatoria. More than 2,000 written requests for legal advice were received and answered during the year.

The admission of patients to Ontario Hospitals brings legal problems as well as medical. The legality of the admission may need consideration. The patient may be charged with, or convicted of, some criminal offence. The collection of maintenance charges becomes, at times, a legal issue.

One application for a writ of *habeas corpus* for the liberation of a patient in an Ontario Hospital was defended: the writ was refused by the Court. A former patient brought an action for wrongful detention against four doctors concerned: this was defended by the Department, and the action was dismissed. Four applications were made to County Court Judges under section 72 of The Mental Hospitals Act. These applications were made for judgments against creditors who refused or neglected to pay maintenance charges owing to Ontario Hospitals. The order was granted to the Department in every case. One defendant appealed to the Court of Appeal, but the appeal was dismissed. The only legal services employed outside the Department, in the foregoing litigation was for some of the applications in country courts.

Legislation passed by the Legislative Assembly in the Session held in the first year of the reign of His Majesty King George VI, affecting statutes administered by the Department of Health, includes the following:

1. *The Public Health Amendment Act, 1937*, c.65.
2. *The Pharmacy Amendment Act, 1937*, c.56.
3. *The Mental Hospitals Act, 1935*, amended by The Statute Law Amendment Act, 1937, c.72, s.36.
4. *The Private Sanitarium Act*, amended by The Statute Law Amendment Act, 1937, c.72, s.45.
5. *The Venereal Disease Prevention Act*, amended by The Statute Law Amendment Act, 1937, c.72, s.68.

The following regulations and amendments to regulations were approved by the Lieutenant-Governor in Council on the recommendation of the Minister of Health.

Regulations under:

The Public Hospitals Act.

The Mental Hospitals Act.

The Embalmers and Funeral Directors Act.

The Sanatoria for Consumptives Act.

The Cemetery Act.

Regulations for the Control of Communicable Diseases.
Regulations for the Control of Tuberculosis.
Regulations for the use of Hydrocyanic Acid or Cyanide Compounds for Fumigation.

An Order-in-Council was passed "For preventing or mitigating an outbreak of anterior poliomyelitis."

By Order-in-Council approved the 17th day of December, 1937, the administration of The Optometry Act was transferred to the Department of Health.

Two lectures were delivered at the Police Training School in November. Weekly lectures were given at the Department of Law, University of Toronto, during November and December. A course in Medical Jurisprudence was given to the fifth year medical students at the University, also during November and December, 1937.

The following papers were written and published:

"Legal Responsibility of a Medical Officer of Health"	Canadian Public Health Journal, May, 1937.
"What Constitutes an Indigent Patient"	The Canadian Hospital, February, 1937.
"The Mental Examination of Prisoners"	The Canadian Bar Review, May, 1937.

Book Review:

"Keeping Your Child Normal"	American Journal of Psychiatry, March, 1937.

Copy of an Order-in-Council approved by the Honourable, the Lieutenant-Governor, dated the 31st day of March, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to the provisions of *The Public Hospitals Act*, 1931, c.78, the attached regulations for public hospitals be approved by Your Honour.

Certified.

C. F. BULMER,
Clerk, Executive Council.

Regulations under The Public Hospitals Act

REGULATIONS *passed by the Lieutenant-Governor-in-Council upon the recommendation of the Minister of Health, pursuant to The Public Hospitals Act, 1931.*

MANAGEMENT AND OPERATION

BOARD

1. (1) Every hospital shall be governed and managed by a board appointed or elected in accordance with the provisions of the authority whereby the hospital is established.

PRESIDENT OF MEDICAL STAFF

(2) The president of the medical staff of the hospital shall be *ex officio* a member of the Board.

Powers of Board

(3) The board shall have power to govern, manage and operate the hospital and shall be responsible for the due observance and enforcement of the Act, the regulations, and the by-laws.

Superintendent

2. (1) The superintendent of a hospital shall be responsible to the board for the due observance and enforcement of the Act, the regulations, and the by-laws, and he shall be the officer representing the hospital with whom the Minister, the inspector and the other officers of the Department shall ordinarily deal with regard to hospital matters.

Powers of Superintendent

(2) Subject to the by-laws and directions of the board, the superintendent shall have control over the admission, discharge and accommodation to be furnished to patients.

Duty to Notify Relatives

(3) Where, in the opinion of the medical practitioner attending a patient, the condition of such patient makes it advisable for the relatives of the patient or any other persons to be present in the hospital, the superintendent shall be responsible for the notification of such relatives or other persons of the patient's condition.

Bylaws

3. Every board shall pass by-laws for the purpose of carrying out the provisions of the Act and the regulations, and unless the Lieutenant-Governor-in-Council otherwise directs, the by-laws of every board shall provide for,—

(*a*) the appointment of and prescribe the functions of the superintendent;
(*b*) the appointment of and prescribe the functions of a medical and surgical advisory board and a medical and surgical staff (referred to in these regulations as the "medical staff");
(*c*) the appointment of and prescribe the functions of a nursing staff;
(*d*) the establishment of an administrative and accounting system; and
(*e*) the appointment of an auditor.

INSPECTION

Inspector

4. (1) The inspector shall perform the duties assigned to him by the Minister and Deputy Minister and shall have power with respect to any hospital to,—

(*a*) administer and enforce the Act and the regulations ;
(*b*) inspect and make inquiries regarding the premises, management and operation;
(*c*) require that returns, reports, statements and other information relating to the hospital be furnished to him or to the Minister, periodically or otherwise, by the superintendent or any other officer or member of the staff of the hospital;
(*d*) collect and compile such information and make such reports, returns and statements as the Minister may require;
(*e*) examine and audit books, accounts, records and funds, and, where necessary, remove them into the custody of the Department;
(*f*) investigate the financial condition of any person who is an indigent patient and require information with respect to the financial condition of such person to be furnished to him by any person in possession of such information;
(*g*) investigate any matter affecting a hospital or hospitals in general and require information with respect to any such matter to be furnished to him by any person in possession of such information.

Returns to be sent to Inspector

5. Every application, report, return, statement or other written communication required to be made or furnished to the Minister, Deputy Minister, inspector or department under the Act or these regulations shall be sent to the Inspector of Hospitals, Department of Health, Parliament Buildings, Toronto.

ESTABLISHMENT—ALTERATION

Application for Approval of Establishment.

6. (1) Every application for the approval by the Lieutenant-Governor in Council of the creation, establishment, incorporation, operation or use as a hospital of any institution, building or other premises or place shall be in writing and shall be forwarded to the inspector together with such plans, drawings, specifications, particulars and other information as the Minister may require.

Enlarging or Remodeling

(2) No hospital shall be altered by enlarging or remodeling unless the Minister has given his approval in writing, and every application therefor shall be made in writing and shall be forwarded to the inspector together with such plans, drawings, specifications, particulars and other information as the Minister may require.

Application of 1936, c. 26

(3) Every contract for the construction, remodeling, renewal, repair or demolition of a hospital shall comply with the provisions of *The Government Contracts Hours and Wages Act, 1936*.

FIRE PRECAUTIONS

Fire Control

7. In every hospital, there shall be a system of fire control and provision for fire extinguishment.

Fire Alarm System

8. Unless exempted by the Minister, every hospital shall be equipped with an electrically or manually operated fire alarm system so installed as to effectively attract the attention of persons in every part of the hospital except those portions which the Minister may exclude from the provisions of this subsection.

Instruction to Nurses and Employees

9. The superintendent shall cause the nurses and employees of the hospital to be instructed as to the location and operation of fire-fighting equipment.

Instruction in Case of Alarm

10. The superintendent of every hospital shall cause all nurses and employees to be regularly instructed and trained in their duties in case of a fire alarm, particularly with respect to the handling of mattresses and stretchers and the removal of patients from the hospital.

Stretchers

11. Such stretchers as may be required for the removal of patients from the hospital in case of fire or other emergency shall be kept in convenient locations in the hospital.

Egress

12. In every hospital there shall be at least two independent means of egress from every floor and from every separate section of a floor.

Exit Facilities

13. In every hospital all exit facilities and fire escapes shall be of a type suitable for the removal of patients in case of fire and shall be so lighted that they may be used with safety at night.

X-Ray Films

14. Nitrocellulose X-ray films shall not be used or stored in the hospital, provided that such quantity of films as may be necessary for current reference may be kept within the hospital in a fire-proof container.

Tenting

15. In every hospital, sheets used for tenting in steaming treatments shall be so treated that they will not burn with a flame.

Hose

16. Where possible, every hospital shall be equipped with sufficient standpipes and hose to permit of effective fire fighting in any part of the hospital, including the basement, without using hose of a greater length than seventy-five feet, and shall also be equipped with sufficient chemical or other hand-operated fire extinguishers to afford ample protection against an incipient fire in any part of the hospital.

Inspection for Fire Hazard

17. The superintendent shall charge the engineer or some other qualified person with the inspection of the hospital at least once each month and such person shall submit to the superintendent on forms prescribed by the Minister, a written report on conditions pertaining to fire hazard, fire-fighting equipment and facilities and provisions for the removal of patients in case of fire or other emergency, and such reports shall be kept on fyle by the superintendent for a period of not less than two years.

EQUIPMENT

18. Every hospital shall be furnished and equipped in a manner and to a degree consonant with the character of and the hospitalization service carried on by the hospital.

ISOLATION

Communicable Disease Suspect

19. (1) Every hospital shall provide suitable accommodation for the temporary isolation of patients suspected of suffering from a communicable disease until a proper diagnosis can be made.

Isolation of Patient

(2) When a patient is found to be suffering from a communicable disease, immediate steps shall be taken to isolate such patient to prevent the spread of the disease.

Compliance with 7 to 19

20. Compliance with the provisions of regulations 7 to 19 shall be to the satisfaction of the Minister.

NURSING STAFF

Number of Nurses

21. Every hospital shall employ a sufficient number of registered nurses so that at least one registered nurse shall be on duty at all times.

PATIENT'S REGISTER

Register

22. Every hospital shall keep a register of patients in the form prescribed by the Minister.

Index Number

23. (1) An index number shall be issued to every patient upon his admission to the hospital, such numbers to be issued in numerical order, and all records pertaining to a patient shall be indicated by such number followed by the final two digits of the hospital year for which the number is issued.

Commencement of Numbers

(2) The index numbers shall commence with number one at the beginning of each hospital year, provided that a patient remaining in the hodpital at the end of the hospital year shall retain the index number assigned to him upon admission.

Babies

(3) For the purposes of this regulation, a baby born in a hospital shall be deemed to be an admitted patient.

RECORDS AND RETURNS

Members of Board

24. Every superintendent shall furnish to the Department, not later than the 15th day of October in each year, a statement of the names and addresses of the members of the board and the officers thereof, and shall give written notice to the Minister of any change therein forthwith upon its occurrence.

System Subject to Approval

25. The system and forms of books, accounting and other records shall be subject to the approval of the Minister.

Death from Pregnancy

26. The superintendent shall within twenty-four hours of any death occurring in the hospital as a direct or indirect result of pregnancy, forward to the Minister a report of such death on the prescribed form.

STAFF MEETING

Meeting of Medical Staff

27. (1) The superintendent of every hospital shall call a meeting of the medical staff within six weeks after the coming into force of these regulations and shall cause written notice of such meeting to be delivered or mailed to every member of such staff.

Meeting

(2) At such meeting, the members of the medical staff shall by a majority vote,—

(*a*) determine a time and place at which a meeting of such staff shall be held each month;

(*b*) elect a president and secretary;

(*c*) determine the time and place of subsequent annual meetings at each of which a president and secretary shall be elected.

Report of the Work

28. (1) The secretary shall present at each meeting a report of the professional work done in the hospital since the preceding meeting, and shall keep a record of the proceedings at each meeting.

Regular Business

(2) The regular business of the meeting shall include a discussion of the report submitted by the secretary, and there shall be no abstract discussion of a scientific or medical subject until such business has been determined.

Recommendations

(3) The secretary shall present in writing to the superintendent such report and recommendations as the staff by a majority vote may require to have made to the superintendent or to the board.

FEES

Fee Splitting

29. No medical practitioner who is a member of the staff of the hospital shall give to or receive from any practitioner any part of the fees received from a patient unless the division of such fee is clearly indicated on the account rendered the patient.

Fee for Indigent Patient

30. No medical practitioner shall charge any fee for attendance upon any patient for whose treatment the hospital receives any payment from a municipality under section 18 of the Act.

DUTIES IN CASE OF ILLNESS OR ABSENCE

Illness of Staff

31. In the event that any member of the medical staff of a hospital is unable through illness, absence or other cause, to perform his hospital duties, he shall immediately notify the chief of the service in which he is engaged, or the president or secretary of the medical staff, who shall notify the superintendent, and such chief of service, president or secretary shall arrange for the appointment of a substitute to take care of public patients.

Substitute

32. (1) Any medical practitioner who is in charge of the treatment of any private patient shall, in the event that he is unable to fulfil his duties with respect to such patient, arrange for a substitute practitioner and shall so advise the superintendent.

Notifying Relatives

(2) In the event that the superintendent has reason to believe that a medical practitioner is unable by reason of illness, absence or other cause, to fulfil his duties with respect to a private patient, the superintendent shall inform the president or secretary of the medical staff who shall notify the patient or his relatives or his friends.

ADMISSIONS

Consent of Superintendent

33. No person shall be admitted as a patient in any hospital without the consent of the superintendent or person acting in his place.

Dangerous Patient

34. Every medical practitioner who sends any person to a hospital to be admitted as a patient therein shall be responsible for giving such information to the superintendent or person acting in his place as may be necessary to assure the protection of others from any such person who, by reason of any fact, may constitute a danger to other patients.

Rev. Stat. c. 264, s. 9

Note: Attention is drawn to the provisions of Section 9 of *The Venereal Diseases Prevention Act, R.S.O. 1927, c. 264:*

> 9. (1) Every person who, publicly or privately, verbally or in writing, directly or indirectly, states or intimates that any other person has been notified or examined or otherwise dealt with under the provisions of this Act, whether such statement or intimation is or is not true, in addition to any other penalty or liability, shall incur a penalty of $200, and in default of immediate payment shall be imprisoned for a period of not more than three months.
>
> (2) Subsection 1 shall not apply to disclosures made in good faith to a medical officer of health for his information in carrying out the provisions of this Act, nor to any communication or disclosures made to a legally qualified medical practitioner or in the course of consultation for treatment for venereal disease, nor to any communication authorized or required to be made by this Act or the regulations.

Attendance upon Indigent Patient

35. Indigent patients shall be attended by members of the active staff and shall be assigned to the appropriate service or in rotation, if there is no service division.

Non-Indigent Patient

36. Non-indigent patients who have no attending medical practitioner shall be assigned to members of the active staff on service in rotation, but in the case of any patient requiring special care, assignment shall be at the discretion of the chief of service or, if there be no division into service, at the discretion of the president of the medical staff.

LABORATORY

Clinical Laboratory

37. A clinical laboratory shall be provided in the hospital and special examinations which cannot be made in such laboratory shall be referred to a laboratory approved by the Minister and the reports shall become part of the patient's case record.

Tissues Removed at Operation

38. (1) Any tissues or sections of tissues removed at operation or curettage shall be immediately set aside by the surgeon operating and shall be forwarded by the superintendent with a short history of the case and a statement of the findings at the operation to a laboratory approved by the Minister for examination, provided that any tooth, tonsil, frenum, hemorrhoid, finger, toe, hand, foot, arm or leg removed or amputated shall not be so forwarded unless the surgeon desires a special examination.

Pathological Report

(2) The pathological report received from the laboratory shall become part of the patient's case record.

ORDERS FOR TREATMENT

Orders to be in Writing

39. Subject to the provisions of these regulations, all orders for treatment shall be in writing either on the treatment or in the book provided for this purpose and shall be signed by a medical practitioner.

Telephone Orders

40. (1) Telephone orders may be dictated to persons designated by the superintendent.

Record of Orders

(2) Such orders shall be recorded and signed by the person receiving them, with date, time and the name of the medical practitioner giving the order.

Signing Orders

(3) Upon the medical practitioner's next attendance at the hospital any such order shall be signed by him or any medical practitioner authorized by him.

CASE RECORDS

Medical History

41. A medical history, with result of physical examination and provisional diagnosis shall be made in writing within seventy-two hours of the patient's admission to the hospital.

Board Responsible for Record

42. The board of every hospital shall be responsible for the preparation of a complete medical record of every patient, including identification, complaint, present history, family history, physical examination, special reports as reports of consultations, laboratory examinations, X-ray, provisional diagnosis, medical or surgical treatment, pathological findings, progress notes, reports of operations and anaesthesia, final diagnosis, condition on discharge and follow-up records, and in the event of death, a copy of the death certificate, and the board shall require the medical staff, medical internes or clinical clerks of the hospital to prepare such records.

Removal of Record

43. (1) No record which is the property of any hospital shall be removed or inspected nor shall information contained therein be disclosed to any person except upon the order of a court of competent jurisdiction or upon the direction of the inspector.

Copy of Record

(2) The superintendent may issue copies of a patient's record or any part thereof to the superintendent of any other hospital, or to the patient's attending medical practitioner upon a written request signed by such medical practitioner and the patient, or in the event of the death of the patient, upon a written request signed by the medical practitioner.

Use of Record for Teaching

(3) Nothing in this section shall be deemed to prevent the inspection and use of any such record by the medical staff of any hospital for academic or teaching purposes.

OPERATIONS

Consent for Operation

44. No surgical operation shall be performed on any patient in a hospital without the consent in writing signed by the patient or his legally qualified representative, provided that where the patient is unable to give consent and where, in the opinion of the surgeon, delay would endanger the patient's life, such consent shall not be necessary.

Material Required Before Operation

45. A complete history, physical examination and a written pre-operative diagnosis shall be furnished by the operating surgeon or any medical practitioner authorized by him before a patient is submitted to any anaesthetic or surgical operation, provided that where the surgeon is of opinion that the delay occasioned in obtaining such history and examination would be detrimental to the patient, he shall so state in writing and in such event the pre-operative diagnosis shall be furnished in writing and signed by the operating surgeon.

Description of Operation

46. Every operation performed in a hospital shall be fully described in writing by the surgeon or any medical practitioner authorized by him and such written description shall form part of the patient's record.

Record of Anaesthetic

47. Every anaesthetist shall furnish a record showing the type of anaesthetic given, amount used, length of anaesthesia and the condition of the patient following the operation.

Abortion

48. Where a patient is admitted to a hospital in the condition of abortion, or threatening abortion, or where therapeutic abortion is indicated or wherever emptying of the uterus is indicated for whatever reason, two legally qualified medical practitioners shall examine the patient and shall make and sign records of their findings and recommendations before any operative interference is carried out.

Operation on Indigent Patient

49. Before any major operation is performed on any indigent patient, a member of the surgical staff shall be called into consultation and shall record his opinion in writing and such opinion shall form part of the patient's record.

MATERNITY PATIENTS

Puerperal Sepsis

50. (1) The medical practitioner attending any maternity patient shall report to the chief of the obstetrical service, or if there be no division into service, to the superintendent of the hospital the existence or suspected existence of puerperal sepsis or puerperal fever in any such patient.

Isolation

(2) It shall be the duty of the chief of the obstetrical service or, if there be no division into service, it shall be the duty of the superintendent to take such action as will ensure effectual isolation of any such patient.

Nurses

(3) Any nurse having the care or partial care of any such patient shall be excluded from nursing any other obstetrical or surgical patient.

Separate Room

(4) Any maternity patient who is admitted to the hospital in labour or just prior to labour and who shows evidence of being infected shall be treated both before and after delivery in a room separated from other patients, and any nurse having the care or partial care of any such patient shall be excluded from nursing any other obstetrical or surgical patient.

INDIGENT PATIENTS

Critically Ill Indigent Patient

51. A consultation shall be held by two or more members of the active staff on every indigent patient who is critically ill.

Indigent Patient Consultation

52. A consultation shall be held by two or more members of the active staff on every indigent patient remaining in the hospital for more than thirty days, and thereafter at least every three weeks during the entire stay of the patient.

POST MORTEM EXAMINATIONS

Post Mortem Report

53. When a post mortem examination has been performed on the body of any patient, an autopsy report signed by the medical practitioner who has performed such examination shall be fyled in the patient's record by the superintendent of the hospital.

PROVINCIAL AID

Exceptions

54. (1) No provincial aid shall be payable for treatment of any patient admitted to a hospital who at the time of admission,—

(*a*) was not a resident of Ontario;

(*b*) was a ward of the Department of Indian Affairs (Canada);

(*c*) was a person for whose maintenance the Department of Pensions and National Health (Canada) is liable;

(*d*) was a person for whose maintenance the Workmen's Compensation Board is liable;

(*e*) was a person for whose maintenance individual liability is imposed upon under Schedule 2 of *The Workmen's Compensation Act;*

(*f*) was a person for whose maintenance an employer of labour is liable under section 119 of *The Public Health Act* and the regulations passed thereunder.

(2) No provincial aid shall be payable for a patient admitted and discharged on the same day.

Babies

55. Provincial aid payable for treatment of every patient who is a baby of an indigent person, born in a hospital, and whose parent has actually resided in unorganized territory for the period of three months within the five-month period next prior to the birth of such baby shall be at the rate of $1 per day for every day up to fourteen days after birth that such baby is receiving treatment in the hospital.

Person Liable to Deportation

56. Where the inspector, upon investigation, is of the opinion that any patient admitted to a hospital was a person liable to be deported under the immigartion laws of Canada, and that no steps were taken by the superintendent of the hospital to inform the Department of Immigration of the admission of such patient, no provincial aid shall be payable for the treatment of such patient.

CONVALESCENT HOSPITALS

Interpretation

57. In these regulations,—

"Convalescent Patient"

(*a*) "Convalescent patient" shall mean a person recovering from any surgical procedure, from exhaustive illness, from an exacerbation of a chronic debility, or from any infection which results in weakness, emaciation or anaemia, but shall not include patients recovering from any of the acute or chronic communicable diseases, unless it has been shown that such patients are no longer carriers of communicable disease, and shall include—

(i) patients requiring treatment after surgical procedures;

(ii) patients suffering from orthopedic disabilities;

(iii) patients suffering from disabilities as the result of cardio-vascular disease;

(iv) patients requiring treatment for metabolic diseases; and

(v) Patients requiring treatment for chronic non-communicable respiratory diseases;

CONVALESCENT HOSPITAL

(*b*) "Convalescent hospital" shall mean any institution, building, or other premises or place for the treatment of convalescent patients which is under the management and control of, or is affiliated with any institution which is an approved hospital under section 4 of *The Public Hospitals Act, 1931.*

ADMISSION OF PATIENTS

58. Unless the Minister otherwise consents in writing, patients shall be admitted to a convalescent hospital from, and only after a period of treatment in, an approved hospital or the out-patient department of such a hospital.

CIRCUMSTANCES WHERE CONVALESCENT HOSPITALS PART OF PUBLIC HOSPITAL

59. For the purpose of these regulations, except in the matter of provincial aid and municipal liability, a convalescent hospital which is under the management and control of a public hospital shall be deemed a part of such public hospital and a convalescent hospital which is not under the management and control of a public hospital, but is affiliated with a public hospital shall be deemed a public hospital.

HOSPITALS FOR INCURABLES

CERTIFICATE FOR INCURABLE PATIENT

60. No Hospital for incurables shall admit as a patient any indigent person, or the dependant of an indigent person for the charges for whose treatment a municipality may be liable, except upon the written certificate of a legally qualified medical practitioner, according to the prescribed form, that such patient is an incurable person requiring treatment in a hospital for incurables.

DISCHARGE OF INCURABLE PATIENT

61. If upon investigation of the condition of any patient admitted to a hospital for incurables, the inspector obtains the advice in writing of a duly qualified medical practitioner, that such patient no longer requires to be treated in the hospital as an incurable person, he may issue a certificate in writing to such effect, and thereupon provincial aid and municipal liability shall cease in respect of any further treatment of such patient as an incurable person, until the inspector cancels the certificate issued by him hereunder.

COMMENCEMENT OF REGULATIONS

62. These regulations shall come into force on the 1st day of April, A.D., 1937, and shall replace all regulations in force on that date under or by virtue of *The Public Hospitals Act, 1931*, and all such regulations shall be revoked as of such date.

Copy of an Order-in-Council approved by The Honourable the Lieutenant-Governor dated the 10th day of December, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to the provisions of the *Public Health Act, R.S.O. 1927, chapter 262*, the attached amended regulations for the control of communicable diseases, be approved.

Certified,

C. F. BULMER,
Clerk Executive Council.

REGULATIONS FOR THE CONTROL OF COMMUNICABLE DISEASES

REGULATION 1.—Terms used in these regulations are defined as follows·

Carrier. A carrier is a person, who, without symptoms of a communicable disease, harbors and disseminates the specific micro-organisms.

Contact. A "contact" is any person or animal known to have been sufficiently near to an infected person or animal to have been exposed to transfer of infectious material directly, or by articles freshly soiled with such material.

Disinfection. Disinfection shall mean the destroying of pathogenic micro-organisms by chemical or physical means.

Concurrent Disinfection shall mean the application of disinfection during the illness of the patient.

Terminal Disinfection shall mean the application of disinfection after the termination of the period of isolation, and shall include the personal clothing and immediate physical environment of patient.

Delousing. Delousing shall mean the process by which a person and his personal apparel are treated so that neither the adults nor the eggs of *pediculus corporis* or *pediculus capitis* survive.

Isolation. Isolation shall mean the separation of persons having a communicable disease, or, who are carriers of infecting organisms, from other persons in such a manner as will prevent the direct or indirect conveyance of the disease, or infecting organisms to others.

Quarantine. Quarantine shall mean the restriction to their places of residence of persons who have been exposed to a communicable disease for a period of time equal to the incubation period of the disease to which they have been exposed.

Cleaning. Cleaning shall mean the removal by scrubbing and washing as with hot water, soap and washing soda, or organic matter on which and in which bacteria may find favourable conditions for prolonging life and virulence.

Immune. An immune shall mean a person or animal who is not susceptible to infection with a given communicable disease.

Non-Immunes or Susceptibles. A non-immune or susceptible shall mean a person or animal who is not known to be immune to a given communicable disease by natural or artificial process.

REGULATION 2.—Diseases requiring notification and which must be reported to the Medical Officer of Health or Secretary of the Local Board of Health. Sections 48, 49, 53, 55, 56, 61, *Public Health Act (1927)* shall apply to the following communicable diseases:

1. Actinomycosis
2. Anthrax
3. Ancylostomiasis (Hookworm)
4. Botulism
5. Cerebro-Spinal Meningitis (Meningococcus)
6. Chancroid
7. Chickenpox
8. Cholera (Asiatic)
9. Conjunctivitis (Opthalmia neonatorum)
10. Diphtheria
11. Dysentery (Amoebic) (Bacillary)
12. Encephalitis (Lethargica)
13. Erysipelas
14. Gonorrhoea
15. Influenza (Epidemic type)
16. Infectious or Epidemic Jaundice
17. German Measles
18. Glanders
19. Leprosy
20. Malaria
21. Malignant Oedema
22. Measles
23. Mumps
24. Paratyphoid Fever
25. Plague
26. Pneumonia (Acute Lobar) (Bronchial)
27. Poliomyelitis
28. Psittacosis
29. Puerperal Septicaemia
30. Rabies
31. Rocky Mountain Spotted Fever
32. Scarlet Fever
33. Septic Sore Throat (Epidemic Type)
34. Smallpox
35. Syphilis
36. Tetanus
37. Trachoma
38. Trichinosis
39. Tuberculosis
40. Tularaemia
41. Typhoid Fever
42. Typhus Fever
43. Undulant Fever
44. Whooping Cough
45. Yellow Fever

REGULATION 3.—Diseases requiring quarantine and placarding, Sections 48 to 72 inclusive and Rule 33 of Schedule B. of *The Public Health Act* shall apply to the following communicable diseases, and the houses where these diseases exist or wherein communicable disease contacts are residing must be placarded.

1. Plague
2. Cholera
3. Cerebro-Spinal Meningitis (Meningococcus)
4. Diphtheria
5. Leprosy
6. Measles.
7. Poliomyelitis
8. Scarlet Fever
9. Smallpox
10. Typhus Fever
11. Whooping Cough
12. Yellow Fever

REGULATION 4.—A quarantine card must give the name of the disease and in every way conform to Rule 33 of Schedule B. of *The Public Health Act (1927)* as follows:

"The Medical Officer of Health within six hours after he has received notice of the existence in any house of any communicable disease or the presence of any communicable disease contacts in respect of which it is duty to do so, shall affix or cause to be affixed near the entrance of such house, in plain view of the public, a card at least twelve inches wide and nine inches long, stating that such premises are under quarantine on account of such disease and the penalty for removal of such card without the permission of the Medical Officer of Health, and no person shall remove such card without his permission."

For Example:—

12"

9"

These Premises Are

QUARANTINED

On Account of

SMALLPOX

Any person or persons removing this card without the permission of the Medical Officer of Health shall be liable to a penalty of not less than $5 or more than $50 in the discretion of the convicting magistrate, besides costs which may also be inflicted pursuant to the provisions of *The Public Health Act*

By Order of

.....

M.O.H.

The Medical Officer of Health may name upon such card the period of quarantine required.

REGULATION 5.—The Medical Officer of Health of every municipality where a patient is suffering from any of the communicable diseases as set out in Regulation 3 or wherein communicable disease contacts are residing shall forbid any person except the attending physician, health officer, clergyman, nurse, sanitary inspector or in case of death, the undertaker, from going into or leaving the premises without his permission, or the carrying off, or causing to be carried off, any material or article whereby such disease may be conveyed, until after the disease has abated, or quarantine has been lifted, and premises, dwelling, clothing, and other contents have been rendered free from danger, by means of such cleansing and disinfection as the Department of Health may direct, and he shall prescribe the precautions to be taken.

REGULATION 6.—Every doubtful case of communicable disease shall be classed and dealt with as if it were a case of communicable disease until such is disproved.

REGULATION 7.—The Secretary of the local Board of Health must report weekly to the Department of Health all cases and deaths from communicable disease occurring within his municipality upon forms supplied by the Department.

REGULATION 8.—No milk container shall be returned until after the period of quarantine from premises under quarantine which require placard, or from premises in which exists a case or cases of cholera, cerebro-spinal meningitis, diphtheria, leprosy, poliomyelitis, scarlet fever, smallpox, typhoid fever, paratyphoid fever, septic sore throat or dysentery. Before these containers are again put into service they shall be sterilized to the satisfaction of the Medical Officer of Health.

REGULATION 9.—No person from a house in which there is a patient suffering from smallpox, scarlet fever, typhoid fever, paratyphoid fever, septic sore throat, dysentery, asiatic cholera, cerebro-spinal meningitis, leprosy, poliomyelitis or diphtheria shall handle milk, butter or any other dairy product which is to be sold or given for human consumption, or to be delivered to any creamery, butter factory or cheese factory. Milk and dairy products to be distributed from premises in which these communicable diseases exist shall be distributed only under precautions laid down by the Medical Officer of Health.

REGULATION 10.—No typhoid carrier shall engage in the handling of milk, butter, cheese or any other dairy product to be sold for human consumption or delivered to any creamery, butter factory or cheese factory, nor shall he be engaged in the preparation or handling of food which is to be sold or given for human consumption.

REGULATION 11.—In cases of any of the communicable diseases named in Regulation 3, except certain contacts of smallpox and cerebro-spinal meningitis (vide Sections 34 and 5), The Medical Officer of Health may, if he is satisfied of the effectual isolation of the patient or patients, permit those who do not have the direct care of the patient, to leave the premises in order to attend to their regular duties; except when such individuals are employed or in any way engaged in the handling or preparing of food, or are associated with children away from the quarantined house. Such individuals must, if they desire to attend to their regular duties, change their residence in a manner satisfactory to the Medical Officer of Health.

REGULATION 12.—Children, students or teachers in a quarantined house must be excluded from school, college, university or other institution of learning, except when such children, students or teachers change their residence in a manner satisfactory to the Medical Officer of Health. Even after such change of residence they shall not attend such school, college, university or other institution of learning until the period of quarantine for the disease to which they have been exposed has elapsed, excepting as may be provided in specific regulations applicable to certain diseases.

REGULATION 13.—In all communicable diseases where the discharges from the nose and throat or other secretions and excretions of the body are likely to contain the infectious agent of the disease, such discharges must be disposed of as provided for in Regulation 19 (*a*) (*b*) (*c*).

REGULATION 14.—The Medical Officer of Health shall be satisfied that the cleansing and disinfection of any house, building, car, vessel or vehicle or any part thereof and of any articles therein likely to retain infection, are satisfactorily carried out before the quarantine is removed.

REGULATION 15.—No person shall let or hire, cause or permit anyone to occupy premises previously occupied by a person ill of any communicable disease until such premises shall have been cleaned to the satisfaction of the Medical Officer of Health or persons acting under his instructions in accordance with Regulation 21.

REGULATION 16.—Whenever an order or direction of the Medical Officer of Health requiring the disinfection, cleansing or destruction of articles or the cleansing of premises is not complied with, the Medical Officer of Health shall forthwith cause to be placed upon the door of the premises a placard in word and form as follows·

NOTICE

These premises have been occupied by a person affected with.....
..... They must not again be occupied until the orders for cleansing have been complied with. This notice must not be removed under a penalty of $10.

.....M.D.

Place and date. M.O.H.

REGULATION 17.—When any of the communicable diseases named in Regulation 3 exist in any municipality the Department of Health may, with the consent of the Minister, prevent any person or persons from passing to or from such municipality, and may for this purpose prevent the transportation of any person or persons to or from such municipality by means of any boat, vessel, steam, electric or other car, carriage, vehicle or premises. It shall be the duty of the local Board of Health, the Corporation of the Municipality and of every officer thereof to assist in every possible way in carrying out the provisions of this and every Regulation of the Department.

REGULATIONS OF THE DEPARTMENT OF HEALTH IN RESPECT TO BURIALS AND TRANSPORTATION OF THE DEAD

REGULATION 18.—(*a*) Every physician shall report forthwith to the secretary of the local Board of Health, the death from any communicable disease of any person under his care, within twelve hours thereafter.

(*b*) The body of anyone who has died of smallpox, scarlet fever, diphtheria, bubonic plague, cholera, epidemic cerebro-spinal meningitis or epidemic anterior poliomyelitis, shall be interred within 24 hours except as hereinafter provided, and in no case shall exposure of the body be allowed or a public funeral held.

(*c*) The body of any one who has died of smallpox, scarlet fever, diphtheria, bubonic plague, cholera, epidemic cerebro-spinal meningitis or epidemic anterior poliomyelitis shall in no case be transported by railway, boat or other public conveyance, unless such body has been enclosed in an hermetically sealed coffin to the satisfaction of the Medical Officer of Health, whose certificate to this effect shall appear upon the outside of the coffin. The coffin must not subsequently be opened.

(*d*) The body of anyone who has died of any of the aforesaid diseases shall not be disinterred for any reason except by the order of the Attorney-General, unless for the purpose of transportation or re-interment within Ontario, in which case the precautions named in Regulation 17 (*c*) must be complied with under the supervision of and with the consent of the Medical Officer of Health.

(*e*) The body of anyone having died of a disease other than one of those mentioned in Regulation 18 (*b*) may be received for transportation within the province or beyond it. when enclosed in a sound coffin or casket and enclosed in a strong outside wooden box, provided it will reach its destination within seventy-two hours from the time of death. Where transportation cannot be completed within that period, the body shall not be accepted for transportation unless it has been embalmed by a licensed embalmer, or is enclosed in a sealed metal or metal-lined coffin or casket and enclosed in a strong outside wooden box.

REGULATION 19.—(*a*) In the case of diseases in which the infectious agents exist in secretions of the nose, throat or ear, these secretions shall be collected on paper or cloths and burned.

(*b*) In the case of diseases in which the infectious agents exist in discharges from open lesions, these discharges shall be received on dressings which shall be burned.

(*c*) In the case of diseases in which the infectious agents exist in bowel discharges or urine, such discharges shall be treated with a disinfecting agent and disposed of in a sanitary manner, and to the satisfaction of the Medical Officer of Health.

REGULATION 20.—Whenever concurrent disinfection is required in these regulations, the attendant shall take such measures of disinfection immediately after the discharge of infectious material from the body of an infected person or articles soiled with such discharges as shall be required by the Medical Officer of Health. Such attendant shall immediately following the application of concurrent disinfection wash the hands thoroughly with soap and hot water. One of the recognized chemical disinfectants may be added to the water if desired, or at the discretion of the Medical Officer of Health.

REGULATION 21.—Whenever terminal disinfection is required in these regulations, the personal clothing and articles in the immediate physical environment of the patient shall be rendered free from the possibility of conveying the infection to others. Terminal disinfection shall be applied after the termination of the period of isolation.

When measures other than cleansing are ordered by the Medical Officer of Health, such measures shall be carried out by the householder, or in case of inability on the part of the householder to carry out such measures, by the local Board of Health. The expenses incurred shall be at the expense of the municipality, and shall be paid on the order of the local Board of Health.

EXTRACTS FROM PUBLIC HEALTH ACT (R.S.O. CHAP. 262, 1927).

Provisions as to Communicable Disease

Communicable Diseases—Notice by Householder. Section 53.—(1) Whenever any householder knows or has reason to suspect that any person within his family or household, or boarding or lodging with him has any communicable disease, he shall, within twelve hours, give notice thereof to the secretary of the local Board or to the Medical Officer of Health.

How Given. (2) The notice may be given to the secretary or to the Medical Officer of Health at his office, or by letter addressed to either of them and mailed within the time above specified, and the secretary of the local Board shall forthwith transmit to the Medical Officer of Health notice of each case of communicable disease reported to him.

Notice of Communicable Disease to be Included in Weekly Report. (3) Every such notice filed with the Medical Officer of Health shall be transmitted forthwith by him to the secretary of the local Board of Health, and shall be included in the weekly report required to be sent to the Department under Section 22 R.S.O. 1927, c. 262, s. 53.

Who to be Deemed Exposed to Disease. Section 54.—(2) Every person in a house when a communicable disease exists therein, and every person who during the period of quarantine enters such house, shall be deemed to be exposed to the disease.

Report by Physician. Section 55.—(1) Whenever any legally qualified medical practitioner knows, or has reason to suspect, that any person whom he is called upon to visit is infected with any communicable disease, he shall within twelve hours give notice thereof to the Medical Officer of Health of the municipality in which such diseased person is.

Superintendents of Hospitals, etc. (2) This section shall apply to the medical superintendent or person in charge of any general or other hospital in which there is known to him to be a patient suffering from any communicable disease. R.S.O. 1927, c. 262, s. 55.

Reporting Communicable Disease. Rev. Stat. c. 200. (3) The provisions of subsection 1 shall apply to any person registered and practising as a drugless practitioner under the authority of *The Drugless Practitioners Act 1928, c. 45, s. 2.*

Regulation 22.—Under authority conferred by *The Public Health Act (R.S.O. Chapter 262, 1927)* the local Board of Health, and in unorganized territory the Provincial Department of Health, shall be charged with the responsibility of the various measures for the control of communicable diseases. The measures as they apply to the below-mentioned diseases shall be as follows·

ACTINOMYCOSIS

(1) Placard—no.
Isolation of patient—yes.
Quarantine for contacts—no.
Concurrent disinfection—yes—of all discharges from the site of lesions, Regulations 19 (*a*) (*b*) (*c*).
Terminal disinfection—thorough cleansing of quarters occupied by patient.

ANTHRAX

(2) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—no.
Concurrent disinfection—yes—all discharges from the site of the infection and articles soiled therewith. Regulation 19 (*b*).

ANCYLOSTOMIASIS (Hook Worm)

(3) Placard—no.
Isolation of patient—no.
Quarantine for contacts—no.
Concurrent disinfection—disposal of all bowel discharges to prevent contamination of soil and water. Regulation 19 (*c*).
Terminal disinfection—none.

BOTULISM

(4) Placard—no.
Reporting of cases only.

CEREBRO-SPINAL MENINGITIS (Meningococcus)

(5) Every definite or doubtful case of this disease must be classed as cerebro-spinal meningitis and dealt with accordingly until a diagnosis is definitely made.
Placard—yes.
Isolation of patient—yes—until clinical recovery.
Quarantine of all contacts for 10 days after last exposure. Breadwinner may be released in keeping with Regulation 11, at discretion of the Medical Officer of Health.
Concurrent disinfection—burning of all discharges from nose and throat, or articles soiled therewith. Regulation 19 (*a*).
Terminal disinfection—at the termination of quarantine the personal clothing, bedding, together with the contents of the room and the room itself, must be thoroughly cleansed under the direction of the Medical Officer of Health.
No milk container shall be returned from premises quarantined on account of cerebro-spinal meningitis. Regulation 8.

CHANCROID

(6) Special Regulations—Venereal Diseases Prevention Act.

CHICKENPOX

(7) Placard—no.
Isolation of patient—yes—until scales have disappeared and all lesions are healed.
Quarantine for contacts.
Immunes—no.
Non-immunes—at discretion of Medical Officer of Health.
Concurrent disinfection—of articles soiled by discharges from lesions, Regulation 19 (*a*) (*b*).
Terminal disinfection—thorough cleaning of quarters.

CHOLERA

(8) Placard—yes.
Isolation of patient—yes—until clinical recovery and five successive negative stool examinations at 24-hour intervals, and aperients given before first, second, third and fourth examinations and a purge before the final examination.
Quarantine for contacts—until three successive negative stool examinations have been made at 24-hour intervals.
Quarantine—breadwinner—yes.
Teachers—yes.
School children—yes.
Concurrent disinfection—prompt and thorough disinfection of vomitus and stools—before removal from room. Food remnants to be burned. Regulation 19 (*a*) (*b*) (*c*).
Terminal disinfection—Room thoroughly cleaned. No milk container shall be returned from premises under quarantine on account of cholera. Regulation 8.

CONJUNCTIVITIS (OPHTHALMIA NEONATORUM)

(9) Placard—no.

Isolation of patient—yes.

SPECIAL REGULATIONS:

(*a*) Every physician in attendance upon a lying-in woman shall, immediately following the birth, instill into the eyes of the newly-born child, a sufficient quantity (a few drops) of a 1 per cent solution of nitrate of silver (supplied free by the Department of Health), or of a 40 per cent solution of argyrol.

(*b*) If within two weeks after the birth of a child, one or both eyes shall become reddened, inflamed, swollen or show any discharge, every physician, midwife, nurse or person in charge of a maternity or other hospital where such child is, and every person in charge of a child shall forthwith report in writing to the Medical Officer of Health the name, age, and address of such child together with the circumstances of the case.

(*c*) The Medical Officer of Health shall, upon receipt of the report referred to in Regulation (*b*), and if the child is not under the care of a legally qualified physician, direct the parents or whoever has charge of the child, to immediately place it in charge of a legally qualified physician, or if the parents or person in charge are unable to pay the cost of such attendance, the Medical Officer of Health shall provide the necessary treatment at the cost of the municipality.

DIPHTHERIA

(10) A suspected case of diphtheria must be isolated until diagnosis is confirmed or disproved; a clinical case of diphtheria must be isolated even if the results of the laboratory examination are negative. So-called membranous croup for the purpose of these regulations shall be considered as diphtheria.

Placard—yes.

Isolation of patient—yes—in localities where a bacteriological examination is unobtainable, three weeks; if convalescence is complete and no sore throat, nasal or aural discharges remain. Where bacteriological examination is obtainable, ten days from date of onset of a clinical case, if two successive cultures taken from the site of the lesion with not less than a 12-hour interval are shown to the satisfaction of the Medical Officer of Health to be negative. In the case of chronic carriers a negative virulence test shall be required.

Quarantine of contacts—Immunes, non-immunes, breadwinner, school children, teachers, food handlers—all contacts shall be quarantined seven days, or until a negative culture has been obtained from nose and throat of each. The quarantine of cases of diphtheria in institutions, schools or colleges, where the population is resident shall be governed by both clinical and laboratory examinations. See *Public Health Act—s. 72, ss. 5.*

Concurrent disinfection—yes—all articles which have been in contact with patient and all articles soiled by discharges from patient. Regulation 19 (*a*).

Terminal disinfection—yes—prompt cleaning of quarters previously occupied by patient.

No milk container shall be returned from premises quarantined on account of diphtheria. Regulation 8.

DYSENTERY (AMOEBIC) (BACILLARY)

(11) Placard—no.

Isolation of patient—yes.

Quarantine of contacts—none.

Concurrent disinfection—Bowel discharges shall be disposed of in accordance with Regulation 19 (*c*).

Terminal disinfection—thorough cleaning of quarters occupied by patient. No milk container shall be returned from premises in which here exists a case of dysentery. Regulation 8.

ENCEPHALITIS LETHARGICA

(12) Placard—no.
Isolation of patient—yes—until temperature becomes normal.
Quarantine of contacts—none.
Concurrent disinfection—discharges of nose and throat to be destroyed. Regulation 19 (*a*).
Terminal disinfection—thorough cleaning of patient's quarters.

ERYSIPELAS

(13) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—none.
Concurrent disinfection—yes—Regulation 19 (*b*).
Terminal disinfection—thorough cleaning.

GONORRHOEA

(14) Special Regulations—Venereal Diseases Prevention Act.

INFLUENZA (EPIDEMIC TYPE)

(15) Isolation of patient—yes.
Quarantine of contacts—none.
Concurrent disinfection—yes—Regulation 19 (*a*).
Terminal disinfection—cleaning.

INFECTIOUS OR EPIDEMIC JAUNDICE

(16) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—none.
Concurrent disinfection—yes—Regulation 19 (*a*) (*c*)
Terminal disinfection—cleaning.

GERMAN MEASLES

(17) Placard—no.
Isolation of patient—yes—for six days from appearance of rash.
Quarantine of contacts—none.
Concurrent disinfection—yes—Regulation 19 (*a*).
Terminal disinfection—cleaning.

GLANDERS

(18) Placard—no.
Isolation of patient—yes.
Quarantine—none.
Concurrent disinfection—of all discharges. Regulation 19 (*a*) (*b*) (*c*).
Terminal disinfection—thorough cleaning of quarters occupied by patient.

LEPROSY

(19) Placard—yes.
Isolation of patient—until clinical recovery.
Quarantine of contacts—none.
Concurrent disinfection—of all discharges and articles soiled by patient. Regulation 19 (*a*) (*b*) (*c*).
Terminal disinfection—through cleaning of living quarters of the patient.
No milk container shall be returned from premises under quarantine on account of leprosy. Regulation 8.

MALARIA

(20) Placard—no.
Isolation of patient—patient should sleep in screened quarters.
Quarantine of contacts—none.
Concurrent disinfection—none.
Terminal disinfection—none.

MALIGNANT OEDEMA

(21) Reportable only.

MEASLES

(22) Placard—yes.
Isolation of patient—yes—until seven days after the appearance of rash.
Quarantine of contacts—exclusion of non-immunes from school (teachers, students or children) until sixteen days from last exposure.
Immunes—no restrictions if satisfactory proof is shown to the Medical Officer of Health of previous attack.
Concurrent disinfection—of all discharges from nose, throat and ear. Regulation 19 (*a*).
Terminal disinfection—cleaning.

MUMPS

(23) Placard—no.
Isolation of patient—yes—until sixteen days from onset if all swelling has subsided.
Quarantine of contacts—none.
Concurrent disinfection—discharges from nose and throat. Regulation 19 (*a*).
Terminal disinfection—none.

PARATYPHOID FEVER

(24) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—none, except no one from household in which exists a case of paratyphoid fever shall engage in the production or handling of milk. Regulation 9.
Concurrent disinfection—yes—bowel and urinary discharges. Regulation 19 (*c*).
Terminal disinfection—thorough cleaning.
No milk container shall be returned from premises in which a case of paratyphoid fever exists. Regulation 8.

PLAGUE

(25) Placard—yes.

Isolation of patient—yes—until clinical recovery.

Quarantine of contacts—14 days.

Concurrent disinfection—all discharges and articles soiled by patient. Regulation 19 (*a*) (*b*) (*c*).

Terminal disinfection—thorough cleaning of quarters occupied by patient and extermination of vermin.

PNEUMONIA

(26) Reportable only.

Placard—no.

Isolation of patient—yes.

Quarantine of contacts—no.

Concurrent disinfection—all discharges and articles soiled by patient. Regulation 19 (*a*).

Terminal disinfection—thorough cleaning of quarters.

POLIOMYELITIS

(27) Placard—yes.

Isolation of patient—yes—until three weeks after onset, provided that patient's temperature is normal.

Quarantine for contacts—ten days.

IMMUNES—may be released because of a previous attack if satisfactory proof is shown to the Medical Officer of Health. NON-IMMUNES (school children and teachers) shall be excluded from school.

No milk container from premises under quarantine on account of poliomyelitis shall be returned to any dairy or milk vendor. Regulation 8.

No person from a house in which a patient is suffering from poliomyelitis shall handle milk, butter, cheese or any dairy product which is to be sold or given to any party or delivered to any creamery, butter factory or cheese factory. Any of these products may be distributed under precautions laid down by the Medical Officer of Health. Regulation 9.

Concurrent disinfection—all discharges. Regulation 19 (*a*) (*c*).

Terminal disinfection—thorough cleaning of premises.

PSITTACOSIS

(28) Placard—no.

Isolation of patient—yes—until clinical recovery.

Quarantine of contacts—none.

Concurrent disinfection—yes. All sputum and other discharges from patient shall be carefully collected and immediately destroyed or disinfected. Those nursing the disease should wear gloves.

Removal from the home or destruction of such birds as parrots, parrakeets, love birds and canaries, with thorough disinfection of the room and contents where the birds have been kept.

Terminal disinfection—yes.

No part of a shipment or cargo of birds, animals or other pet stock received into the province shall be offered, displayed or advertised for sale or sold by any person, firm or corporation without the written consent of the Medical Officer of Health of the municipality in which such person, firm or corporation conducts his or its business.

Such Medical Officer of Health shall have the power and authority to require and enforce the quarantine and isolation of any such shipment or cargo of birds, animals or other pet stock or any part thereof to prevent the spread of infection therefrom, which may be dangerous to the public health, and any and every person, firm or corporation in charge or control

of any shipment or cargo of birds, animals or other pet stock or any part thereof shall at his or its own cost, expense and charge, comply with any or all of such requirements of such Medical Officer of Health as to quarantine, isolation or destruction thereof.

