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FIRST ANNUAL REPORT

OF THE

DEPARTMENT OF NATIONAL
HEALTH AND WELFARE

FOR THE

FISCAL YEAR ENDED
MARCH 31, 1945



OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

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DEPARTMENT OF NATIONAL HEALTH
AND WELFARE

Minister

Honourable BROOKE CLAXTON, K.C., P.C., M.P., B.C.L., B.O.M.

Deputy Minister of National Health and Welfare (Health)
R. B. CHRISTIAN, C.B.E., M.D.

Deputy Minister of National Health and Welfare (Welfare)
G. F. DAVIDSON, B.A., M.A., Ph.D.

HEALTH BRANCH

To His Excellency Major General, the Right Honourable the Earl of Athlone,
K.G., P.C., G.C.B., G.M.M.G., G.C.V.O., D.S.O., A.D.C., Governor General
and Commander-in-Chief of the Dominion of Canada.

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual
Report of the Department of National Health and Welfare, for the fiscal year
ended March 31, 1945.

Respectfully submitted,

BROOKE CLAXTON,
Minister of National Health and Welfare.

April 1, 1945.

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<i>Chief, Laboratory of Hygiene</i> G. D. W. CAMERON, M.D., D.P.H.	<i>Chief, Medical Investigation Division</i> H. T. DOUGLAS, B.A., M.D., C.M.
<i>Chief, Proprietary or Patent Medicine Division</i> L. P. TEEVENS.	<i>Chief, Nutrition Services</i> L. B. PETT, B.S.A., M.A., Ph.D., M.D., F.C.I.C.
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<i>Chief Treasury Officer</i> W. T. WILSON.	<i>Principal Translator</i> G. A. SAUVE.

DIRECTORY OF DEPARTMENTAL ESTABLISHMENTS

ADMINISTRATIVE OFFICES

Ottawa — Birks Building

HEALTH BRANCH

FOOD AND DRUG LABORATORIES

Ottawa—35 John Street
Halifax—Dominion Public Building (P.O. Box 605)
Montreal—379 Common Street
Toronto—59 Victoria Street
Winnipeg—Corner Magnus and Main Streets
Vancouver—Federal Building.

PUBLIC HEALTH ENGINEERING—DISTRICT OFFICES

Halifax—736 Dominion Public Building
Saint John—119 Custom Building
Montreal—379 Common Street
St. Catharines—15 Bank of Nova Scotia Building
Port Arthur—326 Ray Boulevard
Winnipeg—Corner Magnus and Main Streets
Edmonton—302 Williamson Building
Vancouver—321 Federal Building.

QUARANTINE STATIONS

Halifax—Rockhead Hospital
West Saint John—Lancaster Hospital
Quebec West—Immigration Hospital
Victoria—William Head.

IMMIGRATION MEDICAL SERVICE OFFICES

In Canada—

Halifax—Immigration Building, Pier 21
North Sydney—Immigration Building
West Saint John—Lancaster Hospital
Quebec West—Immigration Hospital
Montreal—Immigration Building, 1162 St. Antoine Street
Vancouver—Immigration Building
Victoria—Immigration Building.

Overseas—

British Isles—London, England—Sackville House, 40 Piccadilly.

LABORATORIES OF HYGIENE

Ottawa—35 John Street
Kamloops, B.C.

INDUSTRIAL HYGIENE LABORATORIES

Ottawa—35 John Street
Vancouver—411 Dunsmuir Street.

WELFARE BRANCH

FAMILY ALLOWANCES REGIONAL OFFICES

Charlottetown—59 Queen Street
Halifax—Brenton Building
Fredericton—Hiram Lodge Building
Quebec—300 Dorchester Street
Toronto—21 Wellington Street East
Winnipeg—Travellers Building
Regina—Saskatchewan Motors Building, Broad Street
Edmonton—10209, 100th Avenue
Victoria—Weiler Building.

REPORT OF THE
DEPARTMENT OF NATIONAL HEALTH
AND WELFARE

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Honourable BRUCE CLAYTON, K.C., P.C., M.P., B.C.L., D.C.M.,
Minister of National Health and Welfare.

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DEPARTMENT OF NATIONAL HEALTH AND WELFARE

REPORT OF THE DEPARTMENT OF NATIONAL HEALTH AND WELFARE

Honourable BROOKE CLAXTON, K.C., P.C., M.P., B.C.L., D.C.M.,
Minister of National Health and Welfare,
Ottawa.

Sir—We have the honour to present the first Annual Report of the Department of National Health and Welfare for the fiscal year ended March 31, 1945.

INTRODUCTION

The Department of National Health and Welfare was established under the authority of The Department of National Health and Welfare Act (Chapter 22, 8 George VI) which was assented to on July 24, 1944, and came into force by proclamation dated October 13, 1944, published on October 18 in an Extra of the *Canada Gazette*.

On October 13, 1944, an Order in Council was passed appointing the Honourable Brooke Claxton, K.C., P.C., M.P., B.C.L., D.C.M., as Minister of National Health and Welfare. This was followed by the appointment by Order in Council on November 3 of G. B. Chisholm, C.B.E., M.C., E.D., M.D. as Deputy Minister of National Health and Welfare (Health) and of G. F. Davidson, B.A., M.A., Ph.D., as Deputy Minister of Health and Welfare (Welfare).

Steps were immediately taken toward the organization of the Department under three Branches:—

- (1) The Health Branch—which had been in existence for many years as a component of the former Department of Pensions and National Health, and which included the following Divisions:—

Food and Drugs Division
Narcotic Division
Proprietary or Patent Medicine Division
Public Health Engineering Division,
Quarantine, Immigration Medical Service, and Treatment of Sick Mariners,
Laboratory of Hygiene Division,
Child and Maternal Hygiene Division,
Industrial Hygiene Division,
Medical Investigation Division,
Venereal Disease Control Division,
Nutrition Division,
Physical Fitness Division.

- (2) The Welfare Branch—to be responsible for, amongst other things, the administration of The Family Allowances Act which had been assented to on August 15, 1944.
- (3) The Administration Branch—in which would be centered the administrative activities of the Department.

This report, therefore, covers the work of the Health Branch from April 1, 1944 to October 13, 1944 (while functioning as a Branch of the former Department of Pensions and National Health) and of the entire Department from October 13, 1944 to the end of the fiscal year.

HEALTH BRANCH

FOOD AND DRUGS DIVISION

The samples examined at the various laboratories of the Food and Drugs Division during the fiscal year are summarized as follows:—

Source of Samples	Laboratories						Total
	Halifax	Montreal	Ottawa	Toronto	Winnipeg	Vancouver	
(a) Inspection of Food and Drugs—							
(1) Domestic.....	1,482	1,708	1,688	499	1,563	987	7,927
(2) Imports.....	871	775	88	735	1,274	1,652	5,395
(b) Department of Agriculture.....	10	9	147	1,939	136	295	2,536
(c) Royal Canadian Mounted Police.....	147	45		258	26	233	709
(d) Other Departments of Government.....	8	55	22			19	104
(e) Intradepartmental.....			39,619				39,619
(f) Miscellaneous.....		11	594		25	189	819
(g) War Work.....	524	44	5,829	53	29	324	6,803
Total.....	3,042	2,647	47,987	3,484	3,053	3,699	63,912

In addition 27,296 samples were inspected at the Customs and passed without laboratory examination by our inspectors at the following points:—Halifax, 2,527, Montreal 14,642, Ottawa 215, Toronto 1,169, Winnipeg 7,017, Vancouver 1,726.

The greatly increased total number of samples examined, 63,912 as compared with 18,853 last year, is almost entirely due to special intradepartmental and wartime work carried out by the Ottawa laboratories which is referred to more fully under the Drug section of this report.

FOODS

The general trend has shown an increase in domestic and import samples collected by our inspectors this year. Activities of a wartime character, though strongly maintained in the East, have fallen off somewhat in the West. 6,247 domestic and 2,831 imported food samples were examined in the laboratories as compared with 5,380 and 2,580 respectively in the previous year. Of these 24 per cent domestic and 10 per cent imported samples were adulterated or misbranded. While the general market is not neglected, particular attention is paid, in the collection of these samples, both to new types of foods and to those sources which past experience has proved may not meet the requirements of the Food and Drugs Act.

The judgment of our inspectors and the necessity of attracting and retaining dependable analysts trained to meet modern advances in food chemistry, form the basis on which continued and efficient Food and Drugs legislation will be maintained.

Prosecutions—Proceedings were instituted in 144 cases, including 14 referring to drugs. 108 cases were disposed of by voluntary payment of fine as provided by the Food and Drugs Act. Court convictions accounted for 35 cases, while one case was dismissed. Meats accounted for 77 cases, the adulteration through the use of sulphite, a forbidden preservative in meat products, and the addition of excess water and cereal in sausage and hamburger predominating. Soft drinks were involved in 14 cases, the illegal use of saccharine in foods for sale to the general public being usually the primary cause.

In view of the popular present-day interest in the value of vitamins, proceedings instituted in regard to 15 samples of Vitamin B Breads (Canada approved) the vitamin content of which failed to meet the standard of the Regulations, are noteworthy.

Other proceedings instituted for varied contraventions of the Act involved such items as acetic acid, canned fruits and vegetables, chocolate flavoured dairy drink, coffee, cream, false advertising, noodles and sugar substitutes.

While the number of prosecutions has declined during the past two years, this has never been considered the index of a successful year. Interviews with vendors, warnings and seizures, generally with the release of the consignment after reconditioning or relabelling, are usually the most effective means of accomplishing the objects of the Food and Drugs Act.

While many different forms of control have become familiar to the Canadian public during the war years the Food and Drugs Act has been an unobtrusive form of control since 1875. The difficulties of food dealers in meeting the requirements of the Act under wartime conditions have been recognized and allowed for by various Orders in Council passed under the War Measures Act. On the other hand wartime conditions have never been considered to justify contraventions of the Food and Drugs Act in respect especially to improper labelling and false or misleading advertising. Where necessary, therefore, the usual court proceedings have been instituted. In one particular case, an adverse decision was successfully appealed in a higher court, a judgment of fundamental importance in that the policy of the Department in like instances was upheld.

Imports.—Some large consignments of mouldy or infested nuts seeking entry had to be refused or diverted to uses other than food. In certain cases consignments were permitted entry after reconditioning and fumigation. An improvement in conditions over the previous year was noted.

A shipment of dried bitter orange peel, valued at \$5,000, which had already been refused entry to the United States on account of damage from sea water and mould was the subject of much controversy, but finally the goods were seized and destroyed by Ministerial order because of serious infestation with live insects and the present of filth and mould.

War Work.—Food and related samples numbering 2,828 were examined, as compared with 1,588 the previous year. Samples from the Department of National Defence predominated with 1,755 bread samples from all parts of the Dominion being examined at Ottawa; of these 255 failed to meet the specified vitamin requirements. 461 samples from Halifax and 244 from Vancouver of army rations were analyzed. The balance of this work followed the pattern of the previous year and included samples submitted by the Division of Public Health Engineering, Wartime Prices and Trade Board, Royal Canadian Mounted Police and various other Departments.

General.—The Pacific Coast shell fish survey continued throughout the year and 189 samples of fresh clams were examined for toxicity at the Vancouver laboratory. Problems of maintaining and retaining trained scientific personnel continue to cause concern at various branches.

DRUGS

Although the total number of samples dealt with was substantially greater, work on drugs during the past year followed rather closely the pattern of former war years. The large increase was due mainly to a special assignment of a wartime character, involving the identification and assay of certain narcotics which had come under suspicion, and, to a lesser extent, to an increase in the number of medical products examined for the Armed Services.

The following table indicates a drop in the number of import shipments, both inspected at customs and examined in the laboratories. This is unquestionably a reflection of war conditions, arising from shortage of supplies and of shipping. It may be mentioned that the examination of imports is carried out upon the authorization of the Minister. Many consignments require no examination beyond inspection at Customs and it is only when an inspector discovers or suspects some irregularity that a sample is submitted to a Dominion analyst, who alone can issue a certificate of refusal.

The decrease in imports has provided an opportunity, even with the limited staff available, to devote more time to the domestic market, notably in Halifax and in Vancouver. An increase of about 25% in the number of domestic samples may be noted.

EXAMINATION AND INSPECTION OF DRUGS

Laboratory at	Laboratory Examination				Passed by Inspectors at Customs	Grand Total	Adulterated	Misbranded
	Domestic	Imports	Miscellaneous	Total				
Halifax.....	446	555	146	1,147	390	1,537	141	160
Montreal.....	238	358	103	699	10,427	11,126	78	271
Ottawa.....	544	77	43,873	44,494	215	44,709	118	284
Toronto.....	47	524	251	822	959	1,781	7	223
Winnipeg.....	197	452	5	654	6,082	6,736	19	412
Vancouver.....	206	602	116	924	1,533	2,457	99	313
Total, 1944-45...	1,678	2,568	44,494	48,740	19,606	68,346	462	1,663
Total, 1943-44...	1,319	2,808	2,157	6,284	19,988	26,272	325	1,495

	Satisfactory %	Adulterated %	Misbranded %
Total Samples*	92.6(93.1)	1.6(1.2)	5.8(5.7)
Samples examined in Laboratories*	76.9(70.7)	5.0(5.2)	18.1(24.1)

* Excluding 39,536 narcotics. (1943-44 figures in brackets)

Legislation

In the legislative field, the main feature of the year's accomplishments has been the appearance, under Order in Council P.C. 2515 of April 11th, 1944, of the Canadian Supplement, 1944, to The British Pharmacopoeia, which constitutes Division III of the Regulations under the Food and Drugs Act. It is a book of 94 pages, consisting of 56 monographs and several appendices. Readers may recall that the various wartime addenda to The British Pharmacopoeia were not recognized as binding in Canada because of the facts that substitutions considered expedient in the United Kingdom were not necessary in this country and that a number of items were included which seemed to have little place in Canadian medicine. The purpose of the supplement, then, was to embody within one cover such portions of these addenda as were considered desirable in Canada together with other items felt necessary for Canadian practice. The book was generally well received by the technical press and others concerned.

Other measures put into operation included regulations providing limits of variability in the dosages of such items as tablets, capsules and ampoules. In explanation of this the following example may be given. Any tablet reputed to contain 5 grains of a simple medication, such as potassium iodide or phenacetin, must not contain less than 4.7 grains, or more than 5.3 grains; and in the case of compound medication, such as phenacetin and caffeine, not more than 10 per cent in deficiency or in excess. Methedrine, the fatigue-resisting drug of the Nazis, has been placed on the list of drugs to be sold only on prescription.

The Canadian Committee on Pharmacopoeial Standards

Most of these steps were taken upon the recommendation of the Canadian Committee on Pharmacopoeial Standards, which held two meetings during the year. The first, preceded by a conference with interested parties, considered measures for the effective control of the manufacture and distribution of penicillin which was followed by an appropriate Order in Council on the subject, whilst the second dealt with general matters within the terms of reference. A third, to be convened shortly, will study the relationship of the forthcoming edition of the British Pharmacopoeia to the needs of the Dominion of Canada.

Medical Supplies for the Armed Forces

The control of drugs and pharmaceuticals for the armed services is vested in the Inspection Board of the United Kingdom and Canada and is conducted by the staff of the Board in the Food and Drug Laboratories under the supervision of the Department of National Health and Welfare. Consignments are sampled, tested and approved before shipment. The examination in the laboratories is stringent and exacting and it is a tribute to its efficiency that the proportion of supplies not recommended for acceptance by the Government has fallen from 7.6 per cent in April, 1944, to 1.6 per cent in February and again 1.6 in March, 1945. The total number of samples examined was 3,967, 2,328 calling for chemical examination only, 1,222 for biological examination only and 417 for both. The greatest single item examined was penicillin, followed closely by sulphonamides. This control, whilst protecting the armed forces from ineffective products and the public purse of Canada from dishonesty, will have a beneficial effect in the years to come, for it has served to make manufacturers more alive to the necessity for proper control within their establishments and to discourage the fly-by-night trader from the drug business.

Imports

Imports which are sampled for laboratory examination are mainly of a proprietary nature. The outstanding exception is ether, which in view of its liability to develop injurious compounds in storage, is always sampled. No fault was found in any of the 358 consignments examined during the year.

In imported medicines, misbranding is a fairly common fault. This is to be expected considering that many exporters from other countries are unfamiliar with Canadian rules and regulations. Unfortunately, as business becomes more normal after the war, misbranding is likely to become more prevalent, particularly in the case of imports from Europe. During the war years, legislation in the United Kingdom has been tightened up substantially along the lines of that in force in Canada for many years. There must be full disclosure of ingredients, no fraudulent claims, and no recommendation of medicines as useful in the treatment of specified serious diseases.

Vitamin regulations have occasioned much embarrassment to would-be shippers from outside of Canada. Alpha-tocopherol, calcium pantothenate and pyridoxine may not legally be mentioned as vitamins in Canada, and time after time the report has to read "Labelling fails to comply with Vitamin Regulations—Refused". In Canada, only certain specified claims are allowed and the vitamin content must be stated in international units or milligrams as the case may be. These rules do not coincide with United States requirements and there is a continuing confusion in the minds of those who deal in vitamins.

The Domestic Field

This misrepresentation of vitamins is not confined to imports; it is found all too frequently in the domestic market. Penalties have been paid for infractions and at the close of the year an important test case arising out of advertising was pending. The labelling of multiple vitamin preparations and cod liver oil still calls for much watchfulness and labour in seeing it corrected.

Our inspectors are regarded as representatives of the Canadian public. While they must keep an eagle eye on everything within their jurisdiction, they are naturally most concerned with items which are liable to deteriorate in storage and which are frequently bought for household use. There is a wide circle, but there is also a narrow circle; and in that narrow circle may be found such items as tincture of iodine, sweet nitre, camphorated oil, solution of hydrogen peroxide,—things that are in almost every medicine cupboard. A great many samples of tincture of iodine were too weak, mostly 5 to 10 per cent deficient in iodine, a few above that figure. Two people paid fines in the Province of Quebec, and three cases are pending. Sweet spirit of nitre must contain at least 1.25 per cent of ethyl nitrite, but the average content of the 170 samples examined approximated 1.13 per cent and of these 59 were considered adulterated. In the case of camphorated oil, which should contain 20 per cent of camphor, 140 samples gave an average of 19.5 per cent and 22 were adulterated. Space does not permit more than a few examples of such results, but it should be understood that these samples were procured mainly on suspicion and do not represent a cross section of the market, such as would be procured by buying a bottle from every drug store in a city or large town. Steps are immediately taken to have defective goods removed from sale until adjusted.

The co-operation shown by manufacturers and merchants alike is, on the whole, excellent and makes the work of the Division much easier.

NARCOTIC DIVISION

GENERAL

Although narcotics continued to arrive in Canada illicitly from Mexico and, insofar as Opium is concerned, from Iran and India, by far the largest supplies for addiction purposes in Canada were derived by illegal means from legitimate sources. There were 230 such diversions and 80 unsuccessful attempts during the year, which ranged from armed hold-ups, safe-blowing, burglary and theft, to the forging of physicians' prescriptions. Many of these were committed by expert criminals of whom a considerable proportion were not addicts, but who, with the present fantastic prices prevailing in underworld circles, found this a most remunerative form of crime. Although many convictions have been obtained and heavy sentences imposed, this still presents a major problem which it is anticipated will continue as long as an ounce of morphine, worth \$10. in a legitimate drug store transaction, can be retailed to addicts in adulterated form at \$20. per grain, or \$8,750. per ounce.

It is considered, however, that addiction in Canada has not increased, and certainly does not involve more than 4,000 persons, or less than half the number of estimated addicts a decade ago. Opium smoking is seldom encountered, and recourse to poppy head tea is a habit which has been adopted by the Occidental and occasionally the Oriental. Scarcity and high prices are also known to have caused addicts to carry on at least temporarily with some form of barbiturate or other drug outside the narcotic orbit.

Our difficulties in securing supplies of narcotics from abroad for legitimate use became greatly accentuated during 1944, although Canada's requirements have been reduced to an absolute minimum by the fact that she is one of the very few countries which, since the outbreak of war, has had everything narcotic, or with a narcotic content, upon a prescription basis. However, by the end of the year supplies had been received which equalled our actual consumption, although wholesalers' shelves still remained to a considerable extent depleted, and the manufacture of preparations had to be rigidly rationed. We have

received assurances of the receipt of narcotics equal to our lowered wartime consumption during 1945 but general amelioration of the supply situation is not yet in sight.

There were 165 convictions under the Opium and Narcotic Drug Act, an increase of 61 over the previous judicial year, 9 convictions under the War Measures Act Regulations, and 4 for conspiracy under the Criminal Code.

The International Bodies established under the Narcotic Conventions to control the production and international movement of narcotics, continued to function at Washington, and Canada continued to fill her obligations in that regard by furnishing annual estimates of narcotics required, and also quarterly reports on imports and exports.

As soon as the acute supply situation, which prevailed for most of the year, was partially relieved, it was possible to resume export to both Newfoundland and the West Indies upon the previous basis of equality with pre-war figures.

Manufacture of heroin and codeine preparations continued to be closely controlled and every endeavour was made to ensure the maintenance of the necessary priorities for (a) the Armed Forces and (b) the legitimate use of narcotics as such, before making provision for their utilization in the manufacture of preparations containing other medicinal ingredients.

The valuable and welcome co-operation of the Commissioner of Narcotics of the United States Treasury Department continued in the closest degree both in respect of administrative and criminal matters. This is a very essential ingredient in relation to the control of the illicit traffic which knows no international boundaries.

The work of the R.C.M. Police in general, and their Narcotic Squad in particular, continues to merit the highest praise. The scientific means of crime detection which have been so widely developed by the Force in recent years are entering more and more into the narcotic picture with the advent therein of the expert criminal. This has been an important factor in relation to many cases akin to breaking and entering, which, while not showing in the records of the narcotic convictions, are frequently prosecuted by our Narcotic Counsel in conjunction with the charges of possession of narcotics which were the initial objective of the accused.

ILLICIT TRAFFIC

There were 165 convictions under the Opium and Narcotic Drug Act; 140 of these were for illegal possession, although such possession was frequently in circumstances which were known to be related to both trafficking and thefts from legitimate sources. There were 3 convictions involving professional men, as compared with 4 in the preceding year. These concerned 2 physicians and 1 veterinary surgeon. In addition there were 9 convictions under the War Measures Act Regulations, one of which involved a druggist. There were also 4 convictions for conspiracy under the Criminal Code.

