1926.

NEW ZEALAND.

DEPARTMENT OF HEALTH.

ANNUAL REPORT OF DIRECTOR-GENERAL OF HEALTH.

Presented in pursuance of Section 76 of the Hospitals and Charitable Institutions Act, 1909.

HON. J. A. YOUNG, MINISTER OF HEALTH.

CONTENTS.

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 1925–26.

PART I.—GENERAL SURVEY.

SECTION 1.—GENERAL.

Public Health.

A steady and progressive development has been maintained in the cause of preventive medicine during the period under review, as fully indicated in the attached divisional reports. In fact, it can be claimed that rarely in the history of the Department has such impetus been given to reforms towards this end. In a similar degree the example set has resulted in many encouraging evidences of sanitary progress and enlightenment among those governing authorities and associations charged with the conservation of the public health. With the gradual lowering of the infantile and maternal mortality and infectious-disease rates, improved sanitation and housing, we should under normal conditions be able to retain in the future that unique standard of health which has in recent years distinguished the population of this country. Nevertheless, I feel sure that we shall lose greatly if the administration of our health services in any way lessens the sense of responsibility in regard to health matters either in the individual or in the community. It is better policy to teach people to live healthily and to prevent disease than it is to treat them as irresponsible units for whom care has to be provided.

Vital Statistics.—We have again experienced a satisfactory year as far as vital statistics are concerned. The crude (actual) death-rate, 8·29 per 1,000 of mean population was equal to that of the previous year, the lowest on record, while the International Standardized death-rate (8·67) shows a further fall. The infantile-mortality rate was 39·96 per 1,000 births, in comparison with 40·2 for 1924; the tuberculosis death-rate was 5·14 per 1,000 of mean population, against 5·67 for 1924.

Of the notifiable diseases, scarlet fever, diphtheria, pneumonic influenza, and puerperal fever all show a satisfactory decline, while there was experienced a lower incidence in enteric fever, a disease now practically confined to the Native population.

The birth-rate of 21·17 per 1,000 of mean population is the lowest on record, and the rate of still-births (30·6 per 1,000 live births) shows a slight increase. The position in regard to the low birth-rate is far from consolatory, and there is an indication for investigation as to its causes in this country.

The maternal-morality rate (4·65 per 1,000 births) reveals a gratifying fall. On the other hand, the mortality of infants under one month, which show an extraordinary resistence to administrative methods in this and other countries, has not manifested any improvement. It is doubtful if very much can be effected in this respect. No satisfactory explanation has been found for this resistance, but no doubt everything that counteracts careless living on the part of expectant mothers and reduces social diseases will also reduce infantile mortality during this period. In this direction the educational work extensively carried out at the ante-natal clinics should in the near future make itself felt.

Tuberculosis.—Tuberculosis continues to be one of the formidable problems. However, the continuation of the downward trend in the incidence and death-rate for this disease is extremely gratifying. The New Zealand rate compares more than favourably with that of other countries of the world.

One cannot overstress the value of sane healthy athleticism and physical discipline in the campaign against this disease. The introduction of the open-air schools is a move in the right direction. The more prolonged treatment being carried out in our sanatoria will ensure a better guarantee of permanent arrest of the disease among those undergoing treatment.

Cancer.—The increasing prevalence of this disease is a cause for concern not only in this country but throughout the world. At the Department's suggestion Mr. J. W. Butcher, Chief Compiler, Census and Statistics Office, revised and brought up to date his valuable statistical study on "Cancer in New Zealand." In this report he points out, "While it is evident that much of the increase in cancer mortality is apparent only, it is obvious that the factors mentioned cannot account for anything like the whole of the great increase that has been recorded in the cancer death-rate, and that there must have been a definite and substantial increase. Paradoxical though it may seem to say so, even this real increase is in large part a reflection of the progress that has been made in the science of medicine and sanitation."

It is reasonable to expect that the medical research that is being carried on throughout the world in regard to this disease will in the near future throw further light on its prevention and treatment. The work of the Imperial Cancer Research Fund is being followed with great interest.

Particular inquiry was made as to the scope of use for radium by Dr. Watt and myself during our visits overseas under the auspices of the League of Nations. In the United States many important teaching hospitals affiliated with Medical Schools were without this agent. These hospitals, although not possessing radium, can, of course, draw easily upon other institutions in America for supply of radium emanations. This fact is quoted not to indicate that a prohibition should be put upon the purchase of radium by the New Zealand hospitals, but to emphasise the fact that the steps taken by Cabinet to restrict its purchase to the four main Hospital Boards was undoubtedly a wise one.

It is still undecided as to the value of radium in the treatment of cancer, but the reports of the Medical Research Council (Great Britain) indicate that in certain cases satisfactory results have been achieved by the use of this element. In the meantime the Department, by the circulation of suitable propaganda, is endeavouring to educate the public as to its recognition so as to afford the patient the chance of obtaining early medical treatment.

Maternal Mortality.—The fall in the maternal-mortality rate from 5·00 per 1,000 to 4·65 is most encouraging, and, I trust, foreshadows a steady decline in this rate. The year has been distinguished by a marked extension in the Department's maternity work, and particularly so as regards ante-natal supervision and inspection of maternity hospitals.

That there were 7,912 attendances at the ante-natal clinics affords an eloquent testimony of the phenomenal growth of the Department's work in this particular direction and the increasing confidence shown in it by the expectant mothers and the medical profession. It is pleasing to record this, as ante-natal supervision should prove an effective means of reducing maternal mortality.

On the other hand, every mother has a personal responsibility in this matter, for the door of health is open to all. Medical science endeavours to aid them, but it says to the future mother of mankind, "Strive for the goal of unconditional perfect motherhood, and produce in yourself by healthy living the natural vehicle that should need no aid, and so blot out the mortality stain from the future civilization." In this connection I deprecate to the full the statement of a well-known London obstetrician to the effect that child-birth should be regarded as a disease rather than a normal physiological process.

The accompanying reports of Dr. Jellett, Dr. Paget, and Dr. Gurr detail the progress made during the year in their separate spheres of maternity work.

Venereal Disease.—The regulations in operation for better control and supervision of sufferers from these diseases are working satisfactorily. The compulsory powers conferred have proved invaluable, and I am glad to be able to report that so far the Department has had no occasion to take extreme measure for their enforcement.

Goitre.—Great credit is due to Dr. Baker-McLaglan, Canterbury, for her exact and comprehensive work in determining the endemicity of goitre in New Zealand as manifested by the school population. These investigations acted as a stepping-stone for the intensive research work into this disease being conducted under the supervision of Professor Hercus at the Otago University Medical School. Prophylactic and curative treatment of the children by the administration of small weekly doses of potassium iodide has been considerably extended with beneficial results. Dr. Ada Paterson presents in her report an interesting summary of this work.

Publicity and Propaganda.—With a view to educating the public in matters affecting the health of the community there were obtained from the Ministry of Health, Whitehall, London, some of the most instructive sections of their unique health exhibit as shown at Wembley for display at the Department's court at the New Zealand and South Seas Exhibition held at Dunedin. These and other exhibits prepared by the Department attracted large numbers of visitors. Pamphlets and leaflets covering various aspects of preventive medicine were widely distributed, while officers of the Department in attendance delivered health talks and broadcasted lectures on suitable subjects. A booklet entitled "Striking Facts and Records"—a compendium of the activities of the Department—was printed and widely circulated.

Through the medium of our library, officers have availed themselves of the opportunity of keeping fully informed of the latest developments in curative and preventive medicine. Overseas visitors, members of the medical profession, and medical-research workers have much appreciated this source of reference. There continues to be experienced a growing spirit of fellowship and co-operation with other countries regarding problems of preventive medicine, and the numerous applications received for information as to the activities of the Department indicate the close interest with which its work is being studied throughout the world. The Department's thanks are due to Mr. Clayton, the departmental librarian, for his energy and enthusiasm in these matters.

Legislation.—The Nurses and Midwives Registration Act was placed on the statute-book. The main feature of this Act was the setting-up of a Registration Board comprising representatives of the Department, the medical profession, and nurses and midwives. The measure was a consolidation of Acts governing the registration of nurses and midwives.

The National Provident Fund Act was amended to provide for the superannuation of nurses, for which the Department has been striving for many years past. This provision is much appreciated by the nursing profession.

League of Nations.

During the year, at the invitation of the League of Nations, I visited Geneva, and took the opportunity of visiting hospitals in France, Switzerland, and England with a view to ascertaining whether there was anything of interest to be learnt in the field of hospital administration. Generally speaking I was somewhat disappointed with the hospitals I saw on the Continent, but I must admit that the maternity (100 beds), and women's diseases hospital (90 beds), at Zurich, made me wish we had some hospitals of that kind in New Zealand. I am of opinion that it is to the best of the provincial hospitals in Great Britain rather than the continental hospitals we should turn for examples of efficient hospital administration of the type suitable for New Zealand.

My deputy, Dr. Watt, during the year visited Japan, at the invitation of the League of Nations, to attend a conference of public-health personnel from countries bordering on the Pacific, where many helpful ideas were interchanged. He also took the opportunity of visiting the United States and inspecting the methods of hospital and health administration in vogue therein. Generally speaking, Dr. Watt is of opinion that in both respects New Zealand is proceeding on the right lines, though he saw much to interest him in the tackling of problems similar to ours in districts which, from the viewpoint of population and general conditions, bear a resemblance to the conditions obtaining in New Zealand. Undoubtedly there is much in America, more especially in regard to health administration and the application of the newer methods of preventive medicine, which we could adapt with advantage to our own needs.

Research.

Medical research into cancer, rheumatoid arthritis, acute poliomyelitis, and tuberculosis (among the Maori race) has continued to be conducted at the Otago University Medical School, along definite lines. Dr. R. H. Makgill, who is visiting Great Britain, will interview the Medical Research Council and the Ministry of Health with a view to ascertaining the best means of co-ordinating our research work with those great organizations, and to formulate the extension of the Department's medical-research policy.

DEATHS UNDER ANÆSTHETICS.

Twenty-two deaths occurred, in comparison with twenty-four for the previous year. The high standard of our medical and dental services in this country, and the careful attention being given to the administration of anæsthetics, should confine deaths during anæsthesia to a minimum.

SECTION 2.—HOSPITALS AND CHARITABLE INSTITUTIONS.

Hospital Board Finance.—The subsidies paid to Hospital Boards under the permanent appropriations were £575,432, or if validating grants and other grants in aid to the Hospital Boards are included the amount was £596,908. The estimated subsidy payable during the year was £600,000, and, although all the estimates of Hospital Boards are not yet to hand, it is expected that during the current year there will be little or no increase thereto.

Loans for Capital Works.—Apart from several authorities to borrow for capital works by way of overdraft for one or two years, the following is a summary of loans approved during the year :—

Term.	Amount. £	Rate of Interest.
Four years	8,000	6½
Ten years	7,000	6½
Fifteen years	70,000	5¾
Sixteen years	5,000	5½
Twenty years	144,300	6
Twenty-one years	50,000	6

Buildings—Construction and Inspection.—During the past year the Department has approved of the erection, additions, or alterations to hospital buildings estimated to cost £556,839. In each case a careful survey of the plans and specifications was made by the technical Inspectors of the Department, and approval has not been given until all suggestions have been carefully weighed and the Department satisfied as to the necessity of the work and the economical construction thereof.

Of the amount mentioned, the Department itself prepared plans and specifications and supervised work amounting to £13,060, whilst the combined activities of the Architectural Branch of the Public Works Department and the Department's Technical Branch have resulted in works actually in progress totalling £53,300.

It is pleasing to note that Hospital Boards are availing themselves of the experience and knowledge of the Department's officers when proposing to undertake new work and thus ensure the best and most economical results.

Summary of the work approved during the past year :—

	Number.	£
General hospitals	2	184,000
Additions to hospitals	19	243,004
Maternity hospitals	5	22,840
Tuberculosis sanatoria	8	14,941
Infectious-disease hospitals	2	4,100
Nurses' homes	2	5,427
X-ray appliances	2	1,940
Engineering services	10	49,089
		525,241
Alterations and additions to Departments' institutions	13	31,498
		556,839
Land purchase		6,900
Total		£563,739

Individual Average Days' Stay of In-patients in Hospital.—This is a matter which requires the attention and co-operation of both Boards and professional staff. The returns for the previous year, 1924–25, show that for hospitals in classes 1 and 2 the stay varies from nineteen days at Christchurch to thirty-three at Invercargill. The corresponding average in the voluntary hospitals in England (excluding London) is 19·5 days. The retention of patients in hospital for a longer period than is absolutely necessary is not only uneconomical and expensive, but means in the long-run applications for additional beds and consequent auxiliaries involving capital expenditure which otherwise would not be necessary.

Out-patient Department at Hospitals.—This is a phase of hospital work which I should like to see extended in New Zealand, in order to relieve as far as possible the tax on the available beds for in-patients.

Hospital Dietetics.—Following up the notes on this subject in last year's report, arrangements were made during the year for Miss Airini Pope, M.Sc. (a New-Zealander), who had just returned from an extensive tour of study in England and America on dietetics and physiology, to report on (*a*) General organization of kitchens; (*b*) the routine food services; (*c*) special therapeutic work. The result of her study in New Zealand when completed will, I am sure, be of great service to hospitals generally.

Stores System.—The desire evidenced at the Hospitals Associations' Conference to obtain a uniform system was most gratifying, and already great interest has been shown by many institutions in connection therewith.

Quantity Consumption.—Hospital administrators in all countries are now mainly agreed that by keeping records of quantities consumed in each ward or department, waste can be localized and checked. I should like to see this very excellent system extended as far as hospitals are concerned. The departmental institutions have been using quantity statistics for a number of years with most gratifying results in the elimination of waste.

Visitor from Abroad.—During the year Dr. M. T. MacEachern, Associate Director of the American College of Surgeons, visited New Zealand at the invitation of the New Zealand Branch of the British Medical Association. Facilities were readily placed at his disposal by the Department to enable him to study the hospital system of the Dominion.

Inspection of Hospitals.—With the return of Dr. Watt and owing to some extent to departmental reorganization, it may be possible for me to visit a larger number of hospitals and their controlling Boards than has been the case for the last few years. Nevertheless I hope the time is not far distant when it will be possible to appoint a Director of the Hospitals Division, so that such an officer will be able to assist the Department in the inspection of hospitals, the necessity for which is every year becoming more pressing.

SECTION 3.—DIVISIONAL, SECTIONAL, AND INSTITUTIONAL REPORTS.

Public Hygiene.—Dr. T. McKibbin has submitted an important report on the activities of this Division. Of special interest and value are his comprehensive comments on maternal-mortality rates. Attention is drawn to the beneficial results that will arise through the strengthening and reorganizing of the staff of the District Health Offices. The appointment of Public Health nurses by the large local authorities would be a step in the right direction. This class of nurse is an established and valuable feature of public-health administration in Great Britain and other leading countries.

School Hygiene.—Dr. Ada Paterson's report indicates the far-reaching and beneficial work that is being accomplished by the officers of this division on behalf of our school-children. I would specially direct your attention to the Director's comments on child labour. How can we expect to raise a healthy race when children of tender years are so commercialized and denied full mental and physical development—the just heritage of every child ?

Excellent work has been achieved at the health camps for mentally and physically backward children. Of outstanding interest is the statement as to the prevention of goitre and diphtheria.

The result of the medical examination of the pupils of a girls' secondary school points to the necessity for wider medical supervision of the scholars attending these schools. The Board of Governors of this school are to be congratulated on interest shown in the health of the pupils. This report is one which should be read by all those interested and actively concerned in the welfare of our school-children.

Maternal Welfare.—I am glad to report that one of the outstanding features of the year has been the expansion and influence of the Department's maternal-welfare services. Dr. Jellett's report deals particularly with the training of nurses and medical students and the post-graduate instruction of medical practitioners in midwifery. His advocacy of a professorship of midwifery and gynæcology at the School of Medicine at Dunedin I trust will receive the careful consideration of the authorities concerned in the education of our medical students. I am in entire agreement with him in his weighty remarks on the unfortunate increasing tendency to perform the caesarean section for so many types of obstetrical complication.

Dr. Paget and Dr. Elaine Gurr must be again congratulated on the progress made in their special spheres of maternity and ante-natal work. The improvement in the methods and conduct of maternity hospitals as commented upon by Dr. Paget is extremely gratifying, while Dr. Elaine Gurr, in her report, presents an impressive picture of the wonderful growth of the work accomplished at the ante-natal clinics. In this respect I wish to pay a tribute to the members of the medical profession for their loyal support of the Department's aims in endeavouring to ensure safe motherhood for the women of New Zealand.

Dental Hygiene.—The report of the Acting-Director of this Division is a record of careful administration of this important branch of the Department's activities. That 220,311 operations have been performed by dental nurses in the field in thirty months afford a striking proof of the value of services rendered to the children of the Dominion. Good work is being achieved by the nurses in educating parents in dental and dietetic health matters affecting the children. Up to the present forty clinics have been established in various centres, which indicates a remarkable advance since the inception of the scheme.

Nursing.—One of the important advances referred to in the Director's report is the appointment of a nurse instructor to visit the nurse training-schools. This should be a means of raising the standard of nursing education in the Dominion. It is pleasing to note that the Hospital Boards are availing themselves of her services for this purpose. The St. Helens Hospitals continue to render splendid service to child-bearing mothers.

Maori Hygiene.—This Division continues to manifest an enthusiastic interest in all matters affecting the health of the Maori race. The substantial increase in the Maori population since the 1921 census offers proof of the success of what is being done towards the conservation of this fine race. The work of the Maori Councils exercises a most beneficial influence in raising the standard of sanitation in the villages. Attention is drawn to the undermining influences of the Ratana movement among these Councils, but the recent revelation as to the unsatisfactory sanitary conditions existing at the Ratana Village will strengthen the Director's hands in dealing with factors detrimental to the health of the Maoris.

King George V Hospital, Rotorua.—This institution records an increased development, and the Medical Superintendent and his staff have carried out good work in the treatment of the after-effects of the infantile-paralysis cases. As practically the base hospital for the district, it is performing an increasingly valuable function.

Queen Mary Hospital, Hanmer.—This hospital still continues to perform its valuable function for special cases. Difficulty has been experienced in meeting the demands for the accommodation of women patients.

Pukeora Sanatorium, Waipukurau.—A feature of the administration of this sanatorium to which Dr. Maclean refers is the increased length of stay of patients undergoing treatment to ensure a greater chance of permanent arrest of the disease. Since 1923 the average length of stay has practically been doubled.

Otaki Sanatorium and Hospital.—The induction of artificial pneumothorax as a form of treatment at this institution has met with a distinct measure of success in selected cases.

Hospitals administered by Hospital Boards.—Full particulars in reference to these hospitals will be published as an appendix to this report as soon as the statistical data is available.

SECTION 4.—MISCELLANEOUS.

Board of Health.

Quarterly meetings of the Board of Health were held during the year, a variety of matters being dealt with. Requisitions were served upon a number of local bodies requiring the carrying out of sanitary works. Other matters dealt with included medical research, water and drainage schemes for Auckland and suburbs; regulations controlling hairdressers' shops; the subdivision of hospital districts; the control of venereal diseases, &c. The thanks of the Government are again due to the members of the Board for the willing manner in which they give their services, and for the able advice tendered by them at all times.

Medical Practitioners Act, 1914.

Four meetings of the Medical Council were held during the year. The following table shows from a statistical point of view the number of additions to and removals from the Medical Register as the result of the Council's work during the year:—

	1924.	1925.
Number on register on 1st January	1,138	1,204
Number added during year	85*	78†
Number removed during year	19	71
Number on register at end of year	1,204	1,211

The new arrangement provided for in the Medical Practitioners Amendment Act, 1924, under which the medical registration duties previously performed by the Registrar-General were transferred to the Department of Health, has worked entirely satisfactorily.

The Medical Council held a number of disciplinary inquiries during the year, two cases having been dealt with under the special powers given to the Council in the amendment of 1924. Towards the end of 1925 the Council, with the consent of the Senate of the New Zealand University, undertook an inspection of the work of the Medical School in Dunedin. The Council's report was in due course forwarded to the Senate.

Masseurs Registration Act, 1920.

During the year the Masseurs Registration Board has met as required. A special meeting was held in Dunedin, and a conference was held between the authorities of the Massage School and the Board concerning staffing of school, conducting of examinations, and various other matters. The Massage School was inspected thoroughly. The register of qualified masseurs contains 417 names.

Plumbers Registration Act, 1912.

Three meetings of the Plumbers Board constituted under this Act were held during the year. Examinations under the Act were held in June and November. At the June examination 147 candidates presented themselves for examination, the results being that sixty-three candidates passed in the theoretical and thirty-three in the practical, whilst forty-four qualified for registration and where placed on the register. At the November examination 221 candidates presented themselves for examination, the results being fifty-five candidates passed in the theoretical and sixty-three in the practical; sixty-one qualified for registration and had their names duly recorded on the register. To date the names of 1,700 plumbers have been entered in the register, and thirty-five removed through death.

Food and Drugs Act.

Under the administration of Dr. Frengley the Food and Drugs Division has been particularly active. During the year the regular sampling activities have been well maintained. Attention has been given to the allegedly growing practice of the refilling of bottles of well-known brands of spirits exposed for sale in licensed bars. The Department realizes that the hotelkeeper who descends to this nefarious practice would do so with the object of increasing his profits, and that the cheaper the substitute the greater would be the incentive. Consequently, by the nature of the "blend" or the "draught" likely to be used in refilling the possibilities of deleterious effects must be considered. Special raids were made in Auckland and Dunedin, and as a result a number of prosecutions are to be taken shortly, on the grounds that in some instances standard whisky has been diluted with water, while in other cases bottles bearing well-known brands have been filled with whisky similar to the draught whisky stored by the seller.

* Includes 67 with New Zealand qualifications. † Includes 59 with New Zealand qualifications.

In the matter of amended or new regulations, an Order in Council was gazetted in January dealing with labelling of perservative substances sold for the purpose of being added or applied to food, requiring that the name of the active ingredient shall be declared; the labelling of so-called "essences" used as artificial food colours or flavours or for making beverages; defining milk-bread; permitting the use of harmless colouring in meat-pastes; defining conditions for keeping milk-samples prior to the application of the reductase test, and describing the method of applying the test; limiting to two parts per centum the amount of starch to be used in icing-sugar; permitting the use of two parts per centum of cornflour as "stiffening" in ice-cream; revoking the regulation formerly providing for "fruit-jelly crystals," and prohibiting the use of pictures or devices suggesting fruit on ordinary jelly crystals; limiting to 50 grains to the gallon the presence of salt in beer; and making general provisions regarding the labelling of cordials and beverages, including special provisions to prevent the splitting up of prescribed names and descriptions by the use of various ground colours and different styles of overprinting obviously intended to make one word more or less prominent than another.

Conferences have been held with representatives of various associations and traders to discuss problems that have arisen, and generally to give advice or guidance as to the aims and desires of the Department. Much discussion has taken place on the proposed Soap Regulations, and it is hoped to finalize this matter very soon.

During the ensuing year it is hoped that Parliament will pass a Dangerous Drugs Act. There are no insuperable difficulties in the way, and legislation in this direction is highly desirable.

It is desired to express again the fullest appreciation of the co-operation of the Customs Department and the Dominion Laboratory. The Dominion Analyst now has branches established at Auckland and Christchurch, and will, it is understood, further extend in the near future the useful activities of his Laboratory.

STAFF.

The staff of Medical Officers of Health has been increased by the appointment of Dr. Dawson as assistant to Dr. Telford at Christchurch.

Mr. Armitage, Government Bacteriologist, joined the staff of the Auckland Hospital Board on the passing over of the control of the Auckland Laboratory to that body. As Government Bacteriologist Mr. Armitage rendered enthusiastic and valuable service to the Department.

Mr. A. Von Keisenberg, who had filled with distinction the position of Inspecting Accountant, resigned from the Department to take up an appointment of secretary to the newly formed New Zealand Hospital Boards Association.

As in previous years, the staff rendered loyal and efficient service, for which I wish to express my sincere appreciation.

T. H. A. VALINTINE,
Director-General of Health.

PART II.—PUBLIC HYGIENE.

I have the honour to submit my annual report for the year ended 31st March, 1926.

SECTION 1.—VITAL STATISTICS.

POPULATION.

The mean population of the Dominion for 1925 (exclusive of Maoris) was estimated to be 1,329,756. This total represents an increase over the corresponding figure for the previous year of 31,121, or a percentage increase of population of 2·40.

BIRTHS.

The births of 28,153 living children were registered in the Dominion during 1925, as against 28,014, in 1924. The birth-rate for 1925 was thus 21·17 per 1,000 of mean population.

The general course of the birth-rate during the last ten years is shown in the following table:—

Births (Number and Rate) in New Zealand, 1916–25.

Year.	Total Number of Births registered.	Birth-rate per 1,000 of Mean Population.
1916	28,509	25·94
1917	28,239	25·69
1918	25,860	23·44
1919	24,483	21·42
1920	29,921	25·09
1921	28,567	23·34
1922	29,006	23·17
1923	27,967	21·94
1924	28,014	21·57
1925	28,153	21·17

The birth-rate for 1925 is the lowest ever recorded in the Dominion.

Still-births.—Still-births, which are defined by the Births and Deaths Registration Amendment Act of 1915 as " children which have issued from their mother after the expiration of the twenty-eighth week of pregnancy, and which were not alive at the time of such issue," are compulsorily registerable in the Dominion. The next table shows the number of such births, and their rate per 1,000 live births in individual years for the quinquennium 1921–25.

Still-births (Number and Rate) in New Zealand, 1921–25.

Year.	Total Number of Still-births registered.	Rate of Still-births per 1,000 Live Births.
1921	.. 903	31·6
1922	.. 842	22·1
1923	.. 894	32·0
1924	.. 855	30·5
1925	.. 861	30·6

A noticeable feature of the table is the continued high rate of still-births for the year under review.

(NOTE.—Still-births are not included, either as births or deaths, in the various numbers and rates given elsewhere in this report.)

DEATHS.

The number of deaths recorded during 1925 was 11,026. The Census and Statistics Office gives the crude death-rate for 1925 as 8·29 per 1,000 of mean population, and the international standardized death-rate as 8·67. This latter figure is based upon a standard population compiled by the International Institute of Statistics, in which the age-distribution (eleven age-groups) of the population of nineteen European countries at their censuses nearest to the year 1900 is used in the computation of international death-rates. The New Zealand crude rate is thus corrected as regards the age and also the sex of the population.

The following table gives the standardized rates for New Zealand under the above system for the years 1901, 1911, 1921, 1924, and 1925. The first three are census years. The corresponding crude rates are also shown.

Crude and International Standardized Death-rates.

Year.	Crude Rates.			International Standardized Rates.			
						Both Sexes.	
	Males.	Females.	Both Sexes.	Males.	Females.	Without Distinction between Sexes.	With Distion between Sexes.
1901 ..	10·80	8·71	9·81	11·81	11·21	11·64	11·51
1911 ..	10·46	8·21	9·39	10·79	9·74	10·40	10·26
1921 ..	9·75	7·66	8·73	9·65	8·63	9·23	9·14
1924 ..	9·22	7·32	8·29	9·18	8·26	8·79	8·72
1925 ..	9·09	7·46	8·29	8·99	8·35	8·75	8·67

The crude death-rate (8·29) was equal to that of the previous year, the lowest on record. The international standardized rate (8·67) shows a further decline. Both these rates are in all probability lower than those of any other civilized country.