Upon failure of any person, firm or corporation to comply with such requirements, the Medical Officer of Health, at the expense of the municipality, shall seize and take possession of any birds, animals or other pet stock which in his judgment are or are likely to be infected, and shall quarantine and isolate such birds, animals or other pet stock until he can ascertain whether or not any of them are infected and dangerous to public health, and if he finds any of them infected and dangerous to public health, he shall forthwith destroy such infected birds, animals or other pet stock, and the municipality may recover the cost of such quarantine, isolation and destruction from the owner of such birds, animals or other pet stock by action in any court of competent jurisdiction.

PUERPERAL SEPTICAEMIA

(29) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—no.
Concurrent disinfection—burning of lochial discharges. Regulation 19 (*c*).
Terminal disinfection—thorough cleaning of quarters occupied by patient.

RABIES

(30) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—none.
Concurrent disinfection—discharges from nose and throat of patient and articles soiled by discharges. Regulation 19 (*a*).

When any animal suspected of having rabies has bitten a human being, the fact should be immediately reported to the Medical Officer of Health, who shall secure, or cause to be secured, such animal alive and without injury, if possible. The animal shall at once be securely chained up or confined to a safe and comfortable place, and a report giving full particulars concerning the action taken sent to the Department of Health. This report shall include the name of the locality in which the biting occurred (city, town, village or township), the date of biting, the name, residence and address of the owner of the animal, the full name of the person bitten, together with the place of residence and the names, addresses and residence of all owners of animals which have been bitten by the animal in question, together with a list and description of the animals bitten and the disposition made of the same. Such suspected rabid animal must be kept under careful observation by the Medical Officer of Health for at least fourteen days. (If after this interval the animal is living and well it is not suffering from rabies.)

ROCKY MOUNTAIN SPOTTED FEVER

(31) Placard—no.
Isolation of patient—yes.
Quarantine—none.
Concurrent disinfection—none—patient to be thoroughly deloused.
Terminal disinfection—cleaning of all premises.

SCARLET FEVER

(32) Placard—yes.
Isolation of patient—yes—until 28 days from appearance of rash, if no sore throat, nasal or aural discharge persist.
Quarantine for contacts—seven days. Non-immunes—seven days from last exposure. Immunes—none.
School children and teachers—if immune, may change residence and continue at school at the discretion of the Medical Officer of Health.

No milk container from premises quarantined on account of scarlet fever shall be returned during the isolation period. Regulation 8.

No person from a house quarantined on account of scarlet fever shall handle milk, butter, cheese or any other dairy product, which is to be sold or given away to any party or delivered to any creamery or butter or cheese factory. Any of these products may be distributed under precautions laid down by the Medical Officer of Health. Regulation 9.

Concurrent disinfection—discharges from the nose and throat of the patient and articles soiled by such discharges. Regulation 19 (*a*).

Terminal disinfection—thorough cleaning.

SEPTIC SORE THROAT (EPIDEMIC TYPE)

(33) Placard—no.

Isolation of patient—yes.

Quarantine—none—except as it applies to food handlers. No person from a house in which there is a patient suffering from septic sore throat shall handle milk, butter, cheese or any other dairy product, which is to be sold or given to any party or delivered to any creamery or butter factory or cheese factory. Any of these products may be distributed under precautions laid down by the Medical Officer of Health. Regulation 9.

No milk container from a household during the existence of a case of septic sore throat shall be returned to any dairy or milk vendor. Regulation 8.

Concurrent disinfection—all discharges. Regulation 19 (*a*).

Terminal disinfection—thorough cleaning.

SMALLPOX

(34) Placard—yes.

Isolation of patient—yes—until all scabs have fallen off and lesions healed. Minimum 21 days.

Quarantine of contacts—16 days. Contacts showing satisfactory proof of successful vaccination against smallpox within seven years, or evidence of satisfactory vaccination at the time, or so-called immune reaction, or satisfactory proof of having had smallpox, shall be released. This regulation shall apply to teachers, school children and breadwinners.

No milk container from a house quarantined on account of smallpox shall be returned to any dairy or milk vendor. Regulation 8.

No person from a house in which there is a patient suffering from smallpox shall handle milk, butter, cheese or any dairy product which is to be sold or given to any party or delivered to any creamery, cheese or butter factory. Any of these products may be distributed under precautions laid down by the Medical Officer of Health. Regulation 9.

Concurrent disinfection—of all discharges. No article to leave surroundings of patient without boiling or equally effective disinfection. Regulation 19 (*a*) (*b*) (*c*).

Terminal disinfection—thorough cleaning of premises.

SYPHILIS

(35) Special Regulation —Venereal Diseases Prevention Act.

TETANUS

(36) Placard—no.

Isolation of patient—none.

Quarantine of contact —none.

Concurrent disinfection—none.

Terminal disinfection—none.

TRACHOMA

(37) Placard—no.
Isolation of patient—yes—If a pupil or student, exclusion from school.
Quarantine of contacts—none.
Concurrent disinfection—of discharge and soiled articles. Regulation 19 (*b*).
Terminal disinfection—none.

TRICHINOSIS

(38) Placard—no.
Isolation of patient—yes.
Quarantine—none.
Concurrent disinfection—sanitary disposal of feces of patient. Regulation 19 (*c*).
Terminal disinfection—none.

TUBERCULOSIS

(39) Placard—no.
Isolation of patient—no.
Quarantine of contacts—none.
Concurrent disinfection—yes—of all discharges. Regulation 19 (*a*) (*b*) (*c*).
Terminal disinfection—thorough cleaning.

REGULATIONS FOR CONTROL OF TUBERCULOSIS

(1) Whenever any legally qualified medical practitioner knows any person whom he is called upon to visit has tuberculous disease, he shall within twenty-four hours give notice thereof on the prescribed form to the Medical Officer of Health or the Secretary of the Board of Health of the municipality in which such diseased person resides.

This section shall apply to the medical superintendent or person in charge of any general or other hospital in which there is known to him to be a patient suffering from tuberculosis.

(2) The Medical Officer of Health shall copy the information received on to the form prescribed for Medical Officers of Health and forward the same to the Provincial Department of Health. The notifications received from the attending physician shall be kept on file either in his office or that of the Secretary of the Board of Health of the municipality.

If the diseased person resides in unorganized territory the attending pysician shall notify the Provincial Department of Health direct, using either the form prescribed for the Medical Officers of Health or attending physicians.

(3) In the case of sanatoria for tuberculosis, the medical superintendent shall report monthly to the Provincial Department of Health, on forms to be supplied by the Department, the name, address and diagnosis of each patient admitted or discharged together with the names and addresses of all contacts.

(4) Immediately on receipt of a notice, the Department of Health shall, upon request of the Medical Officer of Health, mail to the address of the patient such instructions for the care and prevention of the disease as may from time to time be authorized by the Department.
(5) The local Board of Health or Medical Officer of Health shall maintain whatever supervision they may deem necessary over the case and, if, in their opinion, the health of others dwelling in the same house or in personal contact with the patent is threatened, they shall order the removal of the patient to a hospital or sanatorium. The Medical Officer of Health shall have power to exclude open cases, considered dangerous to others, from school. occupation or business.

(6) Every such patient shall remain in such hospital or sanatorium until in the opinion of the Medical Officer of Health he may safely be allowed to return to his former place of abode.

(7) In the case of an indigent patient whose removal has been ordered, the expense of such removal to sanatorium or hospital and the cost of maintenance therein of such patient shall be paid by the municipality in which the patient has had his legal residence.

(8) If the patient has no permanent place of residence or his usual place of abode cannot be ascertained the cost of his removal to sanatorium or hospital and maintenance therein shall be paid out of the moneys appropriated by the Legislature for this purpose.

(9) In the case of unorganized districts, these Regulations with respect to tuberculosis shall be enforced and carried out under and by order of the Department of Health, and the cost of removal to sanatorium or hospital and maintenance therein shall be paid out of the money appropriated therefor by the Legislature.

(10) Where, in the opinion of the Medical Officer of Health, any person operating or residing in a boarding-house or rooming-house is dangerous to others by reason of tuberculous disease the Medical Officer of Health shall have power to order such person to discontinue operating or residing in such house.

(11) When a tuberculous patient in sanatorium or hospital is about to be discharged, the Medical Superintendent of the institution shall notify the Medical Officer of Health as well as the attending physician at least one week prior to discharge.

(12) In the case of death, removal or recovery of a person suffering from tuberculosis, it shall be the duty of the Medical Officer of Health to provide that the residence of such patient shall be thoroughly and efficiently cleaned and renovated at the cost of the owner before any person is allowed to occupy such residence.

(13) The Medical Officer of Health may, when he deems necessary, require that any premises occupied by a person suffering from tuberculosis shall be cleaned and disinfected to his satisfaction at the expense of the municipality.

(14) The attending physicial, or those in charge of a tuberculous patient, shall at once notify the Medical Officer of Health of any changes in residence; in case such person shall remove to another municipality, the Medical Officer of Health shall notify the Provincial Department of Health. On receipt of such information the Department of Health shall at once notify the Medical Officer of Health of the municipality to which such person has removed.

(15) All information furnished to the Medical Officer of Health or local Board of Health, and the entries made by the Medical Officer of Health, and all subsequent reports furnished with respect to any cases of tuberculosis shall, so far as possible, be treated confidentially. Persons having official knowledge of the case shall not divulge or permit to be divulged any of the particulars to any person except as authorized by the Regulations.

REGULATIONS RESPECTING X-RAY EXAMINATION AND TUBERCULIN TEST FOR NURSES IN SANATORIA AND PUBLIC HOSPITALS

Pursuant to *The Public Health Act, R.S.O. 1927, Ch. 262, Section 6, Clause A.*

(1) These Regulations shall apply to any hospital under the *Public Hospitals Act, 1931*, and to any *Sanatorium* under *The Sanatorium for Consumptives Act, 1931.*

(2) For the purpose of these Regulations any nurse shall be deemed to be employed in any hospital or sanatorium where such nurse is engaged as a nurse on probation, nurse-in-training, or graduate nurse employed by the hospital or sanatorium.

(3) The tuberculin test referred to in these Regulations shall be carried out in a manner approved by the Division of Tuberculosis Prevention, Department of Health.

(4) (*a*) Every nurse now, or herafter, employed in any hospital or sanatorium shall receive a tuberculin test within thirty days after entering the employ of such hospital or sanatorium.

(*b*) Every such nurse who is deemed to have a positive tuberculin reaction shall receive an X-ray examination of the lungs within thirty days after the result of the tuberculin test is determined.

(*c*) Every such nurse who is deemed to have a negative tuberculin reaction shall receive an additional tuberculin test within one year from the date of the first test, and shall receive an additional test within one year from the date of each such test where the result of the test is negative.

(*d*) Every nurse referred to in Clause (*c*) who is deemed on any subsequent test to have a positive tuberculin reaction shall receive an X-ray examination of the lungs within thirty days after the result of such positive reaction is determined.

(5) Every nurse giving a positive tuberculin reaction now or hereafter employed in any hospital or sanatorium shall receive an X-ray examination of the lungs at least once every year so long as she continues in such employment.

(6) No nurse-in-training shall be detailed to care for a patient known or suspected of having tuberculosis until she has received instruction as to the necessary technique to protect herself against infection.

(7) It shall be the duty of the Superintendent, or other person in charge, of every hospital and sanatorium to enforce the provisions of these Regulations.

(8) It shall be the duty of any physician who believes or suspects that any person is suffering from tuberculosis and that such person has been admitted as a patient in a hospital to notify the Superintendent forthwith that such patient is or is believed to be, suffering from tuberculosis.

(9) (*a*) It shall be the duty of the Superintendent, or other person in charge, of every hospital and sanatorium to keep a record of ever tuberculin test and every X-ray examination of the lungs in the case of every nurse employed in such hospital and sanatorium.

(*b*) These records shall be available for inspection at any time by any officer authorized by the Deputy Minister of Health.

TULARAEMIA

(40) Placard—no.
Isolation of patient—no.
Quarantine—none.
Concurrent disinfection—Disinfection of discharges from patient. Regulation 19 (*b*).
Terminal disinfection—none.

UNDULANT FEVER

(41) Placard—no.
Isolation of patient—yes—during period of illness.
Quarantine of contacts—none.
Concurrent disinfection—of all discharges (feces, urine) and all articles soiled with discharges. Regulation 19 (*c*).

TYPHOID FEVER

(42) Placard—no.
Isolation of patient—yes.
Quarantine of contacts—no—with the following exceptions:

No person from a house in which there is a patient suffering from typhoid, nor any typhoid carriers shall handle milk, butter, cheese or any other dairy product which is to be sold or given to any party or delivered to any creamery or butter factory or cheese factory. Any of these products may be distributed under precautions laid down by the Medical Officer of Health. Regulation 9.

No milk container from a house harboring a case of typhoid or paratyphoid fever shall be returned to any dairy or milk vendor. Regulation 8.

Concurrent disinfection—sanitary disposal of excreta. Regulation 19 (*c*).
Terminal disinfection—yes—thorough cleaning.

TYPHUS FEVER

(43) Placard—yes.

Isolation of patient—yes—42 days.

Quarantine of contacts, teachers, school children, breadwinner—14 days and complete delousing.

Concurrent disinfection—none.

Terminal disinfection—destroying all vermin and vermin's eggs on body of patient (if not already accomplished). Destruction of all vermin and eggs on clothing. Rooms to be rendered free of vermin.

WHOOPING COUGH

(44) Placard—yes.

Isolation of patient—for three weeks after commencement of whoop.

Quarantine of contacts—fourteen days.

Immunes—a person immune because of a previous attack may be released without change of residence.

Breadwinner—no restrictions.

School children—non-immunes of 12 years of age or over allowed to attend school without change of residence.

Teachers—no restrictions.

Concurrent disinfection—discharges of nose and throat of patient shall be destroyed. Regulation 19 (*a*).

Terminal disinfection—thorough cleaning.

YELLOW FEVER

(45) Placard—yes.

Isolation of patient—yes—until clinical recovery.

Quarantine of contacts—six days for school children, teachers, breadwinner.

Concurrent disinfection—none.

Terminal disinfection—none.

REGULATION 23.—Any person found to be suffering from epidemic conjunctivitis (pink eye), ringworm, scabies, pediculosis capitis, impetigo contagiosa or other communicable diseases of the skin shall so conduct themselves to the satisfaction of the Medical Officer of Health that they do not expose others to the infection.

When a pupil is discovered or suspected to be suffering from epidemic conjunctivitis (pink eye), ringworm, scabies, pediculosis capitis, impetigo contagiosa or other communicable diseases of the skin, such child shall be excluded from attendance at school until clinical recovery therefrom is shown to the satisfaction of the Medical Officer of Health. When a pupil is discovered to be suffering from any of the above mentioned diseases by the school medical officer or the school nurse, report should be made to the principal who shall immediately send the pupil home and notify the Medical Officer of Health. In the absence of a school medical officer or school nurse, the principal shall when suspecting any pupil to be suffering from any of the above mentioned diseases immediately send the pupil home and notify the Medical Officer of Health.

A pupil so excluded shall be required to report to the school nurse or school medical officer, or in the absence of these, to the local Medical Officer of Health, within a period of one week for re-examination, and he shall not be re-admitted until he presents to the principal a certificate in writing signed by the Medical Officer of Health that such attendance may safely be allowed.

Copy of an Order-in-Council, approved by The Honourable the Lieutenant-Governor, dated the 27th day of February, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to clause (*a*) of subsection (2) of section 6 of *The Mental Hospitals Act, 1935*, the following amendment to the regulations under the said Act be approved·

Regulation No. 1 which was approved by Your Honour on the 26th day of June, 1935, as amended by an Order-in-Council approved by Your Honour on the 22nd day of October, 1935, and as amended by an Order-in-Council approved by Your Honour on the 29th day of January, 1936, and as amended by an Order-in-Council approved by Your Honour on the 22nd day of February, 1936, be further amended by adding thereto the following:

"The premises formerly used and described as a gaol farm for women in the village of Concord in the township of York, henceforth to be part of the Ontario Hospital, New Toronto."

so that the regulations as amended shall now read as follows:

The following institutions shall be hospitals and hospital schools established under *The Mental Hospitals Act, 1935*, and shall be subject to the provisions of the said Act and these regulations:

The Ontario Hospital, Brockville,
The Ontario Hospital, Cobourg,
The Ontario Hospital, Hamilton,
The Ontario Hospital, Kingston,
The Ontario Hospital, London,
The Ontario Hospital, New Toronto,
The Ontario Hospital, School, Orillia,
The Ontario Hospital, Penetanguishene,
The Ontario Hospital, Woodstock,
The Ontario Hospital, Whitby,

The premises commonly known as the Industrial Farm at Fort William, henceforth to be known as the Ontario Hospital, Fort William,

The premises formerly used and described as a gaol farm for women in the village of Concord in the township of York, henceforth to be part of the Ontario Hospital, New Toronto.

Certified,

C. F. BULMER,
Clerk, Executive Council.

Copy of an Order-in-Council approved by The Honourable the Lieutenant-Governor dated the 1st day of February, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that the following amendments to the regulations under *The Embalmers' and Funeral Directors' Act*, approved by the Board, be approved by Your Honour:—

(1.) That regulation A. (1) approved by Your Honour on the 15th day of August, 1933, be amended by striking out the word "articled" in the eighth line and the words "who have served at least one year with a licensed funeral director in the Province of Ontario, and" in the ninth, tenth and eleventh lines so that section will now be as follows:

"A course of instruction, consisting of actual instruction in anatomy, sanitary science and the general practice of emblaming and funeral directing, shall be established in connection with a University or other organization approved by the Board, or by the Board itself. Those eligible for this course shall be students who shall have passed from the Second to the Third Form in a secondary school of education in this, Province, or others who show proof of an equivalent academic standing."

(2.) That regulation C (3) approved by Your Honour on the 15th day of August, 1933, be amended by adding the following words:

"If any person, whose name has been dropped from the Register as an articled student under authority of this sub-section, shall apply to the Board for reinstatement and the Board is satisfied, after full investigation, that the person applying should be reinstated, the Board shall have full power and authority to reinstate such person."

Certified,

C. F. BULMER,
Clerk, Executive Council.

Copy of an Order-in-Council, approved by The Honourable The Lieutenant-Governor, dated the 23rd day of November, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to section 4 of *The Sanatoria for Consumptives Act*, the following regulation be approved:

Where the inspector is of the opinion that any patient admitted to a sanatorium was a person liable to be deported under the immigration laws of Canada, and that no steps were taken by the Superintendent to inform the Department of Immigration (Canada) of the admission of such patient, no provincial aid shall be paid for the treatment of such patient.

Certified,

C. F. BULMER,
Clerk, Executive Council.

Copy of an Order-in-Council approved by The Honourable the Administrator of the Government of the Province of Ontario, dated the 27th day of May, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that the regulations for the control of communicable diseases, approved by Your Honour on the 9th day of June, 1931, be amended by adding under the heading "Regulations for Control of Tuberculosis" the following:

6*a*. Where in the opinion of the Medical Officer of Health, any person operating or residing in a boarding-house or rooming-house is dangerous to others by reason of being infected with tuberculosis, the Medical Officer of Health shall have power to order such person to discontinue operating or residing in such house.

Certified,

C. F. BULMER,
Clerk, Executive Council

Copy of an Order-in-Council, approved by The Honourable the Lieutenant-Governor, dated the 23rd day of November, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that the Regulations for the use of Hydrocyanic Acid or Cyanide Compounds for Fumigation, approved by Your Honour on the 20th day of May, 1936, be amended as follows:

1. Subsection 1 of section 14 is amended by inserting after the first word "person" in line 1 the words "other than a medical officer of health, sanitary inspector, or other inspector appointed to administer *The Public Health Act* or these regulations."

2. By adding to the said regulations the following section:

14*a*. Any Medical Officer of Health, sanitary inspector, and any inspector appointed to administer *The Public Health Act* or these regulations may enter into and upon any premises for the purpose of making an inquiry and examination with respect to any fumigation which is being performed thereon, or where there is reason to believe that any fumigation is being performed thereon.

Certified,

C. F. BULMER,
Clerk, Executive Council

Copy of an Order-in-Council approved by The Honourable the Lieutenant-Governor, dated the 23rd day of November, A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to section 8 of *The Cemetery Act*, the following regulation

respecting cemeteries be approved by Your Honour and that the said regulation be made applicable to all cemeteries:

> The owner of any cemetery shall not remove, alter or replace any monument, gravestone or other memorial provided or placed in any cemetery by the Last Post Fund Incorporated, unless such owner obtains the consent in writing thereto of the Last Post Fund, provided, however, that this regulation shall not apply to any cemetery which has been closed in the manner provided by sections 33 and 34 of *The Cemetery Act*.

Certified,

C. F. BULMER,
Clerk, Executive Council.

Copy of an Order-in-Council approved by The Honourable the Lieutenant-Governor, dated the 29th day of Sept., A.D., 1937.

Upon the recommendation of the Honourable the Minister of Health, the Committee of Council advise that pursuant to clause (i) of section 6 of *The Public Health Act*, the Department of Health be authorized to supply such medical aid, medicine and other articles and accommodations as the Department may deem necessary for preventing or mitigating an outbreak of anterior poliomyelitis, and without lessening the generality of the foregoing the Department is particularly authorized to establish one or more hospitals in the Province for the treatment of persons suffering or believed to be suffering from anterior poliomyelitis, and to pay all expenses connected with the establishment and maintenance of such hospitals.

Certified,

C. F. BULMER,
Clerk, Executive Council.

THE LIBRARY OF THE DEPARTMENT OF HEALTH

FREDRITA HENLEY WRIGHT, Librarian

I have the honor to submit the report of the Library for the year ending December 31st, 1937.

The past year has shown a definite increase in appreciation of the services of the Library. Requests for books, journals and bibliographies were considerably in excess of the previous year.

A larger number of books were also added to the Central Library, particularly to the sections on Mental Disease, Psychology and Mental Hygiene. Special attention was paid to these sections in an effort to enhance the library service to the Ontario Hospitals.

ACQUISITIONS

During 1937 the following additions were made:

Central Library

Books purchased	98	
Journals	129	(vols.)
Reports	69	
Pamphlets	1,455	
Total	1,751	

The subscriptions to journals for the year were 89, while the library received 12 complimentary subscriptions, a total of 101.

Ontario Hospitals

Books purchased	
Medical	198
Fiction	
New	318
Library discards	609
Books donated	645
Journals	108
Periodicals	
New	161
Unsold	480
Newspapers	110
Total	2,629

The medical books purchased for the Ontario Hospitals were all catalogued in the central catalogue of hospital books and cards were also made for the hospital catalogue. These were forwarded with the book, to the hospital.

LOAN SERVICE

There were 2,964 loans made by the Library in comparison with 2,316 for the previous year. Within the immediate department there were 2,413 for 1937 while the number for 1936 was 2,041. For the outside service, including the Ontario Hospitals, there were 551 for 1937 while for 1936 there were 275.

In addition to library loans, a regular monthly service was maintained whereby journals on tuberculosis were circulated to the Clinicians in charge of the Provincial Travelling Chest Clinics at North Bay, Belleville, and Ottawa and to the Tuberculosis Unit at the Ontario Hospital, New Toronto. Medical journals were also circulated to the branch laboratories at North Bay, Fort William, Sault Ste. Marie, Peterborough and Ottawa and the American Journal of Public Health Nursing was sent to the Eastern Ontario Health Unit.

SUMMER COURSE IN HEALTH TEACHING

The Library loaned, for the duration of the course, a number of books and journals to the special library compiled for the use of the teachers enrolled for the Summer Course in Health Teaching. The services of the Library were also requested in developing a system of book and journal circulation among the students. This system of circulation was a considerable improvement over the previous year in the use of the books and journals by the students.

The attendance at the 1937 session was 213 teachers from the schools of the Province.

LIBRARY BULLETIN

Publication of the Library Bulletin continued during the year. This Bulletin consists of a bibliography of articles of interest on all aspects of departmental work appearing each month in the library journals. It also contains a list of monthly accessions to the Library, together with short reviews of new books. The Bulletin is published in two volumes of six months each with an index to each volume. It is distributed to each divisional Director, to the Ontario Hospitals and to all members of the outside service. There were 115 copies mailed each month, being 15 more than the previous year. It is evident from the number of requests for literature received at the Library that this service is appreciated.

SERVICE TO ONTARIO HOSPITALS

During the months of April and May, members of the Library staff visited the following hospitals in which are located training schools for nurses: New Toronto, Orillia, Hamilton, London, Brockville and Kingston, and compiled a catalogue for the use of the student nurses. This necessitated staying at each hospital for a period of from four days to one week. The books were classified and catalogued. Thus, each training school library now possesses a complete catalogue by author, title and subject, for the use of the student nurses.

During the year the Central Library also compiled 20 bibliographies on special subjects, at the request of members of the hospital staffs.

PATIENTS' LIBRARIES

The patients' libraries in the Ontario Hospitals were given special attention during the past year.

The Library purchased a total of 609 discards from private lending libraries and 318 new books for the use of the patients. An arrangement was entered into with a Toronto news agency whereby the hospitals were permitted to buy unsold periodicals at reduced prices. Thus, in addition to the regular periodical subscriptions, the hospitals received a total of 480 copies of unsold periodicals. The Library also receives 50 copies each of two weekly papers donated to the Ontario Hospitals for the use of the patients. The Library re-shipped 5,200 copies of these papers during the year.

Donations from the Public Libraries and from the Boys and Girls House, Toronto, went forward to various Ontario Hospitals during the year.

Owing to the increased use of bibliotherapy as a therapeutic aid in the treatment of mental patients, it was decided, during 1937 to place graduate librarians in several of the Ontario Hospitals in an effort to learn the value of supervised reading among the patients. As a preliminary, the Deputy Minister requested the Central Library to make a survey of the value, condition and functioning of the existing libraries in the hospitals and also to ascertain the wishes of each Superintendent as to whether or not he desired to take part in the experiment. In this connection the library staff visited the following hospitals: Brockville, Cobourg, Hamilton, Kingston, London, New Toronto, Orillia, Penetanguishene, Toronto, Whitby, Woodstock and the Psychiatric Hospital.

Notations were made under the following headings:

1. Number and condition of the books.
2. The location and attractiveness of the library.
3. The method of loan for books, periodicals and newspapers.
4. The effort being made to interest patients in reading.
5. The appreciation of existing library facilities by the patients.

A survey report, under these headings, was made on each hospital singly and submitted to the Deputy Minister. Following the consideration of the survey report, the program was planned and the experiment was begun. A detailed report follows:

AN EXPERIMENT IN BIBLIOTHERAPY IN THE ONTARIO HOSPITALS

At the request of the Deputy Minister, the Library, from June 15th to September 15th, 1937, undertook an experiment to determine the value of the service of Librarians in the Ontario Hospitals. This experiment was under the direction of Dr. R. C. Montgomery, Director, Hospitals Division, and Dr. J. E. Sharpe, Inspector of Hospitals.

Although most of the hospitals wished to co-operate, the experiment was limited to six, which number was finally determined by the number of applicants available for the service.

The Library School of the University of Toronto was approached with a request for the application of librarians who would be interested in entering hospitals as librarian internes for a period of from two and one-half to three

months. They were to receive transportation, room and board but no salary. In response to this appeal the Library received applications from twelve graduate librarians. These applicants were all interviewed. Before any could be placed, six withdrew, making six only available. These were placed at: Brockville, Hamilton, Kingston, London, Orillia, Woodstock.

After the first month the librarians were extended the salary of junior internes, i.e., $10.00 per month.

Before leaving Toronto the nature of the work was explained to each librarian interne individually, emphasis being placed upon the necessity of consulting the Superintendent in all matters of procedure and being guided by his suggestions.

A general outline of procedure was typed and given to each. It consisted of:

1. Check all books and discard old and unsuitable reading.
2. Classify the books according to type of reading.
3. Make author and title catalogue.
4. Supervise books circulated to cottages and wards.
5. Receive and check off periodicals and newspapers and then forward to the wards.
6. Make a personal selection of any new books purchased locally.
7. Try to stimulate reading among those who are not now taking any interest in books, by means of posters, book talks, by reading to special groups or by any other means approved by the Superintendent.
8. Contact service clubs or groups in the locality for donations of books and magazines.
9. Encourage the patients to make their own selection of books.
10. Utilize the services of any patients who could help in the work of the library.

The books were sorted; those beyond repair were scrapped or sent to the wards where there was a possibility of their being destroyed, while those only partly broken were repaired and replaced on the shelf. These were augmented by purchases of new books or of discards from private lending libraries.

The catalogue consisted of author and title cards only, except for special books. For the latter, subject cards were also made. Classification identification was simplified as much as possible. It consisted of "B" for Biography, "T" for Travel, "H" for History, while Fiction was left blank and placed on the shelf alphabetically by author. This simple arrangement was thought best to enable the patient to make his own selection.

Magazines were distributed in various ways. In some hospitals they were sent directly to the wards, each ward being served in rotation; in other hospitals they were circulated in the same manner as books. Magazine racks were placed in two of the libraries. These held the last issue of the magazine while the preceding number was either sent to the wards or held for circulation on request.

Patients visited the library whenever possible, while carefully chosen books were taken to the wards and ward patients permitted to choose the book they desired. Book selection was also aided by placing lists of books

on each ward. One hospital in addition to magazine racks in the library, has also placed small racks on the tables in the day rooms where patients may make an exchange of books in the interval between the librarian's visits.

The card system for keeping track of the books was used on the wards as well as in the library. This was a considerable improvement over the system of simply keeping a notation of the number of books sent to a ward.

Reading was stimulated by means of posters and book talks. Scrap books were made for patients who did not read and, at one hospital, reviews of the newer books were typed and placed inside the front cover.

At the Orillia Hospital, where the population is composed of subnormal children, reading hours were conducted with special groups of children. In every case a very keen interest was evidenced by the groups as a whole, and in many cases an intelligent retelling of the story by a number of the children resulted.

While this experiment has been somewhat handicapped as patients, during the summer, are not quite as interested in reading as in outdoor recreation, still it is felt that the patients in the Ontario Hospitals have definitely responded to supervised library administration.

There have been 645 books donated and 1015 books purchased including 17 books in the French language, while the increase in circulation over the same period in 1936 has been 683.

Each interne librarian showed a keen interest and a comprehensive handling of the work.

Of the six participating Superintendents, five have expressed a wish for the continuance of the service. In the case of the sixth, the hospital Superintendent stated that the lack of space prevented his making a request for the immediate appointment of a permanent librarian.

From the evaluation of the experiment given by the Superintendents, it is indicated that Bibliotherapy has a definite value as a therapeutic aid in the treatment of mental disease. It is hoped that it will be possible, at an early date, to have a librarian in charge of the patients' reading, on the permanent staff in each of the Ontario Hospitals.

CONCLUSION

In conclusion I beg to report that, in addition to the above activities, there was the general library procedure of cataloguing and reference work, which is daily increasing.

Thanks are extended to Miss Winnifred G. Barnstead, Director, Library School, University of Toronto, for her assistance in selecting applicants for the experiment in Bibliotherapy.

DIVISION OF PREVENTABLE DISEASES

A. L. McKay, B.A., M.B., D.P.H., Director

A total of 75,644 cases of communicable disease was reported to the Department from local boards of health during 1937. The previous year had shown a total of 108,842, the reduction being largely in german measles, measles, mumps, scarlet fever and whooping cough. The outstanding occurrence during the year in the field of communicable diseases was the epidemic of poliomyelitis which assumed proportions never before experienced in the Province. The account of this outbreak will appear later in the report.

The regulations for the control of communicable diseases having last been revised in 1931 it was decided to again bring them under consideration in the light of more recent advances in epidemiology. After due consideration certain changes were made in respect to german measles, mumps, psittacosis, tuberculosis and cerebro-spinal meningitis and the regulations passed by order-in-council on December 10th, 1937. A copy of the revised regulations was mailed to each medical officer of health calling their attention to these changes.

Typhoid and Paratyphoid Fevers

Typhoid fever had fewer cases (241) than the previous year, but there was an increase in the number of cases of paratyphoid (80) over the previous year. This latter was occasioned by two outbreaks, both milk-borne, one during July and the other in October. Another outbreak of paratyphoid fever of seven cases was traced to a carrier who was found to be operating a tourist house and whom had suffered an attack two years previously. In the investigation of sporadic cases of typhoid fever it was found, in many instances, that there was association with persons who were found to be typhoid carriers. During the year 16 carriers were so identified and notification was sent to the medical officer of health and detailed instructions given as to the carrier's course of conduct for the protection of the public and those associating with them. For each month typhoid was below the average of the preceeding five years. This was especially noticeable in the month of September when 43 cases were reported as compared to the average of 92 for the previous five years.

Smallpox

For the second year no cases of this disease have been reported in the Province. Smallpox vaccination has been carried out in few municipalities only and the absence of the disease from the Province is one of chance rather than one of protection.

Scarlet Fever

Although there were fewer cases reported than during the previous year, except for five months the incidence was above the normal for the preceding five years. There has been an increasing number of municipalities availing themselves of the active means of immunization by the Dick Test and scarlet fever toxin. With 5,581 cases reported and 50 deaths the case fatality rate is 0.9.

Measles

There was a marked reduction in the number of reported cases of measles over the experience of the two previous years, 15,809 cases being reported, being a reduction of 40% over the previous year. There were 29 deaths.

Whooping Cough

Except for two months the incidence of whooping cough was below the endemic index for the previous five years, 5,040 cases were reported as compared to 7,890 for the previous year with 102 deaths. Continued use has been made of vaccine manufactured in the laboratory of the Department in which freshly isolated strains are used with apparently good results.

Undulant Fever

This disease continues to be present notwithstanding the fact that it is definitely known that it could be practically eliminated by proper pasteurization of the milk supplies. One hundred and four cases were reported during the year and investigation revealed that a high percentage apparently resulted from the use of raw milk obtained from herds in which contagious abortion was found to exist. The eradication of Bang's disease amongst cattle is one of such proportion and economic significance that for the present the solution of the problem lies with widespread pasteurization.

Diphtheria

For the first time in some years the incidence of this disease showed an increase over the previous years' experience. There were 506 cases reported as compared to 290 in 1936. As reported in 1936 there has been a falling off in the number of children immunized during 1935 and this continued during 1936 and 1937. Some municipalities who had formerly given this service in the schools and elsewhere have discontinued and as a result diphtheria once again made its appearance.

In the unorganized districts adjacent to Red Cross outpost Hospitals arrangements were completed whereby with the assistance of the nurses at these outposts and physicians residing near the area diphtheria immunization and smallpox vaccination were offered free of charge at the expense of the Department.

The following figures represent the amount of work done under this scheme:

Number receiving 3 doses diphtheria toxoid and vaccination	1,090
Number receiving 2 doses diphtheria toxoid and vaccination	63
Number receiving 1 dose diphtheria toxoid and vaccination	30
Number receiving vaccination only	337
Number receiving 3 doses diphtheria toxoid	1,041
Number receiving 2 doses diphtheria toxoid	56
Number receiving 1 dose diphtheria toxoid	62
Total	2,679

It is planned to extend this work to other areas in the future.

Cerebro-Spinal Meningitis

A slight increase in the number of reported cases occurred during the year, January, February, June and September being the months showing increase

over the endemic index. No outbreak of the disease developed, most cases being reported from widely separated points in the Province. There were 16 deaths.

Poliomyelitis

After two years in which the incidence of the disease had remained comparatively low, 1937 saw an epidemic in the Province such as had never previously been experienced, a total of 2,544 cases with 109 deaths was reported. Starting in the last two weeks of July the number of cases rose rapidly until the peak was reached during the first week in September, and then gradually fell until November. Supplies of convalescent serum were on hand for the early part of the outbreak but it soon became apparent that this stock would not meet the needs and a general appeal through the daily press and with the co-operation of health officers resulted in a large number of donors offering their services and adequate supplies of serum being on hand at all times. Departmental consultants were placed in sixteen areas of the Province and assisted materially in the early diagnosis and recommendations with respect to treatment, isolation and quarantine. For those who were paralyzed as a result of the disease the Department supplied three weeks hospitalization and the provision of the necessary frames and splints for proper orthopedic care. Respirators were purchased by the Department and placed at strategic hospital centres for those cases requiring this form of therapy. A detailed epidemiological study of the epidemic is now being carried out which will be published at a later date.

Dysentery

A survey was made in the resort areas of the Lake of Bays and part of Muskoka districts with respect to outbreaks of so-called dysentery which had been reported in the past. An epidemiologist and sanitary engineer from the Department visited this area early in the summer taking numerous water and milk samples and making a sanitary survey of the hotels and tourist houses with respect to general sanitation, sewage disposal, handling and preparing of foods, ice supplies, etc. One small outbreak occurred in one of the hotels but it was impossible to definitely trace the source of infection or to actually determine if the outbreak was bacillary in character. The information gathered, however, will serve as a basis on which further studies may be made.

VENEREAL DISEASE CONTROL

With the opening of the clinic in the Toronto East General Hospital on July 1st, 1937, there are now nineteen clinics being operated for the treatment of venereal diseases in the Province. These clinics are situated as follows:—Toronto (6), Hamilton, St. Catharines, Brantford, Kitchener, London, Windsor, Owen Sound, Sault Ste. Marie, Fort William, Peterborough, Kingston, Ottawa and Sudbury.

For assistance to municipalities who are not served by these clinics the Division has continued to reimburse them for expenditures made in venereal disease control for fifty per cent of fees at a set schedule. In the case of unorganized territory the whole cost has been borne by the Division. The expenditure in this regard for the year was $6,419.33.

The following is a summary of the work carried out in the nineteen Venereal Disease Clinics for the year:—

1.	Number examined and found positive			3,834
2.	Number carried over from previous year			6,708
3.	Number of new cases (never previously treated in clinic)			2,501
4.	Number of cases readmitted			764
5.	Number of previously treated patients			569
6.	Number of cases treated			10,542
7.	Number of treatments			147,154
8.	Number of contacts and sources examined			1,112
9.	Number of visits made by nurses			5,553
	Number of cases treated (Total)			10,542
	New Cases (never previously treated in clinic)			2,501
		Male	Female	
	Syphilis	443	314	
	Gonorrhoea	1,271	419	
	D. I	25	29	
	Number of cases re-admitted			764
		Male	Female	
	Syphilis	235	123	
	Gonorrhoea	290	48	
	Double Infection	44	24	
	Number of patients previously treated			569
		Male	Female	
	Syphilis	219	124	
	Gonorrhoea	160	57	
	Double Infection	1	8	
	Number of new cases Syphilis classified			1,152
		Male	Female	
	Primary	142	31	
	Secondary	86	82	
	Tertiary	447	364	
	New cases of Gonorrhoea			1,992
		Male	Female	
	1. Under 1 month	1,183	206	
	2. Under 2 months	122	145	
	3. Over 2 months	172	164	
	Number of paid treatments classified			147,138
		Male	Female	
	Syphilis	46,802	32,289	
	Gonorrhoea	56,728	11,319	
	Number of Contacts and Sources examined			1,112
	Positive for Syphilis	123		
	Positive for Gonorhoea	124		
	Number of children treatments			6,319
		Male	Female	
	Syphilis	2,766	2,463	
	Gonorrhoea	36	1,054	
	Number discharged from clinics			4,152
	Number discharged apparently cured			1,848
		Male	Female	
	Syphilis	356	217	
	Gonorrhoea	903	304	
	Double Infection	45	23	

Number transferred		856
	Male	Female
Syphilis	310	204
Gonorrhoea	219	87
Double Infection	15	21
Number discharged without permission		1,448
	Male	Female
Syphilis	466	247
Gonorrhoea	555	121
Double Infection	36	23
Social Histories taken in clinics		3,354

Cases referred by: Doctors, 656: self, 1,261; friends, 101; hospitals, 440; other clinics, 265; social agency, 85; Department of Health, 154; jails, 28; re-admissions, 355; police, 8; posters, 1.

Number of cases referred to M. O. H		971
Source	155	
Contact	137	
Non-attendance	679	
Number of cases placed under V. D. Act		133
Number of cases prosecuted under V. D. Act		36
Analysis by Age Groups of New Admissions		3,109
	Male	Female
Under 16 years	18	44
16-19 years	170	157
20-29 years	974	440
30-39 years	509	176
Over 40 years	458	163
Number of visits of Social Service Nurses		5,553
Number of patients treated in hospitals where clinics are situated		837
	Male	Female
Syphilis	131	144
Gonorrhoea	313	239
Double Infection	1	9
Number of days in hospital		10,234
	Male	Female
Syphilis	1,676	1,701
Gonorrhoea	3,792	3,065
Laboratory Examinations		30,246
	Positive	Negative
Syphilis:		
Blood	5,651	8,412
Cerebro Spinal fluid	93	377
Darkfield	39	77
Gonorrhoea:		
Diagnosis	2,328	5,662
Prognosis	2,510	5,087

Treatment for Syphilis:

Diarsenol	2,633
Novarsan	14,551
Mapharsen	11,261
Tryparsamide	1,270
Other arsenicals	4,923
Mercury	4,748
Bismuth	38,508
Medicines	7,066
Other and advice	3,605

Treatment for Gonorrhoea:

Irrigations	47,589
Douche	1,255
Injections	8,055
Prostatic Massage	9,798
Instrumentation	1,480
Sulphanalmide	4,494
Deep Instillation	1,755
Topical Application	11,429
Vaccine	2,167
Examinations	5,311
Medicines	1,338
Total	183,236

Drugs for the free treatment of venereal disease were distributed as follows:

	Ampoules	Grams
Diarsenol	354	418.4
Novarsan	35,896	18,414.71
Mapharsen	9,291	502.44
Bismuth Oxychloride	33,130	142,412. grs.
Mercury Salicylate	5,190	10,614. grs.
Sodium Hydroxide		314. ounces
Distilled Water		51,292. ounces

During the year encouraging reports having been made in the literature in the use of sulphanilamide for the treatment of gonorrhoea it was decided to place this drug in five of the clinics in order that a thorough clinical trial could be given this newer form of therapy. Although complete results have not as yet been received from all of these clinics it would appear that for a certain percentage of cases this drug had resulted in cure of the infection without development of complications. In most instances local irrigations were discontinued which will account in part at least for the reduction in number of treatments given.

Approximately the same number as the previous year were under treatment in the clinics, e.g. 10,542; of these 6,708 were carried over from the previous year and 3,834 were new patients admitted to the clinics after being examined and found to be suffering from either syphilis or gonorrhoea or both; of these 2,501 were in cases who had never been previously treated in the clinic and 764 were re-admitted patients and 569 those who had received some previous treatment for their condition. The number discharged from the clinics as apparently cured was 1,848 of whom 573 had suffered from syphilis and 1,207 from gonorrhoea. Sixty-eight had suffered from both infections. The number of patients who were lost from the clinics continues at the disquieting figure of 1,448. A great many of these patients discontinued treatment on account of obtaining work in other municipalities.

Drugs for treatment in clinics and to physicians treating those patients who are unable to pay were supplied in the amounts indicated. Diarsenol (606) has almost completely been superseded by Novarsan. Mapharsen continued to be supplied to the clinics only.

Correspondence has been carried out for follow-up through the medical officers of health of contacts, sources of infection and removals from one municipality to another as follows:—

Total number of patients and contacts followed up	647
Receiving treatment or found to be negative	324
Lost—including no reply from M. O. H.	153

Sources of Infection:

Positive	18
Negative	8
Lost	22
Total	48

Number of contacts of neurosyphilitic patients in Ontario Mental Hospitals:

Negative	86
Positive	10
Lost	26
Total	122

Number carried over to 1938	76

This follow-up system required the sending of 2,343 letters to medical officers of health and others.