The statistics quoted above have of necessity to be for the judicial year ending September 30th, in order that the complete picture throughout the Dominion may be envisaged by including provincial and municipal convictions which are reported to the Bureau of Statistics, and of which the Narcotic Division may not in a few instances be aware. However, during the last six months of the fiscal year ending March 31, 1945, which are also covered in this report, there were 2 further convictions involving professional men. For an offence against the Narcotic Act one physician was sentenced to a term of imprisonment, while another was convicted of a Criminal Code offence. There were also 14 convictions for offences against the War Measures Act Regulations, none of which involved professional men.

An analysis of the 165 convictions under the Opium and Narcotic Drug Act shows that in 152 cases jail or penitentiary sentences were imposed, while in the remaining cases the penalty was a fine of not less than \$200. In the convictions under other legislation, sentences ranging from six months to seven years were imposed in 12 instances and a fine of \$200 in one instance.

Of the convictions under the Opium and Narcotic Drug Act 87 per cent were in relation to Federally initiated cases and 13 per cent as a result of the welcome assistance of Provincial and Municipal Police Forces, who also obtained convictions for numerous cases of breaking, entering, receiving and other Criminal Code offences in which narcotics were involved. We are again indebted particularly to the British Columbia Provincial Police and the Municipal Forces of Montreal, Toronto, Winnipeg and Vancouver for their continued co-operation.

Of the 152 cases involving jail or penitentiary sentences under the Opium and Narcotic Drug Act

104 were for periods up to 1 year
14 were for periods of from 1 to 2 years
28 were for periods of from 2 to 3 years
4 were for periods of from 3 to 4 years
1 was for a period of from 4 to 5 years
1 was for a period of from 6 to 7 years.

Of the total 165 convictions under such Act, 18 were in Nova Scotia, 3 in New Brunswick, 22 in Quebec, 51 in Ontario, 5 in Manitoba, 3 in Saskatchewan, 18 in Alberta and 45 in British Columbia.

The racial origins involved were as follows:

British and American	131
Chinese	28
Italian	2
Russian	2
Greek	2

The drugs involved in cases relative to possession, selling or distributing were

Opium	23
Opium Poppy heads	5
Poppy head tea	5
Morphine	77
Heroin	22
Cocaine	13
Codeine	1
Unidentified	3

Very little trouble was encountered in relation to marihuana, and there was only one instance, during the latter part of the fiscal year, in which this drug was involved in a prosecution. On the other hand there has been a considerable increase in the use of opium poppy heads and the tea infused therefrom. This situation from the administrative standpoint, is complicated by the fact that numerous people, usually immigrants from Central Europe where the growth of the opium poppy for culinary purposes, as also for the production of oil, is very common, continued such cultivation in Canada. In all such instances there was co-operation on the part of those concerned and an obvious absence of any illegal intent. These cases were disposed of by the destruction of the plant and acceptance of an undertaking not to repeat such cultivation.

Thefts of narcotics from legitimate sources continued to be all too prevalent and to cover a variety of angles. A large number of hospitals throughout Canada were inspected by our Narcotic Auditors both from the recording and safeguarding angles, while travelling through Canada on their work of auditing narcotic wholesalers. It is putting it mildly to state that such inspections were well worthwhile and have resulted in a very great improvement in existing

conditions. The total amount of narcotics stolen from legitimate sources during the fiscal year involved no less than 328 ounces, in addition to 1,326 ounces of other drugs—a loss which is particularly unfortunate in view of the difficulties attendant upon obtaining supplies from abroad. However, the actual number of thefts, 230, showed a decrease from 289 in the previous year, while the unsuccessful attempts increased from 70 to 80. Details are as follows:

	<i>Thefts</i>	<i>Attempted Thefts</i>
Wholesalers	9	6
Retail druggists	92	38
Physicians	93	32
Hospitals	30	4
Military hospitals, airports	6	—
	<hr/> 230	<hr/> 80

Ontario, British Columbia, Alberta and Manitoba, in that order, were the Provinces principally concerned, as had been precisely the case in the previous year.

Shipments of Chinese medicines from the Orient, although reduced in number, were analyzed for narcotic content, but none was found.

No trouble was experienced with race-track activities. Saliva tests were taken at various points under the supervision of the R.C.M. Police, but no case involving narcotic stimulation was encountered. War conditions rendered it impossible to effect the deportation of a considerable number of aliens with overseas destinations after serving sentences for breaches of the Opium and Narcotic Drug Act. They are temporarily remaining in Canada under bond with the Immigration Department. However, 4 Chinese and 2 United States citizens were deported, bringing to 1,317 the total number of aliens deported after serving terms for narcotic offences.

LEGAL TRADE IN NARCOTICS

During 1944 our difficulties increased in relation to obtaining sufficient supplies of narcotics for Canada's needs, both military and civil, even although our consumption has been upon a straight medical prescription basis since the outbreak of war. For several months our receipts were far below consumption, a situation with which wholesalers were unable to cope on account of the substantial depletion of their shelves in previous war years. However, towards the end of 1944 it was possible to arrange for considerable supplies from Great Britain, which, combined with overseas air transport, relieved the situation and resulted in a substantial reduction in the existing shortage. Similarly, we have received assurances which will cover our actual consumption needs during 1945, although nothing has as yet been achieved towards bringing Canadian stocks to anything like normal.

Immediately upon receipt of the supplies above referred to, exports to Newfoundland and the West Indies were resumed upon a basis of 100% of the pre-war figures instead of the 50% to which it had been necessary to reduce same during the worst of the shortage.

The manufacture of codeine and heroin preparations still had to be maintained under the system of rationing of supplies, having due regard to the priorities necessary for (a) the Armed Services, and (b) the use of straight narcotics.

Bearing in mind that Canada's annual pre-war consumption of Codeine was between 40,000 and 45,000 ozs., the reduction accruing from the medical prescription requirement, as shown by the following figures, is of interest, while the marked disparity between the amounts of paregoric consumed in pre-war years as compared with the quantities prescribed in medical discretion is very obvious.

CODEINE CONSUMPTION

Calendar Year	To Retail Druggists	To Physicians	To Hospitals	Manu- factured into Preparations	Dentists and Veterinary Surgeons	Total
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
1939.....	7,106	2,821	5,488	22,370	35	37,820
1940.....	4,838	1,899	3,884	14,891	3	25,515
1941.....	4,564	1,676	3,830	17,420	2	27,492
1942.....	4,453	1,522	3,544	20,379	2	29,900
1943.....	5,668	1,810	4,082	20,092	3	31,655
1944.....	5,619	1,723	4,073	19,874	0	31,289

PAREGORIC CONSUMPTION

Calendar Year	Canada	Montreal	Toronto	Winnipeg	Vancouver
	gals.	gals.	gals.	gals.	gals.
1932.....	8,727	3,099	2,477	228	472
1938.....	5,876	1,701	1,355	81	340
1939.....	5,056	1,340	1,075	72	388
1940.....	1,800	210	135	22	51
1941.....	1,389	192	106	19	44
1942.....	1,241	222	121	18	32
1943.....	1,575	275	157	25	45
1944.....	1,692	312	163	27	42

The transactions, books and stocks of licensed narcotic wholesalers, who number 122, were audited by our Chemist Auditors, who also inspected a large number of public and private hospitals, both from the narcotic control and safeguarding angles.

96 Import and 42 Export Licences were issued, while 7 Annual and 188 Quarterly Licences were issued for the manufacture of specified quantities of codeine preparations.

The narcotic registers and prescriptions of retail drug stores were checked by the R.C.M. Police on behalf of this Department. Sales reports were also regularly received from both wholesale and retail druggists.

Receipts from penalties imposed, seizures and the issuance of licences amounted to \$12,507, while our expenditure for legal services alone in connection with prosecutions amounted to \$23,475.

TABLE 1A—DETAILS OF CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT FOR THE JUDICIAL YEAR ENDED SEPTEMBER 30th, 1944

Province	Nature of Offence					Total
	Possession of Drugs	Selling Distributing or Offering	Possession of Opium Paraphernalia	Obtaining Drugs from More Than One Physician	Professional Cases Under Sections 6 and 9 of Act.	
Prince Edward Island.....						
Nova Scotia.....	9		9			18
New Brunswick.....	3					3
Quebec.....	18	1	3			22
Ontario.....	41	8			2	51
Manitoba.....	4				1	5
Saskatchewan.....	2			1		3
Alberta.....	18					18
British Columbia.....	45					45
Total.....	140	9	12	1	3	165

TABLE 1B—DETAILS OF CONVICTIONS UNDER THE OPIUM AND NARCOTIC DRUG ACT FOR THE JUDICIAL YEAR ENDED SEPTEMBER 30, 1944

Province	TOTAL CONVICTIONS		SENTENCE		RACIAL ORIGIN					
	Male	Female	Option of a Fine	Committed Without Option	Chinese	Italian	Russian	Greek	Total	
										British and American
Prince Edward Island.....	17	1	9	9	16					18
Nova Scotia.....	3			3	3					3
New Brunswick.....	18	4	3	19	5		1			22
Quebec.....	42	9		51	2	1		2		51
Ontario.....	5			5						5
Manitoba.....	2	1	1	2						3
Saskatchewan.....	15	3		18			1			18
Alberta.....	40	5		45	2	1				45
British Columbia.....										
Total.....	142	23	13	152	28	2	2	2	2	165

TABLE 1C—CONVICTIONS—YEARS ENDED SEPTEMBER 30, 1925—1944. NATURE OF OFFENCE

Year	Possession of Drugs	Selling Distributing or Offering	Importing Without a Licence	Transporting Drugs Without a Licence	Cultivating, Gathering or Producing OPIUM POPPIES	Smoking Opium	Frequenting Opium Den	Possession of Pipes, etc.	Section 13 Sending Drugs by Mail	Obtaining Drugs from More Than One Physician	Professional Cases Under Sections 5, 6 and 9 of the Act and Section 8 of Regulations	Not Defined	Total
1925	381	55				139	208					52	(a) 835
1926	302	33				149	180					79	(b) 743
1927	163	37				85	81					124	(c) 490
1928	183	52				69	28					29	430
1929	150	38	1			103	47			1	4		567
1930	166	32	2			47	155			5	5		458
1931	173	45	3			42	39				7		333
1932	138	45	4	2		71	51			3	1		340
1933	111	39	5			17	42			1	1		240
1934	101	29	4			8	44			10	4		226
1935	91	18	5	3		11	18			2	2		163
1936	113	16	2			9	14			1	2		168
1937	123	26					5			1	1		161
1938	127	21	1	2		1	3			1	2		162
1939	148	26		3		1	1			1	2		183
1940	137	28		3	4*		1			6	1		182
1941	139	9		2			2		1	4	8		165
1942	73	9		1						1	13		98
1943	87	7	1	1		3				1	4		104
1944	140	9								1	3		165

* These 4 convictions were the first obtained for this charge under the legislation which became effective August 1, 1938. There were other previous and subsequent convictions involving Poppy Heads or Poppy Head Brew obtained under charges of possession, selling and transporting as follows, which are included in the foregoing figures under such classifications.—

YEAR	POSSESSION	SELLING OR DISTRIBUTING	TRANSPORTING	TOTAL
1934.....	3			3
1935.....				
1936.....				
1937.....	2			2
1938.....	2			2
1939.....	10		1	11
1940.....	2	1		3
1941.....	2			2
1942.....	1			1
1943.....	1			1
1944.....	10			10
	23	1	1	25

(a) Includes: Sentence deferred, 9; (b) Includes: Sentence deferred, 6; (c) Includes: Sentence deferred, 4.

TABLE 1D—DETAILS OF SENTENCE—YEARS ENDED SEPTEMBER 30, 1925-1944

Years	Given Option of a fine	Jailed with no option
1925	546	280
1926	474	263
1927	327	159
1928	190	240
1929	375	192
1930	255	203
1931	110	223
1932	144	196
1933	82	158
1934	91	135
1935	44	119
1936	35	133
1937	11	150
1938	8	154
1939	5	178
1940	10	172
1941	11	154
1942	12	86
1943	6	98
1944	13	152

TABLE 2A—NUMBER OF IMPORT AND EXPORT LICENCES ISSUED DURING THE CALENDAR YEAR 1944

<i>Country Imported from—</i>	<i>No. of Licences Issued—</i>
Great Britain	23 (2 subsequently cancelled)
U.S.A.	73 (4 subsequently cancelled)
TOTAL.....	96 (6 subsequently cancelled)

<i>Country to which Exported—</i>	<i>No. of Licences Issued—</i>
Antigua, B.W.I.	1
Bahamas, B.W.I.	3
Bermuda	5
British Guiana	2
Jamaica, B.W.I.	2
Trinidad, B.W.I.	9 (1 subsequently cancelled)
Newfoundland	20
TOTAL.....	42 (1 subsequently cancelled)

TABLE 2B—NUMBER OF WHOLESALE AND RETAIL DRUGGISTS' LICENCES ISSUED DURING THE CALENDAR YEAR 1944 UNDER THE OPIUM AND NARCOTIC DRUG ACT

Wholesale	122
Retail	14

TABLE 2C—NUMBER OF SPECIAL LICENCES ISSUED UNDER WAR MEASURES ACT REGULATIONS TO WHOLESALE AND RETAIL DRUGGISTS PERMITTING THE MANUFACTURE OF CODEINE PREPARATIONS

Issued to wholesale firms:	188 quarterly licences (including 3 supplementary licences and 2 licences subsequently cancelled).
Issued to retail druggists:	7 annual licences.

TABLE 3—AMOUNT OF NARCOTIC DRUGS IMPORTED INTO CANADA DURING THE FISCAL YEARS ENDED MARCH 31, 1919 TO 1928, FROM APRIL 1, 1928 TO DECEMBER 31, 1928, FOR THE CALENDER YEARS 1929 TO 1944, INCLUSIVE

YEAR	Cocaine	Morphine	Crude Opium
	oss.	oss.	lbs.
1919.....	12,333	30,087	34,262
1920.....	6,968	28,198	13,626
1921.....	3,310	12,214	2,953
1922.....	2,952	8,774	1,700
1923.....	3,330	10,998	1,373
1924.....	1,561	7,092	845
1925.....	1,589	7,424	655
1926.....	2,633	8,651	810
1927.....	2,659	8,873	1,020
1928.....	2,967	6,926	970
1928 (April 1 to December 31).....	1,530	4,553	629
1929 (Calendar year).....	2,180	7,021	1,145
1930 (Calendar year).....	2,011	6,861	1,012
1931 (Calendar year) (Pure drug).....	1,947	5,353	999
1932 (Calendar year) (Pure drug).....	1,638	4,442	615
1933 (Calendar year) (Pure drug).....	2,260	5,316	685
1934 (Calendar year) (Pure drug).....	2,120	5,476	458
1935 (Calendar year) (Pure drug).....	1,132	4,883	730
1936 (Calendar year) (Pure drug).....	1,103	5,081	485
1937 (Calendar year) (Pure drug).....	2,364	5,295	720
1938 (Calendar year) (Pure drug).....	1,198	4,326	220
1939 (Calendar year) (Pure drug).....	2,192	6,807	450
1940 (Calendar year) (Pure drug).....	819	6,421	310
1941 (Calendar year) (Pure drug).....	1,671	4,997	350
1942 (Calendar year) (Pure drug).....	1,871	3,694	.....
1943 (Calendar year) (Pure drug).....	2,339	6,168	84
1944 (Calendar year) (Pure drug).....	1,233	7,828	66

NOTE.—Morphine includes diacetyl-morphine (heroin) and ethyl-morphine. Statistics now prepared by calendar years and, commencing with calendar year 1931, cocaine, morphine and heroin are shown in terms of pure drug (alkaloids) instead of salts and alkaloids combined, as was the case in former years, to conform to requirements of the International Conventions.

TABLE 3A—AMOUNT OF NARCOTIC DRUGS IMPORTED INTO CANADA DURING THE CALENDAR YEAR 1944

Country Imported From	OPIMUM			MORPHINE		HEROIN		COCAINE		Cannabis Sativa Seed	Eucaine	ETHYLMORPHINE		CODEINE		DLAUDIDE	DEMEROL
	Crude	Powder	Preps. (Tr. and Extract)	Alkaloids of Opium (non-Morph.)	Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)			Prep. (pure drug)	Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)		
Great Britain.....	lbs.	lbs.	lbs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	bus.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
U.S.A.....	66		26	75	5,104.79	468	1,227.94	1.47	2,131.11		25,149	10.01	1,211.43				
Totals.....	66		26	354.23	5,217.55	468	1,227.94	5.11	2,131.11		25,149	10.01	1,211.43				

TABLE 4—SUMMARY OF NARCOTIC DRUGS EXPORTED FROM CANADA DURING THE CALENDAR YEAR 1944

Country Exported To	Medicinal Opium (pdr.)	Opium Contained in Tr., Ext., Pills, etc.	Indian Hemp in Form of Prep.	MORPHINE		ETHYLMORPHINE		COCAINE		CODEINE	
				Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)	Prep. (pure drug)	Str. (pure drug)	Prep. (pure drug)
Antigua, B.W.I.....	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Bahamas, B.W.I.....		0.33									3.94
Bermuda.....		3.07		0.74	0.18					0.04	2.30
British Guiana.....		6.86									1.80
Jamaica.....		38.72	0.13	13.85	1.18						10.50
Newfoundland.....	4.00			0.41							81.82
Trinidad.....											6.81
Totals.....	4.00	48.98	0.13	15.00	1.36						107.17

NOTE: STRAIGHT indicates narcotic drug not combined with other substances. PREPARATION indicates narcotic drug combined with non-narcotic substances.

TABLE 5.—NUMBER OF ALIENS DEPORTED FROM CANADA HAVING BEEN CONVICTED OF OFFENCES UNDER THE OPIUM AND NARCOTIC DRUG ACT DURING THE 23 CALENDAR YEARS ENDED DECEMBER 31, 1944

NATIONALITY	1922 to 1931 Inclusive (ten years)	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	Total
British South African															
Chinese	708	53	81	2	60	23	16	16	22	26	14			4	1,082
Czecho-Slovakian	1			59		1									1
Danish	1														2
East Indian	1														1
English	4	1	2												7
French	6	1	1												7
Greek	2														2
Irish	1														1
Italian	7	2	5	3	2	1	1	1		2					21
Jamaican						1									3
Japanese	3							1		2	1				5
Lithuanian		1													1
Luxembourg Citizens						1									1
Norwegian															1
Philippino	1														1
Polish	2	1													3
Roumanian	2	1													3
Scotch	3														3
Swedish	3		1												4
Swiss	2				1										3
United States Citizens	130	7	1	5	6	1	1	2	3	2	1	1	1	2	163
Total	878	66	91	69	69	27	18	20	25	30	16	1	1	6	1,317

TABLE 6.—AMOUNT OF NARCOTIC DRUGS SEIZED OR RECEIVED FROM ILLICIT CHANNELS DURING THE CALENDAR YEAR 1944

<i>Opium:</i>			
Opium, smoking.....	6 lbs.	13 ozs.	302 grs.
Opium, powder.....		7 "	315 "
Opium, raw.....		2 "	62 "
Opium, seconds, (Yen Shee).....		10 "	331 "
One tin Smoking Opium.....		4 "	
Opium Water.....	4 lbs.	1 "	299 "
Tincture of Opium.....	5 "	10 "	119 "
Yen Shee Water.....		15 "	
*Decks of Smoking Opium.....	920		
Decks of Opium, seconds (Yen Shee).....	67		
Pills of Smoking Opium.....	63		
Tablets, Opium Powder.....	1,192		
<i>Morphine: (Salts and Alkaloids combined)</i>			
Morphine.....		2 "	25 "
Tablets of Morphine.....	6,332		
*Decks of Morphine.....	54		
Capsules of Morphine.....	84		
Syrettes of Morphine ($\frac{1}{2}$ grain Morphine each).....	7		
Tincture Chloroform and Morphine (218 grains Morphine contained in 262 ounces of Tincture Chloroform).....			218 "
<i>Cocaine: (Salts and Alkaloids combined)</i>			
Cocaine.....		2 "	13 "
Decks of Cocaine.....	2		
Tablets of Cocaine.....	814		
Cocaine solution, 2%.....		1 "	
<i>Heroin: (Diacetylmorphine) (Salts and Alkaloids combined)</i>			
Heroin.....			231 "
Tablets of Heroin.....	1,240		
Capsules of Heroin.....	76		
<i>Cannabis Sativa:</i>			
Tincture Cannabis Indica.....		6 "	
<i>Poppy Heads:</i>			
Poppy Heads, Dried.....	11 lbs.	5 "	
Poppy Head Brew.....	12 "	11 "	
<i>Codeine: (Salts and Alkaloids combined)</i>			
Codeine.....		2 "	128 "
Tablets of Codeine.....	1,863		
*Decks of Codeine.....	15		
Capsules of codeine.....	2		
Codeine preparations (Liquid).....	1 lb.	15 "	
Codeine preparations (Tablets).....	222		
<i>Alleged drugs: (Miscellaneous including Morphine, Heroin, Cocaine, and Codeine)</i>			
Drugs, alleged.....		9 "	139 "
*Decks of alleged drugs.....	10		
Capsules of alleged drugs.....	26		
Tablets of alleged drugs.....	372		
<i>Paraphernalia:</i>			
Opium Lamps.....	12		
Opium lamp globes.....	9		
Opium smoking pipes.....	18		
Opium pipe bowls.....	15		
Opium pipe stems.....	2		
Opium pipe scrapers.....	21		
Opium scales, Chinese (etc.).....	6		
Yen Hocks (Needles).....	22		
Toy Tins, jars, etc., empty.....	38		
Hypodermic Syringes.....	105		
Hypodermic cases (metal, etc.).....	7		
Hypodermic needles.....	171		
Bowls (glass and china).....	5		
Spoons (used for dissolving drugs).....	60		
Scissors.....	11		

* Deck is a small package containing from 2 to 5 grains of drug.

PROPRIETARY OR PATENT MEDICINE DIVISION

During the past fiscal year, 4,731 medicinal preparations to which registration numbers have been assigned under The Proprietary or Patent Medicine Act were licensed for sale to the general public for self-administration.

These preparations comprise pills, powders, syrups, tablets, liniments, ointments, etc., and are placed on the market in packages, boxes, bottles or other containers on which are printed the name of the article, the manufacturer's name and address, the registration number assigned with the words, "The Proprietary or Patent Medicine Act" and, if for internal use, the quantity per maximum dose of any potent drug named in the schedule to the Act which may be present, or the percentage amount of any such schedule drug in external medicines.

Prior to granting registration the formula and recommendations are carefully considered, and applications are accepted only where it is decided that the article presented for registration possesses some appreciable value for the purposes for which it is put forward. Medicines designed or recommended for grave diseases are not approved, and the use of scheduled drugs is permitted only when the dosage amounts are prescribed within limitations fixed as appropriate and safe by an Advisory Board.