Infant Mortality.—The infant-mortality rate for 1925 was 39·96 per 1,000 births. This rate is the lowest recorded in the Dominion.

The next table demonstrates the relative obstinacy of the first-month mortality to react to the administrative measures which have proved so successful at later ages :—

Infant Mortality in New Zealand, 1900–25.—Proportion of Deaths under Twelve Months in every 1,000 Births in Individual Years.

Year.	Under One Month.	One Month and under Twelve Months.	Total under Twelve Months.	Year.	Under One Month.	One Month and under Twelve Months.	Total under Twelve Months.
1900 ..	31·1	44·1	75·2	1913 ..	29·7	29·5	59·2
1901 ..	29·8	41·6	71·4	1914 ..	28·9	28·5	51·4
1902 ..	32·2	50·7	82·9	1915 ..	29·2	20·8	50·0
1903 ..	31·7	49·4	81·1	1916 ..	27·0	23·7	50·7
1904 ..	29·4	41·6	71·0	1917 ..	27·9	20·3	48·2
1905 ..	30·1	37·4	67·5	1918 ..	26·7	21·7	48·4
1906 ..	29·6	32·5	62·1	1919 ..	28·4	16·9	45·3
1907 ..	30·4	58·4	88·8	1920 ..	30·8	19·7	50·5
1908 ..	31·2	36·7	67·9	1921 ..	30·7	17·1	47·8
1909 ..	29·9	31·7	61·6	1922 ..	27·2	14·7	41·9
1910 ..	30·2	37·5	67·7	1923 ..	29·1	14·7	43·8
1911 ..	28·5	27·8	56·3	1924 ..	24·0	16·3	40·2
1912 ..	30·1	21·1	51·2	1925 ..	26·4	13·5	39·9

Analysis of Deaths of Infants under One Month of Age, 1925.

The following table gives the causes of these deaths during the year:—

Cause of Death.	Under One Day.	One Day and under One Week.	One Week and under Two Weeks.	Two Weeks and under Three Weeks.	Three Weeks and under One Month.	Total.
Influenza	..	..	..	1	1	2
Syphilis	1	..	..	1	..	2
Meningitis	..	..	1	..	1	2
Convulsions	..	26	5	..	..	31
Bronchitis	..	1	1	1	..	3
Broncho-pneumonia	..	3	1	3	3	10
Pneumonia	..	2	6	1	1	10
Diarrhœa and enteritis	..	..	2	1	2	5
Congenital malformations	24	51	14	6	5	100
Congenital debility, icterus, sclerema ..	15	40	7	9	11	82
Injury at birth	18	42	3	1	..	64
Premature birth	152	123	34	16	12	337
Other causes peculiar to early infancy ..	19	37	5	3	1	65
Accidental mechanical suffocation (overlain, &c.	..	1	..	1	..	2
Other causes	6	10	6	5	2	29
Total, both sexes	235	336	85	49	39	744

It will be seen from the table that premature birth and congenital debility account for more than half these deaths.

The ante-natal clinics now in course of establishment by the Department in co-operation with the Plunket Society should tend to some extent to reduce this death-rate. The Director, Division of Child Welfare, moreover, has expressed his opinion that the lives of some of these premature or congenitally weak infants could be saved by prompt skilled attention immediately after birth, and both the St. Helens Institutions and the Plunket Society are giving their nurses and trainees the necessary instructions to ensure skill.

The fact remains, however, that this problem is closely interwoven with that of material deaths, and particularly in the rural areas midwifery is now, and for many years to come will be, performed by registered midwives who have not had the opportunity of special instruction in the care of the prematurely born. The District Medical Officers of Health control practising midwives, and are in contact with medical practitioners. Perhaps something could be done through that channel to reduce this death-rate.

Maternal Mortality.—New Zealand's comparatively high maternal-mortality rate has been a matter of special concern to the Department since 1922.

The following table shows the number of deaths from puerperal causes, and the rate of such deaths per 1,000 births, for the five-yearly period 1921–25:—

Table A.—Deaths from all Puerperal Causes (Number and Rate) in New Zealand, 1921–25.

Year.	Total Number of Deaths from Puerperal Causes.	Rate per 1,000 Births.
1921	.. 145	5·08
1922	.. 149	5·14
1923	.. 143	5·11
1924	.. 140	5·00
1925	.. 131	4·65

There has been a gratifying reduction in this death-rate during the year. While, however, the vital statistics generally of New Zealand compare more than favourably with those of other countries, this cannot be said of her maternal-mortality rate, as the following table will show:—

Table B.—Deaths from Puerperal Causes in various Countries.

Country.	Death-rate per 1,000 Births from		
	Puerperal Septicæmia.	Other Puerperal Causes.	All Puerperal Causes.
Denmark	1·07	0·99	2·06
Netherlands	0·82	1·76	2·58
Italy	1·04	1·71	2·75
Uruguay	1·75	1·13	2·88
Japan	1·27	2·17	3·44
England and Wales	1·45	2·50	3·95
South Africa	1·77	2·40	4·17
Australia	1·69	3·27	4·96
New Zealand	1·75	3·26	5·00
Irish Free State	2·11	2·91	5·02
Germany	2·78	2·26	5·04
Jamaica	1·09	4·08	5·17
Northern Ireland	1·95	3·30	5·25
Spain	3·38	1·96	5·34
Switzerland	2·82	2·60	5·42
Canada*	1·41	4·12	5·53
Belgium	2·52	3·16	5·68
Scotland	1·89	4·38	6·27
United States†	2·56	5·02	7·58
Chile	2·24	6·00	8·24
British Guiana	2·85	11·48	14·33
Ceylon	8·23	11·69	19·92

* Exclusive of Quebec. † Registration area.

A glance at the above table (B), which covers a quinquennial period, indicates that New Zealand owes her relatively high maternal-mortality rate less to deaths from puerperal septicæmia than from other puerperal causes.

Analysis of Maternal Deaths from all Puerperal Causes.—During the decennium 1916–25 the average annual number of deaths from all puerperal causes was 149·5, made up as follows :—

Table C.

Puerperal septicæmia	53·2
Puerperal albuminuria and convulsions	34·2
Puerperal hæmorrhage	20·8
Accidents of pregnancy	16·8
Other accidents of labour	12·4
Puerperal phlegmosia, alba-dolens, embolis, sudden death	9·9
Following childbirth not otherwise defined	2·2
	149·5

Puerperal Septicæmia (Fever).—The following table (D) shows the course of this disease for the quinquennium 1921–25 :—

Table D.—Puerperal Fever in New Zealand, 1921–25.

Year.	Notifications.		Deaths.	
	Number.	Rate per 1,000 Live Births.	Number.	Rate per 1,000 Live Births.
1921	178	6·23	48	1·68
1922	262	9·03	52	1·79
1923	176	6·93	52	1·86
1924	308	10·99	52	1·86
1925	336	11·93	42	1·49

This is a remarkable improvement upon the experience of former years. The increase in the number of notifications is definitely due not to an increase in the incidence of puerperal fever, but to much freer notification by medical practitioners. The number of deaths has been greatly reduced, the average for the preceding ten years having been 53.

Distribution of Maternal Deaths.—It is now possible to obtain separate statistics for the fourteen principal urban areas of the Dominion, which include roughly half the total population, and for the rest of the Dominion, which we may term rural. Correction has been made by the Census and Statistics Office for rural women who have died in urban areas.

The following table (E) shows that the maternal-death rate (all causes) is higher for rural women than for urban :—

Table E.—Deaths from Puerperal Causes, Urban Areas and Rest of Dominion, 1922–25.

Cause.	Urban Areas.					Rest of Dominion.				
	1922.	1923.	1924.	1925.	Total.	1922.	1923.	1924.	1925.	Total.
Accidents of pregnancy	9	8	9	1	27	4	9	6	9	28
Puerperal hæmorrhage	6	8	8	15	37	16	18	11	9	54
Other accidents of labour	3	1	1	1	6	10	3	5	6	24
Puerperal septicæmia	26	25	13	18	82	26	27	39	24	116
Puerperal phlegmosia alba-dolens, embolis, sudden death	2	4	5	1	12	10	4	6	13	33
Puerperal albuminuria and convulsions	18	9	12	13	52	17	25	24	19	85
Following childbirth (not otherwise defined)	..	..	1	2	3	2	2	..	..	4
Totals	64	55	49	51	219	85	88	91	80	344

Table E shows that the death-rate of rural women is considerably higher than that of urban as regards not only puerperal septicæmia but also puerperal albuminuria and convulsions and puerperal hæmorrhage, the two causes of death next in magnitude to puerperal septicæmia.

Table C shows that for the decennium 1916–25 these three causes accounted for 108 deaths of an average annual total of 149.

From Table B we have deduced that not puerperal septicæmia but other puerperal causes of death account mainly for New Zealand's unsatisfactory maternal-death rate in relation to certain other countries. Of these others puerperal albuminuria and convulsions and puerperal hæmorrhage cause most deaths, and apparently it is mainly to our rural areas that we must devote our attention in order to reduce this death-rate.

During the coming year local inquiry is to be made into the circumstances surrounding the deaths which occurred last year. We should learn, for example, why the death-rate from puerperal albuminuria and convulsions, puerperal hæmorrhage, and other accidents of labour is considerably higher with rural women than with those residing in the fourteen urban areas, and, if possible, effect a remedy.

Table B.—The Department is corresponding with the Health and Statistical Offices of Denmark, Holland, England, Belgium, Scotland, Canada, and the United States on the question of maternal mortality and the statistics relating thereto. Meantime it is of interest to note that the United States, Scotland, Canada, Australia, and New Zealand all have relatively high maternal-death rates from causes other than puerperal septicæmia, and all have considerable areas with scattered population. Other points of interest are that in New Zealand during the last five years over one-third of the births (annual average) were of first-born children, and in 1924 (the last year available) the ages of the mothers at the time of each birth was—

Table F.—Ages of Mothers.

Age of Mother in Years.	Number of Births.
Under 20	709
20 and under 25	5,379
25 ,, 30	7,840
30 ,, 35	6,378
35 ,, 40	4,058
40 ,, 45	1,614
45 ,, 50	127

SECTION 2.—NOTIFIABLE DISEASES.

Scarlet Fever.

The course of scarlet fever in New Zealand during the last five years is briefly shown in the tables below. The notifications for 1925 reveal a satisfactory decline as compared with previous years, and the death-rate is extraordinarily low.

Scarlet Fever in New Zealand, 1921–25.

Year.	Notifications.		Deaths.	
	Number.	Rate per 10,000 of Mean Population.	Number.	Rate per 10,000 of Mean Population.
1921	1,845	15·07	24	0·19
1922	1,449	11·58	10	0·08
1923	1,201	9·42	13	0·10
1924	1,176	9·05	13	0·10
1925	1,025	7·71	7	0·05

DIPHTHERIA.

Diphtheria in New Zealand, 1921–25.

Year.	Notifications.		Deaths.*	
	Number.	Rate per 10,000 of Mean Population.	Number.	Rate per 10,000 of Mean Population.
1921	2,611	21·33	107	0·87
1922	1,989	15·89	78	0·62
1923	1,951	15·31	68	0·53
1924	2,717	20·84	82	0·63
1925	1,518	11·42	52	0·40

* Figures include deaths from croup.

Here again there is a remarkable drop in the number of deaths and in the rate per 10,000 of mean population, as well as in the notifications of this disease.

ENTERIC FEVER.

The position as regards this disease for the period 1921–25 is shown in the table below :—

Enteric Fever in New Zealand, 1921–25.

Year	Notifications.		Deaths.	
	Number.	Rate per 10,000 of Mean Population.	Number.	Rate per 10,000 of Mean Population.
1921	451	3·68	24	0·19
1922	539	4·31	67	0·54
1923	276	2·17	23	0·18
1924	354	2·73	19	0·15
1925	278	2·09	16	0·12

TUBERCULOSIS.

Tuberculosis (All Forms) in New Zealand, 1916–25.

Year.	Number of Deaths from Tuberculosis.	Death-rate from Tuberculosis per 1,000 of Mean Population.	Percentage of Total Deaths from all Causes.
1916	742	6·74	7·00
1917	755	6·87	7·17
1918	832	7·54	5·08
1919	762	6·71	7·05
1920	851	7·21	7·03
1921	793	6·48	7·42
1922	821	6·56	7·48
1923	792	6·21	6·88
1924	736	5·67	6·84
1925	684	5·14	6·20

The position disclosed by this table is satisfactory. The death-rate from tuberculosis for the year was extraordinarily low, and constitutes a new record.

Of the total of 684 deaths in 1925, 560 were assigned to pulmonary tuberculosis and the remaining 124 to other forms of this disease. Mortality from tuberculosis (all forms) is steadily reducing, and South Africa, Australia, and New Zealand have a very much lower death-rate from this disease than most other countries.

Pulmonary Tuberculosis.—Pulmonary tuberculosis is the only variety of the disease which is compulsorily notifiable, and, although the death-rate is steadily reducing, notifications have increased for several years past, due, it is believed, not to an actual increase in incidence but to freer notification by medical practitioners. This is a satisfactory feature, since it leads to control of cases and the prevention of the spread of this disease. It cannot yet be said, however, that all cases of pulmonary tuberculosis are notified. The number of notifications for 1925 was 1,247, and for the preceding year 1,072.

Pneumonic Influenza.

The table appended illustrates the course of this disease for the quinquennial period 1921–25. Following the heavy incidence during 1923, this disease has declined in 1925 to a low level in both cases and deaths.

Pneumonic Influenza in New Zealand, 1921–25.

Year.	Notifications.		Deaths.	
	Number.	Rate per 10,000 of Mean Population.	Number.	Rate per 10,000 of Mean Population.
1921	295	2·41	105	0·86
1922	216	1·73	23	0·18
1923	1,144	8·98	223	1·75
1924	180	1·39	32	0·25
1925	69	0·52	23	0·17

Acute Primary Pneumonia.

The notifications for this disease show a satisfactory situation. In 1925, 579 cases were notified, as compared with 756 cases in 1924 and 788 cases in 1923.

TABLE A.—NOTIFIABLE DISEASES IN NEW ZEALAND, 1925, SHOWING DISTRIBUTION BY MONTHS.

Month.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Tuberculosis.	Cerebro-spinal Meningitis.	Poliomyelitis.	Pneumonic Influenza.	Pneumonia.	Erysipelas.	Puerperal Fever.	Septic Abortion.	Eclampsia.	Tetanus.	Hydatids.	Trachoma.	Ophthalmia Neonatorum.	Lethargic Encephalitis.	Smallpox.	Food-poisoning.	Leprosy.	Actinomycosis.	Lead Poisoning.	Hookworm.	Phosphorus Poisoning.	Totals.
January	90	121	24	106	5	224	6	33	13	19	8	6	2	3	..	3	1	..	2	..	..	..	..	..	666
February	66	117	32	114	1	340	2	18	18	12	9	3	1	1	6	2	..	..	2	..	..	..	..	..	744
March	76	127	39	97	1	366	2	21	15	17	9	7	2	3	4	3	1	1	1	..	1	..	..	..	793
April	78	97	23	77	3	120	6	17	12	18	9	6	2	3	2	2	2	..	5	..	..	..	..	..	482
May	109	124	19	87	1	54	2	23	15	20	3	3	3	1	2	3	2	..	2	..	..	..	..	..	483
June	102	168	25	71	3	22	6	38	19	18	11	3	4	..	1	1	..	..	..	..	..	1	..	..	493
July	118	185	18	117	1	10	6	63	20	30	12	13	1	2	1	2	..	..	1	1	..	..	..	..	601
August	74	172	21	109	1	9	13	78	17	18	9	7	1	5	..	5	3	..	..	1	..	..	..	..	543
September ..	80	106	21	123	5	6	12	93	15	23	9	9	1	2	3	2	3	..	..	..	1	..	..	..	514
October	71	99	26	126	2	5	8	87	16	27	12	10	..	7	3	3	2	..	..	..	2	1	..	..	507
November ..	72	108	4	131	3	3	5	54	13	13	11	3	3	5	4	4	2	..	2	..	..	..	..	..	440
December	89	94	26	89	1	..	1	44	8	10	9	4	..	3	3	6	5	..	3	..	..	..	..	..	395
Totals, 1925 ..	1,025	1,518	278	1,247	27	1,159	69	579	181	225	111	74	20	35	29	36	21	1	18	2	4	2	..	..	6,661
Totals, 1924 ..	1,176	2,717	354	1,072	31	73	180	756	210	308	11	39	16	38	20	31	30	..	14	..	1	2	1	1	7,081

NOTE.—Septic abortion became notifiable on 30th August, 1924.

Table B.—Notifications of Cases of and Deaths from Notifiable Diseases in New Zealand for the Year ended 31st December, 1925.

Name of Disease.		Name of District and Estimated Population.												Totals.
		North Auckland. 82,726.	Central Auckland. 177,192.	South Auckland. 93,361.	Coromandel-Opotiki. 45,396.	Taranaki-Horowhenua. 170,318.	Wairarapa-East Cape. 136,549.	Central Wellington. 124,729.	Nelson-Marlborough. 44,704.	West Coast. 32,827.	Canterbury. 219,766.	Otago. 139,332.	Southland. 67,816.	1,334,716.
Scarlet fever	Cases	29	96	89	15	68	97	156	9	9	363	68	26	1,025
	Deaths	..	..	..	..	..	1	1	..	..	1	..	..	3
Diphtheria	Cases	24	167	98	32	261	145	334	24	65	169	141	58	1,518
	Deaths	..	5	2	..	5	4	15	2	1	4	6	1	45
Enteric fever	Cases	20	31	38	51	29	64	5	..	9	22	6	3	278
	Deaths	1	4	5	3	1	2	..	..	3	1	1	..	21
Tuberculosis	Cases	63	129	128	46	95	125	63	9	17	292	212	68	1,247
	Deaths	22	105	17	8	35	46	57	20	8	101	72	21	512
Cerebro-spinal meningitis	Cases	..	3	..	2	3	4	7	2	..	3	2	1	27
	Deaths	..	2	1	..	1	2	2	1	..	2	..	..	11
Poliomyelitis	Cases	58	123	78	34	293	100	88	43	10	228	95	9	1,159
	Deaths	8	32	15	5	28	12	11	10	2	32	8	2	165
Influenza (pneumonic, &c.)	Cases	6	13	6	2	9	7	..	..	1	22	1	2	69
	Deaths	1	5	2	1	1	3	2	..	1	5	1	1	23
Pneumonia	Cases	25	93	35	35	96	64	36	5	9	101	57	23	579
	Deaths	2	55	21	2	30	5	14	6	..	9	12	5	161
Erysipelas	Cases	14	37	19	7	15	21	11	1	..	25	26	5	181
	Deaths	1	..	..	..	1	1	..	..	..	2	..	..	5
Puerperal fever—														
Ordinary	Cases	15	36	13	18	13	21	27	1	5	42	27	7	225
	Deaths	2	3	2	2	3	3	6	..	..	1	2	..	24
Following abortion or miscarriage	Cases	6	42	7	6	7	10	5	..	..	22	3	3	111
	Deaths	..	2	1	1	1	..	..	..	1	..	..	..	6
Eclampsia	Cases	1	20	10	1	9	6	7	1	1	9	5	4	74
	Deaths	..	4	2	..	1	..	..	1	..	3	..	1	12
Tetanus	Cases	..	3	2	3	1	3	1	1	..	5	1	..	20
	Deaths	..	2	2	1	1	..	..	1	..	1	..	..	8
Hydatids	Cases	..	1	5	..	5	1	..	1	1	6	12	3	35
	Deaths	..	1	..	..	..	1	1	..	..	1	1	..	5
Chronic lead poisoning	Cases	..	..	..	..	..	..	2	..	..	..	..	..	2
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Trachoma	Cases	1	3	9	4	..	7	1	..	..	4	..	..	29
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Smallpox	Cases	1	..	..	..	..	..	..	..	..	..	..	..	1
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia neonatorum	Cases	2	8	..	3	1	4	6	1	1	7	2	1	36
	Deaths	..	1	..	..	..	..	..	..	..	..	..	..	1
Lethargic encephalitis	Cases	1	..	..	1	2	3	4	..	..	5	1	4	21
	Deaths	1	..	..	..	..	..	1	..	..	..	..	2	4
Food-poisoning	Cases	..	1	2	8	..	..	..	..	..	.. 4	3	..	18
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	Cases	..	..	..	..	1	1	..	..	..	..	..	..	2
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	Cases	..	..	..	..	1	..	..	..	..	.. 1	..	..	4
	Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	Cases	266	806	539	268	909	683	753	98	128	1,330	662	219	6,661
	Deaths	38	221	70	23	108	80	110	41	16	163	103	33	1,006

Table C.—Notifiable Diseases in New Zealand, 1925, showing Distribution by Age and Sex.

Disease.	Under 1 Year.		1 to 5 Years.		5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 25 Years.		25 to 30 Years.		30 to 35 Years.		35 to 40 Years.		40 to 45 Years.		45 to 50 Years.		50 to 55 Years.		55 to 60 Years.		60 to 65 Years.		65 to 70 Years.		70 to 75 Years.		75 to 80 Years.		80 Years and over.		Total Cases at all Ages.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Scarlet fever	4	3	87	119	161	236	52	133	17	37	15	31	9	31	10	28	7	21	7	7	4	3	..	2	..	..	..	1	..	..	..	..	..	..	..	..	373	654
Diphtheria	11	3	236	200	240	244	104	93	45	62	39	59	15	50	18	24	7	20	10	12	5	6	1	4	..	5	1	1	..	1	1	1	..	..	..	..	733	785
Enteric fever	..	..	12	6	23	24	26	24	21	19	15	17	18	10	14	10	9	2	8	1	5	4	4	2	1	1	2	..	..	..	..	..	..	..	..	..	158	120
Tuberculosis	1	..	2	5	19	16	19	32	43	100	104	157	91	117	73	70	67	44	56	35	42	25	26	21	21	11	12	5	11	5	7	4	1	2	3	..	598	649
Cerebro-spinal meningitis	2	..	8	3	3	1	4	..	..	..	1	..	2	1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	21	6
Poliomyelitis	38	24	320	259	150	123	65	50	39	25	7	12	13	4	5	4	7	3	1	..	3	6	..	..	..	..	..	..	..	1	..	..	..	..	..	..	648	511
Pneumonic influenza ..	1	..	6	2	..	5	2	3	5	6	2	2	..	2	5	1	5	2	4	..	4	..	4	1	1	..	1	3	..	..	..	..	..	1	..	1	40	29
Pneumonia	21	13	68	54	47	26	25	22	27	8	18	15	14	15	17	6	21	14	24	7	21	11	15	6	9	8	10	3	2	6	9	6	..	1	4	6	352	227
Erysipelas	3	6	3	1	3	4	4	1	2	2	4	3	..	6	3	17	7	15	9	16	10	14	9	12	3	6	3	5	3	1	2	..	..	3	1	..	69	112
Puerperal fever ..	..	..	..	..	..	..	..	1	..	15	..	66	..	61	..	41	..	27	..	12	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	225
Septic abortion ..	..	..	..	..	..	..	..	..	..	4	..	17	..	35	..	32	..	14	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	111
Eclampsia	..	..	..	..	..	..	..	..	..	7	..	20	..	22	..	12	..	10	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	74
Hydatids	..	..	1	2	..	1	1	1	1	..	5	1	3	4	..	1	2	2	..	2	..	1	2	..	1	..	1	1	2	..	..	..	..	..	..	..	19	16
Trachoma	..	..	..	1	1	1	..	1	3	2	1	1	..	2	1	2	2	1	2	3	2	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	13	16
Ophthalmia neonatorum	13	22	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	22
Lethargic encephalitis ..	..	..	..	..	2	..	..	3	2	..	3	1	1	..	..	1	..	..	..	1	3	1	..	..	1	..	..	..	1	1	..	..	..	..	..	..	13	8
Smallpox	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Food-poisoning ..	1	..	1	..	..	..	..	..	..	..	1	..	..	2	3	..	..	1	3	..	1	1	..	2	1	1	..	..	..	..	..	..	..	..	..	..	11	7
Leprosy	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Lead poisoning ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Tetanus	..	..	2	2	4	2	2	..	..	1	1	..	2	2	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	9
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1
Totals ..	95	71	747	654	653	683	304	364	206	288	218	402	168	364	149	250	139	177	124	107	100	77	62	52	39	32	30	19	19	15	19	11	1	7	8	7	3,081	3,580

Venereal Clinics.—Cases treated during the Year ended 31st December, 1925.

Reference.	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.	
Number of persons dealt with at or in connection with out-patient clinic for the first time and found to be suffering from—	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Syphilis	65	17	62	22	30	7	24	28	181	74
Soft sore	12	..	3	..	14	..	..	..	29	..
Gonorrhœa	398	38	301	41	256	53	77	12	1,032	144
No venereal disease	103	20	145	53	44	10	4	..	296	83
Total attendance of all persons at the out-patient clinics who were suffering from—										
Syphilis	981	313	1,970	549	719	444	661	507	4,331	1,813
Soft sore	39	..	172	..	101	..	..	..	312	..
Gonorrhœa	9,443	326	27,168	653	8,161	1,027	1,181	189	45,953	2,195
No venereal disease	332	42	220	94	221	126	4	..	777	262
Aggregate number of in-patients' days of treatment given to persons suffering from—										
Syphilis	..	..	1,103	..	167	..	91	93	1,361	93
Gonorrhœa	..	..	4,817	..	332	..	31	153	5,180	153
Number of doses of salvarsan substitutes given	699	203	1,223	444	409	229	50	44	2,381	920
Examination of pathological material: Specimens from person attending at treatment centre which were examined for—										
Detection of spirochætes	23	..	43	15	41	..	1	..	108	15
Detection of gonococci	1,455	228	691	208	693	395	73	29	2,912	860
Wassermann reaction	136	43	341	120	459	241	39	32	975	436
Others	30	76	15	..	6	..	..	..	51	76

SECTION 3.—QUARANTINE AND PORT SANITARY WORKS.

NUMBER OF VESSELS INSPECTED DURING THE YEAR ENDED 31ST DECEMBER, 1925.

Port.	Number of Vessels inspected.	Prohibited Immigrants.	Infectious-disease Cases.	V.D. Cases.	Mental Defective Cases.
Auckland Health District—					
Auckland	288	93	9	..	..
Thames	1	..	..	..	..
Dargaville	1	..	..	..	..
Wellington Health District—					
New Plymouth	14	..	..	..	..
Wanganui	23	..	..	..	..
Gisborne	11	..	..	..	..
Napier	6	..	..	..	..
Nelson	1	..	..	..	..
Wellington	140	21	32	9	4
Picton	3	..	..	..	..
Canterbury Health District—					
Lyttelton	37	..	..	6	..
Timaru	2	..	..	..	..
Westport	3	..	..	..	..
Greymouth	2	..	..	..	..
Otago Health District—					
Oamaru	1	..	..	..	..
Port Chalmers	22	..	..	..	..
Bluff	41	..	..	..	..
Totals	596	114	41	15	4

SECTION 4.—WORKING OF THE SALE OF FOOD AND DRUGS ACT.