STATEMENT OF COMMUNICABLE DISEASES IN 1937

1937	Smallpox		Scarlet Fever		Diphtheria		Measles		Whooping Cough		Typhoid Fever		Tuberculosis		Poliomyelitis		Cerebro Spinal Meningitis		Influenza		Pneumonia		Syphilis		Gonorrhoea		Chickenpox		Encephalitis		German Measles		Mumps		Septic Sore Throat		Undulant Fever		Dysentery		Erysipelas		Paratyphoid Fever	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
January	0	0	804	0	85	5	1,434	1	599	1	8	0	236	48	4	2	9	3	1,379	27	156	333	237	1	308	1	2,207	0	1	0	127	0	1,427	0	54	1	6	0	12	1	15	2	2	0
February	0	0	566	3	36	1	1,799	1	464	2	11	3	164	51	0	0	8	2	7,321	61	198	403	190	1	269	0	1,567	0	0	0	125	0	1,743	0	79	2	4	0	1	0	20	1	0	0
March	0	0	527	4	19	1	1,645	0	331	0	9	0	218	38	1	0	4	2	3,832	54	159	308	155	3	220	0	1,120	0	3	4	113	0	1,396	0	10	0	7	0	0	0	18	3	4	0
April	0	0	555	1	50	5	1,427	1	466	1	12	3	225	61	0	0	5	5	642	27	92	277	161	2	239	0	1,294	0	2	1	79	0	1,553	0	16	2	10	0	4	0	23	2	3	0
May	0	0	695	1	32	1	3,055	0	484	0	2	0	204	57	5	0	5	3	15	7	87	235	200	2	327	0	1,517	1	1	0	152	0	1,211	0	24	1	20	0	2	0	16	2	0	0
June	0	0	539	0	42	1	2,851	2	467	0	7	1	251	47	3	0	9	4	2	3	48	139	208	1	247	0	1,162	0	0	1	125	0	753	0	7	1	13	0	1	0	6	0	8	0
July	0	0	311	4	49	0	1,465	0	367	0	19	0	254	37	38	2	4	3	17	0	27	157	234	2	339	0	485	0	1	2	55	0	230	0	7	1	9	0	1	0	11	0	17	0
August	0	0	173	1	13	5	397	0	502	1	36	3	115	48	696	28	4	1	1	0	40	107	159	2	307	0	151	0	0	1	15	0	74	0	6	3	4	0	4	0	7	0	16	1
September	0	0	172	3	31	1	166	0	438	2	43	2	155	42	1,321	56	9	1	21	0	25	110	168	1	292	0	93	0	2	1	17	0	83	0	4	0	6	0	54	3	2	0	12	0
October	0	0	359	4	34	4	214	0	381	1	43	1	179	40	416	17	3	3	12	1	45	182	282	2	332	0	413	0	0	1	54	0	653	0	15	1	14	0	12	5	6	0	7	0
November	0	0	485	5	74	2	518	0	316	1	36	4	182	31	48	2	4	0	28	0	56	156	237	3	315	0	729	0	0	0	24	0	344	0	15	0	2	0	9	0	6	1	11	0
December	0	0	395	1	41	3	838	0	225	0	15	0	188	25	12	2	3	0	60	5	87	178	184	3	286	0	1,057	0	1	0	17	0	229	0	7	0	9	0	3	0	9	0	0	1
1937 Total	0	0	5,581	27	506	29	15,809	5	5,040	9	241	17	2,371	525	2,544	109	67	27	13,330	185	1,020	2,585	2,415	23	3,481	1	11,795	1	11	11	913	0	9,696	0	244	12	104	0	103	9	139	11	80	2
1936 Total	0	0	8,927	41	290	8	26,429	18	7,890	29	251	27	2,277	554	208	12	52	38	1,869	53	788	2,116	2,000	15	2,738	0	11,301	1	12	18	29,351	4	13,699	1	160	19	127	2	91	2	168	18	59	1
1935 Total	7	0	7,245	33	361	16	44,958	21	7,663	38	310	26	2,416	474	108	5	32	23	1,845	48	625	1,881	1,900	9	2,559	0	13,116	2	6	5	20,627	1	9,568	2	202	2	86	0	37	6	129	7	58	0

STATEMENT

BIOLOGICAL PRODUCTS AND INSULIN

APRIL 1st, 1936 TO MARCH 31st, 1937

SUMMARY 1936–37

DIPHTHERIA:					
Antitoxin	3,874 M units at	$0.14 per M units	$ 542 36		
	6,6950 M units at	.12 per M units	8,034 00		
				$ 8,576 36	
Schick Test	4,358 outfits at	.20 each	$ 871 60		
Toxoid	14,980 x 1 person at	.20 each	2,996 00		
	2,574 x 6 persons at	.80 each	2,059 20		
	8,732 x 12 persons at	1.00 each	8,732 00		
	623 diluted at	.20 each	124 60		
				14,783 40	
					$ 23,309 76
TETANUS:					
Antitoxin	68,857,000 at	.30 per M units	$ 20,657 10		
Intraspinal Outfits	129 outfits at	.45	58 05		
					20,715 15
SCARLET FEVER:					
Antitoxin	9,240 prophylactic doses at	.75 each	$ 6,930 00		
	6,159 treatment doses at	2.75 each	16,937 25		
				$ 23,867 25	
Dick Test	5,447 outfits at	.20 each	$ 1,089 40		
Toxin	5,687 x 1 person at	.30 each	1,706 10		
	3,950 x 6 persons at	1.00 each	3,950 00		
				6,745 50	
					30,612 75
ANTI-MENINGOCOCCUS:					
Serum	1,657 x 20 cc vials at	1.00 each	$ 1,657 00		
Intraspinal Outfits	231 at	.45 each	103 95		
				$ 1,760 95	

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN SUMMARY—Continued

SMALLPOX:					
Vaccine	6,078 x 2 point pckgs. at	.12 per pckg	729 36		
	102,525 points at	.045 per point	4,613 62		
				5,342 98	
RABIES:					
Vaccine	24 treatments at	10.50 each		252 00	
ANTI-ANTHRAX:					
Serum	6 x 30 cc. vials at	1.75 each		10 50	
TOTAL COST OF BIOLOGICAL PRODUCTS					$ 82,054 09
INSULIN:	21,087 x 200 units vials at	$0.40 per vial	$ 8,434 80		
	65,598 x 400 units vials at	.70 per vial	45,918 60		
	3,545 x 800 units vials at	1.30 per vial	4,608 50		
	1,780 Protamine Zinc at	.72½ per vial	1,290 50		
TOTAL COST OF INSULIN					60,252 40
TOTAL COST OF BIOLOGICAL PRODUCTS AND INSULIN					$ 142,306 49

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN—Continued

Month	Diphtheria Antitoxin						Diphtheria Toxoid							
	1M and 5M Units	Cost	10M 20M 40M Units	Cost	Syringes	Cost	One Person	Cost	Six Persons	Cost	Twelve Persons	Cost	Diluted	Cost
1936	M	$ c	M	$ c		$ c		$ c		$ c		$ c		$ c
April	251	35 14	4,960	595 20	75	15 00	1,584	316 80	263	210 40	673	673 00	23	4 60
May	158	22 12	4,460	535 20	81	16 20	802	160 40	64	51 20	463	463 00	24	4 80
June	370	51 80	5,810	697 20	100	20 00	839	167 80	197	157 60	219	219 00	36	7 20
July	293	41 02	2,310	277 20	6	1 20	690	138 00	231	184 80	327	327 00	46	9 20
August	364	50 96	7,750	930 00	75	15 00	1,023	204 60	73	58 40	356	356 00	9	1 80
September	363	50 82	6,360	763 20	25	5 00	1,824	364 80	389	311 20	1,763	1,763 00	61	12 20
October	291	40 74	4,840	580 80	87	17 40	1,992	398 40	632	505 60	1,814	1,814 00	76	15 20
November	371	51 94	4,320	518 40	.....	.....	1,902	380 40	232	185 60	722	722 00	49	9 80
December	339	47 46	3,900	468 00	75	15 00	1,049	209 80	62	49 60	527	527 00	73	14 60
1937														
January	475	66 50	11,770	1,412 40	87	17 40	1,163	232 60	105	84 00	692	692 00	143	28 60
February	353	49 42	3,100	372 00	99	19 80	1,120	224 00	271	216 80	716	716 00	73	14 60
March	246	34 44	7,370	884 40	75	15 00	992	198 40	55	44 00	460	460 00	10	2 00
	3,874	542 36	66,950	8,034 00	785	157 00	14,980	2,996 00	2,574	2,059 20	8,732	8,732 00	623	124 60

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN—Continued

Month	Diphtheria Schick Test		Tetanus Antitoxin					
	Outfits	Cost	Units	Cost	Syringes	Cost	Outfits	Cost
1936		$ c		$ c		$ c		$ c
April	452	90 40	3,444,500	1,033 35	65	13 00	21	9 45
May	281	56 20	6,437,000	1,931 10	220	44 00	6	2 70
June	311	62 20	6,025,000	1,807 50	275	55 00	8	3 60
July	274	54 80	10,913,500	3,274 05	399	79 80	21	9 45
August	310	62 00	7,662,000	2,298 60	168	33 60	7	3 15
September	382	76 40	9,554,000	2,866 20	140	28 00	20	9 00
October	676	135 20	5,412,500	1,623 75	422	84 40	15	6 75
November	305	61 00	5,470,500	1,641 15	74	14 80	5	2 25
December	392	78 40	2,474,500	742 35	50	10 00	1	45
1937								
January	294	58 80	4,359,500	1,307 85	210	42 00	12	5 40
February	387	77 40	3,350,000	1,005 00	112	22 40	11	4 95
March	294	58 80	3,754,000	1,126 20	100	20 00	2	90
	4,358	871 60	68,857,000	20,657 10	2,235	447 00	129	58 05

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN—Continued

Month	Scarlet Fever Antitonin						Dick Test		Scarlet Fever Toxin			
	Prophylactic	Cost	Treatments	Cost	Syringes	Cost	Dick Test	Cost	One Person	Cost	Six Persons	Cost
1936		$ c		$ c		$ c		$ c		$ c		$ c
April	1,050	787 50	832	2,288 00	218	43 60	441	88 20	436	130 80	540	540 00
May	592	444 00	345	948 75	112	22 40	384	76 80	274	82 20	104	104 00
June	670	502 50	446	1,226 50	150	30 00	393	78 60	299	89 70	207	207 00
July	785	588 75	414	1,138 50	100	20 00	293	58 60	348	104 40	191	191 00
August	550	412 50	368	1,012 00	.....	.....	280	56 00	643	192 90	148	148 00
September	638	478 50	322	885 50	.....	.....	418	83 60	360	108 00	571	571 00
October	847	635 25	628	1,727 00	.....	.....	478	95 60	542	162 60	382	382 00
November	725	543 75	345	948 75	100	20 00	498	99 60	516	154 80	378	378 00
December	833	624 75	610	1,677 50	75	15 00	499	99 80	395	118 50	154	154 00
1937												
January	1,048	786 00	810	2,227 50	75	15 00	571	114 20	889	266 70	586	586 00
February	797	597 75	531	1,460 25	175	35 00	534	106 80	453	135 90	368	368 00
March	705	528 75	508	1,397 00	85	17 00	658	131 60	532	159 60	321	321 00
	9,240	6,930 00	6,159	16,937 25	1,090	218 00	5,447	1,089 40	5,687	1,706 10	3,950	3,950 00

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN—Continued

Month	Anti-Meningococcus Serum				Smallpox Vaccine				Rabies Vaccine		Anti-Anthrax Vaccine	
	20cc Vials	Cost	Outfits	Cost	2 Point Packages	Cost	5 and 10 Point Packages	Cost	Treatments	Cost	30cc Vials	Cost
1936		$ c		$ c		$ c		$ c		$ c		$ c
April	208	208 00	31	13 95	515	61 80	10,595	476 78	3	31 50	.....	.....
May	120	120 00	13	5 85	536	64 32	8,465	380 92	3	31 50	.....	.....
June	72	72 00	9	4 05	425	51 00	6,245	281 02	4	42 00	.....	.....
July	93	93 00	17	7 65	561	67 32	5,985	269 32	12	126 00	6	10 50
August	105	105 00	16	7 20	606	72 72	13,125	590 63	.....	.....	.....	.....
September	167	167 00	36	16 20	892	107 04	10,300	463 50	.....	.....	.....	.....
October	72	72 00	16	7 20	416	49 92	7,720	347 40	.....	.....	.....	.....
November	71	71 00	2	90	399	47 88	5,930	266 85	.....	.....	.....	.....
December	161	161 00	20	9 00	369	44 28	6,290	283 05	.....	.....	.....	.....
1937												
January	331	331 00	34	15 30	437	52 44	6,870	309 15	.....	.....	.....	.....
February	108	108 00	21	9 45	397	47 64	9,975	448 88	2	21 00	.....	.....
March	149	149 00	16	7 20	525	63 00	11,025	496 12	.....	.....	.....	.....
	1,657	1,657 00	231	103 95	6,078	729 36	102,525	4,613 62	24	252 00	6	10 50

STATEMENT OF BIOLOGICAL PRODUCTS AND INSULIN—Continued

Month	Insulin				
	200 Units	400 Units	800 Units	Protamine Zinc	Cost
1936					
April	2,075	6,435	432	.....	5,896 10
May	1,840	5,640	380	.....	5,178 00
June	2,572	7,003	395	.....	6,444 40
July	2,245	6,030	135	.....	5,294 50
August	1,700	5,050	305	.....	4,611 50
September	1,825	5,465	370	.....	5,036 50
October	1,245	4,990	235	.....	4,296 50
November	1,520	5,340	330	.....	4,775 00
December	1,345	4,450	128	.....	3,819 40
1937					
January	1,725	5,300	295	1,010	5,515 75
February	1,575	5,720	270	250	5,166 25
March	1,420	4,175	270	520	4,218 50
	21,087	65,598	3,545	1,780	60,252 40

SUMMARY

Biological Products	$ 82,876 09
Less Syringes	822 00
Net Cost	$ 82,054 09
Insulin	60,252 40
Total Cost	$ 142,306 49

DIVISION OF MATERNAL AND CHILD HYGIENE AND PUBLIC HEALTH NURSING

J. T. PHAIR, M.B., D.P.H., Director.

While the value of any programme directed at the protection of child health is usually appreciated by those who concern themselves with matters of this kind, the full significance of this phase of the community health effort is often overlooked by those who fail to realize that those physical shortcomings which are too often ignored in the infant and toddler are the potential disabilities of the adult.

Maternal Mortality

Interest in the problem of lowering the death and sickness rates resulting from pregnancy is shared by both the public and the medical profession. In justification of this statement, we find that the response of the hospital authorities and private physicians to the request for specific information in respect to those deaths with which pregnancy has been associated, has been more complete this year than in any of the three previous years for which such data have been demanded.

The following table shows the distribution of the maternal deaths, by cause, for the years since the study of the additional data was begun:

CAUSE	1933 %	1934 %	1935 %	1936 %
Puerperal Septicaemia	23	23	15	25
Puerperal Toxemia	20	22	24	25.3
Abortion	18	20	18	16.9
Haemorrhage	13	16	11	10.4
Ectopic gestation	3	4	4	4.2
Embolism and sudden death	12	6	12	11.2
Other puerperal causes	11	9	16	7

While appreciating that maternal mortality and morbidity can never be lowered beyond what might be considered the irreducible minimum, the present higher-than-should-be death rate presents a challenge to all those in the field of preventive medicine. It is evident that the deaths known to be from preventable causes could still be substantially reduced. The toxemias of pregnancy are still too common and puerperal sepsis still too prevalent an aftermath of labor. However, it is hoped that the more general use of chemicotherapy in the treatment of this later complication may lesson the deaths from this cause.

In any serious attempt to adequately place in terms of their sequential significance, the factors which are known to contribute to maternal deaths, one is handicapped by the lack of acceptable data as to the extent to which some of these same factors are present in cases of pregnancy which terminate without difficulty. It is hoped that one or other of the studies of so called normal deliveries, now being conducted, should reveal much that will be helpful in the solution of this problem.

Infancy.

While realizing the manifest inadequacy of the present measuring rod by which we attempt to estimate the effectiveness of our efforts in the field of child health, it is encouraging to note again a further reduction in the infant death rate. This reduction has been annually recorded now for five consecutive

years; the rate for 1936 was 54.7 as compared with 55.7 in 1935. While it is possible only to predict at this time the rate for 1937, it is reasonable to hope that no serious rise will occur.

On closer inspection of the figures, it will be observed that approximately 50% of these deaths occurred under one month of age. Despite our best efforts, little in the way of improvement can be noted in deaths of this group during the last five years. It is gratifying to note, however, that the ratio of still-births to the total births has declined in this period and with this lowered rate an increase in the number of infants dying under one month might rightly be anticipated. Further analysis of such information as is available as to the causes of infant deaths shows that prematurity is responsible for more than 30% of all deaths under a year; malformations for over 12%; birth injury for 7%; congenital debility and other diseases common to early infancy, for 10%. These data would lead one to believe that there is no single factor responsible but a multiplicity of causes which faces those officially concerned with this phase of a community health programme. The paediatrician has contributed much to the progress already made. If further progress is to be made, it is the obstetrician to whom we shall have to look for prefessional direction.

A revised edition of "The Baby" has again been printed in the past year and is now being distributed. That the acceptability of this publication, dealing with maternal, infant and child care, has been maintained, is demonstrated by the fact that already approximately forty thousand copies have been sent upon the request of interested individuals in the province.

Pre-School:

There is an increasing evidence of interest by municipalities in the health supervision of children of pre-school age. In a number of centres, special emphasis is being placed on the health needs of this age group. This Division has provided assistance to six municipalities in the past year for this purpose. The number of these children who annually die or are crippled as the result of so called accidental causes continue to increase. Respiratory disease and communicable forms of illness are also important causes of death and illness in the under-five group.

The Department of Education again sought the co-operation of the Division in the conduct of the medical examination of all applicants for admission to the teacher-training schools of the province; the Division assuming responsibility for the necessary arrangements as well as supplying nursing personnel. The findings of the examining physicians offer further support of our earlier statement that many physical defects may be carried over from childhood. It is estimated that approximately two-thirds of these young adults enter the teacher-training schools with apparent physical defects. The conditions from which these students were suffering are as follows:

Defective vision	35 %
Ear defect	3 %
Nasal obstruction, sinus involvement, etc	4 %
Abnormalities of tonsils	15 %
Anemic	4.7%
Defective teeth	7 %
Thyroid abnormalities	9 %
Orthopaedic defects	2 %
Marked underweight	4 %
Marked overweight	2 %
Cardiac abnormalities	5.7%
Chest conditions requiring supervision	2 %
Wide variations of blood pressure	6 %
Nervous manifestations	1.5%
Abnormal findings in urine	4 %

Further, in the three consecutive years these examinations have been carried on, twenty-nine cases of active pulmonary tuberculosis have been diagnosed. While this represents slightly less than 1% of those entering the schools each year, the potentialities of the disease must be borne in mind when one considers the possibility of exposure to children.

The Departments of Education and Health continue their efforts to ensure a more effective approach to the subject of health teaching in both elementary and secondary schools. The increased emphasis placed on this subject in the revised Course of Study, Grades I-VI, and its inclusion among the subjects for instruction in the first form of high school, are tangible evidence of the progress being made.

PUBLIC HEALTH NURSING

While the number of staff members remained the same throughout the year, several adjustments were necessary. Miss Ola Dancause's appointment as staff nurse was made permanent. Miss Marjorie Rutherford was granted leave of absence from November, to assist with the public health nursing programme of the Ontario Society for Crippled Children for post poliomyelitis cases, and Miss Jean Aikenhead, a graduate of the Public Health Nursing Course, University of Western Ontario, was taken on the temporary staff to replace Miss Rutherford. Miss Howey returned to duty on August 1st, having completed successfully a Course at Bedford College, University of London (England).

From September to the end of the year four staff members were engaged in supervisory work.

The nursing activities of the Eastern Ontario Health Unit are given in detail in another section of the Report.

The work in the Temiskaming area progressed favourably. Considerable immunization work was organized and carried out and in several school districts assistance was given in tuberculin testing the school age children and following for X-ray those requiring it.

Special activities resulting from the outbreak of anterior poliomyelitis occupied the supervisors during September. Assistance was given in the organization and development of the experiment carried out to discover the possible preventive value of a nasal spray—thirty days in the aggregate.

Owing to the delay in opening the schools at the beginning of the fall term, the work in connection with the examination of applicants for admission to Normal Schools and the College of Education came in October and required the services of four supervisors and four staff nurses for sixty-three days in the aggregate.

Special work done at the request of municipalities included a survey of Child Hygiene and Tuberculosis Nursing in the City of London and assistance with the amalgamation of the Board of Health and Board of Education public health nursing services and the setting up of a generalized type of programme in St. Catharines.

Seventy-five centres were visited once by a member of the supervisory staff and eight centres received two or more visits. The total population of the centres visited was 884,592 and the total time spent in making the visits was 489 days. One hundred and fifty-six public health nurses are engaged in these services. Fewer centres were visited in 1937 than in the two previous

years; the chief factor accounting for this was the poliomyelitis epidemic. In eight centres newly appointed nurses were initiated. Following these visits reports were sent to the local officials.

Six undergraduate students of the University of Toronto School of Nursing and fourteen graduate students in the public health nursing course, spent one month in the observation and practice of public health nursing in centres throughout the province. Arrangements for this experience were made through the Division office.

Two Refresher Courses were attended by staff members. A detailed report of the lectures and discussions at the Course on Orthopaedic Nursing was prepared and distributed to the public health nurses of the province.

The Ontario Society for Crippled Children and the Division worked in close co-operation in planning the nursing follow-up programme of the Society to post poliomyelitis cases having residual paralysis.

In Peel County, the Toronto Township Branch of the Ontario Red Cross Society initiated a generalized (including bedside) public health nursing service.

A distinguished visitor to the Division early in the year was Miss Mary Lambie, R.N., R.M., Ph.D., Director, Division of Nursing, Department of Health, and Registrar, Nurses and Midwives Registration Board, Wellington, New Zealand. Another New Zealand nurse, Miss Leilya Small, spent several days observing the work in the Eastern Ontario Health Unit later in the year.

The question of undergraduate nurses securing some knowledge of community health work through a brief period of observation and instruction under the direction of the local health agency continues to receive attention. In a few additional centres, plans are developing.

Another question claiming increased attention is the development of a health service programme to meet the needs of the secondary school group. Services of varying types are in progress in several centres at present.

The Chief Public Health Nurse presented a paper at the International Congress of Nurses held in London (England) in July. Through the kind co-operation of the Department of Health for Scotland, she visited the County of Sutherland where a splendid health service is provided by the County Council and the Sutherland Nursing Association assisted by the Highlands and Islands Scheme. The work is under the direction of the County Medical Officer and the Superintendent of Nursing.

General correspondence during the year showed a considerable increase over that of previous years. An increased number of requests for information regarding the establishment of public health nursing service were received from different parts of the province.

EASTERN ONTARIO HEALTH UNIT

M. G. Thomson, M.B.D., P.H., *Medical Director.*

In submitting the Annual Report of the Health Unit's activities for the year 1937, I think it necessary to stress a point referred to in the report for 1936, viz., the inadequacy of the number of nurses employed in relation to the area covered by their activities. This is particularly true of Prescott County

in which, in addition to the Town of Hawkesbury (the largest town in the Unit area), there are seven townships to which only two nurses are allotted. It is impossible for one nurse to adequately cover the field allotted to the nurse stationed at Hawkesbury, which includes the Town of Hawkesbury and the four surrounding townships. It is in this area that the highest infant mortality in the Unit occurred, whereas there were no deaths among the infants attending the Well Child Conferences held in Hawkesbury. If it is not considered advisable to increase the nursing personnel in the area in question, the alternative is the abandonment of the school inspection work which does not appear to yield as satisfactory results as intensive work among infants.

Before going into detail regarding the work of the past year, I would like to mention the great benefit derived by myself and the whole staff from the visit paid to the Unit by Dr. W. A. McIntosh, of the Rockefeller Foundation during the month of June 1937. His advice and inspiration was of inestimable value to us all.

TABLE I.

CASES OF COMMUNICABLE DISEASE REPORTED

1936 and 1937

	1936		1937	
Disease	Cases	Deaths	Cases	Deaths
Chicken-pox	186	....	26	....
Diphtheria	18	1	47	....
Gonorrhoea	4	....	10	....
German Measles	475	....	5	....
Measles	648	1	64	....
Mumps	5	....	108	....
Paratyphoid Fever	1	....	4	....
Scarlet Fever	58	....	56	1
Syphilis	1	....	16	....
Typhoid Fever	14	....	12	....
Whooping Cough	43	1	189	1
Poliomyelitis	1	....	23	2
Smallpox	2	....	....	....
Septic Sore Throat	1	....	....	....
Jaundice	....	....	?	1

Figures for Cornwall Town are not included.

Of the 47 cases of diphtheria reported, 41 were from three townships, 17 from Lancaster (Glengarry County), 14 from Cumberland (Russell County) and 10 from Cornwall Township (Stormont County). Most of these cases occurred in the winter and early spring which afforded a good opportunity of awakening the Township Councils to the necessity of administering free toxoid to school and pre-school children. This was done thoroughly in the Townships of Lancaster and Cornwall before the end of September. In Cumberland Township, where only one school was done, the resignation of the Medical Officer of Health in August and the difficulty in agreeing on his successor has held up this work.

The four cases of paratyphoid fever were investigated. Three of them in Cumberland Township occurred in one family but the source of infection was not determined. The other case occurred in the St. Joseph's Industrial School at Alfred in Prescott County and the source was considered to have been at the home of the patient. No other cases occurred in the school.

Of the 56 cases of scarlet fever, about one-half occurred in Stormont County during the winter and early spring. School children and pre-school children in the areas affected were given protection by scarlet fever toxin before the end of June. The balance of the cases were scattered throughout the whole Unit area.

Of the 16 cases of syphilis reported, 9 were from the Township of Cornwall and 5 from Russell County and do not represent any increase in the number of cases in the area but rather more zeal in reporting by physicians.

Of the 12 cases of typhoid fever reported, 4 were from Kenyon Township (Glengarry County) in the vicinity of the village of Apple Hill, all apparently from the same local source, but where this first case acquired the infection, it was impossible to determine. Three cases were from the Village of L'Original (Prescott County) and were all from the same local source. The first case was infected while employed in the Province of Quebec and the Health authorities of that Province were duly notified. The balance of 5 cases occurred in the vicinity of the Village of Casselman (Russell County), two of them in one family, but no connection between these two and the other three cases could be determined, nor could any connection be made between these three isolated cases. There is probably more than one typhoid carrier in the Casselman district as small outbreaks have occurred in this area for the past three years, and probably before that, but it would be a tremendous undertaking to round them up.

There were 23 cases of poliomyelitis with 2 deaths in the Unit area as a result of the Province-wide epidemic last summer. Of these 23 cases, 13 suffered some degree of paralysis, all of whom have received treatment by way of splints, etc. Of these paralyzed cases, 8 reside in Prescott County and the remaining 5 in Glengarry. In the case of a number of others who received serum, the diagnosis was changed later or they were considered by their physicians as very doubtful cases.

During the peak period of the poliomyelitis epidemic, which lasted about 6 weeks, the services of Dr. James Smith, the consultant appointed by the Provincial Health Department for the Unit area, were much appreciated by the medical profession and the public generally. After his departure, this work was carried on by the Unit Director and while there were only a few calls for consultation in diagnosis, the greatest demand was for assistance in ordering splints and in their adjustment.

Influenza

The outbreak which occurred in the winter and spring of 1937 was confined chiefly to Prescott and the northern half of Glengarry Counties. In less than one month, the three nurses in these districts, with two assistants employed by the Town of Hawkesbury for one week, made 750 visits, giving bedside care to 110 cases, most of these visits being made during a period of two weeks.

Jaundice

One death was reported from jaundice which occurred in an outbreak of some respiratory infection involving a large number of cases during the summer and fall of 1937, about the same time as the outbreak of poliomyelitis, but some cases occurred during the month of December. These occurred over the whole Unit area but very few were reported as it was not considered to be the true infectious or epidemic jaundice but of a respiratory type of invasion.

TABLE II.

IMMUNIZATIONS BY COUNTIES DURING 1937

County	Diphtheria		Smallpox		Scarlet Fever	
	5 and over	under 5	5 and over	under 5	5 and over	under 5
Glengarry	857	180	975	71	.....	.....
Prescott	272	120	1984	185	444	130
Russell	256	27	843	130	.....	.....
Stormont	899	298	.....	.....	748	83
Total	2284	625	3802	386	1192	213

Every municipality in the Unit area has now carried through at least one diphtheria toxoid campaign, and, with the exception of five, a smallpox vaccination campaign.

TABLE III.

PERCENTAGE OF CHILDREN IMMUNIZED AGAINST DIPHTHERIA AND SMALLPOX

December 31, 1937

County	Diphtheria		Smallpox	
	School (5-14)	Preschool (1-4)	School (5-14)	Preschool (1-4)
Glengarry	72	16	52	8
Prescott	51	16	47	7
Russell	39	11	31	14
Stormont	72	12	35	2
All Unit	57	14	41	8

In compiling Table III, all available records of immunization clinics held in the area to the organization of the Unit were collected and tabulated by age.

The figures for smallpox vaccination are probably too low as a certain amount of vaccinating is carried out by family physicians of which we obtain no record.

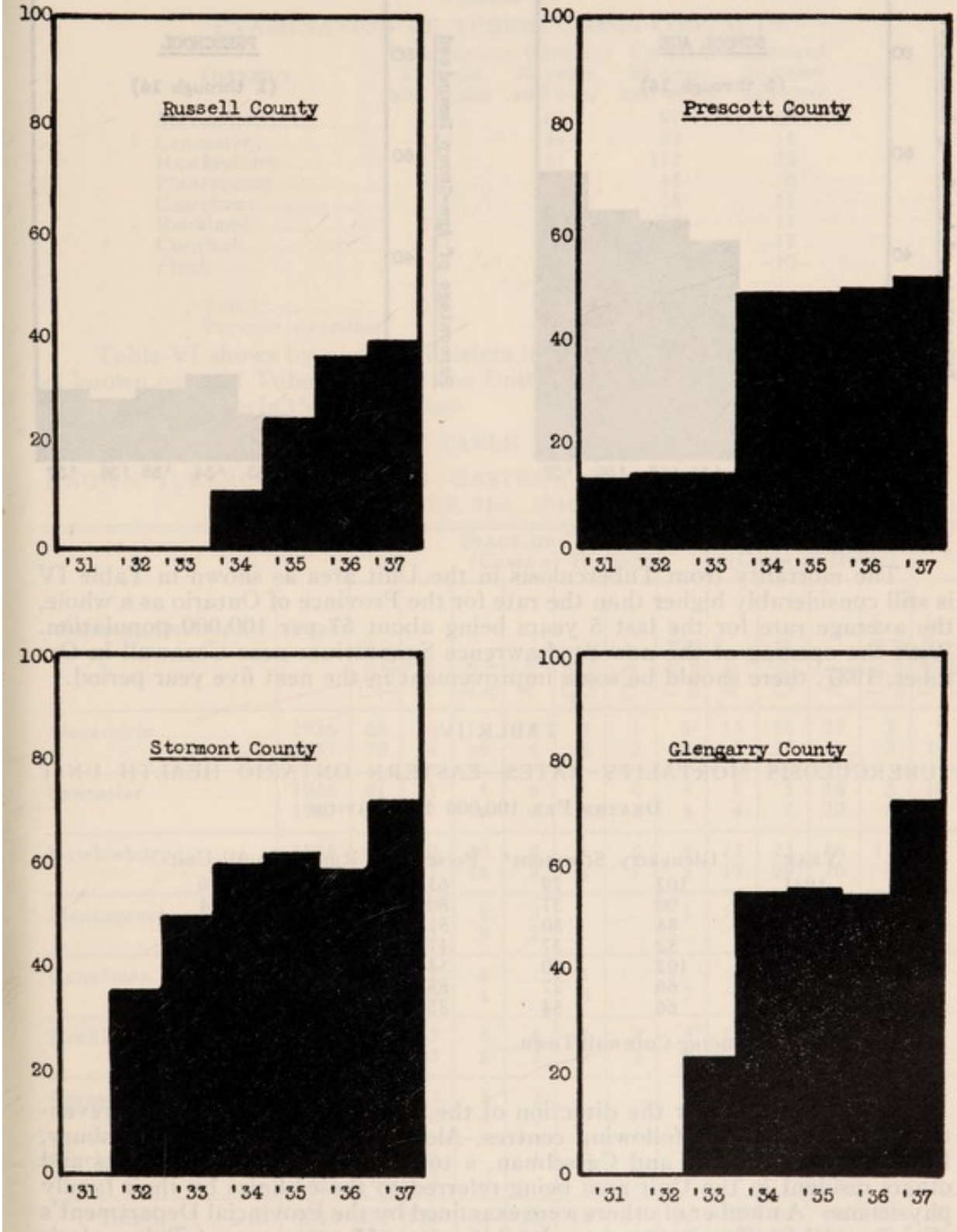
The records of diphtheria toxoid administration only include those receiving the full three doses.

Graph I shows by counties the percentage of school children protected against diphtheria by years since 1931. In Graph II, progress of diphtheria toxoid immunization by school age (5 through 14) and pre-school age (1 through 4) for the whole Health Unit is illustrated. Some health officers have given in turn, diphtheria toxoid, smallpox vaccine and scarlet fever toxin in successive years, which appears to be a good method of keeping rural areas awake to the advantages of immunization generally, and, with the annual campaign stressing the importance of immunizing the pre-school group, more progress can be looked for in the future in that regard.

GRAPH I.

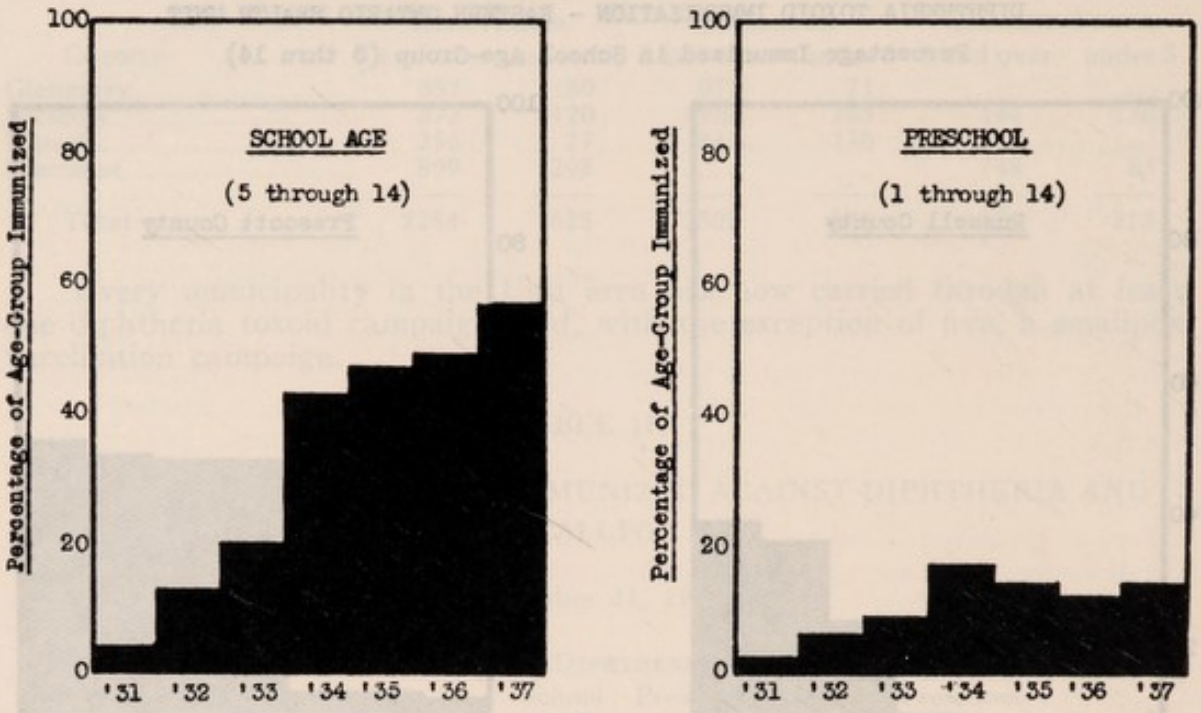
DIPHTHERIA TOXOID IMMUNIZATION - EASTERN ONTARIO HEALTH UNIT

Percentage Immunized in School Age-Group (5 thru 14)



GRAPH II.

DIPHTHERIA TOXOID IMMUNIZATION - EASTERN ONTARIO HEALTH UNIT



Tuberculosis

The mortality from Tuberculosis in the Unit area as shown in Table IV is still considerably higher than the rate for the Province of Ontario as a whole, the average rate for the last 5 years being about 57 per 100,000 population. With the opening of the new St. Lawrence Sanatorium near Cornwall in October, 1937, there should be some improvement in the next five year period.

TABLE IV.

TUBERCULOSIS MORTALITY RATES—EASTERN ONTARIO HEALTH UNIT

DEATHS PER 100,000 POPULATION

YEAR	Glengarry	Stormont*	Prescott	Russell	All Unit
1931.....	102	79	61	65	76
1932.....	90	37	80	91	74
1933.....	84	50	51	89	66
1934.....	52	37	47	41	45
1935.....	102	60	54	57	67
1936.....	66	27	85	52	60
1937.....	66	54	35	32	46

* Excluding Cornwall Town.

Chest clinics under the direction of the Division of Tuberculosis Prevention were held at the following centres, Alexandria, Cornwall, Hawkesbury, Plantagenet, Rockland and Casselman, a total of 894 patients, contacts and others resident in the Unit area being referred to these clinics by their family physicians. A number of others were examined by the Provincial Department's clinician at his office in Ottawa. In this group, 55 new cases of Tuberculosis were found.

Table V deals with the contacts of Tuberculosis cases in the area. The decrease in the percentage of contacts examined during 1937 as compared with 1936 is due to the fact that the chest clinics were held earlier in the year than usual and a large number of new contacts have been added to our lists in the last six months.

TABLE V.

EXAMINATION OF TUBERCULOSIS CONTACTS

District	Total Known Contacts 25 years and under	Total Known Contacts 26 years and over	Contacts Examined 25 years and under	Contacts Examined 26 years and over
Alexandria	176	100	97	39
Lancaster	128	84	32	14
Hawkesbury	274	141	112	38
Plantagenet	130	41	45	8
Casselman	75	22	38	11
Rockland	114	63	33	11
Cornwall	87	44	51	17
Finch	62	25	31	10
Total	1046	520	439	148
Per cent. examined			42%	28%

Table VI shows by nursing districts in which they originated, the number of known cases of Tuberculosis in the Unit area and the present stage and activity of the disease in those at home.

TABLE VI.

KNOWN TUBERCULOSIS CASES—EASTERN ONTARIO HEALTH UNIT—DECEMBER 31st, 1936 and 1937

Nursing District	Year	Grand Total	Stage of Disease (Cases at Home)						Activity (Cases at Home)				In Sanatoria
			Min.	Mod. Adv.	Adv.	Child-hood	Other	Undetermined	Act	Quiesc	Arr.	Undetermined	
Alexandria	1936	68	26	15	9	3	1	5	15	16	25	3	9
	1937	79	34	19	4	3	2	3	7	25	30	3	14
Lancaster	1936	41	11	5	6	....	4	5	5	5	16	5	10
	1937	47	17	6	4	1	3	5	4	7	20	5	11
Hawkesbury	1936	78	30	20	8	1	6	8	23	23	16	11	5
	1937	85	37	18	8	1	7	5	19	29	20	8	9
Plantagenet	1936	38	21	8	3	....	....	1	14	7	11	1	5
	1937	40	21	9	2	....	....	....	9	11	12	....	8
Casselman	1936	16	8	4	....	1	....	....	6	2	5	....	3
	1937	20	10	4	....	3	....	2	6	6	7	....	1
Rockland	1936	33	13	6	4	1	3	2	13	6	6	4	4
	1937	34	13	8	2	1	2	2	8	10	6	4	6
Cornwall	1936	20	3	5	2	....	....	3	5	5	....	3	7
	1937	33	6	4	....	2	....	1	3	4	5	1	20
Finch	1936	9	4	....	1	4	....	....	2	1	5	1	0
	1937	15	7	3	....	3	....	....	4	5	3	1	2
Total	1936	303	116	63	33	10	14	24	83	65	84	28	43
	1937	353	145	71	20	14	14	18	60	97	103	22	71

Table VII shows new cases found, deaths, admissions to and discharges from sanatoria, and other pertinent data.

TABLE VII.

SUMMARY OF TUBERCULOSIS CASES

	Alexandria	Lancaster	Hawkesbury	Plantagenet	Casselman	Rockland	Cornwall	Finch	Total
Cases at home, Jan. 1, 1937	59	31	73	33	13	29	13	9	260
New cases found during year	19	13	19	10	9	7	20	10	107
Returned from sanatoria	7	5	3	2	1	1	3	0	22
Moved into district	1	1	0	0	1	0	2	2	7
Died at home	7	1	4	3	2	3	5	4	29
Moved from district	0	3	3	5	3	2	1	1	18
Diagnosis reversed	0	0	3	0	0	0	0	1	4
Admitted to sanatoria	14	10	9	5	0	4	19	2	63
CASES AT HOME, Dec. 31, 1937	65	36	76	32	19	28	13	13	282
In sanatoria, Jan. 1, 1937	9	10	5	5	3	4	7	0	43
Admitted this year	14	10	9	5	0	4	19	2	63
Discharged this year	7	5	3	2	1	1	3	0	22
Died in sanatoria	2	3	1	0	0	1	3	0	10
Discharged—family moved out of Unit	0	1	1	0	1	0	0	0	3
CASES IN SAN., Dec. 31, 1937	14	11	9	8	1	6	20	2	71
TOTAL CASES—at home and in sanatoria	79	47	85	40	20	34	33	15	353

In appraising the results of efforts to control Tuberculosis, I think that reductions in the following items may be taken as indications of progress, viz.:

(1) In the number of infective cases in the home.

(2) In the number of deaths from tuberculosis of cases of whom the Unit had no knowledge before the death was reported.

(3) In the tuberculosis death rate.

From Table VI, it will be seen that there are now but 60 "active" cases in the home as compared with 83 last year, in spite of the fact that 107 new cases were discovered during the past year. Also, there are now only 20 whose stage of disease is "advanced" as compared with 33 last year. This is the most dangerous group, about 75 per cent. requiring sanatorium treatment.

Last year 19 deaths (37 per cent. of the total) were reported to the Unit only after death. This year, only 10 (25 per cent.) were thus reported.

Table IV indicates a steady fall in the death rate for the past three years.

Infant and Preschool Child Hygiene

Table VIII gives the number of deaths under one year of age per 1,000 live births in the individual counties and in the whole Health Unit area. Reductions in the rate have occurred in Russell and Stormont Counties, both

having the lowest rates of any year on record. The rate of 74 in Glengarry County is higher than in the past two years but is below the average rate for the County for years 1930 to 1937. The rate for Prescott County shows a sharp increase to 130, which is the highest rate recorded for that County since before 1930. The rates since 1930 for the various Counties and for the whole Health Unit are shown graphically herewith.

TABLE VIII.

INFANT MORTALITY RATES—EASTERN ONTARIO HEALTH UNIT

Deaths per 1,000 Live Births

Year	Glengarry	Stormont*	Prescott	Russell	All Unit
1925	97	94	112	102	103
1930	78	98	99	95	91
1931	109	107	81	110	99
1932	94	83	97	110	97
1933	85	72	110	119	99
1934	73	79	119	107	98
1935	46	78	97	79	80
1936	49	55	87	92	73
1937	74	45	130	73	85

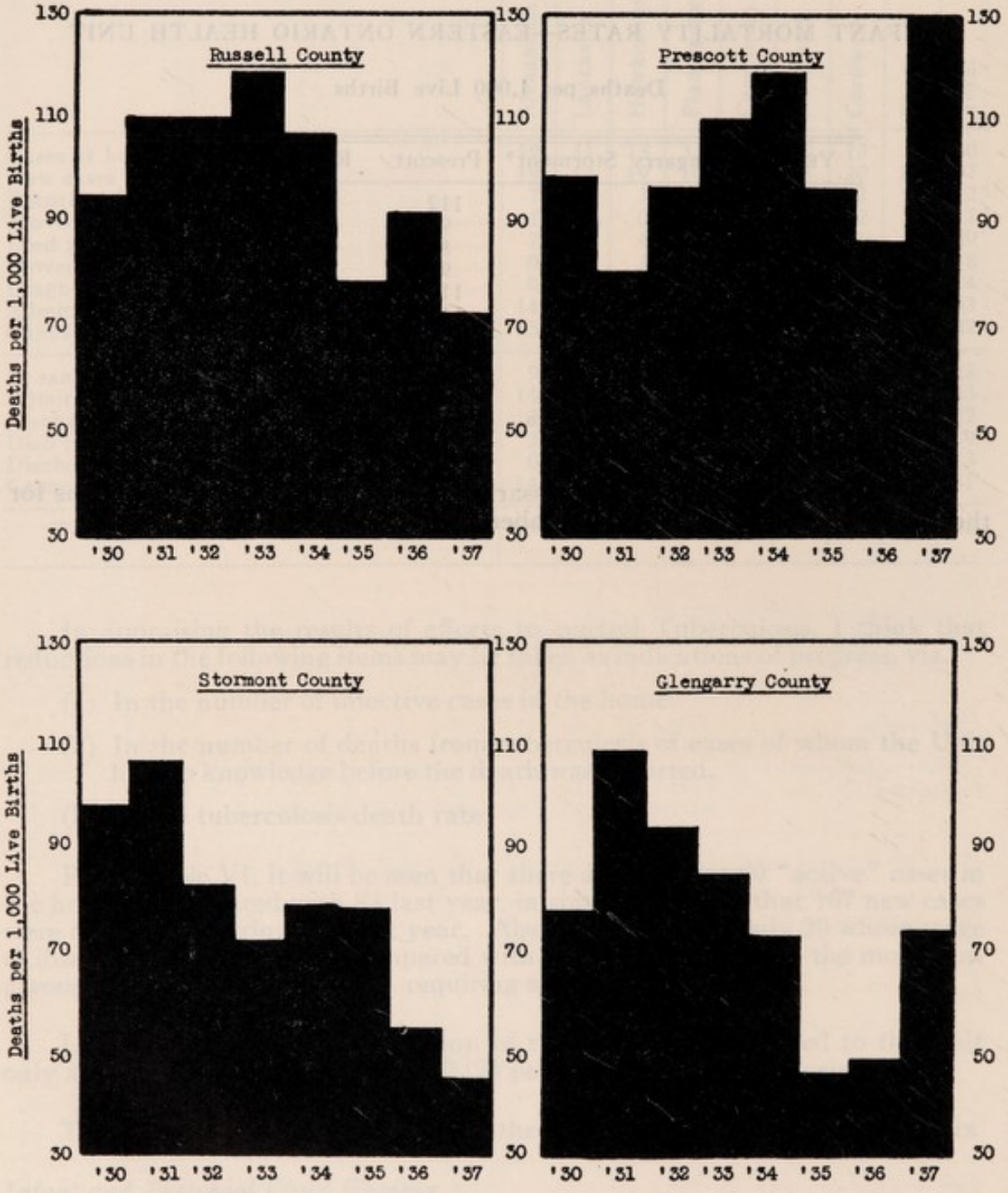
* Excluding Cornwall Town.

In the above Table it was necessary to estimate the number of deaths for the months of November and December, 1937.

Graph III.

INFANT MORTALITY RATES

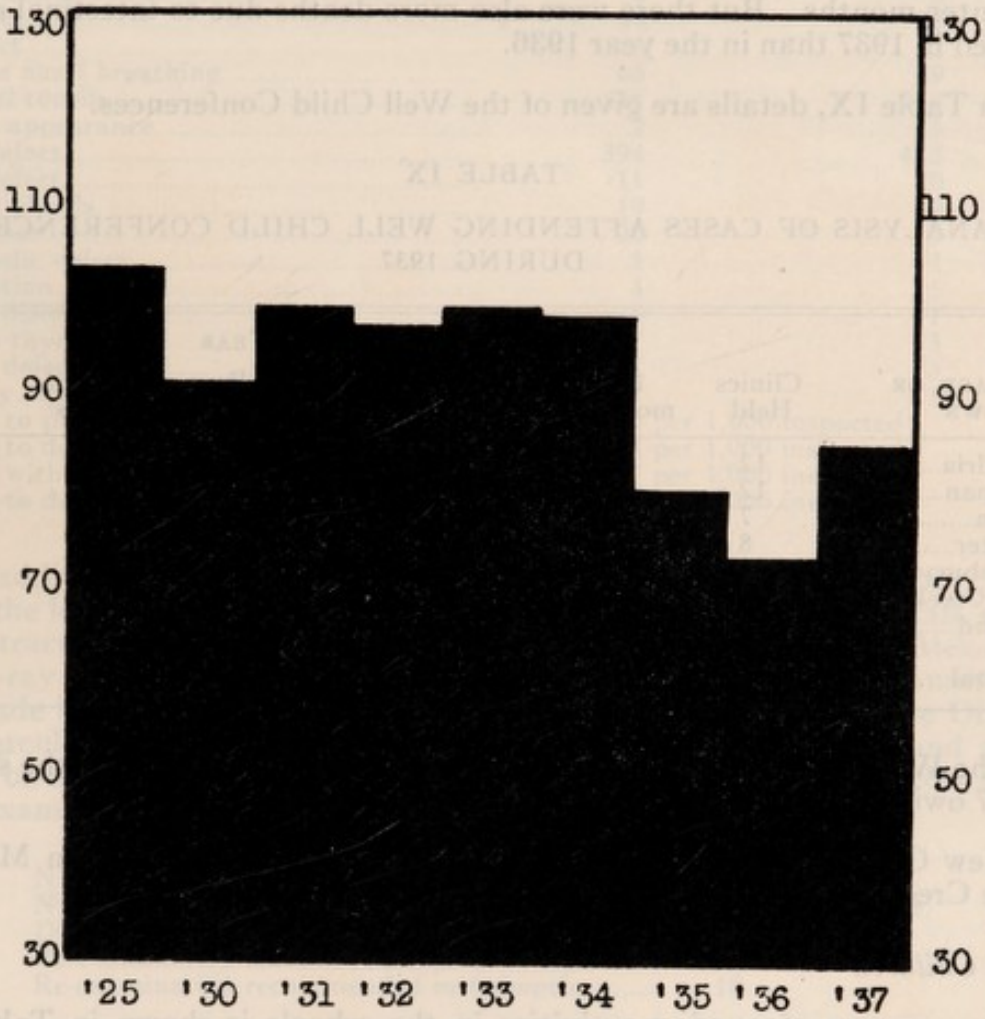
Counties of Eastern Ontario Health Unit



Graph IV.

INFANT MORTALITY - EASTERN ONTARIO HEALTH UNIT

Deaths per 1,000 Live Births



In comparing the actual number of infant deaths by "cause" and by counties in the Unit area for the 10-month periods from January to October, 1936 and 1937, it is noted:—

(1) That in Glengarry County, where the number of deaths is small, the increase in 1937 is general throughout the list of causes.

(2) That in Prescott County, where the rate has increased from 87 in 1936 to 130 in 1937, the largest single cause is "Respiratory" being 21 per cent of the total, next is "Prematurity" 17 per cent and "Intestinal" 17 per cent, the balance of 45 per cent consisting of all other causes of death. Many of these "Respiratory" deaths occurred during the epidemic of influenza in the winter months of 1937. It is of interest to note that no deaths occurred among infants attending the Well Child Conferences conducted by the Unit in the Town of Hawkesbury each month, and that, though only one-third of the births in the Unit area occurred in Prescott County, two-thirds of the deaths from intestinal causes were in this County.

(3) That in Russell and Stormont Counties increases occurred in deaths due to respiratory and intestinal causes, but decreases in deaths due to prematurity and other causes more than offset these increases.

For the whole Unit area, an increase in infant deaths is recorded for 1937, which is chiefly due to respiratory diseases, occasioned by the epidemic of influenza which occurred in Prescott and the northern half of Glengarry during the winter months. But there were also more deaths due to intestinal diseases recorded in 1937 than in the year 1936.

In Table IX, details are given of the Well Child Conferences.

TABLE IX

ANALYSIS OF CASES ATTENDING WELL CHILD CONFERENCES DURING 1937

Village or Town	Clinics Held	Age on First Visit This Year				Individuals	Total Visits
		1–3 months	4–6 months	7–12 months	Pre-school		
Alexandria	12	17	18	11	15	61	161
Casselman	12	11	8	7	5	31	100
Embrun	7	6	2	6	1	15	31
Lancaster	8	14	12	7	16	49	102
Hawkesbury	10	20	11	12	3	46	125
Moose Creek	3	4	1	3	2	10	13
Rockland	5	13	4	6	5	28	37
Total	57	85	56	52	47	240	569

The Williamstown Well Child Conference was not held during the summer of 1937 owing to an epidemic of pertussis in that area.

New Conferences were started at Embrun (Russell County) in May and Moose Creek (Stormont County) in June.

School Children

A summary of nursing activities in the schools is shown in Table XII (see page 78). "Quick Inspection" refers to an inspection to check on communicable, skin and other diseases and pediculosis given to all children in schools of four class rooms or more after vacation periods or at the request of teachers.

During the year 1937, the school form in use, which had been supplied by the Department, was completely changed. From the information gathered from the old reports, it was difficult to appraise the effect of the considerable time being spent on this work as to whether the health of the school population was improving to any great extent. The form was drawn up so that the number of eye defects, abnormal tonsils, defective teeth, etc., per 1,000 pupils inspected could be ascertained. A lowering of these rates would indicate progress. A summary of the results from 51 class rooms inspected since the form was sent out to the staff nurses follows. (Table XI). This summary covers 1,132 children, 795 of whom had been previously inspected by our staff nurses. The table presents a comparison of the findings in those recently examined and those previously examined from 1 to 2 years ago. The number inspected is rather small and this summary should be considered as merely preliminary.

TABLE XI.

	Number of uncorrected defects in 1,000 pupils inspected November-December, 1937.	Number of defects in 1,000 pupils in this group when previously inspected 1-2 ys. ago
Vision defect	72	74
Hearing defect	5	5
Eye defect	26	27
Ear defect	....	1
Defective nasal breathing	65	69
Abnormal tonsils	241	247
Anaemic appearance	2	5
Dental defect	394	415
Speech defect	11	10
Enlarged glands	19	19
Skin disease	26	9
Orthopaedic defect	1	4
Malnutrition	4	5
Nervous disorders	4	1
Enlarged thyroid	7	3
Postural defect	7	3
Mentality	1	1
Referred to physician	365 per 1,000 inspected	
Referred to dentist	394 per 1,000 inspected	
Children with no defect	427 per 1,000 inspected	
Referred to dentist only	208 per 1,000 inspected	

In addition to the inspection of public and separate school children carried out by the local Medical Officers of Health and Nurses of the Unit staff, tuberculin intracutaneous tests were given to the High School pupils at Alexandria with X-ray examination of reactors to the test. These X-ray examinations were made by the St. Lawrence Sanatorium with the approval of the Division of Tuberculosis Prevention of the Provincial Health Department and at the request of the High School Board which undertook to provide the cost of the X-ray examination. A summary of these examinations follows:

Number receiving tuberculin test	124	
Number positive reactors	18	14.5 per cent.
Diagnosed cases	none	
Re-examination recommended in 3 months	6	
Re-examination recommended in 6 months	18	

Orthopaedic Work

Under the auspices of the Catholic Women's League, an Orthopaedic Clinic was held in Alexandria on September 16th with Dr. James Murray, Orthopaedic Surgeon of Ottawa, in charge. Thirty-four cases were examined of which ten were cases which had already received treatment and were for observation as to progress; the balance were new cases for which treatment was recommended or advice given regarding their care.

For children residing in other sections of the Unit, examination is arranged for either in Ottawa or Montreal. In Hawkesbury we are indebted to the Rotary Club and in Cornwall to the Kiwanis Club for assistance in securing transportation and treatment.

There is little real difficulty experienced in securing treatment for this type of case and practically all the known cases are receiving treatment or arrangements are being made to secure it.

Mental Health Clinics

Under the direction of Dr. Gundry of the Ontario Hospital staff of Brockville, Mental Health Clinics are being organized in the Unit area. Two clinics have been held at the Unit headquarters in Alexandria at which "problem cases" among school children and children of preschool age were examined and advice given regarding methods of training which will be of great benefit to these children. It is intended that the Alexandria Clinic will be a nucleus for expansion of this work throughout the Unit area. Efforts are being directed towards the development of a consultation service for mental cases for the medical profession throughout the area, in addition to the "follow-up" work in connection with mentally maladjusted school children.

Meetings

The Supervisor of Nursing addressed ten Women's Institute groups and gave a talk on "Health in the School" at the Annual Teachers' Institute meeting at Alexandria, followed by a demonstration of "A Hand Washing Set-Up for Rural Schools." Follow-up has shown that to date at least eight schools have adopted this method.

The Medical Director addressed the meeting of the Counties' Council of Dundas, Stormont and Glengarry in June, four other meetings of municipal councils and six meetings of Women's Institutes and Young Farmers' Clubs.