The production of proprietary medicines in Canada represents an investment of millions of dollars in laboratories and pharmaceutical industries where large numbers are employed, including highly trained and qualified technicians. The majority of medicinal preparations sold subject to this Act are manufactured under such supervision and are designed for the more simple ailments of man. Many of these products are based on prescriptions which, through usage, have become popular with the public and, in addition to the useful purposes they serve in the household, add materially to the comfort and well-being of many persons who live in remote parts where medical attention is not easily available.

The Canadian public spend millions of dollars annually on the purchase of prepared medicines of domestic and foreign manufacture, and the sales of proprietary medicines are promoted through advertisements in newspapers, magazines, etc., etc. The radio plays a most important part. During the period under review special attention was given to radio advertisements and other media through which proprietary medicines are brought before the public, and it is gratifying to report that our efforts to eliminate false, misleading and exaggerated claims and to obtain a higher standard of proprietary medicine advertising have received the support and co-operation of manufacturers.

The annual licensing system permits of a review of previous registrations and where it is found, from experience with the use of a preparation or through knowledge acquired from scientific experimentation, that it is lacking in therapeutic value, or that its continued sale is not in the public interest, a further licence is refused.

Our Advisory Board and the technicians of the Department continued to investigate and advise respecting the action and uses of new or uncommon drugs. No new drug is accepted in the formula of a proprietary medicine until its safety for use by the public without skilled supervision is established by competent medical authority.

Preparations on the market containing scheduled drugs were collected from various parts of the Dominion on the open market and analysed in the Departmental laboratory. Samples of other registered medicines were also examined for contents and labelling. No serious discrepancies were found in any of these products.

The inspection service continued to report on labelling and advertising.

The registration of 4,571 medicinals was reviewed and 160 new preparations were granted numbers.

Eighty-five preparations were refused registration for various valid reasons.

The Advisory Board approved the medication of 24 products and rejected 2.

Revisions were requested in 346 newspaper advertisements.

One thousand four hundred and forty-four labels and other printed material, and 3,258 radio broadcasts were reviewed.

The following statistics published by the Dominion Bureau of Statistics for the year 1943, being the latest available, indicate the extent of the industry in medicinals and pharmaceuticals in Canada. In this statement are included medicinals which are sold subject to the provisions of The Proprietary or Patent Medicine Act.

Production by the manufacturing plants in Canada which were engaged chiefly in making patent and proprietary medicines, pharmaceuticals and similar commodities, was valued at \$50,772,686 at factory prices in 1943 compared with \$41,983,247 in 1942 and \$35,471,898 in 1941.

Of the 205 factories in this group in 1943, 103 were located in Ontario, 84 in Quebec, 7 in Manitoba, 3 in British Columbia, 1 in Nova Scotia, 4 in Alberta, 2 in Saskatchewan, and 1 in New Brunswick. Capital employed in manufacturing was reported at \$41,791,686, of which \$10,409,279 was the value of land, buildings and equipment, \$14,210,389 was the value of inventories and \$17,172,018 was cash and other operating capital. The average number of employees in 1943 was 7,187 compared with 5,560 in the previous year, and payments in salaries and wages totalled \$10,012,562 as against \$8,000,240 in 1942. Plants in Ontario produced 56 per cent of the Canadian output and concerns in Quebec accounted for 40 per cent.

The concerns in this industry make medicinals and pharmaceuticals as their *main* products but they also manufacture other lines, such as toilet preparations, as a secondary part of their business. On the other hand, some companies which have been classified to other industrial groups make some medicinal preparations as minor products. The total Canadian output of medicinals, pharmaceuticals and biologicals from all industries amounted in value to \$39,250,072 in 1943 compared with \$33,199,537 in 1942 and \$28,103,936 in 1941.

PUBLIC HEALTH ENGINEERING DIVISION

During the past year the work of the Public Health Engineering Division more than doubled that of the previous year. The Engineering representatives of the Division were actively engaged from Halifax to Vancouver Island and from the International Boundary to the Arctic. They examined areas where it was proposed to develop army camps, airports, naval barracks, etc., they advised regarding the design, location and construction of water supply systems and sewage and wastes disposal works, and they checked water supply sources.

Many of these concentration areas are far from the nearest municipal water works or sewage disposal systems, and the designs of facilities for such areas are comparable to the designs of similar public utilities for small cities, including both health and economic aspects. Methods of disposal of domestic and industrial sewage from newly developed defence force concentration areas and munition plants require careful study in order to avoid acute health and nuisance hazards to nearby civilian population groups. The feeding and housing of camp construction labourers, camp followers, military forces or industrial workers create excessive demands on local sanitation facilities as well as on food handling and serving establishments.

The checking of water supply sources for the Armed Forces included sources from which water for drinking and culinary purposes, intended to be used aboard troop trains as well as aboard ships in convoys and naval vessels, might be obtained. As they became available, reports on such water supply sources for troops in transit were furnished to the Royal Canadian Army Medical Corps.

Much work was done in respect of the development and operation of water supply systems, and sewage and wastes disposal works in connection with munition plants, enemy alien concentration camps, work camps for refugees, and Japanese work camps.

The supervision of drinking water and ice supplies intended to be used aboard common carriers, including commercial airships, whether such common carriers are in national, international, or interprovincial service, is a duty of the Division. In so far as the examination of passenger trains is concerned, this work is carried on in conjunction with the supervision of dining car sanitation, which includes conditions in the kitchens and places where food is stored and prepared, the sources from which it is obtained, and the manner of subsequent handling. A check is maintained on sanitation in passenger train terminals and railway coach yards. Examinations are also made of milk supplies used by common carriers in interprovincial and international traffic.

The number of railway water supply sources examined was 109 and the number of ice supply sources examined was 46. The supervision and control of the sanitary quality of drinking and culinary water supplies in use aboard common carriers is maintained by a co-operative arrangement with the various Provincial Departments of Health and the United States Public Health Service. During the past year, the transportation companies engaged in common carrier service reported to this Division the sources from which they desired to obtain water intended to be used on their equipment and, in turn, were supplied with the most accurate data available regarding such sources of water supply. Only those sources which have been duly examined and approved are listed by this Division.

The Great Lakes and the St. Lawrence River form one of the busiest waterways in the world. More traffic passes up and down the Detroit River than on any other waterway in the world. Traffic through the Detroit River reached a peak of 111,346,567 tons in 1940, the last year for which there are official figures. By the end of 1944 more than 117,238,031 tons of freight had passed through the canals of Sault Ste. Marie. In the same year more than 2,000 vessels cleared from Port Arthur and Fort William, the two busiest Canadian lake ports. These figures far exceed those for either the Suez or Panama canals and give an indication of the importance of these routes to the Allied war effort.

During the 1944 navigation season, steamships operated into Canadian ports whose water supplies are under the supervision of this Division, carried 13,087,213 persons in addition to the thousands of men regularly employed aboard these vessels. This was exclusive of persons aboard vessels of the Royal Canadian Navy or of convoys, although the sources of water supplies for such vessels were regularly checked by the engineers of this Division. Throughout the season water samples were collected and forwarded to the nearby Public Health Laboratories for examination.

Co-operation was continued with the United States Public Health Service in regard to matters arising from the pollution of boundary waters, and in connection with the examination and certification of supplies of drinking and culinary water in use aboard common carriers engaged in international traffic, as well as other international public health engineering matters of mutual interest. Such co-operation is a distinctly Federal activity and is under the

authority of the Boundry Waters Treaty of 1909 and other legislation. Examinations were also made of dining cars of passenger trains and dining rooms of passenger vessels operating between Canada and the United States.

Matters of international public health engineering affecting mutual interests in Canada and the United States were handled in collaboration with the United States Public Health Service. In this connection studies were made of the development of water supply and sewage disposal schemes in concentration areas along the Canada-Alaska highway and assistance was given by our engineers to the engineers of the United States War Department.

Eleven cases of typhoid fever were reported as occurring among the crews and passengers of vessels operating on Canadian waters, during the fiscal year 1943-44. This indicates that to prevent a recurrence in 1945-46 of an epidemic such as that which developed following the war of 1914-18 stricter supervision is necessary.

The importance of railway sanitation is emphasized by the fact that in 1944 the number of passengers carried by the railways of Canada totalled 57,463,527. In the past twelve months 232 examinations were made of coach yards, terminals and watering points. In addition 1,610 samples were collected for analysis from the drinking and culinary water supplies available for the use of passengers travelling on railway trains. The kitchens and pantries of 28 dining cars were also examined under operating conditions, and 67 trains were completely checked from the standpoint of sanitation.

In co-operation with officials of the Department of Munitions and Supply, work was done in connection with the construction of safe water supply systems and sewage disposal works, as well as in respect of living, dining and sleeping quarters at all the larger munition works throughout Canada.

As opportunity and time permitted, special attention was given by representatives of this Division who annually visit the National Parks, to such matters of sanitation as water supply, sewage and wastes disposal, bathing places, swimming pools, etc. Information was supplied to National Parks officials after laboratory tests of water supply samples, and interpretations of the findings of the sanitary survey in relation to sewage and wastes disposal methods were available. The importance of sanitation in the National Parks of Canada is emphasized by the tourist registration of 457,392 during the past fiscal year.

As a matter of co-operation with the Department of Fisheries, sanitary surveys were carried out in 20 shellfish producing areas. These surveys involved considerable time in the field and a corresponding amount of office work on the compilation of memoranda and the preparation of sketches indicating the location of such shellfish areas and of the sources of pollution.

One of the functions of this Division is active co-operation with *all Departments* and projects of the Federal Government in regard to such matters as:—

- (a) Water Supply
- (b) Sewage and Wastes Disposal
- (c) Ventilation and Heating
- (d) Illumination
- (e) Vibration and Noise

The working conditions in various Dominion Government buildings were examined by representatives of the Division in collaboration with representatives from the Chief Architect's Branch of the Department of Public Works. Where improvements were deemed advisable, the necessary work was done by that Department.

The co-operative work previously carried on with the three Defence Services had necessarily to receive special attention to meet the requirements which followed the outbreak of war. New problems of sanitation were created while others that existed previously were aggravated. Similarly, industrial population shifts have required the construction of new water supply and sewage and wastes disposal facilities, adding greatly to the activities of the engineers of this Division whose aim has been to assist with measures which would bring immediate relief and which could also be made to fit into a long range program of construction.

Mention should be made of the work done by this Division in co-operation with the Civil Aviation Branch of the Department of Transport with respect to the development of sewage disposal schemes and safe water supplies. An outstanding example was the work done for the municipality of Dawson Creek, B.C. The fact that during the year 1944, 386,719 passengers were carried over various routes by aircraft engaged in civil aviation indicates the importance of safe water supplies.

In addition, work was done, in collaboration with various Provincial Departments of Health, toward the solution of public health engineering problems of mutual concern and in particular, considerable assistance was given to those Provincial Departments of Health which have no public health engineering staff. Particular mention should be made of co-operation with the Provincial Health Department of British Columbia in the improvement of the water supplies of five municipalities in that province.

The "Rideau Health and Occupational Centre" now in process of construction near Ottawa is receiving the attention of this Division in regard to water supply and sewage disposal. Engineers of the Division have also been called upon to give assistance with respect to matters of water supply, sewage and wastes disposal, etc., at other health and occupational centres throughout Canada.

Housing in its health aspect, so essential in these years, especially for the low income group, is given attention as occasion requires.

QUARANTINE SERVICE

This Service, the oldest health activity of the Dominion Government, is designed and operated for the purpose of preventing the entry of infectious disease into Canada by way of traffic arriving by water, air or at the inland boundary. Its authority is The Quarantine Act and the regulations thereunder.

It has operated under wartime conditions by providing inspection of vessels on arrival, by day and night, without advance notice.

During the fiscal year 1944-1945, no cases of smallpox, yellow fever, bubonic plague or cholera were found on board vessels on arrival in Canadian ports, although present in ports and countries from which many of these vessels sailed. One case of epidemic typhus was landed by a rescue ship, having been removed at sea from a freighter bound for a port in another country. There were no secondary cases. Twenty-eight cases of minor infectious disease were reported.

During the year a total of 2,536 vessels, having on board 210,398 persons, were inspected by the medical officers of this Service. Of this number, 157,997 were members of the crew, 51,832 were passengers, and 569 were distressed seamen and others.

A total of 590 vessels were inspected for vermin. Of these, 82 had come from plague-infected ports. One hundred and ninety-eight were fumigated, 337 granted exemption certificates and 32 had their certificates endorsed. A total of 873 rats and 45 mice were recovered.

There were 9 vessels which applied for duplicate pratique and 1 for radio pratique.

Local customs officers, in their capacity of quarantine officers at unorganized ports, reported the entry of 30 vessels.

Other additional duties were carried out as usual by our medical officers, such as medical examination of pilots and civil servants, immigration medical examination and, most important, the treatment of sick mariners. They cooperated with naval authorities in the sanitary inspection, on request, of crews' quarters and in the examination of water supplies on board ships.

Certain of our quarantine buildings were continuously used throughout the year by the Department of National Defence for Naval Services.

SHIPS BOARDED BY QUARANTINE OFFICERS

The following table indicates the number of ships boarded during the fiscal year 1944-45, also total personnel on board, divided into their respective groups:

Station	Vessels Inspected	PERSONNEL INSPECTED						
		Passengers				Crews	Cattlemen Stowaways Distressed Seamen, etc.	Port Totals
		First Class	Cabin and Second Class	Tourist Third	Third Class and Steerage			
Halifax, N.S.....	1,669	9,006	14,369	2,058	25,758	115,306	30	166,527
Sydney, N.S.....	74	6	7	.....	.....	3,371	311	3,695
Saint John, N.B....	289	3	197	11	2	13,291	208	13,712
Quebec, P.Q.....	257	.....	139	.....	4	13,984	3	14,130
Wm. Head, B.C....	247	136	46	.....	90	12,045	17	12,334
Totals.....	2,536	9,151	14,758	2,069	25,854	157,997	569	210,398

VESSELS INSPECTED FOR DERATIZATION, 1944-45

Port	Vessels Inspected, Fumigated and Deratization Certificates Issued	Vessels Inspected and Exemption Certificates Issued	Vessels Inspected and Time Extended or Certificates Endorsed	Total Vessels Inspected for Vermin	Rodents Recovered	
					Rats	Mice
Halifax, N.S.....	126	73	2	201	98	29
Sydney, N.S.....	.....	5	.....	5	.....	.....
Saint John, N.B....	38	74	5	117	234	.....
Quebec, P.Q.....	4	2	.....	6	135	16
Three Riviers, P.Q.....	4	4	2	10	321	.....
Sorel, P.Q.....	1	3	.....	4	21	.....
Montreal, P.Q.....	6	50	2	58	3	.....
Victoria, B. C., including Esquimalt	5	21	13	39	.....	.....
Vancouver, B.C.....	14	102	19	135	61	.....
Prince Rupert, B.C.....	.....	3	.....	3	.....	.....
Totals.....	198	337	43	578	873	45

136 Government vessels fumigated: Halifax, 103; Saint John, 27; Quebec, 1; Montreal, 2; Victoria, 3.

LEPROSY

DOMINION GOVERNMENT HOSPITAL FOR TREATMENT OF LEPROSY AT
BENTINCK ISLAND, B.C.

There was one admission and no discharge during the year. Routine care and treatment of patients and maintenance of equipment have been carried on. Relative information follows:

Patients remaining from last year.....	1
Admitted during the year.....	1
Died during the year.....	0
Released during the year.....	0
Remaining in hospital.....	2

One patient is a Chinese male, the other a Japanese male. Both cases are bacteriologically negative.

DOMINION GOVERNMENT HOSPITAL FOR TREATMENT OF LEPROSY AT TRACADIE, N.B.

Of the seven patients in hospital, four may be considered as under active treatment and showing signs, to a variable degree, of active leprosy. The other three are considered as arrested cases. Four of the patients are males and three females. Three are of French Acadian origin, one of French and Scotch descent, two of Russian ancestry (one Canadian born), and one Chinese.

Particulars are as follows:

Remaining from last year.....	8
Admitted during the year.....	0
Died during the year.....	0
Discharged during the year.....	1
Remaining in hospital.....	7

SICK MARINERS AND MARINE HOSPITALS

Part V of the Canada Shipping Act has existed with various amendments since 1867. The Act provides medical and surgical treatment of all members of the crews of those vessels that pay dues under its authority. Dues are levied and collected by the Collector of National Revenue on every ship arriving in any port of the provinces of Nova Scotia, Prince Edward Island, New Brunswick, Quebec and British Columbia, and ports in Manitoba and Ontario on Hudson Bay and James Bay, provided the ship does not come within one of the several exemptions.

A high standard of general medical practice is provided at all ports in the provinces named where there is a customs officer legally competent to administer the Act. Treatment is free for a period of one year if needed. No expense is spared in providing the best specialist medical, surgical and hospital care when required. Wherever possible, a choice of hospital is provided.

Conditions under which treatment is obtained are kept as simple as possible. The sick seaman applies to the Captain of the vessel, who sends him to the local Collector of Customs with a written statement setting forth his employment period on the vessel and giving details regarding payment of sick mariners' dues. Concise forms are provided for this purpose. The Collector verifies these facts and, if satisfied, refers the patient to the doctor or hospital previously nominated for this purpose. Emergency cases are taken direct by ambulance from ship to hospital.

Out of a total crew membership of 106,604, treatment was given to 18,316 sick mariners.

A special hospital ship service under the War Measures Act has been given vessels lying at anchor waiting for convoy. Our medical officers boarded 841 vessels and gave 2,972 treatments to 2,952 sick seamen on board these vessels.

DISEASES AND INJURIES TREATED DURING YEAR 1944-45

General.....	5,477
Nervous System.....	386
Eye, Ear, Nose and Throat.....	1,731
Circulatory System.....	228
Respiratory System.....	553
Gastro-Intestinal.....	1,489
Lymphatic System.....	51
Genito-Urinary System.....	1,962
Skin.....	1,531
Injuries.....	2,697
Fractures.....	287
Dislocations.....	22
All others.....	1,902
	18,316

DETAILS OF VESSELS, DUES AND EXPENDITURES

	Vessels Paying Dues During Calendar Year 1944	Total Dues Collected During Calendar Year	Total Number of Crews	Total Expenditure Feb. 1, 1944 to Jan. 31, 1945	Average Expenditure for Each Member of Crew
	No.	\$	No.	\$	\$
Vessels, foreign-going.....	2,133	192,016.30	97,057	179,589.39	1.85
Vessels trading continuously between Canadian ports.....	2,152	9,133.90	9,547	59,742.97	6.26
Totals.....	4,285	201,150.20	106,604	239,332.36	2.25

REVENUES AND EXPENDITURE SHOWN BY PROVINCES FOR FISCAL YEAR 1944-45

Province	Revenue	Expenditure
	\$	\$
Head Office.....		47,625.22
Prince Edward Island.....	241.20	1,378.88
Nova Scotia.....	135,938.44	104,625.84
New Brunswick.....	17,541.06	45,842.61
Quebec.....	28,384.66	57,804.16
Manitoba.....	52.92	
British Columbia.....	29,294.14	46,490.87
Totals.....	211,452.42	303,767.58

DETAILS OF TREATMENT AND HOSPITALIZATION OF SICK MARINERS, 1944-45

	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Manitoba	British Columbia	Totals
Number of doctors on salary, part time.....		13	3	4		4	2
Total salaries.....		\$11,200.00	\$ 1,700.00	\$ 1,550.00		\$ 3,395.93	\$17,845.93
Total seamen treated.....		4,333	162	174		695	5,363
Total number of visits.....		17,833	310	541		2,403	21,087
Number sent to hospital.....		1,243	25	19		185	1,472
Number of doctors on fee basis (including dentists).....	7	71	26	37		46	187
Total fees paid.....	\$ 859.20	\$ 21,435.22	\$ 4,414.10	\$ 6,331.84		\$ 9,440.80	\$42,481.16
Total seamen treated.....	134	2,598	604	602		1,845	5,783
Total number of visits.....	279	7,695	1,302	2,714		4,931	16,919
Number sent to hospital.....	6	155	59	144		387	751
Doctors rendering professional assistance.....	5	61	17	21		48	152
Total fees paid.....	\$ 50.00	\$ 4,972.25	\$ 1,124.00	\$ 1,661.00		\$ 6,773.50	\$14,580.75
Total seamen treated.....	5	403	175	142		237	962
Hospitals treating sick mariners	5	33	12	38		28	116
Total hospital costs.....	\$ 509.78	\$61,060.14	\$45,035.75	\$49,701.17		\$35,808.25	\$192,115.09
Total ward patients.....	11	1,009	441	498		638	2,597
Total hospital days.....	191	26,310	12,423	14,099		8,675	61,698
Total out-patients.....		5,054	1,624	1,365		215	8,258
Total out-patient treatments.....		7,671	4,100	3,233		2,069	17,073
Private houses used as emerg- ency hospitals.....	1	5	1	1			8
Total costs.....	\$ 16.00	\$ 534.00	\$ 26.00	\$ 55.00			\$ 631.00
Total seamen treated.....	4	16	1	1			22
Total hospital days.....	8	239	26	55			328

IMMIGRATION MEDICAL SERVICE

During the year fully qualified medical officers of the Department were stationed at London, England, and at the larger Canadian ports. In addition, there is a roster of local part-time medical officers at 568 centres throughout the British Isles.

In Canada 10,184 immigrants were medically inspected on arrival at ocean ports and 13,899 prospective emigrants were medically examined overseas.

Medical re-examination of 3,990 individuals was made before a final decision as to their condition was reached. In addition, due to wartime conditions, 12,172 non-immigrants were given careful medical supervision on arrival.

SUMMARY OF ACTIVITIES

Canada—

Immigrants medically inspected on arrival at ocean ports	10,184
Certified as "prohibited" under Immigration Act, Sec. 3 (a) (b) and (k)	10
Certified as physically defective, Sec. 3 (c)	25
Refused permanent admission	14

Overseas—

Prospective emigrants medically examined	13,899
Certified as "prohibited" under Immigration Act, Sec. 3 (a), (b) (k) and (m)	59
Certified as physically defective, Sec. 3 (c)	572
Furthered from 1943-44	18
Refused admission	112

A total of 126 individuals were refused permanent admission to Canada as a result of these examinations.

There were no deportees examined at the port of Montreal during the year.

DETAIL OF EXAMINATIONS

At Canadian Ports—	
Halifax	6,558
North Sydney	2,815
Sydney	503
Louisburg	57
Saint John	38
Quebec	36
Montreal	48
Vancouver	21
Victoria	2
Other ports	106
Total	10,184

All figures given include rejections.