TABLE 1.—SHOWING SAMPLES RESPECTIVELY OF MILK AND OTHER FOODSTUFFS TAKEN AND DEALT WITH DURING THE YEAR ENDED 31ST DECEMBER, 1925.

Health District.	Number of Samples taken.		Samples not complying.							
			Number of Samples.		Number of Vendors.		Number of Warnings issued.		Number of Prosecutions recommended.	
	Milk.	Other.	Milk.	Other.	Milk.	Other.	Milk.	Other.	Milk.	Other.
North Auckland ..	246	27	43	9	39	9	23	3	15	4
Central Auckland ..	992	123	157	33	147	32	92	15	18	..
South Auckland ..	154	21	18	..	15	..	9	..	6	..
Coromandel–Opotiki ..	21	8	3	..	3	..	2	..	1	..
Taranaki–Horowhenua	183	56	25	15	25	13	18	2	7	3
Wairarapa–East Cape	240	28	20	3	20	3	17	1	3	1
Central Wellington ..	1,744	78	92	18	90	13	54	2	37	6
Nelson–Marlborough ..	105	24	4	..	4	..	2	..	2	..
Canterbury ..	308	61	58	6	49	1	29	1	30	5
Westland	170	6	10	..	10	..	7	..	3	..
Otago	226	36	33	6	26	6	24	..	6	2
Southland	75	4	10	..	10	..	6	..	4	..
Totals, 1925 ..	4,464	472	473	90	438	77	283	24	132	21
Totals, 1924 ..	3,698	433	318	95	310	91	187	30	130	22

TABLE 2.—SHOWING THE RESULTS OF WEIGHINGS OF BREAD, BUTTER, AND OTHER FOODSTUFFS RESPECTIVELY DURING THE YEAR ENDED 31ST DECEMBER, 1925.

Health District.	Number of Samples weighed.			Samples not complying.											
				Number of Samples.			Number of Vendors.			Number of Warnings issued.			Number of Prosecutions recommended.		
	Bread.	Butter.	Other.	Bread.	Butter.	Other.	Bread.	Butter.	Other.	Bread.	Butter.	Other.	Bread.	Butter.	Other.
North Auckland ..	635	131	6	145	38	..	33	10	..	8	5	..	4	3	..
Central Auckland	566	301	18	52	5	..	20	4	..	4	3	..	..	..	..
South Auckland ..	656	108	..	55	1	..	16	1	..	2	..	..	1	..	..
Coromandel–Opotiki	482	54	..	17	5	..	7	2	..	1	..	..	1	..	..
Taranaki–Horowhenua	870	1,078	451	70	14	..	7	2	..	2	1	..	5	1	..
Wairarapa–East Cape	1,329	619	38	67	53	..	7	5	..	4	3	..	3	2	..
Central Wellington	270	161	..	10	..	..	1	..	..	1	..	..	..	..	..
Nelson–Marlborough	327	187	13	..	14	..	..	2	..	..	2	..	..	..	..
West Coast ..	623	702	..	110	92	..	9	8	..	9	9	..	..	..	..
Canterbury ..	71	96	12	1	66	..	1	5	..	1	5	..	..	..	..
Otago	315	366	17	..	6	..	..	5	..	..	6	..	..	..	..
Southland ..	457	199	91	1	3	..	1	2	..	1	3	..	..	..	..
Totals, 1925 ..	6,601	4,002	646	528	297	..	102	46	..	33	37	..	14	6	..
Totals, 1924 ..	8,377	4,498	663	508	173	18	128	29	3	44	15	2	11	4	..

TABLE 3.—SHOWING INSPECTIONS OF PREMISES ENGAGED IN SELLING OR MANUFACTURING FOODSTUFFS DURING THE YEAR ENDED 31ST DECEMBER, 1925.

Health District.	Number of Premises inspected engaged in selling or manufacturing Foodstuffs.	Number of Instances Articles were "seized" or "destroyed."	Number of such Food Premises requiring Sanitary Alterations.	Hospital District.	Number of Premises inspected engaged in selling or manufacturing Foodstuffs.	Number of Instances Articles were "seized" or "destroyed."	Number of such Food Premises requiring Sanitary Alterations.
North Auckland ..	1,421	26	307	Canterbury ..	1,158	12	207
Central Auckland ..	1,940	50	309	Westland	712	12	170
South Auckland ..	3,838	9	509	Otago	1,585	20	48
Coromandel-Opotiki ..	1,616	1	306	Southland ..	961	6	47
Taranaki-Horowhenua	2,341	19	356				
Wairarapa-East Cape	2,752	7	113	Totals, 1925 ..	19,770	179	2,448
Central Wellington ..	888	14	28				
Nelson-Marlborough	558	3	48	Totals, 1924 ..	20,733	519	2,552

SECTION 5.—BACTERIOLOGICAL LABORATORIES.

TABLE SHOWING PUBLIC-HEALTH WORK PERFORMED IN BACTERIOLOGICAL LABORATORIES DURING THE YEAR ENDED 31ST DECEMBER, 1925.

Specimens.	Number of Examinations carried out.																				
	Positive.											Negative.									
	Whangarei.	Auckland.	Hamilton.	Gisborne.	Napier.	Palmerston North.	New Plymouth.*	Wellington.	Christchurch.	Dunedin.	Invercargill.	Whangarei.	Auckland.	Hamilton.	Gisborne.	Napier.	Palmerston North.	New Plymouth.*	Wellington.	Christchurch.	Dunedin.	Invercargill.
Diphtheria diagnosis	6	77	73	63	6	94	20	989	249	289	81	61	684	316	90	314	616	179	7,650	1,765	3,608	515
Diphtheria clearance	6	..	95	14	7	348	194	..	112	424	144	23	..	415	264	13	1,200	363	..	360	1,154	183
Tuberculosis—																						
Sputum	234	108	157	11	100	62	8	286	65	154	42	156	511	444	102	465	376	67	1,043	475	585	194
Cerebro-spinal meningitis fluid	..	..	..	..	1	..	..	..	6	16	..	5	4	39	1	58	7	..	..	24	49	5
Urine	..	1	1	..	2	..	..	6	36	15	1	10	13	32	4	91	30	..	..	332	354	20
Pleuritic fluid	..	..	..	..	5	..	..	..	6	..	..	..	2	6	2	37	14	2	19	51	40	3
Fæces	..	..	..	..	2	..	..	..	..	..	..	..	..	2	1	18	9	..	16	24	43	5
Other material	..	..	..	..	13	..	..	1	6	32	2	4	3	5	2	31	13	1	31	29	96	11
Typhoid-fever diagnosis—																						
Agglutination tests	1	16	38	17	30	10	..	16	26	9	4	16	29	60	12	151	35	3	138	67	73	7
Blood culture	..	3	2	..	1	..	..	..	8	..	1	2	6	37	5	6	5	6	..	23	61	1
Fæces	..	1	..	1	8	..	..	2	6	4	..	..	21	16	3	47	7	2	14	72	33	4
Urine	..	..	..	..	..	..	..	..	..	..	..	..	4	..	3	..	..	..	..	4	2	2
Typhoid-fever clearance—																						
Fæces	..	..	1	1	2	..	..	..	3	1	..	..	2	67	35	22	9	..	16	30	..	3
Urine	..	..	3	5	3	..	..	2	2	..	..	..	3	68	19	15	6	..	17	42	12	2
Cerebro-spinal-fever diagnosis—																						
Swabs	..	..	..	1	..	1	..	..	1	..	..	..	5	..	2	1	7	11	..	..	11	..
Cerebro-spinal fluid	..	..	..	1	..	..	..	8	3	4	1	..	6	2	1	..	10	3	..	4	..	7
Cerebro-spinal-fever clearance—swabs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..
Gonorrhœa	10	61	17	17	93	62	28	778	199	57	26	12	234	91	26	177	98	40	941	221	292	41
Ophthalmia neonatorum gonococcus	..	..	2	..	1	..	..	22	..	2	7	2	..	11	..	5	1	..	45	1	7	5
Syphilis, spironema pallidum	..	..	..	..	..	..	..	3	..	..	1	..	2	..	..	3	..	..	13	..	11	8
Syphilis, Wassermann reaction	..	137	1	..	88	..	..	495	141	569	..	..	600	1	..	535	..	..	1,481	564	..	..
Hydatid disease	..	..	..	..	17	..	2	3	30	58	1	..	1	3	2	41	2	..	3	71	..	5
Vincent's angina	..	16	7	..	21	..	..	8	..	..	..	..	8	13	..	2	..	..	6	..	..	..
Leprosy	..	1	..	..	1	..	..	..	..	..	..	..	4	..	..	63	..	..	..	..	..	..
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Tetanus	..	..	..	..	..	..	..	..	..	2	..	..	1	1	..	..	..	..	..	..	1	..
Anchylostomiosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	..
Others	..	7	6	2	15	..	..	7	513	..	8	..	2	17	3	7	2	..	7	410	..	8
Plague-extermination of rats	..	..	..	..	..	..	..	..	..	..	..	..	12,022	..	679	..	..	..	868	..	..	..
Poliomyelitis	..	1	..	..	..	..	..	..	21	82	1	..	6	65	..	..	..	..	..	33	63	..
Puerperal sepsis	..	4	..	..	1	4	1	..	..	..	..	..	9	..	..	..	1	1	..	..	..	..

* New Plymouth returns from August only.

PARTICULARS OF WORK CARRIED OUT AT THE GOVERNMENT VACCINE STATION, WELLINGTON, DURING THE YEAR ENDING 31ST MARCH, 1926.

Calves inoculated, 27; calves used, 20; calves rejected, 7. Lymph prepared sufficient for 21,328 tubes; lymph issued in tubes, 7,114; amount of lymph in stock sufficient for 10,784 tubes; number of tubes in stock, 400. Since the 31st March an additional quantity of lymph (about 12,000 tubes) has been prepared, and a supply of 500 tubes has been issued to each of the three centres.

SECTION 6.—GENERAL.

During the year an endeavour has been made to strengthen the clerical, accountancy, and Senior Inspector staffs of the District Health Offices, in order to relieve the Medical Officers of Health from minor duties and enable them to function more fully throughout their large districts as advisers of the local governing authorities in matters affecting the public health. This is being brought about by the reapportionment of the duties of existing officers and by occasional transfers—not by new appointments. In consonance with the Health Act and in accordance with the Department's policy several of the larger local governing authorities have during the year appointed certificated Sanitary Inspectors. Thus the number of Health Inspectors employable by the Department will steadily reduce, and the local authorities will gradually undertake their own sanitary inspections.

As this proceeds the need for local supervision by each Medical Officer of Health and his Senior Inspector increases, in order to maintain a uniform standard throughout the Dominion. This form

of guidance is particularly necessary in the control of infectious and other diseases, of food premises, and in the application of new regulations gazetted during the year.

Undoubtedly, the greater the interest taken by local authorities in this branch of their administration the better for the public health. None of the four cities has yet seen fit to appoint its own Medical Officer of Health. A useful officer employed in many countries, particularly to control infectious diseases and domestic and personal hygiene, is the fully trained nurse-midwife, specially instructed in public-health subjects, and known as the "public-health nurse" or "health visitor." In this Dominion, where so many cases of illness are sent to hospital, and medical contact with homes is thereby lessened, public-health nurses could be usefully employed; and, as regards the cities and larger towns, the Department and the local authorities concerned should during the coming year consider such appointments, in lieu of adding male Inspectors to municipal staffs.

During the year the Division has been short-staffed in Medical Officers of Health, but with the appointment of Dr. Dawson to Christchurch, the return to duty at Wellington of Dr. Findlay, and the addition of Drs. Mecredy and Shore, who recently obtained their diplomas in public health, establishment is now complete, and this year we should be able not only to keep in closer personal touch with local authorities, but to undertake certain special surveys which are undertaken in other countries and have long been contemplated by the Department.

Extracts from the reports of the various Medical Officers of Health, which appear in another part of this report, show a progressive improvement in the sanitary conditions generally throughout the Dominion, and an ever-growing appreciation on the part of local authorities of their responsibilities and duties under the Health Act.

The incidence of and death-rate from infectious diseases during the year have been remarkably low.

I wish to place on record my appreciation of the very loyal and able co-operation of the Medical Officers of Health and their staffs.

T. McKibbin,
Director, Division of Public Hygiene.

PART III.—MATERNAL WELFARE.

SECTION 1.—REPORT OF THE CONSULTING OBSTETRICIAN, HENRY JELLETT, M.D. (DUBL.).

My work during the past year has been mainly of an advisory nature, and it may be of interest to consider briefly some suggestions. Perhaps the most important of them refers to the training of nurses and medical students, and the post-graduate instruction of medical practitioners in midwifery.

The Training of Midwives and Maternity Nurses.—The status of nurses who practise midwifery has been considerably altered by the Nurses Registration Act which has recently become law. By this Act two classes of nurses have been created—midwives and maternity nurses, the former having to undergo a more prolonged training to fit them for the more responsible duties they will have to perform. Midwives alone will be eligible to become staff nurses or matrons in maternity hospitals, and consequently upon them will devolve the duty of the training of probationer nurses. For this reason it is most important that they should receive their training only in such hospitals as can provide a competent teaching staff, and that no other considerations should be allowed to prevail in selecting their training-schools. In this way, after a few years, a sufficient number of competently trained women for the needs of the Dominion will be provided, and the training of probationers will benefit proportionately.

The Training of Medical Students.—It is now some time since I first made the suggestion, which was afterwards approved by the Board of Health, that the authorities of the School of Medicine at Dunedin should be urged to create a professorship of midwifery and gynæcology. Midwifery is one of the most important subjects in the curriculum of the student, and its importance is insufficiently emphasized when there is no Chair in the subject. The University of Sydney has, I understand, been compelled by the pressure of public opinion to create such a Chair. Associated with this proposal is the whole question of the practical teaching of midwifery to students, and the possibility of using the St. Helens Hospitals generally not only for the taking out of midwifery cases, but as hospitals in which clinical teaching can be given by competent teachers. I realize that the Department has no power to do anything but make suggestions to the University authorities, and that is why I think that perhaps a conference between them might do some good, as I think that no one can doubt that increased training in midwifery is necessary. Such a conference should take into consideration the various steps necessary to make the larger maternity hospitals available for taking students and for providing clinical teaching.

Post-graduate Courses for Medical Practitioners.—In association with any scheme for the improved teaching of medical students must be placed a scheme for the post-graduate instruction of medical practitioners. Such instruction is necessary, even if it is only to combat the very prevalent belief that surgery is a cure for lack of obstetrical experience. It should be possible to carry out such courses in the four larger cities of the Dominion and to provide suitable teachers. In suggesting that surgery is too often called in to compensate for inadequate obstetrical experience I refer particularly to the increasing tendency, not only in New Zealand but elsewhere, to perform Cæsarean section for so many types of obstetrical complication. My own views on this subject are possibly known, and, lest I should be thought to press them unduly, I will (with one exception) confine myself to quoting from the published writings of Professor Whitridge Williams, of Johns Hopkins University, Baltimore, U.S.A., and of Professor Newell, of Harvard University, U.S.A.

Professor Whitridge Williams writes as follows :—

" Unfortunately, history shows that advances in the practice of medicine and surgery are rarely attained in a thoroughly rational manner, but that a period of undue enthusiasm, or even of almost reckless abuse, usually precedes the establishment of the actual value of a given procedure. From my personal experience and reading, as well as from my intercourse with other medical men, I believe that we are at present going through such a stage in connection with Cæsarean section, and I propose to utilize the short time at my disposal in giving my reasons for this conviction. Generally speaking, I consider that the operation is being abused in two ways—first, that it is frequently employed unnecessarily; and, secondly, that, even when strictly indicated, it is not always performed at the time of election, with the result that its mortality becomes needlessly high. The prime factor concerned in bringing about this abuse is defective medical training, with consequent ignorance of the wonderful adaptability of nature and of the resources of obstetrical art. Subsidiary factors are to be found in the technical ease of the operation, and in the glamour which still surrounds it in the professional and lay mind, as well as in an underestimation of its mortality."

Professor Newell writes as follows :—

" There is no question but that many Cæsarean sections are performed every year simply because the consultant called to the case has no knowledge of obstetrical diagnosis and technique. He sees a patient whom the family physician has failed to deliver, and, without the proper knowledge to determine what the patient really needs, he empties the uterus by the abdominal route as the easiest method. His surgical conscience would probably not allow him to perform an ordinary operation with so little appreciation of the needs of the patient, and women in labour should not be exposed to such unscrupulous methods. There is no doubt but that many women are sacrificed every year to the lack of professional conscience which permits a surgeon to determine the fate of a patient as to whose needs he is in absolute ignorance, except that it is probably necessary to deliver her by some means, and even then an immediate delivery may not be indicated under the conditions present in the given case."

It must be understood that the foregoing quotations apply to American practice. It is to avoid the development of such a state of affairs here that I urge the necessity for the provision of post-graduate teaching.

For myself I will only add that between 1895 and 1898 there were two Cæsarean sections done at the Rotunda Hospital, Dublin. The number of confinements under the care of the hospital in the same period was between nine and ten thousand. The gross maternal mortality for the intern patients of the hospital—*i.e.*, 2·16 per 1,000—was less than it had ever been before or has been since, and the extern mortality was neither noticeably less nor more than in other years.

When we remember that Cæsarean section, in addition to carrying a certain amount of risk with it, is also an operation that in some cases may result in causing a permanent injury to the patient, it is very difficult to understand how the practice of obstetrics can be benefited by its extended adoption.

District Maternity Hospitals.—I am entirely in agreement with your views that district maternity hospitals under the management of Hospital Boards are a great advantage to the community, and that their erection should be encouraged, provided they are used for their proper purpose. Like you, too, I am thoroughly opposed to their being turned from that purpose and used as surgical hospitals. There are various reasons for considering such a course unsatisfactory, but my principal objection, as Consulting Obstetrician, is that the performance of operations for possibly septic conditions in maternity hospitals is calculated to increase the risk of the septic infection of maternity patients. Such an objection—if valid, as I believe it to be—is sufficient in itself to condemn the practice of treating surgical and obstetrical patients in the same building.

Miscellaneous.—I have also had an opportunity of criticizing the pamphlets which have been written by Dr. Paget on the aseptic technique of labour and the puerperium, and the prevention of sepsis, and his suggestions to expectant mothers. I regard them as most valuable, and I think that if the directions contained in them are carried out conscientiously by nurses and by patients they will materially aid in reducing maternal mortality not only from septic infection, but also from the other complications of pregnancy and labour. I hope that full effect has been given to his recommendation that sterilized maternity outfits shall be available for the use of all patients.

I understand that the aseptic technique which he recommends has been condemned in some quarters as expensive and too complicated. I cannot agree with this view. The aseptic management of a labour case, just as of an operation, must entail more expense than its haphazard management. Similarly, the technique to be followed by a nurse working in a private home or small hospital, if she is to maintain even comparative asepsis during labour, must be complicated. These things are obvious and unavoidable, and the only way to escape from them is to assume that labour does not require aseptic management. If, however, we agree that it does, as I think is right, then Dr. Paget's suggestions are framed in as inexpensive and uncomplicated a fashion as probably is possible. I hope that they are included in the teaching and practice of the maternity hospitals throughout the country, that they will be followed by all registered maternity nurses and midwives, and that medical practitioners generally will do all in their power to assist and to encourage their universal adoption.

Lastly, I have followed with much interest the work done by Dr. Elaine Gurr in the establishment of ante-natal clinics in the various large centres. Such clinics must be regarded as one of the most important steps in the reduction of maternal mortality. Pregnancy and labour are physiological conditions, and in the healthy woman must be treated as such. Slight variations from the normal are, however, liable to occur, and if neglected are cumulative in their effect, and may lead to the most serious consequences. It is for this reason that ante-natal clinics are of value even to the healthy woman, while in the case of the woman with definite organic disease they are essential. Here, too, the co-operation of the medical profession is necessary.

SECTION 2.—REPORT OF THE INSPECTOR OF HOSPITALS, T. L. PAGET, L.R.C.P. (LOND.), M.R.C.S. (ENG.).

I have the honour to submit my report on the maternity service and inspection of maternity and private hospitals during the year 1925–26.

Ante-natal Clinics.—These have been developed and extended under the supervision of Dr. Elaine Gurr, whose report on these shows a most satisfactory advance. Clinics have been established and are doing excellent work in Wellington, Christchurch, and Auckland. In these centres the main clinic is in connection with the St. Helens Hospital. In each of these centres subsidiary clinics are established in connection with the Plunket Society and other maternity hospitals, and at Auckland in connection with the St. John Ambulance Society, to which our thanks are due for their assistance and co-operation. I record with satisfaction the hearty co-operation and assistance of the medical practitioners and the different branches of the New Zealand Division of the British Medical Association in these centres. The increase of work in each centre, as shown in Dr. Gurr's very full report, speaks volumes for the need that has been supplied and the popularity of the work with the women and their medical advisers. Figures for Wellington, the district where clinics were first established, show that from October, 1924, to March, 1925, 728 attendances were recorded; from October, 1925, to March, 1926, the number was 1,979. I am pleased that arrangements have been made for the further co-operation of the Plunket and kindred societies in developing these clinics and extending them to the country districts. For economic reasons, any overlapping or want of co-operation with societies already established and receiving Government subsidies to promote the welfare of women and children would be deplorable, and would delay the very necessary extension of this useful work to the country districts.

Maternity Nursing.—The new Midwives and Nurses Registration Act comes into force on the 1st June, 1926. The period of change-over from the system under the old Act to that under the new has, as was to be expected, proved somewhat troublesome, as all extensive changes are. When fully working I have no doubt that it will prove beneficial. The pamphlet setting out a standard aseptic technique for the training of midwives and maternity nurses has already had its effect, and my inspection of maternity hospitals, both public and private, convinces me that already a higher standard of asepsis is maintained. I regret that in certain quarters this effort has met with a good deal of captious criticism, mostly by those who, while they admit—sometimes only under the pressure of irrefutable argument—that improvement in the aseptic technique of labour is required, yet show a marked aversion to any change from their old habits. I regret that I have failed to find in the criticism so far levelled at the standard technique anything showing how improvement without change is to be attained, and if any genius can show me the way to do so I can only assure him or her that their suggestion will be immediately adopted! I have been told that the technique is "expensive," "elaborate," and "complicated." The expense is about 2s. 6d. per sterilizing; it may later be cheapened. The same criticisms were levelled at the aseptic technique of surgery some thirty-five years ago. I regard them as an exhibition of conservatism natural to most of us—a phase in development that passes with time—and I am confident that the same will happen in the case of maternity work. I cannot but regret that some medical men are ready to accept a standard of nursing and aseptic methods in maternity work which in surgery they would utterly refuse to accept on account of their insufficiency and consequent danger to the patients and to their own reputations; yet the fact remains that sepsis in surgical operations has been practically eliminated, but is still a source of dread to practitioners in obstetrical work. May I point out here that no Health Department can obtain the best results without the co-operation of the practitioner. I have had much help from many sources, and do not hesitate to ask for more in the advancement of our common object—safe maternity.

Inspection of Maternity and Private Hospitals.—The Dominion of New Zealand is provided with seven State-owned St. Helens Hospitals, seven maternity hospitals under various charitable organizations, forty-one maternity hospitals or wards under Hospital Boards, and 313 private hospitals, of which 213 are either exclusively maternity hospitals or take maternity and general cases. Since June, 1924, I have completed a personal inspection of nearly all these 378 hospitals, and each one is inspected at least once or twice a year by nurse Inspectors. I am able to report a very considerable improvement in the methods and conduct of those hospitals which most required it, an improvement which would be more rapid if the economic factor was not of so much importance. Improved methods imply better facilities both in the buildings and their equipment, all of which cost money. Certain facilities can be improvised, but there is a limit to efficient improvising, and under stress of a rush of work a breakdown is likely. I am now engaged in a close inquiry as to the best method of standardizing a cheap equipment for small hospitals, and am confident that eventually moderate cost can be made to accompany a reasonably adequate equipment. The adoption of an efficient aseptic technique, both during labour and the puerperium, entails a considerable amount of sterilizing, for which a high-pressure sterilizer that is able to sterilize the necessary bulky equipment in about half an hour is all but essential during busy times. The cost of a sterilizer of this sort was anything from £35 to £100; the "dressing" containers about £3 each. I have had some of the latter made at a cost of about 10s., and a high-pressure sterilizer is now obtainable at about £13, and I hope that an efficient one may be made at a lower cost. Standardization of equipment is the keynote to cheapness with efficiency; on this matter I am engaged at present, and the result promises to be useful.

Statistics.—It is gratifying to note that the maternal mortality for New Zealand has dropped from 5·00 per 1,000 in 1924 to 4·65 per 1,000, the lowest that it has been since 1914; the drop of 0·35 being more than three times the drop of 1923–24. These results are encouraging, and I think justify the hope that a vigorous extension along present lines will have further good results. Figures for 1925

are to hand too late for an exhaustive summary in this report, but it should be mentioned that returns giving the proportion of instrumental deliveries show how greatly at variance is the practice of different medical men in their attitude towards this important matter. St. Helens Hospital returns show that out of 1,999 women attended in these seven institutions, where all confinements are conducted by midwives unless an abnormality exists, only 3·80 per cent. of deliveries were artificial. The returns of instrumental deliveries in the 13,055 births that took place in others show an average of 15·28 per cent. of instrumental deliveries, varying in hospitals of fifty deliveries and over from 2·61 per cent. to as high as 56·8 per cent. Of the other hospitals where the number of confinements justify a comparison, one public hospital with over 150 deliveries shows a percentage of 2·61 instrumental, while two others with 113 and 165 deliveries show a percentage of 42·81 and 42·48 respectively, and two private hospitals show percentages of 55·7 and 56·8 out of between fifty and sixty cases each.

I am unable at the present to make comparisons of still-births, deaths of infants in the first fortnight of life, maternal morbidity, sepsis, and deaths in connection with the above figures. As time permits these will be carefully taken out, and it is to be hoped will give statistical results from which sound conclusions can be drawn.

I here draw attention to some facts published in the *New Zealand Medical Journal* from a most interesting and instructive article by Dr. Doris Gordon, "Comparative Obstetrics." Reporting upon the methods used in Holland, Dr. Gordon says :—

"We were amazed when, in reply to a question *re* the incidence and treatment of R.O.P. cases, they said, 'We do not get that presentation at all.' When we pressed for more information on this point Professor Van der Hoeven looked up his records and reported that his percentage was 1 per 1,000 births. Every hospital we visited gave us this same low ratio of R.O.P. presentations. Why Dutch women should be so physiological in labour and our women so unphysiological is another field of obstetric research. This is not the place to theorize on the etiology of R.O.P. positions, but every one doing obstetrics in New Zealand knows how very frequently we encounter this complication. What percentage of our cases come into labour with the fœtus in the posterior position, what percentage of these fail to rotate and deliver themselves naturally with the occiput still posterior, or what percentage have to be manually rotated after a trial labour of, say, thirty to thirty-six hours, are facts that could only be accurately determined if those practitioners that are genuinely interested in obstetrics banded together to keep accurate records on a standard form. Our country may be too young yet to have an obstetrical society, but perhaps the nucleus of such an association could be formed by the voluntary agreement of fifty or a hundred doctors willing to keep full and faithful records of their obstetric cases. There is no need to point out how useful such voluntary and scientifically accurate records would be for purposes of comparison in future years."

