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NEW ZEALAND.

DEPARTMENT OF HEALTH.

ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH.

Presented in pursuance of Section 100 of the Hospitals and Charitable Institutions Act, 1926.

HON. A. H. NORDMEYER, MINISTER OF HEALTH.
 REPORT.

THE DIRECTOR-GENERAL OF HEALTH TO THE HON. THE MINISTER OF HEALTH, WELLINGTON.
 I HAVE the honour to lay before you the annual report of the Department for the year 1941-42.

INTRODUCTION.

During the year under review the Department of Health has been engaged in ever-increasing degree with matters directly related to the Dominion's war effort. The most important of these perhaps was the moulding of the public-hospital system into a Hospitals Emergency Precautions Service armed with resources in staff, buildings, and equipment adequate to deal with all possible contingencies.

An increased incidence of cerebro-spinal fever and syphilis was not unexpected, as both these diseases flourish in times of war. Otherwise the state of the public health was relatively good. In particular it is pleasing to record a further rise in the birth-rate and a decline in both the still-birth and the infant-mortality rates.

VITAL STATISTICS.

(Exclusive of Maoris.)

Population.—The mean population of the Dominion for 1941 was estimated to be 1,538,620, a decrease of 7,692 from the corresponding figure for 1940.

Death-rate.—The death-rate was 9·81 per 1,000 mean population, as compared with a rate of 9·24 in the preceding year.

Infant Mortality.—The infant-mortality rate was 29·74 per 1,000 live births. In 1940 the rate was 30·21.

Still-births.—The still-birth rate was 27·66 per 1,000 live births (29·45 in 1940).

Birth-rate.—The total births in 1941 were 35,100, representing a rate of 22·81 per 1,000 mean population (21·19 in 1940).

Maternal Mortality.—The maternal-mortality rate, including deaths from septic abortion, was 3·36 per 1,000 live births, as compared with 2·93 in 1940. When deaths from septic abortion are deducted, the maternal mortality rate was 2·68 (2·50 in 1940).

INFECTIOUS AND OTHER DISEASES.

(Exclusive of Maori, unless otherwise stated.)

Three thousand six hundred and twenty-three cases of notifiable diseases were reported in all in 1941, as compared with 2,929 in 1940.

Scarlet Fever.—Scarlet fever accounted for 338 notified cases, with 1 death. The corresponding figures for the previous year were 357 cases and 1 death.

Diphtheria.—Diphtheria showed a slight increase, 383 cases being notified, as compared with 367 in 1940. There were 17 deaths, giving a death-rate of 0·11 per 10,000 of mean population. In 1940 the corresponding figures were 15 deaths and a death-rate of 0·10. The campaign of active immunization against this disease was continued. Dr. Cook, Medical Officer of Health, Palmerston North, states that if progress in immunization continues at the same rate as in the past four years the disease should ultimately become of little importance. Already most Medical Superintendents in his district are remarking on the lessened incidence in the hospitals which they control.

Typhoid Fever.—A sharp outbreak of typhoid fever occurred in the Borough of Otahuhu, near Auckland, in February, 1942. The total number of cases up to 9th April was 26, of which 7, although connected with the Otahuhu outbreak, lived outside the borough. Some of the cases were very severe, and 4 deaths occurred. After careful investigation the source of infection was traced to a dairy-farm supplying a depot at Otahuhu from which untreated milk was distributed to customers. A member of the family occupying this farm proved to be a carrier of *B. typhosus*. Except for two cases apparently unrelated to the remainder, all the patients obtained milk from this depot. Prompt steps were taken to prevent any member of the household concerned from having anything to do with the production or handling of milk, and the milk from the farm was pasteurized before distribution.

The introduction of the Milk-in-schools Scheme has brought about the installation of pasteurizing plants in a number of secondary towns in the Dominion, with the result that pasteurized milk is now more readily available. The increasing use by the public of pasteurized milk should reduce the risks of such outbreaks as the one mentioned above. Scientific pasteurization of clean milk is the only foundation on which to build a safe milk-supply.

The death-rate for typhoid fever in 1941 was 0.05 per 10,000.

Influenza. The death-rate from influenza (all forms) was 0.49 per 10,000 mean population. In 1910 the rate was 0.77.

Polio-myelitis. Four cases of this disease were notified in 1941.