Overseas—

In British Isles—	
By Canadian Medical Officers	4,947
By British Roster Doctors	8,745
Total	13,692

On Continent of Europe—

By local Medical Officer at Lisbon, Portugal	207
Re-examinations	3,990
Non-immigrants	12,172

DETAILS OF CERTIFICATIONS AND DISPOSALS OF THOSE MENTALLY OR PHYSICALLY DEFECTIVE, UNDER SECTION 3 OF THE IMMIGRATION ACT

	Certified	Admitted	Deported	Pending
<i>At Canadian Ports—</i>				
<i>Section 3 (a)—</i>				
Mental diseases and defects.....	3	1*	2	.....
<i>Section 3 (b)1—</i>				
Loathsome diseases, including tuberculosis.....	5	1*	4	.....
<i>Section 3 (c)—</i>				
Physical diseases and defects.....	25	9	8	8
<i>Section 3 (k)—</i>				
Constitutional psychopathic inferiority.....	2	.....	.....	2
Totals.....	35	11	14	10

* Granted temporary entry.

	Certifications			Totals	Disposals*		
	British		Contin- entals		Admitted	Refused	Pending
	Examined by Canadian Medical Officers	Examined by British Roster Doctors	Examined by Local Medical Officer				
<i>Overseas—</i>							
Section 3 (a)— Mental diseases and de- fects.....	16	5	.....	21	.....	19	.....
Section 3 (b)— Loathsome diseases, in- cluding tuberculosis....	13	16	3	32	.....	21	.....
Section 3 (c)— Physical diseases and de- fects.....	268	289	15	572	503	69	61
Section 3 (k)— Constitutional psycho- pathic inferiority.....	4	1	.....	5	.....	3	.....
Section 3 (m)— Minor mental and physical defects.....	.....	1	.....	1	1	.....	.....
Totals.....	301	312	18	631	504	112	61

* Includes 46 cases under Section 3 (c) pending from fiscal year 1943-44.

ADDITIONAL DUTIES PERFORMED BY IMMIGRATION AND QUARANTINE MEDICAL OFFICERS

QUEBEC—SAVARD PARK IMMIGRATION HOSPITAL

	Patients	Hospital days
Sick Mariners.....	159	3,641
Laboratory specimens examined—		
Immigration.....	.....	.....
Sick mariners, civil servants and military service.....	8,882	.....
Radiographic examinations.....	2,003	.....
Examinations of civil servants.....	45	.....

HALIFAX—IMMIGRATION HOSPITAL

Immigrants, civil detentions and sick mariners	35	413
(In-patient treatment)		
Immigration detentions treated	175	
		<u>Treatments</u>
Sick mariners (Clinic treatment)	4,071	6,114
Basin service	2,021	2,033

MONTREAL

Visits to ships for immigration purposes	10
Examinations for immigration purposes	91
Stowaways, crews and non-immigrants	70
Medical reports	—
Immigrants	21
Civil servants	54
Treatments of civil detentions for minor ailments	53

LABORATORY OF HYGIENE

During the past year the work of the Laboratory relating to the Food and Drugs Act has been maintained at the level reached in the previous year.

Some phases of the public health work of the Laboratory have had to be curtailed owing to the departure of the Assistant Chief to serve with the Army. The classification of infectious agents has been continued and will be extended as a measure of collaboration with provincial laboratory services.

We have been fortunate in securing the services of two well trained scientists: one to take charge of the virus section, and the other to head the section of the Laboratory dealing with antiseptics and antibiotics. Both these undertakings promise great activity in the immediate future.

In October a Conference was convened in London, England, under the auspices of the Permanent Commission on Biological Standardization of the Health Organization of the League of Nations at which an International Unit for Penicillin was established. The Chief of the Laboratory of Hygiene attended as the representative from Canada. The opportunity was taken to investigate the public health laboratory arrangements in England and Wales and Scotland.

Closer and more formal contacts have been established with both British and United States pharmacopœial officials. The Chief of the Laboratory of Hygiene, while in England, called on the Chairman and Secretary of the British Pharmacopœia Commission. Ways of ensuring closer liaison were discussed. The Chairman of the United States Pharmacopœia Revision Committee attended a conference in Ottawa, convened to discuss means of ensuring the establishment of common standards in the United States and Canada. As a result of this meeting there has been set up in the Department a Subcommittee of the Canadian Committee on Pharmacopœial Standards charged with the duty of coordinating and supervising the work of establishing standards and methods of testing for preparations requiring biological assay. This Subcommittee will keep closely in touch with the similar body in the United States.

Senior officers of the Laboratory have served on national and international committees and have taken an active part in special war projects. Three are absent on duty with the Army and one with the Navy.

A total of 41 licences for the manufacture of biological products have been issued during the year; of these, 11 were issued to Canadian firms, 24 to United States firms, and 6 abroad. In the same period 11 licences to operate Registered Establishments for the Manufacture of Penicillin have been issued.

PHARMACOLOGICAL SECTION

Antisyphilitic Drugs—Arsphenamines and Related Products

During the past year a complete examination of all the batches of neoarsphenamine, sulpharsphenamine, and arsphenamine offered for sale on the Canadian market was made. Tests included arsenic content, moisture content, tests for stability, and relative non-toxicity. All the lots of Oxophenarsine Hydrochloride for use by the Canadian Army were examined for stability, moisture content and toxicity. A study of the effect of temperature on the toxicity of Oxophenarsine Hydrochloride was undertaken during the year and is still continuing.

A re-examination of certain lots of nearsphenamine was undertaken for the Central Medical Stores, Department of National Defence.

Cardiac Drugs—Digitalis, Strophanthus, etc.

A cat method of assay for digitalis and strophanthus products in Canada has now been adopted. Canadian pharmaceutical manufacturers have been notified of this change. A paper dealing with the present status of stan-

standardization of digitalis and strophanthus products in Canada has been presented for publication. This is a presentation of our laboratory findings as well as other clinical and laboratory data dealing with the assay of digitalis products.

A revaluation of the chemical method for the assay of cardiac drugs is under way at the present time.

Import shipments and samples for army use were tested for potency during the year.

Obstetrical Preparations—Pituitary Extract (posterior lobe): Ergot Products

A new method based on a graded response technique for the assay of pituitary extract (posterior lobe) is now in press. The details of the method have been worked out in this laboratory during the past eighteen months. It will soon become the official Canadian method for testing pituitary extract (posterior lobe) preparations.

During the year the laboratory co-operated with the United States Pharmacopœia Revision Committee in the assay of U.S.P. Reference Standard Pituitary Powder.

Market samples and samples sent in by the Inspection Board of the United Kingdom and Canada were assayed during the year.

A pharmacological study of the effect of posterior pituitary extract on prepartum, parturient and postpartum mammalian uteri is under way; the new assay procedure makes possible this study.

This laboratory has again this year extended its co-operation to the United States Pharmacopœia Subcommittee on Ergot. A further study on defatted ergot powder and fluid extracts is under way at the present time. This subcommittee has two methods under study. It is quite probable that one of these methods will be adopted for the U.S.P. XIII.

A study of the deterioration of ergometrine solutions under different conditions of temperature and light exposure is continuing.

Epinephrine and Its Preparations

A modification of the present official method for the assay of epinephrine hydrochloride solutions is being studied at the present time. We have also been co-operating with the U.S.P. Revision Committee on the assay of their U.S.P. Standard Epinephrine.

Our assays on market samples of epinephrine this year were principally those sent in by the Inspection Board of the United Kingdom and Canada.

Anaesthetics, Local Anaesthetics, e.g. Procaine Hydrochloride

Several lots of local anaesthetics were examined for anaesthetic properties. These were sent in from Army Medical Centres. We were unable to substantiate the claims of reactions and nonanaesthetizing properties reported by the Army Medical Centres of most of these lots.

Drug Stability

At the request of the Director General of Medical Services of the Department of National Defence we undertook experiments on the effect of freezing and thawing on the stability of certain drugs. A report was presented.

Penicillin

This branch of the Laboratory co-operated with the bacteriological branch in a study of the stability of penicillin.

Oestrogens

Samples of crystalline oestradiol, oestriol, oestradiol dipropionate, and ethinyl oestradiol were obtained from manufacturers and are being prepared to serve as reference standards for these products. Collaborative assays were carried out on the proposed U.S.P. Standard for Oestrone. Commercial samples of oestrone, estrogenic substances and oestradiol monobenzoate were collected and assayed. The investigation of variables affecting the assay of oral oestrogens was continued.

Androgens

Samples of testosterone, methyl testosterone and testosterone propionate were obtained from manufacturers and are being prepared as reference standards for these products.

Gonadotrophins

Commercial samples of chorionic gonadotrophin and gonadotrophin from pregnant mares' serum were collected and assayed. The assay of gonadotrophins from pregnant mares' serum is being studied.

Insulin

The investigation of methods of insulin assay is being continued.

Liver Extract

Research has been continued on the development of a method of assay for the anti-anaemic factor of liver. During the year a study was made of the anaemic producing properties of lead acetate, *B. welchii* toxins and dietary deficiencies.

Vitamin A

Commercial samples of vitamin A-containing products were assayed biologically by the vaginal smear method. Samples of cod liver oil and fish oil concentrates were assayed for vitamin A for the Inspection Board of the United Kingdom and Canada. A new lot of the Canadian Standard Reference Oil was issued and several check assays against the International Standard were completed to establish its potency. Deterioration of multivitamin preparations containing vitamin A has been studied and appropriate action taken to prevent sale of low potency products. A collaborative study of the spectrometric value of reference oils has been instituted.

The work on the survey of the vitamins A and D potencies of the liver oil of cods landed at ports in the Maritime Provinces was completed and a report submitted for publication.

Vitamin B1

Routine survey of market samples and a study of deterioration of commercial products have been continued. Refinements in the technique of the microbiological method of assay have been studied. Results of collaborative assays by the chemical and microbiological methods have been collected and compiled for the Food Analyses Committee of the Canadian Council on Nutrition. Assistance has been given to other departments and to the Inspection Board of the The United Kingdom and Canada in the assay of samples.

Vitamin B Complex

A study of the composition of the chief natural sources of Vitamin B Complex has been undertaken with a view to formulating a satisfactory definition for purposes of regulation.

Routine survey of market samples for riboflavin and niacin has been continued. A collaborative study of methods of assay for riboflavin has been instituted for the Food Analyses Committee of the Canadian Council on Nutrition. Comparisons of chemical and microbiological methods of assay have been made. A microbiological method for the routine assay of pantothenic acid has been established. Methods for the assay of pyridoxine, biotin, and other factors of the complex have been studied. Samples of riboflavin, niacin, pantothenic acid, pyridoxine and biotin have been assayed for the Inspection Board of The United Kingdom and Canada.

Vitamin C

The routine examination of market samples was continued. Study of the vitamin C content of foods, including vitaminized apple juice and fruit juices has been undertaken. Results of collaborative assays by titration and colorimetric techniques have been collected and compiled. Samples of dichlorophenolindophenol dye for use in vitamin C assay have been tested for the Inspection Board of The United Kingdom and Canada.

Vitamin D

Samples of cod liver oil and vitamin D concentrates have been assayed biologically for vitamin D content. A check of the potency of the Canadian Standard Reference Cod Liver Oil for vitamin D has been undertaken.

Bread and Flour

Routine survey of vitamin B breads and flour has been continued. Preliminary investigation of the comparative biological value of patent, vitamin B white and whole-wheat flours and the effect of adding synthetic vitamins has been completed and a report prepared.

Monthly samples of bread from all Royal Canadian Army Service Corps depots in Canada and Newfoundland, numbering 2,206 samples, have been tested for conformity to specifications and the necessary action taken to ensure that the vitamin content has been maintained.

Toxicity of Butylene Glycol

A comparison of the toxicity of 2·3 butylene glycol and 1·3 butylene glycol was made for the Division of Applied Biology of the National Research Council. Standards for biological testing have been supplied to manufacturers and to certain laboratories on request.

Members of the laboratory have served on Canadian Government committees and also on committees of scientific societies dealing with technical matters within the province of the laboratory's duties, as well as on subcommittees of the United States Pharmacopœia Revision Committee.

BACTERIOLOGICAL SECTION

The Bacteriological Section has had a very active year. More than 4,000 samples were submitted for examination and were tested according to the Regulations under the Food and Drugs Act. A large number of these samples were received from the Inspection Board of The United Kingdom and Canada and represented biological drugs purchased for use by the Armed Services. The section assisted the Armed Forces in studies of streptococcal infections, and in connection with problems associated with the use of penicillin. Diphtheria continues to be of considerable importance in certain parts of Canada. The laboratory has continued studies for the determination of types of diphtheria and has investigated immunological problems of this disease. A trained biochemist has been appointed to the section to work on antiseptics and antibiotics.

Subsection—Bacteriology.

Streptococcal Infections.—Study of the types of haemolytic streptococci causing scarlet fever in Ottawa was continued until November 15, 1944, a total of 1,118 cultures being examined. It is worthy of note that Type 3, which was the main infecting organism in 1940, was rarely found in the scarlet fever cases in Ottawa during 1944. A strain, not yet completely identified, is now the predominating type and with Type 19, which first appeared in Ottawa in 1941, accounted for about 85 per cent of the Group A haemolytic streptococci isolated. Types 1, 2, and 6 continue in small numbers. Type 24 made its first appearance in our survey during this year.

In June 1944, 55 cultures were received from cases and contacts of an outbreak of puerperal infection. All of the cultures isolated from the cases were identified as Type 14.

Assistance was given the Armed Services in investigating several outbreaks of upper respiratory infections and in investigations regarding the use of sulphonamides and penicillin in the control of these infections. In one outbreak a large number (195) of cultures were taken from the throats of patients and their contacts. However, it was not possible to associate haemolytic streptococci with this epidemic. Group A streptococci were only recovered from 22 out of the 195 throats cultured.

A total of 1,658 cultures of haemolytic streptococci were received for classification.

The numbers and sources of the specimens received were as follows:—

Strathcona Isolation Hospital	1,118
Provincial Laboratory, Toronto, Ont.	55
Provincial Laboratory, Halifax, N.S.	9
R.C.A.F.	24
R.C.N.	401
R.C.A.M.C.	48
Miscellaneous	3

Diphtheria Infections.—Investigation of the cultures of *C. diphtheriae* isolated from Halifax in 1943-44 was continued. The results of the study were presented at a meeting of the Canadian Public Health Association in the form of two reports: "Bacteriological Observations on Diphtheria in Halifax", and "Some Observations on Diphtheria in the Immunized". Both these papers will be published shortly.

Of 36 virulent cultures of *C. diphtheriae* isolated from cases of diphtheria and "sore throat" in Halifax, 33 were gravis, 2 were intermedius and one was mitis. Gravis is still the type causing the great majority of cases in Halifax. Mitis is rare but continues to be found fairly frequently in the throats of contacts of mitis cases. On the other hand 8 cultures from cases in Inverness, N.S., were studied and all were found to be virulent mitis. Gravis strains are not restricted to Halifax. Three cultures were received from cases in Shubenacadie, one from Kentville, and one from Dartmouth. All five were gravis. From two cases in Sydney, N.S., intermedius strains were recovered.

Quebec presented a different picture: 160 specimens were received from this Province from which 110 virulent cultures of *C. diphtheriae* were recovered. Of these, 93 (85%) were identified as intermedius strains, while gravis and mitis strains were rare. A typical gravis strain was found in only one case. It is curious that, despite the fact that gravis diphtheria has been prevalent in Halifax since 1940 and that the gravis type is considered to be the most virulent of the strains, it should be found so rarely in a neighbouring Province.

Six virulent cultures were received from the Ontario Provincial Laboratories from cases of diphtheria occurring in the Sudbury area; four of these were intermedius and the other two were atypical strains.

Details of the typing and virulence tests and the source of the specimens received are shown as follows:—

Source	Number Specimens Received	Number Virulent Cultures Recovered	Gravis	Types		
				Intermed.	Mitis	Atypical
Prov. Lab., Halifax, N.S.....	151	130	87	10	28	5
Prov. Lab., Montreal, Que.....	160	110	2	93	11	4
Prov. Lab., North Bay, Ont.....	9	6	.....	4	.....	2
R.C.N. Hospital, Halifax.....	36	29	18	1	9	1
R.C.N. Hospital, Sydney.....	11	4	.....	.....	4	.....
Camp Hill Hospital, Halifax.....	6	4	2	.....	2	.....
R.C.A.F., Moncton, N.B.....	1	1	.....	1	.....	.....
Totals.....	374	284	109	109	54	12

Clams and Mussels.—Poisonous clams and mussels were again found on the Atlantic Coast and co-operative control procedures were again organized with the Department of Fisheries and the Fisheries Research Board. A large area of the New Brunswick Coast was closed during the summer and fall season. Many lots of canned clams were sampled and all were released for sale to the public since they were found to be free of the poisonous factor. A total of 441 samples of clams and mussels were tested. Studies in collaboration with the Fisheries Research Board, dealing with the effects of canning and poisoning, were undertaken and will be the subject of a publication.

Sterility and Safety Tests.—A total of 1,123 specimens of biological products offered for sale to the public or purchased for use for the Armed Forces were tested for sterility and safety.

Miscellaneous Food Samples.—Some 68 samples, such as canned foods and cheese, were examined. Several lots of food suspected of being associated with outbreaks of food poisoning or food infections were examined.

Miscellaneous Specimens.—Miscellaneous specimens (70), such as pathological specimens, water samples and pharmaceutical preparations, were the subject of laboratory tests and studies.

Phage Typing.—Cultures of *E. typhosa* are submitted from time to time for identification as to their phage type; 18 of these have been dealt with. This service has been curtailed due to lack of staff but should be developed and extended as an aid to provincial epidemiologists.

Subsection—Immunology

Diphtheria.—A total of 60 samples of diphtheria toxoid, 20 samples of diphtheria antitoxin, and 32 samples of Schick test toxin and control have been analyzed in the laboratory. All but one sample, from a foreign source, were found to be of satisfactory quality. A number of human sera have been tested for antitoxin level. Preliminary work has been undertaken on a new method for bioassay of diphtheria antitoxin.

Tetanus.—A total of 18 samples of tetanus antitoxins, 12 samples of tetanus toxoid and 35 samples of T.A.B.T. were assayed and tested for safety and antigenic properties. Some studies of *in vivo* methods of assay were undertaken but had to be discontinued due to pressure of other work and shortage of staff.

Gas Gangrene Antitoxins.—A total of 87 samples of gas gangrene antitoxins have been assayed and all have been found to be of satisfactory quality. Special investigations dealing with the relationship between the United States Public Health Service and the British Medical Research Council's standard perfringens antitoxins were undertaken.

Pyrogen Tests.—A total of 565 samples, including 126 samples of various types of intravenous solutions, and 439 samples of penicillin have been tested for pyrogens. Six samples were found to contain pyrogens and were, therefore, considered not to be satisfactory for use. Appropriate action was taken. The methods of testing for pyrogens were refined and perfected and additional facilities for handling the increased work were provided.

Subsection—Antibiotics and Disinfectants

During the year a total of 1,010 assays of 482 samples of penicillin were conducted. Every lot of penicillin produced in Canada for use by the Armed Services or the civilian population has been assayed for potency and tested for safety, sterility and pyrogens. Six lots were refused because of positive pyrogen tests and two others were toxic and, therefore, unacceptable. A number of lots were required to be relabelled in respect to the stated potency. The Laboratory of Hygiene participated in collaborative studies arranged by the British Medical Research Council and in another study arranged by the United States Pharmacopoeia. Information was provided to commercial producers of penicillin on methods of conducting routine tests and assays. A number of assay methods have been studied but none has been found to be as satisfactory as the present "cup-plate" procedure. The present routine sterility test for penicillin involves the use of a crude penicillinase preparation which has been the subject of study and the production of a pure enzyme is under investigation. Standard penicillin for comparative tests has been distributed regularly to all Canadian producers. A paper entitled, "Some Observations on the Assay of Penicillin", was presented to a scientific meeting.

Preliminary tests have been conducted on a new antibiotic, "streptomycin".

A total of 131 disinfectants have been tested for phenol coefficient. Most of these specimens were submitted under authority of the Agricultural Pest Control Act by the Department of Agriculture.

VENEREAL DISEASE DIAGNOSIS SECTION

The preparation and standardization of antigens employed in serodiagnostic tests for syphilis and their distribution to Provincial public health laboratories were continued. During the year the laboratory distributed 10,030 cc. of Kahn standard Antigen; 7,350 cc. of Kahn Sensitized Antigen; 610 cc. of Kolmer Antigen; 190 cc. of Kline Antigen; and 315 cc. of Mazzini Antigen.

The senior officer spent three weeks at the Division of Laboratories and Research, State of New York Department of Health, Albany, to study the preparation of cardiolipin under the direction of the author, Dr. M. C. Pangborn. A week was also spent at the Venereal Disease Research Laboratory of the United States Public Health Service, Staten Island, N.Y., where the use of cardiolipin antigens in tests for syphilis is under investigation. It is planned to prepare cardiolipin antigens in the laboratory and to make them available to the Provincial public health laboratories for trial.

The second survey of the efficiency of methods employed for the serodiagnosis of syphilis in Canada was completed. A total of 154 blood specimens was sent to each of the nine Provincial public health laboratories, to those departmental hospitals performing serodiagnostic tests, and to Newfoundland. A detailed analysis of the results reported by the participating laboratories has been made.

Studies of the preservation of guinea pig serum (complement) by freezing and drying have been continued. It is planned to distribute samples of the dried material to the provincial laboratories for approval.

The senior officer visited the provincial public health laboratories of British Columbia, Alberta, Saskatchewan, Manitoba, and Prince Edward Island. Problems in syphilis serology were discussed and an excellent opportunity was afforded to learn how the central laboratory might serve to the best advantage. Immediately preceding the western trip, two weeks were spent at Dr. Kahn's laboratory in Ann Arbor, Michigan, where some of the more recent modifications of the Kahn tests were studied.

Blood specimens of unusual nature, submitted by provincial laboratories and by laboratories of the Armed Forces, have been examined in a consultative capacity. The efficiency of the Kahn verification tests in differentiating specific from non-specific reactions is being observed.

VIRUS SECTION

The work of developing the Virus Section had to be suspended when the Assistant Chief left on leave of absence to join the Army and the trained laboratory assistant resigned to continue his education. In October the services of a bacteriologist with special post-graduate training in virus work were secured to continue the task of developing the section. Necessary apparatus and supplies have been ordered and staff are being trained.