Statistics for the last ten years covering 13,488 cases conducted in the seven St. Helens Hospitals definitely support Dr. Gordon's statement that R.O.P. presentations are much more numerous among our New Zealand women. The following are the figures : 50·01 per cent. L.O.A., 25·46 per cent. R.O.A., 10·85 per cent. R.O.P., 7·30 per cent. L.O.P., 2·92 per cent. breach.

The variation in the proportion of 0·10 per cent. R.O.P. cases for Holland to 10·83 per cent. for New Zealand suggests some great difference in the method of diagnosis and designation. I suggest that possibly Professor Van der Hoeven may have been referring to persistent occipito-posterior cases. Whatever the explanation may be, this fact stands out most prominently : that an average of 18·14 per cent. for both R.O.P. and L.O.P. presentations among the 13,488 cases quoted emphasizes the need of the most careful and skilful ante-natal supervision and treatment during the latter week-of pregnancy, since in many cases it is possible to convert these posterior presentations into occipitos anterior presentations, thereby shortening and easing labour and considerably reducing risks of injury to both mother and child. The whole matter suggests a field of useful and interesting inquiry ; and if, as Dr. Gordon suggests, an obstetrical society were formed it should go a long way towards improving maternity work in New Zealand.

Dr. Gordon, in that portion of the report dealing with statistics of Holland and Great Britain, quotes an "eminent British doctor" as follows :—

"Our [maternal] mortality statistics are only approximately correct, and our morbidity statistics are not worth the paper they are written on."

Again, Dr. Jitta, Chief Health Officer at The Hague, says that it is a question if the position in Holland is indeed as favourable as official figures might lead one to infer. He states that it is possible that a number of cases of mortality directly due to labour may not have been admitted as such in the official statistics, and that therefore care is necessary in comparing the official figures of the Netherlands with those of other countries.

And Dr. Turberg, Chief Health Inspector of the Netherlands :—

"Furthermore, Dr. Turberg, Chief Health Inspector of the Netherlands, told us that puerperal fever was not a notifiable disease with them, that they knew nothing of a maternity case going wrong until they got the death certificate, and that on receipt of that they instituted no inquiries ; and that none of the many maternity hospitals were subject to supervision or inspection by his department. These interesting sidelights on Dutch methods are sufficiently eloquent to speak for themselves, and the only possible conclusion is that, though both Holland and New Zealand use the same Bertillon system of compiling their statistics, once these figures reach the central offices there are such profound differences underlying the methods by which the initial figures are collected that the final returns, as standards of comparison, are utterly useless."

Though I cannot agree that comparison of statistics are "utterly useless," there is no doubt that the very complete returns, checked by inspections of our hospitals and very close inquiries into our maternal deaths, while of the greatest use to ourselves, tend by comparison with other countries to show New Zealand in a more unfavourable position than is correct. This opinion has always been held,

and publicly stated to be the opinion of the Health Department of New Zealand. Nevertheless, accuracy in collecting and recording facts is essential, and of the utmost use in helping us to put our own house in order. That the writer of the above very interesting article recognizes this is shown by her concluding remarks :—

"If anything I have said in the former paragraphs appears to condone New Zealand's annual loss of 150 to 160 mothers, let me correct that error and state—firstly, that the mortality we have calls for the earnest co-operation of practitioners, public-health officials, and the public themselves; and, secondly, that the increasing dangers of modern midwifery constitute a call to the best of our doctors to take up this difficult work, and necessitates a public enlightenment that will bring not only financial remuneration proportionate to the responsibility of the work, but also that sympathetic lay co-operation without which progress is impossible."

I cannot conclude without expressing my sincere thanks to the many medical men and nurses who have by their suggestions and co-operation rendered me very material help in the not easy task of introducing reforms in old-established methods. I am sure they will not think me unreasonable if I ask not only for a continuance of that co-operation and help, but also for their influence among those members of their professions who are somewhat less ready to constructively criticize or accept new ideas.

SECTION 3.—REPORT OF ELAINE GURR, M.B., BAC. SURG. (UNIV. N.Z.).

I have the honour to report upon the work of the ante-natal clinics for the year ending 31st March, 1926 :—

Administration.

The work has been done in accordance with your instructions, and has been based upon the scheme outlined by the Inspector of Hospitals in his report on ante-natal work and maternity work.

In Wellington and Christchurch Districts the clinics are established in connection with the State maternity hospitals, other maternity hospitals, and the Plunket Society. In Auckland District the clinics are conducted at the State Maternity Hospital, the Salvation Army Maternity Hospital, St. Mary's Home, Otahuhu, and St. John Ambulance.

Staff.—A Nurse Instructor in the work has been appointed in each centre, and is responsible for training maternity nurses in ante-natal work. The Nurse Instructors supervise all clinical work, and instruct maternity nurses in ante-natal work. They visit all patients who are unable to attend the clinics, or who require special treatment or advice. In many ways the Nurse Instructor fulfils the duties of a Health Visitor, and is often a source of valuable information to the Medical Officer of Health in whose district she works.

The main clinics at the State maternity hospitals are staffed by the Medical Officers, who are assisted by the Nurse Instructors and ante-natal-clinic nurses who have taken the course of training and qualified for ante-natal diplomas. The clinics established in connection with the Plunket Societies, St. John Ambulance, and maternity hospitals are staffed by nurses who have taken their ante-natal training, and each nurse acts as an assistant to the patient's medical attendant. The Nurse Instructors visit these clinics regularly in order to supervise the clinical work and to continue the ante-natal training.

Training.—Wellington, Auckland, and Christchurch maternity nurses are being trained in ante-natal work. During the last year seventy-seven nurses took their training.

Training country nurses : Recent statistics have proved that there is a need for the extension of ante-natal work and the establishment of ante-natal clinics in the country districts. In furtherance of this scheme, arrangements are made whereby nurses from the country districts may be freed, when possible, from their duties in order to take ante-natal training, and relieving nurses will be supplied.

Karitane training for Ante-natal clinic Nurse Instructors : It is arranged that, when possible, all ante-natal-clinic Nurse Instructors who have no special training in infant welfare work will take their training at the Karitane Home, Dunedin.

Lectures.—Twelve lectures on the subject of ante-natal work are delivered each term by a Medical Officer, and in addition to the trainees any nurses who are interested in the work may attend. It is customary to notify the midwives and maternity nurses in each health district of the course of lectures, which is arranged to take the form of a "refresher course" for nurses. The syllabus of lectures is as follows :—

(1.) Ante-natal work as a branch of preventive medicine, and the aims and objects of ante-natal work.

(2.) The duties of an ante-natal-clinic nurse, and the equipment of an ante-natal clinic; social-welfare work, and home visiting.

(3.) Suggestions for an expectant mother; "talks to mothers"; advice to give a prospective mother regarding (*a*) general hygiene, (*b*) dental hygiene, (*c*) exercise, clothing, diet, (*d*) infant-feeding and preparation for nursing a baby.

(4.) (*a*) Anatomy of the female reproductive organs and pelvis; (*b*) embryology (brief outline of the utra uterine development and fœtus, stressing development of bones, teeth, and organs, and how delicate cells may be damaged during pregnancy) anatomy of the female reproductive organs and pelvis.

(5.) Urinalysis and blood-pressure.
(6.) Signs, symptoms, and diagnosis of pregnancy.
(7.) Abdominal palpation.
(8.) Presentations.
(9.) Pelvimetry and conclusions drawn from measurements; diagnosis of contracted pelvis; abnormalities of the pelvis and treatment of same.
(10.) General diseases of pregnancy; toxæmias of pregnancy; abnormalities of pregnancy.
(11.) Advice to give a mother regarding preparation for labour; sterilized maternity outfit.
(12.) Aseptic technique of labour.

Work Accomplished.

Clinics established.—Clinics have been established in Wellington District at (1) St. Helen's Hospital; (2) Plunket Society, Kent Terrace; (3) Alexandra Home; (4) Salvation Army Maternity Hospital; (5) Plunket Society, Lower Hutt; (6) Plunket Society, Petone. In the Auckland District at (1) St. Helen's Hospital; (2) Salvation Army Maternity Hospital; (3) St. Mary's Home, Otahuhu; (4) St. John Ambulance; (5) Rotorua (conducted by St. Helens District Nurse). In the Christchurch District at (1) St. Helens Hospital; (2) Plunket Society; (3) Plunket Society, New Brighton; (4) Essex Home; (5) Salvation Army Maternity Hospital.

Figures relating to Wellington and Christchurch clinics are for the year ending 31st March, 1926, whereas those relating to Auckland and Rotorua clinics are taken from August, 1925, when the clinics were established.

The following table summarizes the year's work of the ante-natal clinics established by the Department of Health, and enables a rapid survey to be made of the activities of the clinics:—

Figures relating to the Work accomplished.

—	Wellington.	Auckland.	Christchurch.	Rotorua.	Opunake.	Total.
First visit of primiparæ	459	208	289	13	3	972
First visit of multiparæ	516	309	508	15	8	1,356
Return visits	2,556	1,086	1,885	50	7	5,584
Total	..	..	..	..	..	7,912
Number of visits paid to homes	23	127	78	24	..	252
Number of maternity outfits sterilized	67	19	101	9	..	196
Accidental and unavoidable hæmorrhage	7	1	13	..	..	21
Abortions	1	..	1	..	..	2
Miscarriages	5	..	..	..	..	5
Premature labours	18	4	19	1	..	42
Still-births	35	9	14	..	..	58
Puerperal septicæmia	1	2	..	..	..	3
Maternal mortality	3	..	..	..	..	3
Eclampsia	4	6	..	..	..	10
Albuminuria	45	77	104	1	..	227
Hyperemesis	2	2	6	..	..	10
Hydramnios	4	8	..	..	1	13
Multiple pregnancy	5	8	4	..	..	17
Malpositions	32	37	73	..	..	142
Contracted pelvis	2	7	22	..	..	31
X-ray	4	6	3	..	..	13
Version	4	14	6	..	..	24
Induction	3	1	7	..	..	11
Forceps	35	21	15	..	..	71
Operations	2	4	2	..	..	8
Dental treatment	204	232	296	7	4	743
Goitre treated	43	34	137	..	..	214
Gonorrhœa treated	1	3	13	..	..	17
Syphilis treated	1	..	2	..	..	3
Skin-diseases treated	7	6	24	..	..	37
Diabetes treated	3	7	1	..	..	11
Pruritis vulvæ treated	14	11	67	..	..	92
Varicose veins treated	159	159	259	5	..	582
Wassermann tests	4	15	6	..	..	25
Cervical swabs	11	3	8	..	..	22
Urethral swabs	11	3	8	..	..	22
Enlarged tonsils treated	3	1	17	..	..	21

The attendances at the clinics in the three centres show a satisfactory increase for the last nine months, as follows: Wellington—261, 272, 314, 321, 318, 304, 324, 323, 389; total, 2,826. Auckland (eight months)—18, 87, 196, 221, 310, 267, 245, 259; total, 1,603. Christchurch—199, 211, 264, 232, 184, 196, 181, 260, 258; total, 1,988. Total number of attendances at all clinics (including Rotorua and Opunake) for the last year was 7,912.

Chief Conditions diagnosed and requiring Prompt Treatment.—(1) Albuminuria (nephritis, pyelitis, cystitis); (2) toxæmias of pregnancy; (3) malpositions; (4) contracted pelves; (5) septic infection, including otitis media, tonsilitis, pharyngitis, pyorrhœa, dental caries, septic vaginal discharge, skin-diseases; (6) goitre; (7) diabetes; (8) venereal disease.

Albuminuria.—227 cases of albuminuria were treated during the last year, with satisfactory results. Since albuminuria is so frequently a sign of pre-eclamptic toxæmia and is often associated

with ante-partum hæmorrhage and still-births, it is necessary always to make a clinical and laboratory examination, which will give definite data upon which to establish a reasonable diagnosis.

Tests of hepatic function, along with the estimation of the blood urea and non-protein nitrogen, have proved of value as a guide to treatment in conditions of albuminuria.

Blood-pressure is taken as a routine in all the clinics, and is an aid in the diagnosis of this condition.

Masked œdema: Observations are being made regarding the "masked œdema" which occurs with impairment of the renal function. It is stated that by an undue rise in the patient's weight albuminuria may be predicted.

Still-births.—Investigations as to the causes of the fifty-eight cases of still-births reported by the clinics during the last year are as follows: Albuminuria and toxæmias of pregnancy, 15; anancephalic monsters and hydrocephalus, 11; birth injuries, impacted shoulders, cord round neck, forceps deliveries, trauma, 10; unavoidable or accidental hæmorrhage, 7; Malpresentations, 6; venereal disease, 3; cause unknown, 6: total, 58. Details are included in a special report.

Still-births due to albuminuria and toxæmias of pregnancy (which were the chief causes of still-births of A.N.C. patients): Of the 227 cases of albuminuria diagnosed at the clinics, 212 were delivered of live children and made favourable recoveries, and fifteen patients were delivered of still-born children. In each case the condition of albuminuria was diagnosed at the clinic, the patient's medical attendant notified, and treatment recommended. Two patients refused treatment, seven patients received hospital treatment, and five patients were treated by their doctors in their own homes.

It is with difficulty that treatment is carried out, and, owing to the unsatisfactory home conditions, many of the clinic patients are admitted to public hospitals for treatment. This arrangement has proved unsatisfactory, and the results of treatment disappointing; and in order that the still-birth rate due to albuminuria and the toxæmias of pregnancy may be diminished it is necesssary that ante-natal-clinic wards be instituted in the State maternity hospitals, where patients may receive special ante-natal treatment and be kept under strict medical supervision.

Still-births due to birth injuries in ten cases: Primiparity with breech delivery is a predisposing cause of cerebral hæmorrhage and intranatal death. In order that its incidence may be diminished, the doctors in charge of the patients attending the clinics are notified of all malpresentations, as it is considered that certain cases of intranatal death and cerebral hæmorrhage may be prevented by the practice of external cephalic version, especially in cases of breech presentations in primiparæ. Details are included in a special report.

Cases delivered by Forceps.—Of the patients who attended the Wellington, Auckland, and Christchurch ante-natal clinics, seventy-one were delivered by forceps for the following indications:—

Indications.	Number of Cases.	Result.				
		Child.			Mother.	
		Alive.	Still-born.	Dead.	Alive.	Dead.
Contracted pelvis	9	8	1	..	9	..
Prolonged second stage	19	19	..	..	19	..
Exhaustion	7	6	1	..	7	..
Rigid perineum	4	2	2	..	4	..
Primary inertia	8	6	2	..	6	2
Persistent posterior position	13	13	..	..	13	..
Eclampsia	4	2	1*	1	4	..
Albuminuria	2	..	2*	..	2	..
Hydrocephalic head	2	..	2†	..	1	1
Anencephalic head	1	..	1†	..	1	..
Breech presentation	1	..	1‡	..	1	..
Epilepsy	1	1	..	..	1	..
Totals	71	57	13	1	68	3

* Due to toxæmia. † Monster. ‡ Due to malpresentation.

Contracted Pelves and Medicinal Induction.—The type of contracted pelvis most frequently met with at the ante-natal clinic is the generally contracted pervis of a minor degree—a so-called border-line case. The rachitic flattened pelvis, though seldom found when examining New Zealand women, is common in those from certain parts of England and Scotland, especially Glasgow. It is chiefly amongst immigrants visiting the clinics that cases of contracted pelves are diagnosed.

All cases of contracted pelves are measured, and the patient examined frequently after the thirty sixth week, at which period the relative size of the fœtal head and pelvis is estimated. When it is possible to avoid forceps delivery, and the commencement of labour would be beneficial to mother and child, induction of labour is advised. In the treatment of ante-natal-clinic patients medicinal induction is employed, since methods of induction involving interference per vaginam are of more danger and attended by greater risk. The period of pregnancy during which induction was performed on the advice of the ante-natal clinic Medical Officer varied from the thirty-sixth week to post-maturity.

Puerperal Sepsis.—Three cases of puerperal sepsis in patients who had attended at the ante-natal clinics were reported during the last year.

The prevention of puerperal sepsis: When considering the causes of puerperal sepsis, and the recognized methods of septic infection of the placental site, it is evident that ante-natal care should be a factor in the prevention of this condition. Not only should ante-natal-clinic work be directed to protect the prospective mother against the intrinsic method of septic infection of the placental site, by eliminating all the septic foci in the body before labour—or, if possible, before pregnancy—but also it should safeguard the expectant mother against the extrinsic method of septic infection of the placental site by the prevention of instrumental deliveries, and by instruction of the mother in general hygiene and in the preparation of her maternity outfit and delivery-room.

General ante-natal-clinic treatment to prevent puerperal septicæmia: The ante-natal-clinic treatment is directed to raise the resistance of the body-tissues against all infection from whatsoever menace. Every patient attending the clinics has her general health supervised in addition to the special care exercised in regard to her anticipated confinement. It is manifest that a mother who is suffering from exhaustion, debility, or anæmia is no fit subject to face the trials of labour.

Abolition of intrinsic causes: When considering the intrinsic methods of infection the abolition of all septic foci is the ante-natal treatment indicated—prevention or treatment of such conditions as chronic tonsilitis, sinusitis, gingivitis, pyorrhœa, dental caries, skin-diseases, constipation, and other causes of auto-infection.

Conception obviously carries an increased risk in a woman suffering from vaginitis, and such a patient should receive ante-natal treatment. It is logical that the bacterial content of the vagina of every pregnant woman who suffers from an offensive discharge should be ascertained, and appropriate treatment given. The urine also should be examined for organisms which may be a danger during labour or the puerperium.

Goitre.—Of the patients attending the ante-natal clinics 8·4 per cent. were treated for simple goitre. The incidence of congenital goitre in infants and simple goitre in expectant mothers attending the clinics is shown to be greater in the Canterbury District than in Wellington or Auckland.

Since females are especially prone to develop endemic goitre during pregnancy or lactation, and since children born of goitrous parents are more liable to develop goitre (especially if they reside in an endemic area), prophylactic treatment is advised at the clinics in order to prevent congenital goitre and to safeguard the mother and child against the development of goitre.

As suggested by Professor Hercus, patients suffering from simple goitre take (with their doctor's consent) potassium iodide gr.i. once a week during pregnancy and lactation, and include in their diet food rich in iodine, as fish (salt), certain green vegetables, eggs, and milk. Patients living in endemic regions are also advised to use iodised salt in place of common salt or more refined table-salt now on the market.

Nature provides somewhat similar treatment; and in a recent report on goitre by Dr. Eleanor Baker-McLaglan, attention was drawn to the interesting fact that "In the Great Lakes basin of America, an endemic-goitre area, where goitre threatened the sheep-raising industry, it was noted that sheep free from goitre introduced into this endemic area, as long as they had access to certain salt-licks, remained free from goitre, and so did their lambs. Even goitrous sheep with access to these salt-licks produced lambs which were goitre-free, and remained free as long as they got this salt. The salt when analysed proved to contain a large quantity of iodine as an impurity."

Similar results are obtained when prospective mothers, living in an endemic region, are given exceedingly small doses of iodine in the form of potassium iodide or iodised salt.

It is already proved that there is a marked difference in the excretion of iodine in the urine from patients in endemic and non-endemic areas, and recent research by Professor Hercus has led us to suspect that there is a difference in the iodine content of human milk from typical endemic and non-endemic areas; and in order to compare the iodine content of human milk from the different regions, specimens of milk are collected, when possible, from clinic patients attending the State maternity hospitals in the four centres of New Zealand, and sent to Dunedin for analysis.

Venereal Disease.—Wassermann tests and urethral and cervical swabs are taken from patients attending the clinics, when from their previous history or present condition there is reason to suspect venereal disease. At institutions for the care of the unmarried mother Wassermann tests and urethral and cervical swabs are taken for all patients as a routine, and patients requiring treatment are kept under supervision during pregnancy and lactation.

Dental Treatment.—Thirty per cent. of the patients attending the clinics during the year received dental treatment. All patients are encouraged to visit their dentists regularly, and special dental cards are filled in for all patients requiring treatment. Arrangements are made whereby indigent patients may receive dental treatment at the hospital dental clinics, and in many cases the ante-natal-clinic nurse accompanies expectant mothers to the dentists or dental clinic.

There is a fallacious belief that women ought not to have their teeth attended to during pregnancy. To combat this belief pamphlets on dental hygiene and the development of strong teeth are distributed at the clinics, and posters are designed to show the importance of dental hygiene during pregnancy. No harm but much good will result from the removal of tartar, the treatment of pyorrhœa, and, when necessary, the filling (or temporary filling) of certain teeth, and the extraction of others. A clean mouth and good teeth may be confidently expected to result in greatly improved health and in a diminution of puerperal sepsis.

Diet.

The mother's fare during pregnancy and lactation consists too largely of tea and bread-and-butter; milk and green vegetables are not taken in sufficient quantities, and the dietaries are often badly balanced and lacking in vitamines and mineral salts, so necessary for the growth of the baby and the development of strong teeth and bone. As stated by McCollum (Dietetian, Johns Hopkins University), "It should be thoroughly appreciated that the human mother should have in her diet a liberal amount

of milk, in order to safeguard the health and well-being of her infant, and of leafy vegetables, which serve the twofold function of a protective food and of greatly aiding intestinal elimination.

In order to supply expectant mothers with information regarding diet, sample menus are distributed, and a pamphlet on diet and cookery-book for mothers is compiled. Lectures are given on the subject, and model diets are displayed for the guidance of prospective mothers.

X-ray Examination.

Arrangements have been made with the Wellington, Auckland, and Christchurch Hospital Boards whereby patients attending the State maternity hospitals' ante-natal clinics will have the advantage of an X-ray examination when necessary.

As an aid in diagnosis X-ray examination has proved of great advantage. Thirteen cases were sent for examination during the year, and the following conditions were diagnosed: Anencephaly, fœtal death, hydrocephalus, multiple pregnancy, malformation of fœtal skeleton, and changes found by pelvimetry.

Obstetrical roentgenology has not progressed as rapidly as other branches of the X-ray work, owing to the lack of physical instruments necessary for rapid exposures and brilliant roentgenograms, and the fear of causing damage to the fœtus. We are now assured that with the use of modern intensifying-screens, and superspeed duplitized films requiring only a few seconds' exposure, there is no danger either to mother or child.

In many clinics abroad X-ray examination is almost a routine procedure in all cases suspected of variation from a normal pregnancy, either from the standpoint of the fœtus or of the bony conformation of the maternal pelvis. Since the fœtal skeleton can be detected as early as the eighteenth week of pregnancy by X-ray examination, it is regarded as one of the positive signs of pregnancy, and serves to differentiate pregnancy from uterine or ovarian tumors. The roentgen examination is also of value in pseudocyesis, both as an aid to diagnosis and in convincing the patient that pregnancy is not present.

Death of the fœtus: Overlapping of the fœtal bones is a pathognomonic sign of intra-uterine death. The decreased size of the fœtal head from post-mortem shrinking can be determined by overlapping of the cranial bones.

Pelvimetry by X-ray examination: There is a very definite field for this work, especially in cases of pelvic deformity. In order to forewarn obstetricians all cases with pelvic deformity should be examined at the thirty-sixth week of pregnancy, so that the relative size of the fœtal head and pelvic opening can be compared. By this method an accurate diagnosis can be made without the aid of an anæsthetic and internal examination.

Breast Feeding and Heliotheraphy.

Among the most important lectures and talks to mothers are those concerned with infant-feeding. It is always impressed on the mothers that nature's provision for the baby is the best, and every mother should suckle her baby.

All mothers attending the clinic are instructed in the preparation of their breasts, and a certain number of mothers with a history of failing lactation have received sunlight treatment with most satisfactory results. In the winter months the treatment will be more difficult, and it is then that artificial sunlight and ultra-violet rays from a carbon arc lamp may give the same excellent results as are obtained at clinics abroad.

Propaganda.

New Zealand and South Seas Exhibition: Lectures and Addresses.—In the Health Department Court at the New Zealand and South Seas Exhibition the ante-natal-clinic exhibit was a means by which the public were notified of the establishment by the Department of free ante-natal clinics in the four centres of New Zealand. The ante-natal clinic exhibit was visited by numerous doctors and nurses from different parts of New Zealand, who expressed their appreciation of the Department's work, and examined with interest the sterilized maternity outfit (designed by the Department), the model diet displayed for a healthy expectant mother, the maternity binder, special wearing-apparel and shoes. Many of the visiting medical practitioners and midwives requested that the Department should supply them with the ante-natal-clinic charts and literature for distribution amongst their patients.

Opportunity was accorded for the instruction of town and country mothers who sought information and advice from the ante-natal-clinic nurse, and every effort was made to impress the public with the importance of parental hygiene, ante-natal care, and the principle of voluntary notification of pregnancy.

Ante-natal-clinic Literature.—Pamphlets entitled "Dental Hygiene," "Special Exercises," "Prevention of Constipation," "Suggestions to Expectant Mothers," "Diet for an Expectant Mother," and "A Cookery-book for Mothers" were compiled during the year for distribution at the clinics. Posters were designed to show the importance of general hygiene, exercises, correct diet, and the prevention of puerperal sepsis, goitre, and dental caries. Several letters commenting favourably upon the ante-natal-clinic literature and charts have been received from abroad, and during the year the clinics have been visited by members of the medical and nursing profession.

Addresses and Lectures.—Sixteen addresses were given in the four centres during the year to the British Medical Association and societies interested in the subject. In all cases the societies expressed their approval of the work being done, and desired to assist the Department in the establishment of the clinics.

Lectures: So that there would be definite co-operation between the midwife and the ante-natal clinic, and in order that the midwife might be informed of the clinical methods adopted by the Department of Health, a course of twelve lectures was given on the work each term. During the last year forty-two lectures were delivered on ante-natal work to nurses in Wellington, Auckland, and Christchurch Districts.

Further Extension of the Work of the Ante-natal Clinics.

Ante-natal Beds in State Maternity Hospitals.—As already shown, there is a high percentage of ante-natal-clinic patients requiring treatment, and the results of treatment are often disappointing owing to the fact that there are women whose circumstances are such that they cannot secure the necessities proper to their condition, and whose home conditions prevent them from carrying out treatment advised. For this reason I suggest that ante-natal-clinic beds be provided in State maternity hospitals.

Medical Officers in Charge of St. Helens Hospital Ante-natal Clinics.—Prenatal, post-natal, and infant-welfare work for a midwife has its limitations, and the St. Helens Hospital clinics must be under medical supervision in order that the work may be efficient and adequate treatment may be carried out. The Medical Officers attending the St. Helens Hospitals cannot devote the necessary time to ante-natal work, post-natal work, infant feeding, and infant-welfare work, and I suggest that resident obstetricians be appointed as assistants to the Medical Officers of the State maternity hospitals, in order that all branches of the hospital work may be under medical supervision, and to increase the scope and importance of ante-natal, post-natal, and infant-welfare work carried out at St. Helens Hospitals.