A well-attended meeting of representative people of Glengarry County was organized by the Advisory Health Committee of the Unit and held in Alexandria on November 19th. This meeting was addressed by His Excellency, the Bishop of Alexandria, and by Dr. Gordon Bates, Director of the Health League of Canada, and aroused considerable interest and enthusiasm.

Nursing Service

For the first four months of the year, the nursing staff was composed of a supervisor and seven staff nurses. In May, Miss Ora Lefler returned following a leave of absence and for the balance of the year, the full staff of eight nurses was maintained.

In October, Miss M. A. Rutherford, nurse in the Alexandria district, was given a year's leave of absence to go to the Ontario Society for Crippled Children, and Miss Jean Aikenhead, a graduate of Victoria Hospital, London, and the School of Public Health Nursing of Western University, received a temporary appointment to fill her place. Miss Aikenhead reported for duty on November 1st.

This year, as in 1936, a graduate student from the School of Nursing, University of Toronto, was given a month's field work in the Unit. This experience has proved as valuable to the nurse to whom she was assigned as we hope it has been to the student.

In October, three nurses assisted for the period of a week with the yearly physical examination of Normal School students, two in Ottawa and one in Toronto. Also a nurse was loaned for one week to assist with a Provincial Chest Clinic held in Carleton Place in November.

A Refresher Course on Tuberculosis held in May and sponsored by the School of Nursing, University of Toronto, was attended by one nurse from the

staff, while a second nurse attended a similar course on Orthopaedic Nursing in November. These courses are fully reported at staff meetings, three of which have been held this year. However, it would seem to be desirable to have such courses made available to a larger number of the staff, since the contacts made and the stimulating effect of meeting other workers are much needed by those working in a more or less isolated rural area.

The nurses made 7,506 strictly nursing visits, which included 337 bedside care visits, the latter being in most instances for the demonstration of maternal and infant care and at the request of physicians for treatment and care of acutely ill patients. In addition, 1,445 visits were made for special activities such as chest and immunization clinics, while 1,815 visits were made in the interest of the work in general. The nurses have tried to distribute their time evenly over the different phases of the work, but medical, and consequently nursing supervision of antepartum and postpartum cases still remains disappointing.

Classes in Home Hygiene and Care of the Sick were organized in three centres. Five groups covered the complete course, one group finished a course began last year. A total of 38 sessions were held, the average attendance being 23.

A visit from Dr. McIntosh, of the Rockefeller Foundation in June, was enjoyed and appreciated. One result has been an appreciation by the nurses of the need for having those who can afford to pay report to their family physicians for immunization against communicable disease. As an indirect result of this, in a vaccination campaign in one district, 1,026 school children were immunized by their family physicians.

The following Table is a summary of the nursing activities for the past year. The "assistants" mentioned therein refer to two graduate nurses employed by the Town of Hawkesbury to assist during the influenza epidemic in January and February, for the period of one week each.

TABLE XII.

SUMMARY OF NURSING ACTIVITIES FOR THE YEAR 1937

	Visits									Clinics						Schools				Nursing Classes		
		Maternity												Child Health								
	Health Supervision		New-Born	Tuber-culosis	In Be-half of	Morbidity	Special Activities	Bedside Total	Total	Diph. Toxoid	Scarlet Fever	Smallpox	Chest Clinic (Days)	No.	No. Exam.	No. Classrooms	No. Inspected	No S.P.I.	Quick Insp.	No.	Aggregate Attendance	Meetings
Miss Aikenhead (1)	82	29	11	22	....	1	30	.....	175	194	.....	.....	.....	2	21	14	....	212	200	....	.....	1
Miss Bechard	138	59	15	25	38	226	498	(95)	999	150	.....	973	5	19	131	26	234	642	962	11	374	8
Miss Dancause	460	115	50	95	49	317	485	(67)	1571	385	.....	947	4½	1	12	47	533	692	1090	....	.....	5
														Hawkesbury								
Miss Hally	630	26	....	88	16	185	408	(26)	1353	133	.....	.....	5	5	37	53	62	1485	2044	....	.....	9
Miss Lefler (2)	563	22	3	46	18	7	290	(3)	949	.....	.....	.....	.....	3	13	16	.....	269	423	....	.....	9
Miss Lunn	810	60	25	54	5	35	244	(41)	1233	443	.....	.....	2	8	102	42	237	655	1976	....	.....	8
Miss Osborne	390	15	18	78	58	1	352	.....	912	1197	831	.....	.....	....	....	29	502	288	928	....	.....	10
Miss Rutherford (3)	347	84	28	175	54	135	506	(75)	1329	.....	.....	946	11	10	140	36	127	740	1559	22	422	11
Miss Wheler	767	54	14	183	110	397	414	(22)	1939	7	574	196	8½	9	113	55	246	1182	1520	5	66	8
Assistants	.....	6	7	....	....	154	.....	(8)	167	.....	.....	.....	.....	....	....	....	.....	.....	.....	....	.....	....
Student	64	16	7	17	....	2	33	.....	139	.....	.....	.....	.....	....	....	5	.....	84	.....	....	.....	1
Total	4251	486	178	783	348	1460	3260	(337)	10766	2509	1405	3062	36	57	569	323	1941	6248	10702	38	862	70

(1) November-December, 1937. (2) May to December, 1937. (3) January to October, 1937.

SANITARY ENGINEERING ACTIVITIES DURING 1937

G. A. H. BURN, *Sanitary Engineer.*

Sanitary engineering activities in the Health Unit area during the past year were conducted along routine lines. They embraced such matters as water supplies, sewage disposal, school sanitation, milk supplies and miscellaneous investigations.

Water Supplies

With the opening of the St. Lawrence Sanatorium, another community water supply was added to the list of supplies in the area. The water supply for this institution is secured from the St. Lawrence River. Treatment includes chlorination by means of an Eau-Claire chlorinator which applies a hypochlorite solution to the pump suction and filtration through pressure mechanical filters. The institution was officially opened on September 15, 1937, and three visits were made in connection with the proper adjustment of the chlorine dosage.

Four routine chlorination inspections were made of each of the following municipal supplies—Alexandria, Cornwall Township, Hawkesbury and Rockland. During the course of highway construction on Highway No. 34, a gravel washing plant was operated on the north bank of the Delisle River, a short distance above the Alexandria waterworks plant. In order to protect the Alexandria plant against excessive turbidity, the effluent from the gravel washing machine was treated with alum and passed through open settling basins before being discharged into the river. This installation required considerable supervision. Special visits were made to Cornwall in December in connection with adverse water reports and to Hawkesbury in connection with alterations at the waterworks pumping station and a cross-connection at the International Paper Company.

Five inspections were made of the spring-collecting area of the Alfred waterworks system and three of the Plantagenet area. Two additional visits were made to Plantagenet to discuss the operation of the gravity sand filter installed on this supply. There were no cases of typhoid or paratyphoid fever in the area attributed to the use of water from any of the community supplies.

Information was supplied to a number of individuals who enquired regarding the proper protection of private well supplies against surface contamination. There is urgent need for suitable departmental literature covering this problem.

Sewage Disposal

An investigation of the pollution of the St. Lawrence River in the vicinity of Cornwall from industries in this area was made. Reports were prepared covering the disposal of wash water from three cheese factories located in Lochiel, Lancaster and Finch Townships. At one factory recommendations made were complied with. Advice was given three individuals in Lochiel Township and one in Roxborough Township with respect to septic tank installations for private homes. Drainage problems in Alexandria (2), Casselman, South Plantagenet Township, North Plantagenet Township, (2), Hawkesbury (2), and Vankleek Hill were investigated and reported upon.

School Sanitation

At the Iona Academy, located in St. Raphael's, Charlottenburgh Township, the construction of a large septic tank and subsurface tile distribution

system to take care of the sewage from this institution was supervised. The water distribution system was also chlorinated to eliminate pollution which had apparently been introduced into the concrete storage reservoir.

A new two-roomed school of brick construction was erected at Riceville in South Plantagenet Township. This school is equipped with modern plumbing and a septic tank followed by subsurface tile distribution was installed to dispose of the sewage. Investigations of conditions existing at nine other schools in the area were made. These were located as follows: South Plantagenet Township, 1; Roxborough Township, 1; Charlottenburgh Township, 2; Maxville, 1; Lancaster Village, 1; and Lancaster Township, 3.

Milk Supplies

Complete investigations of the milk supplies of Alexandria, Plantagenet, Hawkesbury, Vankleek Hill and Alfred were made. Inspections were made of two pasteurizing plants and eighteen raw milk plants in these centres. The premises of thirty-eight additional small dealers were also inspected. Reports listing the various defects of these establishments were forwarded to the Provincial Department of Health for the consideration of the Milk Control Board.

Re-inspections of five pasteurizing plants and twelve raw milk plants serving the suburban area in Cornwall Township were made. The majority of these dealers were found to be remodelling their buildings and installing new equipment to comply with the regulations of the Milk Control Board.

The system of collection of milk samples in the various towns and villages in the area was continued. A total of 330 samples were secured from 122 distributors located in 17 centres. There are only seven pasteurizing plants located in the Unit area and it would appear unlikely that this number will be materially increased, unless compulsory pasteurization legislation is enacted. During 1937, a total of 69 samples of pasteurized milk were submitted from the area to the Branch Laboratory for bacterial examination. The logarithmic average of the standard plate counts was 34,000. Samples of raw milk to the number of 312 were similarly examined. The corresponding average for the raw milk samples was 56,000. The above summary includes samples submitted by local public health authorities as well as those secured by this division. It is apparent that with the closer supervision which will arise through the enforcement of the Regulations of the Milk Control Board, a marked improvement in the quality of both the raw and pasteurized milk marketed in the area should be possible.

Miscellaneous

On October 20th and 21st, 1937, the annual meet of the Eastern Counties' Plowmen's Association was held near the Village of Clarence Creek, in Clarence Township. An exhibit featuring matters of interest in the field or rural sanitation was maintained in this display and a considerable volume of public health literature both in French and English was distributed.

Distribution of Work

Summarizing all activities, the work done was spread over 22 of the 28 municipalities in the Unit area. Work instituted by the writer in connection with water and milk supplies embraced 17 municipalities. A total of 40 special problems of various natures were investigated at the request of the following:—Head Office, 7; private individuals, 11; other provincial government officials, 8; and local boards of health, 14. The requests from local boards of health were confined to 9 municipalities.

DIVISION OF TUBERCULOSIS PREVENTION

G. B. BRINK, M.B., *Director*

During the last twenty-five years there has been a decided change in the outlook on tuberculosis both among the general public and the medical profession.

The public no longer considers tuberculosis as an incurable disease. People are becoming aware of the fact that tuberculosis is a disease usually contracted within the home or at work due to close association with an infective person. They are demanding more thorough medical investigation of contacts, the potential cases of the future. Because of the moral and financial effects brought about by tuberculosis, the significant economic aspect of the problem is receiving more attention.

The family physician should always be the greatest factor in any scheme for the control of this disease. The impression that most of the anti-tuberculosis work has been taken from the general practitioner is not borne out by the fact that less than fifty per cent. of those dying from tuberculosis in Ontario in 1936 had received sanatorium treatment. The family physician is realizing more than ever that when his patient has been found to have tuberculous disease, his responsibility is not complete until the members of the family or other contacts have been examined and X-rayed in order to rule out possibility of undiscovered disease. Nevertheless, many general practitioners should have a better appreciation of the value of surgical procedures in the treatment of tuberculosis and make greater effort to bring about admission of their patients to sanatorium where surgical facilities are available.

The principles which should govern any tuberculosis measures in any country would appear to be:

(a) Adequate facilities for diagnosis,

(b) Adequate facilities for segregation and treatment of all those in need of such.

During this year two new Travelling clinics were organized; one is located at Fort William and will serve centres in the North-west part of the Province; the other has its headquarters in Timmins and will serve the mining centres in this district and visit towns north from Matheson to Hearst.

It is hoped that these Clinics will make possible more frequent visits to centres in the northern portion of the Province and in this way bring to light more cases with early disease than has been the experience in the past.

The number of examinations by the previously existing Travelling Clinics with headquarters in Toronto, Ottawa, Belleville and North Bay, has increased. The general activities of each of these Clinics are described separately.

The Department has been fortunate in securing the services of Dr. James W. Smith and Dr. Graham B. Lane. Each has had considerable experience in tuberculosis work. Dr. Smith is in charge of the Clinic working out of Fort William, and Dr. Lane is directing the work in the Timmins area.

Clinic Facilities in Ontario.

There are provided two types of clinics (*a*) permanent, and (*b*) travelling.

Permanent clinics are operated under Local Boards of Health, voluntary agencies, service clubs and sanatoria in the following centres:

Barrie	Haileybury	Niagara Falls	Sarnia
Brantford	Hamilton	Oakville	Simcoe
Brockville	Hespeler	Orillia	Stratford
Chatham	Ingersoll	Ottawa	Timmins
Collingwood	Kingston	Peterborough	Toronto
Galt	Kitchener	Port Colborne	Welland
Goderich	London	St. Catharines	Windsor
Guelph			Woodstock

DEPARTMENTAL TRAVELLING CLINICS

The central office clinic with headquarters in Toronto visits the following centres every eight months:

Oshawa	Wiarton	Tillsonburg	Brockville
Uxbridge	Southampton	Orangeville	Peterborough
Newmarket	Kincardine	Shelburne	Lindsay
Parry Sound	Lucknow	Chesley	Bobcaygeon
Midland	Wingham	Walkerton	Mount Forest
Penetanguishene	Amherstburg	Hanover	Drayton
Owen Sound	Leamington	Durham	Arthur
Meaford	Ridgetown	Palmerston	Fergus
Flesherton	St. Thomas	Listowel	

The clinic with headquarters in Ottawa visits the following centres, once every ten months:

Smith's Falls	Morrisburg	Casselman	Alexandria
Carleton Place	Kemptville	Chesterville	Hawkesbury
Perth	Winchester	Arnprior	Rockland
Almonte	Prescott	Plantagenet	Eganville
Finch			Renfrew

The clinic with headquarters in Belleville visits the following centres every six months:

Port Hope	Picton	Coehill	Brighton
Cobourg	Wellington	Deseronto	Colborne
Marmora	Campbellford	Napanee	Hastings
Stirling	Tweed	Gananoque	Frankford
Madoc	Bancroft		

Monthly clinics are also held in Belleville.

The clinic with headquarters in North Bay visits the following centres:

Sudbury, every 4 months.

Kirkland Lake, every 4 months.

The following centres are visited every 6 months:

Englehart	Desbarats	Thessalon	Blind River
Mattawa	Pembroke	Bruce Mines	Sault Ste. Marie
Burk's Falls	Sturgeon Falls	Huntsville	Gore Bay
Chapleau	Richard's Landing	Massey	Mindemoya

In addition, clinics are held in North Bay every month.

The clinic with headquarters in Timmins will, besides holding frequent clinics in Timmins, visit the following centres twice a year:

Matheson	Cochrane	Kapuskasing
Iroquois Falls	Smooth Rock Falls	Hearst

The clinic with headquarters in Fort William will visit the following centres every six months:

Schreiber	Kenora	Rainy River	Fort Frances
Dryden	Sioux Lookout	Emo	Nipigon
			Nakina

Treatment Facilities

During the year plans were completed for additions to the following sanatoria providing for a considerable increase in the number of beds:

Essex County Sanatorium	Windsor	40 beds
Queen Alexandra Sanatorium	London	80 beds
Freeport Sanatorium	Kitchener	40 beds
Mountain Sanatorium	Hamilton	80 beds
Toronto Hospital for Consumptives	Weston	100 beds
Fort William Sanatorium	Fort William	80 beds
Total		420 beds

SUMMARY OF TRAVELLING CLINIC WORK, 1930-1937

TABLE I.

Year	No. of Clinics Held	No. of Centres Visited	No. of Exams. Made	No. of Tuberculous Suspects	No. Non-Tuberculous Chest Conditions	No. of Tuberculous Cases Examined	No. of Active Cases	No. of Inactive Cases	Percentage of Tuberlous cases Total Examinations
1930	22	22	1204	135	103	260	154	106	21.6
1931	28	21	1406	171	82	342	181	143	23.6
1932	28	28	2331	223	143	438	233	205	18.7
1933	26	26	2740	122	118	456	186	270	16.6
1934	38	38	3398	80	199	667	231	436	15.4
1935	31	31	4781	61	248	702	225	477	14.7
1936	113	97	8856	126	574	1367	478	889	15.4
1937	131	97	11134	159	769	1772	520	1252	15.

TABLE II.

CENTRAL CLINIC

Town 1937	Month	No. Exams. Made	Tbc. not a Factor	Suspects	Non-Tbc. Chest Conditions	Tuberculosis				Active	Inactive	% Tbc.	Rec. for San.	New Cases Tbc. Found
						Childhood	Min.	Mod. Adv.	Adv.					
Uxbridge	Jan.	53	44	2	4	0	1	2	0	2	1	5.6	3	2
Newmarket	Jan.	36	25	2	2	1	3	1	2	2	5	19.4	2	0
Port Hope	Jan.	60	53	1	2	0	1	3	0	1	3	6.6	2	0
Cobourg	Jan.	76	59	1	4	0	2	8	2	5	7	15.8	5	1
Lindsay	Feb.	163	128	8	11	2	3	9	2	3	13	9.8	2	4
Ridgetown	Feb.	79	65	2	4	0	4	3	1	1	7	10.1	2	2
St. Thomas	Feb.	98	80	3	7	1	3	2	2	2	6	8.1	1	2
Amherstburg	Mar.	45	32	2	4	4	1	2	0	1	6	15.5	1	0
Leamington	Mar.	103	86	0	4	1	6	4	2	5	8	12.6	5	3
Owen Sound	Mar.	77	56	2	4	3	3	8	1	2	13	19.5	2	2
Chesley	Mar.	71	48	7	5	5	4	2	0	3	8	15.4	3	3
Walkerton	Apr.	34	23	0	6	0	3	0	2	3	2	14.7	4	1
Palmerston	Apr.	74	60	2	5	0	4	3	0	1	6	10.9	1	2
Listowel	Apr.	51	41	0	4	1	2	3	0	1	5	11.7	1	0
Cornwall	Apr.	379	300	11	11	7	32	15	3	17	40	15.0	20	15
Brockville	May	132	89	6	8	4	12	10	3	13	16	19.0	14	9
Tillsonburg	May	61	40	5	6	1	5	3	1	1	9	16.4	1	1
Flesherton	June	36	24	0	3	3	0	4	2	2	7	25.0	3	2
Meaford	June	70	60	1	3	0	2	1	3	3	3	8.6	3	2
Midland	June	126	98	1	6	2	9	6	4	9	12	16.6	9	8
Penetang	June	46	35	0	7	0	2	2	0	0	4	8.7	0	1
Wiarton	June	36	21	2	6	0	2	5	0	3	4	19.4	5	5
Southampton	June	11	8	1	1	0	1	0	0	0	1	9.9	0	0
Kincardine	June	46	29	0	7	1	7	1	1	1	9	21.8	2	4
Lucknow	July	35	26	0	1	0	3	3	2	1	7	22.8	3	2
Wingham	July	40	28	3	5	0	0	3	1	0	4	10.0	1	2
Parry Sound	Aug.	37	25	0	2	4	3	3	0	1	9	29.9	1	3
Sioux Lookout	Aug.	85	60	0	3	5	4	4	0	3	10	15.4	3	5
Dryden	Aug.	33	22	0	2	0	3	6	0	1	8	27.2	1	0
Kenora	Aug.	100	74	1	5	2	7	7	4	6	14	20.0	5	2
Emo	Aug.	22	15	0	0	1	1	4	1	0	7	31.8	0	1
Rainy River	Aug.	28	19	0	3	1	0	3	2	2	4	21.4	2	0
Fort Frances	Aug.	56	44	2	1	0	2	6	1	3	6	16.0	2	2
Schrieber	Aug.	23	13	0	3	1	3	1	2	0	7	30.4	0	0
Chapleau	Aug.	68	59	0	2	1	1	2	0	1	3	6.1	0	2
Biscotasing	Sept.	85	83	0	1	0	0	0	1	0	1	1.2	0	0
Lindsay	Oct.	95	71	0	12	0	3	8	1	3	9	12.6	3	1
Bobcaygeon	Oct.	38	27	1	5	0	4	1	0	0	5	13.1	0	2
Peterboro	Nov.	251	214	2	5	11	10	4	5	7	23	11.55	5	11
Oshawa	Nov.	240	175	7	15	5	19	12	7	7	36	17.9	7	9
Brockville	Dec.	114	87	1	11	0	8	7	0	1	14	13.1	1	2
Owen Sound	Dec.	121	88	6	4	4	7	10	2	3	20	19.0	4	4
Totals		3,431	2,643	82	204	71	190	181	60	120	381	14.6	128	117
							502							

TABLE IIa

OTTAWA CENTRE

Town 1937	Month	No. Exams. Made	Tbc. not a Factor	Suspects	Non-Tbc. Chest Conditions	Tuberculosis				Active	Inactive	% Tbc.	Rec. for San.	New Cases Tbc. Found
						Childhood	Min.	Mod. Adv.	Adv.					
Kemptville	Jan.	32	19	1	0	2	8	1	1	1	11	37.50	1	1
Alexandria	Jan.	61	33	1	1	0	16	5	5	7	19	42.62	3	5
Arnprior	Feb.	56	45	0	1	1	4	5	0	4	6	17.86	1	2
Prescott	Feb.	85	65	0	6	1	6	4	3	4	10	16.47	4	1
Almonte	Mar.	51	42	0	3	0	6	0	0	3	3	11.97	1	2
Winchester	Mar.	59	49	0	1	2	2	3	2	0	9	10.53	1	0
Morrisburg	Mar.	35	28	0	1	1	3	1	1	0	6	21.43	0	0
Hawkesbury	Apr.	232	178	1	9	2	25	12	5	6	38	18.97	6	5
Plantagenet	May	80	58	3	3	0	8	8	0	4	12	20.00	4	5
Alexandria	May June	286	212	3	10	2	29	19	11	13	48	21.33	17	4
Rockland	Aug	83	64	1	4	0	8	5	1	6	8	16.87	6	1
Casselman	Aug.	101	82	0	2	4	8	5	0	5	12	16.80	4	6
Renfrew	Sept.	58	42	0	1	0	9	3	3	3	12	38.66	2	4
Pembroke	Oct.	112	83	1	6	0	14	6	2	7	15	19.54	6	3
Smith's Falls	Nov.	124	97	3	3	1	12	7	1	2	19	16.93	1	3
Eganville	Nov.	57	43	1	3	0	5	2	3	4	6	17.54	5	3
Carleton Place	Nov. Dec.	234	166	7	25	4	21	8	3	12	24	15.38	11	17
Perth	Dec.	98	80	3	2	2	7	2	2	7	6	13.26	5	6
Ottawa	(1)	89	56	1	5	1	13	9	4	12	15	30.33	10	5
	(2)	77	42	1	5	2	13	9	5	14	15	37.66	12	5
		2,010	1,484	27	91	25	217	114	52	114	294	20.29	100	78
							408							
Findlays' Carleton Place	Apr.	250												

TABLE IIb.

BELLEVILLE CENTRE

Town 1937	Month	No. Exams. Made	Tbc. not a Factor	Suspects	Non-Tbc. Chest Conditions	Tuberculosis				Active	Inactive	% Tbc.	Rec. for San.	New Cases Tbc. Found
						Childhood	Min.	Mod. Adv.	Adv.					
Belleville	Jan.	59	37	1	6	0	5	8	2	8	7	25.4	7	8
Wellington	Jan.	40	33	1	1	0	1	3	1	1	4	12.5	1	3
Picton	Feb.	71	51	0	13	0	3	3	1	1	6	9.9	1	1
Belleville	Feb.	58	43	1	5	0	5	3	1	4	5	15.8	3	4
Deseronto	Feb.	23	17	0	4	0	1	1	0	1	1	9.0	1	0
Napanee	Mar.	33	24	2	0	0	2	5	0	3	4	21.2	1	0
Belleville	Mar.	73	55	1	5	1	5	6	0	5	7	16.6	2	5
Frankford	Mar.	67	46	5	5	6	3	2	0	6	5	16.4	5	6
Colborne	Apr.	12	10	0	1	0	0	0	1	1	0	10.0	1	0
Campbellford	Apr.	59	48	2	2	2	2	0	3	6	1	12.0	4	4
Belleville	Apr.	62	49	2	5	0	1	3	2	3	3	9.6	1	1
Hastings	May	57	44	1	4	1	2	5	0	2	6	14.0	1	4
Belleville	May	62	42	0	6	0	8	3	3	6	8	22.6	4	6
Gananoque	May	42	29	0	6	0	4	2	1	3	4	16.6	1	2
Bancroft	June	66	53	0	9	0	3	0	1	1	3	6.0	2	2
Tweed	Aug.	64	53	2	6	0	3	0	0	2	1	4.7	2	3
Belleville	June	149	112	2	19	1	5	8	2	10	6	10.8	7	13
Belleville	Aug.	102	61	1	20	1	8	9	2	2	18	19.6	1	4
Madoc	Aug.	82	70	1	6	0	2	1	2	2	3	6.1	2	3
Wellington	Sept.	37	25	0	5	0	4	2	1	1	6	19.0	1	1
Haliburton	Sept.	52	44	1	3	0	2	2	0	0	4	7.7	0	2
Belleville	Sept.	63	47	2	5	3	4	2	0	3	6	14.3	1	3
Belleville	Oct.	81	59	2	7	2	4	5	2	5	8	16.0	5	6
Stirling	Oct.	33	24	0	2	0	4	2	1	1	6	21.2	2	0
Marmora	Nov.	67	50	2	1	0	9	3	2	4	10	20.9	3	3
Trenton	Nov.	26	21	0	2	0	2	1	0	0	3	11.5	0	1
Brighton	Nov.	26	14	2	4	0	3	2	1	2	4	23.1	1	4
Belleville	Nov.	24	19	0	0	0	2	1	2	2	3	20.8	2	2
Picton	Dec.	69	48	2	9	1	4	4	1	1	9	14.5	0	1
Belleville	Dec.	107	83	3	4	3	6	5	3	7	10	15.9	4	8
Totals		1,767	1,311	36	165	21	107	91	35	93	161	13.5	66	100
						254								

In addition to the above clinic work, a total of 247 pneumothorax refills were given at the Belleville Centre. This is an increase of 174.0% over last year.

TABLE IIc.

NORTH BAY CENTRE

Town 1937	Month	No. Exams. Made	Tbc. not a Factor	Suspects	Non-Tbc. Chest Conditions	Tuberculosis				Active	Inactive	% Tbc.	Rec. for San.	New Cases Tbc. Found
						Childhood	Min.	Mod. Adv.	Adv.					
North Bay City	*	477	341	3	59	6	34	17	17	28	46	15.5	17	20
Kirkland Lake	Jan.	337	258	2	17	6	27	22	5	15	45	17.8	11	10
Sturgeon Falls	Feb.	58	49	0	7	0	1	1	0	0	2	3.4	0	0
Iroquois Falls	Feb.	47	40	0	0	0	4	1	2	0	7	14.9	0	2
Kapuskasing	Feb.	44	27	0	5	4	2	3	3	3	9	27.3	3	4
Englehart	Mar.	55	46	0	7	0	1	1	0	0	2	3.6	0	1
Cochrane	Mar.	78	63	0	3	3	3	1	5	5	7	15.4	4	1
Mattawa	Mar.	39	21	0	4	2	5	3	4	6	8	35.9	4	3
Sudbury	Apr.	232	161	2	26	2	21	8	12	22	21	18.5	13	15
Thessalon	Apr.	37	28	0	6	0	2	0	1	1	2	8.1	0	1
Blind River	Apr.	74	63	0	4	1	3	3	0	3	4	9.5	2	3
Sault Ste. Marie	May	162	126	0	15	0	10	3	8	4	17	13.0	3	4
Kirkland Lake	May	184	148	0	7	3	17	6	3	10	19	15.8	6	4
Richard's Land	June	30	23	0	1	0	4	0	2	1	5	20.0	1	1
Bruce Mines	June	24	15	0	3	0	2	1	3	2	4	25.0	1	1
Espanola	June	41	31	0	4	1	1	4	0	2	4	14.6	2	2
Wanup	June	51	45	4	0	2	0	0	0	0	2	3.9	0	2
Huntsville	June	52	43	0	5	1	2	1	0	0	4	7.7	0	1
Burks' Falls	June	33	26	0	2	0	3	1	1	4	1	15.1	2	4
Smooth Rock Fls	July	16	12	0	2	0	2	0	0	1	1	12.5	1	2
Hearst	July	102	77	0	10	4	7	2	2	5	10	14.7	7	5
Kapuskasing	July	56	37	0	5	1	7	3	3	1	13	25.0	1	5
Little Current	July	87	75	0	1	1	6	1	3	7	4	12.6	3	4
Gore Bay	July	36	32	0	1	0	0	0	3	2	1	8.3	2	0
Mindemoya	July	24	19	0	2	1	0	2	0	1	2	12.5	1	2
Sturgeon Falls	Aug.	38	34	0	0	0	2	2	0	0	4	10.5	0	1
Verner	Aug.	75	69	0	2	2	1	0	1	2	2	5.3	1	2
Sudbury	Aug.	289	233	0	19	4	21	9	3	13	24	12.1	8	15
Cochrane	Sept.	81	69	0	3	2	2	5	0	3	6	11.1	2	1
Iroquois Falls	Sept.	46	40	0	4	0	0	0	2	0	2	5.0	1	0
Timmins	Sept.	167	124	2	6	14	15	4	2	11	24	21.0	3	6
Kirkland Lake	Oct.	182	137	0	7	4	17	13	4	6	32	20.9	6	7
Englehart	Oct.	49	40	0	6	1	1	1	0	0	3	6.1	0	1
Bruce Mines	Oct.	24	14	0	3	1	2	2	2	1	6	29.2	1	0
Thessalon	Oct.	24	15	0	2	0	5	0	2	1	6	29.2	1	1
Blind River	Oct.	55	35	0	13	1	4	2	0	1	6	12.7	1	0
Massey	Oct.	13	11	0	0	1	1	0	0	1	1	15.4	1	0
Sault Ste. Marie	Nov.	144	102	0	16	2	9	11	4	9	17	18.0	4	3
Mattawa	Nov.	46	35	0	2	1	3	1	4	6	3	19.6	3	2
Sudbury	Dec.	318	232	1	30	4	24	17	10	16	39	17.3	12	10
Totals		3,927	2,996	14	309	75	271	151	111	193	415	15.4	128	146
							608							

* Total number of examinations, January-December.

TABLE III.

CASES RECOMMENDED FOR SANATORIUM TREATMENT

ALL CENTRES—1937

Totals	Clinics	Susp.	Tuberculosis								Other Chest Conditions				
			Child-Hood		Min.		Mod. Adv.		Adv.		Pleur. with Eff.	Silicosis with T. Bc.	Atelectasis	Hydro Pneumothorax	Spont. Pneumothorax
			A	I	A	I	A	I	A	I					
129	Central	3	2	....	35	3	40	5	34	1	1	3	1	1	....
100	Ottawa	1	3	1	21	3	31	5	31	4	....	....	....	....	....
66	Belleville	..	8	....	21	1	14	....	20	....	1	....	....	....	1
128	North Bay	..	6	....	30	....	32	2	53	3	2	....	....	....	....
423	.....	4	19	1	107	7	117	12	138	8	4	3	1	1	1

A—Active. I—Inactive.

There were 441 cases of tuberculous disease discovered; these were not known to be tuberculous before their examination at the clinics, as far as could be judged from their history.

Of these, 117 were examined by the Central Clinic, 78 by the Ottawa Clinic, 100 by the Belleville Clinic and 146 by the North Bay Clinic.

Their classification is as follows:

TABLE IV.

CLASSIFICATION NEWLY DISCOVERED CASES

ALL CLINICS

Age Group	Cont.	Sex	Childhood		Minimal		Mod. Adv.		Advanced	
			Act.	Inact.	Act.	Inact.	Act.	Inact.	Act.	Inact.
0 to 9	+	M	8	5	3		1			
		F	11	11	3	1			1	
	—	M		2						
		F								
10 to 19	+	M	6	9	9	3	3	1		
		F	3	4	14	5			3	
	—	M	2	2	1		1		2	
		F		3	3		6			
20 to 29	+	M			5	7	1	1	4	
		F		2	23	12	7	4	4	
	—	M		2	11		2		4	
		F		1	7	5	8		6	
30 to 39	+	M			2	6	1	1	1	
		F			8	11	2		2	
	—	M			1	4	5	2	2	
		F		1	3	4	5		1	
40 to 49	+	M			4	4		2		
		F				10		2		
	—	M			1	7	2	3	2	
		F		1	4	4	1	1	2	
50 and up	+	M			3	10	1	6	3	
		F			1	6	4		4	
	—	M			2	10	3	4	7	1
		F			2	6	5	5	4	
Totals.....		.....	30	43	110	115	58	32	52	1

Total.....441

TABLE V.

REASONS FOR NEWLY DISCOVERED CASES BEING REFERRED TO THE CLINIC

ALL CLINICS

Totals	Contact	Childhood		Minimal		Mod. Adv.		Advanced	
		Act.	Inact.	Act.	Inact.	Act.	Inact.	Act.	Inact.
275	Positive	27 Contact 7 Suspect	28 Contact 1 Suspect	44 Contact 30 Suspect	53 Contact 25 Suspect	7 Contact 15 Suspect	9 Contact 9 Suspect	1 Contact 19 Suspect	
166	Negative	2 Suspect	12 Suspect	33 Suspect	38 Suspect	36 Suspect	14 Suspect	30 Suspect	1 Suspect

TABLE VI.

RECORD OF CHANGES IN DIAGNOSIS—ALL CLINICS

DIAGNOSIS IN 1937

DIAGNOSIS ON PREVIOUS EXAMINATION		No Change	No Disease	Suspect	Childh'd A	Childh'd I	Min. A	Min. I	Mod. Adv A	Mod. Adv I	Adv. A	Adv. I	Thck. Pl.	Pl. Effn.	Asthma	Brnch-tasis	Atel-ectsis	Chronic Brnchitis
No. Disease		1993		26		5	19	13	5		3		4	2	2	3		
Suspect		13	39				7	5	1	1								
Childhood	A	5	3	1		8			1									
	I	72	5				3	1	1									
Min.	A	16	7	2		1		63	8	1	1						1	
	I	303	12	3		1	13		3	1								1
Mod. Adv.	A	21	1	1		1		5	1	40	4	1				1		
	I	214						3	9		3	1						
Adv.	A	50						1		5		22						
	I	47						1	1	2	5							
Thck. Pl.		60	5				3											
Pl. Effn.		13	4				2						4			1		
Other Conditions		127																

225 or 51% of these cases were discovered in the minimal stage. This percentage would be a little higher if only the cases of adult disease were used as a basis—viz. 61.1%.

It was found by carefully checking the histories of these patients that 275 or 62.3% gave a history of definite contact with a tuberculous person. Of these 169 (61.0% of those with history of contact or 38.3% of the total) gave no history of symptoms referable to the chest and were referred solely on account of contact.

Of the 275 cases discovered in the contact group, 152 or 55.2% were in the minimal stage.

These tables demonstrate the value of the examination of those who have been in contact with tuberculosis even though they appear in perfect health.

From this table it is seen that:—

(*a*) Only 45 (2.1%) out of 2075 showing no disease on previous examination developed definite disease.

(*b*) Of the 623 cases of inactive adult diseases (all stages) only 34 (5.4%) had become reactivated.

(*c*) 14 (21.2%) out of 66 suspects developed definite disease.

(*d*) Only 6 (6.0%) out of 100 cases of childhood infection developed adult type of disease.

(*e*) 63 (63.0%) of the 100 minimal active cases became inactive while only 10 (10.0%) had progressed to a further stage of disease.

(*f*) 40 (52.6%) of the 76 moderately advanced active cases became inactive.

TABLE VII.
TUBERCULOUS DISEASE IN RELATION TO CONTACT, AGE AND SEX
(ALL CLINICS)

Age Group	Contact	Sex	No. of Exams.	No. Showing Disease		% Showing Disease		
0 to 4	+	M	119	15		9.6		
		F	161	12	27		7.4	
					29			
	—	M	44	1		1.7		
		F	68	1	2			
5 to 9	+	M	382	31		10.1		
		F	380	46	77		7.3	
					85			
	—	M	202	3		1.9		
		F	201	5	8			
10 to 14	+	M	477	49		10.0		
		F	508	50	99		8.4	
					123			
	—	M	227	13		5.0		
		F	251	11	24			
15 to 19	+	M	398	43		12.8		+Contact 6085 exams. 995 cases 16.%
		F	471	69	112		10.0	
					142			
	—	M	268	12		5.4		
		F	279	28	30			
20 to 24	+	M	272	52		19.2		—Contact 4777 exams 716 cases 15.9%
		F	492	95	147		16.7	
					235			
	—	M	266	31		13.7		
		F	372	57	88			
25 to 29	+	M	215	37		21.5		
		F	441	104	141		21.1	
					270			
	—	M	255	41		15.0		
		F	367	88	14			
30 to 34	+	M	167	23		17.4		
		F	411	78	101		17.9	
					195			
	—	M	250	58		18.5		
		F	258	46	94			
35 to 39	+	M	129	21		22.3		
		F	247	63	84		22.7	
					181			
	—	M	231	58		23.0		
		F	190	39	97			
40 to 44	+	M	86	22		21.6		
		F	173	34	56		23.5	
					138			
	—	M	189	54		24.1		
		F	137	28	82			
45 to 49	+	M	246	83		27.5		
		F	310	70	153		28.1	
					360			
	—	M	454	129		28.6		
		F	269	78	207			

This table refers to examinations and NOT to individuals. For this reason, the percentages of individuals showing disease is somewhat less than the figures given in Column 6, since many cases found to be tuberculous were examined two or more times.

TUBERCULIN TESTING AND X-RAYING OF NURSES EMPLOYED IN HOMES FOR INCURABLES, PUBLIC HOSPITALS AND SANATORIA

In accordance with the Regulations which were issued in 1935 regarding the above, returns were asked for covering the period February, 1936, to February 1st, 1937.

In respect to the student nurses, satisfactory returns were made by 76 General Hospitals, 2 Sanatoria and 1 Home for Incurables. This represents nearly 100% of the nurses-in-training. The results are tabulated as follows:

TUBERCULIN-TESTING AND X-RAYING OF STUDENT NURSES

Number of Reports	Class of Hospital	No. Reported	No. Tested	Pos. Reactors	% Pos. Reactors	Neg. Reactors	% Neg. Reactors	No. X-Rayed	Old Cases Disease	New Cases Disease	% Total
76	General.....	4031	4023	1794	44.5	2208	54.8	1995	8	24	.8
2	Sanatoria.....	75	75	74	98.7	1	1.3	72	5	2	.9
1	Incurables.....	64	64	45	70.3	19	29.7	44	0	0	.0
79	Total.....	4170	4162	1913	45.9	2228	53.5	2111	13	26	.94

STUDENT NURSES—CLASSIFICATION OF DISEASE

Primary Infection		Minimal		Mod. Adv.		Advanced		Pl. with		Disposal			
Act.	Inact.	Act.	Inact.	Act.	Inact.	Act.	Inact.	Effusion	Suspects	On Duty	In San	Not Stated	At Home
.....	.....	15	6	4	2	....	1	1	8	3 new	6	1	14 new
.....	.....	New	New	New	Old	....	Old	New	New	7 Old	New	New	1 Pl.
										2 Susp.	2	1	with Eff.
											Susp.	Susp.	3 Susp.

The percentage of tuberculous disease present in this group, .94%, is much lower than that reported in other surveys of student nurses; if only newly discovered cases are taken into account the percentage of disease was only .62%

The reports on the graduate nurses were not quite so complete, as some of the smaller hospitals, employing only graduates, have no X-ray equipment of their own. Satisfactory returns were received from 111 out of 117 General Hospitals, all the Sanatoria and 5 of the 7 Homes for Incurables. The results are tabulated as follows:

TUBERCULIN TESTING AND X-RAYING OF GRADUATE NURSES

No. of Reports	Class of Hospital	No. Reported	No. Tested	No. Reactors	% Positive	Neg. Reactors	% Negative	No. X-Rayed	Old Cases Disease	New Cases Disease	% Total
111	General	1748	1691	1230	72.7	461	27.3	1258	7	12	1.1
3	Sanatoria	340	312	291	93.2	21	.8	328	5	5	2.9
5	Homes for Incurables	190	170	125	73.5	45	26.5	125	0	1	.6
119	Totals	2278	2173	1646	75.7	527	24.3	1711	12	18	1.3

GRADUATE NURSES—CLASSIFICATION OF DISEASE

Primary Infection		Minimal		Mod. Adv.		Advanced		Thick. Pleura	Pl. with Effusion	Suspects	Disposal		
Act.	Inact.	Act.	Inact.	Act.	Inact.	Act.	Inact.				On Duty	At Home	In San.
1 New	7 New	5 New	1 New 10 Old	6 New 1 Old	4 Old	1 New	....	2 New	1 New	5 New	14 Old 5 Susp. 2 Tkd.Pl.	2 New 1 Old 1 Pl. & Eff.	12 New ....

The percentage of disease recorded, viz. 1.3%, is reduced to .80% when only the newly discovered cases are taken as a basis of reckoning.

The value of the Regulations passed in 1935 is very well shown by the fact that 20 nurses have been admitted to sanatoria while 22 were put upon some form of treatment in their homes as a result of the survey, in 1936.

ASSISTANCE IN EXAMINING OF STUDENTS IN NORMAL SCHOOLS AND COLLEGE OF EDUCATION

For the third time the Division co-operated with the Department of Education in tuberculin testing and X-raying the above students.

The findings are given in the following table:

	No. Tested	Pos.	% Pos.	No. Showing Disease
Normal Schools	1059	289	27.2	6 minimal.
College of Education	277	111	40.1	none.

PATIENTS DYING OF TUBERCULOSIS IN 1936 WHO HAD RECEIVED SANATORIUM TREATMENT WITHIN FIVE YEARS PRIOR TO DEATH

It was possible to check 1208 deaths among whites and 107 deaths among Indians, with the sanatorium admissions for the five years prior to death. Only 6 of the Indians had ever been in sanatorium. The records in regard to the white population is as follows:

COUNTIES (including Cities)

	No of Deaths	No. in San.	Percentage
Haliburton	1	1	100.0
Peel	4	3	75.0
Welland	28	20	71.4
Carleton	45	32	71.1
Wentworth	59	43	69.3
Essex	39	26	66.6
Lincoln	14	9	64.2
York	340	218	64.1
Kent	25	16	64.0
Frontenac	24	15	62.5
Lennox and Addington	5	3	60.0
Bruce	10	6	60.0
Brant	12	7	58.3
Elgin	14	8	57.1
Middlesex	40	22	55.0
Ontario	20	11	55.0
Oxford	11	6	55.0
Hastings	12	6	50.0
Huron	8	4	50.0
Waterloo	25	12	48.0
Wellington	17	8	47.0
Renfrew	13	6	46.1
Halton	7	3	42.8
Perth	7	3	42.8
Haldimand	5	2	40.0
Simcoe	33	13	39.4
Norfolk	6	2	33.3
Peterboro	16	5	31.2
Grey	13	4	30.7
Durham and Northumberland	14	4	28.6
Lambton	23	6	26.1
Dundas	4	1	25.0
Stormont	21	5	23.8
Leeds	17	4	23.4
Russell	13	3	23.0
Lanark	9	2	22.2
Victoria	9	2	22.2
Glengarry	14	3	21.4

COUNTIES (including Cities)—Continued

	No. of Deaths	No. in San.	Percentage
Prescott	16	2	13.1
Dufferin	1	0	0.0
Grenville	10	0	0.0
Prince Edward	1	0	0.0
Cochrane	41	28	68.3
Thunder Bay	36	21	58.3
Temiskaming	13	6	46.1
Parry Sound	13	6	46.1
Muskoka	9	4	44.4
Sudbury	30	13	43.3
Kenora	12	4	33.3
Algoma	26	8	30.8
Nipissing	15	4	26.6
Rainy River	5	0	0.0
Manitoulin	0	0	0.0

SECTION 1

THE NATURE AND EXTENT OF THE PRESENT PROBLEM IN TUBERCULOSIS—GENERAL FACTS

In 1900 the death rate from tuberculosis in Ontario was 160 per 100,000 population. Since that time there has been a steady decline in mortality until in 1936 the lowest level in the history of the Province was reached at 36.0 per 100,000, or one quarter of that in 1900. Table I gives the deaths and death rates for the years 1900-1936, inclusive.

TABLE I.

MORTALITY FROM TUBERCULOSIS IN ONTARIO

1900–1936

Year	Deaths	Rate Per 100,000	Year	Deaths	Rate Per 100,000
1900	3484	160.1	1919	2215	77.7
1901	3243	148.6	1920	2280	78.8
1902	2694	121.5	1921	2083	71.0
1903	2723	120.9	1922	1979	66.4
1904	2877	125.8	1923	1989	65.7
1905	2667	114.9	1924	1923	59.5
1906	2911	123.6	1925	1842	59.4
1907	2530	105.9	1926	1835	58.3
1908	2511	103.6	1927	1803	56.6
1909	2380	96.8	1928	1832	56.7
1910	2291	91.9	1929	1703	52.1
1911	2353	93.1	1930	1791	54.1
1912	2250	87.6	1931	1728	50.4
1913	2294	87.9	1932	1604	46.2
1914	2340	88.3	1933	1465	41.6
1915	2466	91.7	1934	1337	37.4
1916	2559	93.7	1935	1303	36.2
1917	2460	88.8	1936	1327	36.0
1918	2518	89.6			

It is to be noted that a reduction of 14.4 per 100,000 has occurred since 1931, though little change (0.2) was recorded in 1936 over the rate in 1935. The whole decline in tuberculosis mortality has been strikingly dramatic but despite the fact that the seriousness of the problem has been greatly lessened, this disease still ranks as the chief public health problem. Even if the very minimum of five active cases for every death is allowed, it is apparent that that tuberculosis is still producing a large volume of unnecessary illness and incapacity.

Despite the decline in recorded deaths, tuberculosis still ranks among the chief causes of mortality. It takes its principal toil at the most fruitful ages of life, 15-49 years. At these ages 60 per cent. of all tuberculosis deaths occur. Table II shows the part now being played by tuberculosis as a cause of death in Ontario.

TABLE II.

TUBERCULOSIS AS A CAUSE OF DEATH IN ONTARIO 1935

Age	Rank as a Cause of Death	% of Deaths Due to TBC.	% of All TBC Deaths
Under 1	Nineteenth	0.4	1.1
1– 4	Third	5.5	3.6
5–14	Fourth	8.6	5.4
15–19	Second	16.9	6.8
20–29	Second	19.2	20.3
30–39	Second	13.3	17.7
40–49	Fourth	7.8	15.7
50–59	Seventh	4.4	14.3
60–69	Ninth	1.9	8.8
70 and over	Fourteenth	0.6	6.3
All ages	Seventh	3.6	100.0

From infancy to ripe maturity the disease is prominent as a cause of invalidity and death on the one hand, and as a cause of disruption of many families on the other, with all the consequent social problems related thereto. Further, the disease is a source of terrific financial loss, not alone through loss of wages and costs of hospitalization but through the provision of Mother's Allowance needed for families where the breadwinner is invalided with tuberculosis.

Table II shows that tuberculosis kills more people at ages 15 to 39 years, than any other cause except accidents and violence.

The Extent of Tuberculosis Mortality as a Local Problem.

To further clarify the present problem in tuberculosis and to illustrate the fact that it is a question which vitally concerns every part of Ontario, rates of mortality have been computed separately for each county and district and for cities and separated towns as well as towns other than these, whose population is in excess of 5,000 persons.

From reports of the Registrar-General, giving the deaths from tuberculosis by place of residence, the following two tables have been prepared. These show the tuberculosis mortality rate for counties and districts (including and excluding cities and towns), and for cities and towns separately for the periods 1931-1933 and 1934-1936. These data effectively illustrate local variation in mortality from tuberculosis.

It is seen that of the counties and districts with the ten highest rates in 1931-1933, eight remained in the first ten in 1934-1936. Of the ten counties ranking highest in 1934-1936, five are in the Eastern area of the Province, namely, Glengarry, Prescott, Russell, Stormont and Grenville. There can be no doubt that the new sanatorium at Cornwall will go a long way toward improving the situation in these latter counties.

Of the cities and towns with the ten highest rates during 1931-1933 five still retained that position in 1934-1936. Of these, Cornwall, Eastview and Brockville are in the eastern portion of the Province.

The high rates in Timmins and Sudbury are apparently attributable in large measure to the hazards in industry, living conditions and the foreign constitution of the population.

The tremendous variation in the rates for counties and districts, as well as for cities and towns is striking. Undoubtedly a multiplicity of causes contribute to this situation, but the fact that some cities, towns and counties, for one reason or another, do not adequately hospitalize their tuberculous patients must be regarded as a significant factor.

Following are seven diagrams which illustrate the figures presented in the tables. The rates in the districts are markedly influenced by Indian deaths, but it was not possible to eliminate these from the calculations.

Summary of Changes in Mortality in Counties and Districts.