The assay of smallpox vaccine is being carried out. Thirty-seven samples have been examined for potency and safety.

The Section has collaborated in an effort to isolate the infectious agent of acute laryngo-tracheo-bronchitis. Some 17 specimens of nasal washings and sera from 14 children suffering from the disease were studied. No aetiological agent was identified.

Present plans call for the development of facilities for the diagnosis of virus diseases in man. This will be developed as quickly as circumstances permit.

WESTERN BRANCH, KAMLOOPS, B.C.

The laboratory has now completed its sixth year of operation. The work has, for the most part, been carried out on a co-operative basis, as in previous years, with the provincial departments of health of British Columbia, Alberta, and Saskatchewan. Surveys were made for the detection of sylvatic and rat-borne plague, Rocky Mountain spotted fever, tularaemia, and, to a limited extent, lymphocytic choriomeningitis.

In British Columbia a field man was employed throughout the year, under direction from this laboratory, on rat and rat-flea surveys of ports on the west coast and municipalities contiguous to Vancouver in the Fraser Valley. Owing to the reappearance of plague infection in rats in the port of Tacoma, Washington, collecting efforts were concentrated as much as possible on points which were most likely to have contact with that port.

Fleas from rats collected in British Columbia were submitted to the laboratory for bacteriological examination by guinea pig inoculation. In addition to the flea examinations, pooled tissue specimens from each day's collection were submitted for infectivity tests. Also, fleas and tissues have been submitted by the Vancouver Parks Board and the Sanitary Inspector, City of Vancouver. The number of British Columbia specimens examined is shown in Table 1.

The species of the various flea specimens received were determined by the Livestock Insect Laboratory, Division of Entomology, Department of Agriculture.

Their findings, together with the names of the places surveyed, are shown in Tables 2 and 2a. It will be noted that the oriental rat flea (*Xenopsylla cheopis*) was found in Vancouver and also at several points adjoining or near the City. Determinations were not made on all the specimens but it may be mentioned that *X. cheopis* has been recorded in previous years at Chilliwack, Abbotsford, Robert's Creek, and Victoria.

As the survey of each point is completed a brief report on sanitary conditions, methods of garbage disposal, rat harbourages, etc., is prepared and a copy forwarded to the Provincial Health Officer for his information.

No plague was discovered in British Columbia during the year. Five specimens of rat tissue, one from Prince Rupert, one from the Vancouver City dump, and three from Stanley Park, showed pseudo-tuberculosis closely resembling plague in the guinea pig.

In Alberta and Saskatchewan surveys were made by Provincial field crews during the spring and summer months. These were limited largely to the collection of ticks, ground squirrels, and a few other rodents and birds and their ectoparasites. Details of the collections are shown in Table 3.

Two cases of Rocky Mountain spotted fever, one of which terminated fatally, were reported to the laboratory from Redcliff, Alberta. From the fatal case a blood specimen, taken two days before death occurred, was forwarded to the laboratory. The specimen was three days in transit but proved to be still infectious when received. It is believed that this is the first time a human infection has been proved in Canada by the recovery of the rickettsia. A small lot of ticks submitted from the area where it is believed the patients contracted their infection gave evidence indicating that a low grade immunizing strain of virus was being carried, but definite spotted fever with lesions was not induced from the ticks.

Again for the second consecutive year, no evidence of plague infection was found in Alberta. It should be noted, however, that ground squirrel collections were not very extensive. Considerable effort was apparently made by the Alberta field crew to find tularaemia in waterfowl and other hosts, but no new focus of this infection was uncovered.

No evidence of either Rocky Mountain spotted fever or plague was obtained from Saskatchewan specimens, but *Pasteurella tularensis* was isolated from two lots of ticks—*Dermacentor variabilis*, the Eastern dog tick—submitted from Carlyle Lake, one of Saskatchewan's popular summer resorts.

In our 1943-44 report reference was made to the finding of the virus of lymphocytic choriomeningitis in mice on the laboratory premises. Since then the study has been carried further and 11 out of 26 specimens trapped in the animal houses, and 6 out of 29 trapped in a stable 200 yards from the animal houses, have been shown to be harbouring the virus. No evidence of the infection was found in 14 specimens trapped in the mountains a few miles from the laboratory, nor was any found in mice (Table 1) submitted from the coast area.

During the year more than a hundred diagnostic tests were carried out on specimens of blood, spinal fluid and urine taken from suspected cases of lymphocytic choriomeningitis. From only one specimen—that of our own caretaker referred to in last year's report—was the virus of lymphocytic choriomeningitis actually obtained.

A number of experimental studies, chiefly in an attempt to develop a means of effectively immunizing guinea pigs against the virus of lymphocytic choriomeningitis, have been carried out. This seemed advisable in view of the possibility that the infection might become epizootic in our stock guinea pigs through the medium of infected mice. On the whole, these attempts have been unsuccessful.

In 1943 we reported the results of a brief study on the use of powdered boric acid as a preservative for rodent tissues being shipped to the laboratory. It was found that at ordinary temperatures plague infected tissues shipped in this medium became markedly dehydrated and that after the third day they were innocuous. When the specimens were iced, though, infectivity was retained up to the nineteenth day.

Since then further studies have been carried out in an attempt to obtain additional information on the value of preservatives. This seemed necessary because at many outlying points ice is difficult or impossible to obtain, and from such places specimens are often more than three days in transit.

Briefly, the findings to date may be summarized as follows:—

Plague infected guinea pig tissues retained their infectivity in,—

Powdered Boric Acid	at room temperature up to	3 days
" " " "	" refrigerator " " "	19 "
5% Boric Acid Solution	" room " " "	5 "
" " " "	" refrigerator " " "	17 "
5% NaCl Solution	" room " " "	19 "
" " " "	" refrigerator " " "	67 "

(end point not yet reached)

Tularaemia infected guinea pig tissues retained their infectivity in,—

5% Boric Acid Solution	at room temperature up to	6 days
" " " "	" refrigerator " " "	27 "
5% NaCl Solution	" room " " "	6 "
" " " "	" refrigerator " " "	59 "

(end point not yet reached)

During the latter part of the year arrangements were made with Tranquille Sanatorium to undertake for them the typing of strains of tubercle bacilli obtained from cases of pulmonary tuberculosis, with a view to determining what percentage, if any, of the infections in this Province are due to the bovine type of organism. Tests have now been started on specimens submitted from thirty-one patients.

TABLE 1.—SPECIMENS COLLECTED IN BRITISH COLUMBIA, 1944-45

Rats collected	3,212
Rat Fleas collected	1,667†
Rat Flea Specimens* submitted to Laboratory	213
Rat Tissue Specimens submitted to Laboratory	373
Mice collected	39
Mouse Tissue Specimens submitted to Laboratory	21

† A flea index of 0.52

* A specimen comprises the number of fleas collected each day.

TABLE 2.—DETAILS REGARDING SPECIMENS COLLECTED IN BRITISH COLUMBIA, 1944-45

Location	Rats Collected	Fleas Collected	Species of Fleas
Prince Rupert.....	246	38	All <i>Nosopsyllus fasciatus</i>
Ocean Falls.....	54	49	All <i>N. fasciatus</i>
Duncan.....	49	17	Not classified
Victoria.....	227	21	Not classified
Chilliwack.....	166	105	Not classified
Agassiz.....	5	6	Not classified
Abbotsford.....	52	11	Not classified
Ladner.....	47		
Port Moody.....	117	29	26 <i>Xenopsylla cheopis</i> 3 <i>N. fasciatus</i>
New Westminster.....	181	11	9 <i>X. cheopis</i> 2 <i>N. fasciatus</i>
West Vancouver.....	18	5	All <i>X. cheopis</i>
North Vancouver.....	21		
Vancouver City.....	666	358	44 <i>X. cheopis</i> 2 <i>N. fasciatus</i> (others not classified)
Matsqui.....	14	2	Both <i>X. cheopis</i>
Steveston.....	156	24	21 <i>X. cheopis</i> 1 <i>N. fasciatus</i> (others not classified)
Surrey.....	68	8	4 <i>N. fasciatus</i> 3 <i>X. cheopis</i> 1 <i>Ctenocephalides canis</i>
White Rock.....	155	13	10 <i>X. cheopis</i> 3 <i>N. fasciatus</i>
Blaine.....	79	3	2 <i>X. cheopis</i> 1 <i>N. fasciatus</i>
Totals.....	2,321	700	

TABLE 2A—SPECIMENS COLLECTED IN VANCOUVER, 1944-45

Location	Rats Collected	Fleas Collected	Species of Fleas
Stanley Park, Vancouver.....	823	955	147 <i>Nosopsyllus fasciatus</i> 5 <i>Catallagia charlottensis</i> 1 <i>Monopsyllus ciliatus protinus</i> 1 <i>Hystrihopsylla gigas dippei</i> (others not classified)
Vancouver City Dumps.....	68	12	10 <i>Xenopsylla cheopis</i> 2 <i>N. fasciatus</i>
Totals.....	891	967	

TABLE 3—ALBERTA AND SASKATCHEWAN SPECIMENS—1944

Animal	ALBERTA				SASKATCHEWAN			
	Number Collected		Number Submitted to Laboratory		Number Collected		Number Submitted to Laboratory	
	Hosts	Fleas	Tissue Spec.	Flea Spec.	Hosts	Fleas	Tissue Spec.	Flea Spec.
Richardson Ground Squirrel.....	489	1,931*	38	50	1,370	10,072†	42	116
Franklin Ground Squirrel.....					9	32	5	4
Duck.....	18		5					
Gull.....	5		2					
Coote.....	2		1					
Burrowing Owl.....	1		1					
Rabbit (<i>Lepus</i> sp.).....					3	3	2	1
Rabbit (<i>Sylvilagus</i> sp.).....					1	16	1	1
Prairie Dog (<i>Cynomys Ludovicianus</i>).....					13	18	1	1
Totals.....	515	1,931	47	50	1,397	10,209	51	124
Also: 1,105 Drag Ticks 14 Leeches 3 Blood Specimens 3 Water Specimens					Also: 3,450 Drag Ticks 771 Host Ticks			

* A flea index of 3.95.

† A flea index of 7.35.

CHILD AND MATERNAL HYGIENE DIVISION

The remarkably favourable trend in the maternal and infant situation, particularly during the disturbed years since 1939, gives cause for gratification. A reduction of 33% in the maternal death rate, and of 11.4% in the infant death rate, has been recorded in the short period of four years.

The maternal mortality rate in 1943 was 2.8 per 1,000 live births, as compared with 3.0 in 1942, and 4.2 in 1939. (The preliminary report for the first six months of 1944 gives a rate of 2.6 as compared with 2.9 for the corresponding period in 1943 which suggests that a further reduction in the maternal mortality rate may be anticipated).

The infant mortality rate for 1943 was 54, the same as for 1942. The rate for 1939 was 61. (The preliminary report for the first six months of 1944 shows a rate of 53 against 57 for the corresponding period in 1943; further progress may therefore be expected.)

Despite these favourable trends we must not forget that, when viewed in the light of our present day knowledge and of accomplishment in other countries, our attainments in these fields of public health were long overdue. Furthermore, we must not be content with maintaining our present status but should strive earnestly further to improve the Canadian maternal mortality rate which at 2.8 is 18% higher than that of England and Wales, 12% higher than that of the United States, and 27% higher than that of New Zealand.

A review of the rates of maternal mortality in the various provinces discloses too great a range even if the fact that economic, climatic and other conditions vary in each province is taken into consideration:—

MATERNAL MORTALITY RATES—PROVINCES—1943

Prince Edward Island.....	4.1	Saskatchewan	2.6
Nova Scotia	3.7	British Columbia	2.5
Quebec	3.2	Manitoba	2.4
New Brunswick	3.1	Ontario	2.3
Alberta	2.7		

A comparison between large cities in Canada reveals too wide a variation of results for, insofar as education and the provision of services are concerned, conditions in these centres could be made quite similar:—

MATERNAL MORTALITY RATES—CITIES—1943

Victoria	1.0	Edmonton	2.7
Ottawa	1.8}	Saint John, N.B.	2.8
Winnipeg	1.8}	Regina	3.3
Toronto	2.0	Montreal	3.4}
Hamilton	2.3}	Saskatoon	3.4}
Windsor	2.3}	Verdun	3.6
Vancouver	2.4	Quebec	5.9
Calgary	2.6}	Three Rivers	6.3
Halifax	2.6}		
London	2.6}		

Statistical data, relating to causes of deaths, show that we are far from having attained the irreducible minimum in fatalities from childbirth. The three major causes of deaths—sepsis, haemorrhage and toxæmia—account for 75% of all maternal deaths.

Sepsis	—34%	of all maternal deaths, in 1943
Haemorrhage	—21%	" " " " " "
Toxæmia	—20%	" " " " " "

With the diligent application of present scientific knowledge, a large proportion of the deaths from these causes could be prevented.

INFANT MORTALITY

With regard to infant mortality, the foregoing observations apply to an even greater degree. The present infant mortality rate of 54 per 1000 is far too high. It corresponds to the 1937 rate of the United States, and is 33% higher than that of the United States in 1943. Our rate is 72% higher than New Zealand's rate for 1943—31.37. If New Zealand's infant death rate for 1943 had applied in Canada, we would have lost only 8,895 infants instead of 15,217; this would have meant a saving of 6,322—an achievement infinitely worthwhile.

Statistics for the provinces reveal marked variations:—

INFANT MORTALITY RATES—PROVINCES—1943

New Brunswick	68	Saskatchewan	47
Quebec	67	Prince Edward Island	45
Nova Scotia	58	Ontario	42}
Manitoba	55	Alberta	42}
		British Columbia	38

There is a difference of 30 per 1,000 between the highest and the lowest rates.

INFANT MORTALITY RATES—LARGE CITIES—1943

Calgary	29}	Ottawa	45}
Vancouver	29}	Regina	45}
Edmonton	31	Windsor	46
Hamilton	34	Saint John, N.B.	50
Victoria	36	Winnipeg	52
Toronto	37	Montreal	61}
London	38	Verdun	61}
Saskatoon	40	Three Rivers	71
Halifax	43	Quebec	104

A study of the chief causes of infant mortality is illuminating as it indicates where our major problems lie and that the rate can be effectively reduced:

<i>Causes of Infant Deaths</i>	<i>Number of deaths in 1943</i>
Prematurity	3,470
Pneumonia	2,071
Influenza	626
Diarrhoea and enteritis	1,423
Whooping cough	313
Tuberculosis	117
Syphilis	104
	<hr/>
	8,124—53% of all deaths under one year.

In order to deal adequately with the infant situation, one must also refer to the question of morbidity. In the absence of accurate data the following observations will indicate to some extent the breadth of the problem. It is generally agreed that over 70% of children entering school show physical defects of varying degrees. According to a survey carried out among high school students in Manitoba—

- 4 per cent had permanent incapacitating defects.
- Practically 100 per cent had dental defects (mostly minor).
- 64 per cent had one or more physical defects, exclusive of dental defects, and one-half of these were said to be such as to bar these individuals from certain types of gainful occupation, such as war industries.
- 35 per cent of the group examined had defective vision with only 20 per cent corrected by proper glasses.
- 27 per cent were suffering from sub-nutrition.
- 60 per cent of the defects found could be corrected.

No doubt if a survey were carried out in other sections of the country the situation would be found to be similar. Conditions would probably parallel those disclosed in the United States by a survey made in 1941 by the National Youth Administration amongst youth from 16 to 24 years seeking employment. In an examination of 150,000 from all parts of the country, 30 per cent were found to be suffering from defects which restricted their choice of occupation. Thousands were found to suffer from conditions which were correctible, and therefore in large measure preventable. Three per cent were found to be either temporarily or permanently unfit for employment under the NYA.

The Division of Child and Maternal Hygiene has during the past year devoted more than usual attention to the study of the various endeavours made throughout the world on behalf of mothers and children. Among these studies special reference is made to the Director's visits to the Children's Bureau, Washington, the State of Maryland, the City of Annapolis, Md., New York City and Chicago. These visits provided firsthand information regarding federal, state and local activities on behalf of mothers and children, (including the problem of crippled children), under the Social Security Act of 1935. This Division is appreciative of the help and information so readily given by United States health officials.

The nurse-sociologist of the Division went to Toronto to study the various activities of the voluntary agencies interested in maternal and child care.

Following this visit, the Canadian Mothercraft Society undertook to develop a centre in Ottawa. The intention of this agency, as it applies to Canada, is to give refresher courses to graduate nurses on the care of mothers and infants and to initiate untrained personnel in these activities. Their particular concern with regard to breast feeding is very valuable as there is need, at this time especially, to encourage a more general adoption of breast feeding.

As the Division is exclusively engaged in the educational aspect of maternal and child hygiene, every opportunity is taken to extend this service. For instance, we have endeavoured to make as broad a distribution as possible of "The Canadian Mother and Child" of which over half a million copies have, in response to requests, been sent out since 1940. Some 4,000 requests monthly are dealt with. The Division is receiving hearty support in this distribution from the provincial health services, municipal health officers, medical practitioners, the nursing profession, hospitals, social agencies, etc.

Statistical tables, studies and bibliographies are prepared for the use of medical faculties, educators, social workers, public health agencies, etc. The Division has answered requests from various centres for lectures by the Director as well as by the nurse-sociologist. Among these might be mentioned the St. John Ambulance Brigade, the Medical Associations in Montreal and Quebec City, District No. 8 Registered Nurses' Association, the So-Ed Group of the Y.M.C.A. and the Y.W.C.A., l'Ecole des Parents of Ottawa and the surrounding district, Montreal, Verdun, Hawkesbury, etc.

A series of seven lectures on child and maternal hygiene, prepared for the St. John Ambulance Brigade, has been adopted for use in the Quebec Health Units. The National Executive of the St. John Ambulance Brigade hopes to have these lectures adopted on a national scale. Another activity of the Division which deserves special mention, is the individual attention given to the many inquiries received concerning maternal and child care or respecting agencies engaged in such work. Judging by the character of these letters and their ever-increasing number, it is evident that Canadians are eager to become informed. The improvement in the maternal and child situation, outlined in the early part of this report, is no doubt due in large measure to this alertness on the part of the Canadian public.

INDUSTRIAL HYGIENE DIVISION

In its sixth year of operation and fifth year of war the Division of Industrial Hygiene continued to increase both the volume and scope of its activities, concentrating on providing industrial hygiene service to Canadian war industry, where dangerous materials and inexperienced employees tended to increase the amount of time and production lost through occupational disease, industrial fatigue and general ill-health. In this effort the services of both the medical and the laboratory personnel of the Division were made available to the Provincial Governments of Canada and to Canadian employers and employees.

The service provided by the Division has been carried on under authority of Order in Council P.C. 1550, which makes the Minister of National Health and Welfare responsible for measures to control time lost through industrial ill-health in war contract premises. In this endeavour co-operation with Provincial Governments has been the keynote of the service. The specialized facilities provided by the Federal Government in the Division of Industrial Hygiene have been employed by Provincial Health and Labour Departments, Workmen's Compensation Boards, Canadian factories, labour groups and many other agencies concerned with the problems of health in relation to occupation.

From this Division both an inspection service and an information service have been extended during the fiscal year 1944-45. A Medical Director, specialized in the problems of industrial hygiene, gave consultative service. Laboratory personnel, especially trained to test and evaluate working environ-

ment, increased the number of visits made to plants over that of previous years. In September last an Industrial Nursing Service was commenced under the direction of a Public Health Nurse, especially trained in the problems of nursing in industry.

Publications intended to provide information on the subject of hazards to health in industry were distributed, and a number of addresses and radio talks were given by the staff of the Division to interested groups throughout Canada. During the year the Division commenced a monthly bulletin service to industry, one bulletin being sent out each month with information on various aspects of industrial health.

The officers of the Division co-operated with other Divisions of the Department in a survey of health and welfare facilities provided for civil servants in Ottawa, and investigations into working conditions of certain Federal civil servants in Montreal were made, special attention being given to environment and tuberculosis prevention.

MEDICAL SECTION

Owing to a shortage of trained industrial hygiene personnel the burden of extra medical work during the fiscal year continued to be assumed by the Director of the Section. In spite of this shortage of staff, visits were made to over 100 factories and special advice was given on the operation and establishment of factory medical services. In many instances the special knowledge possessed by this Section of the Division was extended to the medical personnel of factories so that measures might be taken toward diagnosis, treatment and prevention of diseases connected with handling of poisonous substances. It is estimated that through these consultations a total industrial population of about 200,000 employees was served.

Monthly medical reports continued from 125 key industries and preliminary analysis of the reports for the preceding year was taken in hand. The reports served not only to provide statistical data on illness in industry but assisted a limited staff in maintaining contact with a considerable portion of Canada's industrial population. In this effort assistance was rendered by the Dominion Bureau of Statistics.

The Industrial Nursing Service which was commenced during the year had completed only six months operation by the end of March, 1945. During this time 53 plants employing a total of 115,200 persons were visited and special information relative to the problems of first-aid and nursing in industry was provided. In addition, the Industrial Hygiene Nursing Consultant made contact with Directors of Public Health Nursing in each Province as well as with Directors of Nursing Education at various universities, and assistance was rendered in the establishment of standards of practice for Industrial Nurses.

LABORATORIES SECTION

The three laboratories connected with the Division handled about 25 per cent more work than in the preceding fiscal year.

Ottawa

The work of the Ottawa laboratory was devoted mainly to the handling of new problems in air analysis: 165 field determinations were carried out, from which information was provided as to the safety of working environments in which approximately 150,000 Canadian workers were employed. While many of these analyses and determinations were made in the factories, others were of a more complicated nature and samples of air were taken from the factories and analyzed in the laboratory. This information was correlated with medical findings on the job.

During the winter a study of health conditions in the shipbuilding industry in the Maritime Provinces was commenced, and in the light of the findings

information was provided to various establishments so that corrective measures might be taken to eliminate hazards to health. A study of 29 shipbuilding establishments was contemplated and this work will continue into the next fiscal year.

The personnel of the Ottawa laboratory carried out an extensive investigation of the methods of sampling and analyzing industrial atmospheres containing methyl alcohol vapour. Through this work the Division contributed to existing knowledge of the subject and provided new information which could be used by industrial hygienists both in Canada and abroad; thus the routine work of the laboratory was supplemented by special work and the general fund of available knowledge of the subject increased.

Among the substances which present some problems in industry are the chlorinated hydrocarbons, which are used in a variety of trades. The determination of the amount of these substances in factory air is a matter of great importance in the prevention of ill effects to the human body, which excessive exposure to the substances can cause. A special study was made of the methods for determining these substances in air and although that work was not complete by the end of the fiscal year, good progress was made. As a result of this special study an improved method for determining chlorinated hydrocarbons in air will shortly be reported in the industrial hygiene literature.

