

1947
NEW ZEALAND

DEPARTMENT OF HEALTH

ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH

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

HON. M. B. HOWARD, MINISTER OF HEALTH

REPORT

The DEPUTY 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 1946-47.

VITAL STATISTICS

(The figures given include Maoris unless otherwise stated)

Population.—The mean population of the Dominion for 1946 was 1,761,399, an increase of 66,685 over the figure for the previous year (European, 1,659,145 ; Maoris, 102,254).

Births.—The registered live births numbered 47,647 (European, 41,871 ; Maori, 5,776), the highest ever recorded in New Zealand history. The birth-rate was 25·24 per 1,000 of mean population for Europeans and 56·49 per 1,000 for Maoris. The European birth-rate is the highest since 1917.

Deaths.—Deaths numbered 17,720 (Europeans, 16,093 ; Maoris, 1,627). The respective crude death-rates were 9·70 per 1,000 mean population for Europeans and 15·91 per 1,000 for Maoris.

Infant Mortality.—The infant-mortality rate was 26·10 per 1,000 live births for Europeans and 74·62 per 1,000 live births for Maoris. The European rate represents a new low record for European infant mortality.

The following table shows details of infant mortality for the years 1940-46 inclusive :—

Infant Mortality in New Zealand, 1940-46 (per 1,000 Live Births)
(Europeans only)

Year.	Under One Month.	One Month and under Twelve Months.	Total under Twelve Months.
1940	22·03	8·18	30·21
1941	20·00	9·77	29·77
1942	18·73	9·98	28·71
1943	21·27	10·10	31·37
1944	20·60	9·52	30·12
1945	19·59	8·40	27·99
1946	19·08	7·02	26·10

Analysis of Deaths of Infants under One Month, 1945

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.
Diphtheria	..	..	..	..	..	..
Whooping-cough	..	..	..	..	..	..
Influenza	..	..	..	..	..	..
Syphilis	..	..	..	1	..	1
Convulsions	..	1	..	..	..	1
Broncho-pneumonia	..	6	6	1	2	15
Pneumonia	..	2	5	1	1	9
Diarrhoea and enteritis	..	..	3	1	1	5
Congenital malformations	20	52	21	8	5	106
Congenital debility	5	9	1	1	..	16
Injury at birth	39	54	9	1	1	104
Premature birth	216	120	9	9	5	359
Other diseases of early infancy	27	45	8	2	2	84
Other causes	5	4	8	3	5	25
Totals—						
1945	312	293	70	28	22	725
1944	289	270	76	43	14	692
1943	254	284	61	25	21	645
1942	260	264	54	26	25	629
1941	280	293	70	38	21	702
1940	288	318	72	26	18	722

Still-births.—The registered still-births were 21·75 per 1,000 total births for Europeans. The corresponding Maori figure is not available.

The following table shows the death-rates for still-births and deaths of infants under one month of age for the years 1941-46 :—

Rates per 1,000 Total Births
(Europeans only)

Year.	Still-births.	Under One Day.	One Day and under Two Days.	Two Days and under One Week.	One Week and under Two Weeks.	Two Weeks and under One Month.
1941	26·92	7·76	2·49	5·63	1·94	1·64
1942	25·85	7·54	2·50	5·16	1·57	1·48
1943	26·25	8·16	3·53	5·59	1·96	1·48
1944	23·23	8·40	2·50	5·35	2·21	1·66
1945	22·84	8·24	2·43	5·30	1·85	1·32
1946	21·75	8·04	2·90	4·84	1·77	1·12

Maternal Mortality.—Here again the Maori figures are not available.

For Europeans the maternal-mortality rate, including deaths from septic abortion was 2·05 per 1,000 live births, as compared with 2·24 in 1945. After excluding deaths from septic abortion, the rate was 1·76 (1·94 in 1945).

Summary of Vital Statistics, 1946 :—

	European.	Maori.	Combined.
Population, mean	1,659,145	102,254	1,761,399
Birth-rate per 1,000 population	25·24	56·49	27·05
Death-rate per 1,000 population	9·70	15·91	10·06
Infant-mortality rate per 1,000 live births	26·10	74·62	31·99
Death-rate, tuberculosis, all forms, per 10,000 population	3·38	39·04	5·43

This table shows at a glance the main differences between the European and the Maoris in respect of vital statistics.

PRINCIPAL CAUSES OF DEATH

(Europeans only)

The following table gives the main causes of death for the year 1945, and the death-rates therefrom per 10,000 of mean population for that year and the preceding four years. Owing to the difficulty of obtaining detailed statistics so early in the year, no attempt has been made, as in previous years, to supply this information for the year immediately past. The corresponding figures for 1946 will appear in next year's annual report.

Cause.	1945.		1944 : Rate.	1943 : Rate.	1942 : Rate.	1941 : Rate.
	Number.	Rate.				
Heart-disease (all forms)	5,655	35·48	33·49	33·68	36·41	31·55
Cancer	2,213	13·88	14·02	13·85	13·13	13·18
Violence	784	4·92	5·37	6·06	5·76	5·64
Pneumonia	222	1·39	1·32	1·41	1·52	1·48
Pneumonia (secondary to influenza, whooping-cough, and measles)	32	0·20	0·31	0·17	0·81	0·38
Bronchitis	181	1·14	1·14	1·40	1·36	0·94
Broncho-pneumonia	283	1·78	1·82	1·67	2·11	1·98
Tuberculosis (all forms)	603	3·78	3·81	3·72	3·94	3·88
Kidney, or Bright's, disease	417	2·62	2·80	2·83	3·19	3·66
Apoplexy or cerebral hæmorrhage	1,636	10·26	9·28	9·79	9·90	8·95*
Diseases of the arteries	251	1·57	1·23	1·22	1·22	1·14*
Senility	463	2·90	2·94	3·17	3·02	3·13
Diabetes	319	2·00	2·10	2·16	2·28	2·22
Hernia and intestinal obstruction	125	0·78	0·74	0·65	0·74	0·73
Diseases and accidents of childbirth (puerperal mortality)	83	0·52	0·58	0·44	0·55	0·76
Appendicitis	60	0·38	0·50	0·47	0·44	0·55
Diarrhoea and enteritis	125	0·78	0·64	0·58	0·50	0·54
Epilepsy	45	0·28	0·30	0·46	0·53	0·43
Common infectious diseases—						
Influenza (all forms, including pneumonia)	53	0·33	0·40	0·42	1·61	0·49
Diphtheria	42	0·26	0·19	0·21	0·16	0·11
Whooping-cough	8	0·05	0·29	0·11	0·03	0·44
Scarlet fever	13	0·08	0·17	0·01	0·01	0·01
Typhoid and paratyphoid	3	0·02	0·02	0·02	0·05	0·05
Measles	10	0·06	..	0·05	0·20	0·03

* Owing to an alteration in the international agreement as to the allocation of deaths to various causes, the figures for these two conditions are not separately comparable with the figures for years before 1940.

REPORTS OF DIVISIONAL DIRECTORS

DIVISION OF PUBLIC HYGIENE

INFECTIOUS DISEASES

Diphtheria.—During 1946 there were 1,683 cases of diphtheria (Europeans, 1,577; Maoris, 106), and since 1931 a yearly total of cases exceeding 1,000 has occurred on only one other occasion.

The distribution of the disease has been remarkable, in that the districts most seriously affected have been in the North Island, while the South Island, as in previous years, has largely escaped. The seven most northerly health districts, with a total population of approximately 914,282, had 1,451 cases, or an incidence of 15·87 per 10,000 population. The South Island, excluding Nelson-Marlborough, with a population of approximately 503,590, had 48 cases, or an incidence of 0·95 per 10,000 population. Central Wellington and Nelson-Marlborough Health Districts, with a combined population of 277,401 and 178 cases, occupied an intermediate position both geographically and with reference to their diphtheria incidence rate of 6·42 per 10,000.

Diphtheria among Maoris.—The notified cases of diphtheria among Maoris numbered 106, representing a rate of 10·6 per 10,000, compared with the rate of 15·87 per 10,000 for the Europeans in those parts of the Dominion in which the majority of Maoris live.

It was previously thought that the Maori was relatively immune to diphtheria, but if this was ever so he would seem to be losing this immunity. In 1932, when 802 cases were notified among Europeans, there were only 3 Maori cases, and the respective rates were 5·51 for Europeans and 0·42 for Maoris. From 1932 onwards the incidence of diphtheria among Maoris has increased steadily, although during most of this period the diphtheria rate amongst Europeans was practically constant. The Maori rate has increased from 0·42 in 1932 to 1·81 in 1936, 3·22 in 1938, 4·37 in 1942, 8·10 in 1945, and 10·6 in 1946. So definite has this trend been that in the Wellington - Hawke's Bay District, in which the Maori population numbers 12,440, the diphtheria incidence in 1946 was actually higher among the Maoris than among the Europeans. It is evident that at the present time the Maori is as susceptible to diphtheria as the European.

The History of Diphtheria in New Zealand.—Prior to 1901 the only authentic record of the incidence of diphtheria is to be found in the returns of deaths from diphtheria and croup. The death-rate in 1872 was 5·45 per 10,000 population, and increased to 8·47 per 10,000 in 1874. In that year the deaths numbered 270 out of a total population of 297,654, and despite a steady growth in population the number of deaths has since only once exceeded this figure. After 1874 the diphtheria death-rate dropped fairly steadily, with interruptions in the decline in 1882, 1888, and 1892. In 1892 the death-rate was 4·38 per 10,000 and the total number of deaths was 281—the largest in New Zealand's history. Thereafter diphtheria mortality dropped steadily to reach the low rate of 0·47 per 10,000 in 1904.

Diphtheria antitoxin was first used in New Zealand in the treatment of diphtheria in March, 1895, and thereafter its use became general. Probably its introduction coincided with a natural regression in the severity and incidence of the disease.

The Department of Health came into being in 1901 at a time when the diphtheria death-rate was below 1 per 10,000, and, compared with other infectious diseases, notably scarlet fever, enteric fever, measles, and whooping-cough, it was regarded as of little importance. In fact, the table of principal causes of death published in the annual reports for several years omitted diphtheria altogether.

In 1914 the incidence of diphtheria began to rise, and continued to do so for five years. The notifications in 1914 numbered 1,093, while in 1918 they were 5,539. The highest death-rate of this period was in 1917 with 240 deaths, or a rate of 2·18 per 10,000. In 1918 the deaths totalled 195, with a rate of 1·77. This was the year of the influenza pandemic, and for this reason very little mention of diphtheria is made in the Department's annual report.

From 1919 onwards the disease receded and the incidence dropped steadily to reach a new low level in 1934, in which year the deaths numbered 26 only, with a death-rate of 0·18 per 10,000. For the next ten years it remained low and the death-rate fluctuated between 0·1 and 0·2 per 10,000, but in 1943 the prevalence of diphtheria again increased, and in 1945 the notifications, for the first time in fourteen years, exceeded 1,000.

This latest increase in diphtheria incidence is clearly part of a world-wide resurgence of the disease. This has been particularly marked throughout north-western Europe, as the following figures will show :—

Notified Cases of Diphtheria

Year.	Denmark.	France.	Netherlands.	Norway.	Sweden.	Iire.
1939	1,106	14,019	1,273	71	188	2,087
1943	2,527	46,539	58,603	22,787	2,496	4,650
1944	3,333	40,230	..	..	4,520	5,168

In comparison with these figures, it is interesting to note the trend of the disease in England and Wales and the United States over the same period :—

Year.	England and Wales.	United States.
1939	47,698	24,391
1943	35,944	14,943
1944	29,446	14,103

Prior to the war, prophylactic inoculation against diphtheria was extensively practised in the United States, but it was not clear whether the low incidence of the disease could be attributed to this or to the general epidemiological factors affecting the world as a whole. Incidence was also low in such countries as Norway, Sweden, and the Netherlands, where little systematic inoculation was carried out. The state of affairs during 1942–44 would seem to have supplied the answer to this question. Norway and Sweden have suffered an extensive epidemic, whereas in the United States the incidence has remained low. But the outstanding example of the value of large-scale inoculation

is shown by the figures for England and Wales, where alone of all countries in north-west Europe there has been over these years a progressive marked reduction in the incidence of diphtheria.

In New Zealand a considerable number of children have been inoculated, but not sufficient to make us secure against the possibility of a serious epidemic. If anything, inoculation has been more actively carried out in the North Island than in the South Island, and yet, as has been shown, the incidence in the North Island has been sixteen times as high as in the South Island. It is clear that some other factors are at work, as was the case in Norway, Sweden, and the Netherlands before the war. Until at least 70 per cent. of the children under five years of age have been protected against diphtheria there can be no certainty that other factors may not combine to cause an epidemic. With the medical staff at present available to the Department this represents an impossible achievement without considerable help from private practitioners. For this reason the Department is concentrating on children of seven years and under, who are the most susceptible. The ideal to be arrived at is the inoculation of every child at six months of age, with a reinforcing dose on entering school at five.

Scarlet Fever.—Notifications numbered 1,465 (Europeans, 1,454; Maoris, 11), compared with 5,081 for 1945. The last peak of scarlet fever incidence was in 1944 with 7,622 notifications.

Enteric Fever.—There were 98 cases of enteric fever (Europeans, 49; Maoris, 49), and of these 15 were paratyphoid fever. Of the Maori cases, 18 were concerned in one outbreak at a pa in the Rotorua district. The water-supply was from shallow wells that were probably polluted from pit privies in the close vicinity. Immediate steps were taken to obtain for the pa a piped supply of good water from the neighbouring borough.

During June–July there was an outbreak involving 8 cases and 1 death in Southland. Two families only were concerned, and the source of infection was thought to be a woman who was a contact of both families and who had occasional attacks of diarrhoea. She was admitted to hospital for thorough bacteriological investigation, but it could not be proved that she was a carrier.