PART IV.—NURSING.

I have the honour to submit my annual report for the year ending 31st March, 1926.

SECTION 1.—NURSES AND MIDWIVES REGISTRATION ACT, 1925.

The most important event for the Nursing Division during the year has been the passing of the Nurses and Midwives Registration Act. This measure, as well as being a consolidation of the Acts governing the registration of nurses and midwives, also introduces two important changes: (1) The control of registration is vested in a Board instead of being solely in the hands of the Inspector-General of Hospitals; (2) it provides for the training and registration of the maternity nurse, a new type of nurse, who, while undergoing much the same course of training in some directions, is not qualified to act as a midwife—*i.e.*, attend maternity cases without the supervision of a medical practitioner. It has been found that comparatively few of those hitherto qualified as midwives care to undertake this responsibility, and the object of this Act is to qualify more women to undergo a training sufficient to enable them to nurse maternity cases under medical guidance.

A good deal of misapprehension still seems to exist in the minds of registered midwives regarding the provision for the registration as a maternity nurse of any one who had been regularly engaged in practice as a maternity nurse in New Zealand for not less than twelve months before the Act came into force.

It may be as well to explain the reasons for this provision:—

(1.) It is the usual procedure to protect existing rights when new legislation is enacted, and many women who are at present making a livelihood by maternity nursing under medical supervision would otherwise suffer hardship. Exactly the same position arose when in 1904 the Midwives Act was passed.

(2.) Women who for various reasons were unable to register on their experience as midwives prior to the passing of that Act were definitely informed that they would not be interfered with if they worked as maternity nurses only—taking cases under the guidance of a medical practitioner. It would be a grave breach of faith to penalize these women now, and one which could not possibly be contemplated.

(3.) By the fact of their being so registered the Department gains a greatly needed measure of control.

(4.) Without these women there would not be a sufficient number of qualified women to attend all maternity cases.

It must be clearly understood that no one qualified by experience only can be permitted to register after the 31st December, 1926, and the necessary experience must have been obtained prior to the 1st January, 1926. These two factors limit to a considerable degree the scope of the provision.

In the past the training for a midwife has been six months in the case of a registered general nurse, and twelve months in every other case, with qualifying examination. Under the new Act the training for a maternity nurse will be four months for a registered general nurse, and twelve months in every other case, with a qualifying examination. For registration as a midwife in both cases an additional four-months course is required, with qualifying examination; but registered maternity nurses who do not hold a certificate of general training are required to have twelve months' experience in private practice, during which they shall assist at not less than twelve cases before they will be permitted to enter for the course of training in midwifery.

At present this scheme does not find favour with intending applicants, who do not understand as yet that the maternity-nurse training will fit them to do exactly what the large majority of registered midwives already prefer to do, and have done since the Midwives Act, 1904, was passed.

The more intensive course—for midwives—is not necessary except for (1) those who desire to take sole responsibility for maternity cases, only calling in medical aid in abnormal conditions; (2) those who wish to conduct private hospitals for maternity cases; and (3) those who wish to take positions on staffs of midwifery training-schools. (N.B.—For the latter class only those with general as well as midwifery qualifications would be eligible.)

In view of the fact that comparatively few who train in maternity nursing will wish to take the second course, it is thought that the interim period during which the nurse can practise and will be entitled to full fees will provide valuable experience for her in the homes of private patients, and will give her an opportunity for deciding whether she is prepared to fit herself by a further course of training for taking full responsibility.

It is impossible at this early stage—for many of the pupils now in training are governed by the old Act—to estimate what effect the change will have on the number of applicants for training in maternity work. When the scheme is fully understood it will be recognized that the registered maternity nurse of the future will be as well equipped for maternity work as the registered midwife of the past has been, and that the registered midwife of the future will be thoroughly expert in the management of midwifery cases.

Nurses Registration Act.—At the two examinations held under the Nurses Registration Act in June and in December there were 287 candidates. Of these 248 were successful and are now registered. From overseas forty-four nurses were admitted to the register.

Since my last report the hopes that were entertained for a post-graduate course for registered nurses in connection with the diploma in nursing at the Otago University have been defeated, the University Council repudiating all responsibility for the salaries of the two nurses who had been sent by the Department to Bedford College, London, and Toronto University for special training. However, the appointment of Miss Moore to the Department for the purpose of visiting the nurse-training schools of the Dominion, and there giving the benefit of her experience to those responsible for the teaching of the pupil-nurses, has the effect of distributing knowledge of the more up-to-date methods of teaching more widely—though, naturally, not so intensively—as would have been the case had her sphere of action been limited to the University lecture-room. Hospital Boards appreciate this fact, and are very willing and anxious to avail themselves of Miss Moore's services in this direction.

In the last annual report the need for the establishment of preliminary training-schools in connection with the larger hospitals was stressed. It is gratifying to note that a decided interest is now being shown in this modern method of testing candidates before allowing them to enter the wards. Before many months have passed it is hoped that such a school will be established in each of the four chief centres. In two where it has been instituted, though in a modified form, for several years, there has been a marked improvement in the results obtained at the State examinations.

The assistance of one who is thoroughly versed in the conduct of these schools as carried out in other countries will be most valuable. Sister tutors will necessarily be appointed to take charge of these schools, and also, in the case of larger institutions, to teach the more advanced pupils already on the staff.

The second nurse, Miss M. I. Lambie, who was sent to Toronto University to train in public-health nursing, will also be attached to the Department for work in connection with the prevention of disease.

Hospitals under Departmental Control.—King George V Hospital, Rotorua: There have been few changes here beyond the reopening of a ward to cope with the influx of children who had been victims of the epidemic of infantile paralysis. This led to a corresponding increase in staff, especially in the massage department. Unfortunately, there was a demand for masseuses at the same time in other parts of the country, and for some months it was difficult to find a sufficient number to carry on the special work in connection with these cases. With the lapse of time the pressure has eased somewhat, and at present there is no shortage. Miss Searell, A.R.R.C., is still Matron here.

Pukeora Sanatorium, Waipukurau: The staff here has lately had to be increased, mostly in the direction of the appointment of additional hospital aids in consequence of the admission of female patients to the institution. There have been remarkably few changes among the nursing staff when one considers the nature of the work and the isolation inseparable from these institutions.

Otaki Hospital and Sanatorium: The addition of a number of new shelters will provide accommodation for twenty more patients. In the meantime the staff is working cheerfully in the awkward conditions due to rebuilding and renovating, and live in hopes of reaping the benefit of an improved state of affairs for their patients in the near future.

Queen Mary Hospital, Hanmer Springs: There is nothing fresh to report here. It has on occasion been difficult to replace staff, probably on account of the severity of the climate and the isolation during the greater part of the year.

District Health Nurses.—There are nineteen nurses working among Maoris, mostly in the Auckland Province. Many of these have been engaged in this work for many years, and have done very valuable work under most trying conditions. Two of this number are Maoris, each in charge of her own district. There are also two Maori nurses acting as assistants until they have gained sufficient experience to manage on their own responsibility. Still another Maori nurse is on the staff of a departmental hospital awaiting a vacancy in a district.

Superannuation for Nurses.—Though the National Provident Fund Amendment Act, 1925, providing for the superannuation of nurses, was passed last session, it only takes effect as from the 1st April, 1926. There is much appreciation among nurses that this provision has been made for them. Naturally the scheme will benefit the nurses of the present and of the future, and there will be many who have spent years of their lives in devoted work under much more difficult conditions than can exist now, and with very much smaller salaries, for whom there is no such provision. It is recognized that this is inevitable, but one would be glad to know that these women could have some recognition of their services and would be freed from financial difficulties during their declining years. The Nurses Memorial Fund is able to give some assistance, but with the withdrawal of the Government subsidy the amount at its disposal is necessarily limited. In some instances Hospital Boards have recognized their obligations and have granted pensions to Matrons of long service.

Midwives' Registration.—There were 200 candidates for the two examinations held in June and December, 1925. Of these 190 were successful. There were thirteen overseas midwives registered during the year.

SECTION 2.—ST. HELENS HOSPITALS.

Wellington.—This hospital has had a very busy year. The anti-natal clinic has been responsible for increased activity in the institution, as patients are now admitted, if necessary, prior to confinement. There was one maternal death from cardiac failure after labour, due to a diseased condition of the kidneys. One patient—an outdoor case—died from septicæmia following difficult labour with complications. There were six deaths of infants, all due to congenital conditions.

Dr. Agnes Bennett returned at the beginning of March from a visit to Great Britain and America, where she visited many of the most modern maternity hospitals, and obtained much information which should prove of the highest value in the Department's present effort to improve the standard of midwifery in New Zealand.

Dr. Corkill reports: "The influence of the ante-natal clinic on the hospital has been especially seen in the admission of cases of albuminuria for treatment and of a few malpresentations for correction. It is interesting to report that three transverse presentations were diagnosed ante-natally. All were admitted to hospital and successfully corrected by external version. During the year the introduction of basins into the wards, and of sterilizers, has been carried out. This has already led to great improvement and added convenience in working.

Christchurch.—This institution is very cramped for room. With provision for fifteen patients it has on several occasions had several in excess of that number and has then been overcrowded. As the building has always been the least satisfactory of all those under the control of the Department for the purposes of a maternity hospital, great credit is due to the staff that the results have seen so satisfactory. Miss Bagley, who has done such good service as Matron, has been transferred to Wanganui. Miss Price at the latter institution is succeeding her in a temporary capacity.

Dunedin.—There are no maternal deaths out of the 174 patients confined. Two sets of twins died from prematurity, one full-term infant died from intestinal hæmorrhage. Twelve premature babies, born at eight months, all lived.

Dr. Siedeberg reports: "The ante-natal department has again proved successful. Of those presenting themselves we admitted eighteen for treatment for such conditions as false pains, jaundice, œdema, hæmorrhage, albuminuria with fainting turns or excess sickness, for induction, diarrhœa, abnormal watery discharge."

Invercargill.—In this same institution there were 187 deliveries and no maternal deaths. The two infantile deaths were due—in one case to congenital heart-disease, in the other to hæmorrhage.

Wanganui.—Dr. D. Wilson reports: "Admissions show a slight increase from the previous year. The Matron, Miss Elliot, after several years of good service, has resigned to take up private nursing. Her place has been taken by Miss Price, R.R.C. The newly established ante-natal clinic has proved useful. The work of the institution has been carried out to my satisfaction."

There were no maternal deaths. One infantile death was due to prematurity, the other to congenital cystic goitre.

Gisborne.—Of the 118 deliveries there were no maternal deaths and no deaths of infants. Dr. Williams reports a very good year, with only one morbid case, due to abnormality.

Auckland.—Dr. Tracy-Inglis reports: "A very successful year, and the largest number of patients up to date, being an increase of forty-two patients over last year. I have again to express my appreciation of the services of the Matron during the past year. Her organizing ability and skill in midwifery is largely responsible for the successful year."

ST. HELENS HOSPITALS.—STATISTICS FOR 1925.

Town.	Births (Living Children).	Still-births.	Deaths of Mothers.	Deaths of Infants.	Outdoor Cases.	Pupil Midwives qualified.
Wellington	398	15	2	6	86	19
Christchurch	320	3	2	9	207	17
Gisborne	118	4	..	..	4	8
Wanganui	131	3	..	2	21	15
Invercargill	187	4	..	2	15	8
Dunedin	174	3	..	5*	69	8
Auckland	646	19	2	11	225	30
Totals, 1925 ..	1,974	51	6	35	627	105
Totals, 1924 ..	1,837	69	5	21	623	90

* One full-time, four premature.

MATERNITY HOSPITALS UNDER BOARDS AND ASSOCIATIONS.

Hospital.	Births.	Still-births.	Deaths of Mothers.	Deaths of Infants.	Cases attended outside.
Timaru	65	2*	1	1†	..
Batchelor	206	8	1	2	10
Stratford	156	3	..	..	..
Lawrence	31	1	..	2	..
McHardy Home	177	8	2	3	..
Wairau	163	1	1	5	..
Picton	46	1	..	1	..
Denniston	41	..	..	2	..
Alexandra Home	184	10	..	1	84
Essex Home	141	5	..	5	..
Havelock	27	..	..	..	..
Cromwell	44	1	..	..	..
Motueka	43	2	..	3	2
Mangonui	42	3	..	..	..
Hokianga	49	3	..	..	..
Whangarei	203	11	..	3	..
Kawakawa	59	2	..	..	11
Kaikoura	49	1	1	1†	..
Oxford	10	..	..	..	..
Waikari	54	2	..	2	2
Naseby	50	..	..	1†	..
Opunake	41	1	..	1	5
Masterton	64	2	..	1	..
Rangiora	106	3	..	1	..
Methven	44	..	..	..	..
Ashburton	110	2	..	2	..
Geraldine	56	3	..	2	..
Te Puke	55	2	..	1	..
Thames	45	1	..	1	..
Whangaroa	29	..	..	..	4
Rakaia	56	1	..	1	1
Waiuku	61	2	..	1	..
Taumarunui	134	2	..	4	..
Matamata	75	3	..	2	..
Kawhia	8	1	..	..	..
Otahuhu	17	1	..	1	..
Whakatane	63	2	..	1	..
Raetihi	4	..	..	..	..
Waiuku	13	..	..	1	..
Amuri	15	1	..	2	..
Roxburgh	21	..	..	..	..
Leeston	62	3	..	..	..
Akaroa	34	1	..	2	..
Totals	2,953	95	6	56	119
Salvation Army.					
Bethany Home	93	..	..	..	..
Christchurch	50	2	..	..	..
Wellington	56	..	..	1	..
Auckland	53	3	..	..	..
Dunedin	122	4	1	2	..
Gisborne	102	7	..	2†	..
Russell	4	1	..	..	..
Totals	480	17	1	5	..

* One full-time, one premature. † Premature.

Owing to the coming into force of the Nurses and Midwives' Registration Act, 1925, the staffs of all these State maternity hospitals, as well as those of other institutions which are recognized as training-schools for midwives as well as for maternity nurses, have had a most difficult task in adjusting themselves to the new conditions. While sympathizing fully with their perplexities, as only one can who knows the strain and stress of carrying out maternity training in this most difficult (because most irregular) branch of nursing, I should like to place on record my appreciation of the loyal way in which they have endeavoured to co-operate with the Department in its efforts towards improvement. Especially are thanks due to officers of many years' service whose proved good work might have been thought sufficient to warrant a feeling of resentment at such radical changes.

J. BICKNELL,
Director, Division of Nursing.

PART V.—SCHOOL HYGIENE.

SECTION 1.—ADMINISTRATION AND MEDICAL INSPECTION.

I have the honour to report on the work of the Division of School Hygiene to the end of March, 1926 :—

Staff.

The permanent staff consists at present of a Director, twelve School Medical Officers, and thirty-one school nurses. There are in addition two junior School Medical Officers appointed for the term of one year. These positions are at present being held by Dr. Muriel Morgan (Wellington) and Dr. Catherine Anderson (Dunedin). There have been no changes or additions to the permanent staff of School Medical Officers. During the year Dr. Elizabeth Gunn was granted three months' leave of absence in order that she might visit the United States and Canada and observe school medical work in those countries. Dr. Helen Bakewell was granted twelve months' leave of absence at the end of the year in order that she might go abroad for further study. There have been during the year several resignations and fresh appointments in the school nursing service.

Figures relating to Work accomplished.

The following summary serves to indicate the extent of work accomplished during the year :—

Schools inspected—	
Of roll under 100	712
Of roll 100 to 500	363
Of roll 500 and over	147
	1,222
Children examined—	
Complete examinations	47,511
Partial examinations	50,050
	97,561
Notifications sent to parents relating to defects requiring treatment	31,510
Health talks given to school-children	1,000
Parents interviewed	7,240
Public lectures and addresses to parents	48

The figures for the work of the school-nurses are as follows :—

Number of days assisted Medical Officer in schools	1,511
Number of days engaged wholly in clerical work	1,740
Number of children examined for medical schedule	75,217
Number of children re-examined after inspection of Medical Officer	14,282
Number of visits to homes in—	
Large towns	9,930
Small country towns	2,704
Scattered districts	2,553
	15,187
Number of children taken personally to hospitals	230
Number of children taken personally to dental clinic	625

Findings of Medical Inspection.

(This return refers to Standard II children only.)

Number of children examined (Standard II)	13,431
Percentage found to have no defects	9·44
Percentage found to have defects	90·55
Percentage with defects other than dental	60·39
Percentage showing evidence of—	
Subnormal nutrition	9·21
Pediculosis	1·89
Uncleanliness	2·69
Skin—Impetigo	1·08
Scabies	0·70
Ringworm	0·14
Other skin-diseases	0·69
Heart-abnormality	1·53
Respiratory disease	0·46
Total deformities of trunk and chest	26·26
Stooped shoulders	7·38
Flat chest (true)	2·44
Scoliosis	1·03
Pigeon breast	6·89
Depressed ribs	4·74
Depressed sternum	3·78

Mouth—Deformity of jaw or palate	11·26
Dental caries	61·50
Extractions of permanent teeth	8·25
Fillings	30·34
Perfect sets of teeth	2·72
Obstructed conditions of nose and throat	21·80
Enlarged cervical glands	9·83
Goitre—All degrees	24·157
Incipient	18·55
Small	5·32
Medium	0·28
Large	0·007
Eye—External eye-disease	1·48
Defective vision—Total	4·26
Corrected	1·72
Uncorrected	2·54
Ear—Middle-ear disease	0·37
Defective hearing	0·40
Defective speech	0·57
Mental—Feeble-mindedness	0·09
Imbecility	
Epilepsy	0·01
Tuberculosis	0·02

The routine work of school medical inspection for the year 1925 was considerably interfered with by the epidemic of infantile paralysis, which necessitated the closing of the schools from the Christmas vacation until the middle of April. During this period School Medical Officers gave assistance to the Medical Officers of Health in enforcing measures taken to control the spread of the epidemic. Dr. Henderson and two school nurses gave valuable assistance in the Auckland District by taking charge of a hospital camp at Maungapohatu, necessitated by an outbreak of typhoid among the Maori population. This outbreak was successfully controlled, and no deaths occurred after the camp was established.

Developments of the work which received special attention during the year were the prophylactic and curative treatment for goitre, and the immunization of school-children against diphtheria. These matters will be dealt with more fully later.

The necessity of obtaining more exact information as to the physical growth and development of New Zealand school-children has been evident for some time. An arrangement was made, therefore, with the Education Department, toward the latter part of the year, by which physical measurements were taken for approximately some twenty thousand children in schools of various types throughout the country. With the object of finding the correlation of physical development with mental attainment, these observations were taken in conjunction with mental-attainment tests given by the Education Department. The data thus obtained are at present in the hands of the Government Statistician.

SECTION 2.—OBSERVATIONS ON THE FINDINGS OF SCHOOL MEDICAL OFFICERS.

Cleanliness of Children.—There is without doubt each year a higher standard of cleanliness among school-children. Gross uncleanliness is now comparatively rare, and confined to a few families, who are often a source of despair to the school nurse. Pediculosis in many schools is non-existent, and each year shows a smaller percentage of children thus affected. This year's returns show 1·42 per cent. of entrant children with verminous conditions of the head, only 0·39 per cent. of Standard VI being affected.

Skin-diseases: The commonest types of skin-disease in school-children are, as a rule, scabies and impetigo. Among the Maori population in certain areas scabies appears to be chronic, especially in winter months, when bathing in the sea or river is out of the question. It is difficult to get treatment carried out perseveringly and thoroughly.

Ringworm: An epidemic of ringworm of the scalp gave a great deal of trouble in Christchurch, and entailed much work on the part of the School Medical Officers and nurses, necessitating as it did an individual examination of all city school-children and the elimination of infected cases. We are indebted to Dr. Allison, Dermatologist, Christchurch Hospital, for his valuable co-operation in controlling this outbreak, no child being readmitted to school until certified free from infection.

Dental Caries.—Dental caries was found in 61 per cent. of Standard II children examined, only 2·72 per cent. showing perfect sets of teeth. The work of the dental clinics is evident not only in regard to conservative dentistry, but also in the greater attention paid to oral hygiene in the schools under their care. The reports of all School Medical Officers again lay stress upon the importance of correct diet in the prevention of dental caries. Excess of refined, starchy food and sweets, lack of foods necessitating vigorous mastication, scarcity of fresh fruit and vegetables in the dietary, the habit of eating between meals, are repeatedly quoted as causes of this widespread defect. In this connection it is worth noting that in New Zealand we probably hold the world's record for the consumption of sugar, the average consumption per head per annum being about 117 lb. Quite apart from the directly harmful influence of so much sweet-eating upon the teeth, it is evident that the inclusion of this excessive amount of sugar in the dietary cannot take place without causing a lack of

balance in food values and giving rise to indigestion and other evils. The prevention of dental disease depends largely upon popular education, firstly with regard to diet, and secondly with regard to value of conservative dentistry in the early stages of decay.

Nutrition.—Much that has been said in previous years is again applicable. As correct nurture is the basis of sound public health, the rearing of a vigorous population necessarily depends upon a widespread knowledge of the laws of hygiene. There is no doubt that in freedom from defect and in physique New Zealand children compare favourably with those in other countries. Nevertheless, nutrition is unsatisfactory in 9 per cent.; faulty posture occurs in 18 per cent. of the children entering school for the first time. These conditions are interrelated, and arise from a lack of observation of the simple rules of health. Hence for the most part they are preventable. There is probably no country in the world to-day where the fundamentals of healthy growth, fresh air, sunlight, food of the right type and amount, adequate sleep and rest, wholesome exercise, are more readily available than in New Zealand, but it is certain that these benefits should be more fully utilized. School Medical Officers report that tea, white bread, and meat play the chief part in the dietary of many homes. In New Zealand eggs, milk, cheese, butter, and fresh fruit and vegetables should be available in such abundance and at low enough prices to take the place of excessive use of meat in many households.

It is popularly assumed that country children have of necessity advantages over town children. It is true that in a well-to-do farming district good nutrition and physical development are the rule, but the struggle of life in the backblocks often tells hardly upon the children. Houses are cramped and inconvenient; food wrongly balanced, monotonous, and hastily prepared; rest is inadequate, and work often excessive. The following is an extract from a School Medical Officer's report:—

"With regard to the country schools, the children are for the most part very satisfactory, but in a few of the more isolated little schools, where the pupils are mostly children of farm labourers, they are poor physically and slow mentally for want of social stimulation. Take X, for instance: Out of twenty-six pupils, thirteen have never been on a train, though all but four have seen a train at least once. They were on the eve of a school excursion, and the part that most of the children were looking forward to most eagerly was not the day on the beach, but the ride in the train. It is very difficult to realize how much of ordinary social stimulus is wanting in the mental and physical development of children so situated, and I am sure that this lack of psychological stimulus often reacts physically, so that the children are either under-developed physically or mentally stolid and heavy."

Another School Medical Officer writes:—

"Child Labour: As usual, many cases were met with where the brightness which we feel ought to be associated with a school-child's life was overshadowed by overwork in the home. Selling of newspapers at night, and more frequently undue attendance in the milk-shed, were chiefly met with. I quote a letter by a girl's parent, not as a typical case, but as an instance of what does from time to time occur: 'Mary has not done her home-work last night. It is impossible for her to do home-work at night. She is up at 4 o'clock in the morning, and does not go to bed until after 9 at night. She puts seven hours in the cow-shed, besides going to school. Please do not keep her in after school-hours—she has to go straight into the cow-shed when she comes home.'"

As an example of overwork in a city child, take the case of a newsboy, eleven years old. This boy begins work after school, selling papers; between 6 and 7 he leaves off for his tea, and continues for a varying time each night. On Saturday night he finishes work at 10 p.m., and on Friday nights it is 11 p.m. This boy is anæmic, and suffers from nervous twitching of the face and tendency to stutter. It is interesting to note that he makes the sum of £2 10s. weekly.

Many similar instances might be quoted from reports of School Medical Officers. In many cases poverty is the cause, but in some instances parents allow excessive labour without realization of the penalty thus imposed on their children.

The moral tone of our schools is, on the whole, excellent, but in the few cases where this is not so it is necessary to consider comprehensively the lives of the people. One school Medical Officer, called in to deal with instances of immorality in a country school, describes graphically the utter dulness of the children's lives. They came to school by long mud roads through the bush, and returned to poor homes at night. Mental interest there was none. There did not seem to be a dozen books in the place; monotony was the rule, and the small happenings in the immediate neighbourhood the sole topic of conversation. The real need was for some healthy intellectual stimulation and a wider outlook. Childish minds need wholesome interests, as their bodies require sunlight and fresh air. A good school library is an essential in isolated schools, so that youthful interest may be directed into wholesome channels. Where the population makes their establishment practicable, organizations such as the Girl Guides and the Boy Scouts do valuable work in promoting a spirit of comradeship and in inculcating wholesome ideals of service and of conduct.

SECTION 3.—PREVENTIVE MEASURES.

Health Camps.—We have seen that the secret of healthy growth is good nurture, and the object of all health education is to teach the fullest utilization of natural resources. A simple routine permitting of plentiful sunlight and fresh air, suitable food, exercise, work, and adequate rest, works like a charm in converting under-nourished, listless, irritable children into robust, happy, and alert individuals. Herein lies the reason why nutrition classes and health camps succeed. Not only children from poor homes respond to the simple plenty and natural life found in health camps, but also the spoilt children of the well-to-do, whose daily dietary and programme expresses largely their own whims. The overstimulated, underrested, talented child of adoring parents loses his idiosyncrasies as to articles of food in a surprisingly short time. Children are like their elders in that they conform readily to fashion. When whims cease to provoke interest or concern they are soon discarded.

I quote the following account of the health camp held at Turakina under the charge of Dr. Elizabeth Gunn last November :—

" The camp is run on military lines is so far as everything is done by time-table, and a school bugle band sounds the signals of the different periods of the day's programme. The children live in tents and marquees, sleeping on beds on which are placed palliasses filled with straw. Daylight-saving is also adopted in camp, so that the children get the full benefit of the fresh morning summer air. At 5 o'clock (which is by the sun 4 o'clock) the cooks get up and start the fires ; and at 6.30 the general reveille is sounded, before which no talking is allowed in the tents. At 6.40 each child gets a mug of hot cocoa, and then washing and dressing takes place, and the children indulge in 'physical jerks' before breakfast at 8 o'clock. After breakfast time is devoted to bedmaking and the tidying of tents, and this is followed by the saluting of the flag and then tooth-brush drill. Sun-bathing (which should more properly be called fresh-air bathing) is a feature of the camp life, as this is carried out even when there is no sunshine and in all weathers. School lessons are taken till 10.30, when a rest period is given, and another drink of hot cocoa or milk is served out. More lessons and some of the lighter duties of camp life occupy the rest of the morning till dinner-time at 12 o'clock. Rest in the open air is prescribed from 1.30 p.m. till 3 o'clock. No reading is allowed during this period, and after the first day or two Dr. Gunn said most of the children sleep for that time. At 3.15 another drink of milk is served out to the campers with what is known as 'scrunch' (baked bread and butter). Games, singing, and gramaphone music occupy the time from 3.30 until tea at 5 o'clock. At 6 o'clock, or sunset time, the flag is again saluted, another tooth-brush drill parade is held, and games are indulged in until bedtime, which is at 7 o'clock. The 'last post' is sounded at 7.30, after which no talking is permitted. Children thoroughly enjoy the life, and not only gain in weight, but are soon found to be better in general health and taking a keener interest. Care is taken that the diet is simple, well-balanced, and nutritious. Breakfast consists of porridge with plenty of milk and no sugar, and after the first few days all the children take it with relish. Well-cooked meat is served once a day with plenty of vegetables, and milk puddings form an important part of the diet. The children are not given bread and butter in the ordinary way, except at tea-time, when they are given baked bread with butter and honey or jam. Milk is used freely both as a drink and in the preparation of various dishes, the supply being about one pint per head per day. There were no children in camp who did not improve, and some had put on from 6lb. to 14lb. in the four or five weeks of camp life. After the camp they were still watched and their cases followed with care and attention, and of the 118 who were in the last camp only ten did not go on improving—a remarkably small percentage."