Winnipeg

The loan of an Industrial Hygiene Chemist of this Division was continued to the Department of Health and Public Welfare of the Province of Manitoba. This officer, in co-operation with the Provincial staff, increased efforts toward prevention of industrial ill-health in that Province. His services were made available for the solution of similar problems in the Province of Saskatchewan. Four hundred and ninety-nine determinations were made on the air of Manitoba factories and 1,698 laboratory analyses of various kinds were conducted. An industrial population of around 30,000 persons was provided with industrial hygiene service by the Division in Winnipeg, toward the operation of which the Federal Division contributes during the war.

Vancouver

The laboratory at Vancouver, which is maintained in co-operation with the Workmen's Compensation Board of that Province, received ample evidence during the fiscal year that the program of the laboratory was proving beneficial in British Columbia factories. An increasing number of enquiries can be reported and, significantly, an increasing number of requests by labour and management for studies of hazards on the job. One hundred and thirty-five plant visits were made, representing an increase of 32 per cent over the previous year. A number of these visits were made in Alberta industry, to which the services of the Vancouver Division have been made available for the solution of industrial hygiene problems especially when related to war production. Fullest co-operation from the Workmen's Compensation Boards and the Departments of Health of both Provinces must be acknowledged.

Three hundred and thirty-one field estimations of factory air were made and 264 analyses of factory air were conducted in the Vancouver laboratory. It is estimated that a total working population of around 28,000 was provided with the protection of the Division's facilities. A complete survey of the industrial health hazards in the aircraft manufacturing and repair industry in British Columbia was carried out and requests for similar surveys in other industries will be given attention during the next year.

CONCLUSION

As a result of the year's work by both the Medical and Laboratory Sections of the Division it has become increasingly apparent that with the return to

peacetime production the demands of employers and employees for assistance in preventing industrial ill-health and in maintaining a healthful working environment will not decline. In spite of industry's preoccupation with the manufacture of war supplies, increased interest in industrial health has been shown by factories engaged in non-war production.

New problems related to the placement of disabled veterans in suitable occupations will replace many of those associated with war production, and industrial hygiene can contribute to the solution of these placement problems, offering information on the effects on health of specific employment and providing data on special protective measures which may be necessary to enable disabled persons to perform various types of work. Preliminary consideration of these and related postwar problems has already started in the Division of Industrial Hygiene.

MEDICAL INVESTIGATION DIVISION

This has been a year of further activity and expansion for the Medical Investigation Division.

During 1942 there was a serious epidemic in Ottawa of mumps and in November and December, 1943, there was an extensive outbreak of influenza. Fortunately no pronounced epidemic occurred during the past year. Nevertheless, the services provided by the Division in checking on illnesses of Federal Civil Servants and absences from work have been greater than in any earlier year.

Comparative figures for the past two years are as follows:

	1944-45	1943-44
Sick leave certificates dealt with.....	53,378	45,296
Examinations and interviews at Head Office (exclusive of Forms 118)	25,840	13,511

During 1944-45 the X-Ray survey of chests of civil servants at Ottawa, started in 1943, was completed. The percentage of active cases of tuberculosis found in the latter stages of the survey was lower than in the initial stages. The opinion of the Division is nevertheless that Civil Service pre-employment X-Ray of chests is indicated, and it is hoped to institute that procedure during the next fiscal year in Ottawa at least.

At a meeting in September, 1944, the Dominion Council of Health recommended that routine Wassermann tests be taken of Civil Servants. Wassermann tests were accordingly started in February, 1945, and by the end of the fiscal year the majority of the staff of the Department of National Health and Welfare had volunteered for blood test. Preparations have also been started to test the staff of other Departments. Considerable assistance in this direction was given to the Division by Dr. A. M. Savoie.

In the last report reference was made to the activities of the Departmental nurses and tribute is again paid to the great value of their work.

VENEREAL DISEASE CONTROL DIVISION

The Venereal Disease Control Division which was discontinued in 1932 and reorganized in 1943-44, continued to function satisfactorily during the year 1944-45. The main features of the year were:

- (a) The development of educational material and a policy with regard to V. D. education;
- (b) A national advertising and educational campaign through the newspapers and radio;
- (c) The introduction of the new concept of "Facilitation" into the legal aspect of venereal disease control;
- (d) A conference of federal-provincial venereal disease control directors;

- (e) Recommendations and implementation of special measures directed toward the problem of venereal disease control among veterans of World War II.

There continued to exist a close integration of the civilian and Armed Forces' programs of venereal disease control. The Army V.D. Control Officer continued to act as Director of the Division of Venereal Disease Control of the Department of National Health and Welfare, and personnel of the Navy and the Army V.D. Control Offices continued to work in the office of the Venereal Disease Control Division of the Department of National Health and Welfare.

FEDERAL ASSISTANCE TO PROVINCES

An item of \$175,000 was voted during 1944-45 for distribution of funds and materials approved on a basis endorsed by the Dominion Council of Health. The Order in Council relating to the distribution outlined the preventive measures which shall be undertaken by each province, including education, epidemiology, record system, conferences and standards for administrative, preventive, diagnostic, and therapeutic procedures.

The division of funds allocated to each province was based, as in 1943-44, on 30 per cent for population, 40 per cent on the extent of the venereal disease problem, and 30 per cent on the financial needs of the province.

The Order in Council provided that these payments were not to be made until the provinces had submitted a comprehensive statement of the present provincial venereal disease control organization, program and budget; a proposed plan for extending and improving the services of the provincial venereal disease control program; a proposed plan for extending and improving provincial and local venereal disease control services, to be carried out with the assistance of funds and material available under the federal allotment; proposed budget for expenditure of the financial portion of the allotment; and certification that provincial or local expenditure on venereal disease control had not been, and would not be, replaced or curtailed through the use of the federal funds. Such moneys so received were to be kept in a separate fund, and any unexpended balance at the end of the fiscal year was to be retained by the province and utilized for the purposes for which such funds were allotted and paid. At the end of the fiscal year, each province was required to submit a detailed statement of its expenditure of the funds so provided, and a detailed narrative and statistical report, indicating the actual accomplishments of the venereal disease control program in the province.

The annual provision of \$50,000 for arsenicals to be distributed to the provinces, continued.

STATISTICS

The notification form of venereal infection, prepared with the assistance of the Dominion Bureau of Statistics, and adopted at the National Venereal Disease Control Conference in December, 1943, was approved in its final form by all the provincial divisions of V.D. Control. By September, 1944, this notification form was in use by all provinces, with the exception of Quebec and Prince Edward Island.

Also, since October 1, 1944, venereal diseases have been included in the weekly communicable disease report of the Dominion Bureau of Statistics, as per the nomenclature on the national notification form. It is now possible to supply comparable statistics on the incidence of venereal diseases for all provinces. Before these statistics can be considered complete and reliable, however, it is necessary that there be much better reporting by private physicians.

The following statistics of the incidence of venereal disease in Canada for 1944 were compiled by the Dominion Bureau of Statistics. The figures for the first nine months were taken from records existing prior to the introduction of the new notification form. Since the nomenclature of venereal disease was not uniform for all provinces, it is not possible to break down cases of syphilis according to types.

CASES OF VENEREAL INFECTIONS REPORTED BY THE PROVINCIAL HEALTH DEPARTMENTS TO THE DOMINION BUREAU OF STATISTICS, 1944

	Gonorrhoea	Syphilis	Other V.D. Infections	Total V.D. Cases
Prince Edward Island.....	20	35		55
Nova Scotia.....	1,663	496	2	2,161
New Brunswick.....	913	573		1,486
Quebec.....	3,936	6,539	4	10,479
Ontario.....	7,317	5,225		12,542
Manitoba.....	1,737	663		2,400
Saskatchewan.....	1,123	360	1	1,484
Alberta.....	1,348	750	8	2,106
British Columbia.....	2,976	1,270		4,246
Canada.....	21,033	15,911	15	36,959

V. D. EDUCATION

The educational section of the Division of V.D. Control was established officially on January 1, 1944, with the appointment of an educational consultant. Some of its immediate tasks included:

- (a) Shaping the policies governing the national V.D. educational program, particularly in relationship to the provincial departments of health.
- (b) Implementing, at earliest possible moment, the recommendations of the Committee on Education and Community Problems, at the first National V.D. Control Conference held in Ottawa, December 6-9, 1943.
- (c) Organizing and developing the resources of the Division for the production of a comprehensive and co-ordinated national educational program.

The dominant policy governing the Division's educational program has been an unqualified recognition of the desirability of the provinces assuming full responsibility for development of V.D. education within their respective jurisdictions. On this premise, the Division has planned and executed every project with a view to giving all possible aid to the provincial health departments and creating citizen awareness of, and support for, the role of the provincial health authorities.

The past year has been an exceedingly active one, and the principal objectives for 1944 were achieved. These activities are outlined in some detail, as follows:

Literature

As one of the most important initial requirements, steps were taken early in the year to provide adequate types and quantities of literature to assist the provincial health departments in launching intensified programs. The financing of this was made possible largely by the co-operation of all provinces, which pooled their annual federal educational grants (totalling \$26,250) for disbursement, on their behalf, by the Division. Approximately \$10,000 was used for procurement of literature which was released to the provinces on a pro rata basis.

With these supplies on hand, it was possible for the provinces, in some instances for the first time, to undertake the distribution of up-to-date information on all essential phases of the V.D. problem. The initial distribution was augmented periodically by materials provided from the Division's operating funds. The total initial distribution of educational material to the provinces was 712,940. Nearly four hundred thousand copies of the all-purpose booklet "Victory Over Disease" were distributed.

An adaptation of a Canadian Army folder "Facts About V.D." was prepared for distribution to the Merchant Navy. A special cover design was drawn by R.C.N. Art Service, and distribution of 50,000 copies of the folder was made possible by the co-operation of the Director of Merchant Seamen, the Canadian Seamen's Union and Divisions of V.D. Control in provinces having port facilities.

Films

It was recognized that modern films were essential to the development of a thorough educational program, and every effort was made to utilize this medium as effectively as possible.

- (a) Fifteen prints of each of the following films were purchased (with pooled provincial funds) and distributed on a pro rata basis:
 - (i) "Fight Syphilis" (one-reel; popular);
 - (ii) "With These Weapons" (one-reel; syphilis control; popular);
 - (iii) "Health is a Victory" (one-reel; gonorrhoea);
 - (iv) "Subject for Discussion" (one-reel; popular);
 - (v) "Syphilis" (three-reel; kodachrome; professional).
- (b) During the latter part of the year, arrangements were made to purchase a few prints of the above films with which to form a film library. The purpose of this library is to make extra prints available to provinces during intensive campaigns.
- (c) Through the co-operation of the National Film Board, prints of "Fight Syphilis" were screened simultaneously on all industrial circuits throughout Canada. A special introductory message was prepared for this release. Over 200,000 workers viewed the film.
- (d) Through the generous co-operation of the R.C.A.F., the Division was granted permission to produce civilian adaptations of the Air Force's technicolour instructional films "For Your Information" (women) and "It's Up to You" (men). Production was started during the latter part of 1944 and it is anticipated that it will be completed early in 1945. The cost of producing these films will be met by pooled provincial grants. Titled "Sixteen to Twenty-six" (women) and "Very Dangerous" (men), prints will be available in both English and French. Dr. J. J. Heagerty, Director of Public Health Services, is the narrator in the English versions.
- (e) A Hollywood-produced two-reel film titled "To the People of the United States", intended for theatre distribution, has been adapted to Canadian use by substitution of an appropriate introduction. The new introduction, made by Lieutenant-Colonel D. H. Williams, features Canada's "four-sector front against V.D."

Advertising Campaign

A six-week national advertising campaign, sponsored by the Department, was carried out during November and the early part of December. Quarter-page to full-page advertisements appeared in over a thousand daily and weekly newspapers and magazines.

The purpose of the campaign was to "condition" the Canadian public in its thinking about V.D. and promote a better understanding of some of the

basic problems. In addition, it had as one of its prime objectives the stimulation of public support for provincial control programs. Public interest was demonstrated by the heavy response to the invitation to request a copy of "Victory Over Disease". These requests were received direct by the provincial authorities or were turned over to them by the Division.

The acceptability of this precedent-setting campaign was demonstrated by complete absence of unfavourable public reaction and the fact that a number of publications, excluded from the campaign (due to financial limitations) vigorously sought copy. The latter fact is particularly significant in that even a year or two ago the most fearless publications would not have considered a V.D. advertisement.

The quality of the advertising is reflected, too, in requests from other countries for reprint privileges.

Radio

Simultaneously with the release of the national advertising campaign, the Department sponsored three weekly half-hour dramatic radio programs on the CBC national network.

The unqualified success of these programs, which also established a precedent in being the first V.D. *dramatic* broadcasts to be released on nation-wide networks, demonstrated the value of this educational technique.

It is planned to reproduce these dramas by means of recordings and electrical transcriptions, for use by provincial health departments. The recordings lend themselves to use in senior high school auditoriums, etc., and the transcriptions, of course, to local radio release.

In addition to the above, the following radio projects were undertaken:

- (a) A half-hour forum discussion on CBC national network. Those participating were: Dr. Malcolm Wallace, Dr. Gordon Bates, Miss Bessie Touzell and Mr. H. C. Rhodes. The discussion dealt with all pertinent aspects of the V.D. problem.
- (b) The CBC co-operated with the Division by featuring the Winnipeg and Halifax experiences in V.D. control on two national news round-up programs.
- (c) Following the August conference of federal-provincial V.D. control officials in Ottawa, a strong recommendation was made to the CBC that the responsibility for checking technical accuracy of V.D. scripts be taken over by the provincial health authorities. This has now gone into effect, thus expediting clearance of scripts.

Pictorial Educational Aids

- (a) Following the successful circulation of a large panel display (36 feet long by 7 feet high) prepared by the Nova Scotia Department of Health, the Division made plans for the production of eleven displays, modified to meet national and provincial needs.
- (b) The Industrial Division of the Wartime Information Board, in co-operation with the Division, prepared and circulated a special graphic sheet dealing with basic V.D. control measures. Distribution, in both French and English, exceeded 100,000 copies, covering practically all industrial plants in Canada. This unusual technique had marked success as both a bulletin board poster and payroll stuffer, and established a record for *requested* copies of any type of graphic sheet issued by W.I.B. Industrial Division.
- (c) A specially constructed display unit was created for poster displays in the central office of V.D. control.

Manual of Educational Techniques

To assist provincial departments of health and other interested organizations to apply tested educational techniques in the development of their programs, the Division prepared early in 1944 a 35-page mimeographed manual, covering methods of organizing special meetings, advice *re* radio and newspaper publicity, etc.

Special Projects

- (a) A professional education service was developed in co-operation with twelve English and two French-language medical journals. The Division furnished a monthly column comprising brief items of interest to the medical profession, under the title "V.D. Briefs". Electros of a specially designed masthead were supplied to the journals without cost.
- (b) A novel professional education technique was initiated during the latter part of the year by the provision of a "blotter message". The first blotter issue drew attention to the need for doing serologic tests whenever practicable. The total distribution of 7,750 English and 3,000 French-language blotters was carried out through the provincial divisions of V.D. control.

A second issue, dealing with the new Dominion reporting form, was also started.

- (c) The need for co-ordinated action in the development of a truly national program, was met in some measure by the publication of a monthly bulletin. Under the titles "V.D. Views" and "La revue des maladies veneriennes", the bulletin publicized the activities of the provincial divisions of V.D. control and provided news of current developments in the national field. With a circulation of approximately 3,000 English and 1,000 French, the bulletin reaches key lay and professional groups in every part of Canada.

THE "FACILITATION" PROCESS

With the re-establishment of the federal Division of Venereal Disease Control, a new concept was introduced into the legal aspect of venereal disease control in Canada. This new concept was termed "facilitation", and may be defined briefly as those unsavoury community conditions which make it easy for a healthy person to meet and become sexually exposed to an infected individual.

Houses of prostitution are the principal factor in facilitation, since they have large numbers of infected personnel readily available for sexual exposure.

Facilitation is not confined, however, to houses of prostitution. The improved system of venereal disease reporting includes specific information about where the patient met the contact and where sexual exposure occurred. These statistics reveal that a disproportionate number of infected "pick-ups" are met in certain dance halls, beer parlours or taverns, hotels, restaurants, night clubs, etc. Similarly, a disproportionate number of sexual exposures occur in some hotels, rooming houses, tourist camps, etc.

Action against facilitation is concerned with reducing the opportunity for infection by absolute repression of prostitution and improved supervision of certain business establishments and public areas.

It was realized, at the outset, that if effective action against facilitation were to be attained, the full cooperation of the police of Canada was imperative. The Chief, Division of V.D. Control, addressed the thirty-ninth annual convention of the Chief Constables' Association of Canada in Victoria in June, 1944. The convention endorsed the "Legal Front" of the national programme by urging that vigorous action be continued against prostitution. The conven-

tion also called upon appropriate authorities to deal with commercial enterprises which fail to correct practices conducive to promiscuous conduct and venereal infection.

Since facilitation is a relatively new concept, it was recognized that there was a need for printed material on the subject. This need was met by the preparation of a manual entitled "Techniques of Action Against Facilitation in V.D. Control", which was primarily designed to assist the health officer responsible for venereal disease control to gain action against facilitation in his community. In addition, it indicates the various agencies having authority to deal with the many phases of facilitation and the techniques they may employ in their programmes of action.

A publication on community action entitled "The Community Attacks Venereal Disease" was also prepared. It outlines what the community must consider in planning a comprehensive venereal disease control programme.

One of the highlights of the year under review was the interest shown by provincial hotel associations in Canada in the facilitation problem. At the present time, the Hotel Association of Canada, in co-operation with this Division, is preparing informative material about venereal disease, to be distributed to the hotel industry.

FEDERAL-PROVINCIAL CONFERENCE OF V.D. CONTROL DIRECTORS OTTAWA, AUGUST 8—11, 1944

The purpose of the Conference was to provide an opportunity for federal and provincial V.D. control administrative officers to discuss plans and interchange ideas related to the control of venereal infection in Canada. A number of items arising out of recent meetings of the Dominion Council of Health were considered. The implementation of many of the recommendations of the National V.D. Control Conference, December, 1943, was discussed.

Delegates included Directors of V.D. Control, Provincial Health Departments; the V.D. Control Officers of the Navy, Army and Air Force; Facilitation Consultant; Educational Consultant; Chief, Federal Division of Child and Maternal Hygiene, and representatives of the Division of Vital Statistics, Dominion Bureau of Statistics, and the Medical Services, Indian Affairs Branch, Department of Mines and Resources.

The role of the federal Division of V.D. Control was approved by the Conference.

The Conference recommended that the compilations of the reports on notifications of new venereal infections, by diagnosis, at present transmitted to the Vital Statistics Branch of the Dominion Bureau of Statistics by all provincial health departments, be included in the weekly communicable disease summary, commencing the week ending September 2nd, 1944. It was recommended that such new notifications be published according to the following diagnostic classification: syphilis, primary; syphilis, secondary; syphilis, other; gonorrhoea; other venereal disease. The proposed development of the civilian adaptations of the R.C.A.F. films "For Your Information" and "It's Up to You" was approved. Problems concerning the management of syphilis and gonorrhoea were discussed.

NATIONAL CONFERENCE ON POSTWAR VENEREAL DISEASE CONTROL ST. LOUIS, MISSOURI, NOVEMBER 9-11, 1944

The conference was sponsored by the United States Public Health Service, and included representatives from Norway, France, England, Mexico, Venezuela, the United States, and Canada.

The Director of the Division of V.D. Control, Department of National Health and Welfare, read a paper on "International Control of Venereal Diseases in the Postwar Period: With Special Reference to Canada".

The dominant note of the conference was that appropriate steps should be taken immediately to prevent a postwar epidemic of venereal diseases, similar to the world-wide epidemic which occurred in 1919-20.

THE VENEREAL DISEASE PROBLEM AMONG VETERANS OF WORLD WAR II

A. *Measures Implemented by Armed Forces Retirement and Discharge Proceedings*

The venereal disease problem among members of the Armed Forces, as it may affect the procedures on retirement and discharge from the Forces, has been one of the principal concerns of the Venereal Disease Control Officers of the Navy, Army and Air Force during the past year. It was considered that a policy should be developed to work smoothly long before the end of the War. The main points of this policy have been adopted as follows:

1. *Case Finding of Syphilis.*—A serologic test for syphilis is done on all personnel of the Navy, Army and Air Force at the time of retirement and discharge proceedings. To ensure further follow-up, the names of all personnel with a positive or doubtful serologic test for syphilis are then submitted to the division of V. D. control of the provincial health department of the province where the former member of the Forces intends to reside.

2. *Prevention of Spread of Venereal Infections.*—Personnel of the Navy, Army and Air Force who are found to have venereal disease in a communicable form at the time of their medical examination prior to retirement and discharge, are neither retired nor discharged from the Service until they have received such treatment as may be necessary to render their infection non-communicable.

3. *Re-assessment of Every Syphilis Infection.*—All personnel of the Navy, Army and Air Force with a history of syphilis infection, contracted either prior to or during their service, are given a complete medical examination for a re-assessment of their syphilis infection. A summary of their case is then submitted to the Division of Venereal Disease Control of the provincial health department of the province where such personnel intend to reside.

B. *Provision by Department of Veterans Affairs of Medical Care for Veterans*

The existing regulations for the provision by the Department of Veterans Affairs of medical care for veterans who require further observation and/or medical care for syphilis are considered to be inadequate. The subject was studied in co-operation with the Director of Medical Services, Department of Veterans Affairs, and amendments to the present regulations were recommended. That Department has submitted the proposed recommendations to the Division of Venereal Disease Control of the provincial departments of health for their comments. It is anticipated that more satisfactory regulations will be put into force in the near future.

VENEREAL DISEASE CONTROL IN THE ARMED FORCES

Close co-operation between the Venereal Disease Control Officers of the Navy, Army and Air Force, and the Venereal Disease Control Division of the Department of National Health and Welfare was maintained during 1944-45. The three Armed Forces intensified the educational phase of the V. D. control programme. Special attention was also given to the development of a policy on retirement and discharge from the Services, relative to V. D. control.

The venereal disease rate of the Royal Canadian Navy, which was 46 per 1000 per annum for 1943, decreased to 32 per 1000 for 1944. The Army V.D. rate, which was 32 per 1000 per annum for 1943, decreased to 27 per 1000 per annum for 1944. The R.C.A.F. V.D. rate, which was the lowest of all three Services in 1943, remained unchanged at 18 per 1000 per annum for 1944.