Polio-myelitis.—There were 113 cases notified, including 1 case in a Maori. This was a considerable increase on the numbers for the two preceding years, and as the majority of cases occurred in the first five months of the year it appeared as if an epidemic of the disease might be impending. After May, however, the incidence declined and only sporadic cases occurred throughout the rest of the year.

Tetanus.—A total of 25 cases were notified, and these included 4 cases of *Tetanus neonatorum* traced to the use of dusting-powders that were heavily infected with tetanus spores. The first two cases occurred in separate hospitals and were notified simultaneously to the Medical Officer of Health, Auckland. Inquiries were immediately set on foot, and the only common factor was a proprietary brand of baby powder that had been used in each case. The powder was traced back to the place of manufacture and found to be prepared from imported crude talc, nothing having been done during processing to render it sterile. A week later notification was received of a third case of *Tetanus neonatorum*, and in this case also the same brand of baby-powder had been used. Samples of the powder used—similar powder of the same brand—and samples of the crude talc were all examined for the presence of tetanus spores, and in all cases tetanus infection was found to be present. Steps were immediately taken to caution all midwives and maternity nurses against the use of unsterilized powders, but before the warning was issued a fourth case occurred, this time in Wellington. It is noteworthy that while the infected powder was used for the actual cord dressing in one case, it was only used as a general dusting-powder in the other cases. The infection therefore must have been a very heavy one. All 4 cases proved fatal.

The public was warned to discontinue the use of any dusting-powders with young babies, and a large number of samples of different brands of dusting-powder were taken throughout the country and examined for tetanus infection. While the great majority were free from infection, it was found to be present in samples of three different brands. In some cases also, gas-forming bacilli were found to be present.

As a result of these events, regulations under the Sale of Food and Drugs Act have been enacted to require that all talc or other mineral ingredients used in the manufacture of baby-powders must be sterilized by heat unless purified talc B.P.C. is used. The manufacturers of dusting-powders are introducing the necessary equipment for sterilizing talc, and already powders made from sterilized talc are on the market.

Food Poisoning.—There were 248 cases of food poisoning notified, and of these 158 occurred in February–March and were concerned with one outbreak. The food in question was cooked ham and the infecting organism *Staphylococcus aureus*. The ham was all cured and cooked at a provincial factory and distributed over a wide area, although the chief brunt of the infection affected Wellington. A cool store in Wellington in which the hams were received, and from which they were distributed throughout Wellington City and suburbs, was inspected on 5th February and found to be in a dirty, neglected condition. The refrigerating mechanism was defective and the temperature-control unit out of action. It was also found that the cardboard cartons in which the cooked hams were packed were being returned to the factory and used a number of times.

After these unsatisfactory conditions were remedied further cases came to light, and these were connected with hams despatched direct from the factory to country retailers.

Investigations at the factory where the hams were cured and cooked showed that insufficient precautions were taken to prevent possible contamination of the hams after cooking. Moreover, *Staphylococcus aureus* was recovered from the pickling-brine, from the pumping-pickle, and from racks in the cool chamber where the cooked hams were stored before despatch. Unfortunately, the lack of suitable laboratory animals prevented the confirmatory testing of these organisms for enterotoxin.

The actual source of the infection could not be determined. The hands and arms of all those handling the hams at the Wellington store were examined for skin infections but nothing abnormal was found. Similar investigations were made at the factory, also with negative results.

The heavy incidence in Wellington City as compared with other parts of the area supplied from this factory suggests that the infection arose in the Wellington cool store and was possibly transferred back to the factory by means of used cartons that were again used for packing hams.

The refrigerators at the cool store were thoroughly cleaned out and disinfected with chloride of lime, while at the factory the pickling-brine was discarded and the brine-vats steamed out. Recommendations were also made that the wooden tables on which the hams were cut up, and on to which the cooked hams were placed to cool, should be covered with stainless steel. Most important of all, the use of second-hand cardboard cartons were strictly forbidden.

The investigations revealed the very large traffic that takes place in cooked hams sent out over a wide area from a central factory. Cooked ham is a very perishable product, and it is not well suited for despatch over long distances by ordinary methods of transport. From the hygienic viewpoint it is far preferable that hams should be transported in the raw, dry state and cooked locally as required.

Venereal Diseases.—Tables I and II set out the number of persons seen for the first time at the venereal-disease clinics, and the total attendances at the clinics:—

Table I

	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Persons seen for the first time and found to be suffering from—										
Syphilis	77	26	20	25	25	13	30	4	152	68
Soft sore	5	..	4	..	13	..	..	..	22	..
Gonorrhoea	639	329	235	42	168	31	115	13	1,157	415

A total of 1,049 males and 427 females also attended the clinics for examination and were found not to be suffering from venereal diseases.

Table II

	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total attendances of persons suffering from—										
Syphilis	1,808	3,101	2,604	1,914	3,028	547	1,110	428	8,550	5,990
Soft sore	6	..	14	..	140	..	..	..	160	..
Gonorrhoea	6,157	2,993	4,850	1,555	3,506	421	833	194	15,346	5,173

For purposes of comparison with other years the following tables show first attendances at the various clinics since 1941:—

Table III.—Number of Persons seen for the First Time and found to be suffering from Syphilis

Year.	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1941	102	57	96	63	29	17	33	6	260	144	403
1942	70	78	53	71	18	11	20	6	161	166	327
1943	48	95	20	41	17	14	29	3	114	153	267
1944	21	48	14	26	14	6	27	4	76	88	164
1945	61	34	11	20	15	8	27	6	114	68	182
1946	77	26	20	25	25	13	30	4	152	68	220

Table IV.—Number of Persons seen for the First Time and found to be suffering from *Gonorrhœa*

Year.	Auckland.		Wellington.		Christchurch.		Dunedin.		Total.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1941	410	183	373	42	271	72	81	79	1,135	376	1,511
1942	312	286	236	63	181	69	75	73	804	491	1,295
1943	265	441	138	89	122	92	51	15	576	637	1,213
1944	215	470	140	59	139	86	50	22	544	637	1,181
1945	389	413	178	54	149	66	46	9	762	542	1,304
1946	639	329	235	42	168	31	115	13	1,157	415	1,572

It will be noted that in the cases of both diseases, while the incidence of infection among women has remained low, there has been a considerable increase in the number of men seeking treatment. It is not clear how far this represents a real increase, and how far it can be accounted for by the discharge of men from the Services. During the war a large proportion of men between the ages of eighteen and forty were in the Army, Navy, or Air Force and under similar circumstances would be treated in Service hospitals.

The tables at the end of this section of the report give details of the cases of notifiable diseases reported in 1946.

FOOD AND DRUGS

Food and Drugs Regulations.—During the year a new set of regulations under the Sale of Food and Drugs Act were gazetted. The existing regulations dated from 1924 and were badly in need of consolidation and revision. Some of the chief alterations in the new regulations were as follows :—

- (i) The list of artificial colours permitted in foods has been completely revised so as to exclude a number of dyes that are now known to have toxic properties.
- (ii) The sale of artificial or imitation foodstuffs is prohibited, unless specifically permitted.
- (iii) The addition of synthetic vitamin preparation to foods is forbidden.
- (iv) If claims are made as to the presence of vitamins or minerals in foods, the amounts present must be stated in the label.
- (v) Standards have been introduced for table confections, milk-bread, arrowroot, suet, milk-shakes, rennet, milk-ices, lemon cheese, liqueurs, fish-liver oils, rose-hip syrup, penicillin, proprietary medicines, and dusting-powders.
- (vi) The provisions regarding disinfectants have been revised so that only those substances having a defined standard of disinfecting powers may be sold as disinfectants.
- (vii) The labelling provisions of the large class of non-alcoholic beverages have been revised to ensure that the customer may be able to know exactly what he is buying.

Dusting-powders.—All baby-powders containing any natural mineral ingredient such as talc or kaolin must be made from purified talc B.P.C. or from talc or kaolin that has been sterilized by heating to 150° c. for not less than one hour.

Fish-liver Oils.—As the manufacture of fish-liver oils is now an important New Zealand industry, a standard for fish oils has been adopted. The addition of calciferol is permitted, and the amounts of vitamin A and vitamin D present in the oil must be stated on the label. Imported halibut-liver oil is required to contain not less than 2,500 International Units of vitamin D per gram.

Proprietary Medicines.—An important new regulation requires that all proprietary medicines sold must bear on the label a statement of the contained active ingredients and proportion of each that are present. This is supplementary to the provisions of the Medical Advertisements Act, 1942, and follows closely the provisions of the Pharmacy and Medicines Act, 1941, of Great Britain.

Sampling of Foods and Drugs.—The following tables set out, by health districts, the number of samples of milk, other foods, and drugs taken and dealt with during the year 1946 :—

Samples of Foods and Drugs taken and dealt with during 1946

District.	Milk.				
	Number of Samples.	Number of Vendors.	Samples not complying.	Warnings issued.	Prosecutions recommended.
North Auckland	207	75	5	..	2
Central Auckland	2,807	1,306	112	51	12
South Auckland	1,792	1,618	119	55	21
Thames-Tauranga	115	69	10	6	..
Taranaki	264	131	7	10	7
East Cape	569	489	36	33	2
Wellington - Hawke's Bay ..	2,093	1,016	184	33	14
Central Wellington	2,254	2,078	38	13	6
Nelson-Marlborough	155	72	4	2	..
Canterbury	4,826	1,096	480	97	21
West Coast	283	157	22	4	3
Otago	1,604	606	289	27	..
Southland	397	175	76	47	10
Totals	17,368	8,888	1,392	378	95

District.	Other Foods and Drugs.					
	Number of Samples.	Number of Vendors.	Samples not complying.	Warnings issued.	Prosecutions recommended.	Foods seized and destroyed.
North Auckland	140	132	1	..	..	1
Central Auckland	213	133	32	16	..	48
South Auckland	82	78	8	4	..	5
Thames-Tauranga	23	1	19	..	..	1
Taranaki	3	3	1	1	1	5
East Cape	104	100	12	10	..	1
Wellington - Hawke's Bay ..	156	102	7	3	4	22
Central Wellington	135	112	10	4	4	22
Nelson-Marlborough	40	37	15	2	1	6
Canterbury	464	296	72	42	5	51
West Coast	30	28	4	3	..	..
Otago	568	337	74	1	..	7
Southland	115	26	..	..	..	9
Totals	2,073	1,385	255	86	15	178

The "other foods" sampled include bacon and ham (192), butter (122), cream (29), sausage meat and mince meat (265), milk-shakes (82), ice-cream (462), bread and flour (28), and pulped egg (34).

Wrapping of Bread.—Regulations have been enacted to require that bread sold over the counter is wrapped in clean paper or other suitable material, but the regulation is not enforced in any district except when notice to that effect has been given by the Minister and published in the *Gazette*. The regulations also provide that after 1st January, 1948, all bread sold for human consumption shall be wrapped before it leaves the bakehouse.

Nitrite Preparations.—To provide a further safeguard against accidental poisoning by sodium nitrite, butchers who used this substance are now required by regulation to maintain correct labelling on all containers in which nitrites are kept on their premises. In the past several fatalities have occurred through mistaking nitrite for salt or salt-petre.

Food Premises and Eatinghouses.—The regulations controlling food premises and eatinghouses are now very out of date, and it is intended to revise them as soon as staffing difficulties permit this to be done.

DANGEROUS DRUGS AND POISONS

Dangerous Drugs.—A disquieting feature in connection with dangerous-drug control is the increased consumption of heroin. This is one of the worst of the dangerous drugs, as far as addiction is concerned, and its manufacture and importation are both entirely prohibited in certain countries. While, therefore, it has a legitimate place in medicine, it cannot be regarded as indispensable. The following table will show how the importation and consumption of heroin has increased since 1944 :—

			Heroin (Kilograms).		
			1944.	1945.	1946.
Importations	..	..	4.1	3.6	7.4
Consumption	..	..	4.0	6.3	7.8

Prior to 1944 the corresponding figures had remained remarkably constant.

The supply of free medicine under the social security benefits began in 1941, but it was not expected that this would affect the quantities of dangerous drugs consumed. This assumption proved correct, and the consumption of morphine, cocaine, and heroin remained practically constant up to 1944. There was an increased consumption of codein, but this could be explained by the importation of codein that was used for manufacturing purposes within the Dominion. Previously tablets containing codein as an ingredient had been imported and the codein contained in them would not have been recorded as an importation of codein.

As already stated, the consumption of heroin rose steeply after 1944 and the amount consumed in 1946 was nearly double that used in 1944. It is difficult to explain this rise, except as an example of a changing fashion in prescribing such as occurs from time to time. The attention of medical practitioners is being drawn to the matter, and the manner in which the drug is being used is being closely watched.

Poisons Act and Regulations.—An amending regulation was enacted relaxing somewhat the restrictions on the sale of dichlordiphenyltrichlorethane (D.D.T.). This substance had come on to the Dominion market when our knowledge of its poisonous properties was very imperfect and before it was being sold to the public generally in any other countries. It was considered advisable, therefore, to class it as a First Schedule poison, which restricted its sale to pharmacists. When it was found that D.D.T. when used with reasonable intelligence is less toxic than was feared, the regulations were amended to allow for its more ready sale. Preparations containing less than 1 per cent. of D.D.T. may now be sold without any restriction; solutions of D.D.T. containing 1 per cent., but not more than 5 per cent., and dry preparations containing 1 per cent., but not more than 10 per cent. of D.D.T. are now classed as Fourth Schedule poisons and may be sold by any storekeeper, with certain restrictions as to labelling and packing. Preparations of D.D.T. in higher concentrations are still included in the First Schedule and their retail sale is restricted to pharmacists.

A consolidation and revision of the regulations under the Poisons Act, 1934, is now being undertaken.