Lethargic Encephalitis. Five cases of this disease were notified in the year under review.

Cerebro-spinal Fever.—As in the World War, 1914-18, cerebro-spinal fever has again shown signs of epidemic prevalence. The outbreak began in the North Auckland Health District, but in due course the infection spread from that area, and sporadic cases have since occurred throughout the Dominion.

The following is a summary of a report submitted by Dr. Dempster, Medical Officer of Health, Whangarei, in regard to this outbreak:

“A sharp outbreak of cerebro-spinal fever took place in the Bay of Islands County during the months of April and May, 1940, centred in the townships of Kawakawa and Moerewa. The total number of cases was 23. The population for the Kawakawa Riding, which was the area mainly affected, is 1,763. The morbidity rate was therefore approximately 13 per 1,000 of the total population.

“The incidence amongst Europeans was 3 per 1,000 (4 cases) and amongst Maoris 40 per 1,000 (19 cases). Six deaths occurred, a mortality of approximately 1 in 4. Of the patients who died, 2 received no treatment, 2 were fulminating, and 2 were in young children. Of the 4 European cases, 3 were fatal (2 fulminating), while of the 19 Maori cases, only 3 were fatal.

“Fifteen males and 8 females developed the disease.

“The table below shows the age incidence of the disease—

Age.	Cases.
“ Under 5 years 6
“ 5-10 years 6
“ 10-15 years 1
“ 15-20 years 3
“ 20-25 years 1
“ 25-30 years 4
“ 30-35 years 2

“It will be seen that the main incidence was in children under ten years.”

There was no indication as to how the disease was introduced into the district, but it was soon clear that the infection had become established in workers in the Auckland Farmers' Freezing Co. works at Moerewa. Dr. Dempster's investigations showed that the meningococcus was widespread throughout the employees at these works. An interesting point is that, of the six employees who developed the disease, four were working in the cool chamber. This suggests that the effect of intense cold on the nasal mucous membrane lowers the local resistance sufficiently to allow penetration by the meningococcus.

The incubation period was established in the following three cases which occurred outside the recognized infected area:—

Case No. 1: Male, nineteen years, was discharged from the Whangarei Military Camp on the afternoon of 30th April. Passed through the infected area at approximately 4.30 p.m. that afternoon. Became ill on the 2nd May in the morning. Incubation period, approximately thirty-six hours.

Case No. 2: Male, nine years, living at Ngawha. Was visited by freezing-works employee, who cut hair on 4th May. Became ill on 7th May. Incubation period three days.

Case No. 3: Male, four years, living at Kerikeri Inlet. Visited Moerewa with parents on 24th May, off colour on 30th May. Incubation period six days as a maximum. One of the parents may have become a carrier on 24th May and infected child at a later period.

During the year 163 European cases and 47 Maori cases were notified from the whole of New Zealand. There were twenty-five European and eight Maori deaths from this cause.

Whooping-cough and Measles.—Whooping-cough was more prevalent than usual. There were 67 deaths from this disease, and 4 deaths from measles.

Puerperal Sepsis. Sepsis following childbirth was responsible for 17 deaths (13 in 1940). The deaths due to sepsis following abortion were 24, a substantial increase on the figure of 14 recorded as due to this cause in 1940.

Tuberculosis.—Deaths from tuberculosis (all forms) were 597, as compared with 600 in 1940. The death-rate per 10,000 mean population for respiratory, non-respiratory, and all forms of tuberculosis, is set out in the following table:—

Year.	Respiratory Tuberculosis.	Non-respiratory Tuberculosis.	Tuberculosis (all Forms).
1940	3·24	0·64	3·88
1941	3·19	0·69	3·88

During the past two years there has been a marked increase in the number of notifications of males suffering from pulmonary tuberculosis. This is mainly in the age groups from which our military forces are drawn, and is due to the special methods of examination which were adopted to eliminate recruits suffering from tuberculosis.

Some two thousand persons employed in various industries in Wellington were investigated by miniature radiography (35 mm. film). The suspects were referred to the Wellington Hospital for further examination. The work is not yet complete, but the information obtained to date has shown the value of group examinations by this cheap and effective method.