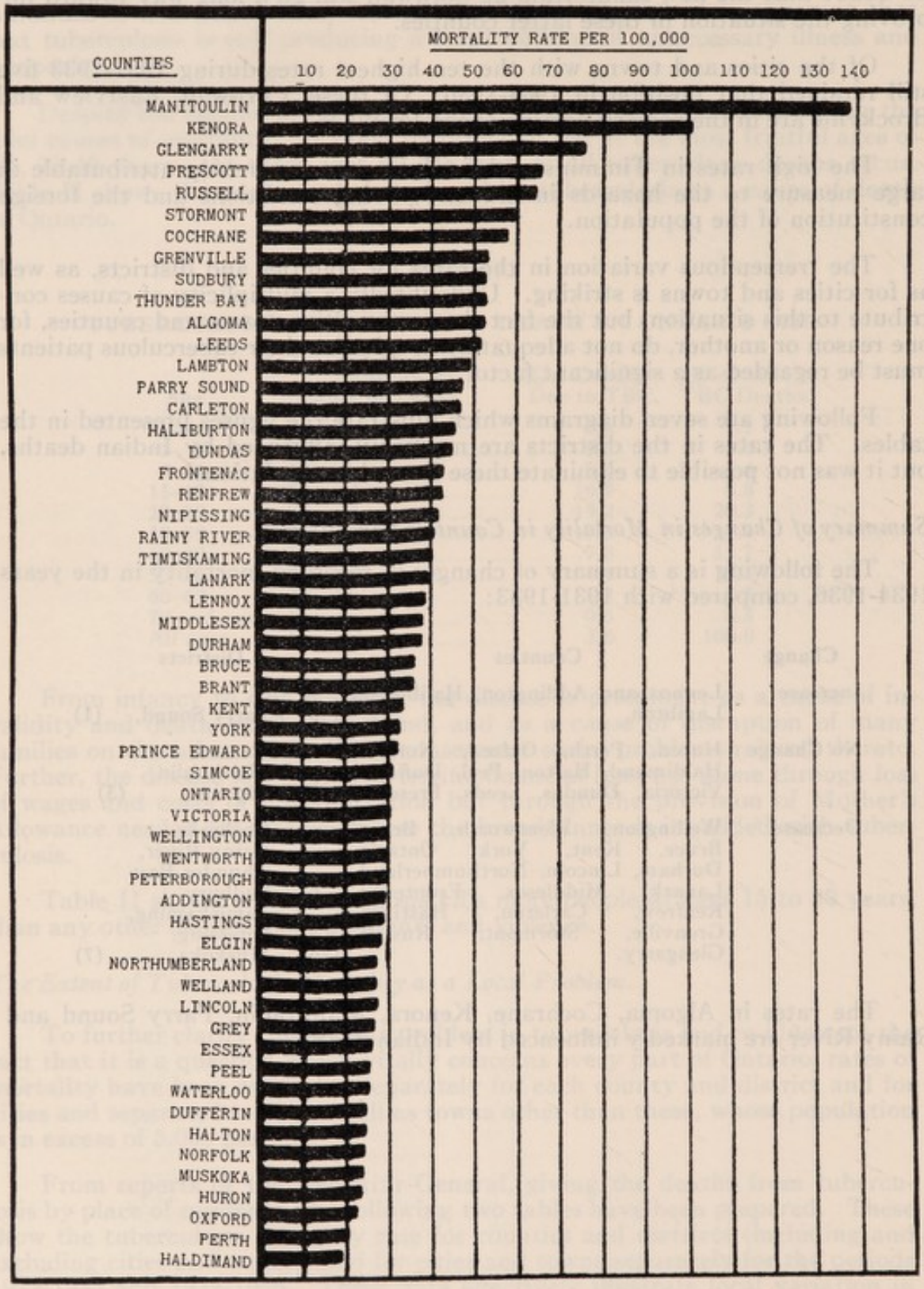
The following is a summary of changes in recorded mortality in the years 1934-1936, compared with 1931-1933:

Change	Counties		Districts	
Increase	Lennox and Addington, Haliburton Lambton,	(3)	Parry Sound,	(1)
No Change	Huron, Perth, Oxford, Norfolk, Haldimand, Halton, Peel, Dufferin, Victoria, Dundas, Leeds, Prescott,	(13)	Kenora, Manitoulin, Algoma.	(3)
Decrease	Wellington, Wentworth, Brant, Bruce, Kent, York, Ontario, Durham, Lincoln, Northumberland, Lanark, Middlesex, Frontenac, Renfrew, Carleton, Hastings, Grenville, Stormont, Russell, Glengarry.	(26)	Cochrane, Rainy River, Thunder Bay, Sudbury, Temiskaming, Nipissing, Muskoka	(7)

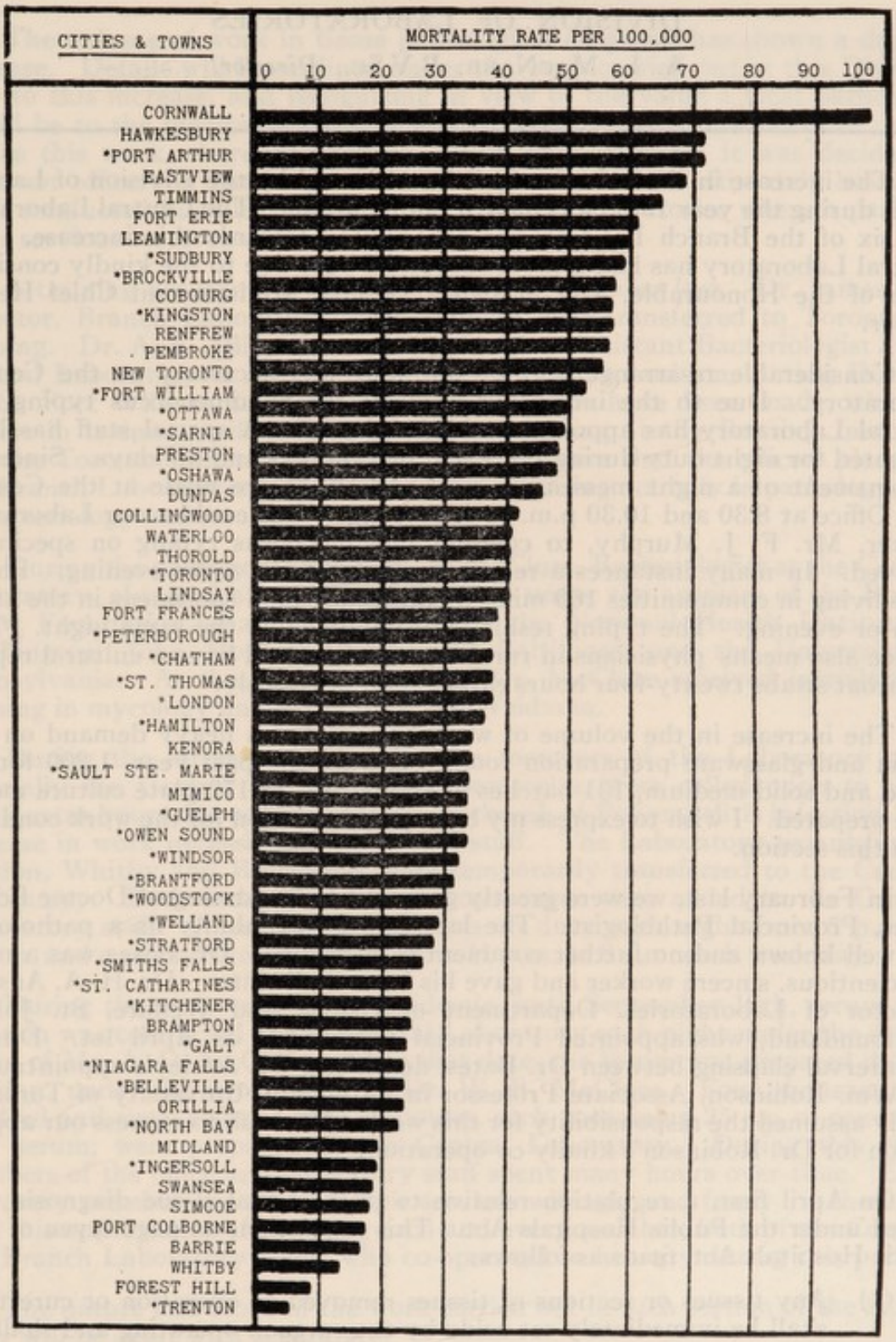
The rates in Algoma, Cochrane, Kenora, Manitoulin, Parry Sound and Rainy River are markedly influenced by Indian deaths.

RESIDENT TUBERCULOSIS MORTALITY RATE BY COUNTIES

ONTARIO--1934-1936



RESIDENT TUBERCULOSIS MORTALITY RATES—CITIES & TOWNS †
ONTARIO 1934-36 (AVERAGE)



† 5000 POPULATION & OVER
* CITIES & SEPARATED TOWNS

Acknowledgment is made of the valuable assistance given by Dr. A. H. Sellers, Medical Statistician of the Department, in the preparation of the various tables and charts.

DIVISION OF LABORATORIES

A. L. MacNabb, B.V.Sc., *Director.*

The increase in the volume of work conducted by the Division of Laboratories during the year 1937, was 59,313 examinations. The Central Laboratory and six of the Branch Laboratories contributed towards this increase. The Central Laboratory has had a most successful year due to the kindly consideration of the Honourable, The Minister, Deputy Minister and Chief Health Officer.

Considerable re-arrangement of the staff was necessary at the Central Laboratory. Due to the increasing requests for pneumococcus typing, the Central Laboratory has appointed additional staff. A special staff has been delegated for night duty during the week, on Sundays and holidays. Since the appointment of a night messenger, mail collections are made at the Central Post Office at 8.30 and 10.30 p.m. each evening. This enables our Laboratory worker, Mr. F. J. Murphy, to conduct pneumococcus typing on specimens received. In many instances a report is available the same evening. Physicians living in communities 100 miles distant, may mail specimens in the afternoon or evening. The typing result may be available the same night. This service also means physicians in rural communities will have a cultural report on throat swabs twenty-four hours earlier than previously.

The increase in the volume of work has created a heavy demand on our media and glassware preparation room. During the past year, 1,209 lots of liquid and solid medium, 131 batches of stains, and 48,172 plate culture media were prepared. I wish to express my hearty appreciation for the work conducted in this section.

In February last, we were greatly grieved by the passing of Doctor Edgar Bates, Provincial Pathologist. The late Dr. Bates' ability as a pathologist was well known and no further comment is necessary. Dr. Bates was a most conscientious, sincere worker and gave his best at all times. Dr. H. A. Ansley, Director of Laboratories, Department of Health and Welfare, St. Johns, Newfoundland, was appointed Provincial Pathologist on April 1st. During the interval elapsing between Dr. Bates' death and Dr. Ansley's appointment, Dr. Wm. Robinson, Associate Professor in Pathology, University of Toronto, kindly assumed the responsibility for this work. We wish to express our appreciation for Dr. Robinson's kindly co-operation.

On April first, a regulation relative to pathological tissue diagnosis was passed under the Public Hospitals Act. This regulation, on page seven of the Public Hospitals Act, reads as follows:

(1) Any tissues or sections of tissues removed at operation or curettage shall be immediately set aside by the surgeon operating and shall be forwarded by the superintendent with a short history of the case and a statement of the findings at the operation to a laboratory approved by the Minister for examination, provided that any tooth, tonsil, frenum, hemorrhoid, finger, toe, hand, foot, arm or leg removed or amputated shall not be so forwarded unless the surgeon desires a special examination.

(2) The pathological report received from the laboratory shall become part of the patient's case record.

The volume of work in tissue pathological diagnosis has shown a decided increase. Details will be outlined under the work carried out in this Division. Due to this increase, and recognizing in view of the value a local pathologist would be to the medical profession in a community, it is our desire to decentralize this work wherever possible. With that in mind, it was decided to train our officers in pathological tissue diagnosis, and to ultimately have this work conducted in at least some of our Branch Laboratories where a pathologist's services are not available.

A training programme was instituted in November last, Dr. James Bell, Director, Branch Laboratory, Fort William, was transferred to Toronto for training. Dr. A. E. Allin, who was appointed as Assistant Bacteriologist at the Central Laboratory in May, was transferred to the position, Acting Director of the Fort William Laboratory. Arrangements have been made, whereby officers in training, will receive additional training at the Banting Institute, and the Toronto General Hospital. It is our desire that the officers placed in our Branch Laboratories will have adequate training not only in pathology, but in bacteriology and serology.

During the past year, Doctor W. B. McClure, Bacteriologist at the Central Laboratory, obtained a travelling fellowship under the auspices of the Rockefellow Foundation, enabling him to visit the National Health Institute at Washington, John Hopkins University, Baltimore, and the University of Pennsylvania. At the latter institution, Dr. McClure received introductory training in mycology under Doctor F. D. Weidman.

During the latter part of July, the members of the Laboratory staff, especially the Central and London Laboratories, were called upon to serve many extra hours due to the extensive outbreak of Poliomyelitis infection. The increase in work necessitated additional staff. The Laboratory technicians at London, Whitby and Brockville, were temporarily transferred to the Central Laboratory. Both a day and a night messenger were added to the Central Laboratory staff. A medical interne was on duty each night from 5 p.m. to 11 p.m. and a second interne served from 11 p.m. to 8 a.m. each week day.

During the early part of the epidemic, until September 11th, serum preparation was conducted at the Central Laboratory each night under the supervision of Mr. A. D. McClure. After that date, the serum was prepared during the day, under the supervision of Dr. W. B. McClure. Four thousand, six hundred and sixty-eight (4,668) ampoules, each containing 25 c.c. of convalescent serum, were prepared at the Central Laboratory. During this time, members of the office and laboratory staff spent many hours over-time. Each and every member contributed their services willingly and freely. I therefore take this opportunity of thanking each and every member, both of the Central and Branch Laboratory staffs, who co-operated so heartily during this period.

The nature and scope of the work carried out in each section of the laboratory will be dealt with separately.

Table I demonstrates the volume of work conducted in each of the laboratories, also the nature of the examinations.

TABLE I.

ANNUAL REPORT

To the Deputy Minister of Health:

I have the honour to submit the following statement of the work of the Laboratories for the year of 1937:

Routine Procedures	Number of Examinations								
Type of Specimen	Toronto	London	Ottawa	Fort William	Kingston	North Bay	Peterboro	Sault Ste. Marie	Total
Bacteriology:									
Diphtheria:									
Direct Smears	1,560	705	712	365	26	324	190	5	3,887
Cultures	5,492	1,001	3,238	411	545	324	239	106	11,356
Virulence Tests	104	7	1	3	32	5	2	.....	154
Kellogg Tests	23	.....	.....	61	.....	259	.....	.....	343
Further Reports	369	.....	.....	.....	.....	.....	.....	.....	369
Tuberculosis:									
Microscopic Smears	11,056	4,987	2,642	1,359	1,580	1,761	445	133	23,963
Guinea Pigs Inoculated	871	38	22	9	.....	74	16	2	1,032
Cultures	4,396	329	112	16	10	438	1	2	5,304
Cow Blood	3,708	1,800	.....	.....	.....	.....	.....	.....	5,508
Agglutinations:									
Dried Blood—									
Typhoid	82	63	101	9	2	14	14	.....	285
Para A	82	63	101	6	.....	14	14	.....	280
Para B	82	63	101	9	.....	14	14	.....	283
B. Abortus	82	63	63	9	.....	14	16	.....	247
B. Tularense	82	63	.....	.....	.....	14	.....	.....	159
Whole Blood—									
Typhoid	2,622	2,412	363	312	278	176	117	12	6,292
Para A	2,622	1,816	374	188	262	176	115	12	5,565
Para B	2,622	1,819	374	328	278	176	117	13	5,727
B. Abortus	2,622	2,309	356	266	278	176	162	12	6,181
B. Tularense	2,622	932	.....	169	.....	176	111	11	4,021
B. Dysentery Flexner	54	.....	.....	.....	.....	.....	.....	.....	54
B. Dysentery Shiga	42	20	.....	.....	.....	.....	.....	.....	62
B. Enteriditis	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feces Examinations	1,599	1,155	285	119	124	98	47	15	3,442
Blood Cultures	2,719	1,307	70	207	203	187	144	20	4,857
(Undulant Fever)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gonorrhoea—									
Smear Examinations	16,881	3,721	3,512	2,635	1,529	3,511	1,107	1,614	34,510
Complement Fixation	278	.....	.....	.....	.....	.....	.....	.....	278
Rabies	12	6	.....	.....	.....	.....	.....	.....	18
Spinal Fluids	544	1,354	60	7	134	168	21	27	2,315
Miscellaneous	11,434	3,738	785	713	436	1,182	278	1,248	19,814
Milk	4,905	2,570	3,642	2,687	2,554	894	1,353	819	19,424
Further Tests	.....	285	421	462	128	4	9	79	1,388
Water	11,079	4,280	4,645	3,138	1,216	1,706	1,674	3,819	31,557
Further Tests	833	.....	.....	.....	.....	.....	.....	.....	833
Syphilis	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dark Field	221	13	4	40	5	53	2	2	340
Blood Sera—									
S. Kahn	52,922	16,431	15,670	6,908	4,106	5,839	.....	.....	101,876
P. Kahn	604	3,699	.....	3,034	.....	268	.....	.....	7,605
K. Wassermann	26,788	16,840	15,243	4,805	4,172	5,841	.....	.....	73,689
D. Kline	227	.....	.....	.....	.....	.....	.....	.....	227
Hinton	25,361	.....	1,133	.....	850	.....	.....	.....	27,344

TABLE 1—Continued

Routine Procedures	Number of Examinations								
Type of Specimen	Toronto	London	Ottawa	Fort William	Kingston	North Bay	Peterboro	Sault Ste. Marie	Total
Syphilis—Cont'd									
Spinal Fluids—									
S. Kahn	2,639					133			2,772
K. Wassermann	1,367					132			1,499
Colloidal Gold	2,957	1,356	502	97		133			5,045
Colloidal Mastic	279	1,181				132			1,592
Globulin	1,499	1,355	562	98	17	257			3,788
Total Protein	1,024								1,024
Chemistry:									
Blood Sugar	13,749	2,463	495	271	285	443	165	355	18,226
N. P. N	6,330	1,593				157		13	8,093
Calcium									
Cholesterol									
Milk	4,905	2,107	3,361	1,029	366	888	1,051	833	14,540
Further Tests		1,011	519	6	72	903	781	1,666	4,958
Water	167	107		159					433
Further Tests									
Coal Samples—									
Calorific Value	44								44
Ash	43								43
Moisture	62								62
Volatile Matter	19								19
Miscellaneous	2,770	479	286	79	59	185	78	1,234	5,170
Liquors—									
Alcohol	1,196								1,196
Beer	226								226
Spirits	280								280
Wines	450								450
Pathology	7,004	2,253			2,461		775	173	12,666
Total Exams. for Year	244,612	87,794	59,755	30,014	22,008	27,249	9,058	12,225	492,715

OUTFITS DISTRIBUTED FROM MAIN LABORATORY

Bacterial Water	13,493
Diphtheria	11,375
Tuberculosis	26,108
Wassermann	102,525
Gonorrhoea	29,754
Special Feces	829
Typhoid W. Blood	3,486
Miscellaneous	4,369
Feces	3,050
Blood Sugar	20,947
N. P. N.	10,835
G. C. Culture Outfits	530
Pathological	6,871
Blood Culture (Undulant Fever)	2,594
Dark Fields	1,125

BIOLOGICAL AND CHEMICAL PRODUCTS PREPARED AND DISTRIBUTED FROM MAIN LABORATORY

Typhoid Vaccine	.....	
T. A. B. Vaccine	9,065	
Pertussis Vaccine	15,152	
Rabies Vaccine	44	
Polio Serum	1,960	Packages
Silver Nitrate	14,281	
Bismuth Oxychloride	33,750	Am. 142,412 Gr.
Mercury Salicylate	5,190	Am. 10,578 Gr.
Sodium Hydroxide in the Treatment of V. D. S	314	Oz.
Distilled Water in the Treatment of V.D.S	49,292	Oz.
Sodium Citrate	225	Amps.

All of which is respectfully submitted.

I have the honour to be, Sir,

Your obedient servant,

A. L. MacNabb,
Director of Laboratories.

Table II outlines the number of specimens examined in each of the labortories from the year 1933 to 1937, inclusive. It can also be seen this table shows the increase in each laboratory over the previous year.

TABLE II.

NUMBER OF SPECIMENS EXAMINED IN EACH OF THE LABORATORIES FROM 1933–1937, INCLUSIVE

	1933	1934	1935	1936	1937	Increase Over 1936
Toronto	180,050	201,904	214,755	224,564	244,612	20,048
London	65,657	67,487	75,213	75,207	87,794	12,587
Ottawa	52,173	56,957	56,468	56,786	59,755	2,969
Fort William	14,152	14,934	18,666	24,137	30,014	5,877
North Bay	6,353	6,238	8,411	11,773	27,249	15,476
Kingston	15,882	16,304	20,723	20,072	22,008	1,936
Sault Ste. Marie	8,219	9,572	11,926	11,805	12,225	420
Peterborough	8,480	7,881	8,893	9,175	9,058	.....

Table III shows the number of outfits prepared and distributed from the Central Laboratory from the year 1933 to 1937, inclusive. It will be noted, during the year 1937, there were 41,281 more outfits prepared and distributed than during the previous year.

TABLE III.

OUTFITS PREPARED AND DISTRIBUTED
1933 TO 1937, INCLUSIVE

Outfits Sent Out	1933	1934	1935	1936	1937
Bacterial Water	10,404	10,554	10,400	11,846	13,493
Diphtheria	10,079	14,496	10,709	10,177	11,375
Typhoid	3,561	4,892	3,092	3,991	3,486
Tuberculosis	17,890	15,744	15,405	20,972	26,108
Wassermann	73,941	71,525	81,879	77,914	102,525
Gonorrhoea	22,230	24,530	19,205	28,172	29,754
Blood Sugar	10,557	16,933	19,507	20,488	20,947
Non-Protein Nitrogen	5,360	6,784	9,131	9,360	10,835
Feces	2,882	3,504	3,029	3,508	3,050
Special Feces	.....	.....	.....	.....	829
Combined Blood Outfits	3,717	2,322	2,150	1,253	2,594
Pathology	4,306	4,632	4,517	6,056	6,871
Dark Fields	755	398	397	730	1,125
Bang's Outfits	.....	1,041	1,150	531	2,142
Miscellaneous	.....	168	1,790	3,224	4,369
Totals	166,115	177,626	183,640	198,222	239,503

Table IV outlines the preparation and distribution of T. A. B. vaccine, Pertussis vaccine, Polio Convalescent serum and Chemical products from the Central Laboratory.

TABLE IV.

VACCINES AND CHEMICALS
1933 TO 1937, INCLUSIVE

	1933	1934	1935	1936	1937
Typhoid Paratyphoid Vaccine, c.c.	49,810	31,170	55,890	66,260	90,650
Whooping Cough Vaccine, c.c.	88,825	79,885	80,260	110,525	75,760
Silver Nitrate for Prevention of Ophthalmia, Ampoules	56,507	58,093	59,629	57,842	71,405
Bismuth Oxychloride, grains	136,728	161,034	168,096	174,237	142,412
Mercury Salicylate, grains	17,448	16,248	15,096	16,107	10,578
Sodium Hydroxide in the Treatment of V. D. S., ounces	2,423	2,162	1,762	1,152	314
Distilled Water in the Treatment of V. D. S., ounces	57,262	55,101	50,225	53,437	49,292
Polio Serum, packages	76	539	317	550	1,960
Rabies Vaccine, packages	94	40	25	21	44
Sodium Citrate, ampoules	.....	.....	2,484	348	225

Investigational study has been conducted in connection with the preparation of T. A. B. vaccine prepared at the Central Laboratory following the results and recommendations of Perry and Benstead of the British War Office. Careful review has also been made of the extensive experiment conducted at the U. S. Army School. The vaccine prepared at the Central Laboratory now includes Rawlings rejuvenated strain No. 58, as well as three freshly isolated strains. The Central Laboratory distributes Typhoid Paratyphoid vaccine (T.A.B.) only.

The preparation of Pertussis vaccine was placed under the supervision of Dr. H. A. Ansley. Three workers are engaged full time in connection with the preparation of this product. Investigation was made as to accurate means of standardization. It has been out experience that total nitrogen affords an accurate means of standardization. At the present time, twelve strains are included in the preparation of our Pertussis vaccine suspension.

Diphtheria:—Five thousand, four hundred and ninety-two (5,492) specimens of throat swab material were received for cultural examination for diphtheria. Of this number, 247 were positive. One hundred and four (104) of these cultures were plated out on Tellurite medium in order to isolate diphtheria bacilli in pure culture, and to determine whether or not the strains produced toxin. Of this number 25 yielded a positive virulence test. Twenty-three Kellogg tests were carried out to determine the antitoxin content of patients' blood. These samples were submitted from individuals who gave a pseudo-Schick test reaction.

Tuberculosis:—Twenty-three thousand, nine hundred and sixty-three (23,963) microscopic smear preparations were prepared and examined for the presence of tubercle bacilli. This is an increase of 5,476 over the number examined in 1936.

Cultural:—Routine cultural examinations for the primary isolation of tubercle bacilli were established as routine procedures at the Fort William and Ottawa Branch Laboratories. The cultural procedure was continued at the Central Laboratory. Several new varieties of medium were given experimental trial. Experimental work was conducted in connection with the preparation and treatment of specimens. A detailed report outlining the results of this work will be published in the near future.

Table V outlines the number and nature of specimens subjected to Cultural examination for the primary isolation of tubercle bacilli at the Central Laboratory.

TABLE V.

TABLE OUTLINING THE RESULTS OF CULTURAL TESTS ON 4,141 SPECIMENS

Type of Specimen	Total Number of Specimens	Number of Positives			Number of Negatives	Percentage of Positives
		At 4 Weeks	At 8 weeks	Total		
Sputa	2,514	165	105	270	2,244	10.66
Pleural Fluids	319	38	17	55	264	17.26
Urines	535	27	11	38	497	7.10
Right Ureter	184	4	5	9	175	3.04
Left Ureter	197	3	3	6	191	4.88
Bone and Joint Fluid	77	3	0	3	74	3.89
Pus	62	8	3	11	51	17.74
Ascites	31	0	1	1	30	3.22
Spinal Fluid	89	9	4	13	76	14.60
Glands	61	2	5	7	54	11.47
Miscellaneous	72	2	3	5	67	6.94
Totals	4,141	261	157	418	3,723	10.09

It will be noted from the above table, 4,141 specimens were examined. It will also be noted, that of the number of specimens cultured, 10.09 per cent

yielded positive results. It can also be seen that of the 89 spinal fluids examined, 13, or 14.60 per cent. yielded tubercle bacilli. Of 418 specimens yielding tubercle bacilli on cultural examination, 261 were found positive after four weeks' incubation.

Table VI outlines the results obtained in connection with the examination of 451 pleural fluids. It will be noted, in addition to the preparation of microscopic smears, these specimens were cultured for the presence of pyogenic organisms, as well as tubercle bacilli.

TABLE VI.

PLEURAL FLUIDS EXAMINED

(Oct. 1st, 1936 to Sept. 30, 1937)

Tuberculosis Positive on direct smear	18
Tuberculosis Positive on direct smear, Haemolytic staphylococcus aureus	14
Tuberculosis Positive on direct smear, B. Coli	1
Tuberculosis Positive on culture	41
Tuberculosis Positive on culture, Pneumococcus	1
Tuberculosis Positive on culture, Spore	1
Haemolytic Staphylococcus aureus	29
Haemolytic Streptococcus	14
Pneumococcus	72
Non-haemolytic Streptococcus (3), Streptococcus Viridans (3)	6
B. Coli and Streptococcus Viridans (2), B. Coli (1)	3
B. Influenzae	1
Spore bearing bacilli	20
No growth	230
	451

Table VII shows the comparative study on specimens which were subjected to both cultural and animal inoculation test methods.

TABLE VII.

TABLE SHOWING 776 SPECIMENS ON WHICH CULTURAL TEST WAS CONTROLLED BY GUINEA PIG INOCULATION

Type of Specimen	Total Number	Guinea Pigs		Cultures	
		Negative	Positive	Negative	Positive
Urine	149	124	25	125	24
Right Kidney	184	172	12	175	9
Left Kidney	197	190	7	191	6
Bone and Joint Fluid	65	63	2	60	5
Pus	38	31	7	30	8
Spinal Fluid	72	60	12	62	10
Ascitic Fluid	19	18	1	18	1
Miscellaneous	31	29	2	29	2
Glands	21	15	6	18	3
Totals	776	702	74	708	68

It will be noted from the above table, the animal inoculation test method yielded positive results in 74 specimens, while the cultural test yielded positive tests in 68 specimens. The cultural examinations yielded a smaller number of

positives than in previous years. The decrease in the number of positives by the cultural method may be attributed to the fact, that when specimens are of sufficient quantity, an animal is inoculated with 2 c.c. of the untreated specimen. The decrease may also be due to the nature of the specimens included in this series.

Table VIII shows the type of specimen in which cultural examination was positive and guinea pig inoculation negative, or vice-versa.

TABLE VIII.

TABLE SHOWING THE TYPE OF SPECIMEN IN WHICH CULTURAL EXAMINATION WAS POSITIVE AND GUINEA PIG INOCULATION NEGATIVE, OR VICE-VERSA

Type of Specimen	Cultural Positive Guinea Pig Negative	Culture Negative Guinea Pig Positive
Urine	1	0
Right Ureter	1	4
Left Ureter	1	2
Bone and Joint Fluid	1	0
Pus	2	1
Spinal Fluid	1	3
Miscellaneous	1	1
Glands	0	3
Totals	8	14

It will be noted from the above table, that three glandular specimens yielded positive animal inoculation test results, whilst the cultural examination was negative. Strains isolated from these specimens were typed to determine whether they were of bovine or human origin.

Miscellaneous:—Nineteen thousand, eight hundred and fourteen (19,814) miscellaneous bacteriological examinations were made by the Division of Laboratories. The nature of the examinations conducted under this heading is outlined in a leaflet, which gives the routine procedures conducted by the Division of Laboratories. This leaflet was distributed last April. There has been a considerable increase in the number of requests for pneumococcus typing. Diagnostic typing serum has been placed in each of the Branch Laboratories, and two members of the Central Laboratory staff are engaged, full time, in the preparation of this diagnostic serum in order that an adequate supply of this product may be maintained for each of our Laboratories. During the year 1937, pneumococcus was isolated from 716 specimens. Table IX outlines these results.

A questionnaire form is forwarded to the physician one month following the dispatch of the typing result. The practising physicians have given excellent co-operation in as much as over 75 per cent. of these forms have been returned. This enabled our laboratory to collect accurate data. We have prepared a number of abstracts on pneumococcus typing. These have been distributed to our Branch Laboratories. The Central Laboratory also has an outline of the technique used in this work for distribution to all laboratory workers upon request.

TABLE IX.

INCIDENCE OF PNEUMOCOCCUS TYPES IN VARIOUS SPECIMENS

(Jan. 1, 1937 to Dec. 31, 1937)

Type	Sputa	Pleural Fluid	Spinal Fluid	Mastoid Ear	Total
1	61	47			108
2	13	13	1	1	18
3	68	5	4	6	83
4	13	2			15
5	25	5	1	2	33
6	29	1	2		32
7	28				28
8	29		3		32
9	12		1		13
10	13				13
11	6				6
12	18				18
13	9	1			10
15	10	1			11
16	1				1
17	12				12
18	21		1		22
19	14		1		15
20	7				7
21	4				4
22	7			1	8
23	11				11
24	8	1	1		10
25	1				1
27	3				3
28	4				4
29	16				16
31	4				4
32	2				2
Undetermined	16				16
Multiple types*	17				17
Haem. Strep.	27				27
No Pneumococcus	113				113
Totals	622	66	15	10	713
Sinuses:—Type VI-1, Type VIII-1; Abdominal fluid:—Type III-1.					3
					716

*Multiple types:—1-18; 2-17; 3-8; 3-15; 3-18; 3-20; 7-10; 7-19; 7-24; 8-10; 8-22; 11-31; 12-13-16; 12-19; 13-undetermined type; 20-undetermined type; 23-28.

Rabies:—Eighteen (18) specimens were examined at the Division of Laboratories to determine the presence of rabies infection. Twelve of these were examined at the Central Laboratory, and six at the Institute of Public Health, London. Rabies infection was diagnosed at the Central Laboratory in December last. A report was immediately forwarded to the Health of Animals Branch in order that adequate quarantine measures could be instituted. The preliminary report was issued on microscopic examination. Positive findings were confirmed by animal inoculation tests.

Milk and Water:—The number of milk and water specimens examined during 1937 has again shown an increase. The Central Laboratory has been conducting a study in connection with the Phosphatase test.

Cleansing of Glassware:—A bacteriological study was made last year of eating and drinking utensils in beverage rooms and restaurants. The results of this study were presented at a joint meeting of the Canadian Public Health and Ontario Health Officers' Association in Ottawa last June.

Since this preliminary report, further studies have been conducted. The Central Laboratory has outfits assembled for the collection of material from eating and drinking utensils. Instruction and data sheets have been prepared for distribution. It is our desire that these cultural examinations will become a regular part of our routine. A paper outlining the results and observations thus far, will be published in the course of the next two months. Investigational work in connection with this survey is being continued.

Colon Typhoid:—Table X outlines the results of the whole bloods examined at the Central Laboratory, and the results of same from the year 1929 to 1937, inclusive.

TABLE X.

ANALYSIS OF WHOLE BLOOD EXAMINATIONS MADE FROM THE YEAR 1929 TO 1937, INCLUSIVE

Year	Number Examined	B. Typhosus		Para B.		Br. Abortus	
		Number Positive	Per Cent. Positive	Number Positive	Per Cent. Positive	Number Positive	Per Cent. Positive
1929	669	100	15.9	8	1.2	29	4.3
1930	1,125	193	17.1	30	2.7	54	4.8
1931	1,985	245	12.3	184	9.3	75	3.8
1932	1,373	169	12.3	43	3.1	64	4.7
1933	2,227	129	5.8	60	2.7	67	3.0
1934	2,155	218	10.1	66	3.0	80	3.7
1935	2,195	360	16.4	66	3.0	84	3.8
1936	2,035	196	9.1	72	3.5	73	3.6
1937	2,629	282	10.7	110	4.2	69	2.2

Table XI outlines the blood culture results for the year 1937.

TABLE XI

BLOOD CULTURES EXAMINED DURING 1937

	Number Examined	Number Positive	Per Cent. Positive
S. Typhi	2,629	52	1.976
S. Paratyphi A	2,629	2	.076
S. Paratyphi B	2,629	13	.494
Haemolytic Streptococcus	2,629	14	.532
Streptococcus Viridans	2,629	21	.798
Haemolytic Staphylococcus Aureus	2,629	27	1.026
Pneumococcus	2,629	1	.038
Totals	2,629	130	4.940

Table XII outlines the cultural results of the examinations on 1,604 specimens of stool and urine specimens.

TABLE XII.

STOOL AND URINE EXAMINATIONS—1937

Organisms Isolated	Number	Total	Per Cent Positive
Salmonella Typhi	49		3.054
Salmonella Paratyphi B	10		0.623
Shigella Paradysenteriae Flexner	20		1.246
Shigella Paradysenteriae Sonne	14		0.872
Salmonella Typhi Murium	2		0.124
Salmonella Columbensis	10		0.623
Salmonella Morganni	6		0.373
Haemolytic Staphylococcus Aureus	3		0.187
Haemolytic Streptococcus	5		0.311
Streptococcus Viridans	6		0.373
Total number positive	125	125	
Total number negative		1,479	
Total number examined		1,604	

Syphilis (Serodiagnosis):—Special attention has been given to the serodiagnostic methods for syphilis during the past two years. Three surveys of serodiagnostic tests have been conducted under the auspices of the U. S. Public Health Service. These evaluations demonstrated the necessity of such surveys at frequent intervals in order that comparative studies might be made of tests recently evolved. It is for the welfare of the patient and for the guidance of the clinician that serodiagnostic tests be sensitive. Nevertheless, the specificity of any test must be the main essential in selecting any particular method.

The following table demonstrates the results of the various methods as to sensitivity and specificity.

TABLE XIII.

REPORT ON THE FIRST, SECOND AND THIRD EVALUATION OF SERODIAGNOSTIC TESTS FOR SYPHILIS HELD UNDER THE AUSPICES OF U. S. PUBLIC HEALTH SERVICE

	1st Evaluation Sensitivity		2nd Evaluation Sensitivity		3rd Evaluation Sensitivity			Specificity			False Positives		
	Doubt.	% Pos.	Doubt.	% Pos.	Pos.	Doubt.	% Pos. Plus Doubt.	1st	2nd	3rd	1st	2nd	3rd
Hinton	17	86.6	5	88.8	92.9	2	94.9	99.3	100	100	.7	0	0
Kahn	17	80.5	3	75.7	84.5	2.1	86.6	100	100	100	0	0	0
Pre. Kahn (Dr. Kurtz)	4	86.6	5	79.6	91.8	1.5	93.3	96.7	98.98	100	3.3	1.02	0
Kline Diag.	25	76.3	10	88.8	83.9	9.5	93.4	100	99.03	100	0	0.97	0
Kline Ex. (Rein)	20	85.4	14	84.8	96.5	2.5	99	99.3	100	100	.7	0	0
Kolmer	13	75.9	1	59	88.2	0	88.2	100	100	100	0	0	0
Eagle Floc.	3	84.1	0	77.8	?	?	?	98	100	?	2.0	0	?
Eagle C. F.	not done	not done	8	83.8	?	?	?	....	100	?	....	0	?

First evaluation taken from Journal Venereal Disease Information—December, 1934.

Second evaluation taken from Journal Venereal Disease Information—January, 1937.

Third evaluation taken from American Medical Assoc. Journal—August, 1937.

Note:—In the first and second evaluations, the doubtful results were given a negative rating. The third evaluation gave the doubtful results credit in the syphilitic group and made deductions for the doubtful results in the non-syphilitic group.

It can be noted from the above table that the Hinton Test, in the first evaluation, yielded 0.7 per cent. false positives, whilst in the second and third series it proved to be specific, as did the Standard Kahn and Kolmer Wassermann. Following the publication of these results, it was decided that all specimens received at the Central Laboratory, be subjected to two relatively sensitive and specific flocculation methods. If the results were in agreement, a report was forwarded, but where there was not complete agreement, specimens were subjected to a further test, namely the fixation method (Kolmer). The advantage in conducting this routine is that in a laboratory receiving large numbers of routine specimens, the specimens can be subjected to two sensitive flocculation methods, and where the result is negative or positive in both, the report may be forwarded. Cases where the results of the two tests (Kahn and Hinton), are not in agreement, enable the laboratory to give these specimens special study. This special study includes further tests such as Wassermann, Kline, and if sufficient specimen remains, further flocculation methods such as Sordelli or Eagle. The laboratory can also conduct quantitative tests if the physician desires such. The examination in connection with spinal fluid specimens was re-arranged. Spinal fluid specimens received at the Central Laboratory, are subjected to Standard Kahn, Colloidal Gold, and Total Protein tests. The latter test is determined with the aid of the Electric Scopometer. The Colloidal Mastic test has been discontinued due to the fact that this test was slightly less sensitive than the Colloidal Gold.

Table XIV outlines the results in connection with the examination of 26,238 blood specimens received at the Central Laboratory during the six months period July 1st, to December 31st, 1937.

TABLE XIV.

TABLE SHOWING THE RESULTS OF SEROLOGICAL TESTS ON 26,238 BLOOD SPECIMENS RECEIVED FROM JULY 1st, 1937, TO DECEMBER 31st, 1937

Negative Kahn with Negative Hinton	22,118	or 84.05%
Positive Kahn with Positive Hinton	1,503	or 5.71%
Hemolysed, Insufficient, Broken, Unsatisfactory, etc	534	or 2.03%

	Untreated Cases	%	Treated Cases	%
Doubtful Kahn with Doubtful Hinton	257	.976	289	1.098
Negative Kahn with Positive Hinton	91	.345	66	.250
Doubtful Kahn with Positive Hinton	642	2.439	617	2.350
Positive Kahn with Doubtful Hinton	9	.034	5	.019
Positive Kahn with Negative Hinton	6	.023	1	.0038
Doubtful Kahn with Negative Hinton	26	.099	13	.0494
Negative Kahn with Doubtful Hinton	35	.133	26	.099

It will be noted from the above table, there was complete agreement in the two tests, Standard Kahn and Hinton, in 22,118 or 84.05 per cent. of the specimens examined. It will also be noted that 5.71 per cent. of the specimens received were positive. The Hinton test yielded 91 or 0.345 per cent. positive results in connection with the examination of blood serum from untreated cases, and 66 or 0.25 per cent. positive results with blood serum from treated cases. The Standard Kahn test yielded positive results with the untreated group in 6 or 0.023 per cent., and 1 or .0038 per cent. positive in the treated cases. The Hinton test therefore, has demonstrated its increased sensitivity over that of the Standard Kahn.

In a group series of 575 cases where the results of the Hinton and Kahn tests were not in agreement, these specimens were subjected to Kolmer Wassermann test. Table XV outlines these results.

TABLE XV.

REPORT OF 575 WASSERMANNS IN CASES WHERE THERE WAS SUFFICIENT SERUM TO DO A WASSERMANN WHEN THE HINTON AND KAHN TESTS DID NOT CHECK.

	Negative Wassermann	%	Doubtful Wassermann	%	Positive Wassermann	%
126 Doubtful Kahn with Doubtful Hinton	80	13.91	19	3.30	27	4.69
57 Negative Kahn with Positive Hinton	21	3.65	2	.33	34	5.91
322 Doubtful Kahn with Positive Hinton	112	19.47	22	3.82	188	32.69
12 Positive Kahn with Doubtful Hinton	4	.69	2	.33	6	1.04
1 Positive Kahn with Negative Hinton	0	.00	0	.00	1	.17
23 Doubtful Kahn with Negative Hinton	15	2.60	2	.33	6	1.04
34 Negative Kahn with Doubtful Hinton	28	4.87	3	.52	3	.52

Owing to lack of information on the data sheets, we were unable to divide this group into Treated and Untreated. Ninety-nine sheets only were marked treated.

Table XVI outlines the results of the Kolmer Wassermann test in connection with the examination of blood serum from 99 treated cases where the results of the Kahn and Hinton flocculation tests were not in agreement.

TABLE XVI.

TABLE SHOWING 99 KOLMER WASSERMANN TESTS OF TREATED CASES WHERE KAHN AND HINTON WERE NOT IN AGREEMENT

	Negative	Doubtful	Positive
15 Doubtful Kahn with Doubtful Hinton	11	0	4
24 Negative Kahn with Positive Hinton	15	1	8
38 Doubtful Kahn with Positive Hinton	15	4	19
2 Positive Kahn with Doubtful Hinton	0	0	2
0 Positive Kahn with Negative Hinton	0	0	0
6 Doubtful Kahn with Negative Hinton	4	1	1
14 Negative Kahn with Doubtful Hinton	10	1	3

A study of total protein determinations by means of the Electric Scopometer has been conducted. Details of the results will be published in the very near future. The Electric Scopometer affords the laboratory a rapid and accurate means of determining the total protein of spinal fluids.

Gonorrhoea:—The combined outfit, which has been prepared, includes a capillary tube in which exudate may be placed. The end of the tube is sealed by a mixture of bees-wax and vaseline, identical with that used in the combined dark field outfit. This outfit also contains a tube for peripheral blood specimen. The Laboratory, therefore, is enabled to conduct a comparative study of microscopic smears, cultural examination, and serological test. The results of this survey will not be available for some time.

I wish to express my most hearty appreciation to the members of the Central Laboratory staff, and to the Directors and staffs of the Branch Laboratories, for their very kind co-operation during the past year. I also wish to express my appreciation and congratulations to Dr. A. J. Slack, Director, Institute of Public Health, London, for the splendid work conducted in his Laboratory during the past year. Professor James Miller, Richardson Laboratory, Queen's Univesity, Kingston, has served as consultant to the Department, and has taken keen interest and has been of great assistance.

The pathological work, under the direction of Dr. H. A. Ansley, Provincial Pathologist, and the chemical work, under the direction of Mr. A. R. Bonham, Provincial Analyst, will be discussed under their respective headings. There also follows, a brief report by the Director of each Branch Laboratory.

CHEMISTRY

A. R. BONHAM, B.A.Sc., F.C.I.C., *Provincial Analyst.*

The work in the Chemical Section of the Division of Laboratories, showed a definite increase during the year with respect to the analysis of blood. The number of samples submitted for the determination of sugar was an increase of 1805 over the previous year, while there were 831 more specimens received for estimation of non-protein nitrogen.

The work in connection with milk more than doubled during the year while the chemical analysis of water samples was practically the same as in 1936. There was a decrease in the number of coals analyzed for the Government Institutions but, on the other hand, there was an increased number of liquors forwarded by the Liquor Control Board for complete analysis.

Concerning the medicinal products prepared in this section, there was very little difference in the volume of work from the previous year owing to the fact that while there was less sterile distilled water, as well as ampoules of bismuth oxychloride suspension and mercury salicylate, this decrease was offset by a material increase in the number of silver nitrate ampoules required.

The amount of colloidal gold solution for use in Serology manufactured, amounted to 234 litres which was 28 litres more than in 1936.

It was possible during the year to conduct some experimental work in connection with the determination of cyanide in water. An accurate method for determining small amounts of this poisonous compound is of importance to this province since large amounts of cyanide are used in the gold mining areas with the possibility, therefore, of some cyanide reaching water supplies. Mr. J. E. Fasken of our staff, presented a paper on the subject at the last meeting of the Laboratory Section of the Canadian Public Health Association.

The development of a new outfit for Silver Nitrate Solution to replace the wax ampoule which has been in use for several years, required some time.

PATHOLOGY

H. A. Ansley, M.B., D.P.H., *Director.*

History.

The Division of Pathology was begun in 1930 under the direction of the late Dr. Edgar Bates, as a result of the suggestion of the late Dr. Oskar Klotz, of the Department of Pathology of the University of Toronto, to the Department of Health of Ontario. The service has rapidly expanded due to the diagnostic ability of Dr. Bates and, in many areas of the Province, the tissue diagnosis of this Central Division has been preferred to more local centres, such as in Noranda, Que. On the death of Dr. Bates, in February of 1937, Dr. Ansley, who had previously been with Dr. Bates, accepted the position of Director of the Pathology Division.

The Division has been housed for the past seven years in the basement of the Banting Institute. In July of this year arrangements were made for the transfer of the tissue pathology work to a converted storeroom on the fourth floor of the East Block of the Parliament Buildings, in conjunction with the Central Laboratories. While the Pathology Division benefits greatly from closer association with the Central Laboratory, of which it is a branch, the quarters provided have proved to be very inadequate, especially in view of the added teaching necessary in the new programme begun this year. The rooms were intended to house both the Neuropathology Division and the Surgical Pathology Division, but partly owing to lack of space the former has not been trensferred to date.

Progress.

If the total number of specimens is any indication of progress, the Division has maintained an expansion of about 1,000 to 1,500 specimens per annum making the total for 1937 over 7,000.

During the summer months the chief technician, Miss Isobel Stevens, was sent for two weeks to Dr. Thibideau's Laboratory in the State Institute for Malignant Diseases at Buffalo to learn the method of frozen section as adapted to the routine work of surgical tissue diagnosis. Frozen section equipment was purchased and the method was started in the Division of Pathology. This has proved to be very successful both from the point of view of microscopic diagnosis and also in relieving the burden of the increased work of the paraffin routine which was becoming too much for the autotechnicon and the technicians to handle. About 500 specimens were examined by the frozen section method up to the end of the year. Some of this period of time has been taken up by Miss Stevens in investigating the various methods of staining after frozen section, which will be published in a paper later on.

Owing to the increase in stenographical work, Miss Dickinson was transferred from the Division of Neuropathology to the Division of Surgical Pathology. In addition to helping with the typing and filing of the routine work, Miss Dickinson, who has had a year in Library training has instituted a reprint file for the use of the staff of the Central Laboratory. This has involved sorting out, re-classifying and filing of several thousand reprints some of which were in the files of the Central Laboratory, and in the Division of Pathology. A lending library system of reprints has thus been made available to the local staff, as well as to physicians requesting information for presentation of papers at local medical societies. This is in addition to supplying the physicians with extra microscopic preparations of their specimens at a charge of $0.25.

During the year, the Division of Pathology has begun the teaching of student technicians in the methods of tissue section by both paraffin and frozen methods. Two technicians have already been trained, with a third still in training at the end of the year. The work of the Division has been increased to take care of the teaching of graduate physicians in tissue diagnosis. During the first week in February Dr. M. Shaver began instruction in autopsy pathology at the Banting Institute and transferred to surgical pathology in October. His position as student on the autopsy service at the Banting Institute was filled at this time by Dr. Morley Whillans, recently appointed to the staff of the Department of Health.

In June, 1937, the new report forms and data sheets were inaugurated which allows the history of the patient to be bound with the microscopic report in smaller, handier volumes, where previously small cards were used and a separate filing index maintained. In order to introduce the new data sheet, the various hospitals were sent a small supply of the requisition forms for tissue examination, and they have co-operated very well in supplying clinical histories with the specimens. Reports on tissues are forwarded to the hospital for their files and duplicates supplied to the surgeons where requested. Also a hospital and physician visible-card filing system was compiled using daily enteries which allows immediate checking up of specimens received at any time. This has been found very necessary in dealing with long distance telephone calls and also in compiling monthly and annual statements.

The diagnosis files were re-organized and re-classified so that by reference to a large chart, the microscopic preparation of any diagnosis can be readily found. A separate chart for tumours is used. These charts were prepared by Miss Stevens and Miss Brockway of our staff, and very expertly photographed and mounted by members of the photographic department of the Banting Institute.

Owing the the fact that Dr. Ansley left the position of Director of Laboratories in Newfoundland before a pathologist could be found to replace him, this Division has been assisting the Newfoundland Laboratory with the surgical tissue diagnosis. Prepared sections are forwarded to us, and reports returned when the diagnosis is made. Several letters of appreciation of this service have been received from local surgeons, for, lacking X-rays or radium, they are completely dependent on surgery in the treatment of cancer cases.

With regard to the Autopsy service supplied by the Pathology Division of the Central Laboratory during 1937, I have to report that very little has been accomplished except the purchase of autopsy instruments and equipment which were greatly needed. With the exception of about 5 autopsies conducted by our staff, the remainder of the autopsy material was sent in by physicians throughout the Province. While it was planned that our staff provide autopsy services to the mental hospitals in Toronto, it has been found that this could not be undertaken without an increase in staff and technical equipment in the Pathology Division. It is hoped that in the ensuing year arrangements can be made to supply this very valuable diagnostic and teaching service to these institutions, as the co-operation of the superintendents and staffs of the various hospitals at which autopsies were conducted has been exceptional.

In December, the Department very kindly permitted Dr. Ansley to accompany Dr. MacNabb, the Director of Laboratories, to Washington, D.C.

to attend the annual meeting of the American Society of Bacteriologists. This has been especially appreciated since Dr. MacNabb had previously placed Pertussis Vaccine under the supervision of the Pathology Division.

On December 23rd a meeting was arranged in the Parliament Buildings by the Pathology Division at the expense of the Provincial Government which was attended by the Pathologists of the Province of Ontario. The purpose of the meeting was to elect an Advisory Board in pathology to act in conjunction with the Government in approving of pathologists for tissue pathology. The members elected were as follows:—Dr. Deadman, of Hamilton, as chairman, and Drs. Robinson, Luney, Miller and Ansley who proceeded to draw up a list of approved pathologists at this meeting. Also, the pathologists of the Province expressed their appreciation to the Provincial Department of Health in respect to tissue pathology and took the opportunity of appointing a committee to settle the problem of forming a Clinical Pathological Society for the Province. This meeting had as chairman, Major Shanks of the Toronto Western Hospital.