NOTIFICATION OF DISEASE

Table A.—Notifiable Diseases in New Zealand for Year ended 31st December, 1946, showing Distribution by Months

Months.	Scarlet Fever.	Diphtheria.	Enteric Fever.		Tuberculosis.		Cerebral Spinal Fever.	Polio-myelitis.	Influenza (Pneumonic, &c.).	Erysipelas.	Puerperal Fever.		Tetanus.	Hydatids.	Trachoma.	Ophthalmia Neonatorum.	Food Poisoning.	Bacillary Dysentery.	Amoebic Dysentery.	Undulant Fever.	Chronic Lead Poisoning.	Malaria.	Lethargic Encephalitis.	Actinomycosis.	Totals.
			(a) Typhoid.	(b) Paratyphoid.	(a) Pulmonary.	(b) Other Forms.					Ordinary.	Following Abortion.													
January	118	64	3	1	102	21	7	26	2	19	9	4	1	1	..	..	18	13	5	..	..	13	..	..	429
February	98	65	3	4	116	30	5	23	..	11	9	5	..	2	..	..	132	7	3	..	..	1	..	..	550
March	138	55	4	..	128	23	4	9	..	9	11	..	..	6	..	..	23	6	12	..	..	..	..	..	537
April	138	55	..	..	132	21	4	26	..	37	11	..	..	6	..	..	27	10	4	..	..	..	..	..	538
May	138	264	4	2	131	11	12	14	..	21	12	..	..	1	..	..	9	12	1	..	..	..	..	..	600
June	128	263	3	..	120	23	12	14	..	12	10	..	..	1	..	..	..	15	1	..	..	..	..	..	605
July	133	137	3	..	120	23	12	14	..	12	10	..	..	1	..	..	..	15	1	..	..	..	..	..	605
August	133	137	3	..	120	23	12	14	..	12	10	..	..	1	..	..	..	15	1	..	..	..	..	..	605
September	120	114	2	4	118	32	17	4	1	13	9	..	1	5	1	..	12	15	1	..	..	..	..	..	517
October	119	80	1	..	118	32	17	..	..	11	3	..	..	5	..	..	12	15	1	..	..	..	..	..	514
November	86	63	1	..	116	18	5	..	..	10	7	..	..	1	..	..	28	4	1	..	..	..	..	..	498
December	80	55	3	..	132	10	3	..	..	14	4	..	..	7	..	..	10	4	2	..	..	..	..	..	346
Totals	1,454	1,577	36	13	1,530	290	87	112	3	193	76	66	23	52	9	7	245	78	31	26	2	50	3	2	6,020

Table B.—Notifications of Cases of Notifiable Diseases by Health Districts for Year ended 31st December, 1946

Name of Disease.	North Auckland.	Central Auckland.	South Auckland.	Thames-Tauranga.	Taranaki.	East Cape.	Wellington - Hawke's Bay.	Central Wellington.	Nelson-Marlborough.	Canterbury.	West Coast.	Otago.	Southland.	Totals.
Scarlet fever ..	7	152	50	21	73	35	294	285	42	286	7	95	107	1,454
Diphtheria ..	25	486	352	74	122	49	243	104	74	26	1	11	10	1,577
Enteric fever— (a) Typhoid ..	..	8	3	2	3	1	5	..	..	5	..	..	9	36
(b) Paratyphoid ..	..	..	..	..	2	5	..	1	..	4	..	1	..	13
Tuberculosis— (a) Pulmonary ..	23	367	73	34	51	21	147	269	52	279	31	123	60	1,530
(b) Other forms ..	1	41	8	4	6	2	23	71	4	63	8	40	19	290
Cerebro-spinal meningitis ..	..	16	7	6	8	2	5	23	2	7	2	6	3	87
Acute poliomyelitis ..	..	7	7	..	..	1	9	9	1	7	..	61	10	112
Influenza ..	..	1	1	..	..	..	..	..	..	1	1	..	3	3
Erysipelas ..	5	64	16	5	5	3	21	39	3	22	1	6	3	198
Puerperal fever— (a) Ordinary ..	1	4	8	..	9	..	8	8	10	14	1	9	4	76
(b) Following abortion ..	..	26	..	..	1	..	1	14	..	22	..	2	..	66
Eclampsia ..	..	12	..	1	1	1	5	5	2	19	..	9	..	55
Tetanus ..	2	7	5	..	..	1	4	2	1	1	..	..	..	23
Hydatids ..	..	1	3	2	3	..	15	7	..	20	..	1	..	52
Trachoma ..	1	..	..	4	1	2	2	..	..	..	..	..	..	9
Ophthalmia neonatorum ..	..	3	..	..	..	..	..	1	..	1	..	1	..	7
Food poisoning ..	..	5	1	..	2	32	35	139	..	16	10	5	..	245
Bacillary dysentery ..	..	39	2	1	2	14	12	5	..	2	..	..	..	78
Amoebic dysentery ..	1	4	1	1	..	..	5	4	2	14	..	..	..	31
Undulant fever ..	..	3	1	..	3	2	6	2	..	10	..	..	..	26
Chronic lead poisoning ..	..	..	..	..	..	..	..	1	..	..	..	..	..	2
Malaria ..	..	17	4	5	..	..	4	8	4	7	..	..	1	50
Lethargic encephalitis ..	..	..	..	1	1	..	..	..	..	..	..	1	..	3
Actinomyces ..	..	..	..	..	..	..	..	..	..	..	1	1	..	2
Totals	66	1,263	542	161	293	171	844	997	197	826	62	372	226	6,020

Table C.—Notifiable Diseases in New Zealand for Year ended 31st December, 1946, showing distribution by Age and Sex

Name of Disease.	Under 1 Year.		1-5 Years.		5-10 Years.		10-15 Years.		15-20 Years.		20-25 Years.		25-30 Years.		30-35 Years.		35-40 Years.		40-45 Years.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Scarlet fever ..	3	6	168	180	266	326	69	136	88	80	12	57	6	24	6	18	6	16	6	7
Diphtheria ..	33	32	172	188	280	215	108	132	42	92	42	71	26	33	14	25	9	20	6	12
Enteric fever—																				
(a) Typhoid ..	..	..	4	2	1	5	1	2	..	..	..	2	..	1	..	1	3	..	..	2
(b) Paratyphoid ..	..	..	3	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1
Tuberculosis—																				
(a) Pulmonary ..	2	3	10	3	11	12	23	24	49	82	161	148	115	99	97	83	76	66	47	48
(b) Other forms ..	1	3	18	12	16	15	8	14	15	12	13	26	18	13	13	15	1	8	10	6
Cerebro-spinal meningitis ..	9	10	10	10	11	5	2	3	3	3	3	2	..	..	1	..	1	2	1	2
Polio-myelitis ..	1	1	14	8	20	11	9	8	7	7	5	7	4	3	..	3	..	1	1	2
Influenza ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Erysipelas ..	..	2	5	6	2	1	6	1	3	3	2	5	2	5	5	3	5	10	3	13
Puerperal fever—																				
(a) Ordinary ..	..	..	..	..	..	..	..	..	..	3	..	21	..	22	..	11	..	13	..	6
(b) Following abortion ..	..	..	..	..	..	..	..	..	..	4	..	19	..	17	..	11	..	7	..	4
Eclampsia ..	..	..	..	..	..	..	..	..	..	4	..	16	..	..	..	13	..	7	..	2
Tetanus ..	..	1	1	5	1	1	2	1	1	1	1	..	..	..	..	..	..	2	..	..
Hydatids ..	..	..	..	2	2	6	..	..	..	1	..	3	1	..	6	1	2	1	1	..
Trachoma ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia neonatorum ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Food poisoning ..	1	2	7	5	7	16	9	17	8	15	7	9	14	9	..	11	6	11	8	12
Bacillary dysentery ..	4	3	11	7	5	3	2	1	1	3	1	2	8	5	3	2	2	2	1	1
Anthrax ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Antitoxic fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic lead poisoning ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicella ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Idiopathic encephalitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	68	67	424	438	605	618	230	344	173	317	278	391	211	253	170	198	132	161	95	118

Table D.—Maoris: Notifications of Cases of Notifiable Diseases for Year ended 31st March, 1946

Months.	Scarlet Fever.	Diphtheria.	Enteric Fever.		Tuber- culosis.		Cerebro-spinal Fever.	Acute Poliomyelitis.	Influenza (Pneumonic, &c.)	Erysipelas.	Puerperal Fever.		Tetanus.	Hydatids.	Trachoma.	Ophthalmia Neonatorum.	Lethargic Encephalitis.	Food Poisoning.	Bacillary Dysentery.	Amoebic Dysentery.	Undulant Fever.	Malaria.	Actinomycosis.	Totals.	
			(a) Typhoid.	(b) Paratyphoid.	(a) Pulmonary.	(b) Other Forms.																			
January	3	9	5	..	31	7	1	..	..	10	6	1	1	2	12	16	..	3	25	2	1	1	1	767	
February	1	6	1	..	35	5	2	..	..	1	..	1	..	1	1	..	..	..	1	..	..	..	..	57	
March ..	2	6	3	1	30	4	2	..	..	1	..	..	..	1	1	..	..	..	4	1	..	1	..	58	
April ..	..	7	..	..	44	3	1	..	..	3	..	..	..	..	..	..	..	..	5	..	..	..	..	55	
May ..	..	21	20	..	24	5	2	..	..	..	..	..	..	..	1	..	..	..	4	1	..	..	..	65	
June ..	..	16	5	..	38	3	..	..	..	1	2	..	1	..	2	3	..	..	5	..	..	..	..	79	
July ..	..	2	1	..	32	..	..	1	..	1	..	..	..	2	1	3	..	..	2	..	1	..	..	72	
August	2	15	7	..	31	6	3	..	..	1	2	..	..	1	6	3	..	..	1	..	..	..	..	60	
September	..	7	3	..	31	9	1	..	..	..	2	..	..	1	1	1	..	..	1	..	..	..	..	65	
October	..	10	6	1	31	9	1	..	..	..	1	..	..	1	1	1	..	2	3	1	..	..	1	75	
November	1	7	1	1	55	2	1	..	..	1	1	..	..	1	1	1	..	..	3	..	..	..	..	66	
December	..	3	1	..	53	3	..	..	..	..	1	..	..	1	1	..	..	..	2	..	..	..	..	55	
Totals	11	106	47	2	449	51	13	1	..	10	6	1	1	2	12	16	6	..	3	25	2	1	1	1	767

DIVISION OF HOSPITALS

HOSPITAL BOARD FINANCE

The provisions made in section 15 of the Finance Act (No. 2), 1946, limiting the rate of Hospital Board levies on local authorities are regarded as involving increased responsibility on the part of the Department for the supervision of Hospital Board expenditure.

Under the old provisions, which had operated since 1923, levies for maintenance purposes had been subsidized at rates ranging from a minimum of 14s. per £1 to a maximum of 26s. per £1, but averaging £1 for £1 over all districts. Levies for capital purposes were subsidized at a uniform rate of £1 for £1.

Under the new provisions, which became effective from 1st April, 1947, the amount to be levied by any Board in each financial year is "an amount equal to one half-penny for every one pound of the capital value of the rateable property in the district of the Board or an amount equal to one-half the net estimated expenditure of the Board, *whichever is the less.*" The "net estimated expenditure" is the amount that, according to a Board's annual estimates, is required to be found by levy and subsidy together.

The new provision means an assured minimum rate of subsidy on levies of £1 for £1, with no fixed maximum. It is expected, however, that the highest rate of subsidy payable for 1947-48 will be that payable to the Whangaroa Hospital Board—namely, about £17 per £1. The actual total of levies on local authorities will not be available until all Boards' estimates have been approved. Details will be published in a later Appendix to this report.

In the meantime a provisional estimate of net expenditure for both maintenance and capital purposes is £4,950,000. Of that sum, approximately £1,340,000 will be found by levies on local authorities and £3,610,000 by subsidy.

Under the old subsidy scheme now superseded the local authorities would have been called on to find £2,475,000, so that the new provision limiting the rate of levy means relief to the local authorities to the extent of approximately £1,135,000.

BUILDING PROPOSALS

The following table gives the Ministerial consents to capital expenditure on hospital buildings extensions over the past twelve years:—

	£					
1935-36	..	..	..	..	..	140,368
1936-37	..	..	..	..	..	189,996
1937-38	..	..	..	..	..	209,738
1938-39	..	..	..	..	..	164,739
1939-40	..	..	..	..	..	236,516
1940-41	..	..	..	..	..	457,357
1941-42	..	..	..	..	..	542,963
1942-43	..	..	..	..	..	912,002
1943-44	..	..	..	..	..	809,295
1944-45	..	..	..	..	..	1,017,012
1945-46	..	..	..	..	..	1,066,463
1946-47	..	..	..	..	..	1,004,941
Average per year for last ten years	..	..	..	..	..	<u>£642,103</u>

It will be accepted that the total Ministerial consents or approvals for a year would roughly approximate the expenditure in that year, as the carry-over from year to year would not vary greatly, except when the graph alters quickly.

For 1947-48 the *proposed amount of capital expenditure on building extensions* by Hospital Boards approximates £2,900,000. It is naturally impossible to estimate the consents for the year until the year is nearly complete, but the figure of £2,900,000 represents the completion of works consented to previously, and the *expected expenditure during this year* on works to be completed perhaps over the next one, two, three, or four years.

PLANS

Apart from building-works in progress, there are Hospital Board building plans in existence for some £10,000,000. Some of these plans await approval or are approved in the sketch-plan stage. Others are nearly completed or are completed and await approval or are approved as working-plans.

In addition, the Department knows of further proposals representing at least £3,000,000 which have not yet reached formal sketch-plan stage.

The fees payable to private architects for the £10,000,000 plans represent perhaps £150,000 for the sketch plans alone.

Hospital architecture is one of the most highly specialized and difficult forms of architecture. It is obvious that, had an adequate departmental staff been built up over recent years, the above-mentioned sketch planning could have been done at a fraction of the above-mentioned cost and, in many instances, more efficiently than has been done.

Apart from the delays which are inevitable with a shortage of staff, one of the most disappointing features to those concerned is that there is great scope for research in planning standards, materials of construction, sound-prevention, efficient mechanical appliances, and in other directions if only staff had been available.