Veneral Diseases. The increased incidence of venereal disease, particularly syphilis, constitutes a grave public-health menace. Syphilis, which until recently was comparatively rare in New Zealand, at any rate in its infective stages, first showed signs of increase in Wellington about the time of the Centennial Exhibition. Since then the increase has been maintained, and in addition the same tendency to increase has been manifested in Auckland and Christchurch. So far little change in the situation has been seen in the smaller towns and in country districts. The extent of the increase of syphilis in the main centres is shown in the following figures:—

Number of Persons dealt with for the First Time at the Venereal Disease Clinics and found to be suffering from Syphilis.

	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1938	54	34	15	15	18	10	10	..	97	59	156
1939	59	43	18	25	19	11	12	5	108	84	192
1940	63	37	77	58	12	8	22	8	174	111	285
1941	102	57	96	63	29	17	33	6	260	143	403

Figures for gonorrhoea indicate no such increase, but do not disclose the full facts. Many patients who would formerly have attended the public clinics are now treated by their own doctors with drugs of the sulphonamide group.

The steps taken by the Department during the last two years to cope with this public-health menace are:—

- (1) Medical officers in charge of the V.D. clinics in the four main centres were appointed Assistant Inspectors of Hospitals and were asked to undertake periodical tours of inspection of the smaller hospitals in New Zealand with a view to ascertaining whether treatment facilities in institutions were adequate and generally to advise Medical Superintendents;
- (2) The matter was discussed at a conference of medical practitioners which was convened by the Department for the purpose of considering public-health problems arising out of the war;
- (3) Publicity has been given and will continue to be given through articles in the *New Zealand Medical Journal*;
- (4) An amendment of the Health Act, 1920, was passed which enables more adequate control of persons suffering from syphilis. In brief, the Medical Officer of Health now has power to order any person suffering or suspected to be suffering from syphilis to be detained in any public hospital where necessary diagnostic and treatment procedures can be carried out. The Medical Superintendent of such hospital is under an obligation to accept the patient and to hold him until the Medical Officer of Health agrees to release;
- (5) New regulations have been gazetted. Powers which formerly were vested solely in the Director-General of Health are now vested in the Medical Officer of Health. The regulations thus make for decentralization, with a consequent saving of time in bringing patients under treatment. More stringent conditions have been laid down with regard to the nature of the examination which must be carried out in the case of suspects reporting for investigation and the standards which must be met before the patient can be regarded as having been cured;
- (6) Every endeavour is being made to trace contacts in order that they may be brought under treatment.

Hydatid Disease.—Sir Louis Barnett, in an article in the *New Zealand Medical Journal*, October, 1941, points out with regret that although for years past the Research and Preventive Medicine Departments of the Medical School, Otago University, with the co-operation of the Government Departments of Health and Agriculture, have carried out an intensive campaign of education and persuasion, it has not yet been effective in dealing with this preventable disease. However, it is hoped that the apathy of a large section of the farming community to measures recommended to safeguard the lives of their families will in time give place to a spirit of active and willing co-operation. In the educational field the Department distributed to sheep-farmers some twelve thousand copies of a leaflet on this disease by Sir Louis Barnett. This recognized authority has also written an illustrated booklet on hydatid disease which it is hoped to publish in the near future.

REPORTS OF DIVISIONAL DIRECTORS, ETC.

The reports of Divisional Directors show that a reasonably satisfactory standard of service has been maintained in the various fields of departmental work. Close attention has been given to problems of sanitation and water-supply; maternal- and infant-welfare work has been maintained; observations on health of school-children show no alarming trends; nursing services have been developed to meet civil and military demands; there has been an extension in the scope of the work of the School Dental Service, while in the field of nutrition a vigorous attempt has been made to form more wholesome feeding habits and to achieve a widespread knowledge of food values. Some special comment is called for in regard to certain aspects of departmental activity.

Hospitals.—The estimates of requirements of all Hospital Boards provided for net estimated maintenance expenditure of £1,794,292 19s. 2d., which represented an increase of £353,656 16s. 5d. over the amount provided for 1940–41. As a consequence of this increase the amounts to be contributed by levy and subsidy were respectively £100,683 12s. 6d. and £252,973 3s. 11d. more than the amounts for the previous year.

