Report of the Department of Health / New Zealand.

1957 H. 31

DEPARTMENT OF HEALTH

ANNUAL REPORT
OF THE
DIRECTOR-GENERAL OF HEALTH

Presented to the House of Representatives in Pursuance of Section 10 of the Health Act 1956

HON. J. R. HANAN,
Minister of Health

BY AUTHORITY:
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REPORT OF THE DIRECTOR-GENERAL OF HEALTH

The DIRECTOR-GENERAL OF HEALTH to the Hon. the MINISTER OF HEALTH, Wellington.

I have the honour to lay before you the annual report of the Department for the year 1956–57.

The vital and medical statistics which appear in the report are for the calendar year 1956. On the other hand, the financial figures and, in particular, the reports of the Divisions of Hospitals and of Clinical Services, and of the Dominion X-ray and Radium Laboratory, are for the year ended 31 March 1957.

SENIOR STAFF

During the year the following changes took place in the senior staff of the Department:

Dr J. D. Manning (formerly Assistant Director, National Health Institute) was appointed Director of the National Health Institute in succession to the late Dr J. H. Blakelock.

Dr H. T. Knights (formerly Deputy Medical Officer of Health, Christchurch) was appointed to the medical staff of the National Health Institute.

Dr T. O. Garland, Director of the Division of Occupational Health, resigned in order to take up the post of Consultant Physician to organise and develop a department of Industrial Medicine based on the Central Middlesex Hospital, London.

Dr D. P. Kennedy (formerly Assistant Director, Division of Hospitals) was appointed Assistant Director, Division of Public Hygiene. This is a newly created position consequent upon the incorporation of occupational health in the activities of the Division of Public Hygiene after Dr Garland's resignation took effect.

Dr I. J. Jeffery (formerly Medical Officer of Health, Wellington) was appointed Assistant Director, Division of Hospitals, in succession to Dr D. P. Kennedy.

I wish to place on record my appreciation of the service given to this Department by Dr Garland as Director of the Division of Occupational Health. When I first became associated with the Department his division was still a relatively new one, and I was impressed not only by his ability but also by his energy and enthusiasm in what was at that stage essentially a pioneering effort. Dr Garland has prepared a survey of the work of his division over the ten years, 1947 to 1956, and this appears as an appendix to this report.

It is with regret that I refer also to the retirement of Mr A. O. Von Keisenberg from the position of Chief Executive Officer of the Division of Hospitals. Mr Keisenberg joined the staff of the Department in

1908, and over the years has earned the esteem of successive Directors-General of Health. His profound knowledge of so many of the Department's activities and of hospital administration in all its aspects has been of immense value to all of us who have been associated with him, and he has been the trusted friend of members and officers of hospital boards throughout the country.

STATISTICAL SURVEY

The figures for live births during the year 1956 are: European, 50,430; Maori, 6,163; total, 56,593. The figures for the birth rate per 1,000 of population are: European, 24·67; Maori, 44·64; combined, 25·93. The total number of live births shows an increase of something under a thousand over the figure for the previous year, and the birth rate remains much the same as for the last several years.

The maternal mortality rate (European and Maori combined) per 1,000 live births for 1956 is 0·46; this supersedes the previous year's figure of 0·61 as the lowest yet recorded. The rate for Europeans alone is 0·34 including septic abortion, and 0·28 excluding septic abortion; both of these figures constitute new records. The actual number of maternal deaths in 1956 was 26 (European, 17; Maori, 9). This figure includes 4 deaths from septic abortion (European, 3; Maori, 1). One death (European) is recorded under the heading of sepsis of childbirth or the puerperium.

The stillbirth rate per 1,000 births is 16·73 for Europeans and 19·27 for Maoris, giving a combined rate of 17·06. Though these figures are a little higher than the corresponding figures for 1955, both the European rate and the combined rate are less than the 1954 figures, which at that time were the lowest that had been recorded.

The infant mortality rate (deaths under one year of age per 1,000 live births) is 19·39 for Europeans and 54·36 for Maoris. These figures replace those of 1954 (19·99 and 58·60 respectively) as the lowest yet recorded. The neo-natal death rate (deaths in the first month per 1,000 live births) is 13·34 for Europeans and 19·96 for Maoris; the European figure is a new record, but the Maori figure is a little higher than last year. Over the last several years the combined neo-natal death rate (European and Maori) has shown a steady fall from 17·79 in 1950 to 14·07 in 1956.

HEALTH EDUCATION

The following survey has been provided by Dr Turbott:

Health education activities are slowly, but steadily, being accepted as an integral part of all Health Department preventive planning and performance. Behind the scenes this involves training of personnel in principles and methods, and the enthusing of them for the task. Much in-service training has been done during the year, for various groups, at the Post-graduate School for Nurses, at the short orientation courses for public health nurses, at the training course for health inspectors, and at the training school for dental nurses. Health education has also been discussed at the annual and biennial in-service training conferences for medical officers of health, of nurse inspectors, and of district executive officers. In addition to the stimulation of individual action, the theme of district "team" efforts has been propounded, and district action by health education committees sought in increasing amount.

Health Education Officers were assembled in Wellington in July for a week's refresher course. Departmental work was reviewed and avenues of health education activity discussed. Demonstrations of methods and the use of aids were given, and the officers themselves held "workshops" in which they demonstrated techniques successfully used by themselves. The exchange of ideas proved stimulating and there is an increasing demand in the health districts for the health education services offered.