The position with regard to building-material and labour shortages is well known and has caused extreme delays in the completion of some hospital buildings with, in some cases, astonishingly high tendered prices. The needs of buildings for housing, hydro-electric development, education, transport, industry, and other services are such that it is obvious that there must be some restriction and rationing of Hospital Boards' building proposals.

The annual report of 1945 showed that New Zealand already had over 10 beds per 1,000 of population, which is higher than any other country in the world had—or had hitherto stated as an ideal. Several hundred beds are closed because of lack of staff.

It is not unreasonable, therefore, to ask for a planning holiday while a survey is made to see which buildings should go on first. This survey was commenced, but is at present in abeyance through further deterioration in the staff position.

HOSPITAL BOARD SALARIES

For many years Hospital Boards have decided what salaries should be paid to senior professional officers, often without reference to the Department, but lately subject to stabilization. Certain anomalies have resulted.

The Budget announcement of 1946 stated that it is the view of the Government that a greater measure of control of Hospital Board expenditure should be exercised.

Subsequently, amendments were made to the Hospital and Charitable Institutions Act giving power to make regulations prescribing the conditions of employment of employees of Hospital Boards not under any award and setting up advisory committees in relation thereto.

The first regulations made under this amendment are dated 14th May, 1947, and entitled Hospital Board Employees (Conditions of Employment) Regulations 1947, and state that the Minister may appoint advisory committees to advise him on the conditions of employment of employees, conditions subject to which leave of absence may be granted, rates of salaries, wages and other emoluments and increments payable, and on complaints or disputes that may arise. The committees are each to consist of a Chairman and up to five employees and an equal number of other persons, of whom at least half are members of Hospital Boards and the remainder of whom are officers of the Public Service.

Steps are being taken to select the personnel of these committees, which should be functioning in the very near future.

OTHER CONTROLS

The above-mentioned amendments also gave power to make regulations to provide for the determination by the Minister of the maximum amount which a Board may spend during the then current or next ensuing financial year on any specified item or class of expenditure.

Powers were also taken to regulate the purchase, custody, issue, or other disposal of stores. Steps are being taken to prepare regulations implementing both these powers.

GENERAL

The above-mentioned controls are more than justified by the profound change in the system of finance. Moreover, it would seem that adequate departmental staff is very necessary.

With some Hospital Boards more than others there is undoubtedly evident a tendency to incur or to seek authority for expenditure which would not have been contemplated had not the rate been stabilized. It is likely that this tendency will increase.

TOTAL HOSPITAL BOARD EXPENDITURE

The actual payments by Hospital Boards last year (1946-47) were :—

						£
Maintenance	..	..	..	..	..	5,916,438
Capital	..	..	..	..	..	812,925
Total revenue payments	..	..	..	..	..	6,729,363
Loan	..	..	..	..	..	386,818
						£7,116,181

The receipts were £1,889,209 from levy on the ratepayers, almost all of the remainder of the receipts being from subsidy from the Consolidated Fund or amounts received from the Social Security Fund.

The above-mentioned figures do not include any expenditure on mental hospitals or on Government-controlled hospitals at Hanmer, Rotorua, and the St. Helens Hospitals, nor do they include the £251,581 paid from the Social Security Fund to private hospitals.

DIVISION OF CHILD HYGIENE

Medical oversight of the health of pre-school- and school-children was maintained through medical officers and District Nurses of the Department :—

The Medical State of Primary-school Children
(European and Maori)

	European.		Maori.	
	Number.	Percentage.	Number.	Percentage.
Number of children examined	76,266	..	7,295	..
Number of children found to have defects	26,005	34.09	3,027	41.49
Number with defects other than dental	19,778	25.93	1,814	24.87
Children showing evidence of—				
Subnormal nutrition	6,159	8.07	539	7.38
Skin-diseases	1,478	1.93	915	12.54
Heart—				
Organic disease	351	0.45	21	0.29
Functional disease	915	1.17	13	0.17
Respiratory disease	518	0.68	25	0.33
Posture—				
Slight impairment	28,155	36.91	1,713	23.48
Gross defect	2,702	3.54	116	1.58
Deformities of trunk and chest	1,237	1.62	54	0.74
Mouth—				
Defect of jaw or palate	2,817	3.69	35	0.47
Dental caries	7,331	9.61	1,231	16.87
Extractions of permanent teeth	1,711	2.24	180	2.46
Fillings	57,195	74.99	3,781	51.83
Perfect sets of teeth	3,149	4.12	491	6.73
Gums : Gingivitis or pyorrhœa	177	0.23	90	1.23
Nose and throat—				
Nasal obstruction	1,823	2.39	121	1.65
Enlarged tonsils	9,012	11.81	664	9.10
Enlarged glands	4,576	6.00	117	1.60
Goitre—				
Incipient	4,923	6.44	273	3.73
Small	584	0.74	17	0.23
Medium or large	66	0.06	5	0.06
Total amount of goitre	5,573	7.24	295	4.02
Eye—				
External eye-disease	458	0.60	13	0.17
Squints	314	0.41	9	0.12
Defective vision—				
Uncorrected	1,555	2.03	145	1.98
Corrected	1,126	1.48	15	0.20
Ear—				
Otorrhœa	77	0.10	38	0.52
Defective hearing	242	0.32	45	0.61
Defective speech	289	0.38	6	0.08
Mental—				
Retardate	162	0.21	5	0.06
Feeble-mindedness	66	0.06	..	..
Epilepsy	17	0.02	..	..
Other nervous defects	60	0.07	1	0.01
Digestive system defects	67	0.09	..	..
Phimosis	35	0.04	1	0.01
Undescended testicles	228	0.29	4	0.05
Hernia	102	0.13	8	0.10
Number of parents present at the medical examination	18,891	24.77	114	1.56
Number of children notified as defective	20,551	..	1,931	..

There is a slight improvement in nutrition, the subnormal nutrition for the last three years being 9·53 per cent. in 1944, 9·49 per cent. in 1945, and 8·07 per cent. in 1946. The Maori figures for the same period are : 1944, 6·33 per cent. ; 1945, 7·94 per cent. ; 1946, 7·38 per cent.

The posture of our school-children is poor, 36·91 per cent. failing to carry themselves well. The Maori figures are better than the European, but still 23·48 showed poor posture. This amount of postural defect has some relation, undoubtedly, to the insufficient rest and sleep common to a considerable proportion of our children. In some cases unbalanced dietaries will be helping the bodies to droop.

It is pleasing to see more perfect sets of teeth being recorded in European children—4·12 per cent. this year, against 2·99 per cent. last year. The Maori figure, 6·73 per cent., against 6·43 per cent. in 1945, steadily maintains the racial superiority here. In spite of all the work of District Nurses, there is much educational work yet to do.

Goitre in European children is at a very satisfactory level, 7·24 per cent., when one remembers that three or four times this amount was being recorded less than ten years ago. As the use of iodized salt has increased in the same period, it would seem that making good the iodine deficiency has reduced simple goitre incidence in our land.

The Medical State of Secondary-school Children

Our medical staff do not visit secondary schools as a routine. However, for one reason or another a few schools did have a medical inspection, 902 children being seen. Of these, approximately two out of three had medical or dental defects. Eliminating dental defects, approximately one out of three had some physical defect. The total of children seen was so small that detailed figures and percentages are not being given. The picture in this small group is one of unsatisfactory nutrition, prevalent skin troubles, poor posture, and unhealthy throats. It is planned to do more medical inspection in this adolescent group as staff becomes available, a commencement as a routine next year being a possibility in a limited way. Our medical staff is still at half the necessary strength.

THE MEDICAL STATE OF THE PRE-SCHOOL CHILDREN

Number of children seen	7,352
Number of defects found—	
Anæmia	93
Uncleanliness	15
Subnormal nutrition	647
Protuberant abdomen	264
Posture defective	347
Deformities—	
Chest	187
Legs	279
Feet	581
	1,047
Skin-diseases	373
Heart: Organic defects	75
Lungs	77
Dental—	
Gums and soft tissues	20
Dental caries	503
Nose and throat—	
Adenoids	229
Tonsils	722
Enlarged glands	282
Goitre	38
Eyes—	
External eye-disease	87
Defective vision	51
	14·23
	5·07
	1·02
	1·04
	0·27
	6·84
	3·11
	9·82
	3·83
	0·51
	1·18
	0·69

THE MEDICAL STATE OF THE PRE-SCHOOL CHILDREN—*continued*

Number of defects found— <i>continued</i>					Number.	Per Cent.
Ears—						
Otorrhoea	..	..	..	..	29	0.39
Deafness	..	..	..	..	17	0.23
Phimosis	..	..	..	..	38	0.51
Undescended testicles	..	..	..	..	67	0.91
Hernia	..	..	..	..	33	0.45
Habit abnormalities—						
Bad food habits	..	..	..	..	736	10.01
Other bad habits	..	..	..	..	496	6.74
Bowel action abnormality	..	..	..	..	91	1.23
Eneuresis	..	..	..	..	421	5.73
Insufficient daytime rest	..	..	..	..	371	5.04
Insufficient sleep	..	..	..	..	326	4.43

In these pre-school children subnormal nutrition remains practically at the same level as last year (8.86 per cent. in 1945). Poor posture, showing a lack of body tone, with which sleep and diet have much to do, appears in 4.71 per cent. Much the same percentage have too little sleep and rest—not enough daytime rest in 5.04 per cent. and too late to bed at night in 4.43 per cent. Ten per cent. of the toddlers give trouble at meal-times, showing the need for more education of parents in child-management.

IMMUNIZATION AGAINST DISEASE

Whooping-cough: Complete course of vaccine, 1,082.

Diphtheria: Complete course of vaccine, 66,533.

Health District.	Babies, 3–12 Months.	Pre-school, 1–5 Years.	School, 5–15 Years.	Total.
North Auckland	929	1,343	497	2,769
Auckland	1,013	10,441	5,697	17,151
South Auckland	183	2,928	4,640	7,751
East Cape	37	1,609	1,638	3,284
Taranaki	475	2,161	446	3,082
Wellington - Hawke's Bay ..	1,519	3,218	1,614	6,351
Wellington-Wairarapa ..	614	4,093	1,970	6,677
Nelson-Marlborough ..	161	665	822	1,648
Canterbury - West Coast ..	991	3,913	3,934	8,838
South Canterbury	16	565	991	1,572
Otago	159	1,938	2,691	4,788
Southland	159	1,379	1,084	2,622
Totals	6,256	34,253	26,024	66,533

DIVISION OF NURSING

The year presented many adjustment difficulties so common throughout the world as a result of the war. However, the nursing service of the Dominion has been maintained through the close co-operation of those responsible.

The outstanding fact this year has been the very great increase in New Zealand's birth-rate, which has made considerable demands on hospital beds and staff. At the same time, there has been a wastage of nurses due to a large increase in the number of marriages with the return of our servicemen, the number of married nurses employed decreased, and with the lifting of Man-power Regulations and travelling restrictions a large number of nurses have left New Zealand with the desire to see something of the world. Over a period of six months no less than 88 nurses notified my office that they were leaving New Zealand, so that probably the number who have actually left is considerably larger.

For the past three years the Civil Nursing Reserve, made up of registered nurses and voluntary aids from the Order of St. John and the New Zealand Red Cross Society, has assisted the staffing of our civil hospitals, particularly the small country hospitals. However, the factors already mentioned affected this Reserve so materially that only a very small number was left by the end of 1946. The Hon. Minister of Health therefore agreed that this Reserve should terminate at the end of this financial year.

THE REGISTERS

Due to lack of clerical staff and the fact that nurses have failed to notify changes in their occupation and address, it has been very difficult to have an accurate practising register. This year a new method was introduced and the co-operation of all matrons of both public and private hospitals was enlisted to ensure that all registered nurses employed filled in the form of application for their practising certificates. The result of this is as follows, and will be used as a basis for guidance in the future :—

Practising Certificates issued as at 31st March, 1947

Nurses (one certificate)	1,398
Nursing aids (one certificate)	49
Psychiatric (one certificate)	418
Nurse and psychiatric (two certificates)	22
Total, non-obstetrical	1,887
Nurse, midwife, and psychiatric (three certificates) ..	2
Nurse, maternity, and psychiatric (three certificates)	6
Maternity and psychiatric (two certificates) ..	1
Nurse and midwife (two certificates)	768
Nurse and maternity (two certificates)	1,406
Midwife (one certificate)	250
Maternity (one certificate)	180
Total obstetric	2,613
	4,500

Percentage obstetric (excluding psychiatric and nursing aid), 6·85 per cent.

LEGISLATION

Following on the consolidation of the Nurses and Midwives Act, new regulations governing the training and examination of the various classes of nurses were gazetted.

In the case of male nurses, the course of training covers a period of two years and the subject material follows the course of training for nursing aids, only that it pertains to the work of the male nurse.

The regulations governing the practice of obstetric nurses were also altered, particularly in regard to the use of chloroform as an anæsthetic.

Section 18 of the Finance Act, 1946, gave the Hon. Minister of Health power to set up certain Advisory Wages Boards which would prescribe wages and conditions of work for those employees of a hospital not covered by an award. The Government has approached the New Zealand Registered Nurses' Association to nominate five members of the profession who will represent the various ranks of nurses employed by Hospital Boards to represent them on the Nurses' Board.

THE GENERAL HOSPITAL SERVICE

Last year I remarked that the occupied-bed rate of our hospitals used as training-schools was still increasing and that there was a decrease in our nursing staff which I hoped was a temporary condition. The following table shows that for the first time since 1944 there has been a decrease in hospital occupancy. This is partly due to deliberate closing of wards owing to shortage of staff and partly due to the decreased demands of service patients :—

—	1941.	1942.	1943.	1944.	1945.	1946.	1947.
Number of occupied beds in training schools	6,040·0	6,285·7	6,808·5	7,603·2	8,493	8,550·05	7,812·1
Number of registered nurses	922	984	1,172	1,366	1,500	1,347	1,199
Number of pupil-nurses ..	1,575	2,798	2,974	3,124	3,390	3,280	3,203

The return shows the greatest decrease is amongst registered nurses, the reason for which I have already explained.