The principal factors accounting for the increase in requirements were the less favourable commencing position, there being a total deficit of £26,548 16s. in Maintenance Accounts of Boards, as compared with substantial surpluses totalling £318,601 5s. 7d. at 1st April, 1940, and the necessity to increase the provision for maintenance of hospitals by £409,131 1s. 1d., brought about by increases in costs and occupied beds. Also, £152,290 12s. 9d. of the increase is due to the fact that Boards were required to refund subsidy to the Government under clause 7 (1) of the Fourth Schedule of the Hospitals and Charitable Institutions Act, 1926, to the extent of £83,580 8s. 11d., whereas last year Boards received a refund of £68,710 3s. 10d. These factors were partly offset by the further rise of £275,394 2s. 10d. in the estimated receipts, mainly from benefits under Part III of the Social Security Act, 1938.

The estimates for capital requirements again provided for increased expenditure, principally for building programmes.

The total net capital requirements, which are contributed equally by levy and subsidy, amounted to £404,993 16s. 4d., a decrease of £3,249 7s. on the estimates for the previous year. The estimated expenditure from loan-moneys totalled £2,356,857 13s. 9d., of which £566,079 9s. 8d. had already been raised at the commencement of the year.

Maori Hygiene.—The following table shows a comparison between Maori and European vital statistics:—

	Maori.	European.
Birth-rate per 1,000 of population	44·77	22·81
Infant-mortality rate per 1,000 live births	122·88	29·74
Crude death-rate per 1,000 of population	20·30	9·81

Social Security. During the year under review the following further classes of benefits under the social security legislation were inaugurated:—

- (1) Pharmaceutical supplies (1941/66; 1941/131; 1942/3).
- (2) X-ray diagnostic services (1941/122; 1942/14).
- (3) General medical services (1941/187; 1942/13).

In existing circumstances it is practicable to furnish only the following brief outline of the scope of these benefits, but for ready reference the serial numbers of the regulations relating to the benefits have been shown above.

Pharmaceutical Supplies: This class of benefits was inaugurated on 5th May, 1941. The general arrangement for the provision of pharmaceutical supplies is a form of contract between the proprietor of a licensed pharmacy and the Minister of Health, in terms of which the pharmacist undertakes to supply pharmaceutical requirements in accordance with the regulations. Pharmaceutical requirements are defined as including all such medicines, drugs, appliances, and materials as are included in the Drug Tariff, for the time being in force under the regulations.

The Drug Tariff at present in force is cited as the "Drug Tariff (January, 1942)," and replaces the original Drug Tariff dated 24th April, 1941. The Drug Tariff specifies the drugs, medicines, and medicinal preparations which are included in the expression "pharmaceutical requirements," and in addition enumerates the substances which are excluded from the scope of the benefits. The Drug Tariff also imposes certain limits on the quantities of drugs, &c., which may be supplied on any one prescription, but the Medical Officer of Health may in special cases authorize supplies for an extended period.

Such medicines and drugs as are included in the Drug Tariff and are prescribed by any medical practitioner on and after the commencing date—namely, 5th May, 1941—and dispensed or compounded by a contracting chemist are the subject of payment from the Social Security Fund.

In the meantime no bandages or other appliances have been included in the Drug Tariff.

Arrangements have been concluded with Hospital Boards for the provision, as from 5th May, 1941, of pharmaceutical supplies in respect of out-patients. Payments to contracting chemists and Hospital Boards are made in accordance with an official price schedule forming part of the Drug Tariff.

A feature of the scheme is the recognition of midwifery orders as the subject of payment from the Fund. "Midwifery order" is precisely defined in the Drug Tariff as to substance and maximum quantity, and may be issued by any contracting obstetric nurse or private-hospital licensee on behalf of any woman who has engaged her to afford maternity benefits.

X-ray Diagnostic Services: Benefits in respect of X-ray diagnostic services were commenced on 11th August, 1941. The nature of these benefits is described in clause 4 of the regulations (1941/122).

X-ray diagnostic services performed by or under the direct medical supervision of a medical practitioner officially recognized as a radiologist or by any medical practitioner employed by a Hospital Board, and which are afforded on the recommendation of a medical practitioner other than the radiologist, are the subject of payments from the Fund. Where, however, a recognized radiologist who engages in other types of medical practice takes an X-ray photograph which he has deemed to be necessary after personal examination of the patient, such service is the subject of benefits.