Since the onset of the war, a total of 53,844 venereal infections have been diagnosed in the three Armed Services: 46,855 cases of gonorrhoea and 6,989 cases of syphilis.

TABLE I.—GONORRHOEA IN THE ARMED FORCES IN CANADA, 1940-1944

Year	NAVY		ARMY		AIR FORCE	
	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum
1940.....	470	51.0	4,677	56.4	494	25.2
1941.....	785	59.8	5,575	40.4	1,695	22.7
1942.....	1,529	59.1	6,233	32.0	2,741	21.1
1943.....	2,643	41.5	6,783	27.3	2,813	16.1
1944.....	2,367	29.5	5,348	24.3	2,702	16.9
TOTALS.....	7,794	.....	28,616	.....	10,445	.....

TABLE II.—SYPHILIS IN THE ARMED FORCES IN CANADA, 1940-1944

Year	NAVY		ARMY		AIR FORCE	
	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum
1940.....	64	6.9	467	5.6	72	3.6
1941.....	120	9.1	923	6.7	243	3.2
1942.....	178	6.8	1,140	5.9	484	3.7
1943.....	274	4.3	1,221	4.9	294	1.6
1944.....	191	2.3	1,129	5.1	189	1.1
TOTALS.....	827	.....	4,880	.....	1,282	.....

TABLE III.—TOTAL VENEREAL DISEASES IN THE ARMED FORCES IN CANADA 1940-1944

Year	NAVY		ARMY		AIR FORCE	
	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum	Number of Cases	Rate per 1,000 per Annum
1940.....	534	58	5,144	62	566	29
1941.....	905	69	6,498	47	1,938	26
1942.....	1,707	66	7,373	38	3,225	25
1943.....	2,927	46	8,004	32	3,107	18
1944.....	2,558	32	6,477	29	2,891	18
TOTALS.....	8,621	.....	33,496	.....	11,727	.....

PENSIONS TO CIVILIAN BLIND

SUMMARY OF ACTIVITIES

Total requests received during fiscal year	875
1. Accepted without examination	179
2. Rejected without examination	11
3. Total number not examined	190
4. Total number examined and accepted	788
5. Referred for examination	713
6. Referred for re-examination	170
7. Total referred for examination or re-examination	883
8. Total number rejected after examination or re-examination	243
9. Total number accepted after examination or re-examination	609
10. Total number rejected on pathology (Items 2 and 8)	254
11. Total number accepted on pathology (Items 1 and 9)	788
Total number of pensions in force as of March 31, 1945	6,663
Total number of persons rejected as at March 31, 1945	2,647

EXPENDITURES, BY MONTHS

April, 1944	\$ 210.00
May	325.00
June	365.00
July	75.00
August	470.00
September	300.00
October	490.00
November	340.00
December	210.00
January, 1945	225.00
February	340.00
March	330.00
Total for year	<u>\$3,680.00</u>

EXPENDITURES, BY PROVINCES

Prince Edward Island	\$ 40.00
Nova Scotia	280.00
New Brunswick	600.00
Quebec	2,270.00
Ontario	235.00
Manitoba	5.00
Saskatchewan	205.00
Alberta .....	.....
British Columbia	45.00
Total for year	<u>\$3,680.00</u>

**REPORT OF MEDICAL ADVISER TO THE FOREIGN EXCHANGE CONTROL BOARD,
UNEMPLOYMENT INSURANCE COMMISSION, AND NATIONAL
SELECTIVE SERVICE**

Foreign Exchange Control Board—

Re applications, on grounds of ill health, for United States funds for travel purposes:

Number of applications perused

690

Unemployment Insurance Commission—

Re applications, on grounds of ill health, for Labour Exit Permits for purpose of establishing residence abroad:

Number of applications perused

1,736

National Selective Service—

Re applications, on grounds of ill health, by persons engaged in essential war work, for permission to change employment:

Number of applications perused	198
Total number of applications perused during fiscal year	<u>2,624</u>

NATIONAL PHYSICAL FITNESS DIVISION

The National Council on Physical Fitness met three times during the fiscal year, twice in Ottawa, on May 23-24 and August 29-30, and once in Winnipeg, on November 2-4, in conjunction with the Canadian Physical Education Association annual convention.

The distinct function of the Council is to advise the National Director of Physical Fitness with regard to a national program, effective through the provincial governments, by passing resolutions on matters pertaining to physical fitness. Some of these resolutions, which are, in effect, Council instructions to the Director, were carried out by the Director, and others, which were referred to the Minister for approval, were followed up by the National Director after such approval was obtained.

In accordance with Section 3 of the National Physical Fitness Act, subsection (11), the Council at its second meeting made rules for regulating its proceedings and the performance of its functions.

Between Council meetings, the National Director, through the Physical Fitness Division of the Department of National Health and Welfare, carried out the instructions referred to him by the National Council. Chairman and members of standing committees of the Council, who have the power to co-opt outstanding leaders throughout the Dominion, keep in constant touch with the National Director so that he is continually kept up to date with developments throughout the country.

The National Physical Fitness Act (Chapter 29 of the Statutes of 1943) came into force by proclamation on October 1, 1943, and by Orders in Council P.C. 509, dated February 15, 1944, and P.C. 1394, dated March 2, 1944, the following persons were appointed members of the National Council on Physical Fitness:—

For term of office expiring December 31, 1944—

W. A. Wellband, Regina,
A. A. Burrige, Hamilton,
Dr. Jules Gilbert, Quebec City,

For term of office expiring December 31, 1945—

Jerry Mathison, Vancouver,
J. H. Ross, Calgary,
Dr. Wm. C. Ross, Halifax,

For term of office expiring December 31, 1946—

Major Ian Eisenhardt, Ottawa,
Minot H. Brewer, Fredericton,
R. Wray Youmans, Winnipeg.

As of March 31, 1945, one new appointment to the Council was pending and steps were being taken to fill the three vacancies created by the retirement of the members whose appointments expired December 31, 1944.

Six of the nine provinces in Canada have signed the agreement with the Dominion Government to co-operate under the National Physical Fitness Act:—

- Agreement with Manitoba expires May 1, 1947
- Agreement with British Columbia expires April 1, 1946
- Agreement with Alberta expires Jan. 1, 1946
- Agreement with Saskatchewan expires Jan. 1, 1954
- Agreement with Nova Scotia expires Jan. 1, 1948
- Agreement with Prince Edward Island expires Jan. 1, 1946

The provinces of Ontario, Quebec and New Brunswick have not as yet signed any agreement with the Dominion Government concerning the National Physical Fitness Act. In each of the provinces there is none the less great interest in the physical fitness program.

The National Physical Fitness Act and the appointment of the National Council on Physical Fitness have focussed considerable interest upon physical education, sports, games and recreation in Canada. The volume of correspondence received by the Physical Fitness Division from voluntary agencies in the field of youth welfare, from sports organizations, as well as from service clubs engaged in public welfare, indicates that the National Council on Physical Fitness and the Physical Fitness Division are being recognized as the official bodies through which leadership and assistance can be obtained for the promotion of health through physical education, sports, games and recreation. In support of this, the Division has received resolutions from various bodies endorsing the National Physical Fitness Act, as well as suggestions from national sports organizations and pledges of their co-operation.

The following resolution passed by the Council expresses the Council's concept of the meaning of physical fitness and the relationship which should be developed between the programs carried out under its auspices and those of kindred organizations throughout Canada:—

"Be it Hereby Resolved that this Council interprets physical fitness to mean the best state of health, to which has been added such qualities as strength, agility and endurance, as are necessary for a life of maximum service to one's family and country. Further; that although the purpose of the Act is to develop the physical fitness of the people of Canada, this Council stresses the fourfold nature of fitness, which is spiritual, moral, mental and physical, and that total fitness must originate in the home, the church, the school and the community. Further; that where local physical fitness programs are established, although government-sponsored, these programs should be a community enterprise, locally directed."

Reports have been received from each of the co-operating provinces outlining the actual work carried out under the National Physical Fitness Act. In many other ways the influence of Council resolutions and deliberations has made itself felt and been directly responsible for actions taken in the promotion of health.

The need of leadership training courses and additional degree courses in universities has also been recognized by the Council. On its recommendation a letter was sent to the provincial Ministers of Education by the Minister of National Health and Welfare, asking the provincial Ministers to encourage the setting up of such courses in the various universities. The response to this has been highly gratifying, and it is confidently expected that degree courses in physical education, health and recreation will shortly be established in one university in the West, one in the Maritimes, and one in central Canada. At present, only the University of Toronto has a degree course and McGill University a diploma course.

In this connection, the Standing Committee on Leadership Training, with the co-operation of the Canadian Physical Education Association, prepared a guide for the setting up of a model curriculum.

Community recreation, camping for children, community centres, sports, games and cultural activities, have been debated by the Council and the various resolutions passed, which have been given some publicity in the press, have aroused considerable interest throughout the whole of the Dominion. Upon request, booklets and pamphlets dealing with these matters have been distributed from Ottawa. Most of these booklets at present, however, are of United States origin; the only booklets we have issued from Canada are the bulletins containing minutes of meetings of the Council and some mimeographed material dealing with addresses by the National Director and with community centres. One of the urgent needs is the preparation of specifically Canadian reference pamphlets covering these various fields of interest.

The National Director has also circularized to provincial members various kinds of information relevant to physical education such as news from abroad, new ideas in physical education, etc.

Two films have been prefaced by the National Director and distributed through the industrial circuit of the National Film Board, urging workers to organize their own recreational activities. After having served on that circuit, these films became the property of this Division and have been distributed among the provinces co-operating with the Dominion Government. One film depicting activities in British Columbia was made especially for the Physical Fitness Division and prints have been distributed to the other provinces.

That the interest which the Council has awakened throughout Canada in regard to camping for children is having results is evidenced by the fact that the Associated Boards of Trade of Western Manitoba have pledged themselves to raise \$50,000 for a camp for children, to be established at Riding Mountain National Park, Manitoba.

The Government allotment of \$225,000 to be distributed to the provinces on a per capita basis, and \$25,000 for the work of the Council and the National Director, proved sufficient for the first year, which has been mainly one of evolving a policy and finding ways and means of putting it into effect. Actually only two of the six co-operating provinces are shown in the following financial statement as having received any grants in aid during the year under review. The accounts for the other provinces covering their expenditures for the year under review were received too late for inclusion in the 1944-45 financial statement and will be included in the financial statement for the year 1945-46.

NATIONAL PHYSICAL FITNESS FUND

FINANCIAL STATEMENT FOR FISCAL YEAR ENDED MARCH 31, 1945

GRANTS TO PROVINCES

Appropriated 1943-44		\$225,000 00	
Less expended 1943-4 .....		.....
Balance on hand, April 1, 1944		225,000 00	
Less expended 1944-5:			
Nova Scotia	7,418 43		
British Columbia	16,015 75	23,434 18	
Balance on hand, March 31, 1945			\$201,565 82

ADMINISTRATION

Appropriated 1943-44		\$ 25,000 00	
Less expended 1943-4		853 60	
		<hr/>	
Balance on hand, April 1, 1944		24,146 40	
<i>Less expended 1944-5:</i>			
Salaries	6,586 37		
Cost of Living Bonus	208 15		
Transportation and Travel-Staff-net less refunds	4,029 58		
Transportation and Travel-Advisory Board National Council-net less refunds	3,668 93		
Advertising and publicity	2,602 04		
Telephones, etc	260 76		
Equipment	413 18		
Office Supplies	874 87		
Freight and Express	24 81		
Sundries	49 00	18,717 69	
		<hr/>	
Balance on hand March 31, 1945 ..			5,428 71
			<hr/>
TOTAL			\$206,994 53
			<hr/>

Until all the provinces have agreed to undertake co-operative programs under the National Physical Fitness Act, it will not, of course, be possible to utilize to the full the amount of \$225,000 that has been appropriated for grants to the provinces. It is not possible under the Act to divert for use in other provinces the proportionate per capita grants which are not being claimed by Ontario, Quebec and New Brunswick. Already, however, the co-operating provinces are reaching or exceeding the maximum limits of expenditure which can be shared by the Federal Government under the Act as it stands at present. These provinces are naturally anxious to receive a further measure of support for their expanding programs than the Act can now permit.

So far as administrative expenses are concerned, the allotment of \$25,000 proved to be slightly more than adequate for the year under review. The extent to which this will suffice for future years will depend, of course, on the growth and expansion of the Physical Fitness program.

Between Council meetings, the National Director has had a busy itinerary attending meetings, either called by himself or called by other organizations, Dominion, provincial and municipal bodies, and has inspected recreational facilities and activities from coast to coast.

In spite of the many voluntary agencies in Canada in the field of youth welfare, sports and games, physical education and recreation, and in spite of the work which is carried on in our schools and colleges, it is evident that our natural facilities such as national parks, mountains, lakes and rivers, are not used to the fullest extent for the promotion of health. It is also evident that although we have excellent leadership material for a crusade for more "fresh air and sunshine" for Canadians, such latent leadership is not being fully developed at the present time, and that there is a great necessity for the setting up of training schools and the provision of positions for graduates of such schools. These training programs could be of especial benefit to the large numbers of young men and women who will be demobilized at the cessation of hostilities.

In connection with the training of instructors and leaders under the National Physical Fitness Act, the National Council passed the following resolution:—

"As many excellent leaders in physical fitness and recreation are serving at present in His Majesty's Services, the Council recommends that the responsible provincial departments use this source of potential leaders."

The National Director then contacted the various officials in the Departments of Labour and Veterans Affairs and advised the provincial members on the setting up of training courses in the various provinces. In response to this, several provincial departments have announced that leadership training courses will be set up during the year 1945-46.

NUTRITION DIVISION

All sections of the work of the Division of Nutrition showed increased activity during the past fiscal year, although extensive changes in personnel have been made.

Industrial work has continued unabated, as shown by the following figures:—

- Inspections of in-plant food services—657
- Approximate percentage of plants having meal services—60%
- Revisits to ascertain improvement—276 or 42%
- Percentage of revisited plants showing improvement—60%
- Plants having no food facilities—50 or 8%
- Employees in 1942 eating "good" lunches—28%; "poor" lunches 22%
- Employees in 1944 eating "good" lunches—48%; "poor" lunches 6%
- Special requests answered—154
- Printed matter distributed in request only—100,000 pieces
- Total number of employees in plants contacted regularly about 600,000.

Assistance was given to the industrial work of the National Film Board, the Wartime Information Board, the Health League of Canada and others. A Manual on Quantity Food Service Operation was prepared. Increasing help was given to institutions in regard to dietetics. A survey of all barracks feeding operations was started for the Royal Canadian Mounted Police and great improvement is already noted. Advice on feeding in penitentiaries included an entirely new set of food records to assist the accounting.

The Division of Information Services was aided in its work by the provision from outside sources of 100,000 copies of a Lunch Box Folder and 400,000 copies of a Kitchen Wall Chart for distribution to the public. Numerous bulletins and press releases were sent out. The appointment of Regional Nutritionists resident in different parts of Canada greatly increased the number of contacts made. All this work, as well as distribution of material, was carried out by arrangement with Provincial Health Departments. Nearly 200 speeches were given during the year in over 100 communities. These included seven refresher courses in nutrition. An estimated audience of 20,000 people was thus reached directly and many others indirectly. A display "Nutrition and Public Health" was shown at more than twenty conferences. A slidefilm on "Rural School Lunches" was prepared in Ottawa and distributed free to every province. A monthly publication "Canadian Nutrition Notes" was started in November and now has a circulation of almost 7,000. Seventy-five thousand copies of a new edition of our booklet "Healthful Eating" were printed, but demand still exceeds supply.

The Research Section was augmented by new staff. Work progressed on a Table of Food Composition. A survey of food consumption in the Ottawa area was made in co-operation with the Department of Agriculture. A study of the analytical losses in nutrients in industrial cafeterias was carried out. A medical officer spent some time in the United States studying methods of assessing nutritional status, and work on this subject was done in Ottawa. Special help was again given to the Food Consumption Levels study of the Combined Food Board.

Special work by the Director included (1) representing Canada on the Vitamins Committee of the Combined Food Board, (2) attending meetings of the Food and Nutrition Board of the United States National Research Council,

(3) serving on numerous Ottawa Committees, (4) continuing to advise the Foods and Ration Administrations of the Wartime Prices and Trade Board, (5) acting as Secretary of the Canadian Council on Nutrition, and its Committees.

Facilities and funds were provided for the preparation of a report on "The Relation of Nutrition to the Production and Distribution of Food in Canada."

CANADIAN COUNCIL ON NUTRITION

During the past fiscal year, one meeting of the Canadian Council on Nutrition was held, and several meetings of Committees, as follows: Executive, 4 meetings; Food Analysis, 1 meeting; Surveys, 1 meeting; School Lunches, 1 meeting.

The Executive Committee gave technical advice and opinions to the Nutrition Division on matters referred to it. The Executive also had the responsibility of planning the next annual Council meeting, to be held June 8 and 9, 1945.

The Food Analysis Committee has continued its grants of money to various universities for work on (a) assays for the Nutrition Division, (b) bioassay for ascorbic acid, (c) collaborative studies on methods of assay.

The Surveys Committee reviewed the results of survey methods, recently used by this Department and the Department of Agriculture, and drew up tentative plans for rural survey work using a new technique.

The Committee on School Lunches completed a detailed report on federal aid for school lunches.

KING GEORGE V SILVER JUBILEE CANCER FUND FOR CANADA

The King George V Silver Jubilee Cancer Fund was established on June 3, 1935, by Trust Deed between Her Excellency the Countess of Bessborough and the Board of Trustees of the Fund. The membership of the Board was as follows:

Chairman, The Chief Justice of Canada.

The Prime Minister of Canada.

The Leader of the Opposition.

The Minister of Pensions and National Health (now the Minister of National Health and Welfare).

The Chairman of the Health Committee, Canadian Life Insurance Officers Association.

The Chairman, Canadian Medical Association Committee on Cancer.

The Honorary Dean, Medical Faculty, University of Montreal.

Honorary Secretary, The Deputy Minister of Pensions and National Health (now the Deputy Minister of National Health and Welfare).

Honorary Solicitor, the Deputy Minister of Justice.

Honorary Treasurer, The Deputy Minister of Finance.

Under the Trust Deed the Trustees were authorized to make expenditures "for purposes of research, the provisions of radium or other diagnostic or treatment agents, for hospitals having efficient staffs but not sufficient money, education of the laity as to the importance of early suggestive symptoms being investigated, providing scholarships for promising medical students for the purpose of preparation for teaching in Medical schools of Canada, providing refresher courses in different sections of each province for the practising physicians and for any other similar purposes or objects which will in their judgment best serve the main purpose of the Fund, namely: to provide relief from the high mortality rate from cancer in Canada."

In 1937 the Trustees authorized the payment of an annual grant of \$14,000 to the Canadian Medical Association. In 1940 it was agreed with the Association that half the grant would be paid by the Association to the Canadian Society for Control of Cancer. In view of the difficulty which the Canadian Medical Association was experiencing in attempting to carry on educational work among the medical profession during wartime, the annual grant was, at the request of the Association, reduced in 1942 to \$7,000 and paid direct to the Canadian Society for Control of Cancer.

The following is a financial statement of the Fund as at March 31, 1945:—

General Subscription ...	\$313,533 22	Paid to Canadian Medical Association	\$ 93,500 00
Interest	119,716 86	On deposit in Finance Department	489,000 00
Paid by Insurance Companies	50,000 00	Bank balance	750 08
Dominion Government Grant	100,000 00	G. L. Coade Estate—	
G. L. Coade Estate	600 00	Estimate	600 00
	<u>\$538,850 08</u>		<u>\$583,850 08</u>

WELFARE BRANCH

FAMILY ALLOWANCES DIVISION

Prior to the proclamation on October 13, 1944, of the Act creating the Department of National Health and Welfare, steps had already been taken to lay the groundwork for administering the Family Allowances Act which had been assented to on August 15, 1944.

One of the earliest steps was to explore the possibilities of using Provincial Vital Statistics facilities to check and control the Departmental records for Family Allowance payments. This task was assumed by the Vital Statistics Branch of the Dominion Bureau of Statistics. The Bureau succeeded in working out a plan whereby, generally, provincial records became available for federal use in this field. By the end of March, 1945, agreements covering the details of the procedures involved had been entered into between the Dominion and most of the provinces.

The technical details of photographing records, punching control cards, preparing annual record books covering the past sixteen years, and ensuring that current data continued to flow to Family Allowances offices, need not be enumerated here. Suffice it to state that both federal and provincial agencies involved have done and are still doing an invaluable and most painstaking service for the Department. Eventually the task of verifying claimed dates of birth and of checking deaths, for the purpose of preventing overpayment of Family Allowances, will go very smoothly because of this cooperative effort.

The selection of senior staff for Family Allowances proceeded during December, 1944, and early 1945. The Civil Service Commission provided generous assistance through its Organization Branch and conducted examining boards as necessary. On February 1st, the National Director of Family Allowances took over direct responsibility for the program of organization which had up to that point been carried by the Deputy Minister of Welfare. Before the fiscal year ended most of the Regional Directors had assumed their duties in the respective Provinces.

The Province of Prince Edward Island was chosen for initial registration in order to determine some of the problems inherent in the far larger registration in other Provinces. Because of its small size and fairly homogeneous population, Prince Edward Island afforded an ideal proving ground. Registration began

there on February 1st, 1945 and proceeded rapidly. Within a month the majority of eligible families had registered. An opportunity was thus furnished, in registering 10,000 families with only moderate pressure of time, staff shortage, and similar restrictions, to develop procedures and processes to handle registration forms from more than 1½ million families later. All branches of Government service involved, including Vital Statistics and Treasury, were able to study the Prince Edward Island registration carefully and at close hand. An opportunity was also afforded to develop regulations under the Act, which, while official only for Prince Edward Island, acted as a guide for other regions, pending the provision of uniform regulations for all Canada. These regulations for Prince Edward Island were passed by Order in Council on February 15, 1945.

In organizing regional offices during February and March 1945, the officers administering Family Allowances encountered all the problems of procuring staff, space, and equipment that could have presented themselves. However, with the full cooperation of the Department of Public Works, the Civil Service Commission, and others, it was found that by mid-March the essentials at least for beginning national registration were at hand.