The present figures give a total nursing staff of 4,402 for 7,812 occupied beds, which is 1 nurse to 1·77 occupied beds. This percentage of nurses to patients is slightly better than last year (1 to 1·9) because of the occupied-bed rate having decreased by approximately 700 beds.

The proportion of registered nurses to pupils, 3 to 1, is too low. For satisfactory staffing, the proportion of nurses to patients should be 1 to 1·5 and 2 pupil-nurses to 1 registered nurse.

It is important that every effort should be made to build up staffs to this ratio if possible, otherwise conditions within the hospital become difficult and detract from recruitment.

Registered Staff.—Points which will have to be considered in retaining registered staff will be not only reasonable salaries and hours, but also conditions of service so that young registered nurses are given responsibility according to their ability. This means adequate staff education, careful selection of nurses for the various types of duty according to aptitude, and encouragement of development, together with a happy atmosphere of pooled experience of the whole registered nursing staff.

Some hospitals have made use of the married registered nurse, who may be only able to work a few hours of the day, by paying her on an hourly rate, and have found this worker of great assistance over busy periods of the day for routine nursing duties. This system might be much more widely used than it is.

Student Nurses.—All employing authorities have now realized that the reservoir of potential young woman-power is limited owing to the drop in birth-rate between 1926–33, therefore every effort needs to be made to recruit carefully and make the conditions for student nurses those which are really for students and not just employees. At the recent Hospital Boards' Conference it was decided to set up a Joint Recruiting Board of the Hospital Boards and the Department, to which the Boards would subscribe as well as the Government, to carry out a more extensive recruiting scheme and to prevent if possible, some of the overlapping which had taken place when the Boards were carrying out extensive individual schemes.

A Joint Committee of the Education Department, Secondary School Inspectors, and nursing officers of the Department has been outlining a curriculum which might be taken at secondary schools subsequent to the general School Certificate for those girls who are too young to enter for training and yet who are interested in nursing as a career. It is hoped to have this curriculum ready by the end of this year and to use it to recruit girls with the right educational background.

All our hospitals provide class-rooms and instructions, but if a hospital is to be a school as well as a hospital it must provide the real educational background of general interest by all members of the staff, and conditions of work must be such that the student can really study not only the theoretical course outlined for her, but the rich clinical field in which she is working.

There is no doubt that where a Hospital Board has an adequate staff and can provide a block or study-day system of teaching the results are far reaching, and in the end, because of the conditions attracting girls, the hospital is able to give a better service to its patients.

Domestic Staff.—In spite of the fact that a new award with an increase in wages and a universal forty-hour week has come into being, there is still a marked shortage of workers in some hospitals.

Housing is a definite difficulty. The majority of hospitals depended on obtaining domestic staff who lived out, but now this is impossible, and it would appear that those Boards who can house this staff are in a position of advantage.

If only it were possible to obtain more workers with a little instruction they might be given a wider range of duties, which, in turn, might make their work more attractive and would certainly assist the nursing staff to a much greater degree. There is no reason why they should not be taught to assist convalescent patients, feed helpless patients, and many other simple nursing duties.

OBSTETRICAL NURSING SERVICE

As already stated, this year has been marked by a very large increase in New Zealand's birth-rate, 47,647 births, of which an additional 4,618 took place in the maternity hospitals which are training-schools. This was largely because many of the private maternity hospitals closed owing to the age and infirmity of the licensees, difficulties over staff, and rising costs. This meant that the beds and the staffs in the training-schools had to be increased.

To assist with the recruitment of registered maternity nurses and midwives, in addition to appeals in the nursing journal and through broadcasts, a personal circular letter was sent to every registered maternity nurse and midwife. A survey of the position was made for every hospital in the Dominion every quarter to see which district and hospital required help most urgently, and, in addition to every pupil midwife completing her training being interviewed as regards her future, which has been done for some time, every pupil maternity nurse has been interviewed as well. These personal interviews have been carried out by the nursing officers of Head Office, together with the Nurse Inspectors of the District Offices. The result has been that for 759 beds with an occupied bed rate of 614 and a total of 15,226 confinements there has been a staff of 139 midwives and 92 maternity nurses—that is, 231 registered obstetric nurses and 437 midwifery and maternity trainees—which is equal to a staff of 668, or more than 1 nurse to 1 patient, or 1 registered obstetric nurse to 1 nurse to 3 patients, or 1 registered obstetric nurse to 2 trainees. This result can be regarded as very satisfactory under the circumstances.

At times it has been said that the St. Helens Hospitals might have carried more of this increase, but the annual returns show :—

		1944.	1947.
St. Helens Hospital, Auckland	.. ..	646	1,026
St. Helens Hospital, Wellington	.. ..	549	706
St. Helens Hospital, Christchurch	.. ..	313	409
St. Helens Hospital, Invercargill	.. ..	204	330

The number of midwives was increased by affiliating Alexandra Home to St. Helens Hospital, Wellington, half-way through the year, and this is being extended.

	1941.	1942.	1943.	1944.	1945.	1946.
Number of nurses qualifying as maternity nurses	228	261	293	316	335	410
Number of eighteen months' trainees qualifying as maternity nurses	53	76	59	61	62	56
Number of midwives qualifying ..	57	66	51	55	61	76

PUBLIC HEALTH NURSING

With the introduction of a visiting-nurse benefit through the Hospital Board system there has been a very rapid expansion of the Hospital Board district nursing scheme. Originally it was estimated that 1 nurse would be required for 4,000 of population, but it would appear as though 1 nurse to 6,000 will be sufficient, although the demands vary according to the conditions. For instance, in two adjacent districts where the type of hospital case varies because of scarcity of chronic beds the demand is just double ; also, a small country town of 7,000 people which has an adequate hospital has found it can hardly keep a District Nurse employed. This is largely because there are so few people in homes who can care for a bed-ridden patient between the visits of a nurse.

Now that the number of doctors has increased in the community it is most important that nurses should only pay an initial visit without the patient seeing a doctor and that every patient should be under medical care where at all possible.

The following is a summary of work of 80 Hospital Board District Nurses for the period 1st January, 1947, to 31st March, 1947 :—

Number of nurses (including 1 part-time only) 80

Total new cases referred from—

Hospitals	.. ..	591
Private practitioners	.. ..	1,325
Patients own home	.. ..	3,488

Total number of cases seen at—

Nurses' centres	.. ..	2,365
Patients own home	.. ..	9,615

Total number of visits at—

Nurses' centres	.. ..	2,376
Patients own homes	.. ..	33,208

In the case of the Department's staff there has been a minor expansion only, as it was considered advisable, while there was such a shortage of nurses, to delay expansion of services. The district staffs, particularly the Nurse Inspectors, have worked under great disadvantages in many instances owing to scarcity of Medical Officers of Health, and it has meant a great deal of thought and effort to maintain and carry on the work, particularly in rural areas. The expanding diphtheria immunization campaign, the expansion of the school health service, and the increased emphasis on Maori infant welfare and tuberculosis control all required well-prepared nurses to carry out their programme. The better results are an encouragement to further effort.

The following table shows a year's work for 18 Nurse Inspectors and 174 District Health Nurses (of whom 19 have been on leave for special courses):—

School work—				Maori.	European.
Hours spent in school work	..	..	..	5,767	35,132
Number of schools visited with S.M.O.	..	..	..	57	2,113
Number of schools visited alone	..	..	..	3,785	13,169
Number of visits to homes of school-children	..	..	..	29,442	23,432
Number of visits to homes of pre-school children	..	..	..	30,970	8,749
Tuberculosis control—					
Number of visits to homes	..	..	..	17,361	17,581
Number of cases seen at home	..	..	..	12,332	9,444
Number of contacts seen—					
Adult	..	..	..	16,491	12,801
Children	..	..	..	25,991	9,825
Maternal and infant welfare—					
Ante-natal cases seen	..	..	..	9,803	1,971
Confinements attended	..	..	..	165	42
Number of visits during puerperium	..	..	..	1,950	202
Infants seen at home or clinic	..	..	..	40,917	8,191
Attendances and treatments—					
Number attended at cottage or office	..	..	..	19,608	15,955
Number in own home	..	..	..	48,721	20,179
Total number of homes visited for any purpose	..	..	..	133,063	65,560
Number of inoculations	..	..	..	18,858	28,121
Social-welfare cases	..	..	..	2,398	715
Pas or settlements visited	..	..	..	19,492	3,933
Lectures given—					
To school children	..	..	..	2,089	6,206
To other groups	..	..	..	520	351
Complete immunizations (six-monthly period, April to September, 1946):—					
Diphtheria	..	..	..	24,235	
Whooping-cough	..	..	..	789	
Typhoid	..	..	..	6,363	

The staff-education programme as outlined last year has been followed this year and many of the district meetings have been attended by Miss McNab or myself. By the use of nurses' own cases and problems in group discussion much useful information has been illustrated.

INDUSTRIAL NURSING

Miss Ryan has now visited all factories where nurses are employed several times and also some where nurses could be employed. Group meetings have been held in all centres.

For this coming year the first course in connection with the Post-graduate School will be held, and 4 students are enrolled.

In addition, a correspondence course, which will be conducted with the assistance of the Correspondence School, is to be held for those nurses who are already in positions and who have had no previous training.

CONFERENCES

The Department has had a great deal of assistance from the voluntary organizations—the New Zealand Red Cross Society and the Order of St. John are continuing to train voluntary aids and to assist hospitals in this manner; the Registered Nurses' Association has worked most closely with the Nursing Division throughout the year in several pieces of research, one of which was carried out by means of a questionnaire concerning the wastage of pupil-nurses.

POST-GRADUATE SCHOOL

The Post-graduate School has had an exceedingly busy year, with a record number of students, 50. In addition, refresher courses, each of a week's duration, have been held for theatre and tutor sisters and two groups of nurses have been taken for the Introductory Course.

Additional class-room accommodation is urgently required. This could be done by taking away the residential rooms, although it has been useful to have these, in view of the shortage of accommodation in Wellington.

STAFF

The Department's institutions, like others, have had a most trying time with staff changes, particularly at Queen Mary Hospital, Hanmer Springs, which, being a country hospital a long distance from a town, finds it particularly difficult to maintain staff. All of the staffs of these hospitals have given excellent and devoted service in order to maintain their hospitals' standard of service.

To the other executive officers of the Department and to the nursing staff of the Department as a whole, as well as the Hospital Boards and their staffs and the Hospital Boards' Association, the Director is extremely grateful for continued co-operation and assistance, and, in particular, mentions the clerical staff of her own Division, who have carried out a great deal of additional work involving overtime.

DIVISION OF MEDICAL BENEFITS

This section of the report mainly concerns itself with an account of the expenditure involved in administering the health-benefits section of the Social Security Act. Some remarks are, however, necessary regarding the functional side of medical care in New Zealand. A perusal of the statement regarding the various benefits to follow will demonstrate that the people of New Zealand have benefited considerably since the introduction of the various benefits. It is true that under the present system there is an ill-balanced distribution of medical practitioners and that the services provided in many cases may be difficult to obtain and sometimes of indifferent quality because of excessive demands on practitioners. Nevertheless, a great majority of the population are receiving services which they were unable to afford in the past. There is still, however, much to be accomplished. A better distribution of practitioners is necessary. The present shortage of specialists should be overcome and specialist services of all kinds be readily available wherever required at the cost of Social Security Funds. The merging of curative and preventive medicine, now known as social medicine, should be achieved, and health centres which are necessary for this type of service should also be provided. From the functional side there is therefore much to be achieved in improving and extending the various types of medical care that are necessary for New Zealand.

Regarding the cost of benefits, the total expenditure for the past year, as well as that for each section, with its equivalent percentage of the whole, is tabulated below :—

				Amount.	Percentage.
				£	
(1) Maternity benefits	..	..	..	672,989	10·8
(2) Medical benefits	..	..	..	1,760,574	28·3
(3) Hospital benefits	..	..	..	1,986,288	32·0
(4) Pharmaceutical benefits	..	..	..	1,439,686	23·2
(5) Supplementary benefits	..	..	..	352,043	5·7
				<u>£6,211,580</u>	

(1) MATERNITY BENEFITS

This section accounts for 10·8 per cent. of the total expenditure. The expenditure under this section has increased by £72,780 since the last report. As this increase is undoubtedly due to an increase in the birth-rate, it is the most comforting feature of this report. It is to be noted that the increases apply to attendance in public hospital maternity annexes and to the professional services of medical practitioners only. The present difficulties of private maternity hospitals is reflected in a reduction of expenditure in this section, due, no doubt, to the reduced number of beds available in such institutions.

(2) MEDICAL BENEFITS

This section accounts for 28·3 per cent. of the total expenditure. Apart from payments to medical practitioners for professional services to maternity patients, this section represents all the remaining expenditure involved in payments to general medical practitioners.

Capitation.—The expenditure under this subsection has again decreased. This is not due to any inherent defect in the capitation system, because, for obvious financial reasons, a capitation system cannot survive in contact with the alternative fee-for-service system.

General Medical Services.—The increased expenditure under this subsection was £309,153, which is an increase of 23·9 per cent. for the year. During the same period the number of medical practitioners claiming on the Social Security Fund increased from 965 to 1,121—*e.g.*, 156—a 16-per-cent. increase. The shortage of medical men is therefore to some extent being overtaken, but not yet at the rate necessary to meet current demands for medical services. The approaching restoration to normal standards of medical personnel affords an opportunity for the examination in more correct perspective of the merits and demerits of the general medical services system. It is accordingly hoped that some of the shortcomings arising out of the serious doctor shortage during the war will of themselves disappear with the return of practically all medical men to civil practice. It cannot be gainsaid, however, that the conditions prevailing over recent years have in some cases brought about a serious lowering of the quantum and quality of medical services. Every attempt should be made to rectify this position as early as possible, and to this end it is proposed to arrange a conference with representatives of the British Medical Association shortly, and that one of the subjects of discussion will be the present fee for service system.