Health camp at Levin : A health camp was held at Levin, on the Central Development Farm, for mentally backward children attending special classes, Wellington City (in all twenty-eight pupils). The funds for this were raised by private subscription, subsidized by the Education Department and augmented by a small grant from the Health Department. Any one who visited the camp was convinced of the benefit to be derived from it. The children were thoroughly happy, mentally more alert, and physically more robust. The educational value of transplanting them to an environment filled with the interest of country life was very great. There can be no doubt that health camps of this kind might be made with benefit an established part of the education not only of backward children, but of normal children. A month of life in such surroundings and under such conditions not only give health, but provides " education " in the widest and best possible sense of the word.

Nutrition Classes.—The nutrition class at the Normal School, Auckland, established under the supervision of Dr. Mecredy two years ago, was carried on this year under supervision of Dr. Henderson. This class is of special interest in that it demonstrates that simple and readily available measures are sufficient to bring about improvement in the physical condition of weakly children. The class for 1925 has an average attendance of thirty-one. It contained fewer cases of malnutrition, but included many who were suffering from slight organic trouble. The chief features of the class are the insistence on common health laws, the supervision of the daily lunches, the utilization of fresh air as much as possible, and frequent rests, the longest being the midday siesta of thirty to forty minutes. Co-operation of the parents was secured by personal interviews and a general meeting at which the object of the class is explained to them. In this way an improvement was brought about in the regime of the child's life out of school. At the end of the year Mr. Law, headmaster of the Normal School, reported :—

" Another year's work in connection with this special class has served to convince all who have come in contact with it of the great value it has been in the interest of pupils who are physically below normal. After having watched the children at work throughout the year, a year that was made more trying than usual because of the shortened period of work and the more exacting conditions, I am more than ever convinced that the majority of our city pupils between the ages of five and ten years would benefit considerably from a similar course of work, rest, and diet. A most noticeable feature in connection with the whole class was the lessening of evidence of fatigue at the end of the day's work. In fact, the children all were more energetic than those in the normal control group. The year's progress in school-work again proved the value of the class, which is now beyond the experimental stage ; all the pupils made a steady progress and presented class-work of as good quality as those who were physically stronger."

The credit for the success of this class is largely due to Miss Earle, the teacher in charge, for her interest and untiring zeal.

Open-air Schools.—Modern science has demonstrated convincingly that sunlight and fresh air play an indispensable part in promoting good nutrition, and that children who spend a large part of their lives shut away from the stimulation of these beneficent agents are forced to incur grave penalty by loss of vigour and by impaired physical development. It is therefore essential that school-construction should be so carried out that the maximum benefit from sunlight and from fresh air is obtained.

The type of school-buildings erected in recent years is a great advance upon its predecessors, but time and experience alone will evolve the ideal school for us. There is no doubt that every class-room should be potentially an open-air class-room—that is to say, a room capable of admitting the maximum benefit from sunlight and fresh air but nevertheless providing adequate shelter against stress of weather. We have variations of climate in this Dominion from subtropical to rather less than temperate. Care must be taken to consider special local conditions when school-buildings are being erected.

The Open-air Schools League continues to flourish in Canterbury. During the last year a conference was held, composed of Dr. McIntyre and Professor Shelley, representing the League; Mr. Caughley, Director of Education, and Mr. Spencer, representing the Education Department; the Director, Division of School Hygiene; and Drs. Phillipps, Baker-McLaglan, and Irwin, School Medical Officers. A discussion took place as to the most suitable type of school-building for New Zealand, and certain basic principles were agreed upon with reference to school-construction. It was agreed that the Minister of Education be approached with the request that the open-air class-room, Fendalton design, be further tried. As a result of this recommendation open-air class-rooms have been established at Linwood and Cashmere Hills. Schools of this type have a growing popularity both with teachers and with pupils, who find the school day much more cheerful, effective work accomplished with less effort, and a minimum of fatigue at the end of the day.

SECTION 4.—GOITRE.

The work of mapping out areas where goitre is endemic is now practically concluded. Dr. Baker-McLaglan, to whom credit is due for much conscientious and exact work, was detailed to make a final survey of schools throughout the Dominion—one object of this being the co-ordination of the results sent in by various School Medical Officers.

INCIDENCE OF GOITRE IN SCHOOL-CHILDREN IN NEW ZEALAND IN RELATION TO THE AMOUNT OF IODINE IN THE SOIL.

No.	District.	Number of Medical Examinations of Children.	Recognition of Goitrous Condition.	Percentage Incidence of Goitre.	Crude verage of odine in Parts per 10^7.
1	Stewart Island	..	..	..	87
2	Bluff	280	59	21	20
3	Invercargill and Southland	2,960	1,049	35	20
4	Waimea Plains	1,025	324	31	6
5	Clutha Valley	2,947	1,197	40	4
6	Taieri Valley and Milton	1,366	406	30	6
7	Dunedin	8,413	1,573	19	32
8	North Otago	895	155	17	13
	Southland and Otago	17,886	4,763	26·6	13
9	South Canterbury	5,206	3,228	62	3
10	Christchurch	5,548	3,548	64	9
11	Banks Peninsula	1,293	397	31	9
12	North Canterbury	2,782	1,608	58	6
13	Marlborough (includes Kaikoura)	700	263	38	3
14	Nelson	929	273	29	17
15	West Coast	1,675	889	52	12
	Canterbury, Marlborough, and Nelson	18,133	10,206	56·3	9
16	Wellington	2,633	657	25	40
17	Hutt Valley	2,343	968	41	16
18	Wairarapa and Dannevirke	5,164	1,310	26	24
19	Hawke's Bay	2,101	10	32	9
20	Gisborne	2,770	40	34	13
21	Horowhenua	560	21	12·5	137
22	Palmerston and Marton	6,823	1,061	23	9
23	Wanganui and Patea	3,591	1,581	45	8
24	Taranaki	4,503	177	7	166
25	Main Trunk line	2,129	460	22	..
26	Taumarunui	100*	35	37	14
	Wellington, Taranaki, and East Coast	32,593	6,320	19·3	47
27	West Coast and Te Kuiti	796*	468*	11·3	25
28	Waikato and Piako Valley	3,505	2,454	30	55
29	Taupo and Rotorua	534	366	28	10
30	Bay of Plenty	1,443	381	31	18
31	Cape Colville Peninsula	220	5	15	11
32	Auckland	3,240	147	11	158
33	North Auckland	2,400	75	5	53

* Approximations only.

The relationship of goitre incidence to low iodine content of soil is thus strikingly demonstrated. (The iodine content of soils was estimated in the Otago Medical School, Dunedin, as a part of the research work being carried out under the supervision of Professor Hercus.)

As regards relative incidence in the sexes, Dr. Baker-McLaglan found in the primer classes little difference in the incidence between boys and girls. At adolescence, however, the percentage of boys decreased, the incidence in the girls being at least twice as great.

The School Medical Service has extended the preventive and curative work in schools which began some four years ago. At present there are approximately some twelve thousand children receiving treatment, facilities being now provided by which the pupils in all schools in endemic areas may obtain treatment, the written consent of their parents being first obtained. The usual routine treatment consists in the administration of 1 grain of potassium iodide weekly for ten weeks in the school term, the total amount given to the children annually being thus 30 grains. Advice is also given that the diet should contain a plentiful supply of fresh fruit and vegetables, and that health habits should be observed. In view of the possibility that iodine may do harm when given in unsuitable cases, no school treatment for the prevention or cure of goitre is carried out except with the recommendation of the family medical practitioner or the School Medical Officer. It is interesting to note, however, that not one case of iodism or hyperthyroidism has been observed during the whole period treatment has been in vogue. Whatever may be the danger of such procedure at a later age, this fact indicates the safety of the administration of small doses of iodine to children in the primary schools whether they have thyroid enlargement or not.

Dr. Baker-McLaglan has summarized and tabulated the results of a goitre experiment now running for the fifth consecutive year. The results are striking, and show clearly both the prophylactic and therapeutic powers of iodine. The sum total of observations on 1,152 children under observation or treatment respectively for all classes of goitre are as follows :—

——	Actual Number.		Per Cent. stationary.		Per Cent. increased.		Per Cent. decreased.	
	B.	G.	B.	G.	B.	G.	B.	G.
Not treated ..	249	231	60·2	53·6	22·1	34·2	17·6	12·1
Treated ..	329	343	49·5	43·4	0·9	4·9	49·5	51·6

The results are even more striking when one comes to consider the very marked changes. Thus of the children who were not treated, fourteen boys and twelve girls showed marked increase, six boys and two girls showing marked decrease; whereas, of the children who were treated, no boys and only one girl showed marked increase, but fifty-two boys and fifty-seven girls showed marked decrease.

Dr. Baker-McLaglan noted that a thyroid which suddenly begins to enlarge will, if treated promptly, subside with almost equal rapidity; also that in a number of cases the initial result of treatment is a very slight temporary increase. In handling many cases it becomes obvious that if a child takes treatment, say, for one year and then leaves it off, the improvement often continues for some indefinite time afterwards. Take for example this case :—

Date of Examination.	Standard.	Lobes.			Measure in Centimetres.	Remarks.
		Middle.	Right.	Left.		
8/5/22	P. 1	Small ..	Medium..	Medium	26·2	Received between 5·22 and 4·23 a total of 30 grains of sodium iodide, then left off treatment.
10/4/23	P. 3	Incipient	Small ..	Incipient	25·6	Improvement evidently the result of a year's treatment.
—/2/24	P. 4	Incipient	Nil ..	Nil ..	25·8	This continued improvement I think fair to attribute to iodine stored as a result of a year's treatment.
—/5/25	S. II	Incipient	Bordering on small	Incipient	26·3	Store of iodine exhausted, and goitre begins to enlarge again.

Owing to the "peripatetic habits of the average New-Zealander" and the consequent frequent transfer of children from one school to another, though these observations originally concerned 7,000 children, only a total of 1,152 could be utilized for statistics. Reports from other School Medical Officers, however, confirm the general conclusions outlined.

SECTION 5.—TREATMENT RETURNS.

Results.—Owing to the short school-year and the congestion of work resulting therefrom it was found impossible in many districts for the school nurses to follow up cases notified of physical defects

as fully as in other years. The following partial return gives some indication, however, of the extent to which treatment is obtained for defects notified by School Medical Officers :—

Area.	Defects notified.	Followed up.	Treated.	Percentages.
Large towns	6,232	5,544	3,726	67·2
Small country towns	3,467	3,159	1,858	58·8
Scattered districts	4,742	4,018	2,331	58·0

In some of the large towns the percentage of treatment obtained was over 80 per cent.- the percentage in individual schools being often over 90 per cent. The amount of treatment obtained in the remote backblocks, as one would expect, is much less, averaging only 38 per cent.

In the cities facilities for obtaining treatment are good. In scattered districts they are still inadequate, especially for the correction of special defects, as defective sight, hearing, &c. Dental clinics have proved a boon wherever they have been placed, and the numerous demands from areas in which it has not as yet been practicable to establish them show the increasing public recognition of their value. It is to be hoped that the time may soon come when facilities for obtaining medical and dental treatment are more readily available for remote areas.

School Nurses.—The value of the work of school nurses is now so generally recognized that it becomes increasingly difficult for them to meet the demands made upon them. The improvement in cleanliness alone which has resulted from their efforts would justify their existence, but when one considers that annually they visit thousands of homes and assist in the solution of innumerable and various problems of child care, it is evident that their influence in the community welfare must be very great.

SECTION 6.—SANITATION OF SCHOOLS.

School-cleaning is often inadequate. The difficulty of securing efficient labour is great, especially in country districts. I again advocate the system adopted in Victoria, where the Education Department has its own staff of school-cleaners in addition to the usual school caretakers. These officers visit the various schools periodically throughout the year, giving each one in turn a thorough "spring cleaning." In some country schools an excellent standard of cleanliness is found, owing to the fact that the school-children themselves, under the supervision of the teacher, undertake the cleaning of the school, the money thus saved being devoted to school funds. Though this system meets with objection from some parents, it is surely evident that it is more degrading for children to sit at school in untidy and dusty surroundings than it is for them to combine to bring about a more hygienic state of affairs.

Outbuildings.—Where there is a water-carriage system the condition of the sanitary conveniences is as a rule fairly satisfactory. In country districts, however, there is great need for improvement.

SECTION 7.—DIPHTHERIA.

The incidence of diphtheria for the year ended 31st December, 1925, was 1,118 cases for the whole Dominion, with forty-five deaths. Hitherto methods controlling diphtheria have been cumbersome, inadequate, and expensive. In past epidemics it has been the custom to isolate not only diphtheria patients but also individuals found to be carriers of diphtheria bacilli. As a definite proportion of the population are carriers of the bacillus without any impairment of general health, and hence may be an unconscious source of infection to others, it is evident that the task of eliminating all such carriers from the general public is impracticable, and any attempt to do so would involve nothing short of dislocation of the business life of the community. Obviously it is much better to prevent diphtheria than to control it when it appears, and, fortunately, the means of doing this is at hand. It is now possible to protect a child from diphtheria in the same way as vaccination protects against smallpox. This may be done by giving him an injection of a vaccine, toxin anti-toxin, at weekly intervals for three weeks, which confers practically an absolute immunity to diphtheria. Preventive treatment for diphtheria by toxin anti-toxin had hitherto been carried out in only a few selected schools and orphanages. It was felt right that this means of defence should be made available in certain endemic areas. Meetings of the parents were addressed by School Medical Officers on this question, and arrangements were made for children to receive immunization. No child was given immunization without the written consent of the parents. Treatment was not compulsory, strong persuasion even not being adopted, as it appeared wiser to gradually educate the public by demonstrating the benefit of the treatment than to antagonize them by enforcing a measure which they did not fully comprehend. Approximately eleven hundred children were immunized during the period April to December last year. Except in Otago, where medical students carried out treatment under the supervision of the School Medical Officers, the preliminary Schick test to determine susceptibility was dispensed with and straight-out immunization adopted. Except for temporary slight sickness in a few, treatment was carried out with little inconvenience. A satisfactory feature of the work was the request from several School Committees that the children attending the school should have the benefit of treatment.

SECTION 8.—INSPECTION OF SECONDARY SCHOOLS.

By request of the Board of Governors, the pupils (305 in number) of a girls' secondary school were medically examined. In addition to the usual routine examination, special observations were made with respect to posture and hæmoglobin content.

The comparison with the U.S.A. Standard Children's Bureau, Washington, showed 48·5 per cent. of those New Zealand girls were above United States standard weight for height and age, 48·5 per cent. were below, and 3 per cent. were equal; 17 per cent. of the girls showed slight anæmia. Defects were noted as follows: Defective vision, 19 per cent., of which 6·8 per cent. was uncorrected. Some enlargement of the tonsils (in no case bad enough to demand operation) was noted in 6·8 per cent. Defective enlargement of the cervical glands, 3·6 per cent. Goitre was noted as follows: Large, 3 per cent.; medium, 15·3 per cent.; small, 32 per cent.; incipient, 31 per cent. With regard to teeth, 1·3 per cent. showed perfect teeth. There was an average of 1·5 extractions per pupil, and 5·6 per cent. fillings. With respect to posture, an estimate was made of the number and severity of the postural defects in each individual, and the pupils classified accordingly into groups, A representing the best group, B not so good, C less so, and D the worst. It was found that 13·135 per cent. were placed in the A group, 29·23 per cent. in the B group, 41·52 per cent. in the C group, and 15·6 per cent. in the D group. A tendency to improvement was noted throughout school life.

From these observations it is evident that the pupils of secondary schools would benefit from more medical supervision. Apart from those suffering from defects requiring correction, there is a large number who require continuous observation and definite health education.

Examination of Teachers.—The medical examination of entrants into the teaching profession is now entirely in the hands of the School Medical Service. As the number of candidates for positions this year was largely in excess of the vacancies, it was found possible to demand a high standard of physical fitness, and the reports of most School Medical Officers express the opinion that the physique and general health of entrant teachers appointed this year show definite improvement.

The School Hygiene Division wishes to express appreciation to the Education Department, various Education Boards, School Committees, and teachers for much valuable co-operation.

A. G. Paterson,
Director, Division School Hygiene.

PART VI.—DENTAL HYGIENE.

I beg to submit a report on the work of this Division for the year ending 31st March, 1926.

SECTION 1.—STAFF, TREATMENT, ACCOMMODATION, ETC.

Staff.—I regret to report that Mr. T. A. Hunter, C.B.E., Director of the Division, left New Zealand early in February on extended leave, the state of his health unfortunately rendering a prolonged rest necessary.

The distribution of the staff has undergone a few changes during the year, and now stands as follows: At headquarters (Wellington): Mr. J. L. Saunders, B.D.S., Deputy Director, Division of Dental Hygiene (in charge of the training-school); Mr. R. D. Elliott, Inspecting Dental Officer; Mr. J. B. Bibby, attached to training staff as Clinical Demonstrator; Miss E. Haines, Senior Dental Nurse.

Stationed at the various school dental clinics are fourteen dental officers and forty dental nurses as follows: Dental officers—two at Auckland, one at Huntly, one at Masterton, one at Ngatea, one at Nelson, one at Murchison, one at Sydenham, one at Hokitika, one at Blenheim, one at Dunedin, one at Oamaru, one at Wellington, one at Rarotonga. Dental nurses—Two at Auckland, one at Avondale, one at Whangarei, one at Hamilton, one at Hunterville, one at Te Kuiti, two at Wanganui, two at Palmerston North, two at Gisborne, two at New Plymouth, two at Napier, one at Waipukurau, one at Hastings, one at Hawera, one at Pahiatua, one at Taumarunui, one at Lower Hutt, one at Nelson, one at Sydenham, one at Christchurch East, one at Beckenham, one at Woolston, one at Greymouth, one at Westport, one at Blenheim, one at Clyde, one at Mosgiel, one at Dunedin, one at Tapanui, two at Invercargill, one at Temuka, one at Gore.

Eighteen dental nurses completed their training at the beginning of March, and most of these have already taken up duty at new clinics recently established. The remainder will proceed to their clinics early in April.

Staff in Training.—There are at the present time sixty probationer dental nurses in training. Of these, twenty-eight are in the second year of their course, while thirty-two entered the training-school on the 16th March. The latter number includes two Rarotongans and one Maori, who will be trained for work among Native children.

The primary examination was held in November, Dr. Ada Paterson being examiner, assisted by Dr. Helen Bakewell. The results were, on the whole, extremely satisfactory. Two nurses failed on this occasion, but these were successful in the special examination held in February. Eighteen senior probationers presented themselves for the final examination held in February. This was of a searching nature, and included written, oral, and practical tests. All the candidates were successful, and in his report the examiner (Mr. G. C. Tripe, of Wellington) highly commended their work.

The accommodation at the training clinic, Wellington, has recently been extended and improved, and we are now in a position to accept thirty new probationers each year.

Treatment performed during 1925.—The following is a summary of the operations performed from January, 1925, to December, 1925, by dental surgeons, dental nurses, and probationers in training: Fillings, 61,506; extractions, 41,339; minor operations, 52,876: total operations, 155,721.

Of this amount the dental nurses in the field, thirty-one in number, performed the following: Fillings, 36,136; extractions, 24,072; minor operations, 32,387: total operations, 92,595.

The total operations performed by dental nurses in the field since the first of these were placed out, in May and June, 1923, stands at the 31st December, 1925, as follows: Fillings, 92,335; extractions, 65,329; minor operations, 62,650: total operations, 220,311.

New Clinics opened.—During the period under review clinics have been established at Ngatea, Taumarunui, Hawera, Woolston, Temuka, Oamaru, Tapanui, and Gore, bringing the total number up to forty. In addition clinics will be opened shortly at Dargaville, Ponsonby, Papakura, Te Awamutu, Dannevirke, Eltham, and Timaru.

During the year the school dental service has been extended to Rarotonga. The clinic is in charge of a dental surgeon whose services are also available to a limited extent for the adult population. As noted above, two Rarotongans are being trained as dental nurses, with a view to returning to Rarotonga to assist in this work.

Equipment.—In view of the number of new clinics that are being opened each year, our requirements in the matter of equipment are ever increasing. While abroad, Mr. Hunter will take the opportunity of putting our requirements in this direction before the various manufacturers, and will go into the question of further standardizing the various types of equipment used. This should also result in the securing of more advantageous terms. With the growth of the service, and the consequent handling of larger quantities of equipment, the present methods of storage and distribution will require revision.

SECTION 2.—PROPAGANDA.

In this connection opportunity was taken of the Exhibition at Dunedin to bring the work we are doing before the public. A replica of a school dental clinic was exhibited, and a large number of leaflets on diet and dental matters were distributed to those interested. Models showing the result upon the teeth of proper and of faulty dietetic habits, photographs of the training clinic, illustrated posters, and many other objects of interest were also displayed.

The nurses in the field continue to take every opportunity of advising parents on various dietary and dental matters, and of interesting the members of the teaching profession in our work. Much good is undoubtedly being done in this way.

J. L. Saunders,
Acting Director, Division of Dental Hygiene.

PART VII.—MAORI HYGIENE.

GENERAL HEALTH.

Typhoid Fever.—The year just closed has been marked by the lessened incidence of serious illness amongst the Native people, and shows even better results than those of last year. The continued improvement may be described as being brought about by the improved sanitary conditions inaugurated by this Division and applied through the channels of our various Maori Councils under my personal direction, and continued supervision of the officers of the Department. A large factor in very many of the settlements attributed to the improvement is the installation of water-supplies, which work has received more attention this year by my Division than any previous years. Funds of the various Councils, together with subsidies from the Department, have enabled this most necessary work to proceed.

There have been no serious typhoid epidemics as in the past, and for the year just closed we have had typhoid in three settlements only, totalling twenty-four cases, with three deaths. Sporadic cases have, of course, occurred at other villages, but far less than previous years—the reason being improved conditions together with the inoculation of all cases, contacts, and the people generally. Inoculation proceeds as a routine measure, and no doubt as time goes on this disease will still be further reduced. The Natives, as a rule, are quite amenable to inoculation, but it does happen occasionally that some opposition is shown, which, however, is usually overcome when the necessity is made plain to them. This disease has been the most difficult to deal with, but as time goes on we shall, I am sure, have no need for anxiety in combating it, and have it well under control, owing to the improvements that have taken place together with the continuous inoculation of the people. It must also be remembered that our nurses are well scattered amongst the people, and their continued supervision means that a case is soon detected, removed, and treated, and all contacts isolated. Means of transit are ever improving, by which cases more readily reach hospital, and where same can be done it leaves our nurses free to continue their work amongst the people, watching contacts, and taking immediate action should fresh cases occur.

The individualization of lands by the Native Land Court is solving to a very great extent the overcrowding problem, and Natives now in many instances have their own homes on their own plots—a very great and permanent improvement towards health conditions generally.

Other illnesses, of course, occur amongst the Native people, but not by any means in excess of that suffered by the white population. Consumption is fairly prevalent in many places, but improved

conditions of living are lessening this illness materially. It is difficult to do anything with advanced cases other than to insist that isolation is strictly carried out, and in this respect the Natives are acting, as a rule, to the instructions given them. Incipient cases could, of course, be treated better in sanatoria, but again it is a difficult matter to arrange for sanatorium treatment. However, the number of cases amongst the Natives, I am pleased to state, is lessening considerably.

Maori Councils.—I am pleased indeed to report of the continued good work of these bodies and their various Village Committees. The by-laws governing the sanitary conditions are, as a general rule, being rigidly enforced, and the results are obvious. These Councils are ever changing their personnel, which entails a lot of office-work and supervision. During the past year I have given more personal attention to these bodies than previously, and the results have been well worth all the extra labour entailed. We are experiencing many difficulties owing to the Ratana movement finding its way into the working of our Councils and Village Committees. In many instances our picked men have been approached to join the Ratana committees, which are very much in evidence, and in some cases we have lost their services. It appears as if an organized attempt is being made to undermine and to usurp the duties of our Councils by the Ratana element, and I have decided the only method to adopt is to visit from time to time our Council members and Village Committees so as to rebut the Ratana propaganda. Our Councils are specially useful in granting money from their funds for the installation of water-supplies, and, as the amounts are subsidized by the Department, some most useful work is being done.

Additional by-laws have been approved, and are now operating, which deal more in the direction of the moral welfare of the people, and are acting splendidly. The Maniapoto Maori Council, situated in the Waikato and King-country areas, have passed a by-law at my direction dealing with the supply of methylated spirits, the drinking of which was becoming a menace to the Native people. It has done a great deal to minimize the habit. The people themselves welcome the by-law, which prohibits the sale unless by order signed by the Chairman of the Council and countersigned by the official member—in this instance a police constable. Something of the kind appeared most necessary, as the health of the Natives by the drinking of such was becoming seriously undermined.

Water-supplies.—The inauguration of water-supplies has claimed considerable attention from my Division this year, and applications are continuously being made for assistance by the Natives towards this object. The largest supply put in this year was at the Native settlement of Judea (Tauranga), at a cost of £150—half the amount being paid by the Tauranga Maori Council and subsidized by the Department on a £1-for-£1 basis. The work consists of a bore sunk to a depth of 80 ft., stands and tanks, with windmill, and pipes laid on to all houses to reticulate the whole settlement. The water in this area was previously drawn from swamp holes, and sickness was ever present. Two supplies have been installed by the Matatua Maori Council (Whakatane County) at a total cost of £110. The full amount has been paid from the funds of the Council, a subsidy not being applied for. A further supply is contemplated, at an estimated cost of £240, particulars of which are not yet complete, and upon which a subsidy will be requisitioned.

The Pewhairangi Maori Council (Bay of Islands district) have put in two supplies, the total cost being £75, without any claim being made for subsidies. A further supply is being contemplated, when a subsidy will be asked for: the approximate cost in this instance is £80.

The Maniapoto Council (Waikato County) has completed a supply at a cost of £45, on which a subsidy is to be applied for.

The Horouta Council have schemes in hand for water-supplies in that portion of the district between and including Te Kaha and Maraenui, in the Bay of Plenty area, full particulars of which are not yet complete.