Payments from the Fund are made in accordance with the scale of fees contained in the Schedule to the regulations (1942/14). The fees prescribed by the Schedule are payable to a Hospital Board in full satisfaction of its charges, but recognized radiologists engaged in private practice are entitled to charge the patient an approved fee in addition to the fee payable from the Social Security Fund.

General Medical Services: The statutory provisions which bring certain general medical services within the scope of benefits are contained in the Social Security Amendment Act, 1941, and the regulations thereunder. This class of benefits was introduced on 1st November, 1941.

"General medical services" are defined in section 3 of the Amendment Act, whilst certain additional medical services are excluded by clause 5 (2) of the regulations, subject to the qualification that any of the services excluded by the regulations may, in special circumstances, and with the approval of the Minister of Health, be brought within the scope of general medical services.

Any medical practitioner who provides any general medical service is entitled to receive from the Fund the amount of 7s. 6d. for each consultation at his surgery or visit to the patient's residence during any week-day. For any such service urgently requested and duly afforded at any time on a Sunday or between the hours of 9 p.m. and 7 a.m. on any other day a fee of 12s. 6d. is payable from the Fund.

The Medical Officer of Health may approve a claim for a higher fee than 7s. 6d. or 12s. 6d. if the relative medical service necessarily involved more than thirty minutes of the practitioner's time.

In addition to the fees for medical service, provision is made for the payment of mileage fees.

Fees may be claimed from the Fund either by the practitioner directly or by the patient by way of refund, in which latter case the claim must be supported by the doctor's receipted account.

Special provision has been made enabling the payment or refund of the cost of medicines or drugs supplied by the practitioner for the treatment of the patient before they could be conveniently obtained elsewhere—*i.e.*, from a contracting chemist.

The scheme outlined under the heading "Medical Benefits" in my report for the year ended 31st March, 1941, is still operating. The two schemes run concurrently, and doctors who have lists of patients under the medical-benefits arrangements may, if they wish, afford general medical services. Any patient whose name is included on a doctor's list under the medical-benefits scheme is not entitled, during such time as his name appears on such list, to general medical services provided under the Amendment Act, except in cases of emergency when he cannot obtain the services of the doctor on whose list his name appears.

To facilitate the provision of general medical services, certain obligations are, by regulation, imposed on patients. Default in any of these obligations renders the patient liable to monetary penalty.

GENERAL.

Milk-in-schools Scheme.—The total number of pupils included in the Milk-in-schools Scheme is now 233,744, an increase of 4,781 over the previous year. A further sixty-three schools have also been brought within the scheme. In other words, pasteurized bottled milk, milk for cocoa-making purposes, or malted milk is now available to some 83 per cent. of the school population of the Dominion.

The totals are made up as follows:—

	Pupils.
Pasteurized bottled milk	221,306
Milk for cocoa-making	4,787
Malted milk	7,651
Total	233,744

Apples-in-schools Scheme.—Apples free of cost are being supplied during the present apple season to pupils attending all types of schools. The supply will probably continue for a twelve-weeks period and will involve the distribution of some 152,000 cases of apples over the period.

Health Camps. As forecast in last year's report, a considerable extension has been made in the chain of health camps for the treatment of under-standard children. The permanent camps at Otaki and Roxburgh, also the secondary camps at Gisborne and Nelson, have been completed, furnished, and equipped, while plans and specifications are ready for the establishment of permanent camps at Auckland and Christchurch.

The proceeds from the sale of health stamps and donations amount to a record total of £7,084, which, together with special donations from the J. R. McKenzie Trust and the Junior Red Cross and the subsidy from art-union funds, will be available for the maintenance of children. It is gratifying to note that where a medical officer has so recommended, executives have sent children to health camps in other districts on account of the more suitable climatic condition.

Boards associated with the Department.—The Board of Health, Medical Council, Medical Research Council, Dental Council, Nurses and Midwives Registration Board, Opticians Board, Masseurs Registration Board, and the Plumbers Board continued their work during the year.