Statistics.

This report includes various tables which show the annual increase in surgical and autopsy tissues examined as well as the percentage of tumour tissue with its distribution as to age, sex, and type of growth. (In this connection, it is interesting to note that the Hamilton City Laboratory has a similar percentage of cancerous tissue, i.e. 10%.) This increase in growth is in part due to the Provincial Regulations passed during 1937, which requires all hospitals to submit their surgical tissues for pathological examination. It is probable also, that some of the growth of this service is due to the fact that the Pathology Division charges only $1.00 per specimen, with a maximum of $5.00 for autopsies, whether or not the patient is indigent.

A table is also included showing the various hospitals now served by this Division, with their bed capacity, date of first specimen received and number received in the last six months of 1937. The whole year is not included owing to the old type of filing used, but in future a monthly report will be available of all new hospitals as well as the previous list. This will be summarized in the ensuing annual report.

Owing to the new type of filing introduced, the Division has now readily available a great variety of microscopic material collected during the past seven years, especially with regard to various kinds of tumours. This is exceedingly valuable for teaching purposes, and could readily be used as the nucleus for a Central Tumour Registry for the Province of Ontario, should such be undertaken in the future. It is planned to make this material available to the physicians by a series of papers with micro-photographs during the ensuing year.

Included also is the usual alphabetical table of centres which have forwarded specimens during the year, with total number of specimens sent by each.

Summary.

To summarize the statistics, one might say that a total of 7,004 specimens including surgical and autopsy material were received from 95 hospitals and about 3,000 physicians throughout 134 communities in the Province of Ontario, the Island of Newfoundland, and one area in Quebec. Of the 7,004

specimens 6,917 were surgical and 87 from autopsy cases with 10% of the former cancerous. Of the total number of specimens 1,675 showed tumour growths of which 66% were benign and 34% malignant, 28% in males and 72% in females.

I wish to express my sincere appreciation to Dr. Robinson, Director of Surgical Pathology Department of the Toronto General Hospital who, as in previous years has so kindly acted as unofficial consultant in cases of difficult diagnosis.

TABLE I.

ANALYSIS OF TUMOURS BY TYPE AND LOCATION

	Ecto-dermal Tumours		Meso-dermal Tumours		Others		Mixed		Totals	
	Benign	Malignant	Benign	Malignant	Benign	Malignant	Benign	Malignant	Benign	Malignant
Blood	.....	.....	.....	....	2	....	....	....	2	0
Brain and Nerves	1	.....	.....	2	....	....	....	....	1	2
Breast	14	100	5	1	....	....	47	....	66	101
Bone	.....	1	21	4	....	3	....	....	21	8
Eye	.....	2	1	2	....	....	....	....	1	4
Fluids, Pleural and Ascitic	.....	.....	.....	....	....	....	....	....	0	0
Glands, Salivary	1	.....	.....	....	....	....	9	1	10	1
Glands, Lymphatic, Primary	.....	.....	.....	9	....	....	1	....	1	9
Glands, Lymphatic, Secondary	4	55	3	....	....	....	....	....	7	55
Intestine and Peritoneum	20	61	3	2	....	1	....	....	23	64
Kidney Ureter, Bladder Urethra	15	22	....	2	....	1	....	....	15	25
Gall Bladder and Liver	1	12	.....	....	....	....	....	....	1	13
Lung and Pleura	.....	1	.....	....	....	1	....	....	0	2
Miscellaneous	.....	2	.....	....	....	....	1	....	1	2
Mouth, Tongue, Lip	33	28	23	....	....	....	....	....	56	28
Nasopharynx, Tonsil, Nose, Larynx	15	7	1	2	....	....	1	....	17	9
Ovary and Fallopian Tube	43	12	10	2	....	....	13	....	66	14
Pancreas	.....	1	.....	....	....	....	....	....	0	1
Prostate	15	12	.....	....	....	....	12	....	27	12
Skin	103	143	53	9	....	....	3	1	159	153
Spleen and Thymus	.....	.....	.....	....	....	1	....	....	0	1
Stomach and Oesophagus	.....	9	.....	1	....	....	....	....	0	10
Subcut. Tissue, Tendon, Muscle	.....	.....	115	15	....	....	6	....	121	15
Testis	.....	1	....	3	....	....	2	2	2	6
Thyroid	145	7	.....	....	....	....	....	....	145	7
Uteris, Cervix, Vagina	173	58	192	12	....	....	9	....	374	70
Endometriosis	17	.....	.....	....	....	....	....	....	17	0
									1,133	612
									1,45	

Percentage of Benign: 64.93; Percentage of Malignant: 35.07.

TABLE II.
ANALYSIS OF TUMOURS BY AGE, SEX, AND TYPE

Age in Years	Epithelial Tumours Carcinoma				Mesodermic Tissue Sarcoma				Mixed Tumours And Miscellaneous			
	Benign		Malignant		Benign		Malignant		Benign		Malignant	
	M	F	M	F	M	F	M	F	M	F	M	F
0– 9	3	3	....	....	6	4	1	....	....	1	1	....
10–19	2	11	2	1	7	7	1	1	2	4	....	....
20–29	11	56	3	12	9	34	4	4	1	26	....	....
30–39	11	79	6	23	18	64	5	6	2	17	2	1
40–49	18	106	17	70	10	90	6	11	1	8	....	....
50–59	24	76	38	58	15	37	5	5	1	6	1	....
60–69	19	28	37	68	8	10	3	2	8	2	2	....
70 plus	17	5	34	27	1	....	2	....	4	1	....	....
Unstated age	24	98	46	54	16	77	3	5	6	12	2	....
Totals	129	462	183	313	90	323	30	34	25	77	8	1
Percentage	54.37		45.63		86.58		13.42		91.98		8.02	
Totals	1,087				477				111			

Total Number of Tumours: 1,675; Percentage of Benign: 66.03;
Percentage of Malignant: 33.97.

TABLE III.

Year	Number of Surgicals	Number of Autopsies	Total Specimens	Number of Tumours	Benign Tumours		Malignant Tumours	
					Total Benign	Per Cent.	Total Malignant	Per Cent.
1930	599	9	609	.....	.....	....	.....	....
1931	2,625	46	2,671	1,065	496	46	569	54
1932	3,083	30	3,113	931	491	53	440	47
1933	3,652	23	3,675	1,054	659	63	395	37
1934	4,683	33	4,716	1,270	707	55	563	45
1935	5.553	44	5,597	1,497	913	63	584	37
1936	5,919	48	5,967	1,536	941	61	595	39
1937	6,917	87	7,004	1,675	1,106	66	569	34

TABLE IV.

Hospital		No. of Beds	Date of First Specimen	Number of Specimens June-Dec.'37
Alexandra and Marine	Goderich	32	1934	45
Anson General	Iroquois Falls	28	Oct., 1937	18
Belleville General Hospital	Belleville	98	Feb., 1937	2
Bracebridge Hospital	Bracebridge	4	Nov., 1937	1
Brantford Clinic	Brantford	184	1931	38
Brockville General	Brockville	89	1930	52
Bruce County Hospital	Walkerton	32	Nov., 1937	5
Campbell Animal Clinic	Toronto	....	Sept., 1937	6
Civic Hospital	North Bay	.....	1934	74
Civic Hospital	Ottawa	540	Oct., 1937	1
Cobourg General	Cobourg	42	Sept., 1937	4
Collingwood General and Mar.	Collingwood	55	Oct., 1937	2
Copper Cliff Hospital	Copper Cliff	33	July, 1937	47
Cornwall General	Cornwall	65	1931	193
Cottage Hospital	Niagara Falls	16	Nov., 1937	1
Chatham General	Chatham	88	Dec., 1937	1

TABLE IV.—(Continued)

Hospital		No. of Beds	Date of First Specimen	Number of Specimens June-Dec.'37
Douglas Memorial	Fort Erie	29	1933	13
Dr Smith's Private	Hawkesbury	10	Oct., 1937	2
Galt General Hospital	Galt	70	1930	152
Grace Hospital	Ottawa	51	1934	125
Great War Hospital	Perth	34	Sept., 1937	4
Guelph General	Guelph	95	1934	42
Hagmeier Clinic	Preston	50	Nov., 1937	1
Iroquois Falls Hospital	Iroquois Falls	28	Aug., 1937	2
Kenora General	Kenora	64	Sept., 1937	1
Kincardine Hospital	Lucknow	29	Nov., 1937	1
Kirkland Lake Hospital	Kirkland Lake	66	Oct., 1937	7
Kitchener and Waterloo Hosp.	Kitchener	113	1935	2
Lady Minto Hospital	Chapleau	36	1936	14
Listowel Memorial	Listowel	20	Oct., 1937	2
Little Long Lac. Hospital	Geraldton	6	Oct., 1937	8
Lockwood Clinic	Toronto	40	1930	22
Lord Dufferin Hospital	Orangeville	37	1934	73
Manitoulin Red Cross	Mindemoya	14	Oct., 1937	1
Markdale Hospital	Markdale	9	Oct., 1937	2
Mindemoya Hospital	Mindemoya	14	Sept., 1937	1
Misericordia Hospital	Haileybury	24	July, 1937	4
Mount Sinai Hospital	Toronto	82	1934	350
McKellar Hospital	Fort William	203	.....	22
Newfoundland Hospitals		.....	Aug., 1937	13
Niagara Falls General	Niagara Falls	120	1932	31
Niagara Falls Sanitorium	Niagara Falls	84	July, 1937	2
Nichol's Hospital	Peterboro	81	Aug., 1937	4
Norfolk General Hospital	Simcoe	40	1932	82
Oakwood Clinic	Toronto	10	Aug., 1937	18
O'Donnell Hospital	Fort Frances	10	Aug., 1937	22
Ontario Hospital	Hamilton	.....	1933	.....
Ontario Hospital	Orillia	.....	1933	.....
Ontario Hospital	New Toronto	.....	1936	.....
Ontario Hospital	Toronto	.....	1933	.....
Ontario Hospital	Whitby	.....	1930	.....
Oshawa General	Oshawa	77	1930	49
Owen Sound Gen. and Mar	Owen Sound	87	1934	140
Peel Mem. Hospital	Brampton	30	1933	80
Pembroke Cottage	Pembroke	48	Oct., 1937	5
Plummer Mem. Hospital	Sault Ste. Marie	48	1934	80
Port Arthur General	Port Arthur	92	.....	18
Porters Hospital	Wiarton	6	Nov., 1937	1
Presbyterian Hospital	South Porcupine	14	Dec., 1937	1
Preston Springs San	Preston Springs	50	1931	9
Prince Edward County	Picton	29	1932	4
Protestant Children's	Ottawa	43	Sept., 1937	1
Public Hospital	Smith's Falls	44	Aug., 1937	2
R. M. Hospital	Almonte	20	Sept., 1937	1
Red Cross Hospital	Dryden	33	Aug., 1937	3
Red Cross Hospital	Englehart	9	Nov., 1937	4
Ross Mem. Hospital	Lindsay	50	July 1937	21
Royal Victoria Hospital	Barrie	42	Nov., 1937	8
Red Cross Hospital	New Liskeard	18	Dec., 1937	3
Red Cross Hospital	Thessalon	12	Dec., 1937	1

TABLE IV.—(Continued)

Hospital		No. of Beds	Date of First Specimen	Number of Specimens June-Dec.'37
Sault Ste. Marie General	Sault Ste. Marie	92	1935	71
S. A. Grace Hospital	Toronto	55	1933	95
Smooth Rock Falls Hospital		6	Nov., 1937	2
Soldiers' Memorial Hosp	Orillia	73	Aug., 1937	71
Soldiers' Mem. Hospital	Tillsonburg	24	1933	47
St. Catharines General	St. Catharines	150	1934	16
Stevenson Mem. Hospital	Alliston	22	Aug., 1937	21
St. Francis Hospital	Smith's Falls	38	July, 1937	12
St. Joseph's Hospital	Guelph	99	1930	13
St Joseph's Hospital	North Bay	83	1932	105
St. Joseph's Hospital	Port Arthur	151	.....	26
St. Joseph's Hospital	Sudbury	202	1931	296
St. Mary's Hospital	Kitchener	116	1931	2
St. Mary's Hospital	Timmins	85	Aug., 1937	81
St. Mary's Hospital	Toronto	25	1936	17
St. Paul's Hospital	Hearst	32	Sept., 1937	3
Stratford General	Stratford	90	Oct., 1937	40
Strathcona Hospital	Toronto	16	June, 1937	13
Tisdale Public Hospital	So. Porcupine	14	Oct., 1937	2
Victoria Hospital	Toronto	25	June, 1937	5
Welland Co. General	Welland	55	1933	137
Wingham General	Wingham	20	Sept., 1937	5
York Clinic	Toronto	.....	Sept., 1937	1
York County Hospital	Newmarket	35	1932	20
Youville Hospital	Noranda	.....	Aug., 1937	40

TABLE V.

ALPHABETICAL LIST OF CENTRES—YEAR 1937

Town or City	No. of Specimens	Town or City	No. of Specimens
Acton	1	Brantford	64
Agincourt	2	Brechin	8
Alliston	31	Brockville	305
Almonte	4	Brooklin	4
Angus	1	Bruce Mines	1
Anson	2	Burwash	6
Ansonville	10		
Arnprior	1	Caledon	1
Arthur	1	Campbellford	3
Atwood	3	Campbellville	2
Aurora	2	Cannington	1
		Cargill	1
Bala	1	Carelton Place	8
Barrie	42	Chapleau	22
Baysville	2	Chatham	3
Beachburg	1	Chippawa	1
Beaverton	1	Churchill	1
Beeton	1	Clarksburg	2
Belleville	4	Cobalt	1
Blenheim	1	Cobourg	8
Bloomfield	1	Cochrane	8
Blyth	4	Colborne	1
Bobcaygeon	2	Collingwood	34
Bolton	1	Coldwater	2
Bowmanville	10	Cookstown	7
Bracebridge	4	Cooksville	1
Brampton	148	Copper Cliff	64

ALPHABETICAL LIST OF CENTRES—YEAR 1937—(Continued)

Town or City	No. of Specimens
Cornwall	354
Creighton Mine	3
Demorestville	1
Drumbo	1
Dryden	4
Dundalk	2
Dungannon	1
Dunnville	7
Elmvale	1
Emo	3
Englehart	14
Erin	2
Espanola	8
Essex	1
Ethel	5
Fergus	16
Fordwich	6
Fort Erie	30
Fort Frances	37
Fort William	30
Galt	280
Georgetown	3
Geraldton	15
Goderich	71
Gogama	1
Grafton	1
Grand Valley	1
Gravenhurst	4
Guelph	182
Haileybury	28
Hamilton	1
Hanover	1
Harriston	1
Harrow	1
Hawkesbury	26
Hawk Junction	1
Hearst	9
Hepworth	2
Hillsdale	1
Hornepayne	1
Huntsville	2
Iroquois Falls	45
Jellico	2
Jordan Station	1
Kapuskasing	12
Keene	1
Keewatin	2
Kenora	7
Kemptville	3
Keswick	4
Kilbride	1
Kingston	1
Kinmount	1
Kirkland Lake	59
Kitchener	9
Lanark	4
Lansing	1
Leamington	4
Levack	1
Lindsay	44
Listowel	5
Little Britain	1
Little Long Lac	6
Lucknow	5
Maple	1
Markdale	10
Matheson	1
Meaford	4
Metcalfe	1
Medland	15
Mildmay	1
Millbrook	1
Milton	15
Mindemoya	5
Moorefield	2
Mount Forest	3
Mount Pleasant	2
Manitoulin	1
Newfoundland	13
New Liskeard	4
Newmarket	62
New Toronto	4
Niagara Falls	89
Noranda	127
North Bay	377
Norwood	1
Oakville	3
Orangeville	115
Orillia	100
Orona	1
Oshawa	144
Ottawa	175
Owen Sound	292
Paisley	4
Pakenham	3
Palmerston	2
Parry Sound	10
Pembroke	27
Penetanguishene	8
Perth	14
Peterborough	8
Picton	13
Port Arthur	48
Port Carling	1
Port Colborne	20
Port Credit	2
Port Dover	1
Port Elgin	7
Port Hope	24
Port Perry	5
Port Rowan	1
Preston	31
Rainy River	1
Red Lake	2
Red Rock	1
Renfrew	26
Richards Landing	9
Richmond Hill	2

ALPHABETICAL LIST OF CENTRES—YEAR 1937—(Continued)

Town or City	No. of Specimens
Ridgeway	2
Rockwood	1
Russell	1
Sault Ste. Marie	219
Seaforth	6
Severn Bridge	1
Shelburne	4
Simcoe	182
Sioux Lookout	5
Smith's Falls	35
Smooth Rock Falls	12
South Porcupine	27
Sprucedale	1
St. Catharines	47
St. Marys	1
Stratford	45
Streetsville	1
Sturgeon Falls	6
Sudbury	471
Tara	4
Tavistock	1
Thessalon	3
Tillsonburg	55
Timmins	167
Toronto	1258
Tottenham	4
Tweed	4
Vankleek Hill	1
Wainfleet	1
Walkerton	17
Walkerville	3
Waterford	2
Waterloo	3
Welland	255
Wellington	7
Weston	4
Whitby	5
Wiarton	32
Winchester	1
Windsor	27
Wingham	11
Woodbridge	3
Woodville	1
Total	7004

FORT WILLIAM BRANCH LABORATORY

A. E. Allin, M.D., D.P.H., *Acting Director.*

During the year 1937, a total of 30,013 examinations was made, an increase of 5,876, or 24.3% over 1936.

TABLE VI.

SPECIMENS EXAMINED, FORT WILLIAM LABORATORY

1936–37

Examination	1936	1937	Increase	Per Cent. Increase
Diphtheria Cultures	293	411	118	40
Diphtheria, Direct Smears, etc	291	429	138	47
Exam. for Tuberculosis	1,161	1,384	223	19
Agglutination Tests	604	1,296	692	115
Faeces Examinations	27	119	92	341
Blood Cultures	95	207	112	118
Gonorrhoea (Microscopic)	2,149	2,635	486	23
Spinal Fluid Tests	303	271	32*	11*
Miscellaneous Bacteriology	398	713	315	79
Milk—Bacteriological	2,077	3,149	1,072	52
Water	3,182	3,138	44*	1*
Dark Fields	57	40	17*	30*
Wassermanns & Kahns	11,973	14,678	2,705	23
Blood Sugars	214	271	57	27
Blood Ureas	63	79	16	25
Milk—Chemical	1,250	1,193	57*	5*

* Decrease.

Whereas the increase over 1936 is general throughout the work, it might be pointed out that two small epidemics occurred in the area served by this laboratory—one a small outbreak of Typhoid Fever, the other of Diphtheria. These largely account for the increased number of examinations for Diphtheria and the intestinal pathogens.

It is gratifying to note the increased interest in the bacteriological examination of the milk supply. During the year the laboratory added B. coli counts to its previous examinations. Although there was a small decrease in the total number of water specimens, due the fewer collections from the boats, there was a satisfactory increase in the numbers of waters submitted from the District generally.

Towards the latter part of the year two extra services were added: viz., cultural methods for the isolation of the tubercle bacillus, and the extension of Pneumococcus-typing to include all of Cooper's Types. This latter service is greatly appreciated by the local physicians, and the staff was called upon daily to examine one or more sputa. A large number proved to be Type 1, and serum was used with excellent results. In other instances we were able to show that the pathogen present was a Haemolytic Streptococcus, and the patients were treated with Prontosil. It is hoped the physicians from other parts of the region will make use of this service during 1938.

During 1937, 18,802 outfits were prepared and 18,833 distributed, increases of 15% over 1936. 9,209 packages and vials of Insulin and Biologicals were distributed.

I wish at this time to express my appreciation of the co-operation I have received from the members of the staff of this laboratory. While I have served as Acting Director, during Dr. Bell's absence in Toronto, each has assisted in the work to the utmost of his or her ability.

RICHARDSON LABORATORY, QUEEN'S UNIVERSITY, KINGSTON

PROFESSOR JAMES MILLER, M.D., *Director.*

I beg to submit the statistics of the work done by the Kingston Branch Laboratory for the year 1937. The volume of work shows a considerable increase over the previous year. The reports issued last year were 22,034 as compared with 20,072 in 1936.

The increase is distributed fairly uniformly over the various items. The most notable rise has been in the number of sputums examined and the number of gonorrhoea smears investigated. In addition to the examination of material submitted to the laboratory, 6,780 outfits were distributed and 3,269 packages of insulin issued making a total volume of work of 32,083.

Although the number of milk examinations had decreased the total volume of work in this department has increased owing to the additional tests applied.

I should again like to express my gratitude to you, Sir, to the Minister of Health and to Dr. MacNabb for your co-operation and for your response to our request for material and monetary assistance.

INSTITUTE OF PUBLIC HEALTH, LONDON

A. J. Slack, M.D., D.P.H, *Director.*

I beg to submit herewith the Annual Report of laboratory examinations made during the year 1937 by the Branch Laboratory of the Department, located in the Institute of Public Health, London.

Laboratory examinations made during the year numbered 87,794 as against 75,207 for the preceding year, showing an increase of 12,587 examinations, or 16.7 per cent. in routine laboratory work.

Possibly the most interesting feature of this report is the general increase in practically all lines of laboratory examinations, the only items showing a significant decrease being examinations for Diphtheria which have been gradually decreasing over a period of years and guinea pig inoculations for Tuberculosis which have been largely supplanted by cultural examination. Two major calamities, the spring floods of 1937 and the epidemic of poliomyelitis during the late fall and summer, demonstrated the value of the laboratory to the district and account for marked increases in bacteriological water and spinal fluid examinations but the notable increases in many other types of examination can be explained only by an increased demand for laboratory service.

During the year, 46,123 outfits for the collection of specimens were distributed from this laboratory, an increase of 9051 or 24 per cent. over 1936, and 9,479 outfits were reclaimed and prepared for redistribution as against 7,414 during the preceding year, which is an increase of 27.8 per cent.

I wish to express appreciation to the Institute staff for their loyal assistance and to Dr. A. L. MacNabb, Director of Laboratories, for his unfailing co-operation which has made possible our most successful year of operation.

NORTH BAY BRANCH LABORATORY

W. M. Wilson, M.D., *Director*

During the year twenty-seven thousand, two hundred and forty-nine (27,249) examinations were made. This number represents an increase of 15,476, or 131.45%, over the previous year. Approximately 11,700 of this increase in numbers is due to the fact that Serology has been carried on as routine throughout the whole year; during 1936 these tests were done during the last six weeks of the year only.

The number of swabs submitted for diphtheria bacilli continues to be small but shows a slight increase over the previous year. Two cultures were obtained which proved to be virulent when tested on guinea pigs. The activities of the Tuberculosis Prevention Branch, under the local direction of Doctor E. R. Harris, account for a considerable increase in the number of sputa examined and the number of cultures done on tubercle bacilli. The number of dried bloods submitted for the agglutination tests continues small and shows some decrease. The number of whole bloods submitted is practically the same, but more evenly spread over the year and more fairly representative of this branch of our work. In 1936 approximately one-third of the whole blood specimens examined during the year were received in the month of March from an employment camp near Hearst. The number of faeces samples received shows only a slight increase. The number of spinal fluids submitted

for bacteriological examination shows considerable increase (approximately 546%), due to the epidemic of Anterior Poliomyelitis which swept the Province during the late summer and fall. Some spinal fluids were submitted for Serology only, this number we have indicated in the report, along with the number of blood sera examined. The number of blood sugars, non-protein nitrogens, and Van den Berghs which we have received this past year all show increases. The number of specimens received for microscopic examinations for gonococcus has more than doubled. Water samples received have shown a slight increase, while the number of milks submitted has for the second consecutive year shown a decrease. In the following tables the difference in number of specimens examined during the year 1936 and 1937 is noted, together with the percentage changes.

EXAMINATIONS SHOWING INCREASES

	Increase in Number	Percentage Increase
Diphtheria cultures	66	25.5
Further reports on Diphtheria swabs	41	18.8
Tuberculosis smears	773	78.2
Guinea pigs inoculated	44	146.6
Cultures for Tubercle Bacilli	225	105.6
Faeces	22	28.9
Smears for Gonococcus	1,790	104.
Spinal Fluids (Bacteriological)	142	546.
Miscellaneous specimens	514	76.9
Water	110	6.8
Dark Field	46	657.
Blood Sugar	205	86.1
Non Protein Nitrogen	83	112.
Miscellaneous Chemistry, Urea, Nitrogen, Van den Bergh, etc	103	125.6
Outfits prepared	9,610	153.4
Outfits distributed	13,391	105.5

EXAMINATIONS SHOWING DECREASE

	Decrease in Number	Percentage Decrease
Dried Bloods	8	36.3
Milks	169	15.8

Again, may I express my appreciation for the co-operation received from the members of the staff and for the valuable assistance received from the Director of Laboratories, Doctor A. L. MacNabb.

OTTAWA BRANCH LABORATORY

F. L. LETTS, M.B., D.P.H., *Director.*

I have the honour to submit herewith a report of the work conducted at the Ottawa Branch Laboratory during the year 1937. The volume of work in this laboratory showed an increase of 2,969 over the previous year. 3,238 culture examinations for the presence of diphtheria were made, 13 of which were positive.

A bacteriological study was made of swab material from eating and drinking utensils from establishments within the Municipality of Ottawa. This study was cultural examinations on 543 specimens. This study was in co-operation with the one carried out at the Central Laboratory, a comparative report of which was made by Dr. MacNabb, Mr. Fred White, and Mr. O. W. Owen at the Health Officers' Association meeting last June. The Medical Officer of

Health and officers of the Food Division co-operated in the collection of this material. I wish to thank Dr. Luner, Medical Officer of Health, and his officers for their hearty co-operation.

Mr. John Baron of the Laboratory staff, spent three weeks at the Central Laboratory, Toronto, at which time he received instruction in the Neufeld method of pneumococcus typing, and the cultural examination of material for the primary isolation of tubercle bacilli. Immediately on Mr. Baron's return to Ottawa, these procedures were placed on the routine.

A change was instituted in the sera diagnostic work for specific infection. This change was in accordance with the change affected last June at the Central Laboratory. All specimens of blood are subjected to Hinton and Standard Kahn flocculation tests. In cases where the results of both tests are not in agreement, the specimens are subjected to a fixation test method.

I wish to thank the members of my staff for their hearty co-operation throughout the past year.

PETERBOROUGH BRANCH LABORATORY

C. B. WAITE, M.D., *Director*

I have the honour to submit my report for the Branch Laboratory, at Peterborough, for the year 1937, as follows:—

There has been a decrease of 117 specimens during the year. This decrease in the number of specimens has been due entirely, I believe, to the decrease in the number of milk samples examined. This, in turn, was due to the fact that the City of Peterboro was without a sanitary inspector for three months last summer and during that time no milk samples were examined. Most of the other examinations showed an increase. Many more specimens of whole blood for agglutination tests were submitted, but very few specimens of faeces were received for diagnostic purposes. We still get a few dried blood specimens for agglutination test, although the number has decreased somewhat.

The epidemic of Poliomyelitis was comparatively mild in this district. Only a small proportion of the cases had spinal fluid examined.

Bacteriological examination of water supplies remained practically the same. There are many shallow wells in this district, many of them having poor tops. The result is frequent contamination from ground water.

About one thousand more outfits were distributed last year. There are still, however, a number of practitioners in the district who seldom use the laboratory as an aid to diagnosis.

SAULT STE. MARIE BRANCH LABORATORY

N. F. W. GRAHAM, M.B., *Director*

The volume of work in the Sault Ste. Marie Laboratory showed an increase of 420 over the previous year.

The nature of the work in this laboratory is practically identical to that of the previous year. There was an increase in connection with the work in gonorrhoea smear examinations, and miscellaneous bacteriological examinations. Pathological tissue work has been discontinued.

DIVISION OF SANITARY ENGINEERING

A. E. Berry, M.A.Sc., C.E., Ph.D., *Director.*

Climatic conditions have an important bearing on general Sanitation for a portion of the year. For this reason, sanitary conditions throughout the province were less difficult in 1937 than those of the previous years. No great extremes in weather were encountered and the rainfall was sufficient to prevent abnormal situations in the streams, such as developed in 1936. Progress continued in the operation of sanitary works. Particular efforts were directed to milk distributing plants in compliance with the new Milk Regulations. The work of the summer was increased by an intensive investigation of pollution in the Rainy River. Activity in construction of sanitary works was again below normal although indications for a return of new developments were not lacking.

Waterworks:

The expenditures in the construction of new waterworks systems, and extensions to those already in operation are shown in the attached tabulation. The total costs approved by the Department during the year were $285,341.32. The number of certificates issued was 65. This expenditure is still at a very low point and may be taken as an indication that the small centres are not yet financially prepared to undertake the initiation of public works. Combined with this is the fact that most of the larger places have waterworks systems, and new work in this field must be confined to the smaller areas, and to extensions of those already in operation. During the year there has been a substantial improvement in financial conditions of the urban centres, and with this has been seen an awakening desire to proceed with those public systems which will give to the citizens more modern conveniences.

There are at present in operation in Ontario 280 municipal waterworks systems. This represents a population totalling 2,750,000 or 80 percentage of the total population of the province. The number of water filtration plants now totals 63, and the number of municipal chlorinating plants reaches the figure of 198. Surface waters continue to be the primary sources of supply for our immediate municipalities. Underground supplies have not increased to the same extent as in former years.

Some of the major extensions of distribution systems carried out during the year were in Cornwall, Hamilton, Leaside, North York Township, Teck Township and York Township. No new water filtration projects were initiated during the year. The treatment plant for the City of Toronto is still under construction and, of course, is the largest undertaking now being carried on in the field of treatment. Extensions to filtration plants were made at Hawkesbury and Belle River.

Water Treatment:

The operation of the water treatment plants in the province continued in a satisfactory manner during the year. Again it is gratifying to report that no outbreak of disease has occurred which might be attributed to the public systems in the province. The supplies are now protected to the extent where,

with proper operation, safe results may be expected continuously. The question of qualification for the operators is one which is pressing for consideration. It is apparent that no plant, irrespective of the manner in which it is designed can be expected to function properly unless the operator in charge understands the principles involved, and is conscientious in his efforts to protect the water consumer. While no special training schools have been in operation as yet in this province, there has been an effort made to supervise the activities of plant operators and to get them interested as much as possible in the technical procedures of their work. The operators of these plants have an opportunity at conventions, and through contact with the officials of the Department, and those of other municipalities to acquire valuable knowledge for their work. It is sometimes difficult to have municipal officers fully realize the necessity for well-trained operators.

The problems in water filtration in Ontario are now shifted largely from that of producing a safe water, to the need of producing one which is attractive and palatable at all times. The reason for this is obvious in that methods for safeguarding the supply have been standardized to a considerable extent, and so long as this knowledge is applied a safe water can be produced without much difficulty. The water consumer now desires a palatable water more than was the case in the past. This must be free from objectionable colour, turbidity, and taste. Extensive developments have taken place in taste control, and activated carbon is now used freely for this purpose where the water is filtered. Other methods are also in operation and a decided improvement has been made in many cases in the province.

Interest in water softening for municipal supplies continues to manifest itself. The plant in the Township of Etobicoke has continued to operate satisfactorily, and the plant at Simcoe has now been in operation for some short time. A new plant was under construction at the end of the year for the Township of North York. In all three of these units zeolite is used as the softening medium and iron has to be removed as well as the hardness reduced. Certain sections of the province must of necessity use hard waters, and the results obtained in these three plants will be watched with interest.

The engineers of the Division have during the year devoted considerable attention to supervision of the municipal treatment plants and have in this way maintained a contact between the operators and the Department. This seems especially necessary where chlorination is applied. It is still difficult to impress sufficiently on certain operators the necessity for continuous operation of chlorination equipment. The Division also has been asked on several occasions to assist municipalities in the solution of unusual water treatment problems. Through the laboratory facilities, research and tests have been possible and a determination has been made of the methods which might lead to a solution.

Climatic conditions during the summer were quite favourable and no undue drought was experienced in comparison with that which occurred during 1936. Some municipalities took advantage of the lessons from the former year and made an effort to augment their supplies by additional wells or connections to other systems. Where water must be taken from comparatively small streams the problem of temperature and taste is one which has not been overcome. The drying up of the streams during certain times in the summer has further emphasized the necessity for action which will tend to conserve the heavier rainfall during the Spring season and maintain a more uniform flow during the dry periods.

A most unusual and unexpected flood occurred in the latter part of April in the Thames River and part of the Avon river. Exceedingly heavy rains falling on land previously saturated with moisture produced a very rapid run-off, resulting in a flood of the highest intensity yet recorded at London. This seriously affected the water supplies of Stratford, St. Mary's, London and Chatham. Reservoirs and wells were flooded with contaminated water. Prompt action to chlorinate proved effective and in the entire flooded area no case of water borne illness was reported subsequent to this experience.

Sewerage Systems.

The expenditure approved by the Department during the year for sewerage systems amounted to $769,026.21. This compares with the figure of $875,868.32 for the previous year. The total is not a high one and is very much lower than the normal for pre-depression years. While certain municipalities have shown an interest in constructing sewerage systems, they have not reached the point of making an actual decision to proceed. There are now a number of comparatively large centres which have no such systems. At present there are in the province 134 municipal sewerage systems. This is very much less than the number of waterworks systems and they supply a population of only approximately 2,000,000. Complaints continue to occur in those urban centres where no sewers are available. It is difficult to avoid these in the warmer weather and where houses are comparatively close together. Dilution of sewage is still the greatest single method of disposal in use. 28 activated sludge treatment plants, 9 sprinkling filter units, 33 sedimentation works and two fine screening units, are operating in municipalities of the province.

Sewage Disposal on International Boundary Waters:

Progress has taken place during the year in the treatment of sewage discharged to international waters, but this treatment has been on the American side. The City of Detroit has under construction, a large project involving a trunk sewer and treatment of sewage by means of sedimentation. A similar programme is underway at Buffalo, while Niagara Falls, N. Y., is completing a plant utilizing fine screens and mechanical dewatering of screenings by centrifuge. The following municipalities in the Province of Ontario discharge untreated sewage into these waters, namely: Fort Frances, Sault Ste. Marie, Sarnia, Windsor, Amherstburg, Niagara, Niagara Falls, Kingston, Gananoque, Brockville, Iroquois, Prescott and Cornwall. While this practice has been followed for a number of years conditions have not improved and the population contributing sewage to these boundary waters has increased very substantially over the last twenty years. Consideration cannot long be delayed for action in this field. The same would apply to municipalities bordering on the Great Lakes, but which are not a factor as far as the transfer of pollution from one side of the boundary to the other is concerned. Their problem is a local one rather than that involving other centres.

Operation of Sewage Treatment Plants:

The operation of sewage treatment plants in the province was not subjected to the same demand as was experienced in the previous year. Weather conditions were much more favourable and the presence of a substantial rainfall, particularly in the drainage basins of the Grand and Thames Rivers, eased the problem very considerably for those centres. The Grand River has a substantial flow during the entire summer and did not approach the all-time low figure of 26 c.f.s. reached at Galt during the previous August. Complaints of odours from those living along the streams were therefore much reduced.

An attempt has been made at the Doon Plant at Kitchener to further the treatment of these wastes and thereby to relieve the load on the Grand River. This work was not completed as early as might have been hoped for, but changes were made which gave indication of improving the situation. An additional sedimentation tank was installed at the Kitchener works and this proved useful in relieving the peak loads. At the same time part of the sewage was given secondary treatment by filtration through temporary filter beds constructed on the low land in the vicinity of the plant. It was not found necessary for this summer to use chemical treatment to assist in sedimentation of the sewage. On the Thames River the treatment plant at London, which gave rise to offensive conditions during the previous year, was in much better condition in 1937. Chlorine was added continuously to the sewage before reaching the plant and this assisted in keeping down odours.

In sludge disposal, investigations were continued at the North Toronto plant where mechanical dewatering equipment was in operation. The digestion tanks in service in the province have continued to function with a degree of satisfaction. As time goes on more is learned about these processes, and some of the difficulties that were met in the early days are being gradually overcome. The sludge disposal problem is still a difficult one in sewage treatment but it is being solved.

Stream Pollution Problems:

A special investigation was made during 1937 on stream pollution. This was made on the Rainy River in conjunction with the State of Minnesota. A laboratory was established at Fort Frances and sampling took place during the months of July and August. An effort was made to determine to what extent the quality of water in the river was injured by discharges of sewage and industrial wastes. Chemical investigations as well as bacteriological examinations were carried out. A number of problems have presented themselves and these involve water supplies on both sides of the international boundary.

No intensive studies of stream pollution were conducted at any of the other streams in the province but periodic checks were made on the Grand and Thames Rivers, and at other places where conditions were thought to be critical.

Milk Control:

A considerable portion of the time of the staff of the Division was devoted to checking the milk distributing plants of the province. This work was carried out under the new Milk Regulations which set up standards for distributing plants. The main effort was directed to bringing about the installation of proper machinery and equipment for processing and handling the milk. It was learned that many of the distributing plants were very inadequately equipped to process the milk in a sanitary manner. A very definite improvement has been made in this, and while all changes have not yet been carried out, it is felt that the steps taken have done much to raise the quality of the milk supply of the province. Surveys made by the Division indicate that there are 553 pasteurizing plants in operation in the province and 198 municipalities have pasteurized milk available. 64 of these have pasteurized milk only, and in 51 cases it has been made compulsory. For the larger centres, in nearly all cases, some pasteurized milk can be obtained. As the populations decrease the number of pasteurizing plants are less. Below a figure of 500 there are few places where pasteurization has been adopted, although the trend has definitely been towards installations for the smaller places. Between 500 and 1,000 population a substantial number of pasteurizing plants are in use, and above this figure pasteurized milk is available to the citizens of nearly all urban centres.

Recreational Sanitation:

The practice initiated in the previous year for the control of summer camps and tourist facilities was continued. This involved inspection by local Health Officers, with reports being made to this Department. Inadequate returns have not made it possible to estimate the number of tourist camps and such facilities which are now in operation. Some work was carried on in the Lakeland regions but only where water supplies for use at hotels and other public places were concerned.

Attached is a list of the Waterworks and sewerage certificates issued during the year:

SUMMARY

	Estimated Cost
RE WATERWORKS:	
Extensions to existing system	$ 151,911.32
Purification of water supplies	133,430.00
New Systems	
Total	$ 285,341.32
RE SEWERAGE:	
Extensions to existing system	$ 736,026.21
Treatment works	33,000.00
New Sewerage systems	
Total	$ 769,026.21
The total number of applications favourably reported upon re waterworks and sewerage for the year was 145 and involves an estimated expenditure of	$ 1,054,367.53

CERTIFICATES ISSUED RE SEWERAGE FOR THE YEAR 1937

MUNICIPALITY	No. of Certificates	Sewer Extensions	Disposal	New
Chatham	2	$ 1,317.82		
Cornwall	3	1,815.00		
Cornwall Township	1	5,175.00		
Crowland Township	3	13,792.00		
Forest Hill Village	3	66,570.00		
Fort William	1	4,521.00		
Galt	1	2,547.30		
Guelph	2	1,764.75		
Hamilton	1	11,700.00		
Huntsville	1	700.00		
Kingston	1	8,250.00		
Kitchener	5	3,849.65	$ 33,000.00	
Leaside	3	53,524.80		
London	2	19,087.98		
Morrisburg	1	1,309.22		
Napanee	1	3,712.00		
North York Township	2	9,600.00		
Ottawa	16	298,499.13		
Parry Sound	1	3,300.00		
Peterborough	1	1,471.50		
Port Credit	2	7,541.60		
St. Catharines	1	780.00		
Sarnia	2	57,383.40		
Scarborough Township	2	21,885.09		
Swansea	6	14,625.00		
Teck Township	2	32,309.67		
Thorold	1	411.30		
Toronto	10	70,035.00		
Westminster Township	3	8,548.00		
Total	80	$736,026.21	$ 33,000.00	

CERTIFICATES ISSUED RE WATERMAIN EXTENSIONS, PURIFICATION, ETC., FOR THE YEAR 1937

Municipality	No. of Certificates Issued	Watermain Extensions	Supply and Purification	New
Ancaster	1	$ 1,930.00		
Barrie	1	6,509.00	$ 15,150.00	
Barton Township	2	2,969.00		
Blandford Township	1	962.50		
Bolton	1	4,300.00		
Chesley	1		6,800.00	
Cobourg	1	6,237.48		
Cornwall	2	9,049.00		
East York Township	1	1,300.00		
Fort William	1	710.00		
Hamilton	4	17,588.70		
Hanover	1	1,500.00		
Kitchener	4	5,029.00		
Leaside	1	15,210.00		
Lindsay	1		27,000.00	
Mersea Township	1	2,019.40		
Nelson Township	1	6,000.00		
Nepean Township	1	773.17		
North York Township	3	13,332.00		
Penetang	1		4,500.00	
Petrolia	1		11,100.00	
Port Hope	1		16,000.00	
Ridgetown	2		26,000.00	
Rockcliffe Park	2	3,338.00		
Sarnia Township	3	6,384.36		
Scarborough Township	2	3,825.00		
Stamford Township	2	1,487.71		
Stirling	1		3,000.00	
Sudbury	1		21,200.00	
Teck Township	2	14,662.80		
Tecumseh	1		2,680.00	
Toronto	7	6,982.00		
Watford	1	409.20		
Westminster Township	2	5,460.00		
Woodbridge	1	650.00		
York Township	6	13,293.00		
Total	65	$151,911.32	$133,430.00	

DIVISION OF NURSE REGISTRATION

ALEXANDRA M. MUNN, REG. N., *Director.*

ANNUAL REPORT—1937

Since March 1, 1937, forty-one training schools for nurses were visited. Within the past fifteen months all training schools have been covered.

All Health Records were carefully checked and those in connection with the enforcement of Tuberculosis Regulations regarding X-ray and tuberculin tests for nurses were given special attention.

The clinical facilities for teaching were considered in all centres and where possible to do so a class in progress was attended. Demonstrations of practical procedures on the wards and in classrooms were observed. Hours of duty for student nurses are being carefully considered and there is interest and sympathy shown in the matter of shorter hours in many centres. Better hours of night duty for student nurses can be arranged with very little difficulty by the addition of one or more graduates to the general duty staff.

It is not reasonable to spend time and money with relation to complete physical examinations without definite plans being made for better rest and recreational facilities for student nurses. The patient has a right to demand from the hospital the services of a healthy nurse and it is the duty of hospital authorities to see that the Regulations with relation to hours of duty and class work are observed so that the good health of the student may be safe-guarded and maintained.

Affiliations.

Affiliations to supplement for services lacking in the home training school have been arranged in the following centres:

Victoria Hospital, Renfrew;

Plummer Memorial Hospital, Sault Ste. Marie;

Prince Edward County Hospital, Picton;

(Six months' experience in the Ottawa Civic Hospital in Pediatrical and Medical services.)

General and Marine Hospital, Owen Sound;

(Four months' experience, Western Hospital, Toronto.)

General Hospital, Cornwall;

General Hospital, Brockville;

(Three months' experience in Pediatrics in the Children's Memorial Hospital, Montreal, Que.)

St. Joseph's Hospital, Hamilton;

(Three months' experience in Pediatrics in the Children's Hospital, Detroit, Mich.)

Mental Nursing.

The following centres now provide three months' experience in mental nursing for a selected group of their students:—A.M.M.

General Hospital, Toronto;
Western Hospital, Toronto;
Sick Children's Hospital, Toronto;
Women's College Hospital, Toronto;
St. Michael's Hospital, Toronto;
General Hospital, Brantford;
Victoria Hospital, London;
St. Joseph's Hospital, London;
Memorial Hospital, St. Thomas;
St. Joseph's Hospital, Chatham;
Public General Hospital, Chatham;
Grace Hospital, Windsor.

Training Schools Discontinued.

Training schools in two general hospitals have been discontinued, namely, those in connection with the Cottage Hospital, Pembroke, and the Charlotte Eleanor Englehart Hospital, Petrolia.

Forty-five hospitals have discontinued training schools since the Nurse Registration Act was passed in 1922.

One training school, that of the Ontario Hospital at Whitby, was re-opened this year.

Institution of a Course for Male Nurses.

Because of a long-felt need for trained men nurses in the Provincial Mental Hospitals, a course has been organized at the Ontario Hospital, Whitby. This was expedited by the wish of the Federal Government to include such a project in their Youth Training Programme and their consequent offer of financial assistance.

Many applications were received from all parts of the Province and as careful a selection as possible was made. Educational certificates were evaluated by the Department of Education whenever necessary. The applicant reported to the nearest Ontario Hospital for a physical examination including an X-ray of the chest and was there interviewed by the Medical Superintendent who sent a report to the Department.

Twelve men entered the school at Whitby on November 12th. The course, as outlined, will be the same as that for the women nurses, substituting genito-urological nursing for obstetrical and gynaecological nursing. In the second year an affiliate course of one year will be given at the Toronto General Hospital where, as tentatively outlined, clinical experience will comprise medical nursing, including diet therapy, surgical nursing, including genito-urological nursing and operating room technique, and the Out-Patient Department, with lecture courses related thereto.

A need for trained men in hospitals under the jurisdiction of the Federal Department of Pensions and National Health resulted this year in consideration of a plan for a similar course at Christie Street Hospital, Toronto. These plans are still in abeyance.

Meetings of Council of Nurse Education.

During the year nine meetings of Council were held. Routine business in connection with Provincial Examinations has been covered and consideration given to plans for a reciprocal arrangement for registration between nurses from the British Isles and Ontario.

A study has been made of a health record for nurses in training and it is hoped that a new record will be redrafted shortly.

A special recommendation was made by Council to the effect that all students who are required to take affiliation in Tuberculosis nursing should be given their lectures and instruction in preventive measures previous to this course and that no student shall be sent for this affiliation before she has been at least eighteen months in training.

A Joint Committee, composed of representatives of the Council of Nurse Education, appointed by the Hon. the Minister of Health, and an equal number from the Legislation Committee of the Registered Nurses' Association of Ontario, which met in 1936, was recalled to consider certain problems connected with educational qualifications for entry to schools of nursing.

Early in the year it was found that certain secondary schools were not equipped to teach Physics and Chemistry as required by the Regulations so that it was necessary to modify the regulations in this respect. Approval of the substitution of Agriculture I and II, where Physics and Chemistry is not taught, was given by the Joint Committee.

History of Nursing Slides.

A set of slides to aid in the teaching of History of Nursing has been purchased for the use of this Branch. These are now ready for circulation and it is believed that many of the smaller centres will welcome this aid to teaching facilities.

STATEMENT OF REGISTRANTS

Total number registered, 1937	1,125
Total number taking examinations, 1937	1,315
Total number Registered since 1923	21,528

STATEMENT OF REVENUE

Registration Fees	$ 5,120 00
Re-Registration Fees	14,237 00
Training School Records	74 40
Examination Fees	4,995 00
Miscellaneous	36 00
	$ 24,462 40

HEALTH EDUCATION

MARY POWER, B.A.

I have the honour to submit herewith the report on Health Education for the calendar year, 1937.

I. Public Health Education.

The re-printing of The Baby during the present year has given a great deal of satisfaction to the Public Health Workers throughout the Province. Orders which had been received within the interval since the former edition was exhausted were taken care of to the number of approximately 25,000 copies; with the orders received for the present edition since its appearance the total distribution to the end of December has been 41,000 copies. Gratification has been expressed by the Medical Officers of Health and Public Health Nurses engaged in Infant Hygiene work throughout the Province, as they had come to depend upon the Provincial Baby Book in lieu of any local publication.

Leaflets touching upon the various communicable diseases continue to be in demand, as does also information regarding sanitation of the home and sanitation in the Summer Resorts and Tourists' Camps.

II. School Health Education.

The service to teachers who attended the Summer Course in Health Teaching has been continued during the school year 1936-1937. 850 budgets containing 3,000 pieces of material were sent to teachers, based on the suitability for the particular grade in which the teacher was teaching.

The Loan Service of books was also extended to teachers who had attended the Summer Course. During the same period 142 loan parcels were sent containing 534 books suitable for the specific grade in which the teacher was teaching.

In addition to the above, seven (7) circulars were sent to the total list of teachers who had taken the Course (359) and 2,700 pieces of material were sent.

The visiting service this year was limited to the teachers who had failed to be given credit for a successful completion of the Course during the Summer. In company with the Inspector visits were made to eight teachers in various parts of the Province.

An appreciated feature of service to the teachers is the Saturday morning open-house, or consultant service, whereby teachers may call and discuss school problems related to health with the staff. That the teachers use this opportunity is shown by our list of visitors which frequently reaches ten for a single Saturday morning.

III. Summer Course in Health Teaching.

For the fifth consecutive year the Summer Course in Health Teaching was organized as a co-operative effort of the Departments of Health and Education. 213 teachers attended the course which was designed primarily for

teachers in the Elementary School. Of this enrolment, however, fifteen teachers were interested in the teaching of health in the grades above Grade VIII, and a modified programme was outlined for them.

The historical survey of the Experiment in Health Teaching, including the Summer Course, from its inception to the end of 1937 session has been prepared and appears as Appendix A on page 171 of this Report. This has been done to meet the demand of interested health workers and educationalists.

IV. The Ontario Health Officers' Association.

The 23rd Annual Conference of the Ontario Health Officers' Association was held in Ottawa, June 17th to 19th, 1937. The meeting this year was held in conjunction with the 26th Annual Meeting of the Canadian Public Health Association.

The Meetings were presided over by the President, Dr. C. E. Hill, Medical Health Officer for North York Township.

The Proceedings of the Meeting were as follows:—

The Resolutions Committee, composed of the following members:—Dr. W. E. George, Galt; Dr. J. Fenton Argue, Ottawa, and Dr. D. V. Currey, St. Catharines, as Chairman, brought in a report embodying the following resolutions, all of which were accepted by the Association.

Salary of Medical Officer of Health:—Your Resolutions Committee feel that the Report of the Committee on the Remuneration and Duties of Health Officer shows progress and we feel that no resolution of the Ontario Health Officers' Association should hamper this progress.

Registration of Maternity Boarding Houses:—Resolved that the Department of Health for Ontario supply to each Medical Officer of Health a register for Maternity Boarding Houses.

Venereal Disease Control:—Whereas the venereal disease problem can be dealt with best by co-ordination of Dominion and Provinces,

Be it Resolved That the Dominion Government be asked to reinstate the grants for venereal disease to the Provinces and re-establish the Division of Venereal Disease control.