These supplies are located and laid out by an officer of my Division, and great success has so far attended our efforts. As pure water and uncontaminated supplies are perhaps one of the most potent factors towards establishing good health, I intend to spare no effort in prosecuting this most necessary work. The Natives themselves are very interested, and the success obtained at one settlement soon spreads to another, and applications for the services of my officer who attends to these matters are keenly sought and appreciated.

Sanitary Improvements.—Special attention continues to be directed in improving the sanitation of the villages and the provision of latrine accommodation. Very great improvement has taken place in this direction, and with the exception of a very few settlements these matters have become an ordinary routine measure with the Natives. At almost all communal meeting-houses latrines are provided for both sexes, and sanitary squads, when large gatherings are in progress, are appointed to carry out all necessary work incidental thereto. These squads also attend to the disposal of refuse and clean-up work generally. Village Committees under the jurisdiction of the Councils are instructed regarding all sanitary matters by correspondence and personal visits. The various Inspectors of Health and our district nurses also give valuable advice, and their services are much appreciated by the people. I am well satisfied with the improved sanitary conditions generally, and with continued supervision look forward to still further improved conditions.

Inoculation.—Anti-typhoid inoculation still continues to be carried out as a routine measure throughout the whole of the districts as opportunity and circumstances permit. This method of combating the disease is, I consider, our "sheet anchor," and no doubt it accounts for the lessened incidence of typhoid fever. Of course, good water-supplies and improved sanitary conditions play their part well, and with inoculation carried out systematically in addition to the improved conditions of living we can, I feel sure, look forward to this disease being a relic of the past, or at any rate reduced to a minimum. It is worthy of note that of thirty cases of typhoid fever at the settlement of Te Mingi (Mangonui) two years ago, not one case has been reported since then: inoculation and

improved conditions have surely done good work in that area. The total inoculations carried out during the year number 2,500, making a total for the past four years of 8,617.

Public Gatherings.—The sanitation of villages where tangis or huis are in progress is now quite a matter of ordinary routine procedure, carried out by committees duly appointed by the Council of the district, or in some cases by the people themselves, and in this matter I am convinced we need have no fear. Inspectors and nurses are in attendance, if at all possible, to see that all necessary precautions are carried out. In case of there being illness at any of the adjoining villages, instructions are issued for those afflicted not to attend. I visit these gatherings personally when circumstances permit, or arrange for an officer of my Division to do so, for the interchange of opinions on current topics, and to advise the people on health and sanitary conditions generally, and the necessity for co-operation with the Department and all officers connected therewith.

Propaganda.—Much work is done in circularizing our various Councils as to methods to be followed in the prevention and spread of any infection existing in the country. As the Ratana movement is creeping into the work of our Councils and committees, I attend the meetings of these bodies so as to rebut the many wild statements being circulated amongst the people.

Native Health Inspectors.—The two Assistant Inspectors are doing good work, and give very valuable assistance to the Department. They are both experts in Maori lore and customs, and therefore able to deal with the conditions of the people. The various Inspectors of Health also do very valuable work amongst the Natives, and are ever willing to render all possible assistance for the betterment of the people, and their services are not only appreciated by the Natives but are of very great assistance to me in the working of my Division.

Native Health Nurses.—It is with extreme pleasure that I can again praise the good work done by our district nurses. In many instances they are called upon all hours of the day and night to attend to the wants of the sick, and never falter in their duty. Bad roads and flooded rivers have to be contended with, and I can only reiterate that this branch of the service is one of the most important and deserving of all consideration possible. It is by the constant watching over the people and the taking of immediate action by our nurses that the spread of disease is checked, and to this branch full credit must be given for the services they render in this direction. It is not possible to weigh the amount of money saved to both the Department and the various Hospital Boards by the prompt action of our nurses in sifting, treating, and isolating disease. A good deal of difficulty exists at times in connection with their work owing to the Ratana influence, but as a rule, by the tactful and patient pleadings of the nurses, it is overcome to a very large degree.

TE RANGI HIROA,
Director, Division of Maori Hygiene.

PART VIII.—HEALTH DISTRICTS.—EXTRACTS FROM ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

SECTION 1.—CENTRAL AND SOUTH AUCKLAND HEALTH DISTRICTS.

DR. T. J. HUGHES, Medical Officer of Health; DR. MECREDY, Assistant Medical Officer of Health.

Part I.

I submit hereunder a short annual report on the two health districts under my control for the year 1925-26.

INFECTIOUS DISEASES.

With the exception of the outbreak of infantile paralysis in the early part of the year, it is pleasing to be able to record the fact that no other serious epidemics were experienced throughout the year. Reports in regard to the poliomyelitis outbreak were submitted during the year, a total of 129 cases and 27 deaths being recorded in the Central Auckland Health District during the calendar year 1925, and in the South Auckland District 77 cases and 13 deaths.

The only other outbreak experienced was the incidence of six cases of typhoid fever amongst Maoris in the Raglan district. These cases were dealt with by removal to hospital, and inoculation of contacts was carried out. Generally speaking the health of the Natives in the two districts throughout the year has been excellent.

The incidence of scarlet fever and diphtheria was normal throughout the year in both districts, the monthly average of cases reported being: Central Auckland—scarlet fever 8, diphtheria 14; South Auckland—scarlet fever 8, diphtheria 10.

Particulars of cases of puerperal fever and of septicæmia following abortion or miscarriage have been recorded in the quarterly returns forwarded throughout the year, as also have particulars of all maternal deaths. All cases of puerperal fever have been strictly investigated, especially where a private hospital or maternity nurse has been concerned, and full restrictions imposed in accordance with the departmental regulations.

GENERAL SANITATION.

The general sanitation of the two districts has been greatly improved during the year. Supervision has been exercised over nightsoil and refuse removal, and disposal services, drainage schemes, &c.

The sanitary conditions of the various boroughs and Town Boards have also been affected by the institution of clean-up weeks at the instigation of the Department. The trapping and poisoning of rats, particularly in Auckland City and the large boroughs, have been steadily carried on, and a certain amount of mosquito-control work by kerosene-spraying was also effected. The periodical inspection of the hotels and of food-sellers' premises, and the condemnation of insanitary buildings and supervision of offensive trades, also received attention. Some of the more important sanitary improvements in the principal centres of population are detailed below:—

Central Auckland Health District.—Auckland City and suburbs: Constant supervision exercised over all refuse-dumps, insanitary premises, &c. Considerable sanitary improvements effected at Racing Club booths at Ellerslie and Epsom. The matter of drainage from offensive trade premises at Westfield received considerable attention during the year, as also the proposed combined drainage scheme for Ellerslie, Onehunga, and Mount Roskill.

Papakura urgently requires a sewerage system, but ratepayers turned down loan proposal for same during the year. Scheme is to be modified and put forward again.

A good number of the suburban local bodies have now appointed their own sanitary inspectors, and departmental work in these districts is largely of a supervisory nature.

South Auckland Health District.—Huntly: New hospital erected, with accommodation for accident and maternity cases and general nursing, costing approximately £14,000.

Hamilton: Steady progress made with sewerage installation.

Taumarunui: New hospital opened during the year, and old maternity hospital removed to a new site. Nightsoil and rubbish disposal systems fairly satisfactory.

Te Aroha and Morrinsville: Steady progress made with sewerage reticulation works. Inspection of plumbing-work in these boroughs is carried out by the departmental Inspector.

Matamata: Sewerage scheme adopted and put into operation during the year. Refuse collection and disposal service has also been inaugurated.

Putaruru: Nightsoil and rubbish depots approved, and Town Board recently formed shows promise of effecting sanitary improvements.

Rotorua: New sewerage system under process of installation by the Public Works Department. Considerable difficulty experienced owing to hot sulphur springs adjacent to sewage-tank and pumping-station. The Maori villages of Ohinemutu and Whakarewarewa are in fair sanitary condition, and especially is this true of Ohinemutu, which has a live Maori Council.

Water-supplies.

A great deal of work has been done in connection with the supervision of the various water-supplies of the local authorities in the two districts. A total of 186 bacteriological and 22 chemical examinations were made. Improvements to supplies were effected in many instances—prevention of contamination of catchment areas, chlorination and filtration schemes, &c. Some of the more outstanding improvements were—

Pukekohe: Purchase of land under Public Works Act surrounding Hickey's springs, from which the borough supply is drawn.

Waiuku: Reticulation scheme inaugurated. No filtration or chlorination needed.

Papakura: Installation of filtration plant (Candy de Chlor filters) commenced.

Ngaruawahia: Chlorination plant installed for borough supply. Supply for mobilization base, also drawn from Waikato River, subjected to chlorination and filtration and put through settling-tank.

Te Kuiti: £23,000 loan for new water scheme vetoed by the ratepayers, and instead a satisfactory chlorination plant will be installed in connection with the present water-supply.

Taumarunui: Candy de Chlor filters not working satisfactorily—supplies chlorinated.

Huntly: It is proposed to supply new hospital from Waikato River, subjecting supply to chlorination and filtration. Scheme not definitely decided upon.

The following is a list of examinations made of the various water-supplies:—

Bacteriological Examinations.—Central Auckland Health District: Auckland City mains, 3; Nihotapu, 12; Waitakere, 4; Western Springs, 2; Onehunga, 12; Otahuhu, 12; One Tree Hill, 6; Howick Orphanage, 2; Mount Wellington, 3; Papakura, 30; Pukekohe, 27; Waiuku, 3. South Auckland Health District: Hamilton, 17; Te Kuiti, 6; Taumarunui, 14; Ngaruawahia Borough, 8; Ngaruawahia mobilization base, 3; Te Kuiti, 10; Cambridge, 13; Huntly, 1; Rotorua, 15; Te Awamutu, 6; Te Aroha, 2; Morrinsville, 2.

Chemical Examinations.—Central Auckland Health District: Western Springs (city supply), 1; Howick Orphanage, 2; Mount Wellington, 3; Waiuku, 3. South Auckland Health District: Huntly, 1; Te Aroha, 1; Morrinsville, 1; Taumarunui, 3; Cambridge, 2; Lake Taupo, 4; Ngaruawahia mobilization base, 1.

Food and Drugs Work.

A great deal of improvement has been effected in regard to the sale of foodstuffs, especially in regard to food-sellers' premises, in which matter the new departmental regulations gazetted during the year have greatly assisted. I attach hereto summaries showing particulars of inspections made, and of samples weighed and obtained for analysis, during the year under review. In addition a very considerable amount of work has been put in in the correction of labelling, and also in regard to the bacteriological examination of milk-samples—2,347 from various Auckland City suppliers were examined by the Government Bacteriologist. Most of these samples were also examined for tubercle bacilli, and four gave positive results through inoculation of guinea-pigs. The Department of

Agriculture was immediately notified of these positive results, and complete testing of the herds affected was carried out, and the cows affected destroyed.

Port Health Work.

During the calendar year 1925 a total of 349 overseas vessels arrived at the Port of Auckland and were inspected by the Port Health Officer. From these vessels a total of 138 prohibited immigrants were reported, and included in this total were twenty-two cases of infectious disease and four contacts, which were dealt with in accordance with departmental regulations.

Inspector Weaver has been in charge of sanitation in connection with all vessels in port, and waterfront conditions generally during the year, and has carried out his duties efficiently and satisfactorily.

NORTH AUCKLAND AND COROMANDEL-OPOTIKI HEALTH DISTRICTS.

Dr. H. Chesson, Medical Officer of Health.

Part 2.

I have pleasure in submitting the annual report for the year 1925–26 for the North Auckland and Coromandel-Opotiki Health Districts, under the following headings :—

Infectious Diseases.

The outstanding feature of the year was, of course, the infantile-paralysis epidemic, which had reached its climax at the 31st March, 1925, at which date in the North Auckland Health District forty-five cases and twelve deaths had been recorded, and in the Coromandel-Opotiki Health District twenty-two cases and two deaths. For the remainder of the calendar year 1925 a further fourteen cases and three deaths were notified in the North Auckland District, and twelve cases and three deaths in the Coromandel-Opotiki District. As the epidemic has been well traversed in previous reports forwarded during the year, I refrain from a detailed comment in this report.

It is pleasing to note that the incidence of diphtheria and scarlet fever has been but small, there being no outbreaks of either of these diseases recorded in the two health districts.

The North Auckland District has also been singularly free from typhoid fever, but in the Coromandel-Opotiki district three small outbreaks amongst Maoris were dealt with. The first of these occurred at Maungapohatu, in the Urewera country. A temporary hospital in charge of Dr. Henderson was established here, and in all twenty cases were treated, eleven of which were definite typhoid cases. A second outbreak of eight cases occurred at Motiti Island and in the vicinity of Tauranga, this outbreak being probably due to a contaminated water-supply at Motiti Island. The third outbreak of ten cases occurred at Te Kaha, in the Bay of Plenty. In both these latter outbreaks it was found practicable to deal with the cases by removal to hospital. In all these outbreaks extensive inoculation of contacts was carried out, and a general clean-up of the surroundings was insisted upon. In addition to these special anti-typhoid inoculations, routine inoculations were carried out by the Native nurses throughout the two districts, and this no doubt will bear fruit in controlling the incidence of this disease in the future.

All cases of puerperal fever or of septicæmia following miscarriage or abortion notified during the year were carefully investigated, and full restrictions in regard to the suspension of nurses or private hospitals concerned were imposed. Particulars of cases have been recorded on the quarterly puerperal-fever returns forwarded during the year in conjunction with the maternal-mortality returns, also forwarded, showing deaths recorded by the various Registrars as due to or in connection with childbirth.

The position in regard to other diseases has been satisfactory.

General Sanitation.

The year under review has marked quite a considerable advance in the improvement of the sanitation of the two districts. Supervision has been exercised over all sanitary matters, and improvements have been effected in regard to rubbish-tips, nightsoil-dumps, sanitary services, drainage schemes, and offensive trades. The question of a joint refuse-destructor for the North Shore boroughs was given considerable consideration with the boroughs concerned, but no finality was reached.

Some of the more important sanitary improvements effected during the year are detailed below :—

North Auckland Health District.—Kaitaia : Nightsoil-removal and refuse-collection service instituted. Open drain provided to take drainage-water.

Whangarei : New drainage by-laws adopted. Present sewers not large enough, and Council urged to consider the question of sewerage extensions, also to install sealed-pan nightsoil service.

Dargaville : Daylight sanitary service commenced in October—satisfactory—no complaints.

Warkworth : Water and sewerage system extended ; all business area now sewered.

Helensville : Sewerage system extended.

Henderson : Water-reticulation scheme in progress, and nightsoil-removal service in prospect.

Devonport : Full-time Sanitary Inspector appointed as from 1st September, 1925. New plumbing and drainage regulations adopted and by-laws revised. All house-sewer connections completed.

Takapuna : Sewerage scheme in progress and reticulation proceeding. Plumbing and drainage regulations adopted.

Northcote: Main sewers and septic tanks completed in September, and house connections rapidly being made—64 per cent. completed at end of year. Plumbing and drainage regulations adopted.

Birkenhead: Little improvement. Council urged to install drainage scheme.

Coromandel-Opotiki Health District.—Thames and Paeroa: Steady progress made in house connections to main sewers.

Waihi: Urged to install drainage scheme, and action probable.

Tauranga: Nightsoil and refuse removal systems improved, and sewerage system extended.

Te Puke: Considerable sanitary improvement by providing septic-tank installations.

Whakatane and Opotiki: Both have efficient sanitary services and periodical clean-up weeks.

Water-supplies.

A great deal of work has been done during the year in supervision of the various water-supplies, and improvements have been effected by paying attention to the catchment area and by the installation of chlorinating plants.

In the two districts 100 bacteriological and nine chemical examinations were carried out during the calendar year 1925. The number of samples taken of the various supplies are detailed below:—

Bacteriological Examinations.—Lake Takapuna, 1; Takapuna Borough, 2; Devonport, 23; Northcote, 20; Birkenhead, 23; Dargaville, 19; Helensville, 2; Thames, 6; Tauranga, 1; Waihi, 1; Paeroa, 1; Whakatane, 1.

Chemical Examinations.—Lake Takapuna, 2; Devonport, 1; Northcote, 1; Birkenhead, 1; Dargaville, 4.

It will be seen from the above that considerable work in connection with water-supplies has been carried out, and this is particularly the case in regard to the Lake Takapuna supply, which provides water for the four northern boroughs. Many inspections of the catchment area have been made, and steps taken to prevent contamination of the supply—*e.g.*, prohibiting the disposal of house drainage in the area, also the keeping of cattle; the clearing of weed from the lake, and chlorination of the various supplies drawn from it. Various subsidiary sources of supply have also been inquired into.

Action has also been taken in regard to the Dargaville and Helensville supplies in order to bring the catchment areas under the direct control of the local authorities concerned, so that animal contamination, &c., might be prevented.

Food and Drugs Work.

Routine work in connection with the supervision of food and drugs sold has been duly exercised, although perhaps this work has not had that prominence given it during the year which it might have received. Summaries of the work carried out have been prepared, and are appended to this report.

In addition to this work, various labelling questions have been submitted to this office and adjudicated on during the year.

Bacteriological Laboratory, Whangarei.

Good work has been carried out by Mr. Haden, Assistant Bacteriologist, in the laboratory at the Whangarei Hospital. A total of 2,766 specimens have been examined during 1925.

SECTION 2.—TARANAKI-HOROWHENUA, WAIRARAPA-EAST CAPE, NELSON-MARLBOROUGH, AND WELLINGTON HEALTH DISTRICT.

Dr. J. Boyd, Medical Officer of Health.

Part 1.

I have the honour to submit my annual report for the year 1925.

There has been a reorganization in the sanitary department of the Wellington City Council. It now comprises three divisions: (*a*) Drainage, plumbing, and sanitary inspections; (*b*) infectious diseases and food premises; (*c*) building defects where the health of the occupants is concerned. Each division works practically under its own Chief Inspector.

I am pleased to say that during the year there has been close co-operation between these city departments, the Medical Officer of Health, and the District Office staff. Frequent visits of inspection were made by myself and Senior Inspector Middleton at the request of the City Council. Considerable progress has been made during the last year with regard to food premises generally in the City of Wellington. Special efforts have been made by the City Council Inspectors to enforce the regulations as to the structure and cleanliness of premises used for the preparation or sale of food. Much remains to be done with regard to some of the older food premises. In this connection I might say that considerable delay has taken place in the passing of the necessary by-laws prescribing conditions of license, &c., by the City Council, but I understand that this matter is now in hand.

Nelson has been visited with a view to having the food-shops, especially butchers' and fishmongers', made to comply with the regulations. Several vendors were consulted in this matter, with good results. Nelson City Council has passed the necessary by-law.

In a city of the size of Wellington, and a leading port of entry to the Dominion, a large amount of work is done by this Department in the inspection and sampling of various foods and drugs. This,

in addition to his other duties, is capably carried out by Inspector Cowdrey. In the course of the year several old and insanitary premises have been inspected by me in conjunction with the City Council officers.

It had been decided by the Wellington City Council to hold a health week. This project was abandoned owing to the proposed dates clashing with those of the general election. It was decided, however, to institute a clean-up week, which is anticipated to take place at an early date.

Mosquitoes.—Several complaints have been received from various localities in the city and suburbs. The city Sanitary Inspectors have treated the infected pools periodically during the warm weather.

Paved Roads and Streets.—Where these have been laid down, in whatever form, there is a marked improvement in the sanitary condition of the localities.

Public Disinfection.—During the year representations were made to the city authorities to erect a disinfecting and cleansing station for the purpose of dealing with infected articles, second-hand clothing, and the eradication of vermin. While agreeing as to the need for such a station, the Council had to postpone its erection owing to financial considerations.

Water-supply.—Samples of water were taken periodically from the Karori Reservoir, and the watershed occasionally examined. The crude chlorination plant is still in use.

Milk-samples.—These are taken almost daily in the City of Wellington, and inspections are periodically made of the dairies and cow-sheds. In the smaller boroughs and townships, milk-samples are taken fortnightly or monthly throughout the district. A conference was held between representatives of this Department, members of the City Council, and the city milk department with regard to the question of milk-sampling in the City of Wellington. It was agreed that this Department would undertake the necessary sampling.

Bread and Butter Samples.—These are taken monthly for weight, and for analysis as occasion requires. The regulations under the Health Act, 1920, for preventing contamination of food during manufacture or sale are gradually being enforced throughout the districts, with good results and satisfaction to the majority of vendors.

Drainage and Plumbing Regulations.—These have been gazetted by a number of local authorities, including townships and counties, who desire a standard class of work.

Infectious Diseases.—The epidemic of infantile paralysis, to which I need not now refer more particularly, terminated in April, 1925. With the exception of scarlet fever of a mild type, which has been prevalent for some months, there has been no serious increase in the notifiable infectious diseases.

Diphtheria.—In Wellington City a number of cases occurred in the vicinity of a cow-shed and insanitary watercourse. This stream (or drain) was promptly cleansed by the officers of the City Council, and the cow-shed in question was required to be removed. Other insanitary areas in close proximity to the infected premises were also put in order.

Tuberculosis.—Measures were taken to prevent the spread of this disease, and instructions are given to the householders for the benefit of the patient also. Inspectors are active in these matters.

Puerperal Fever.—Cases occurring in private hospitals are visited personally by the Medical Officer of Health, and all necessary precautions taken.

Lead Poisoning.—Fortunately these cases are rare. Four notifications were received; three of these were workers in a paint-factory, which was visited personally in conjunction with the Officer in Charge, Department of Labour, and Inspectors of this Department. Matters were thoroughly investigated.

Private Hospitals.—These are being watched and kept up-to-date as far as practicable. A special inspection of all the fire appliances and fire-escapes in Wellington City is made by an Inspector of this Department in conjunction with a City Council Inspector.

I desire to express my sincere appreciation of the willing co-operation accorded to me by the staff of the Wellington District Health Office and the Inspectors in charge of the outlying districts.

Part 2.

Dr. W. B. Mercer, Medical Officer of Health.

I have pleasure in forwarding my annual report for the year 1925.

The proportion of urban to rural population is not unduly large considering the present-day trend of influx of the population from the country to the town, but it does show that in these two districts, which include only one town with a population of over twenty thousand, the tendency is towards urban rather than rural life. An urban population is, on the whole, more exposed to disease and infection than a rural one, and has a higher morbidity and mortality rate. It can therefore be reasonably assumed that the Health Department's preventive measures for infectious disease are adequate and well carried out by our Inspectors, because, in spite of the increasing urban movement of the population, the morbidity and mortality rate of infectious disease is steadily declining.

The executive administration of these two large health districts is carried out by thirteen departmental Inspectors of Health (who are directly under the control of the Medical Officer of Health and the District Office) and some fourteen or fifteen local-authority Sanitary Inspectors. As regards our own Inspectors, I wish to say at the outset of my report that no senior and controlling officer could wish for more loyal or willing and active officers under him. Tact and common-sense above the average is required from them in many difficult circumstances, and as far as my experience goes our Inspectors always exercise it. Although I am not so much in contact with the Inspectors of local authorities,

I know for the most part that they carry out their duties conscientiously and to the best of their ability. Their duties, too, are responsible and extensive. There is possibly a tendency to utilize their services too much in the direction of revenue-collecting, and to allow them too little time to devote to their primary duties as Sanitary Inspectors. In my opinion, more information and co-operation could be willingly obtained from these Inspectors.

Diphtheria.

This infectious disease has been fairly uniformly prevalent throughout the two districts, with one striking exception—viz., the Hawke's Bay Subdistrict of the Wairarapa-East Cape Health District. During the first quarter of the year, when infantile paralysis was in evidence, and the accommodation existing at some of the larger hospitals, notably Palmerston North and Wanganui, was severely taxed, fortunately diphtheria notifications were very few. In the late autumn, however, cases began to be notified more freely, which continued through the winter and spring. It is not necessary to go into statistical details of the incidence of this disease in either one or both of the two health districts, but I have taken the incidence of diphtheria from the notifications received in the six larger boroughs—Gisborne, Napier, Hastings, Palmerston North, Wanganui, and New Plymouth—containing a population of nearly 100,000, and I find that Gisborne has the highest case-rate—viz., 43·8 per 10,000 of mean population; Palmerston North the next, with 35·7; New Plymouth third, with 24·9; and Wanganui fourth, with 10.0. Then there is an extraordinary drop to Napier, with only one notified case, and Hastings, with only five. What is the reason for this extraordinary difference of morbidity-rate? It cannot be entirely due to immunity, either natural or artificial, for although diphtheria was unduly prevalent in the Hawke's Bay District some six or seven years ago, and has been gradually declining since, there are hundreds of children of age 1 to 5 who have not had the disease; and, further, no artificial immunization by means of any prophylactic vaccine has been carried out in this district. In the absence of any scientific bacteriological evidence to account for this decline in morbidity in this particular subdistrict we are driven to a conclusion—possibly quite an erroneous one—that the decline is the result of preventive measures which have been carried out in previous years.

Other Infectious Diseases.

There is nothing to call for any special comment. Scarlet fever maintains about its usual incidence, but is generally a very mild type of the disease. Typhoid fever amongst the white population has a very low incidence, practically negligible.

No serious outbreaks of non-notifiable infectious disease, such as influenza, measles, whooping-cough, have been brought to my knowledge. Whooping-cough was, however, prevalent in the Hawke's Bay District, especially Napier Borough, in the winter. No deaths from secondary pneumonia occurred with regard to non-infectious notifiable disease. The only two diseases included in the Second Schedule of the Health Act that have been notified are hydatid or echinococcus disease and tetanus. I have been trying to obtain more information from doctors who notify cases "hydatid" as to possible origin of infection. I have not obtained anything very striking. Tetanus infection of wounds still occurs, but there have only been four cases in the two health districts during the year. I believe that prophylactic treatment is reducing the incidence of this disease, and undoubtedly the modern technique for "passive" immunization of infected patients saves lives which formerly would have died.

General Sanitation.

Our Inspectors' reports of work carried out are systematically received and filed, but unfortunately such is not the case with the local bodies' sanitary work. Reports of work done and improvements effected in general sanitation are meagre, and do not give the Medical Officer of Health much information about the sanitary progress of the town or district. The Medical Officer of Health should be able to obtain more information from local authorities, especially the larger boroughs. At present he can form only a general impression of the sanitary progress of any particular borough. From a broad view I am satisfied that the general sanitary work in most of the larger boroughs is well carried out. It is true that the Sanitary Inspector has far too many revenue-collecting offices and duties to attend to, and it is quite impossible for him to devote as much time as he ought to house-to-house inspection, which, after all, is the only way to keep down nuisances.

No extensive water-supply or drainage works have been started or completed. Wanganui City has recently increased its existing water-supply by laying down an additional main. Wairoa has practically completed its water-supply works. New Plymouth needs a new drainage scheme and additional water-supply, which will cost a considerable sum.

On the whole, refuse collection and disposal is being satisfactorily carried out. The larger boroughs are more keenly alive to the importance of this necessary sanitary duty. Gisborne has made great improvements to its insanitary and unsightly refuse-dump in the borough. I am satisfied that all the local authorities, large and small, are anxious and willing to carry out necessary sanitary improvements as far as their financial means will allow them to do so. It is always a pleasure to me to meet the executive officers of a local authority and to discuss any outstanding sanitary matter.