Special Arrangements.—The expenditure under this subsection has increased slightly, but this is due to an increase in the number of such districts. The service provided in these areas has again been very satisfactory.

(3) HOSPITAL BENEFITS

This section accounts for 32 per cent. of the total expenditure. This section alone shows a diminution in expenditure in comparison with last year. This is probably due to the shortage of beds in most public hospitals. It is to be particularly noted that there is not a compensatory increase in out-patient expenditure and that there is a slight decrease in expenditure for private hospitals. The expenditure under this section is not the full cost of public-hospital expenditure—to it has to be added the subsidy from the Consolidated Fund plus the ratepayers' contribution.

(4) PHARMACEUTICAL BENEFITS

This section accounts for 23·2 per cent. of the total expenditure. The expenditure for the year amounted to £1,439,686 in a population of 1,705,550—*e.g.*, a rate of 16s. 11d. per head of the population. Since the inception of this benefit the number of prescriptions supplied each year have been as follows:—

Financial year ending 31st March—	Number.
1942 (11 months only)	2,170,000
1943	3,500,000*
1944	4,250,000
1945	4,900,000
1946	5,400,000
1947	5,882,000†

* Average cost per prescription, 3s. 3d.

† Average cost per prescription, 4s. 8½d.

The year-by-year increase in expenditure is therefore due to an increased number of prescriptions, as well as to a general increase in the average cost of each prescription. It is to be noted in connection with these rising costs that many expensive new drugs have been introduced during recent years, and that in the absence of health-benefits legislation the majority of them would not have been available to most patients on account of their cost.

(5) SUPPLEMENTARY BENEFITS

This section accounts for 5.6 per cent. of the total expenditure. At the moment the proportional cost of this subsection is low, but with the further development of those services already in operation and the introduction of additional benefits it is to be expected that the costs of this subsection will rise considerably.

TABLE

The following table shows expenditure since commencement of the benefit.

Table I.—Social Security Fund Medical Benefits : Statement showing Expenditure since Commencement of Benefits

	1939-40 (10½ Months).		1940-41.	1941-42.	1942-43.	1943-44.	1944-45.	1945-46.	1946-47.
<i>Subdivision I : Maternity Benefits (commenced 15th May, 1939)</i>									
	£	£	£	£	£	£	£	£	£
Public-hospital fees	74,780	106,834	113,276	110,217	114,930	133,946	160,870	223,914	
Private-hospital fees	139,602	216,086	227,315	207,575	209,841	210,675	222,689	202,928	
Medical practitioners' fees	45,938	161,638	176,973	158,208	162,227	158,409	201,633	232,088	
Medical practitioners' mileage-fees	1,031	5,663	6,215	5,089	5,044	5,647	4,572	4,825	
Obstetric nurses' fees	16,022	21,101	18,940	15,089	12,027	11,117	10,465	9,234	
St. Helens Hospital fees	6,440	7,653	7,151	9,046	9,870	10,940	Contribution now abolished.	..	
	283,813	518,975	549,870	505,224	513,939	530,734	600,209	672,989	
<i>Subdivision II : Medical Benefits. (Capitation Scheme introduced 1st March, 1941 : General Medical Services Scheme introduced 1st November, 1941)</i>									
Capitation fees	..	..	114,608	71,149	55,610	42,400	38,084	31,187	
Capitation and general medical services mileage	..	..	21,166	64,039	60,392	59,442	68,965	90,289	
General medical services	..	..	69,898	831,397	1,026,073	1,161,326	1,291,448	1,600,601	
Special arrangements under section 82	..	..	..	49,468	37,256	23,855	27,495	35,428	
Purchase of sites and erection of residences for Medical Officers appointed under section 82	..	..	..	..	..	..	..	2,673	
Remuneration, allowances, and expenses of medical practitioners in areas other than those covered by section 82	..	..	..	..	..	..	1,317	396	
	..	..	205,672	1,016,053	1,179,331	1,287,023	1,427,309	1,760,574	

Subdivision III : Hospital Benefits (commenced 1st July, 1939) ; Out-patient Benefits (commenced 1st March, 1941)

Treatment in approved institutions includes Ashburn Hall, Knox Home, Auckland, and Karitane Hospitals, payments to latter being introduced in 1940, but dated back to 1st November, 1939.

Treatment in public hospitals	514,254	893,251	953,794	1,020,319	1,564,315	1,689,233	1,767,874	1,593,367
Out-patient treatment	..	..	47,162	70,720	73,137	83,412	98,972	97,287
Treatment in private hospitals	82,980	141,737	146,953	191,647	238,772	259,489	264,865	251,581
Treatment in approved institutions	1,459	37,873	28,155	38,819	43,908	56,504	41,749	44,053
Contribution to Consolidated Fund for—								
Mental Hospitals	166,000	171,000	181,451	181,869	182,830	187,942	Contribution now abolished.	
Queen Mary Hospital	6,835	10,060	11,705	22,872	28,691	28,032		
Rotorua Sanatorium	2,707	4,712	4,985	4,563	5,932	6,425		
Rotorua Soldiers' Hospital	..	..	..	10,150	20,561	19,663		
	774,235	1,258,633	1,374,205	1,540,959	2,158,146	2,330,700	2,173,460	1,986,288

Subdivision IV : Pharmaceutical Benefits (commenced 5th May, 1941), (11 months)

Drugs supplied by—								
Chemists	..	..	261,845	530,695	716,080	933,490	1,082,342	1,389,638
Medical practitioners	..	..	1,527	5,891	6,092	6,231	6,030	5,879
Institutions	..	..	16,326	26,661	40,026	40,516	44,994	44,169
	..	..	279,668	563,247	762,198	980,237	1,133,366	1,439,686

Subdivision V : Supplementary Benefits

Radiological services (commenced 11th August, 1941)	..	..	27,962	88,588	109,426	128,842	132,806	175,420
Laboratory services (commenced 1st April, 1946)	..	..	..	..	..	..	..	61,453
Massage services (commenced 1st September, 1942)	..	..	..	8,836	27,331	32,152	35,569	43,028
Specialist services (neuro surgery)	..	..	..	..	1,066	1,324	2,260	1,485
District nursing services (commenced 1st September, 1944)	..	..	..	..	..	7,717	58,880	68,614
Dental services	..	..	..	..	..	..	..	..
Domestic assistance (commenced 20th December, 1944)	..	..	..	..	..	..	..	2,043
Ambulance benefits*	..	..	..	..	..	..	..	..
Artificial-aids benefits*	..	..	..	..	..	..	..	..
Grand totals	1,058,048	1,777,608	2,437,407	3,722,907	4,751,437	5,298,729	5,564,315	6,211,580
Recoveries†	1,350	923	1,819	1,728	24,757	64,015	27,751‡	20,384
Net totals	1,056,698	1,776,685	2,435,588	3,721,179	4,726,680	5,234,714	5,536,564	6,191,196

* £10,000 estimated for year ended 31st March, 1947, but not expended.
 † These are mainly in respect of hospital benefits.
 ‡ Prior to 1st April, 1945, these recoveries were treated as credits in reduction of expenditure. For 1945-46 they are included in Miscellaneous Receipts, Social Security Fund. This should be taken into account when comparing published figures relating to Social Security Fund expenditure.

DIVISION OF TUBERCULOSIS

The general activities of the year have been mainly concerned with improving the accuracy of the district registers of notified cases. Planning of hospital and sanatorium accommodation have occupied much time, and a chest-surgery policy for New Zealand hospitals has been defined. The Director visited the South Pacific in September, and in special reports has advised the Government of Fiji and the Island Territories Department on tuberculosis control in their respective areas of administration.

The returns for the year 1946 as obtained from the notifications by general practitioners, hospital clinics, and the Department's case-finding scheme disclose the known position as at 31st December, 1946, as under :—

Stated Morbidity of Tuberculosis, Maori and European, in New Zealand, as at 31st December, 1946, compared with the years 1944 and 1945 :—

	Pulmonary.			Non-pulmonary.			Total, 1946, all Forms.
	1944.	1945.	1946.	1944.	1945.	1946.	
North Island	5,038	6,116	6,234	507	546	653	6,887
South Island	1,722	2,055	2,315	259	360	415	2,730
Totals for New Zealand ..	6,760	8,171	8,549	766	906	1,068	9,617*

* Total Maori morbidity for 1946 in the above total = 2,485.

The increase in morbidity during the last three years is more likely to be due to intensified case-finding and better notification than to a marked increase in prevalence.

New cases (actual or suspected) notified during 1946 numbered 2,320, as compared with 2,572 in 1945 and 2,254 in 1944.

Of the 2,320 notified cases, pulmonary cases numbered 1,973, (1,530 Europeans, 443 Maoris) and non-pulmonary 347 (Europeans, 290, Maoris, 57).

The known incidence rates for all forms of tuberculosis are : European, 4.32 per 1,000 ; Maoris, 24.56 per 1,000 ; and combined cases, 5.48. Of the 9,617 cases on the register at 31st December, 1946, 3,304 were returned as being in the " active " state, " infectious," or " potentially infectious."

The 1946 mortality returns for tuberculosis, as supplied by the Government Statistician, are scheduled as follows :—

		Pulmonary Forms.					Other Forms.					Total Deaths, 1945.	
		European.		Maori.		Totals, Pulmo- nary.	European.		Maori.		Totals, other Forms.		
		M.	F.	M.	F.		M.	F.	M.	F.		E.	M.
North Island ..	..	159	128	124	160	571	33	29	51	49	162	376	358
South Island ..	..	97	75	4	4	180	25	15	..	3	43	225	15
Total, New Zealand	..	256	203	128	164	751	58	44	51	52	205	601	373

Deaths from tuberculosis, pulmonary forms :—					1944.	1945.	1946.
Europeans	..	..	..	..	485	496	459
Maoris	..	..	..	..	285	292	292
					770	788	751
Deaths from tuberculosis, non-pulmonary :—							
Europeans	..	..	..	..	106	105	102
Maoris	..	..	..	..	87	81	103
					193	186	205

Death-rates, all Forms

				Total Deaths, 1946.	Crude Death-rates per 10,000.		
					1944.	1945.	1946.
Europeans	..	..	..	561	3·81	3·78	3·39
Maoris	..	..	..	395	37·40	37·02	39·04
Both races	..	..	..	956	5·96	5·77	5·43

DISTRICT NURSING STAFF

Altogether, 7,874 outpatients are now being supervised by 217 District Nurses employed either by the Department or by Hospital Boards. These nurses have also been responsible for finding 323 new cases of tuberculosis during the year.

TUBERCULOSIS RESEARCH

Improved methods of control, diagnosis, and treatment as reported from overseas have been closely followed. During the course of a short visit overseas in June, 1947, the Director hopes to investigate the B.C.G. vaccine immunization now being used in Canada and Scandinavia. Reports of results achieved with this vaccine suggest that this form of immunization could now be introduced into New Zealand.

Dr. W. Gilmour, research worker at Auckland for the Tuberculosis Committee of the Medical Research Council, has submitted a summary of his work with the bovine type of infection in human beings for the period 1942 to 1947. From specimens derived from 165 non-pulmonary tuberculosis lesions he has discovered 13·3 per cent. which were caused by the bovine type of infection. Specimens from 294 pulmonary lesions yielded only 1 that was caused by this type. This form of research is being pursued in other parts of New Zealand, and all results so far received support the impression that tuberculosis infection from cattle has been responsible for only a very small number of the cases now registered. The chief cause of tuberculosis in this country undoubtedly is the human type of infection.

The urgent need to provide adequate and suitable hospital accommodation, together with suitable homes, for the tuberculous is necessary not only in the interests of individual patients themselves, but also in the interest of improving the general health of the country.

Tuberculosis to-day is—

- (1) The fifth highest cause of death in New Zealand.
- (2) The highest single cause of death in females in the age group 20–30 years, both for Maoris and Europeans.
- (3) The highest single cause of death amongst the Maori people.

One-fifth to one-sixth of the total hospital population in New Zealand is suffering from tuberculous disease. Over one-third of the registered cases are known to be in an active infectious or potentially infectious state, and institutional accommodation is available for only one half of these.

DIVISION OF MATERNAL WELFARE

BIRTHS

The increased number of births during 1946 imposed a considerable strain upon maternity services.

ACCOMMODATION

As materials and labour for building purposes were scarce, administrators and licensees in most cases had to make the best of existing accommodation, so that facilities did not always reach the standard laid down for maternity cases. After internal discussions, the Department temporarily waived the full-scale standards where necessary to ensure that this essential service be maintained. Nevertheless, thanks to a high standard of medical and nursing care, the maternal-mortality rate of 2.05 per 1,000 live births was the lowest ever recorded in New Zealand. The still-birth rate of 21.75 was also the lowest on record, and the neo-natal deaths compare favourably with previous years.

During 1946–47, Auckland, Wellington, and Christchurch Hospital Boards opened maternity wards for normal cases wherein patients were allowed own-doctor attendance.

Other Hospital Boards in some cases provided overflow accommodation within the general hospital. The Department recognizes the necessity for this temporary overflow accommodation, but realizes that safer facilities for confinement cases must be provided.

At this date it is estimated that 400 to 500 new beds are required to provide an adequate maternity service throughout the Dominion. Some of these beds would be in replacement of sub-standard accommodation.

STAFFING

The Department thanks the many retired midwives and married nurses who relieved during 1946, also Plunket nurses who gave up week-ends to relieve charge sisters.

In October, 1946, the Director of Maternal Welfare and the Matron of St. Helens, Wellington, represented the Department on a committee of inquiry into short-term and long-term remedies for staffing of obstetrical hospitals.

FIELD SURVEY

The Directorship of Maternal Welfare was vacant for two years. During 1946 the present Director travelled over the greater part of New Zealand in order to assess maternity hospital needs.