Health Education:—Resolved that the Department of Health for Ontario supply to each Medical Officer of Health Material for educational work each year, stressing some important phase of the work. If possible, we would ask that this work be supported by health articles, radio addresses, et cetera.

Accident Prevention:—Resolved that a Committee of the Ontario Health Officers' Association be appointed by the President to study the situation in regard to Accident Prevention, with a view of scientific direction to cutting down the increasing deaths from preventable accidents.

Pneumonia Serum:—Resolved that this Association request the Honourable the Minister of Health for Ontario to consider providing free of charge Anti-pneumococcus Serum.

The Committee on Nominations, composed of the following members, Dr. C. A. Warren, Medical Officer of Health, York Township; Dr. F. Adams, Medical Officer of Health, Windsor, and under the chairmanship of Dr. J. W.

Fraser, Medical Officer of Health, Kitchener, submitted a report and the Association confirmed the appointment of the following Executive for the ensuing year:

President—Dr. W. H. Birks, M.O.H., Bowmanville.

Vice-President—Dr. McColl, Tilbury.

Second Vice-President—Dr. C. A. Warren, M.O.H., York Township.

Secretary—Miss M. Power, Parliament Buildings, Toronto.

The programme in detail is given below:—

GENERAL DIRECTORY OF SESSIONS

(Daylight Saving Time)

REGISTRATION. It is requested that every member and visitor register. The registration fee for members is one dollar. As all members of the Ontario Health Officers' Association are enrolled as members of the Canadian Public Health Association, it is requested that they participate in the arrangements for the convention by paying the registration fee.

THURSDAY, JUNE 17th

9.00 a.m.—Registration.

9.30 a.m.—Ontario Health Officers' Association. *Ball Room.*

9.30 a.m.—Section meetings, Canadian Public Health Association:
Public Health Nursing. *Ladies Cafe.*
Industrial Hygiene. *Salon C.*
Vital Statistics and Epidemiology. *Salon B.*

2.30 p.m.—General session, both associations. *Ball Room.*

4.00 p.m.—Demonstration, Treatment of Syphilis. *Venereal Disease Clinic, 87 Albert St.*

8.30 p.m.—General session, both associations. *Ball Room.*

FRIDAY, JUNE 18th

9.00 a.m.—Ontario Health Officers' Association. *Banquet Room.*

9.30 a.m.—Section meetings, Canadian Public Health Association:
Public Health Nursing. *Ladies Cafe.*
Mental Hygiene. *Salon C.*
Laboratory. *Salon D.*
Vital Statistics and Epidemiology. *Salon B.*
Social Hygiene. *Tudor Room.*

12.00 noon—Visit and complimentary luncheon, Water Filtration Plant, Lemieux Island. Cards should be obtained at the registration desk as early as possible.

Afternoon—Free for sightseeing.

4.00 p.m.—Reception and garden party for members of both associations, given by Mr. Norman and Senator Cairine Wilson and Colonel and Mrs. C. M. Edwards. *Country Club.* Invitations may be obtained at the registration desk.

7.30 p.m.—Dinner and dance, both associations. *Jasper Room.* Tickets ($1.50) may be obtained from the registration desk.

SATURDAY, JUNE 19th

9.00 a.m.—General session, both associations. *Ball Room.*

9.00 a.m.—Section of Vital Statistics and Epidemiology: meeting in *Salon B*, followed by visit to the Dominion Bureau of Statistics. Cards may be obtained at the registration desk.

9.30 a.m.—Tour of laboratories for members of the Laboratory Section and others interested:
Laboratory of Hygiene, Department of Pensions and National Health.
National Research Laboratories.
Animal Diseases Research Institute.
Central Experimental Farm.
Cards may be obtained at the registration desk.

Executive Council, Canadian Public Health Association

The Executive Council of the Canadian Public Health Association will hold its annual meeting on Wednesday, June 16th, at 9.30 a.m., and 2.00 p.m. in *Salon A*.

ONTARIO HEALTH OFFICERS' ASSOCIATION

Thursday Morning, June 17th

9.30—*Ball Room.*

Chairman—Dr. C. E. Hill, Medical Officer of Health, Willowdale; President, Ontario Health Officers' Association.

9.30—The Venereal Disease Problem in Canada—Dr. Gordon Bates, General Director, The Health League of Canada, Toronto.

9.50—Discussion.

10.00—Fumigation by Cyanide and Other Agents—Dr. J. Grant Cunningham, Director, Division of Industrial Hygiene, Department of Health of Ontario.

10.20—Discussion.

10.30—Changes in Hospital Regulations—Dr. B. T. McGhie, Deputy Minister of Health of Ontario.

10.50—Discussion.

11.00—Treatment of Syphilis—Dr. G. S. Fenton, Ottawa.

11.20—Discussion.

11.30—Some Aspects of Preventive Dentistry—Dr. Arnold D. A. Mason, Dean, Faculty of Dentistry, University of Toronto.

11.50—Discussion.

12.00—Presidential Address—Dr. Hill

CANADIAN PUBLIC HEALTH ASSOCIATION

Public Health Nursing Section

9.30—*Ladies Cafe.*

Chairman—Miss Edna L. Moore, Reg. N., Chief Public Health Nurse, Division of Maternal and Child Hygiene, Department of Health of Ontario, Toronto.

9.30—The Responsibility of the Official Public Health Agency for a Programme of Prenatal Supervision—Dr. J. W. Fraser, Medical Officer of Health, Kitchener, Ont.

10.00—Prenatal Nursing Supervision—Miss Esther M. Beith, Reg. N., Director, Child Welfare Association of Montreal.

10.30—Records in Public Health Nursing—Miss Maude H. Hall, Reg. N., Assistant Supervisor, Victorian Order of Nurses, Ottawa.

11.00—Discussion of papers—opened by Dr. L. A. Pequegnat, Deputy Medical Officer of Health, Toronto.

Industrial Hygiene Section

9.30—*Salon C.*

Chairman—Dr. F. M. R. Bulmer, Division of Industrial Hygiene, Department of Health of Ontario.

9.30—Factors influencing Comfortable Air Conditions at Home and at Work—Dr. D. L. McLean, Connaught Laboratories and School of Hygiene, University of Toronto.

10.00—The Problem of Smoke Pollution—Dr. H. M. Barrett, Connaught Laboratories and School of Hygiene, University of Toronto.

10.30—Occupational Mortality in Canada—Mr. W. R. Tracey, B.A., Chief, Vital Statistics. Dominion Bureau of Statistics, Ottawa.

11.00—Housing the Industrial Worker (illustrated with moving pictures)—Mr. H. L. Seymour, Consulting Engineer, Ottawa.

Election of Officers.

Section of Vital Statistics and Epidemiology

9.30—*Salon B.*

Chairman—Dr. D. V. Currey, Medical Officer of Health, St. Catharines, Ont.

9.30—Morbidity Study in the Civil Service of Canada—Dr. F. S. Burke, Department of Pensions and National Health, Ottawa.

9.50—Further Observations on the Mortality in the Older Age-Groups—Dr. N. E. McKinnon, Connaught Laboratories and School of Hygiene, University of Toronto.

10.10—Studies of Two Typhoid Carriers—Dr. R. P. Hardm an, Associate Epidemiologist Department of Health of Ontario.

10.30—Cancer in Ontario—Dr. A. Hardisty Sellers, Medical Statistician, Department of Health of Ontario, Toronto.

10.50—Trichinosis—Dr. J. H. Gervais, Superintendent, Division of Epidemiology, Department of Health, Montreal.

11.10—Some Epidemiological Features of the 1936 Epidemic of Poliomyelitis in Manitoba—Dr. C. R. Donovan, Director, Division of Disease Prevention, Department of Health and Public Welfare of Manitoba, Winnipeg.

11.30—Occurrence of Diphtheria Among Presumably Immunized Children—Dr. R. D. Defries and Dr. Mary A. Ross, School of Hygiene, University of Toronto; and Dr. J. A. Laxton, Department of Public Health, City of Toronto.

11.50—Report of the Sub-committee on Stillbirth Registration and Certification—Dr. A. Hardisty Sellers, Chairman.

GENERAL SESSION CANADIAN PUBLIC HEALTH ASSOCIATION, ONTARIO HEALTH OFFICERS' ASSOCIATION

Thursday Afternoon

2.30—*Ball Room.*

Chairman—Dr. M. R. Bow, Deputy Minister of Health of Alberta, Edmonton; President, Canadian Public Health Association.

2.30—Recent Studies in Puerperal Sepsis—Dr. Ronald Hare, Connaught Laboratories and School of Hygiene, University of Toronto.

3.00—Control of Tuberculosis in Rural Areas—Dr. Reginald M. Atwater, Executive Secretary, American Public Health Association, New York.

3.30—Public Health and the Traffic Accident Problem—Dr. N. L. Burnette, Metropolitan Life Insurance Company, Ottawa; Chairman, Committee on Accident Prevention, Canadian Public Health Association.

4.00—Are Statistics Essential to a Successful Public Health Programme?—Dr. D. V. Currey Medical Officer of Health, St. Catharines, Ont.

4.30—Some Causes of Malnutrition—Dr. E. W. McHenry, Connaught Laboratories and School of Hygiene, University of Toronto.

4.00—Demonstration, Treatment of Syphilis. *Venereal Disease Clinic, 87 Albert Street.*

GENERAL SESSION CANADIAN PUBLIC HEALTH ASSOCIATION, ONTARIO HEALTH OFFICERS' ASSOCIATION

Thursday Evening

8.30—*Ball Room.*

Chairman—Dr. M. R. Bow, Deputy Minister of Health of Alberta, Edmonton; President, Canadian Public Health Association.

1. Address of Welcome.—Dr. G. M. Geldert, Acting Mayor, City of Ottawa.
2. Presidential Addrress—Dr. M. R. Bow.
3. Control of Lobar Pneumonia—Dr. Frank L. Horsfall, Jr., The Hospital of the Rockefeller Institute for Medical Research, New York.
4. Presentation of Honorary Life Membership in the Canadian Public Health Association to:

   Dr. John A. Ferrell, Associate Director, International Health Division, The Rockefeller Foundation, New York.

   Dr. George F. Buchan, M.R.C.P., D.P.H., Medical Officer of Health, Borough of Willesden, Kilburn, London, England.

   Dr. Helen MacMurchy, C.B.E., Toronto.
5. The Contribution of the Professional Health Worker in the Field of Mental Hygiene—Dr. C. M. Hincks, Director of the National Committees for Mental Hygiene in Canada and the United States.

ONTARIO HEALTH OFFICERS' ASSOCIATION

Friday Morning, June 18th

9.00—*Banquet Room.*

Chairman—Dr. C. E. Hill, Medical Officer of Health, Willowdale, and President Ontario Health Officers' Association.

9.00—Discussion.—The opportunity is given in this discussion for questions to be raised. The following questions have been submitted and will be introduced briefly by the speakers mentioned.

1. Cost of X-ray Films in Tuberculosis Examination of Indigent Patients—Dr. A. E. Northwood, Medical Officer of Health, Chatham.
2. Non-reporting of Tuberculosis by Medical Officers of Health—Dr. G. C. Brink, Director, Division of Tuberculosis Prevention, Department of Health of Ontario.
3. Proper Washing of Dishes and Glassware—Dr. A. L. MacNabb, Director, Division of Laboratories, Department of Health of Ontario.
4. Status and Duties of the Medical Officer of Health—Public Health Committee of the Ontario Medical Association; presented by Dr. G. Murray Fraser, Medical Officer of Health, Peterborough.
5. Some Further Responsibilities of the Medical Officer of Health—Dr. J. T. Phair, Chief Medical Officer of Health, Ontario.
6. Salary of the Medical Officer of Health—Dr. J. W. Mackie, Medical Officer of Health, Lansdowne.
7. Cancer Reporting—Dr. A. Hardisty Sellers, Medical Statistician, Department of Health of Ontario, Toronto.

   Hygiene, Department of Health of Ontario.
8. Meat Inspection in Northern Ontario—Dr. F. H. Wilson, Medical Officer of Health, Englehart.

10.30—Swimming Pools and Bathing Facilities—Dr. A. E. Berry and Mr. G. A. H. Burn, B.A.Sc., Division of Sanitary Engineering, Department of Health of Ontario.

11.00—Some Legal Aspects of Public Health Administration—Dr. K. G. Gray, Solicitor, Department of Health of Ontario.

11.30—Preventive Paediatrics from the Viewpoint of the School Medical Officer—Dr. Lloyd P. MacHaffie, School Medical Officer, Ottawa, Ontario.

CANADIAN PUBLIC HEALTH ASSOCIATION

Public Health Nursing Section

9.30—*Ladies Cafe.* Business session.

Chairman—Miss Edna L. Moore, Reg. N., Chief Public Health Nurse, Division of Maternal and Child Hygiene, Department of Health of Ontario, Toronto.

9.30—Report of the Study Committee on Requirements for Employment of Public Health Nurses—Miss Laura A. Gamble, Reg. N., Toronto, Chairman.

10.00—Discussion of Report.

10.30—The Public Health Nurse in Industry—Miss Hazel Latimer, Reg. N., The E. B. Eddy Co., Hull, Quebec.

11.00—The Technique of a Survey of Rheumatic Diseases—Dr. F. S. Burke, Department of Pensions and National Health, Ottasa.

Election of Officers.

MENTAL HYGIENE SECTION

9.30—*Salon C.*

Chairman—Dr. Baruch Silverman, Assistant Director, Mental Hygiene Institute, Montreal.

9.30—Some Experience with the Sterilization of the Mentally Unfit in Alberta—Dr. R. R. MacLean, Medical Superintendent, Provincial Mental Hospital, Ponoka, Alberta, and E. J. Kibblewhite, M.A., Social Worker.

10.00—Practical Aspects of Community Mental Health—Dr. A. M. Doyle, Director, Mental Health Clinic, Kingston, Ontario.

Discussion opened by Dr. Baruch Silverman.

10.30—The Heredity of Feeblemindedness: A Public Health Problem—Dr. W. L. Hutton, Medical Officer of Health, Brantford, Ontario.

Discussion opened by Dr. D. V. Currey, Medical Officer of Health, St. Catharines, Ontario.

Election of Officers.

LABORATORY SECTION

9.30—*Salon D.*

Chairman—Dr. A. J. Slack, Director, Institute of Public Health, London, Ontario.

9.30—Metabolism of Haemolytic Streptococci—Professor Frederick Smith, Department of Bacteriology and Immunity, McGill University, Montreal.

9.50—B. Coli in Pasteurized Milk—Dr. Ambrose Moffat and Mr. J. McKay, Division of Laboratories, Department of Public Health, City of Toronto.

10.10—A Concentration Method for the Detection of Tubercle Bacilli—Dr. N. W. McLellan, Department of Bacteriology and Immunity of the Children's Memorial Hospital and McGill University, Montreal.

10.30—Kay and Graham's Phosphatase Test Applied to Ontario Milks—Dr. M. Doreen Smith, Connaught Laboratories and School of Hygiene, University of Toronto.

10.50—Dish and Utensil Washing in Public Eating and Drinking Establishments—Dr. A. L. MacNabb, Director, Division of Laboratories, Department of Health of Ontario.

11.10—Seasonal Variation in Immunity Response—Dr. G. D. W. Cameron, Connaught Laboratories, University of Toronto.

11.30—The Cultural Method for Detecting Residual Gonococcal Infection—Dr. R. J. Gibbons, Connaught Laboratories (Western Division), Vancouver, B.C.

SECTION OF VITAL STATISTICS AND EPIDEMIOLOGY

9.30—*Salon B.*

Chairman—Dr. D. V. Currey, Medical Officer of Health, St. Catharines, Ont.

9.30—Epidemiological Investigations in Quebec—Dr. A. R. Foley, Epidemiologist, Ministry of Health of Quebec, Quebec.

9.50—The Circumstances of Accidental Deaths in Canada in 1936, as brought out by the New Death Certificate—Miss Y. Baudry, R.N., Vital Statistics Branch, Dominion Bureau of Statistics, Ottawa.

Discussion—Dr. N. L. Burnette, Ottawa.

10.10—Appendicitis as a Public Health Problem—Dr. Mary A. Ross, Department of Epidemiology and Biometrics, School of Hygiene, University of Toronto.

10.30—Some Observations on Infant Mortality—Dr. L. A. Pequegnat, Deputy Medical Officer of Health, City of Toronto.

10.50—Observations on the Control of Tuberculosis in New Brunswick—Dr. A. M. Clarke, D.P.H., District Medical Health Officer, Woodstock, N.B.

11.10—Gleanings from Montreal Health Reports—Dr. Eugene Gagnon, Superintendent, Division of Vital Statistics, Department of Health, Montreal.

11.30—The Effect of Allocation by Residence upon the Vital Statistics of Hamilton—Mr. E. J. Picton, Statistician, Department of Health, Hamilton, Ontario.

11.50—Report of the Committee on Non-resident Births and Deaths—Mr. T. E. Ashton, Statistician, Department of Public Health, Toronto.

SOCIAL HYGIENE SECTION

9.30—*Tudor Room.*

Chairman—Colonel J. T. Clarke, President of the Health League of Canada — Ottawa Branch.

9.30—Control of Venereal Diseases in Rural Areas—Dr. A. L. McKay, Director, Division of Preventable Disease, Department of Health of Ontario, Toronto.

10.00—A Recent Survey of the Incidence of Venereal Diseases in Toronto—Dr. Gordon Bates, General Director, The Health League of Canada, Toronto.

10.30—New Developments in Health Administration of a Metropolitan Area—Dr. H. E. Young, LL.D., Provincial Health Officer, Victoria, B.C.

11.00—Full-Time Health Administration in Rural Areas—Dr. John A. Ferrell, Associate Director, International Health Division, The Rockefeller Foundation, New York; and other speakers.

Election of Officers.

CANADIAN PUBLIC HEALTH ASSOCIATION, ONTARIO HEALTH OFFICERS' ASSOCIATION

Luncheon Session

12.00 noon—Visit and complimentary luncheon, Water Filtration Plant, Lemieux Island through the kindness of the Corporation of the City of Ottawa. Buses leave the Chateau at 12 sharp. Cards should be obtained at the registration desk as early as possible.

Friday Afternoon

Free for sightseeing.

4.00—Reception and garden party for members of both associations, given by Mr. Norman and Senator Cairine Wilson and Colonel and Mrs. C. M. Edwards—*Country Club.* Invitations may be obtained at the registration desk.

CANADIAN PUBLIC HEALTH ASSOCIATION, ONTARIO HEALTH OFFICERS' ASSOCIATION

Friday Evening

7.30—Dinner and Dance. *Jasper Room.* Tickets ($1.50) may be obtained at the registration desk.

Chairman—Dr. M. R. Bow, Deputy Minister of Health of Alberta, Edmonton; President, Canadian Public Health Association.

Speakers—Dr. R. E. Wodehouse, Deputy Minister of Pensions and National Health, Dr. Arthur T. McCormack, Commissioner of Health, State of Kentucky, and President-Elect, American Public Health Association.

GENERAL SESSION CANADIAN PUBLIC HEALTH ASSOCIATION, ONTARIO HEALTH OFFICERS' ASSOCIATION

Saturday Morning, June 19th

9.00—*Ball Room.*

Chairman—Dr. C. E. Hill, Medical Officer of Health, Willowdale; President, Ontario Health Officers' Association.

9.00—Reports of the Committees on Nominations and Resolutions.

9.30—Treatment and Control of Poliomyelitis—Dr. F. W. Jackson, Deputy Minister, and Dr. F. T. Cadham, Director of Laboratories, Department of Health and Public Welfare of Manitoba, Winnipeg.

10.00—Symposium on Communicable Diseases:

10.00—Undulant Fever—Dr. Chas. A. Mitchell, Animal Diseases Research Institute, Hull, Quebec.

10.10—Discussion.

10.15—Swimmers' Itch—Dr. A. L. McKay, Director, Division of Preventable Diseases, Department of Health of Ontario.

10.25—Discussion.

10.30—Smallpox Vaccination—Dr. Fred Adams, Medical Officer of Health, Windsor, Ontario

10.40—Discussion.

10.45—Trichiniasis—Dr. T. W. M. Cameron, Director, Institute of Parasitology, MacDonald College (McGill University), Quebec.

10.55—Discussion.

11.00—Bacillary Dysentery—Dr. R. P. Hardman, Associate Epidemiologist, Department of Health of Ontario.

11.10—Discussion.

CANADIAN PUBLIC HEALTH ASSOCIATION

Section of Vital Statistics and Epidemiology

9.00—*Salon B.*

Chairman—Dr. Mary A. Ross, Department of Epidemiology and Biometrics, School of Hygiene, University of Toronto; Vice-Chairman of Section.

9.00—Tuberculosis in Lincoln and Welland Counties—Dr. C. G. Shaver, Superintendent, Niagara Peninsula Sanatorium Association, St. Catharines, Ontario.

9.30—The Age Distribution of the Population of Canada in relation to Mortality—Mr. M. C. MacLean, M.A., Chief, Division of Social Analysis, Dominion Bureau of Statistics, Ottawa.

10.00—Report of the Committee on the Certification of Causes of Death—Dr. R. D. Defries, Chairman.

10.15—Report of the Committee on the Annual Report of the Medical Officer of Health and On Health Department Budgets—Dr. D. V. Currey, Medical Officer of Health, St. Catharines, Ontario.

10.30—Visit to the Dominion Bureau of Statistics. Cards may be obtained at the registration desk.

Election of Officers.

Laboratory Section

9.30—Tour of Laboratories, including the Laboratory of Hygiene of the Department of Pensions and National Health ; the National Research Council Laboratories; the Animal Diseases Research Institute, Hull, Quebec; and the Central Experimental Farm. Cards may be obtained at the registration desk.

ENTERTAINMENT AND VISITS

Friday, June 18th.

12 noon. Visit and complimentary luncheon arranged by the Corporation of the City of Ottawa at the Ottawa Filtration Plant on Lemieux Island. Buses will leave the hotel at 12 sharp. This visit affords members an opportunity of inspecting one of the most modern water filtration plants on the continent. Please register for this visit as soon as possible.

Friday afternoon. No formal programme has been arranged, so that members may utilize the time entirely for visits to centres of interest, including the Houses of Parliament, the Public Archives, and the National Art Gallery.

4.00-6.30. Reception and garden party at the Country Club, given by Mr. Norman and Senator Cairine Wilson and Colonel and Mrs. C. M. Edwards. Invitation cards are obtainable at the registration desk.

7.30. Dinner and dance in the Jasper Room, Chateau Laurier. Tickets ($1.50) may be obtained at the registration desk. Speakers: Dr. E. R. Wodehouse, Deputy Minister of Pensions and National Health, and Dr. A. T. McCormack, Commissioner of Health, State of Kentucky, and President-Elect, American Public Health Association.

Saturday, June 19th.

9.30 a.m. Tour of laboratories, including the Laboratory of Hygiene of the Department of Pensions and National Health; the National Research Council Laboratories; the Animal Diseases Research Institute, Hull; and the Central Experimental Farm. For members of the Laboratory Section and others interested in public health laboratory work. Cards should be obtained from the registration desk not later than Friday.

10.30 a.m. Visit to the Dominion Bureau of Statistics, where demonstrations will be provided. The group will leave at the close of the Section meeting in Salon B. Please obtain cards from the registration desk.

SCIENTIFIC AND COMMERCIAL EXHIBITS

The Committee on Exhibits is pleased that the following departments of health, research institutions, and national voluntary agencies have been able to present aspects of their work in the scientific exhibits section:

American Public Health Association.

Canadian Dental Hygiene Council.

Canadian Red Cross Society.

Canadian Tuberculosis Association.

Canadian Welfare Council.
Connaught Laboratories and School of Hygiene, University of Toronto.
Dairy and Cold Storage Branch, Department of Agriculture, Canada.
Department of Health and Public Welfare, Province of Manitoba.
Department of Pensions and National Health, Canada.
Health League of Canada.
Institute of Parasitology, Macdonald College (McGill University).
Metropolitan Life Insurance Company.
Victorian Order of Nurses for Canada.

The scientific exhibits constitute an important supplement to the formal programme and are conveniently arranged in Peacock Alley, adjacent to the Ball Room, in which most of the general sessions are being held.

COMMERCIAL EXHIBITS

The commercial exhibits section affords members an opportunity to discuss questions relating to the services and products presented. The Committee desires to direct the attention of delegates to the exhibits of the following firms, located in the corridor adjoining the Ball Room.

Associated Chemical Co. of Canada, Ltd.
Canada Starch Company.
Central Scientific Co. of Canada, Ltd.
H. J. Heinz Company.
The Macmillan Co. of Canada, Ltd.
Sanitary Metal Milk Cap Corp., Ltd.
Vi-Tone Company.
A. Wander, Limited (Ovaltine).
Winthrop Chemical Company, Inc.

To these exhibitors the Committee on Exhibits, on behalf of the Associations, expresses appreciation of their co-operation and interest.

DIVISION OF DENTAL SERVICES

W. G. THOMPSON, D.D.S., F.A.C.D., *Director.*

The Division has given the same assistance as in previous years, to the municipalities interested in making a dental survey, by supplying, gratuitously, the necessary Notification of Defects Forms, and such educational booklets as are available for distribution.

Over two thousand school children, and a number of adults who are on relief, have been given extensive treatment in the clinic of the Dental Car. Travelling along the Canadian Pacific Railway line between Busteed and Dorion, Dr. Markle has given a much needed service to the people in the small scattered communities in the distant parts of the province.

The plan of emergent dental treatment continues to give a limited measure of treatment to people on relief. Approximately 22,000 patients were looked after during the year, and there is no doubt this service is a very necessary one.

There is a dentist on the staff of each of the thirteen Ontario Hospitals, and upon admission every patient has a complete dental examination, including X-ray where necessary. Throughout the year the patients attend the hospital clinic for treatment, replacements and restorations.

The Central Laboratory is proving very satisfactory. During the year, over three hundred new dentures have been supplied and over three hundred repairs of all kinds have been made.

INDUSTRIAL HYGIENE DIVISION

J. G. CUNNINGHAM, B.A., M.D., D.P.H., *Director.*

Technical services of the physicians, chemists and engineers in the Division have been used by the Inspection Branch of the Department of Labour, the Industrial Accident Prevention Associations, Workmen's Compensation Board, employers, employee groups and physicians for investigation and recommendation to control health hazards in industry.

Exposures to lead and silica remain the most important on account of the disability they produce but the following illustrate the variety of less common inquiry; perchlorethylene for degreasing; thorium and beryllium in gas mantle manufacture; arsenic and lead on tobacco; arseniuretted hydrogen in gold refining; calcium silicate in rock wool; carbon tetrachloride in an anti-rust compound; benzol in aircraft manufacture.

The number of requests for assistance steadily increases so that it is difficult to complete surveys which would ordinarily be instituted to increase our information respecting the significance of certain exposures, e.g., the relative amounts of dust produced when shaking-out hot and cold castings, or the extent to which exposure from parting sands is responsible for silicosis in moulders.

Laboratory analyses to determine the types and amount of exposures to suspected substances and including air samples, total 700, covering lead, silica, arsenic, volatile substances and a large miscellaneous group; the evaluation of health hazards in individual plants with analyses and physical examination as the basis, is constantly called for, although it is frequently possible now to estimate the hazard from plant visits alone.

There were 800 physical examinations, conducted either as part of surveys initiated by the Division or among those suspected of suffering from occupational diseases and referred from various agencies for an opinion. These examinations direct attention to exposures which might otherwise be missed. Four of the other provinces have submitted physical examination data for advice in connection with programs being initiated for the control of silicosis. Two hundred and forty-three claimants for compensation for silicosis were examined by the Silicosis Referee Board for the Workmen's Compensation Board. One hundred men entering mining received examination under special arrangements. Five hundred foundrymen were examined for the detection of tuberculosis. Ninety cases from the Department staff were examined for eligibility for treatment and about 100 others for employment. Five hundred normal school students received examination as prospective teachers.

Follow-up of families of silicotic foundrymen from one large factory was organized to determine the amount of tuberculosis. The age at which foundrymen develop silicosis appears to have a very direct bearing on the exposure of their families to the complicating infection. The findings are in contrast to those in families of silicotic miners.

The examination of one hundred and fifty workers in a cotton factory presented no abnormal amount of tuberculosis. This is part of a group of examinations planned to determine the actual amount of tuberculosis in comparable types of employees working in close proximity and at some distance from one another.

The co-operation of the Division with plant physicians in factories with lead and benzol exposures where the Factory regulations require periodic examination, has prevented the development of cases of poisoning, but it is apparent that the clinical laboratory facilities require to be increased if these examinations are to be extended as they should be.

Periodic examinations instituted by employers themselves in the silica trades have increased in numbers, but these should be generally required as soon as suitable arrangements for carrying them out can be made.

The process of cadmium plating had been observed critically since it became more common. In the last year or two there have been no known cases of poisoning in this process, but attention was focussed on the poisonous nature of the oxide by two deaths and a number of cases of sickness from exposure to the fumes in the course of a special operation where rivets, cadmium plated, were returned to the plant for additional processing. These were introduced directly into an annealing furnace from which the cadmium was driven off as oxide fumes. These cases have been reported.

A variety of inquiries arises on non-industrial poisonings, including lead in children; arsenic in wall paper; dermatitis from cosmetics; wood fungicides; methyl bromide as a fumigant for food; aluminium and granite for cooking utensils. In this laboratory has been recognized another non-industrial source of lead exposure in the coloured chalks used in schools. A report has been published.

With the Factory Branch of the Department of Labour regulations were drafted and presented for enactment under The Factory, Shop and Office Building Act, respecting the control of dust. Close arrangements exist between these departments in the effort to improve the silica trades in this respect. Many employers are to be commended for the results obtained. The technical staff assists in ensuring that expenditures for this purpose accomplish the result intended.

Mr. J. D. Leitch, Engineer in this Division, unfortunately severed his connection with the Department to enter the commercial field. His work in dust control is being continued by L. B. Leppard, M.A., Ph.D.

Sanitary Inspection in Unorganized Territory.

Mr. D. S. McKee, District Provincial Sanitary Inspector at Sudbury, has been appointed Chief Sanitary Inspector for unorganized territory. His report which follows, covers problems in sanitation and communicable diseases, to which the regulations respecting camps, works and premises under The Public Health Act are directed. These regulations also place the responsibility for medical and surgical care upon the employer in the territory to which they apply. The contract arrangements which he makes with the physician for carrying out this obligation provides for payment by the men themselves. The regulations are directed primarily to bringing medical care within access of groups ordinarily isolated from these facilities, but the development of large scale operations in the lumber and pulp industies, highway construction and mining, have presented certain problems which are the subject of special consideration. Under existing arrangements, it is of first importance that the employer responsible for medical care take an active interest in the arrangements for providing it. This has not always been the case. Amendments are being presented in the effort to improve the service.

Chief Sanitary Inspector's Report.

Since I have had the honour of taking over the office of Chief Sanitary Inspector, with an office in Toronto, it was necessary to make some adjustment in the territories to be covered by each of the other five district inspectors, and also provision for a new district office in Geraldton which was made necessary by the acute nature of sanitary conditions in this unorganized town with a population of 1,500 persons, and two adjoining townsites under development at the same time.

During the latter part of June, Mr. Sydney Harris was appointed to the field staff of inspectors with a new office at Geraldton and jurisdiction extending from Peterbell to Nipigon on the C. N. R. North from Long Lac to Nakina, East to Hearst, and West to Armstrong on the C. N. R., covering mining, lumbering and other industrial camps, also unorganized communities, schools, etc.

There is still that portion of the Sudbury district between Parry Sound and Hornpayne on the C. N. R. to be covered, which presents a difficult problem. In the area covered from this office we have 15 unorganized communities with populations from 300 to 2,000 people, combined with 16 companies operating 66 camps and employing approximately 7,000 men in unorganized territory. In my opinion these industrial camps should be covered from an office in Sudbury which is the logical railway centre to all points north and south and the headquarters for the companies operating in that district. If an office were opened up again in Sudbury, we could extend that district to take in that portion of the Fort William district East and West of White River as these camps are over 250 miles from the Fort William office.

The work performed by the sanitary inspectors during the year was as follows:—Sanitary supervision of industrial camps operating in territorial districts without municipal organization; sanitary supervision of unorganized towns and villages; investigating complaints and communicable diseases and quarantine cases. They have rendered valuable services, on request from the local Boards of Health, to the Medical Officers of Health and their part time sanitary inspectors in many small organized municipalities.

Industrial Camps.

During the year we have had 248 industrial operators employing 41,332 men in 530 camps as follows:—

	Camps	No. of Men
Lumber and Pulpwood	382	28,148
Mining	116	10,607
Construction and other camps	32	2,577
	530	41,332

There has been a vast increase in pulpwood operations during the past year and in all districts, woods operations were carried on during the summer months, thus creating many new problems not so commonly found during winter operations. Such matters as adequate cold storage for food supplies, flyproof equipment for summer camps and the sanitary supervision of privies where large groups of workmen were housed, presented new problems in all districts and were taken care of very efficiently by the inspectors.

The incidence of typhoid infection was low, taking into consideration the vast increase in the number of men employed during the hot summer months. All the inspectors took advantage of the summer operations to carry out an extensive campaign for immunization of the workmen by encouraging inoculation against typhoid and para-typhoid fevers. This was particularly noticeable in Inspector O'Hara's district where it is reported between 70% and 75% of all workmen in the area are now protected by inoculation carried out by contract physicians.

During the summer months sporadic cases of typhoid fever developed at the Northern Hardwood camps at Kearney; Ehn's camps at Ignace; and L. T. Martin Company camps at North Bay. The most serious cases were at the Northern Hardwood Company camps where nine workmen developed fever with one death. It would appear from the inspector's reports and from the contract physician that a safe drinking water supply was available at the camp site but the workmen disregarding instructions against drinking swamp water in the woods, developed fever.

Contract Physicians.

Early in the year a check-up on the visits of contract physicians to the camps was made, also in regard to the number of reports sent in to the Department and the nature and usefulness of the reports. In some cases, it was found that the doctor was not making the required monthly visits or when he did visit the camp he neglected to send in his report to the inspector. Most of the physicians did not keep any record of their work done as shown by reports of numbers immunized. The total given below does not nearly represent the work of this kind accomplished. Increased attention of your six inspectors to this point has brought very satisfactory results in the number of inspections and more regular reports and most important, in the nature of the information. on the report forms during the latter part of the year. A brief summary of the work of the industrial physicians during the past year is as follows:

Number of Medical and Sanitation contracts active this year	248
Number of contract Physicians' Reports received	2,445
Number of sickness cases treated	11,271
Number of workmen immunized according to incomplete reports of Physicians	685
Number of Communicable Diseases reported since July	304
Number of deaths reported since July, from any cause	4

While the contract physician cannot take drastic action against the employer regarding enforcement of camp regulations, it is expected that he should give a report on camp conditions on his first visit of inspection, so that your inspector will know of any infractions of camp regulations respecting construction and sanitation and can take immediate action to have conditions corrected at the commencement of operations. Taking into consideration the number of camps, the seasonal character of operations, and the distance to be travelled by your inspectors in the sanitary control of the various industrial camps, the higher standard of camp construction and living conditions is fairly satisfactory.

To avoid the possibility of workmen who require medical attention being employed in the woods or away from the camp living quarters at the time of the doctor's visit to the camp, arrangements have been made as far as possible that a notice of the date of the doctor's visit be placed in the camps to provide every opportunity for treatment of workmen in the camp when required.

The open-type pail for drinking water and the common drinking cup in camps have again been drawn to attention by some of the inspectors. This unsanitary condition is a menace to health. We are endeavoring to show the employer the importance of providing standard sanitary drinking-water containers. It may be necessary to make some provision in the regulations.

Mining Camps.

During the early part of the year both new and old mining camps were giving employment to 10,607 men. As most of these camps are of a permanent nature they do not present the same problems as lumber and construction camps, the latter moving from one point to another. Many of the operators coming in from the other Provinces are not familiar with the regulations under the Ontario Public Health Act. Mining camps do create new settlements and towns, which in every case, have required continual sanitary supervision by your inspector. Such points as Larder Lake, Geraldton, Red Lake and many others have required very close sanitary supervision during the past year, so that what might have been serious epidemics of typhoid fever, have been avoided.

Construction Camps.

Road and other construction camps have given employment to 2,577 men during the summer, continuing into the winter months. These camps were visited and inspected regularly and from the inspectors' reports, with few exceptions, an earnest effort has been made by these operators to conform to standard regulations.

Tourist Camps.

Each of your inspectors covered as many of the tourist camps as possible during the short tourist season, in his respective district, and at the same time *public and separate school* sanitary supervision was carried on.

Berry Picking Camps.

As we have already experienced one epidemic of typhoid fever in one of these camps in the Abitibi area, some attempt has been made to establish some control of these areas. There is not any central authority to deal with and the berry pickers are continually moving from one location to another. The only solution of this problem seems to rest with the success of your inspectors in educating the pickers in personal hygiene and suggesting suitable sanitary conveniences for large groups of pickers in the same area or camping ground.

Unorganized towns and villages have been under continual sanitary supervision by the inspectors throughout the year. The populations of these settlements vary from 100 to 2,000 persons. The general work covered by these sanitary surveys includes:—drinking water supply; schools; restaurants; butcher shops; hotels; disposal of refuse; inspection of refuse grounds and incinerators; disposal of sewage and waste water; plumbing and drainage; and inspection of dairies.

Combined with the inspectors' work in unorganized territories, considerable time has been spent in work in the small organized municipalities by request of the local authorities—in assisting local part-time sanitary inspectors.

Larder Lake, Red Lake and Geraldton, the latter now incorporated, have presented a difficult problem. During the summer months of the past year, visits were required almost weekly in the abatement of nuisances and to minimize the dangerous unsanitary conditions which developed from day to day in these growing unorganized communities. The problem of a satisfactory system dealing with refuse and garbage collection and disposal has given some difficulty to the inspectors. Another problem has been the provision of an adequate, safe drinking-water supply and the protection of wells from contamination.

Mining settlements which in some cases in a short time become towns, depending upon the development of the mines in the area, have developed without any plans for sanitation and very little supervision regarding location of buildings or provision for water supply or sewage disposal until unsanitary conditions arise due to failure of the townsite promoters to take responsibility for sanitation. The problem is a very difficult one to deal with at this stage without creating considerable expense to each property owner in the community.

It is recommended that the following suggestions receive some consideration for 1938:

(1) A general policy for disposing of mine slimes from the commencement of mill operations on account of their influence on water supply.

(2) Grouping of medical and sanitation contracts covering a group of small operators located in the same area. In the case of large companies, one contract should cover all contractors' and sub-contractors' camps.

(3) Provision might be made for the organization of Health Boards similar to our rural school boards with provision for assessment for the collection of refuse and night soil and its proper disposal, also for a safe water supply in unorganized settlements.

(4) That some uniformity be adopted in the methods chosen by the railway companies for providing medical service for workmen on railway maintenance and extra gang camps.

(5) That our regulations be amended to provide a greater frequency in the change of bedding in camps.

(6) That provision be made for the elimination of the common drinking cup in all standard camps and that sanitary drinking-water containers be provided in all camps.

(7) That the question of sanitary control of berry picking camps be considered before next summer after receipt of reports from the district sanitary inspectors outlining the local conditions.

During the year just closed a total of 2,087 investigations and inspections were made by your six inspectors.

Fumigation with Cyanide Compounds.

In spite of stringent regulations respecting the use of cyanide compounds for fumigation, in the past year a death was recorded from these operations. The accident arose out of failure to observe the regulations, resulting in conviction of the fumigator.

The cost of materials containing warning gas is higher than that for cyanide alone, so that cyanide was used in this case without warning gas, without a permit and without the posting of warning signs, creating a situation much more dangerous than that associated with the use of cyanide by itself under controlled conditions, and one difficult to detect because no permit had been obtained. The serious consequences of such a procedure have been demonstrated although under very unfortunate circumstances. The result is likely to be an effective deterrent.

A complication has arisen, since the caualty insurance companies apparently are not at present prepared to write insurance satisfactory to the Superintendent of Insurance as required by the regulations to be carried by the fumigator. Amendments are necessary to ensure financial responsibility in some form.

Municipal inspection and general supervision of these operations have improved.

Cancer Control.

The demand for radium emanation has taxed the capacity of the emanation plant. The supplies of radium placed at the clinics have been checked and assistance has been given in calibrating their deep therapy X-ray equipment.

The attached report of Dr. A. H. Sellers, Medical Statistician, emphasizes the number and types of new cases arising at the clinics and the comparatively late stage at which they are first seen. This takes no account of private cases treated in other hands often in hospital, concerning which no system of recording has been developed. It is apparent that the clinic centres with their facilities for surgery, X-ray and radium and staffs of internist, radiologist, surgeon and pathologist are not being used for diagnosis to anything like the extent which is desirable. They should not be looked upon as treatment centres only. Perhaps additional assurance should be given to family physicians and their patients that those unable to pay, receive diagnosis and treatment free of charge except for hospital and transportation charges to the municipality, while contribution to the cost of treatment by those able to pay is tempered to meet their financial condition.

Guidance to the public contemplated by the Committee of the Canadian Medical Association made possible by the King George Silver Jubilee Fund should accomplish something more toward early recognition and treatment of cancer cases.

The effect of the large number of "cancer cures" upon delay in instituting accepted forms of treatment is difficult to estimate, but it is apparent that these claims should be subject to investigation in order that the public may receive some guidance in the matter.

STATISTICAL REPORT ON CANCER

It is significant that this the second annual statistical report on cancer, records the introduction of a uniform plan of case recording in all clinics. The essential details and developments in this respect are presented in this report. In addition a comprehensive summary of the work done by the seven clinics, and further data upon certain aspects of cancer mortality, which are of practical interest, are included.

Cancer Case Recording.

During 1937 the task of developing a workable scheme of clinical recording for use in the cancer clinics was completed. This effort was materially furthered by the generous co-operation of the clinic directors. The need for uniformity in cancer case recording was recognized early by the Department and was emphasized in the reports of the Cancer Committee (1934-1935). The maintenance of complete and accurate clinical records, the regular follow-up of *all* patients and the study of these data over long periods of time after treatment are laborious tasks but they will fully justify the effort and expenditure required, will continue to provide a stimulus to the fuller investigation of the disease and cannot but extend our knowledge of its natural history.

The establishment of uniformity in *nomenclature* and *methods of recording* is essential in any record plan. In order to achieve these things in this instance the following steps were taken:—

(*a*) A classification of approved terms for recording pathological diagnosis was drafted.

(*b*) Stages of disease for each cancer site were defined.

(*c*) A memorandum for clinic directors was prepared describing the record practice which should be followed in completing all record forms, and incorporating the schedules of approved pathological terms and stages of disease.

In the new record scheme are included both clinical forms and statistical cards. In August of this year (1937) a supply of the various forms and cards described below was sent to each Centre and from this date the clinical record schedules required by the clinics will be provided by the Department. All forms make specific provision for recording the essential facts known or thought to be pertinent. An entry (positive or negative) must be made in *each* case.

Clinical Record Forms.

The series of clinical record forms includes the following:

(1) History and Examination Forms. There are six of each of these, five of which pertain to specified sites, viz.: (*a*) breast, (*b*) female genital organs, (*c*) lip, tongue and mouth, (*d*) upper air passages, (*e*) rectum and anus, and (*f*) general (sites other than those preceding).

(2) Treatment Record Forms. For recording the details of all treatment there have been developed both Radium and X-ray therapy record forms. These contain the principal facts in describing treatment by radiotherapy.

(3) Forms for cases readmitted and for which there is already a complete history, forms for *progress notes* and *follow-up* information are also included.

Statistical Cards.

The record cards provided answer the chief general and statistical needs of the clinics and the Department as follows:

(1) Follow-up Cards. These cards are designed specially for malignant tumours, one to be used for each patient. Six cards have been prepared, viz.: (*a*) breast, (*b*) uterus, (*c*) lip, tongue and mouth, (*d*) air sinuses, pharnyx and larynx, (*e*) rectum and anus, and (*f*) general (sites other than those preceding).

(2) For non-malignant tumour cases and non-neoplastic diseases treated in the clinics a special card provides for a convenient summary of method of treatment and follow-up as desired.

(3) Index cards have also been made available for use in cross indexing cases by name and diagnosis as well as for re-call purposes.

In addition to the provisions outlined, a series of twenty diagrams have also been made available by the Department, on the back of each of which is a schedule for recording radium treatment.

The *follow-up cards* are of special interest from the point of view of the Department. They have been designed somewhat after those of the National Radium Commission in Great Britain and provide for a record for the essential facts in respect to the follow-up of cancer patients treated by radiotherapy. Detailed clinical studies will still necessitate, of course, return to the histories themselves. For studies of the survival of patients with cancer of various sites after treatment by age, sex, stage of disease, nature of treatment, etc., however, the follow-up cards suffice adequately. Data concerning duration of symptoms and delay in seeking treatment will also be yielded by these cards.

Tentative arrangements have been made whereby the clinics will return to the Department each year on or before February 1st, the cases of all patients treated from the time of the institution of the new system up to the end of the year just preceding. This plan will come into effect for the first time on February 1st, 1939. Copies of the cards of patients dying during the preceding year will be kept on file in the Department for study. Likewise copies of cards of patients lost or untraced for two years or more will be made in order to attempt to trace these patients where possible.

Pathological Nomenclature.

An attempt has been made to bring order out of chaos in respect to the recording of pathological diagnosis in cancer cases by the designation of a list of approved terms according to which the pathological diagnosis should be recorded on the clinical records. This list is regarded as a tentative one and is divided into three sections (*a*) Carcinoma, (*b*) Sarcoma and (*c*) Other malignant tumours. The pathological diagnosis in carcinomata is to be specified primarily as squamous or adenocarcinoma. Any qualifying words may of course be added to the pathological diagnosis thus provided for if desired, e.g., the pathological grading or further detail as to type. The use of the terms "pre-cancer" and "pro-cancer" is not approved. For the purpose of clinic recording leukeamias and Hodgkin's disease are considered as malignant tumours.

Stages of Disease.

In view of the tremendous variation in the chance of survival of cancer patients depending upon the stage of disease when treatment is begun, it was essential that a uniform schedule of stages be drawn up for use in the clinics. Throughout the world there has been and still is considerable difficulty and difference of opinion in connection with staging any and all cancers, even carcinoma of the cervix uteri. While the laying down of a more or less artificial classification will not itself eliminate entirely variations in clinical judgment, yet it should go a long way toward achieving uniformity in this respect and thus make possible a scientific appraisal of the relative chances of cure of patients at various stages.

Cancer of the breast and cervix uteri are the only two sites for which there seems to be any fairly general agreement as to staging but a working scheme has been drafted for designating the stage of any and all cancers depending primarily on extension and metastases.

For breast cases the generally approved Steinthal classification is to be followed and for cervix uteri the stages described by the Radiological Sub-Commission of the League of Nations (C. H. 788, 1929). Four stages have been designated for lesions of the lip, tongue and buccal mucosa. Skin cancers have also been divided into four groups by stage. For cancers of sites other than breast, cervix uteri, oral cavity and skin, four broad stages have been denoted, corresponding in principle to the manner in which cancers of other sites are staged.

Cancer Mortality in Ontario.

In 1936 the recorded number of deaths from cancer in Ontario was 4,441, a rate of 120.4 per 100,000 population. This is the highest death rate ever observed in Ontario and is almost twice that for 1909 the first year for which vital statistics may be regarded as reasonably complete. There has likewise been a persistent increase in the proportion of all deaths which are due to cancer. In 1909, only 5.2% of all deaths were attributed to cancer, in 1936 the figure was 11.8%.

It was emphasized in the first statistical report on cancer (1936) that "little attention need be paid to the secular trend in the crude death rate since much of this increase is only apparent." The older age structure of the population, improvements in the accuracy of diagnosis particularly in cancer of the inaccessible sites, and more reliable and satisfactory medical certification are three factors of importance contributing toward the recorded increase. Furthermore, *there is no evidence that the disease cancer is attacking the population at a younger age now then formerly.* This fact is one of considerable importance from the practical standpoint.

However, while there is reason to doubt the contention that cancer is actually increasing, apart from the factors mentioned above, the fact remains that it is one of the principal killers at ages 30-69 years. Further than that each year *there is a growing number of persons requiring diagnosis and treatment for cancer.* This number will undoubtedly continue to increase for some time to come!

Cancer Deaths by Age and Sex.

The distribution of deaths from cancer according to age and sex in 1936 is given in Table I. The percentage distribution of cancer deaths by age and the specific death rates are given.

TABLE I.

CANCER MORTALITY BY AGE AND SEX—ONTARIO, 1936

Age Group	Males			Females		
	Deaths	Per Cent.	Rate*	Deaths	Per Cent.	Rate*
0–19	23	1.1	3.3	14	0.6	2.1
20–29	13	0.6	4.3	23	1.0	7.9
30-39	50	2.4	18.3	97	4.1	36.9
40–49	138	6.7	56.8	297	12.4	132.3
50–59	364	17.8	209.2	484	20.2	294.4
60–69	564	27.5	504.6	622	26.0	557.9
70–79	633	30.9	1,069.0	606	25.3	997.6
80 and over	265	12.9	1,804.4	248	10.4	1,432.0
All Ages	2,050	100.0	109.1	2,391	100.0	132.3

*Per 100,000 population at ages.

At ages 20-59 years the cancer death rate is much higher among females than males. At ages 70 and over the reverse is true. The steep gradient in mortality with age is clearly shown and helps to demonstrate how easily the crude cancer death rate may be influenced by any alteration in the proportion of young and old persons in the population.

Cander Deaths by Site.

The stomach is first in numerical importance as a cancer site among males. In females breast and genital organs precede stomach. More than one-half of all cancer deaths are those attributed to cancer of the digestive tract and peritoneum. Table II gives the distribution of cancer deaths during 1936 by site.

TABLE II.