Accommodation was procured for the Regional Offices as follows:—

Victoria, B.C.	In the Weiler Building, Government Street
Edmonton, Alta.	In the Edmonton Motors Building, 10209— 100th Avenue
Regina, Sask.	In the Saskatchewan Motors Building, Broad Street
Winnipeg, Man.	Temporarily in the Travellers Building, Ban- natyne Street
Toronto, Ont.	Temporarily at 21 Wellington Street East
Quebec, Que.	Temporarily in the Drill Hall, Dorchester Street
Fredericton, N.B.	Temporarily in the Hiram Lodge Building
Halifax, N.S.	In the Brenton Building, Sackville and Market Streets
Charlottetown, P.E.I.	In the Jordan Building, 59 Queen Street.

By March 31st, 1945 an administrative staff of about 195, exclusive of staff engaged by the Comptroller of the Treasury, had been assembled and trained, and each of the nine regional offices was ready for registration. The work of recruiting staff had not of course been completed by the end of the fiscal year.

Distribution of registration forms through the facilities of the Post Office Department was almost complete by the end of March. Upwards of two million forms were placed in the homes of Canada in order to make registration easy and to secure it early.

Completion of registration forms by parents was made relatively easy by the distribution of explanatory pictorial sheets. This proved most effective. It was part of a thorough-going publicity plan which, making use of newspapers and radio mainly, produced an immediate national interest in early registration and explained fully how to effect it.

Registration generally began on March 22nd and forms commenced to return in volume on March 26th. Provision had been made in most regions to secure the services of voluntary workers to aid in opening mail and to do certain of the primary processing of forms. These voluntary workers, supplied largely by the Women's Voluntary Services, performed splendidly. Many continued for several weeks. In all more than 1,500 individual volunteers gave their time and talents to this work. It enabled the registration to proceed well from the very start.

Registration, which averaged about 38,000 daily, had reached a total of 230,000 by March 31st, 1945, and the administrative processes were by then well in hand. Staff was gradually being built up, space improved, and the essential equipment had arrived. The machinery was in order to meet the onerous demands to come, with more than one million families still to register before July 1st.

ADMINISTRATION BRANCH

GENERAL

Immediately following the appointment of the Deputy Ministers on November 3, 1944, steps were taken to organize an Administration Branch to serve the entire Department. In this Branch were to be included the following activities: Personnel; Legal Services; Information Services; Office Services (Accounts, Estimates, Central Registry, Stenographic Pool, Messengers, Parliamentary Papers, Duplicating etc.); Space, Equipment and Supplies; and Research.

The services of a number of officials were secured either by appointment or on loan from the Armed Services or other Government Departments, and organization commenced of various Divisions to handle these activities. While many difficulties were encountered due to lack of space, staff and equipment, by the end of the fiscal year the nucleus at least of the Administration Branch was functioning.

DIVISION OF INFORMATION SERVICES

The Division of Information Services (formerly the Publicity and Health Education Service) began operating with a larger staff in January, 1945.

Health.—Educational services to the Provincial Departments of Health and to the public were continued. Plans were laid for an extension of these services to both Provinces and the public now that the European war is over. Consultations with the provinces and private agencies for this extension of services are now underway.

Through the cooperation of the Canadian Broadcasting Corporation and most of the privately-owned stations, the National Health Notes were broadcast daily at no cost to the government. These Notes were supplied monthly to 75 cooperating stations out of a total of 87 radio stations across the Dominion. Sixty-two stations broadcast these Notes in English and thirteen in French.

A regular service has been extended to the Canadian Nurses Association. Through our radio facilities, "nursing notes" have been released to the public stressing the urgent need for nurses, at home and abroad. The Association has recently asked the Service to continue to grant them the benefit of this channel to the public.

A total of 48,580 individual requests for health publications were received during the year. In response to these requests, 144,300 booklets were distributed—98,670 in English and 45,630 in French. Many requests for literature not available from the Department were turned over to other federal and provincial departments. This Division also assisted the Nutrition Division in the distribution of literature on nutrition.

Welfare.—The Division of Information Services, in cooperation with other governmental information agencies and private concerns, prepared the informational campaign on the registration of children under the Family Allowances Act. Newspapers and radio were used extensively during this campaign. Several newsreel stores and prepared newsclips were placed in theatres. A Questions and Answers Booklet on Family Allowances was produced and distributed in quantities of 200,000 English and 75,000 French. A supplement to this booklet on the relation of income tax deductions for children to Family Allowances was

also prepared and distributed. Three thousand six-sheet Collatype displays were circulated to display points throughout the country. A number of national network broadcasts were arranged during the registration campaign on both French and English networks. Government agencies cooperating on the work of this campaign were: Wartime Information Board, Canadian Broadcasting Corporation and the National Film Board.

PERSONNEL DIVISION

The total permanent and temporary staff of the Department as at March 31, 1945 was as follows:

	STAFF			SALARIES (Annual Rates)		
	Perm- anent	Temp- orary	Total	Perm- anent	Temp- orary	Total
<i>Departmental Administration—</i>	No.	No.	No.	\$	\$	\$
Ottawa.....	9	27	36	15,360	51,480	66,840
Total.....	9	27	36	15,360	51,480	66,840
<i>Health Branch—</i>						
Province of Quebec.....	17	11	28	40,200	12,610	52,810
Province of Nova Scotia.....	22	42	64	50,240	52,810	103,050
Province of Ontario.....	12	3	15	22,560	5,700	28,260
Province of Manitoba.....	8	4	12	17,940	5,880	23,820
Province of Saskatchewan.....		1	1		1,500	1,500
Province of Alberta.....	2	2	4	3,480	3,960	7,440
Province of British Columbia.....	25	22	47	50,340	30,370	80,710
Province of New Brunswick.....	14	8	22	30,795	10,160	40,955
Overseas.....	4	4	8	12,550	2,670	15,220
Ottawa.....	68	126	194	181,800	195,800	377,600
Total.....	172	223	395	409,905	321,460	731,365
<i>Welfare Branch—</i>						
Province of Prince Edward Island.....		10	10		13,380	13,380
Province of Nova Scotia.....		10	10		12,540	12,540
Province of New Brunswick.....	1	8	9	1,260	12,420	13,680
Province of Quebec.....	5	41	46	7,380	53,760	61,140
Province of Ontario.....		45	45		61,380	61,380
Province of Manitoba.....		17	17		23,160	23,160
Province of Saskatchewan.....		14	14		24,420	24,420
Province of Alberta.....		14	14		19,800	19,800
Province of British Columbia.....	1	24	25	3,720	31,980	35,700
Ottawa.....	1	3	4	9,000	10,020	19,020
Total.....	8	186	194	21,360	262,860	284,220
Grand Total.....	189	446	625	446,625	635,800	1,082,425

Seasonal employees: \$7,283 (During the navigation season 4 persons were employed whose period of service does not include the end of the fiscal year.)

CHIEF TREASURY OFFICER

Appended are the Chief Treasury Officer's Statement of Allotment Balances and Statement of Revenue for the fiscal year.

Respectfully submitted,

G. B. CHISHOLM,

Deputy Minister of National Health and Welfare (Health).

G. F. DAVIDSON,

Deputy Minister of National Health and Welfare (Welfare),

APPENDIX I

STATEMENT OF ALLOTMENT BALANCES AS AT MARCH 31, 1945

Vote No.	Name of Vote	Appropriation		Net Expenditure		Unexpended Balance		Commitments forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
Statute	Salary of the Minister.....	4,677	40	4,677	40				
Statute	Motor Car Allowance to Minister.....	935	50	935	50				
511	Departmental Administration, including expenses incidental to organization.....	1,000,000	00	208,353	76	791,646	24	14,636	34
213 } 528 }	Branch Administration—								
	Salaries.....	35,415	00	28,032	10	7,382	90		
	Cost of Living Bonus, etc.....	4,551	00	3,387	53	1,163	47		
	Advertising and Publicity.....	2,500	00	1,820	45	679	55		
	Telephones, Telegrams and Postage....	400	00	318	78	81	22		
	Equipment.....	500	00	69	31	430	69	53	46
	Sundries.....	600	00	284	48	315	52		
	Materials and Supplies.....	2,000	00	1,560	57	439	43		
	Freight, Cartage and Express.....	500	00	284	47	215	53		
	Transportation and Travelling Expenses.....	13,800	00	5,718	17	8,081	83		
		60,266	00	41,475	86	18,790	14	53	46
214 } 529 }	Food and Drugs—								
	Salaries.....	150,785	00	147,127	04	3,657	96		
	Cost of Living Bonus, etc.....	10,975	00	10,773	24	201	76		
	Telephones, Telegrams and Postage....	2,700	00	2,554	72	145	28		
	Equipment.....	5,500	00	3,912	32	1,587	68	219	57
	Sundries.....	3,400	00	3,332	29	67	71		
	Professional and Special Services.....	1,300	00	869	21	430	79		
	Materials and Supplies.....	9,500	00	6,898	43	2,601	57	3,083	31
	Freight, Cartage and Express.....	700	00	629	92	70	08		
	Transportation and Travelling Expenses.....	14,400	00	13,564	33	835	67		
	Less Recoveries—Analysis Food and Drugs—Department of National Defence.....	-10,000	00	-10,000	00				
		189,260	00	179,661	50	9,598	50	3,302	88
215 } 530 }	Opium and Narcotic Drugs—								
	Salaries.....	40,345	00	40,031	60	313	40		
	Cost of Living Bonus, etc.....	3,912	00	3,730	82	181	18		
	Telephones, Telegrams and Postage....	300	00	239	00	61	00		
	Equipment.....	100	00	1	25	98	75		
	Sundries.....	200	00	140	82	59	18		
	Professional and Special Services.....	24,200	00	24,136	35	63	65		
	Materials and Supplies.....	1,000	00	608	83	391	17		
	Transportation and Travelling Expenses.....	4,900	00	4,560	75	339	25		
		74,957	00	73,449	42	1,507	58		
216	Proprietary or Patent Medicines—								
	Salaries.....	13,140	00	12,467	50	672	50		
	Cost of Living Bonus, etc.....	1,432	00	1,306	20	125	80		
	Sundries.....	100	00	36	37	63	63		
	Professional and Special Services.....	2,000	00	2,000	00				
	Materials and Supplies.....	400	00	294	61	105	39		
	Transportation and Travelling Expenses.....	100	00	19	10	80	90		
		17,172	00	16,123	78	1,048	22		

Vote No.	Name of Vote	Appropriation		Net Expenditure		Unexpended Balance		Commitments forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
217	Quarantine and Leprosy—								
	Salaries	113,475	00	113,086	94	388	06		
	Cost of Living Bonus, etc.	10,176	00	9,720	38	455	62		
	Telephones, Telegrams and Postage ..	1,500	00	1,426	27	73	73		
	Equipment	5,000	00	4,354	63	645	37	288	55
	Lands and Buildings	30,000	00	123	11	29,876	89		
	Sundries	4,200	00	3,781	62	418	38		
	Professional and Special Services	1,300	00	956	75	343	25		
	Materials and Supplies	18,000	00	17,820	13	179	87	1,092	38
	Freight, Cartage and Express	400	00	293	02	106	98		
	Transportation and Travelling Expenses	2,600	00	2,297	00	303	00		
		186,651	00	153,859	85	32,791	15	1,380	93
218 } 531 }	Laboratory of Hygiene—								
	Salaries	104,005	00	96,589	14	7,415	86		
	Cost of Living Bonus, etc.	12,047	00	8,242	17	3,804	83		
	Equipment	9,000	00	7,034	73	1,965	27	2,395	32
	Sundries	8,500	00	8,057	11	442	89		
	Materials and Supplies	18,000	00	17,257	57	742	43	1,716	79
	Freight, Cartage and Express	1,000	00	600	69	399	31		
	Transportation and Travelling Expenses	6,500	00	5,304	22	1,195	78		
		159,052	00	143,085	63	15,966	37	4,112	11
219	Immigration Medical Inspection—								
	Salaries	38,450	00	35,602	86	2,847	14		
	Cost of Living Bonus, etc.	1,571	00	1,333	75	237	25		
	Telephones, Telegrams and Postage ..	800	00	714	94	85	06		
	Equipment	800	00	323	59	476	41		
	Sundries	2,400	00	2,394	68	5	32		
	Professional and Special Services	100	00	75	58	24	42		
	Rents	3,500	00	3,446	96	53	04		
	Material and Supplies	900	00	666	74	233	26		
	Freight, Cartage and Express	100	00	3	23	96	77		
	Transportation and Travelling Expenses	1,000	00	396	78	603	22		
		49,621	00	44,959	11	4,661	89		
220 } 532 }	Child and Maternal Hygiene—								
	Salaries	10,560	00	10,560	00				
	Cost of Living Bonus, etc.	221	00	221	00				
	Advertising and Publicity	44,000	00	19,389	33	24,610	67	24,610	67
	Sundries	1,300	00	351	33	948	67		
	Professional and Special Services	100	00			100	00		
	Freight, Cartage and Express	1,200	00	1,077	37	122	63		
	Transportation and Travelling Expenses	2,000	00	829	50	1,170	50		
		59,381	00	32,428	53	26,952	47	24,610	67
221 } 533 }	Public Health Engineering—								
	Salaries	28,815	00	27,631	57	1,183	43		
	Cost of Living Bonus, etc.	2,237	00	1,415	42	821	58		
	Telephones, Telegrams and Postage ..	1,000	00	848	12	151	88		
	Equipment	500	00	262	40	237	60	16	00
	Sundries	1,800	00	1,312	36	487	64		
	Materials and Supplies	1,700	00	612	83	1,087	17		
	Transportation and Travelling Expenses	7,300	00	5,702	57	1,597	43		
		43,352	00	37,785	27	5,566	73	16	00

Vote No.	Name of Vote	Appropriation		Net Expenditure		Unexpended Balance		Commitments forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
222) 534)	Treatment of Sick Mariners—								
	Salaries.....	40,365	00	38,189	80	2,175	20		
	Cost of Living Bonus, etc.....	5,611	00	5,412	14	198	86		
	Telephones, Telegrams and Postage.....	1,000	00	764	95	235	05		
	Equipment.....	1,000	00	603	98	396	02		12 00
	Lands and Buildings.....	1,500	00	155	81	1,344	19		150 00
	Sundries.....	3,000	00	2,502	06	497	94		
	Professional and Special Services.....	250,000	00	232,822	01	17,177	99		
	Rents.....	2,400	00	2,254	00	146	00		
	Materials and Supplies.....	24,300	00	18,866	67	5,433	33		695 13
	Transportation and Travelling Expenses.....	3,000	00	2,196	16	803	84		
		332,176	00	303,767	58	28,408	42		857 13
223	Industrial Hygiene—								
	Salaries.....	6,600	00	6,096	59	503	41		
	Cost of Living Bonus, etc.....	605	00	205	28	399	72		
	Telephones, Telegrams and Postage.....	100	00	46	19	53	81		
	Equipment.....	500	00	308	06	191	94		1 50
	Sundries.....	400	00	369	12	30	88		
	Transportation and Travelling Expenses.....	400	00	279	83	120	17		
		8,605	00	7,305	07	1,299	93		1 50
224) 535)	Medical Investigation Division—								
	Salaries.....	23,350	00	17,859	77	5,490	23		
	Cost of Living Bonus, etc.....	1,146	00	1,067	62	78	38		
	Sundries.....	100	00	43	49	56	51		
	Professional and Special Services.....	3,500	00	2,178	30	1,321	70		
	Materials and Supplies.....	500	00	391	89	108	11		
	Transportation and Travelling Expenses.....	100	00	19	65	80	35		
		28,696	00	21,560	72	7,135	28		
225) 536)	Nutrition Service—								
	Salaries.....	40,090	00	26,450	54	13,639	46		
	Cost of Living Bonus, etc.....	4,591	00	2,281	82	2,309	18		
	Advertising and Publicity.....	4,000	00	3,370	40	629	60		911 55
	Telephones, Telegrams and Postage.....	400	00	267	37	132	63		
	Equipment.....	500	00	382	06	117	94		31 40
	Sundries.....	300	00	280	38	19	62		
	Professional and Special Services.....	1,000	00	1,000	00				
	Materials and Supplies.....	2,300	00	1,935	18	364	82		83 30
	Transportation and Travelling Expenses.....	10,000	00	7,550	35	2,449	65		
		63,181	00	43,518	10	19,662	90		1,026 25
226) 537) 447)	Venereal Diseases—Administration—								
	Salaries.....	12,350	00	11,898	20	451	80		
	Cost of Living Bonus, etc.....	1,304	00	966	87	337	13		
	Advertising and Publicity.....	115,250	00	70,736	22	44,513	78		10,929 00
	Sundries.....	1,500	00	1,347	83	152	17		
	Materials and Supplies.....	2,500	00	1,635	13	864	87		
	Transportation and Travelling Expenses.....	4,400	00	3,155	49	1,244	51		
		137,304	00	89,739	74	47,564	26		10,929 00
227) 538)	Venereal Diseases—Assistance to Provinces.....	200,000	00	175,622	14	24,377	86		15,899 96
228	Venereal Diseases—Distribution of Arsenicals.....	50,000	00	43,533	92	6,466	08		
229	Grants to Institutions Assisting Sailors.....	2,600	00	2,600	00				

Vote No.	Name of Vote	Appropriation		Net Expenditure		Unexpended Balance		Commitments forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
MISCELLANEOUS GRANTS									
230	Canadian Welfare Council.....	8,100	00	8,100	00				
231	Canadian National Committee for Mental Hygiene.....	10,000	00	10,000	00				
232	Health League of Canada.....	5,000	00	5,000	00				
233	Canadian National Institute for the Blind.....	18,000	00	18,000	00				
234	L'Association Canadienne Francais des Aveugles.....	4,050	00	4,050	00				
235	L'Institut Nazareth de Montreal.....	4,050	00	4,050	00				
236	Montreal Association for the Blind.....	4,050	00	4,050	00				
237	Canadian Tuberculosis Association.....	20,250	00	20,250	00				
238	Victorian Order of Nurses.....	13,100	00	13,100	00				
239	St. John Ambulance Association.....	4,050	00	4,050	00				
240	Canadian Red Cross Society.....	10,000	00	10,000	00				
Statute	Miscellaneous Gratuities.....	170	00	170	00				
	Total Ordinary.....	2,768,706	90	1,725,262	88	1,043,444	02	76,826	23

War Appropriations

Vote No.	War Appropriations	Cash Release		Net Expenditure		Unexpended Balance		Commitments Forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
56	Industrial Hygiene, including inspection of industrial plants.....	25,000	00	22,934	74	2,065	26	1,563	31
57	Treatment of Canadian Fishermen and Seamen.....	15,000	00	10,891	58	4,108	42		
58	Laboratory Analysis and Services for the Department of National Defence...	27,000	00	21,793	47	5,206	53	3,122	44
59	Public Health Engineering—Inspection of camp sites and airports for the Department of National Defence in connection with sanitation and water supply.....	30,000	00	26,740	20	3,259	80		
60	Food and Drugs—Examination of supplies for the Department of National Defence.....	10,000	00	10,000	00				
61	Quarantine Medical Service—At the ports of Halifax, Quebec, Sydney, Montreal and other ports.....	70,000	00	62,095	69	7,904	31		
62	Hire of Boat—Halifax Harbour and Bedford Basin in connection with vessels awaiting convoys.....	18,000	00	18,000	00				
65	Processing, storage and distribution of blood for transfusion, Connaught Laboratories, Toronto.....	550,000	00	498,810	94	51,189	06		
66	Maintenance, medical and other care of incapacitated non-resident seamen pending deportation.....	40,000	00	33,222	89	6,777	11		
67	Processing, storage and distribution of blood for transfusion, Montreal University.....	140,000	00	133,472	59	6,527	41		
69	Assistance in maintenance of health unit at Prince Rupert, B.C.....	4,080	00	4,080	00				
70	Grant to the Canadian Nurses Association to increase the supply of qualified nurses in Canada.....	250,000	00	250,000	00				
73	Contribution toward health services at Halifax.....	20,000	00	6,461	48	13,538	52		
76	Prince Rupert, B.C., purchase and installation of water pump.....	5,000	00	2,380	00	2,620	00		

Vote No.	War Appropriations	Cash Release		Net Expenditure		Unexpended Balance		Commitments Forwarded to 1945-46	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
77	Ottawa — Laboratory of Hygiene—construction and alterations.....	15,000	00	14,411	96	588	04		
93	Lunenburg, N.S.—Repairs to and rebuilding of sewage system—Marine Hospital.....	509	00	200	00	309	00		
95	Halifax, N.S.—Rockhead Hospital—purchase of land.....	7,100	00	2,500	00	4,600	00		
123	Ottawa—Extension to Animal Breeding Building, John Street Laboratories.....	7,431	00	7,431	00				
124	Chloramination of Water Systems—Nanaimo and Victoria.....	73,835	00	52,684	07	21,150	93		
125	Chloramination of Water Systems—Greater Vancouver, North Vancouver City and District.....	127,587	00	126,920	55	666	45		
129	Dawson Creek, B.C.—Water Supply....	36,835	00	25,401	52	11,433	48	11,433	48
134	Chloramination of Water Systems—Prince Rupert.....	10,000	00	8,578	71	1,421	29		
137	Fort St. John, B.C., Drilling of wells, erection of pump house, purchase and installation of pumping equipment.....	4,162	00	1,427	58	2,734	52	2,734	42
	Total War.....	1,486,539	00	1,340,438	97	146,100	03		18,853 65
	Grand Total.....	4,255,245	90	3,065,701	85	1,189,544	05		95,679 88

Vote No.	War Appropriations	Cash Release	Net Expenditure	Unexpended Balance	Commitments Forwarded to 1945-46
54	Laboratory of Hygiene—purchase of equipment.....	25,000	00	25,000	00
55	Treatment of Canadian Fisheries and Game.....	15,000	00	15,000	00
56	Laboratory Analysis and Services for the Department of National Health.....	25,000	00	25,000	00
57	Public Health Laboratory—purchase of equipment.....	25,000	00	25,000	00
58	Department of National Health—purchase of equipment.....	25,000	00	25,000	00
59	Food and Drug Administration of Canada—purchase of equipment.....	10,000	00	10,000	00
60	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
61	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
62	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
63	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
64	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
65	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
66	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
67	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
68	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
69	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
70	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
71	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
72	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
73	Department of National Health—purchase of equipment.....	10,000	00	10,000	00
74	Department of National Health—purchase of equipment.....	10,000	00	10,000	00

APPENDIX II

STATEMENT OF REVENUE FOR THE FISCAL YEAR 1944-45

Privileges, Licences and Permits.....	\$ 8,484 57
Services and Service Fees	225,790 57
Premium, Discount and Exchange	24 18
Refunds of Expenditure	421 00
Miscellaneous	17,424 82
Refund of previous year's war expenditures	4,244 02
Total Revenues	<u><u>\$256,388 95</u></u>



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