SECTION 3.—CANTERBURY-WESTLAND HEALTH DISTRICT.

Dr. T. F. Telford, Medical Officer of Health; Dr. Dawson, Assistant Medical Officer of Health.

I have the honour to submit this, my annual report for the year ended 31st March, 1926, the figures being those for the calendar year 1st January to 31st December (inclusive), 1925.

Infectious Diseases.

Enteric Fever.—Stray cases of this disease continue to occur in this locality from time to time, and investigation has in large part failed to find the original source of the infection. Of those cases definitely traced, two occurred as the result of drinking water from a stream at Hanmer which was contaminated by sewage gaining entrance to it through the effluents from the septic tanks discharging into this stream. A patient contracted the infection at the Timaru Hospital, probably from a patient in the bed adjoining who was suffering from this complaint.

Diphtheria and scarlatina were below the average for the last five years, diphtheria particularly so.

The outstanding feature for the year was the low incidence in lobar and also influenzal pneumonia.

A case of pellagra was notified from the Ashburton district, and this case, which ended fatally, I am of opinion constituted a true case of this disease (see my special report to you of the 22nd June, 1925).

Poliomyelitis was the outstanding feature for the first quarter of 1925, the epidemic commencing on the 24th January and terminating approximately about the 20th April. Special reports on this disease have already been furnished.

General Sanitation.

During 1925 sewers have been laid in Redcliffs and Clifton, and septic tanks installed for purification purposes. The Christchurch Drainage Board is progressing steadily with its drainage extension and the sinking of the various pumping-stations. The work is slower than anticipated owing to the amount of rainfall during last winter and early spring, this causing the subsoil waters to rise, and the work was thereby considerably hampered. The Malcolm Avenue septic tank has been converted into a pumping-station, and has not afforded any further trouble. The Christchurch Drainage Board are also attending to subsoil drainage in those areas where the subsoil-water remains unduly high, thereby tending to improve these low-lying parts from a health and a plant-growing point of view.

Water

Timaru has had the water-supply brought in to the northern portion of the borough, so that there will be very little further to be done before the whole borough is reticulated with wholesome water throughout.

The Rangiora Borough Council has had a 6 ft. well sunk in the vicinity of Ayers Street, and this is yielding quite a good supply of water. The source of this water is from shingle which carries a good supply of water, evidently derived from the River Ashley.

Rubbish-dumps.

The only dump about which I have received fairly constant complaint has been that under the charge of the Grey Council, located in the vicinity of Boundary Street. This is now very much improved, and I hope will continue to improve still further, as I have forbidden this particular Council to deposit anything other than indestructible material in this dump. The complaints were brought about by the deposit of organic matter, particularly of vegetable matter, and no special rule seems to have been followed with regard to the covering of this material, so that considerable aerial nuisance was noticeable.

Food and Drugs Work.

Food and drug work has been carried out as usual, though the prosecutions resulting from informations laid have been smaller in number than for the previous year. (See schedules attached hereto setting out the recovery of fines, and contaminated foods. Also enclosed are statistics for the current year, 1925, and showing the average for the previous five years. This latter schedule was kindly prepared by Dr. Dawson, my assistant, at my request, and I would hereby acknowledge my indebtedness to him for completing these figures.)

Changes during Year.

Mr. Grigg, District Analyst, succeeded Mr. Bickerton in carrying out the analyses under the headings of food and drugs required by this Department.

An outstanding feature of the year was the closing of the Leper Station at Quail Island by the transfer of the patients from Lyttelton to Mokogai.

In conclusion I would thank my staff, both inspectorial and clerical, for the capable manner in which they have supported me throughout the year. This loyal support, together with a right sense of duty, has contributed largely to the success of the operations of the Department in this district for the year now cited.

SECTION 4.—OTAGO-SOUTHLAND HEALTH DISTRICT.

Dr. Crawshaw, Medical Officer of Health; Dr. Shore, Assistant Medical Officer of Health.

I beg to submit the following report on the Otago-Southland Health District for the year ended 31st March last.

Notifiable Diseases.

During the calendar year 1925 the notifiable diseases reported numbered 883, as against 815 in 1924 and 729 in 1923, being an increase of 68 more than the 1924 figures and 154 more than the year

1923. The diseases which were chiefly responsible for the increase in 1925 were—Poliomyelitis, 104 (2 in 1924); tuberculosis, 280 (192 in 1924); hydatids, 15 (6 in 1924); eclampsia, 9 (2 in 1924). Otherwise the incidence of notifiable diseases in this health district during the year was light. The following diseases showed a considerable decrease in 1925 as compared with the previous year; scarlet fever, 94 (123 in 1924); diphtheria, 199 (281); enteric fever, 9 (15); erysipelas, 31 (40); acute primary pneumonia, 80 (97).

Poliomyelitis.—The outbreak began in February, when 12 cases were reported, followed by March, 35; April, 20; May, 18; June, 9; and July, 2. In the Oamaru district 25 cases were notified, and 62 in Dunedin and vicinity. A full report of the epidemic was forwarded to you on the 19th August last. Investigations made at the Dunedin Hospital as to the number of patients receiving treatment for the after-effects of the disease disclosed that most of the cases were being treated by Mr. Renfrew White, who stated that out of 13 cases receiving after treatment 4 have completely recovered, 5 have made very considerable recovery and are still improving, 3 have practically made no recovery, and 1 after a month's treatment failed to report.

Diphtheria.—The total number of cases notified for the year was 199, in comparison with 281 in 1924 and 91 in 1923. In Dunedin and adjoining localities 113 cases occurred.

Enteric Fever.—Nine cases occurred in 1925, as compared with 15 the previous year. The localities were—Roxburgh, 1; Dunedin, 1; Oamaru, 2; Clyde, 2; Colac Bay, 1; Invercargill, 2. All cases were investigated with the object of locating carriers; however, nothing eventuated.

Food and Drugs.

Foods analysed or weighed.—During the year 386 statutory samples of various foods were taken for analysis, and 1,493 articles were weighed. The number of food premises inspected was 2,546.

Food-supplies seized and destroyed.—In addition to large quantities of foods examined and passed, the following goods were seized and destroyed, some in lots of various sizes: 14 cases sardines, 50 cases lemons, 12 rolls bacon, 50 cases kippered herrings, 27 sacks Barcelona-nut kernels, 20 sacks lentils, 109 tins Morton's herrings in tomato-sauce, 20 cases French walnut halves, 83 cases grapes, 435 mutton-birds, 4 cases mandarines, 19 cases pears, 1 box lollies, 1 tin lollies, 4 lb. rasins, 17 sacks Barcelona nuts, 1 ham, 3 benzine-cases rabbit-carcases.

Improved Methods.—The inspections of numerous food premises and vehicles during the year disclosed that most manufacturers and vendors have made still further improvements in their methods in addition to the progress noted in our report for 1924–25. Two more bakers in Dunedin have adopted the system of bread-wrapping at the bakehouse, which indicates that this improved method will soon become much more general in large centres.

Private Hospitals.

During the year the private and maternity hospitals of Otago and Southland have been visited three times, and more frequently when necessary. Improvements have been made in the equipment of a number of the private hospitals, several having installed high-pressure sterilizers and better facilities for the washing and storing of utensils. Very few improvements have been made in the cottage maternity hospitals. Most of the midwives in practice have been visited and their bags inspected. The bags are in excellent order. Fewer unregistered homes were visited than usual. These unregistered nurses are not taking so many patients into their homes as heretofore.

New Zealand and South Seas Exhibition.

The Exhibition, which commenced at Logan Park on the 17th November last, has thrown a considerable amount of extra work on to the officers of the Department in Dunedin. In addition to work on our own display, our officers were called upon to exercise supervision over the construction of food premises and sale of food to the public. The sanitary work in connection with the Exhibition buildings was also dealt with.

Inspector Armour was detailed for the duty of supervising the Department's section. During the time he was thus engaged the work of his district was carried on by Inspectors Craighead and Gooding.

Beside the departmental exhibit, the handling, classifying, and setting-up of the Wembley exhibits, which arrived in January last, entailed a large amount of work. It was unfortunate that owing to lack of space the whole of these interesting exhibits could not be shown.

The public have evinced keen interest in the departmental display, and the attendants have been kept busily engaged giving demonstrations, distributing literature, and answering numerous inquiries.

Lectures on suitable subjects have been delivered by Professor Hercus, Dr. Shore, Dr. Hector, Dr. Storms, Dr. Pickerill, Dr. Steenson, Mr. Armour, Mr. Clayton, and myself. These lectures were broadcasted, and from the numerous inquiries received there is every reason to believe that they fulfilled a very useful purpose in public-health propaganda.

PART IX.—SPECIAL GOVERNMENT HOSPITALS AND SANATORIA: EXTRACTS FROM ANNUAL REPORTS OF MEDICAL SUPERINTENDENTS.

SECTION 1.—QUEEN MARY HOSPITAL, HANMER.

Dr. P. Chisholm, Medical Superintendent; Dr. W. Sowerby; Miss E. Hodges, A.R.R.C., Matron.

I have the honour to present to you the annual report of the Queen Mary Hospital, and a report on other activities of the Department of Health at Hanmer.

General.—During the past year there has been an increase in the number of civilian patients admitted, and a continue dreduction in the number of service patients. The type of patient seeking admission has gradually changed from the hysterical type which has been common in the past to a type tending more towards the severe anxiety neurosis, depressions, and insomnias.

Women's Hospital.—The Women's Hospital has not had any unoccupied beds during the year, and it has been necessary to extend the accommodation by taking in the waiting-rooms and erecting small shelters. Amongst the women patients there has been a large number admitted suffering from the impulsive neurosis. The results of treatment at the Women's Hospital have been satisfactory. Possibly this is due to the fact that women can be retained longer in hospital than men, and thereby their condition being more stabilized.

New Hospital for Women.—The building has progressed satisfactorily and is now practically completed, although it may be some two or three months before we will be able to admit patients. With the number of patients presenting at the present rate it will be necessary to maintain both the new Hospital and the present Hospital for Women.

Massage Department.—This department has continued to do good work under the charge sister. The staff employed has varied from two to three masseuses and one masseur. This staff deals with all in-patients of the hospital and a very considerable number of out-patients.

Farm.—The work on the farm has proceeded satisfactorily. The new farm-manager appears to be a competent and hardworking man. An extra 80 acres of Crown land was taken at the latter part of last year, and this is gradually being broken up and sown down in grass. It should prove a very valuable asset to the farm.

Mr. Bruce, Agricultural Adviser, has paid frequent visits, and we are very indebted to his advice for the successful management of the hospital farm. During the year the institution has been adequately supplied with milk.

Bathhouses.—The public bathhouses have been kept in a reasonable state of repair. Owing to their age it is very difficult, and they are becoming an increasing source of expense from point of view of maintenance. They are very popular, and I am of opinion that the Department will have to consider shortly some very definite scheme as to the future of these buildings.

Red Cross.—The Red Cross has maintained the recreation-hut for the male patients and provided entertainment for them. During the past year we have been very much indebted to them for their activities.

Motor Transport.—During the year all motor transport has been taken off the road and all carting and passenger traffic has been dealt with by contract. I am quite sure that owing to the reasonable contract that has been arranged there is going to be a considerable saving to the Department.

Alterations and Improvements.—The number of minor alterations in the hospital have been carried out by the maintenance staff. An extra cloak-room and boot-room has been added to one of the wards for convenience of patients, and has proved very satisfactory. The laundry has been extended, and an extra ironing-room and storage-room has been added. The laundries are not well equipped with machinery, but at the same time the work appears to be done fairly satisfactorily. In respect to all improvements and alterations we have been very much indebted to Mr. Allan, Technical Inspector of the Department, for his advice and help.

Water-service.—The new water-main has been completed from the reservoir to the village. This work has been carried out by the Public Works Department. The new main should save the Hospital and the village residents much inconvenience, and also save the Department the heavy expense that was being entailed by the constant repair of the old wooden-pipe line.

Electric Plant.—The present machine works at full load, and a further extension of lighting is not possible without increasing the number of machines. A contract has recently been let to build the new power-house, and an extra machine and a standby petrol set will be installed in the new building. The residents of the village have been agitating for a very considerable time for electric light, but are now quite satisfied that there is a prospect of obtaining power from the Department.

Gardens.—The Hospital gardens and the public grounds have been well cared for, and the institution has been well supplied with fruit and vegetables.

Kiosk.—The work has been carried on satisfactorily at the Kiosk. The receipts are enough to pay the running-expenses, and the loss for the past year has been less than in previous years.

Staff.—There has been the usual number of changes among the junior staff and a few changes amongst the senior staff.

I attach the statistics for the year.

I would take the opportunity of expressing my appreciation of the loyal services of the Hospital staff to the institution.

I beg to thank the Hon. the Minister of Health and yourself for the support and advice which I have received during the past year.

SECTION 2.—KING GEORGE V HOSPITAL, ROTORUA.

Dr. W. Stanley Wallis, Medical Superintendent; Dr. Dorset; Miss Searrell, A.R.R.C., Matron.

I have pleasure in submitting my annual report on the work of this Hospital for the year ending 31st March, 1926.

As a general commentary on the work of the institution we would state that this year the influence of the recent epidemic of infantile paralysis has been felt by us to a considerable extent, and it is pleasing to know that we were able to accommodate without undue difficulty all those who were referred to us.

The general work of all the departments has proceeded evenly and satisfactorily, and requires no special comment. The training of probationers is proceeding satisfactorily, and it is pleasing to note that those who have sat for their State examination have passed with honours. The general efficiency of their training is in no small measure due to the tutor-sister, an appointment which, it seems to me, should be a regular feature of our hospital system. I beg to make here an appreciative reference to the high quality of the work and the devotion to duty of my senior sisters, some of whom have been on the Hospital staff for a number of years.

Physio-therepeutic Department.—This department has been efficiently staffed throughout the year and has worked well. During the year 37,661 treatments have been given.

Plaster Department and Operating-theatre.—During the year 526 plaster operations have been performed, and the work in this department has proceeded evenly and satisfactorily.

In addition the number of major surgical operations performed was 565.

I beg to express my appreciation of Dr. Dorset's services as an anæsthetist, and of the co-operation and support of the sister in charge of the theatre and plaster department. There have been no anæsthetic deaths during the year under review.

X-ray Department.—The total number of exposures made throughout the year was 1,160, and of these 128 were done at the request of outside medical men. The number of splints and appliances made during the year was 260, and the number of repairs effected 52. The number of surgical boots manufactured during the year was 237 pairs, and the number of repairs 215 pairs.

The services of these two departments are being requisitioned to a considerable extent by medical men and Hospital Boards, and we are hard put to it to keep pace with the orders received.

Infectious-diseases Hospital.—During the past year seventy-five cases have been treated at this Hospital. No serious infectious epidemics have occurred throughout the period, and the resources of this section of the hospital have not been unduly taxed.

Buildings and Grounds.—I beg to report that the buildings and grounds have been well cared for, and the general appearance of the Hospital is such as to evoke generally favourable comments on its appearance.

During the year, at the request of the respective Hospital Boards, I have visited both the Tauranga and Opotiki Hospitals for the purpose of conferring with the Medical Superintendents relative to the management and treatment of certain special cases.

I beg to acknowledge our appreciation of the services rendered during the year by the Red Cross Society, Patriotic Society, the Rotorua Women's Club, and many other friends who have contributed their time, money, or its equivalent, to the welfare of our patients. Finally, I beg to thank the Hon. the Minister of Health and yourself for your advice and help throughout the year, and the courtesy that has at all times been extended to us.

SECTION 3.—OTAKI SANATORIUM AND HOSPITAL.

Dr. A. H. Curtis, Medical Superintendent; Miss M. Pownall, Matron.

In submitting an analysis of cases treated at the Sanatorium during 1925 the results may be considered satisfactory. The number of cases discharged with the disease quiescent—55 per cent.—compares favourably with former years, although the class of case admitted has again shown an undue proportion of borderland cases. These are the cases in which some extra agency in treatment is required, and in which tuberculin, vaccine, colloid calcium, &c., have all been given careful trial, but without much effect. In certain cases Dreyer's vaccine appears to do good, and is still in use here, but no such agency stands out with as much success, in selected cases, as the induction of artificial Pneumothorax; but in order to use this intelligently an X-ray apparatus is necessary.

The number of applications for admission steadily increased during the year, and it was found necessary to add to the institution without delay. New buildings to accommodate twenty patients are now in course of construction; ten beds to be added to the "deck," and ten in a new line of outlying shelters, which should prove sufficient for present requirements. If, however, a few additional beds can be obtained by using one ward of the Hospital for bed cases they will be of more use than their actual number indicate, as being entirely away from the Sanatorium. A few alterations to the Hospital building will be required before these beds can be used.

The work of the Sanatorium itself has been carried on successfully during the year. Everything has been done that is possible to make for contentment among the patients, and to this end it is with pleasure that we look forward to the addition of a cinema apparatus for the new dining-room.

The supply of food has been of excellent quality and well cooked, the chief items—namely, milk, mutton, and vegetables—produced on the farm being of particularly good quality, and all three of first importance in a sanatorium dietary.

The alterations to the main building are now practically completed, and a great improvement has been effected in the accommodation for the nursing staff; also the kitchen arrangements are much improved, as well as the quarters for the domestic staff, &c.

The farm under the Agricultural Department has done very well during the year, and the supply of milk and mutton has been ample and of good quality. The egg-supply, too, has been satisfactory. A contract has been let for clearing seven and a half acres of peat swamp to the west side of the main road, and this is to be planted in blue-gums and flax in order to keep the ground free from noxious weeds. With regard to the grounds and gardens, considerable improvements have been carried out during the year. New flower-beds have been laid out in the gardens near the main entrance, and a rose-garden planted on the old tennis-court has made a fine display all the summer.

Engineering.—The work of this department has been carried on satisfactorily. The engine-house and machinery have been kept in good order, and a proper supply of water and lighting power maintained.

SECTION 4.—PUKEORA SANATORIUM, WAIPUKURAU.

Dr. G. Maclean, Medical Superintendent; Dr. G. M. Scott, Assistant Medical Superintendent; Miss M. Thurston, C.B.E., Matron.

The work of the Sanatorium in all departments has proceeded very satisfactorily throughout the year. The number of patients treated is on a par with last year's figure, and the results of treatment, as disclosed by the figures, may be deemed very satisfactory. The usual hospital classification relating to the condition on discharge can hardly be applied to pulmonary tuberculosis, but the sixty cases marked "recovered" are those cases of arrested disease who were put to moderately severe exercise tolerance tests before discharge, and the results are about the average obtained with Sanatorium methods.

The class of case referred to us for treatment has not been as good on the average as last year; in fact, it has proved a rare and pleasing experience during the year to receive a truly early case of pulmonary tuberculosis, and it would appear that many cases are still being kept under observation until there is an unmistakable open lesion with positive sputum.

The average period of treatment per individual patient has increased to between six and seven months. When the cases treated are all of stages two and three of the disease this period can hardly be lessened if any lasting benefit is to accrue from such treatment.

There have been forty readmissions during the year, thirty-five of these being ex-service patients, for whom re-entry is, of course, much more easily arranged than for the civilian patients.

Examining-work for the Pensions Department has shown steady increase during the last three years, comparison of figures showing the number of patients reporting daily for the past four years to be—1922–23, 85; 1923–24, 99; 1924–25, 123; 1925–26, 121. In addition, this year some fifty-odd cases of belated claims for pensions have been fully investigated as to attributability of the condition to war service, and reported on for the Pensions Appeal Board.

Temporary Women's Section.—It was found necessary in February of this year to make provision for temporary accommodation for women patients until such time as accommodation could be fully provided for at the Otaki Sanatorium. The new ward has proved a very useful block for the care of these patients, fifteen women having been admitted. Accommodation is available for nine more cases. This provision necessarily limits our accommodation for cot cases amongst the men, but the difficulty at present is being easily surmounted.

Treatment.—This has followed the usual Sanatorium lines, the administration of tuberculin in its varied forms being used. Sodium morrhuate and nascent iodine have proved useful adjuncts in the treatment of selected cases. Sunlight therapy continues to be used as formerly with good results, a special sun-bathing enclosure proving very useful for such cases deemed suitable for the treatment. Additional medical work has been performed in an extensive survey of cases at the request of Dr. Hercus in regard to the Von Pirquet test in tuberculosis.

Staff.—I have to accord my high appreciation of the work of the staff under my direction, and to thank them for their loyal support throughout the year. The nursing service has been maintained at a very high level. The work of the nurses, never easy, is particularly exacting in the treatment of such a complaint, and their work has been mostly responsible for the good results of treatment throughout the year. The only staff change of note has been the appointment of Dr. G. M. Scott as Assistant Medical Officer to replace Dr. N. R. Mackay, who resigned on the 28th February last.

Buildings.—The completion of the new kitchen block is eagerly awaited, the work having been delayed in awaiting the arrangement of the engineering services, now being taken in hand. Much maintenance repair work has been carried out satisfactorily by our own staff during the year. Alterations to the residence of the Assistant Medical Officer have also been satisfactorily completed.

Rewiring.—The Public Works Department's contract for the rewiring of the Sanatorium for the distribution of the Mangahao current is almost completed.

X-ray.—The new plant is at present in process of installation, and will provide a much-needed additional service to the institution.

Dispensary.—The dispensary of the institution is still responsible for the supply of drugs to the twenty dental clinics in the Wellington District and for the thirty-two Native schools. In regard to institutional supplies, there has been a considerable saving in the matter of drugs for the year.

Vocational Instruction.—The lessening of our activities in this department did not warrant the retention of the services of the vocational instructress in basket and leatherwork. The handling of supplies and the supervision of this work has been placed in the hands of the remaining vocational instructor in carpentry. This department supplied much material for the Department's exhibit at the Dunedin Exhibition, and various articles in leather and suede work, and also basket and raffia work, as well as fancy needlework, were forwarded to the Exhibition as arranged. All these articles were the work of patients while under treatment. In addition a model shack (valued at £40), as used at the Sanatorium, was constructed by the vocational carpentry instructor, and made an acceptable addition to the exhibit.

Orchard and Kitchen Garden.—Reorganization was effected on Mr. Bruce's recommendation in September last. The staff was increased to three—one head gardener and two assistant gardeners being appointed. Although considerable quantities of fruit and vegetables have been supplied to the institution, we cannot expect good results until next season. It is anticipated that next year the whole of our vegetable-supply will be provided by our own kitchen-garden. The orchard is now in a very clean condition, and a very fine crop of apples has been gathered this season.

Farm.—Despite excessive drought conditions prevailing in this district, the supply of milk and cream from the farm has been well maintained, surplus butterfat being sold during the flush of the season. Seventy gallons of milk of exceedingly good quality is the average daily supply to the institution. I have to thank the Superintendent of Government Farms for much helpful advice throughout the year in the matter of the control of the farm and its activities.

Poultry Section.—All our requirements have been met, and, in addition, during the greater part of the year eggs have been supplied to King George V Hospital, Rotorua. To the Otaki Sanatorium 120 laying-birds were supplied. The total output is shown at 9,500 dozen eggs for the year. Fourteen dozen eggs have been supplied daily for the institution's needs, while 1,000 dozen have been preserved. This effort speaks for itself. In passing I desire to very highly commend the work of our Poultry Overseer in producing such fine results in such an essential service.

Red Cross.—No report would be complete without mentioning the very great contribution made to the welfare of all patients by the activities of the Red Cross Society. Week by week we have been in receipt of a considerable quantity of gifts from the various branches of the society in this district, as well as receiving much financial help from the executive of the Red Cross in Wellington in procuring moving-picture films, tobacco, &c.

Wireless.—The wireless receiving-set, provided for from the Patients' Recreation Fund, and erected towards the end of 1924, continues to give good service to the patients. The fact that most of the broadcasting programmes commence late in the evening, after the patients' bedtime, somewhat limits its usefulness.

During the year the institution was frequently visited by the Director-General of Health, and on one occasion by Dr. Watt as Acting Director-General of Health. The various inspecting officers of the Department have also visited the institution and given helpful advice. My thanks are due to Dr. Valintine particularly for very much help and advice again this year.

SECTION 5.—STATISTICS OF PATIENTS FOR THE YEARS 1923, 1924, 1925, 1926.

	King George V. Hospital.				Queen Mary Hospital.				Otaki Hospital.				Otaki Sanatorium.				Pukeora Sanatorium.			
	1923.	1924.	1925.	1926.	1923.	1924.	1925.	1926.	1923.	1924.	1925.	1926.	1923.	1924.	1925.	1926.	1923.	1924.	1925.	1926.
Number of patients in hospital at commencement of year	180	150	93	110	82	102	66	93	9	4	9	5	36	40	31	41	144	119	107	124
Number of patients admitted during year	598	524	838	1,021	379	463	453	297	169	169	145	156	76	80	82	67	273	264	226	207
Total admitted	778	674	931	1,131	461	565	519	390	178	173	154	161	112	120	113	108	417	383	333	331
Patients discharged cured	177	225	461	567	136	152	144	96	124	118	91	79	..	45	51	37*	9	15	101	60*
Patients discharged relieved	349	301	270	315	202	269	238	173	23	22	48	48	57	27	9	19	30	18	70	138
Patients discharged unrelieved	73	34	56	77	14	14	30	23	16	18	4	17	15	8	5	9	240	234	26	20
Patients who died	29	21	34	41	..	3	3	2	11	6	6	9	..	2	1	1	19	20	13	7
Patients transferred to other hospitals	..	..	..	..	7	22	11	10	..	..	..	..	..	7*	6*	1	..	..	..	..
Patients remaining in hospital at end of year ..	150	..	110	131	102	..	93	86	4	9	5	8	40	31	41	41	119	96	123	106
Total patients treated	778	674	931	1,131	461	565	519	390	178	173	154	161	112	120	113	108	417	383	333	331
Average daily number of patients treated	196	122	108	109	90	95	95	65	7·5	..	..	..	..	..	..	..	139	120	121	114
Average mean residence (*d* = days; *m* = months) ..	73*d.*	104*d.*	54*d.*	74*d.*	54*d.*	61*d.*	67*d.*	83*d.*	15·3*d.*	..	..	..	6½*m.*	147*d.*	217*d.*	189*d.*	118·4*d.*	117·75*d.*	192·33*d.*	204·4*d.*
Total number of deaths within 24 hours of admission	4	4	4	3	Nil	Nil	Nil	Nil	3	2	1	1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Rate of mortality per cent. over total cases under treatment	3·21	2·52	3·22	3·30	..	..	..	..	6·1	1·2	4·0	5·5	..	6·09	3·03	0·92	0·04	0·19	0·25	2·11
Total number of operations performed	369	345	424	565	Nil	Nil	Nil	Nil	28	4	42	55	..	..	..	..	Nil	Nil	Nil	Nil
Rate of mortality per cent. of operations	Nil	Nil	0·23	Nil	Nil	Nil	Nil	Nil	3·5	3·65	Nil	Nil	..	..	..	..	Nil	Nil	Nil	Nil

* Readmissions after temporary discharge.

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