Medical Research Council.—A brief outline of the activities of the special Committees set up under the Council is embodied below:—

(1) Nutrition Committee: The research activities have been numerous, and the following may be mentioned—

- “Testing of Wheat Germ as a Goitrogenic Agent” (McLaughlin).
- “Estimation of Thyroids of Rats on Wheat-germ and Wholemeal Diets” (Purves).
- “Ascorbic Acid Determinations by the Spekker Photo-Electric Absorptiometer” (Johns).
- “Preliminary Report of Dietary Survey among the Maoris” (McLaughlin and Wilson).
- “Studies on the Availability of the Calcium of certain Vegetables” (Johns).
- “Report on the Examination of Samples of Vegetables from a Military Camp” (Johns).
- “Estimations of Vitamin B₁ in Foodstuffs” (Allen).
- “Effect of Baking-powder on the Vitamin B₁ Content of Wholemeal” (McLaughlin).
- “Construction of a Curve of Response to Varying Doses of Vitamin B₁” (McLaughlin).
- “Vitamin B₁ in Breads made from 70 per cent. and 80 per cent. Extraction Flours” (McLaughlin).
- “Experiment Sara Cohen Open Air School, Kew, Caversham, Dunedin, upon the Feeding of School-children with the Health Dinner” (Stevenson).

(2) Committee for Study of the Physiology and Pathology of the Thyroid Gland: The research has followed closely the direction indicated in the previous report. The reports of last year's work have now been published in the *British Journal of Experimental Pathology*. The following reports on work undertaken during the year under review were submitted—

- “Investigation of an Epidemic of Congenital Goitre in Lambs” (Hercus and Purves).
- “Goitrogenic Principle of Rape-seed” (Kennedy).
- “Thyrotropin Content of the Serum and the Thyrotropin Sensitivity of the Thyroid of Rats on Brassica Diets” (Griesbach and Purves).
- “Effect of Iodide, Di-iodotyrosine, and Thyroxine on the Goitrogenic Action of Brassica Seeds” (Purves).
- “Studies on Experimental Goitre: The Effect of Goitrogenic Diet on the Thyrotropic Hormone in the Pituitary of the Albino Rat” (Griesbach, Kennedy, and Purves).
- “Thyroid Adenomas in Rats on Brassica-seed Diet” (Kennedy, Griesbach, and Purves).

(3) Hydatid Committee: This Committee is closely associated with the Department of Hydatid Disease Research and Prevention, Medical School, Otago University. A comprehensive programme has been drawn up for the Research Officer, Miss E. J. Batham, M.Sc., who was appointed in October, 1941. Her attention has been mainly directed to the anatomy of the hydatid parasite with a view to filling in some of the gaps that exist in current morphological descriptions and also to correct some of the traditional errors reproduced in hydatid literature. Mr. E. W. Bennett, D.Sc., presented a report on “Arecoline Hydrobromide as a Vermifuge for Dogs.” He found altogether six cases during nearly two years and a half in which the death may have been connected with the arecoline treatment. This represents one fatality per seventy-five thousand registered dogs. The deaths among dogs from arecoline are numerically small compared with human deaths from hydatids.

(4) Tuberculosis Committee: The work of this Committee was restricted by the demands of war. However, two important investigations were commenced—namely, a group survey to determine the incidence of pulmonary tuberculosis in certain occupations to which attention has already been drawn, and the typing of tubercle bacilli at the Auckland Hospital under Dr. Gilmour's direction. It is proposed to continue these investigations.

(5) Obstetrical Research Committee: Dr. F. O. Bennett, Research Officer, continued his survey of ante-natal records and the occurrence of toxæmia of pregnancy, and efforts have been made to maintain and augment the investigation into recurrent toxæmia and familial toxæmia. Suggestions for further lines of research have been considered, and efforts are being made to investigate the causes of death in infants born of toxæmic mothers and also the treatment of eclampsia. The latter is in the hands of Dr. Plunkett.

STAFF.

I regret to record the death of Major B. T. Wyn Irwin, who joined the Department as a Medical Officer of Health in 1936 and was stationed in various districts in the North Island.

Dr. Irwin enlisted in the New Zealand Medical Corps in 1939 and served in the campaigns in Greece and Crete. Major Irwin was an officer of much promise and would have gone far in the career he had chosen.

In the death of Mr. H. W. Johnson the Department lost a highly-esteemed officer. He was Secretary and Treasurer of the Board of Examiners of the Royal Sanitary Institute for seventeen years and Chairman of the Plumbers Board of New Zealand since 1920.

In conclusion, I wish to express my thanks for the support rendered me by officers during the year.

M. H. WATT,
Director-General of Health.

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