POST-GRADUATE CENTRE

During 1946, negotiations were furthered between the University of New Zealand (and its Auckland University College), the Auckland Hospital Board, and the Department of Health for the founding of a post-graduate obstetrical and gynaecological teaching centre in Auckland. It is envisaged that this centre will have far-reaching effects upon medical, nursing, and research obstetrical interests throughout the Dominion.

Table No. I.—Number of Births P.A., Birth-rates, Neo-natal Death, Still-birth, and Maternal Death-rates

(Average rates for each quinquennial period from 1926 to 1945 and rates for 1946)

	1926-30.	1931-35.	1936-40.	1941-45.	1946.
Number of live births per annum E.	27,420	24,825	27,941	33,918	41,871
.. .. M.	1,843	2,847	3,935	4,411	5,776
Live-birth rate E.	19.76	16.98	18.36	21.81	25.24
.. .. M.	28.40	38.06	45.17	45.56	56.49
Total	20.13	18.00	19.81	23.20	27.05
Still-birth rate per 1,000 total births E.	30.68	28.95	28.49	25.02	21.75
Neo-natal death-rate per 1,000 live births .. E.	24.82	22.34	22.51	20.04	*
.. .. M.	*	20.58	26.07	22.08	*
Total	*	22.16	22.93	20.25	*
Still-birth rate and neo-natal death-rate com- E.	54.72	50.64	50.36	44.56	*
bined, per 1,000 total births					
Maternal-mortality rate (including septic abor- E.	4.80	4.47	3.59	2.61	2.05
tion) per 1,000 live births M.	*	7.16	5.44	3.18	3.81
Total	*	4.75	3.80	2.68	2.27
Maternal-mortality rate (excluding septic abor- E.	4.14	3.29	2.87	2.04	1.76
tion) per 1,000 live births M.	*	6.60	4.93	2.73	3.64
Maternal death-rate from septic abortion per E.	0.66	1.18	0.72	0.57	0.29
1,000 live births M.	*	0.56	0.51	0.45	0.17

E. = European ; M. = Maori.

* Not available.

Table II.—Puerperal Mortality, 1946 (European), showing Number of Deaths and their Proportion to Live Births

	Number of Deaths.	Death-rate per 1,000 Live Births.
Puerperal sepsis following childbirth	5	0.12
Accidents of labour—		
Placenta prævia	5	33
Post-partum hæmorrhage	6	
Puerperal embolism and thrombosis without puerperal sepsis	13	
Other—		
Obstetric shock and heart failure	4	7
Ruptured uterus	5	
Toxæmia of pregnancy—		
Eclampsia	8	28
Puerperal toxæmia (pre-eclamptic)	16	
Acute yellow atrophy of liver	4	
Accidents of pregnancy—		
Abortion (non-septic)	5	7
Ectopic gestation	1	
Ante-partum hæmorrhage, without delivery	1	
Puerperal psychosis	1	0.02
Total maternal deaths (excluding septic abortion) ..	74	1.76
Septic abortion—		
Married women	7	12
Single women	5	

Table III.—*Maternity Hospital Statistics, 1935, 1939, 1943-46*

	1935.	1939.	1943.	1944.	1945.	1946.
Number of hospitals	274	272	297	287	275	263
Number of beds	*	1,680	2,108	2,078	2,066	2,249
Admissions for ante-natal treatment	*	1,299	2,403	2,448	2,741	2,930
Admissions for delivery	*	27,083	32,287	34,621	38,360	42,641
Confined at full term	18,175	25,521	30,549	32,629	36,405	40,416
Confined 7-9 months	859	1,285	1,696	1,881	1,955	2,005
Per 1,000 confinements	45.1	47.9	52.6	54.5	51.0	47.3
Total confined	19,034	26,806	32,231	34,533	38,360	42,421
Per bed	*	16.0	15.3	16.6	18.6	18.9
Abortions	118	165	196	243	194	165
Per 1,000 confinements	6.2	6.2	6.1	7.0	5.1	3.9
Instrumental deliveries	1,690	2,672	3,149	3,248	3,634	4,602
Per 1,000 confinements	88.8	99.7	97.7	94.1	94.7	108.5
Manual removal of placenta	166	187	185	217	243	279
Per 1,000 confinements	8.7	7.0	5.7	6.3	6.3	6.6
Hæmorrhage: Accidental	66	91	113	108	167	153
Per 1,000 confinements	3.5	3.4	3.5	3.1	4.4	3.6
Hæmorrhage: Placenta prævia	93	113	166	172	194	216
Per 1,000 confinements	4.9	4.2	5.2	5.0	5.1	5.1
Hæmorrhage: Post-partum	256	330	431	463	436	539
Per 1,000 confinements	13.4	12.3	13.4	13.4	11.4	12.7
Eclampsia	77	81	84	78	86	92
Per 1,000 confinements	4.0	3.0	2.6	2.3	2.2	2.2
Infant deaths	303	414	462	491	487	533
Per 1,000 confinements	15.9	15.4	14.3	14.2	12.7	12.6
Still-births	545	749	746	709	801	824
Per 1,000 confinements	28.6	28.0	23.1	20.5	20.9	19.4

* Not available.

CÆSAREAN SECTION

The steady increase in the percentage of deliveries by Cæsarean Section is indicated by the following figures:—

Percentage of Cæsarean Sections
to Total Deliveries.

1940	0.71
1942	0.77
1944	0.84
1945	0.93
1946	1.15

DIVISION OF DENTAL HYGIENE

The year ended 31st March, 1947, has been notable for the introduction as from the 1st February, 1947, of the dental service for adolescents. This represented the culmination of a long period of planning and negotiation with the dental profession. It is gratifying to be able to record that this new service has been launched with the complete approval and full co-operation of the profession as represented by the New Zealand Dental Association. Following is a detailed review of the activities of the Dental Division during the year.

ADOLESCENT DENTAL SERVICE

The second or adolescent phase of the National Dental Service was inaugurated on the 1st February, 1947. The policy that was adopted, after consultation with the New Zealand Dental Association, provides for the development ultimately of a State-salaried service to deal with the adolescent group, with, in the meantime, a private-practitioner service under which enrolled patients receive treatment as a dental benefit under the Social Security Act. The scope of the service, eligibility for enrolment, the responsibilities undertaken by contracting dentists and by enrolled patients, and administrative details are set out in the Social Security (Dental Benefit) Regulations 1946.

Fundamental features are : (i) previous regular dental care, or, failing this, a high standard of dental health at the time of application, is a necessary qualification for enrolment ; (ii) the system is designed to ensure preservation of the natural teeth in a sound and healthy condition. Extraction of teeth is not included in the normal schedule of treatment, and must be specifically approved ; (iii) contracting dentists undertake to provide examination and necessary treatment at six-monthly intervals at fees specified in the regulations ; (iv) it is planned to continue this system until patients attain their nineteenth birthday, but in this first year of operation only those under sixteen years of age are eligible for enrolment ; (v) there is free choice of dentist.

In effect, the inauguration of this service marks a further step in the development of the system of controlling dental disease by means of regular examination and treatment at half-yearly intervals from pre-school age to the age of nineteen years.

The invitation to dental practitioners to undertake service under the scheme met with an immediate response, and by the 31st March, 1947, two months after the inauguration of the system, approximately 70 per cent. of the private practitioners had offered to accept patients, and offers were still being received. It had been a matter for speculation as to what extent the public would wish to avail themselves of the purely conservative dental care offered, but the thousands of applications for enrolment that poured into the District Offices as soon as the inauguration of the service was announced made it clear that full advantage would be taken of the facilities that were being provided. By the 31st March some 18,000 applications had been received and were being examined to determine the eligibility of the applicants for enrolment.

SCHOOL DENTAL SERVICE

The number of centres at which the School Dental Service operates shows a further increase to 456 treatment centres, as against 447 at the end of the previous year. At the 31st March, 1947, the staff numbered 679, including 206 student dental nurses in training. The shortage of school dental nurses in field clinics, a legacy of the war years, continues to be a major problem, and is likely to remain so until the greater numbers now being trained become effective in the field. So far the half-yearly output from the Training School has been sufficient to make good current wastage, but the position will not be satisfactory until there is sufficient staff to overtake the accumulated arrears of treatment and resume normal expansion.

The number of children under regular treatment is 226,798, an increase of 15,878 during the year.

The number of schools receiving treatment is 2,313, as compared with 2,348 at the end of the previous year. The reduction is due to the consolidation of schools in various areas.

The total number of operations for the year was 1,578,605. This included 906,553 reparative fillings in both permanent and deciduous teeth and 173,447 preventive fillings, a total of 1,080,000 fillings. In contrast with this figure, which represents

approximately the number of teeth preserved for useful service, the number of teeth removed as unserviceable (or in some cases to relieve over-crowding) was 68,663, a ratio of 6.3 extractions to every 100 fillings.

HEALTH EDUCATION

A very gratifying amount of dental health education work has been performed by school dental nurses, the total number of activities amounting to 7,593.

A specialist officer from the divisional staff has made a start on an intensive programme entailing the visiting of every school dental clinic and providing direction to the school dental nurses' efforts. The production of still further new film-strips, posters, and pamphlets has been undertaken, and the field staff make good use of the material that is available, including sound films and a wide variety of display material. Radio talks on dental subjects, integrated with talks on other aspects of health, have continued to be a feature of the educational work.

DENTAL RESEARCH

During the year arrangements have been put in hand for the resumption of research work under the Dental Research Committee of the Medical Research Council.

This work was commenced in 1939, but was interrupted by the war. The plans have been revised, and the work will now be undertaken on a wider and more comprehensive scale.

Of special significance in this connection is the appointment of Dr. R. E. T. Hewat, D.D.S. (N.Z.), as Field Research Officer attached to the Division of Dental Hygiene. It is expected that Dr. Hewat will take up his new duties in June, 1947.

DENTAL BURSARIES

Health Department bursaries to the number of 23 were granted to dental students at the beginning of 1947. Of the bursaries granted in previous years, 65 were renewed and 5 were suspended temporarily. The total number of bursaries held as at the 31st March, 1947 (including those temporarily suspended), was 93. Of 4 holders of bursaries who graduated in 1946, 2 are now on the staff of the Dental Division and 1 was granted permission to accept a Demonstratorship at the Otago University Dental School for one year. The fourth failed to undertake the service prescribed in the bursary agreement, and the penalties provided for in the agreement were duly imposed in this case.

SHORTAGE OF STAFF

The work of the Dental Division has suffered during the year from shortage of staff at all levels. Numerically the staff has remained almost static during recent years. Any slight upward trend in numbers has been negligible as compared with the rapidly expanding school rolls. As a result, not only has extension of dental services in the schools been restricted, but there has been increasing difficulty in maintaining existing commitments. An interesting point arises in this connection, in that it has become evident that the public have developed a very keen appreciation of the value of regular half-yearly dental care for children, and become concerned when the interval between inspections extends beyond the customary six months. This is most gratifying as evidence of an awakened interest in the importance of good dental health, even if it tends to be embarrassing under present conditions. The outlook, however, is bright as far as the staffing of school dental clinics is concerned. The Dominion Training School for Dental Nurses and its annexe are full to capacity, and when once the field staff is adequately reinforced it will be possible to commence on the task of overtaking the accumulated arrears of treatment.

The prospects in regard to dental surgeons are less promising. The general shortage of dental surgeons in the Dominion is reflected in the service, and it is found to be increasingly difficult to secure or even to retain the services of such officers. The depletion of staff at this level is causing concern, and there is need for the strengthening of the senior ranks by the appointment of dental surgeons of senior standing and suitable qualifications and experience.

DENTAL TREATMENT OF RETURNED SERVICEMEN

With the return to New Zealand of the Forces overseas, the volume of work in connection with the Department's organization for providing dental treatment for returned personnel of the Armed Forces has steadily declined during the year. By the end of the year under review it was found possible for the duties of the dental supervisors (private dental practitioners who organized the examination and treatment of returning drafts) to be transferred to departmental officers, and it was arranged that this would be done as from the 15th April, 1947.

The purpose of the system was to ensure that Service personnel were returned to civilian life with a standard of dental fitness not lower than when they enlisted. On arrival in New Zealand all personnel were dentally examined as part of their medical boarding, and the necessary treatment was authorized by the dental supervisor in accordance with the policy laid down. The authority for treatment was posted direct to the dentist nominated by the serviceman, and the dentist later submitted his claim to the Department in accordance with the approved scale of fees. The system worked smoothly and effectively, and its operation over the period of the war years was notable for the entire absence of any serious complaint. The Department takes this opportunity of acknowledging the work of the dental supervisors and of the private dental practitioners, by whose sustained efforts this service for returned personnel was made possible.

GENERAL

INDUSTRIAL HYGIENE

In Dr. Davidson's report published in the 1944 annual report he suggested "that consideration be given to the formation within the Department of Health of a Division of Industrial Hygiene to include the factory inspectorate, relieved of all other duties and to administer those parts of a new Factories Act and such other legislation as is concerned with the health, welfare, and safety of the industrial worker."

The principle of a Division of Industrial Hygiene is now accepted, and the Factories Act, 1946, section 78, gives to Medical Officers of Health or other authorized officers of the Department of Health the same powers and authorities as Inspectors of Factories under the provisions of the Act.

The first medical appointment to the new Division was made during 1946, and the appointee, Dr. Garland, arrived in the Dominion to take up his duties in January, 1947.

NUTRITION

Dr. Muriel Bell and the Nutrition Research Committee of the Medical Research Council continue to give considerable attention to matters relating to the nutrition of our people. In May, 1946, the rate of flour extraction in New Zealand mills was raised to 80 per cent. This was done in response to the request of the Emergency Food Council to all countries that they should save wheat by this method during the world wheat shortage. In New Zealand the 80-per-cent. extraction meant an extra 7 tons of flour per 100 tons of wheat, and it was calculated that New Zealand would thus be able to

lower her annual wheat importation by 500,000 bushels. The United States has adopted a compulsory 80-per-cent. extraction rate, while in Britain the very high rate of 90 per cent. is in force. Papers were prepared by Dr. Bell for the British Empire Scientific Conference, the International Assembly of Women, New York, and for the Royal Society's delegate to the meetings of the American Philosophical Society and the National Academy of Sciences in Washington. Information has been freely supplied to improve the standard of dietaries of boarding institutions, hospitals, and on the subject of school lunches. Articles have been contributed and addresses given for education of the public and special groups on the subject of nutrition.