CANCER DEATHS BY SEX AND SITE—ONTARIO, 1936

Site	Males		Females		Both Sexes	
	Deaths	Per Cent.	Deaths	Per Cent.	Deaths	Per Cent.
Stomach and duodenum	509	24.8	331	13.8	840	18.9
Other digestive tract	672	32.8	738	30.9	1,410	31.7
Genital organs	253	12.3	471	19.7	724	16.3
Breast	8	0.4	517	21.6	525	11.8
Buccal cavity	109	5.3	22	0.9	131	2.9
Urinary organs	155	7.6	72	3.0	227	5.1
Respiratory organs	107	5.2	63	2.6	170	3.8
Skin	66	3.2	33	1.4	99	2.2
Other or Unspecified Sites	171	8.3	144	6.0	315	7.1
All Sites	2,050	100.0	2,391	100.0	4,441	100.0

This table shows that somewhat less than 28% of all persons whose deaths are attributed to cancer have cancer of "accessible" sites (skin, breast, buccal cavity and female genital organs). These are the cases which are particularly

amenable to treatment at an early stage with a reasonable chance of cure. This group contributed 43.6% of the cancer deaths among women during 1936.

Cancer Incidence.

In the first statiscal report on cancer (1936) reference was made to the need for more information on cancer morbidity. It was estimated at that time that there were probably *at least* three cases needing treatment during a given year for every two recorded deaths. This would undoubtedly be considered a conservative estimate. Pending further knowledge of incidence derived from a case survey, it should be presumed that the extent of the cancer problem from the point of view of the need for diagnosis and treatment is somewhat greater than this estimate might suggest. The influence which surgery and radiotherapy have had upon the number of recorded cancer deaths cannot be estimated, but it has certainly been such as to increase the number of cancer cases alive at any one time through the prolongation of life which has been effected in many cases. Dublin has suggested that there may be three cases for every recorded cancer death. Possibly these two limits—1.5 and 3.0 cases per death—represent the bounds between which the true situation lies.

REPORTS OF THE CANCER CENTRES FOR 1937

Fron the annual reports submitted by the directors of the Cancer Centres to the Department, the following data have been complied. Where possible the figures from the reports of the previous year have been included for comparison.

New Cases Treated During 1937.

Table III gives the number of new cases recorded during 1937 for each Centre:

TABLE III.

NEW CASES REPORTED BY CENTRE—1937

Centre	Malignant			Non-Malignant*
	Private	Public	Total	
Hamilton	199	84	283	100
Kingston	153	46	199	111
London	76	60	136	53
Ottawa (Civic)	169	102	271	248
Ottawa (General)	30	34	64	15
Toronto	505	470	975	600
Windsor	121	36	157	41
Totals	1,253	832	2,085	1,168

* Reported this year as non-malignant tumours, excluding therefore, cases of non-neoplastic disease.

A total of 2,085 new cancer cases were seen during the year, of which 1,253 were "private" cases. The excess of private over public cases varies with each Centre. The marked excess for Windsor is attributable to the fact that "private" cases include all patients except municipal charges or welfare cases.

The data for new *treated* cases compared with the preceding year are given in Table IV.

TABLE IV.

NEW CANCER CASES TREATED AT THE CANCER CENTRES*
1936 AND 1937

Centre	Private		Public		Total	
	1936	1937	1936	1937	1936	1937
Hamilton	173	189	61	77	234	266
Kingston	131	153	114	45	245	198
London	40	72	45	55	85	127
Ottawa (Civic)	163	148	90	85	253	233
Ottawa (General)	32	30	36	34	68	64
Toronto	531	505	428	470	959	975
Windsor	101	108	41	28	142	136
Totals	1,171	1,205	815	794	1,986	1,999

*Figures are those of cases treated by radiotherapy alone or with surgery. Cases treated by surgery alone and cases not treated are excluded.

The increase recorded over the previous year is negligible. In some centres the number of new cases declined and in others it increased. That there has not been a more definite increase is rather surprising in view of the facilities available for diagnosis and treatment.

An accurate statement of the number of cancer cases reported as "presumed alive" on a given date will not be possible until the follow-up card system is in full operation. From figures submitted by the clinics (incomplete in some instances due to lack of facilities for adequate follow-up) it is estimated that at December 31st, 1937, there were about 4,500 cancer patients on record alive. Of this number about 1,800 were new cases first seen and treated in 1937.

New Cancer Cases by Site.

The distribution of the recorded new cancer cases (2,085) by site is given in Table V.

TABLE V.

NEW CANCER CASES BY SITE — CANCER CENTRES, 1937

Site of Cancer	Hamilton	Kingston	London	Ottawa Civic	Ottawa General	Toronto	Windsor	Total
Breast	65	29	29	40	15	177	19	374
Cervix Uteri	42	15	16	16	13	79	13	194
Other female genital organs	8	8	13	15	0	58	9	111
Oral Cavity*	33	40	20	38	12	144	21	308
Upper air passages†	8	3	10	3	0	32	3	59
Rectum and Anus	26	6	2	6	0	12	10	62
Other alimentary tract	6	2	2	15	1	15	9	50
Skin	63	70	19	79	7	273	36	547
Bone	3	1	7	5	4	14	0	34
Other cases	29	25	18	54	12	155	37	330
Totals	283	199	136	271	64	975	157	2,085

*Including lip, tongue, mouth and tonsil.
†Including nasal fossae, air sinuses, pharynx and larynx.

Using "natural duration" as a basis for estimating the number of cases requiring treatment (breast 36 months, uterus 20 months) it would appear that about 25% of breast cancers and about 55% of the cases of cancer of the uterus in existence at any stage, are appearing at the clinics. This method seems to be inadequate for estimating cases of cancer of the buccal cavity and skin since the number treated in the clinics exceeds the estimate (see 1936 report pages 102 and 104). Treatment may in part be responsible for this by lowering the number of deaths recorded and therefore the estimated number of cases, based on the "natural duration" of the disease without treatment. This hypothesis is difficult to reconcile with the fact that the specific death rates at ages for cancer of these two sites have shown no significant change in the last 15 years.

Stage of the Disease at the Beginning of Treatment.

Reports from the clinics in future will give a complete picture of the extent of delay in seeking treatment. Data for 1937 indicate that less than one-fifth of new cervix uteri cases were in stage I and about one-third were in stage II at the beginning of treatment. Of breast cases only about one-third were in stage I. The reports of the National Radium Commission showed that in only 25% of patients is there no sign of local or metastatic spread when the patient is first seen. The known *marked* differences is survival rates between cases treated in the early and late stages of cancer emphasize the fact that only a relatively small proportion of patients reach the clinics at a time when the chance of "cure" is reasonably good. Measures which result in increasing the size of this patient group will result in a considerable saving of life.

Method of Treatment.

Data from six clinics giving new cancer cases by method of treatment are shown in Table VI.

TABLE VI.

NEW CANCER CASES BY METHOD OF TREATMENT—CALENDAR YEAR 1937

Method of Treatment	Private		Public	
	Number	Per Cent.	Number	Per Cent.
X-ray	244	32.6	122	33.7
Radium	202	27.0	71	19.6
Radium and X-ray	107	14.3	62	17.1
Surgery and X-ray	114	15.2	57	15.8
Surgery and Radium	7	0.9	1	0.3
Surgery, Radium and X-ray	26	3.5	11	3.0
Not treated	29	3.9	26	7.2
Surgery alone	19	2.5	12	3.3
Totals	748	100.0	362	100.0

These figures are admittedly imperfect by reason of the fact that treatment was not completed for many new cases at the time these returns were made. The figures for private and public cases are pretty much the same. Apparently one-quarter of the patients received radium alone. Radium alone or with

surgery, X-ray or both was given in about 45% of all cases. X-ray alone was the treatment in one-third of the cases, while X-ray alone or with surgery, radium or both was given in two-thirds of the cases. It is hoped to be able to supplement this statement in the report for 1938.

Hospitalization of New Cancer Cases.

Further data are now available on the hospitalization of the new cancer cases during 1937. Table VII gives the number of new cases, the number hospitalized, and the average days' stay during the year.

TABLE VII.

HOSPITALIZATION OF NEW CANCER CASES—CALENDAR YEAR 1937

Centre	Private Cases				Public Cases			
	New Cases	Number Hosp'd	Days Stay	Aver. Stay	New Cases	Number Hosp'd	Days Stay	Aver. Stay
Hamilton	Data not available — see foot note*							
Kingston	153	19	321	16.9	46	28	742	26.5
London	76	46	821	17.8	60	45	1,739	38.6
Ottawa (Civic)	169	107	2,014	18.8	102	84	3,674	43.7
Ottawa (General)	30	26	601	23.1	34	26	1,354	52.1
Toronto	Data not available				470	372	**	**
Windsor	121	66	912	13.8	36	24	1,088	45.3

*Including old cases readmitted, the total days' stay for 240 patients was 4,126 or 17.2 days per patient and for 162 public patients, 3,244 days or 20.0 days per patient.

**Including 296 old cases readmitted, the total days' stay for public cases was 15,777 or 23.6 days.

All these data may be expected to do is to indicate, for the cases under consideration, the hospital days needed. It does not indicate the total hospital days required for the number of patients shown since some will be carried over into 1938. The averages have significance only in that they show a marked excess of the average stay of public over private cases. This excess is present in every Centre and was commented on last year. For the five clinics at Kingston, London, Ottawa and Windsor the average number of hospital days per *new* malignant cases *during the year* was 17.7 days for *private* cases and 41.5 days for *public* cases. It is felt that much of this difference may be due to difference in method of treatment of private cases, viz.: some private patients might be operated upon in *other* institutions and then brought to the centre for radiotherapy, whereas it is more likely that public patients would receive their surgery as well as radiotherapy at the centre in question. It is an interesting fact that for the above five Centres 48.0% of new private cases but 74.5% of new public cases were hospitalized during the year.

The total hospital days for *public* cases, including 1,143 new and old readmitted cases was *30,220 days or 26.4 days per case.* This represents an expenditure in the form of per diem grants at 60 cents per day of $18,130.00. This has reference, of course, to only a small *fraction* of the total public ward cancer cases hospitalized each year in Ontario.

MEDICAL STATISTICS

A. HARDISTY SELLERS, B.A., M.D., D.P.H., *Medical Statistician*

The office of Public Health and Medical Statistics in the Department of Health was instituted on September 15, 1936. At the outset two objectives were defined, namely: (1) to "enable the Department to more adequately assay the value of the programme for cancer treatment so heavily subsidized by the Government" and (2) to render assistance in insuring "a better type of approach to the problems resulting from increased hospitalization." To these questions, therefore, attention has been particularly directed. The objectives and scope of the work of this office, however, have been considerably broadened since its inception. The following outline of the programme during 1937 indicates the extent to which some of the many possible fields have been explored.

(1) Cancer Control.

There are now seven cancer clinics in Ontario using Government radium and of these, three receive an annual statutory grant. The cost to the Government of radium used by these clinics was approximately $365,000.00. Since the clinics were inaugurated there has been a gradual increase in the number of new patients treated each year, and during 1937, for example, 1,999 new malignant cases were treated by radiotherapy at these centres.

Statistical investigation is established as one of the essential lines of approach in the scientific fight against cancer. This is one important contribution which can be made toward a solution of the problem. With this in mind and in order to determine in some tangible way the value of the Government's present programme for cancer treatment, it was essential that some provision be made to secure a uniform annual return from each of the cancer clinics. Furthermore, it was necessary to make such plans for recording in the clinics as would make it possible at a later date to assess the value to the public health of the present programme, and more specifically to determine the efficacy of the treatment of cancer of the various sites, now undertaken in the clinics.

A uniform annual report schedule was drawn up for use by the clinics, and upon the information received the summary of clinic activities presented elsewhere in this report for 1937 was based. This arrangement has made possible a general statement of the contribution now being made by the clinics in respect to the treatment of cancer.

The more fundamental problem in this field was to provide machinery for a uniform scheme of recording the history, treatment and follow-up of cancer cases treated in each of the seven clinics. This was necessary in order that any subsequent statistical analysis could be assured of a reasonable measure of accuracy. A detailed study of the various methods of cancer recording employed in the principal large centres throughout the world was therefore undertaken. With the co-operation of the directors of the clinics, a complete recording scheme was devised by this Office and a supply of all the forms was sent to each clinic in August, 1937.

The new scheme includes six history and examination forms, five of which deal respectively with the following sites—breast, uterus, lip, tongue and mouth, upper air passages, and rectum and anus. The sixth form is intended

to serve for all sites other than those specified above. In addition, forms for recording X-ray and radium therapy as well as schedules for progress notes and follow-up are included. A set of 20 diagrams has also been provided. Principal interest and importance is attached to the *follow-up cards* which form part of the scheme. One follow-up card corresponds to each of the six clinical forms. The arrangement made with the clinics provides for the use of one follow-up card for each new patient and this card contains all the essential information regarding the nature of the lesion, first symptom and duration, etc., as well as a record of treatment. The information regarding follow-up and treatment is to be recorded regularly until the patient is lost trace of or dies. The follow-up cards of all patients will be forwarded to this Office once a year, beginning February 1, 1939, for summary and at the opportune time, analyses will be conducted. In this way it will be possible to assay objectively the efficacy of treatment.

The new record scheme is one which will require some readjustment in clinical recording since the method involved differs considerably from the customary procedure. In order to assist the directors and staff of the clinics with the new record scheme, a memorandum was prepared describing in detail the use of each type of form and card and the various procedures and conventions to be followed. The present plan is to give the new method a trial of one year after which time any revisions suggested by experience will be undertaken. Meanwhile supervision and direction has been and will continue to be given to each clinic.

In preparing the record scheme for the Ontario clinics particular assistance was derived from the forms and cards designed by the National Radium Commission and the Department wishes to acknowledge the co-operation so readily given in supplying copies of their schedules for preliminary trial and experience here.

It is hoped that the new plan will eliminate entirely the differences in nomenclature and information recorded which formerly existed. To this end during 1937, a schedule was prepared setting forth the stages of disease to be employed in each clinic. Complete agreement on this method of staging all cases has been obtained and this may be regarded as a significant achievement.

In the reports on Cancer Control for the years 1935 and 1936 mention was made of the need for uniformity in nomenclature particularly in pathological reports. During 1937, a uniform schedule was prepared indicating the terminology to be used in each clinic in recording the pathological diagnosis. This, too, may be regarded as a significant factor toward effecting the standardization of records and enhancing their ultimate value for purposes of statistical research on cancer.

The new programme has particular significance in so far as the Government's cancer programme is concerned, but its ultimate value should be of even wider application than this. It provides for the collection of information which will enable an appraisal of chance of survival of patients with cancer of certain sites at specified ages and at certain stages. For the further study of the cancer problem in Ontario, the new scheme will be invaluable. As a source of data for use in the education of the public regarding cancer, there is reason to believe the new arrangement to be a substantial contribution.

The statistical studies which may now be made with the co-operation of the clinic directors will be of value to both the public and the medical profession. At the end of three and five years respectively, a comprehensive study of

all patients treated up to that time will be made, somewhat along the lines of that recently published by the National Radium Trust and the Radium Commission of Great Britain.

So far no detailed analysis of the recorded deaths from cancer available in the reports of the Registrar-General for Ontario has been made. A preliminary review of this field was made by this office during 1937, having in view a detailed statistical analysis of the natural history of cancer in Ontario as reflected by mortality data. This study when completed should be valuable in directing any further programme in respect to cancer treatment.

Public Hospitals.

In view of the increasing costs to the Government of hospitalization and in view, too, of the many related departmental problems in the hospital field, arrangements were made beginning October 1, 1936, whereby all public hospitals would return a diagnosis for every patient discharged from or dying in hospital, on the monthly statement required by the Hospitals Division. Apart entirely from the fact that per diem grants on behalf of public ward patients in public hospitals in the province cost the Government each year approximately one and a quarter million dollars, the desirability of studying on a large scale the causes responsible for hospitalization is accepted. Particularly is there need for more reliable information concerning those causes responsible for long stay in hospital whether they be illnesses of an acute character or those of a chronic incurable type.

This Office therefore has undertaken to compile the information concerning all patients discharged from public hospitals during the period October, 1936 to March, 1937. These cases number approximately 120,000. At the outset an effort was made to educate physicians and hospital record staffs in recording scientific diagnoses. A list of undesirable and unsatisfactory diagnoses was prepared and submitted to each public hospital in the province and since that time considerable improvement has been effected. Supplementary inquiries were conducted, however, in over 15,000 cases.

The analysis of all discharges and deaths during the six-month period is to be made by the punched card method. During 1937 coding was completed for over 30,000 cases and the data for 20,000 were transferred to punched cards. The facts recorded in this way will permit an analysis of discharges by length of stay in hospital, by diagnosis, by age and sex, by place of residence and method of payment, etc. When completed, the study will offer much material for the further scientific discussion of the question of hospital illnesses, hospital costs and the administration of hospital grants. This study is, as far as is known, the first of its type undertaken in Canada.

Preliminary arrangements have been completed for a statistical analysis of information obtained by the Hospitals Division through the self-pay patient financial ability return which was instituted in January, 1937. These returns, which were discontinued in August, 1937, number approximately 50,000.

Mental Hospitals.

The annual report for mental hospitals is now prepared under the direction of this Office and during 1937 several additional features were introduced into that report. A review of the present form of the statistical reports from these institutions has been made and a general revision of the report forms undertaken.

A ten year review of mental hospital statistics has been begun and will be completed during 1938. This is the first such review carried out in Ontario and will be of definite practical value in the administration of this branch of the work of the Department.

Tuberculosis.

During 1937 in co-operation with the Division of Tuberculosis Prevention, an extensive study of the present problem of tuberculosis in Ontario was made. This study involved a review of past experience in respect to mortality and a study of the present geographic distribution of both cases and deaths. A detailed analysis of the costs of tuberculosis was also included, with particular reference to the contribution now made by the Government and municipalities. This work has been incorporated in a 64-page monograph under the title "A Memorandum On Tuberculosis in Qntario with Recommendations for more Effective Control." This is the most exhaustive effort of its kind yet carried out.

Maternal and Infant Mortality.

During the year revised schedules for the Infant and Maternal death returns now required under the Public Hospitals Act were prepared for the Division of Maternal Welfare and Child Hygiene. The revised forms were designed in the light of experience during preceding years and in an effort to insure more accurate and uniform statements. A five year study of the reports which have already been collected is planned in the near future.

Data on maternal and infant mortality available in the reports of the Registrar General's Office have been accumulated, particular interest being attached to the geographic distribution of such deaths.

Statistics on Public Health Problems.

During the year this Office has given assistance to each Division in the Department in respect to any problems requiring statistical data. General statistics in all public health fields are being collected and compiled. Bulletins dealing with public health problems will be prepared as opportunity provides. During 1937, files were created for each disease of principal public health interest, and mortality as well as morbidity statistics where available, have been collected. It is hoped that future developments will make it possible to undertake many of the investigations known to be needed in assuring an effective approach toward well recognized public health problems.

APPENDIX A

The Summer Course in Health Education

A JOINT REPORT OF THE

Department of Health

and the

Department of Education

of the

Province of Ontario

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APPENDIX A.

SUMMER COURSE IN HEALTH EDUCATION

The Summer Course in Health Education in Ontario was a development of an experiment in Health Teaching initiated in 1929. The objectives of this experiment were:—(1) To establish on the part of the school organization an increased sense of responsibility for the present physical condition of the child and also for his future health behaviour; (2) To fix the extent of the contribution to be made by those outside the teaching staff who might be considered as having anything to offer; and (3) To prepare the teacher to assume his rightful place in any programme of health education.

At the time the study began it was found that health held but a minor place on the curriculum of the junior grades in the elementary schools of Ontario. In the senior grades, slightly more consideration was given to health under the subject matter of physiology and hygiene. Health was said to be related to physical training but the extent of this relationship was, in actual practice, difficult to establish and to define. The teacher had received no instruction or training at the elementary, secondary or normal school that would arouse a sense of responsibility for the health of his pupils. What training had been given had frequently placed undue emphasis upon the ill effects of alcohol and tobacco and the health advantages of cleanliness. There was a confusion between matters relating to health and those relating to comfort, and too often those matters which offended the aesthetic sense were considered as health hazards. The teacher was encouraged to believe that the responsibility for the health of the child and for his health behaviour belonged to the home and to the special health agencies, including the school health services. Where these latter were provided they oftentimes assumed the responsibility for health teaching. Originating as a temporary expedient, the health teaching frequently came to be regarded as a prerogative of the health services.

For some time, however, there had been evident a rapidly growing interest on the part of teachers and educational officials in the matter of their responsibility for the health of the school child. Constant inquiries were received by the Department of Health from teachers asking for direction and for suitable aids in the teaching of health. Great quantities of so-called teaching aids and materials were readily available to teachers through official and voluntary agencies and commercial organizations. The teaching value of such materials had never been seriously tested in Ontario, nor had there been any appraisal of these materials with respect to their scientific accuracy and their applicability in the class-room. It was felt that an effort should be made to appraise all such materials and teaching aids available to the schools as part of a controlled experiment in health teaching in selected schools of the Province. The experiment was directed by officials of the Department of Health with the approval and co-operation of the Chief Inspector of Public and Separate Schools.

On the basis of the experiment and the criticisms of teachers who participated in it, a report was prepared by officials of the Department of Health. This report, although making no definite recommendations, suggested that the Department of Education appoint one or more members of its staff to discuss the report with officials of the Department of Health. Following a consideration of the report by officials of both departments, the Prime Minister, in

November, 1932, appointed a Joint Committee. This Committee consisted of consultant members from the Department of Education, namely: the Chief Inspector of Public and Separate Schools, Mr. V. K. Greer and the Director of Professional Training, Mr. Duncan Walker, who was succeeded in 1936 by Dr. J. W. Karr. Dr. J. T. Phair, Director of the Division of Child Hygiene, later Chief Medical Officer, was consultant member from the Department of Health. The following were named as working members of the Committee:—Mr. G. R. Smith, Instructor on the staff of the Provincial Normal School, Ottawa; Mr. R. H. Roberts, Inspector of Public Schools; Miss Mary Power, Director of Health Education; and Miss L. W. Vrooman, of the staff of the Division of Child Hygiene. At the first meeting of the Joint Committee in December, 1932, two recommendations were passed and forwarded to the Minister of Education:—First, that a handbook on health be prepared for the use of teachers in public and separate schools; and second, that a Summer Course in Health Teaching be provided for teachers-in-service. Approval was given these recommendations and in July, 1933, the first course was opened under the principalship of Dr. J. T. Phair.

The factor of prime importance in the entire Experiment has been the co-operation between the Departments of Health and Education. The fact that the latter had appointed no medical staff nor consultant since Dr. Phair's transfer to the Department of Health in 1925, was significant of the continued confidence of the Department of Education in him. A situation which was unique and unparalleled in other Canadian Provinces has resulted in direct benefit to the children in the schools of Ontario.

To meet the needs of the seventeen thousand teachers in service was a challenging problem. It was felt that a group of representative teachers who would regard a summer school course in health as an experimental study and who would be willing to contribute to the experiment in health education by organizing experimental work in their own class-rooms would be a logical development of the original experiment. The Chief Inspector of Public and Separate Schools suggested that each inspector in the Province secure, if possible, the attendance of at least one teacher at the course. The teacher so selected should be one who showed interest in the health of the pupils and was recognized as a successful teacher. Each subsequent year the Chief Inspector has sent out a similar request, the result being that the five hundred and seventy-two teachers registered in the course have been a selected group.

The enrolment has grown from 45 in 1933, 53 in 1934, 84 in 1935, 175 in 1936 to 213 in 1937. Of the total enrolment of 572, there were 415 teachers from town, village and rural schools; 152 from the teaching staffs of city schools; 2 instructors in hygiene from Normal Schools; and 3 teachers from outside the Province.

Principles of Health Education:

The following principles have been accepted by the Joint Committee and have influenced the organization, content and method of the Summer Course. The Committee acknowledge the help received from the Report of the Consultative Committee on the Primary School (1931), and the Handbook of Suggestions on Health Education, (1933) issued by the Board of Education, London, England.

Health cannot be isolated from other activities of the class-room. The objectives of health education are the development of desirable habits and attitudes and the acquisition of scientific knowledge directly related to the

life experiences and needs of the individual. The most valuable type of health education will be that which will continue throughout the school day. It will permeate all school experiences and will help the child in his life outside the school. The child must be given an opportunity for the practice of desirable health behaviour. This means an organization of the class-room so that the child is engaged in activities, experiments, etc., which have a meaning to him and from which he derives the benefits of achievement. These class-room experiences must recognize the fundamental principles of health and contribute to healthful living.

Curriculum:

Since the summer school was part of an experiment, the staff approached the matter of organization and curriculum experimentally. Four main divisions of the curriculum were finally accepted and these have served as a basis of the course during the five years:

(1) The first division was not too specifically defined but was named Health Education in Relation to the Elementary School.

(2) The second division dealt with Technical and Scientific Information required by the teacher in preparation for Health Instruction and Health Service in the Elementary School.

(3) The third division was a series of demonstrations of class-room Procedures and Activities in Health Education.

(4) The fourth division included field trips to provide the students with practical knowledge relating to Specific Community Health Problems.

The following statement gives a brief outline of the curriculum of the Course in 1937:—

1. The Need and Meaning of School Health Education.

The need of Health Education in the School.
Health Education—Definition of Terms.
Healthful School Living.
The Teacher and Health Education.
The Health of the Teacher.
The Individual Child.
Health Services.
Recreative Physical Activities.
Self-Control.
Safety.
First Aid.

II. Scientific and Technical Information required by the Teacher for Health Instruction and Health Service in the Elementary Schools:

The body and its functions.
Food in relation to the needs of the body.
The mental, emotional and social life of the individual.
The control of communicable diseases.
The commoner physical defects of school-age children.
School and community hygiene.

III. Practical Interpretation of Health Education in the Elementary Schools:

Organization of health instruction in the curriculum of:

(*a*) Rural schools;

(*b*) Urban schools.

Methods, activities and materials used in health instruction.

Activities, procedures and materials for the junior grades.

Activities, procedures, materials and methods of instruction suitable for the intermediate and senior grades.

Demonstrations of recreative physical activities suitable for junior grades.

Demonstrations of recreative physical activities suitable for intermediate and senior grades.

Demonstrations of athletics and competitive games suitable for intermediate and senior grades.

IV. Conferences and Discussions:

Group discussions of health problems of the school, home and community.

Group discussions of physically handicapped, mentally handicapped and behaviour-case children.

Group conferences on health instruction in the various grades.

Individual conferences with teachers on problems relating to personal and pupil health.

V. Field Trips:

In order that the teacher may have practical knowledge of personal and community health, visits under the guidance of specialists are made to:—

(1) Museum of Science, Buffalo, New York.
(2) Don-Alda Farms.
(3) Milk pasteurization plants.
(4) Water filtration plant.
(5) Sewage disposal plant.

VI. Exhibits of Materials and Reference Library on Health.

One of the most interesting and valuable features of the Course is the showing of materials, units and enterprises on health from the schools of the Province. These have been developed in the schools under the direction of teachers who have attended former sessions of the Course in Health Education. An additional feature is a reference library of over three thousand publications relating to health education. A trained librarian directs the reading and reference of the students in attendance.

Field trips, exhibits of materials and the reference library are directed by a member of the Summer Course staff who is also a member of the Joint Committee.

Staff:

The staff is selected by the Principal in consultation with officials of the Department of Education. As the course developed from year to year, provision was made for the inclusion of new members on the staff and the re-allotment of time. The following is a statement showing the members of the staff, the subjects of instruction, and the number of periods of the Summer School of 1937.

Principal.	Subject	No. of Periods
J. T. Phair, M.B., D.P.H., Chief Medical Officer of Health, Department of Health, Province of Ontario.	Preventable Disease. Medical Service in the Schools. School Hygiene. Place of Safety in the Health Teaching Programme. Place of First Aid in the Health Teaching Programme. Place of Physical Activities in the Health Teaching Programme. Commoner Physical Defects of Children.	20
Vice-Principal.		
R. H. Roberts, M.A., Inspector of Public Schools, Department of Education, Province of Ontario.	Teacher's Responsibility in Health Education Methods in Health Education.	20
Full-Time Assistants.		
C. A. Brown, M.A., B.Paed., Inspector—Administrator, Board of Education, City of St. Catharines.	Group Conferences on Health Education in Urban Schools.	10
H. E. Elborn, M.A., B.Paed., Inspector of Public Schools, Department of Education, Province of Ontario.	Group Conferences on Health Education in Rural Schools.	10
Miss Mary Power, B.A., Director, Health Education, Department of Health, Province of Ontario.	School Health Education as part of Public Health Education. Materials in School Health Education.	20
Miss L. W. Vrooman, Reg. N., Division of Child Hygiene, Department of Health, Province of Ontario.	Relation of the Teacher to the Health Services. Conferences on Personal Health Problems of the Teacher and of the Individual Child. Health Services for Teachers in Attendance.	20
Part-Time Assistants.		
Miss Alma Small, Recreation Leader, Toronto.	Recreative Physical Activities.	10
Alan H. Jarvis, Recreation Leader, Toronto.	Athletics and Competitive Games.	10
Miss Victoria Mullan, Public School Teacher, Board of Education, City of Toronto.	Teacher in charge of Demonstration Class.	
Lecturers		
Ernest T. Waters, B.Sc., Ph.D.(Wales), Asst. Professor of Physiology, Department of Physiology, University of Toronto.	A Study of the Body and Its Functions.	12
A. E. Berry, M.A.Sc., C.E., Ph.D., Director, Division of Sanitary Engineering, Department of Health	Sanitation—Home, School and Community.	5
E. W. McHenry, M.A., Ph.D., Assistant Professor of Physiological Hygiene, School of Hygiene, University of Toronto.	Diet and Nutrition.	4

Lecturers	Subject	No of Periods
Edward A. Grant, D.D.S., Ontario Dental Association.	Mouth Hygiene.	3
C. Roger Myers, Ph.D., Consultant Psychologist, Department of Health; Assistant Professor, Department of Psychology, University of Toronto.	Mental Health.	8
Guest Lecturers		
Harry E. Amoss, B.A., D.Paed., Inspector of Auxiliary Classes, Department of Education.	Educational Provision for Those in Need of Special Care.	1
Miss Pauline Brooks Williamson, School Health Bureau, Metropolitan Life Insurance Co., New York City, N.Y.	Trends in School Health Education in the United States and Canada.	2
Library and Administration		
Miss Elizabeth Smith, Librarian.	Librarian.	
Miss Margaret Vale, Secretary.	Office Secretary.	

Dr. J. T. Phair is the Chief Medical Officer of the Department of Health. He has been associated with school health services in the City of Toronto and the Province of Ontario for over twenty years. The Experiment in Health Education in the Province was initiated by Dr. Phair, and all aspects of its development have been under his direction. He is Chairman of the Joint Committee. He is a member of the Technical Advisory Committee of the Joint Committee on Health Problems in Education of the National Education Association of the United States and the American Medical Association. He is also a member of the American Medical Editors' and Authors' Association.

Mr. R. H. Roberts has done post graduate work in education and sociology at the University of Toronto, Columbia University and the University of Chicago. He has had experience in elementary and secondary education in the schools of Ontario and Alberta. He has been connected with teacher training and with the inspection of rural and urban schools in both provinces. He is a member of the Joint Committee. He is a member of the Technical Advisory Committee of the Joint Committee on Health Problems in Education of the National Education Association of the United States and the American Medical Association.

Mr. Corbin A. Brown has been connected with the elementary schools of the Province as teacher, principal and administrator. He has done post-graduate work in education at the University of Toronto and at Columbia University.

Mr. H. E. Elborn has had a varied experience in rural and urban schools as teacher and inspector. He has served on the staff of the Provincial Normal Schools. He has done post graduate work in education at the University of Toronto.

Miss Mary Power has had a wide experience in executive positions in various fields of public health work. Since 1925 she has been Director of Health

Education. In 1930 she received a Travelling Fellowship from the Rockefeller Foundation which gave her an opportunity to study methods and trends in all branches of Health Education. She has established and maintained close contacts with workers in the field of Health Education throughout Canada, United States and Mexico. She is a member of the Joint Committee.

Miss L. W. Vrooman has had extended experience as a provincial public health nurse in the Province of Ontario. This work has brought her in contact with the schools. In 1930 she attended the Course in Methods of Health Education, at the Massachusetts Institute of Technology, under the direction of C. E. Turner, D.P.H. She is a member of the Joint Committee.

Miss Alma Small is a graduate of Toronto Normal School and has had wide experience in teaching and recreation. She has been a member of the staff of Linnear Camp in Maine. She has organized and directed summer camps for girls. During the fall and winter months she is director of recreative physical activities of child and adult groups in the City of Toronto.

Mr. Alan H. Jarvis has had several years' experience in the organization and direction of summer camps for boys. He is a senior student at the University of Toronto where he has shown an interest in the creative and recreative aspects of student life. Announcement has just been made that Mr. Jarvis has been awarded the Rhodes Scholarship from the University of Toronto.

Miss Victoria Mullan is recognized as a teacher of outstanding ability in the City of Toronto. She is a graduate of the Summer Course in Health Education. She has had charge of classes of children who required special health care.

The lecturers have been drawn from the staffs of various faculties of the University of Toronto; from the Ontario Dental Association; and from the Departments of Health and Education.

Since 1935, Miss Pauline Brooks Williamson of the School Health Bureau of the Metropolitan Life Insurance Company of New York City has been a guest lecturer at the Course. Miss Williamson discusses with the teachers in attendance present day trends in health education in the schools of Canada and the United States. In addition, she discusses in conference with members of the staff problems relating to teacher education in health.

Organization:

The morning session opens at 9.00 a.m. and extends until noon. The didactic lectures are presented during the morning session to the entire student body. A lecture period is fifty minutes in length with an intermission of ten minutes between lectures. The students are encouraged to use this time for relaxation. Lectures are made as informal and as informative as possible. Ample opportunity is given for questions and discussion. Since the Handbook is available, note-taking by the students is reduced to a minimum.

The afternoon session opens at 1.30. The students meet in small groups for conferences and for participation in demonstrations of physical activities. These groups are small and the students elect the conferences and demonstrations which they will attend. It is expected that each student will attend ten conferences and ten demonstrations in physical activities during the five weeks. The conferences and demonstrations are fifty minutes in length.

In the group conferences, which are led by members of the staff, specific problems growing out of the morning lectures are discussed with special reference to the actual class-room work of the teachers. Certain group conferences relate to health education in each of the grades from I to VIII. Other conferences are specifically designed to deal with problems arising in rural schools.

In 1937 a group of students discussed the problems arising out of the rotary organization or system. Another group of teachers from high schools met in a series of conferences on health in grades IX and X. It should be noted that the course was primarily designed for teachers of the first eight grades. However, in 1937 fifteen high school teachers enrolled and special provision was made to meet their needs.

In 1937 an invitation was issued by the Principal of the Course and the Chief Inspector to all Inspectors of Public and Separate Schools to visit the course during the last week in July. Between twenty-five and thirty inspectors responded to this invitation. They attended the lectures and participated in the conferences.

Accommodation:

In 1937 the Course was held in the Central Technical School, Toronto. The requisition for accommodation was based on an enrolment of 200 students and included a large auditorium; two lecture-rooms; two gymnasia; library; 8 work-rooms for students; one exhibit room and one store-room for materials; wash-rooms and rest-rooms for men and for women. Cafeteria service was not possible, but the room was used by those who brought lunches. Office space included a private office for the use of the principal and the vice-principal; 3 rooms to be used as offices by members of the staff; one general office. To provide for the complete physical examination of students, one examining-room with connecting wash-room and dressing room was requisitioned for each examining physician. An X-ray machine was set up in a room having a connecting dark room. For nursing service, there was a nurse's office with wash-room and emergency rest-room. In addition, provision was made for a lecture-room accommodating 40 students. This was adjacent to the nurse's office and was used for discussions on school health services.

The accommodation for the Demonstration School was determined by the number and arrangement of the classes. A class-room with store-room attached, wash-rooms, cloak-rooms, play space indoors and out-of-doors, together with provision for the lunch period, were requisitioned.

Duration.

The course opens in the first week of July and extends throughout five weeks. No classes are held on Saturday. There are 25 working days in the course. Field trips are conducted on the regular days of the course.

Credit.

Originally the course was a cultural one for which no professional credit was planned. In 1935 the Department of Education listed it among the credit courses for permanent professional certificates. No examinations are held in connection with the course. Credit is granted a teacher who attends regularly and completes assignments throughout the course and organizes approved health education in the class-room during a subsequent year of active teaching. The approval is given by an Inspector of Schools who may consult with members of the staff of the Summer School. Anyone holding a teacher's certificate is eligible to attend. Students from outside the Province are admitted upon presentation of acceptable credentials. A fee of $10.00 is charged all students.

Materials:

Every effort has been made to bring materials and methods used in health education in line with modern education. The materials of health teaching have been developed from the principles laid down in the Hadow Report on the Primary School.

The materials used in health teaching have changed from year to year. There has always been an open mind on the part of those responsible for the course with respect to the use of materials for class-room use. In the early years, these included posters, scrap-books, helps and devices of various sorts. All were tried out in the Summer Course and in subsequent class-room use by the teachers. The teachers found that the value of much of this material was over-estimated and, in some cases, detrimental to sound health education. It has been necessary to dissipate certain ideas that prevail as to the value of various types of materials. Such helps as posters and other ready-made materials issued by commercial, voluntary and other organizations are no longer regarded as teaching aids. They have been discarded in the Summer Course since 1935. Many devices which are advocated in current literature for the promotion of desirable health behaviour have been critically examined and, after testing in the every-day life of the child, have been dropped.

Health is taught through units, enterprises, activities, life experiences, and simple experiments in the natural sciences. During the last three years, posters, scrap-books and similar materials have given place to aquaria, microscopes, magnifying glasses, terraria, and the direct study of ant and bee communities. The use of sand tables, work benches and other constructive materials has taken precedence over cut-outs from magazines and other ready-made illustrative materials. Posters made by children to re-enforce instruction and to help the child organize his health knowledge have been found effective. Health books which record an accurate and scientific progress in the child's health behaviour and health knowledge with accounts of real experiences and experiments are now used instead of health scrap-books.

During the Course, exhibits are held of units, enterprises, experiments and health books which have grown out of health education activities in class-rooms of the Province. These are contributed by teachers who have attended the course in former years. They represent types of materials that have influenced the health behaviour and attitudes of the children and have contributed to health knowledge.

In the matter of texts and reference books the publishers have been most helpful, advising of new publications and in many other ways assisting in the building up of a library service on school health. Source materials from departments of government, voluntary agencies and commercial firms have been given consideration, special stress being placed upon the responsibility of the teacher for checking the scientific accuracy of the content and the pedagogical and artistic values of the presentation. Many health readers and reference books offend sound educational principles. Books in which health is taught through fairy stories, parodies, health plays, health songs, etc., have been rejected on the adverse reports of competent teachers.

Field trips have been organized during each year. The students are expected to take part in these. Before a field trip is undertaken preparation is made by a member of the staff so that the field trips become an integral part of the Course. The selection of the field trips has grown out of the lectures and the need to supplement formal instruction with actual contact. A list of the field trips has already been given. During the five years, changes have taken place in these as well as in other aspects of the curriculum. The total cost of field trips is borne by the student and does not exceed three dollars. This includes a day's trip to Buffalo and a visit to the Museum of Science.

Physical Activities:

During the years 1933 and 1934 physical activities were discussed in didactic lectures and through a series of brief, incidental and spontaneous demonstrations given by the students. In order to avoid a suggestion of conflict with established courses in physical training, the approach to the subject as part of any programme of health was at that time definitely limited, as stated above. A second reason for limiting the time devoted to this subject was the fact that all teachers had received extensive physical training during their high school and normal school courses.

The formal lectures on the curriculum of the summer course have sought to stress the following basic principles with respect to physical education: first, that it should be based upon the needs, limitations and capabilities of the individual child; second, that it should be progressive; third, that it should include something for all children, and should emphasize participation by every child; fourth, that it should be recreative and give pleasure to the child; fifth, that it should have a carry-over value after school hours and after the child has completed his schooling; sixth, that it be applicable in all schools and in all class-rooms; seventh, that it be the responsibility of the class-room teacher; eighth, that the mental, emotional and social values be considered of equal importance with the physical benefits arising from these recreative activities, and these should be understood by the teacher.

Emphasis has been placed on the fact that physical activities should grow out of those natural interests of the child manifested in running, jumping, throwing, striking and climbing, and should give the child a large measure of self-control and adaptability. The principles which have determined the content and organization of the physical activities in the Summer Course have grown out of the experiences of intelligent and critical teachers in the schools. And in this respect, the experience of the teachers of this Province who have given serious thought to the matter of physical activities in the schools has approximated that of teachers in the schools of Great Britain and the United States.

In 1933 the Board of Education of Great Britain issued a Handbook of Suggestions on Health Education. In this Handbook, as well as in the Hadow Report on the Primary School, the principles governing physical activities were found to be identical with those that had been accepted by the staff of the Summer Course as the basis for a programme of physical activities. It is significant that these principles were reaffirmed by the special Committee on Physical Education of the British Medical Association in its report of April, 1936. This report was the basis of the "Physical Training and Recreation Act" of July, 1937.

Teachers who had attended the course in the first years requested practical instruction in the types of activities suggested in the lectures. During the visit of the members of the staff of the Summer Course to the class-rooms, the need for such instruction was revealed. In 1935 a part-time assistant was appointed to the staff and made responsible for instruction and demonstration in physical activities. An attempt was made to show progression suitable for pupils from grades I to VIII. Singing games, circle games, dances, relays and other activities were used. In that year four periods were allotted for instruction and demonstrations. In 1936 eight periods were assigned to the subject. In 1937 ten periods were devoted to recreative physical activities. It was now possible to organize a progressive programme extending throughout the eight grades of the elementary school. In this same year a second part-time assistant was

added to the staff. He was designated instructor in athletics and competitive games, and was also assigned ten periods. His work included instruction and demonstration in athletics and competitive games suitable for children in grades V, VI, VII, and VIII.

Mental Health:

In the earlier years of the Course provision was made for three (3) lectures on Mental Health. These were designed to help the teacher meet personal and class problems. In response to requests from the students, the time devoted to this subject was increased and since 1936 eight (8) lectures are given. In approaching the subject of mental health, care has been taken that there be no emotional excitement in dealing with its content. Positive aspects of mental health are stressed. The negative aspects have been treated in a simple and scientific manner. Mental health is integrated into the everyday activities of the class-room as a contribution to the four-fold health of the child—physical mental, emotional and social.

Demonstration School:

During the first three years of the course the students were given an opportunity to observe lessons on health in junior, intermediate and senior grades. The children were secured from various sources. The teachers had no opportunity of knowing the health status and the extent of the health knowledge of the children. This plan proved to be quite unsatisfactory, since the health teaching was not related to the needs of the children and lacked purpose and continuity. In 1936 lessons were taught by the students in attendance. In some instances the lessons were given to children, but in the greater number, groups of teachers were used. This plan was also found to be unsatisfactory.

In 1937 a demonstration school was organized and continued throughout four weeks of the course. Children were enrolled in the four junior grades. The demonstration was in charge of a qualified teacher who had attended the summer course. The children attended five days a week, from 9.30 a.m. to 2.30 p.m. All phases of school work were carried on. Health was exemplified in every aspect of the class-room, including healthful school living, recreative physical activities, rest and relaxation and noon-day lunch. There were no formal or direct lessons on health. The students in attendance at the course had no opportunity of observing all activities of this class. They reported that it was of great value in helping them to understand how to proceed in organizing health in their own class-rooms.

The demonstration class was critically studied by members of the staff. Following the close of the session two members visited the Demonstration School of Teachers' College, Columbia University. Through the courtesy of the Provost of Teachers' College, the Principal of Horace Mann School, and the Principals of the Elementary and Secondary Demonstration Schools, arrangements were made for visits to the classes, lectures, and conferences. Opportunity was given to discuss with those in charge the organization of a demonstration school as part of a summer course for teachers.

It is proposed to enlarge the demonstration work in 1938 and to include all grades from I to VIII. Besides the integration of health in class-room organization, it is hoped to present direct health teaching in grades V, VI, VII and VIII.

Library:

The library is one of the important features of the Course. The teachers are not required to purchase any specific texts, but are encouraged to become familiar with the broad field of recent literature relating to health in education.

The Joint Committee has assembled a library of over 3,000 publications relative to health education. There has been a careful selection of all books and publications, and an effort is made to have only the most recent and the most reliable material available for reference. This library is transferred to the summer course for the five weeks of its duration.

The Canadian publishers have shown the most sympathetic co-operation in advising the members of the Joint Committee, who are also members of the staff of the Summer Course, of new publications and making these available for examination and review. The books included in the library are the property of the Department of Health and the Department of Education jointly, but they have been assembled as a library for the Joint Committee and the Summer Course. The books are used also for loan service during the school year to teachers who have attended the summer course. The library is supplied with the leading educational and health magazines published in Canada, England and the United States.

A full-time librarian is in charge of the library during the Course to direct and assist the teachers in their reference work.

Health of the Teacher in Attendance:

Medical services have been operated in various ways. In 1933, as a demonstration, a complete physical examination was offered free of charge. This included X-ray where indicated. The medical personnel was drawn from the staff of the Department of Health, the X-ray service being arranged by the Division of Tuberculosis Prevention. Acceptance of this examination was optional. A gratifying feature was that all teachers in attendance received the examination. The findings were carefully studied by officials of the Department of Health. The studies indicated that a complete physical examination should be an essential part of any summer course for teachers-in-service.

It was not possible to give a free medical examination in subsequent years. For the second and third years of the Course service was limited to supplying a list of private physicians who might be consulted by the students.

In 1936 arrangements were made with several private physicians whereby a student might have a complete physical examination in the doctor's private office for a nominal fee of $4.00. Appointments for these examinations were made through the nursing service of the course. Sixty students received the examination. The Division of Tuberculosis Prevention of the Department of Health gave to those students requesting it an I. C. test and X-ray where indicated.

This extension of medical service to the students in attendance at the course followed the policy of the Department of Education inaugurated in 1935, which made obligatory a medical examination of those seeking admission to teacher-training institutions in Ontario. These examinations were conducted by physicians selected by the Department of Health from panels submitted by the local medical associations of the centres in which the training schools were situated. It is interesting to note that the compulsory medical examination of all applicants to Provincial teacher-training schools followed a demonstration in the Ottawa Normal School in 1935 under the direction of Mr. G. R. Smith

and sponsored by the Joint Committee. This demonstration provided an examination of all Normal School students and included I. C. and X-ray where indicated. The examinations were made by members of the staff of the Department of Health.

The plan used in the summer of 1937 was a modification of that followed in 1936. The examination was voluntary, a nominal fee of $4.00 was charged. The examination by the private physician was made in the examining rooms provided in the Health Services Section of the Summer Course. Medical and nursing services were in operation throughout the five weeks of the Course. The general set-up of these services and the manner in which they were carried out closely resembled health services where these have been established in elementary schools.

On the opening day of the course the Principal advised all students to consult with the nurse regarding their personal health problems. He announced that provision had been made for complete physical examination, arrangements for which should be made through the nursing service of the Course. In conference with the students the nurse urged the advisability of a periodic medical examination. Sixty-seven students received a complete physical examination under the plan offered. Three additional students had an examination by their own physicians. Of the remaining teachers one hundred and four had received medical examination within the year. All students were offered without charge the I. C. test. One hundred and forty-one responded and of these fifty-six were X-rayed. For these services there was no charge.

The reports of the medical examinations are strictly confidential. They are available for study by Dr. Phair and under his personal direction.

Dental Examination:

The value of a complete dental examination was stressed. No provision was made, however, for such examination.

Nursing Services:

The nurse is a full-time assistant on the staff of the Course and is available at all times in cases of emergency and for consultation regarding personal health problems. As has been pointed out, arrangements for medical service are made through her. In group and individual conferences she outlines the procedures of the medical examination prior to the student's visit to the physician. She stresses the educational value of the medical examination. This enhances the benefit of the service to the personal health of the teacher. In addition, the nurse utilizes the opportunity of demonstrating to the teacher the procedure which he should follow in school, whereby any examination by the professional health services may become a learning experience in health to the pupils. She gives each student an opportunity to discuss the findings of the physician immediately following the examination. When so requested by the student, she arranges that a copy of the findings be forwarded to the student's physician.

During the first week of the Course each student is required to complete health appraisal forms covering personal health practices and health status. On the form relating to health status the teacher enters the date of his last medical examination. All information on these forms is confidential, but is available to the nurse and examining physician.

In 1937 an attempt was made to arrange an interview by the nurse with each student who did not apply for the medical examination. The proce-

dure followed in arranging these conferences was to give preference to those who had requested a consultation and afterwards to those who reported on their appraisal forms that they had not seen a physician within the year. Owing to the limited nursing staff it was impossible to confer with all students.

Since 1933, the nursing service has arranged demonstrations of the various types of health appraisal and health inspection which the teacher may be expected to undertake in the class-room. These include the daily health appraisal, weighing, measuring, and the testing of vision and hearing.

The nursing service is given the responsibility of leading group discussion of school health problems arising out of specific situations in the school. This is supplemented by conferences with individual teachers when considered necessary. The subjects for group discussion under the nurse's leadership include specific problems dealing with the health of the individual child, the health of the teacher and the relationship of the teacher to the school health services.

Service to Teachers:

Teachers who have attended the course are, upon request, given certain service by members of the teaching staff of the Summer Course who are attached to the Department of Health. This service includes: source lists of publications of various departments of government, voluntary and commercial agencies; advice in respect of the planning of units and enterprises related to health; a loan service of books and other publications for reference; visual aids and other materials, the value of which has been tested. Care is exercised in the case of the last-named and teachers are urged to use life experiences from their own communities as material in health education.

Follow-Up Activities:

In order that the Summer Course may keep in touch with subsequent class-room teaching, members of the staff visit the schools during the year. They have been able to evaluate to a certain extent the effectiveness of the Course in helping the teachers. These visits are in no way inspection visits. They afford opportunity for a discussion of problems with the teacher. As far as possible the work has been maintained on the basis of an experiment, and the teachers consider their class-room work as contributing to the experiment. Officials of the Department of Education regard these follow-up visits favourably and have offered every facility to make them worthwhile.

The teachers who attend the Course are asked to regard it as an experiment and to report on the value of the Course in organizing health in the class-room. The response to this has been very gratifying. Hundreds of letters have been received giving constructive criticism of the curriculum, content, method and other features of the Summer Course. These criticisms have played an important part in effecting changes in the Course from year to year.

Many requests come from Teachers' Institutes, Home and School Clubs, Women's Institutes and other organizations for speakers on health education. The names of teachers who have taken the Summer Course are submitted in reply to these enquiries. As a conservative estimate, more than 100 meetings were addressed by students of the Course during the past year.

Another type of request is that received from newspapers and periodicals for articles on school health. These requests are referred to teachers who have taken the Course. During the year fifteen articles on health education written by teachers who have attended the Summer Course have appeared in Canadian publications.