MILK-IN-SCHOOLS SCHEME

As a check on the extent to which the scheme has operated, a "census" was taken on 25th September, 1946. Of the 231,103 children in the various types of schools at which pasteurized milk was available on that date, 159,588, or 69 per cent. accepted the $\frac{1}{2}$ pint ration. Malted milk was available to 9,493 children, of whom 8,280 accepted the ration. Raw milk made into a cocoa drink was taken by 398 children in schools having an attendance of 883 on that date.

APPLES-IN-SCHOOL SCHEME

Apples free of cost were supplied to pupils attending all types of schools for four weeks during the apple season. A total of 45,260 cases of apples were supplied.

HEALTH CAMPS

Health camps have continued to operate successfully, the majority being permanent camps open throughout the year.

Although some 1,800 children were admitted during the period under review, all camps have long waiting-lists of children who have been selected for admission by the school medical and nursing staff.

Reports show that the majority of the children receiving health-camp treatment benefited to such a degree that they returned to their homes fully restored to health.

The health-stamp campaign was again very successful, and sales, approximately £90,000, were £15,000 in excess of last year's record.

HEALTH EDUCATION

The budget for health education provided for an expenditure of £26,000, on similar lines as given in previous reports. Further sets of posters were designed and supplied to schools and organizations. There was experienced a strong and growing demand for health educational films, and a number of accessions were made to the film library to intensify the campaign against diphtheria, tuberculosis, venereal diseases, dental caries, and in the interest of good nutrition, child welfare, and industrial and public hygiene. The health advertisements, which have been favourably commented upon by overseas authorities, appeared regularly in newspapers and journals. District, institutional, and Head Office libraries have been kept supplied with reference works, journals, and health educational material, including a special set of books for a correspondence course on industrial nursing which has been initiated. In collaboration with the New Zealand Trained Nurses' Association, literature and posters were issued for the nursing

recruitment campaign. In the forthcoming year new ground will be broken and new methods tried to reach the public. The mobile health exhibit will go on tour, and an itinerary has been arranged for this purpose. A campaign has been planned to renew the attack on the hydatid-disease menace. Industrial films for the training of nurses are being provided, and the production of our own films has been forecasted.

BOARDS ASSOCIATED WITH THE DEPARTMENT

The Board of Health, the Medical and Dental Councils, the Medical Research Council, the Nurses and Midwives Registration Board, the Opticians Board, the Masseurs Registration Board, the Medical Advertisements Board, the Plumbers Board, the King George V Memorial Fund Board, and the Dominion Advisory Board of the New Zealand Federation of Health Camps continued their work during the year.

INTERNATIONAL HEALTH CONFERENCE

As delegates from the New Zealand Government, Dr. H. B. Turbott and I attended the International Health Conference, convened by the Economic and Social Council of the United Nations, and held in New York from 19th June to 22nd July, 1946.

As a result of the deliberations of the Conference the following instruments were drawn up and separately signed :—

Constitution of the World Health Organization.

Arrangement for the establishment of an Interim Commission of the World Health Organization.

Protocol concerning the Office International d'Hygiene Publique.

SOUTH PACIFIC HEALTH SERVICE

An agreement for the establishment of a South Pacific Health Service was made between the Government of New Zealand (in respect of the New Zealand island territories, including Western Samoa), the Government of Fiji, and the Eastern Pacific High Commission.

This agreement regularizes and extends an arrangement for co-operation in health matters which has for nearly twenty years existed in the island territories administered by the Government of Fiji, the Western Pacific High Command, and the Government of New Zealand.

MEDICAL RESEARCH COUNCIL

Thyroid Research Committee.—Three papers published during year :—

- (1) "Observations on the Acidophil Cell Changes in the Pituitary in Thyroxine Deficiency States—(1) : Acidophil Degranulation in relation to Goitrogenic Agents and Extrathyroidal Thyroxine Synthesis" (Purves and Griesbach). *British Journal of Experimental Pathology*, 1946, Vol. XXVII.
- (2) "Studies on Experimental Goitre—VII : Thyroid Carcinomata in Rats treated with Thiourea" (Purves and Griesbach). *British Journal of Experimental Pathology*, 1946, Vol. XXVII.
- (3) "The Effect of Thyroid Administration on the Thyrotropic Activity of the Rat Pituitary" (Purves and Griesbach). *Endocrinology*, Vol. 39, No. 4, October, 1946.

Also a paper entitled "Studies on Experimental Goitre—VIII: Thyroid Tumours in Rats treated with Thiourea" (Purves and Griesbach) accepted for publication in the *British Journal of Experimental Pathology*. A paper entitled "The Thyroid Gland and Recent Research" (Hercus) published in the *N.Z. Medical Journal*, August, 1946.

Virus and Immunology.—"Reports on Research into Control of Air-borne Infection, Growth and Pathogenicity of Viruses, Effect of Temperature on the Virus—Host Relation, Viable Virus Counts and Poliomyelitis" (Richardson).

Papers:—

- (a) "The Nature of Resistance to Poliomyelitis as evidenced by the Incidence of the Disease" (Richardson).
- (b) "A Simple Method of Preservation of Stock Cultures" (Kirschner).
- (c) "Isolation and Typing of Group-A Beta Hæmolytic Streptococci" (Kirschner).

Neurophysiology and Neuropathology.—Publications:—

- "Myelography in Lumbar Intervertebral Disk Lesions: A Correlation with Operative Findings" (Begg, Falconer, and McGeorge). *British Journal of Surgery*, October, 1946.
- "Sensory Disturbances occurring in Sciatica due to Intervertebral Disk Protrusions: Some Observations on the Fifth Lumbar and First Sacral Dermatomes" (Falconer, Glasgow, and Cole). *Journal of Neurology, Neurosurgery, and Psychiatry* (in press).
- "Acetyl Choline and Neuromuscular Transmission" (Fillenz and Hanafin). *Journal of Neurophysiology*, May, 1947.
- "Acetylcholine and Synaptic Transmission in the Spinal Cord" (Eccles). *Journal of Neurophysiology*, May, 1947.
- "Electrical Investigation of the Mono-synaptic Pathway through the Spinal Cord" (Brooks and Eccles). *Journal of Neurophysiology* July, 1947.
- "An Electrical Hypothesis of Central Inhibition" (Brooks and Eccles). Sent to *Nature*, 1947.

Dental Research.—Reports submitted by Professor Walsh and Mr. J. Ll. Saunders. Paper given at the Science Congress in Wellington on 20th to 23rd May, 1947, on "Recent Advances in the Attack on Dental Caries" (Walsh).

Psychiatric Research.—Published during the year:—

- (1) "A Report of Similar Mental Disorders occurring in Identical Twins" (Palmer). *J. Ment. Sc.*, October, 1946, 92, 817.
- (2) "The Use of Curare with Convulsion Therapy" (Palmer). *J. Ment. Sc.*, April, 1946, 92, 387.
- (3) "The Diagnostic Use of Ether in Neuro Psychiatry" (Palmer). *Proc. R. Austr. Coll. Phys.* (in press).

Nutrition:—

- (1) "Preliminary Note on Calcification in Rats treated with Thiourea" (Weeber).
- (2) "Preliminary Note on Fluorine Content of New Zealand Teeth" (Harrison).
- (3) "Topical Application of Fluorine" (Harrison).
- (4) "Estimation of the Fluorine Content of Urine" (Harrison).

- (5) "Study of the Excretion of Fluorine with and without Tea Ingestion" (Harrison).
- (6) "Summarized Report on Riboflavin and Thiamin Status of Pregnant Women" (Clemow and Macfarlane).
- (7) "Further Note on the Inferiority of Pea-meal as compared with Meat-meal in Stock Diets for Rats" (Connor and Weeber).
- (8) "Thiamin Excretion in Normal Subjects" (Macfarlane).
- (9) "Assay of Riboflavin in Higher-extraction Flour: Riboflavin Content of Wheat and 80-per-cent. Extraction Flour Six Months after Change" (Clemow).
- (10) "Assay of Riboflavin in North Island Fish" (Clemow).
- (11) "Progress Report on Thiamine Content of some New Zealand Fish" (Macfarlane).

Printed :—

- (1) "Report on Incidence of Rickets in New Zealand" (Malcolm). *N.Z. Medical Journal*, October, 1946.
- (2) "Nutritional Factors affecting the Teeth" (Harrison and Bell). *N.Z. Dental Journal*, January, 1947.
- (3) "Wholemeal versus White Bread" (Bell). *N.Z. Dental Journal*, January, 1946.

Hydatids Research.—Reports on research submitted, including "Incidence of Hydatid Disease in New Zealand," "Styx Experiment Returns," and "Graph of Cultivation in vitro of Hydatid Scelices." Results of last-named embodied in paper submitted to *Parasitology Journal*.

During the year an article entitled "Hydatid Disease" was published in *Journal of N.Z. Association of Bacteriologists* giving summary of diagnostic methods and brief outline of lines of research.

"Testing Arecoline Hydrobromide as an Anthelmintic for Hydatid Worms in Dogs" (Batham). *Parasitology*, Vol. 37, Nos. 3, 4, August, 1946.

Clinical Medicine Research.—Publications :—

- (1) "The Spread of Infective Hepatitis and Poliomyelitis in Egypt" (Van Rooyen and Kirk). *Edinburgh Medical Journal*, 53, 527.
- (2) "Pathogenesis of Pleurisy with Effusion" (Thompson). *American Review of Tuberculosis*, 54, 349.

Papers in press :—

- (1) "Circulating Properties of *iso*-Thioureas, Guanidines, *iso*-Ureas, and Amidines" (Fastier and Smirk, with successive collaboration of Crawford and Strang). *Journal Pharmacology and Experimental Therapeutics*.
- (2) "Some Observations on High Blood Pressure" (Smirk). *New Zealand Medical Journal*.
- (3) "The Functional Pathology of Essential Hypertension" (Smirk). *Transactions of Royal Australasian College of Physicians*.
- (4) "Observations on the Classification and Renal Function Changes in Nephritis" (Smirk). *Transactions of the Royal Australasian College of Physicians*.

- (5) "Preparation of Alkyl *iso*-Ureas" (Ongley). *Transactions of Royal Society of New Zealand*.
- (6) "Urea Alkyl Sulphates" (Carter and Ongley). *Journal of American Chemical Society*.

Reports on research :—

- (1) "The Precordial Electrocardiogram, with Special Reference to Difficulties in Interpretation of Suspected Coronary Infarction and the Meaning of the T-wave" (Antonoff-Lewis).
- (2) "Some Problems concerning High Blood Pressure in New Zealand" (Alstead and Smirk).
- (3) "Nature of Ventricular Flutter and Ventricular Fibrillation" (Smirk and Fastier).
- (4) "Control of Gastric Hyperacidity by Radium" (McGeorge).
- (5) "Factors influencing Prognosis in Pneumococcal Pneumonia" (Alstead).
- (6) "Perfusion Experiments on Rats" (Restall and Woodhouse).
- (7) "Potentiating Effects of Amidine Derivatives" (Fastier and Reid).

Enterobius Vermicularis.—Further report submitted by Professor Richardson.

Tuberculosis Research.—

- (1) Report furnished by Dr. Johnson.
- (2) Summary of report by Dr. Gilmour on typing of *Tubercle bacilli* from 1942–47 to be published in *N.Z. Medical Journal* this year.
- (3) Report of experimental work by Travis Laboratory.

Obstetric Research :—

- (1) Report submitted by Professor Dawson.
- (2) Articles on "Research in Pelvimetry," by Dr. Allen, published in February and March issues, 1947, of *British Journal of Radiology*, Vol. XX. Further papers to be published in April and May issues.

Cancer Research.—Reports submitted by Sir James Elliott, President of New Zealand British Empire Campaign Society, and Mr. Roth, Physicist in Charge, Dominion X-ray and Radium Laboratory.

I regret to record the deaths of two retired officers who faithfully and ably served the Department, Dr. R. H. Makgill and Dr. T. L. Paget.

Dr. Makgill joined the Department in 1901 and he held many responsible positions, including at various times those of Medical Officer of Health, Auckland and Wellington, and Acting Chief Health Officer. Dr. Makgill was keenly interested in health legislation and was responsible for the drafting of the Health Act, 1920, and the Nurses and Midwives Registration Act, 1926, to quote two major pieces of legislation to which he turned his attention.

Dr. T. L. Paget, who served the Department for twenty years, played a most prominent part in the campaign for improved maternity services. As an outcome of his co-ordinating efforts he contributed largely to the progress which has been made in the saving of the lives of mothers, as shown in the favourable trend of the New Zealand maternal-mortality rates.

A Timaru Health District was created and Dr. G. L. McLeod appointed Medical Officer of Health.

The following medical officers have been appointed: Dr. E. W. Kinsey (New Plymouth), Dr. A. W. S. Thompson (Auckland), Dr. Miriam K. McAllum (Wellington), and Dr. F. J. G. Lishman (Gisborne).

Dr. H. B. Turbott visited overseas to study the latest trends in public-health work in America and England.

It is only fitting that I should conclude this report with a brief expression of the Department's sincere appreciation and esteem of Dr. Watt, who, after many years of onerous and faithful service, has retired from the position of Director-General of Health. To him is due a great deal of the credit for the marked development which has taken place in public-health administration in this country within recent years. He carried with him into his retirement the good wishes of his former colleagues.

In conclusion, I desire to express my thanks to members of the staff for their loyal support.

T. R. RITCHIE,
Deputy Director-General of Health.

Approximate Cost of Paper.—Preparation, not given; printing (1,103 copies), £120.

By Authority: E. V. PAUL, Government Printer, Wellington.—1947.

Price 1s.]