The Head Office health education committee has continued the national health information advertisements in the main daily newspapers and periodicals of the land. Health advice panels were maintained in railway carriages, and one large advertisement hoarding carried health messages outside the Wellington railway station. Over one million pulls of current and past newspaper advertisements were supplied as hand-out leaflets, and six new pamphlets produced: 17 new talkies and 27 new filmstrips were added to the film library. Exhibits were prepared for use in leptospirosis education, fly eradication, and pasteurised milk campaigns.

Our bulletin *Health* goes from strength to strength in its circulation demand, each issue now being 50,000 copies. Four issues were printed during the year. The national weekly radio talks on health were continued over all YA and ZB stations.

Health education committees in each health district are now meeting regularly to determine local priorities and needs in health education work. Initiative is now beginning to be evidenced in well-conceived local efforts and in the development of visual aids and exhibits to make these interesting and attractive. Team work between health inspectors and the health education officer has made for interesting food-handling courses in one district. In another, shop window displays were a special feature in three towns using raw milk in a team effort to convert the people to the pasteurised product. The three towns have changed to pasteurised milk. In still another district dramatic radio shows were prepared by the local team of health workers, portraying the various aspects of their own health office activities. In addition, this district has sponsored, with great success, classes for "expectant parents". In all districts talks and demonstrations have been used widely in an endeavour to persuade the average citizen to live more healthfully.

QUEEN MARY HOSPITAL, HANMER SPRINGS

As the work of Queen Mary Hospital is not referred to elsewhere in this report it is convenient to deal with it here. The hospital, which specialises in the individual treatment of functional nervous disorders, has 117 established beds. The number of patients treated each year remains fairly constant at some 600 inpatients and 900 outpatients. A nursing course in functional nervous disorders is provided.

NEW ZEALAND REPRESENTATION ABROAD

New Zealand was represented at the Ninth General Assembly of the World Health Organisation held in Geneva during May 1956 by Dr H. B. Turbott, Deputy Director-General of Health, as chief delegate, and Mr B. D. Zohrab of the New Zealand Legation in Paris, as alternate. Dr F. S. Maclean, Director, Division of Public Hygiene, represented New Zealand at the Seventh Meeting of the Western Pacific Regional Committee of the World Health Organisation held in Manila during September 1956.

Dr Turbott, together with Miss F. J. Cameron, Director, Division of Nursing, represented New Zealand at the annual meeting of the South Pacific Health Board in Fiji during October 1956.

Mr G. E. Roth, Director, Dominion X-ray and Radium Laboratory, represented New Zealand at the Eighth International Congress of Radiology in Mexico City during July 1956, and at the Commonwealth Radiation Protection Conference in London during October 1956.

ACKNOWLEDGMENTS

The Department is again indebted to the various organisations with which it is associated for the co-operation it has received during the year.

I wish particularly to express my personal thanks to my two colleagues on the Hospital Works Committee (Mr Barker, of Treasury, and Mr Wheeler, of the Ministry of Works), as well as to the members of the various advisory and grading committees in connection with hospital salaries. It is a pleasure also to record my warm appreciation of the unfailing support and co-operation of Dr Turbott, Deputy Director-General of Health, Mr Hunn, Deputy Director-General (Administrative), the directors of all divisions, and other senior officers of the Department.

JOHN CAIRNEY,
Director-General of Health.

REPORT OF THE DEPUTY DIRECTOR-GENERAL (ADMINISTRATIVE)

Last year's report recorded an increase of £3½ million in net expenditure over the previous year. This seemingly inevitable trend is again reflected in the figures for the year under review. Total net expenditure amounted to approximately £35¾ million, or just on £4 million more than for the year ended 31 March 1956. These are astronomical figures by any standards and indicate the ever-mounting cost of providing hospital care, public health services generally, and medical and allied benefits under the Social Security Act. The following table shows under broad headings how the money was spent. The figures take no account of capital expenditure from the Public Works Account.

Table 1

	1955–56 £	1956–57 £	Increase £
Vote "Health"—			
General health services	1,024,908	1,102,627	77,719
Dental hygiene	706,676	758,363	51,687
Departmental hospitals and institutions (other than mental hygiene) ..	463,296	479,497	16,201
Mental hygiene	2,738,287	2,960,364	222,077
Health education	39,231	33,324	−5,907
Medical Research Council	55,000	65,000	10,000
Homes for the aged	202,788	272,842	70,054
Pensioners housing: Local authorities ..	..	81,524	81,524
Youth hostels	21,587	22,548	961
Plunket Society subsidies	119,747	115,367	−4,380
Miscellaneous grants and subsidies ..	36,549	35,019	−1,530
Bursaries	39,742	39,514	−228
Vote "Subsidies to Hospital Boards"—			
Hospital board subsidies	10,704,314	12,895,674	2,191,360
Vote "Medical, Hospital, etc. Benefits"—			
Social Security Fund: Medical, etc., benefits (includes assessed salaries) ..	15,678,697	16,919,309	1,240,612
	£31,830,822	£35,780,972	£3,950,150

Of the £4 million increase in expenditure 55·5 per cent related to vote "Subsidies to Hospital Boards"; 31·5 per cent to vote "Medical, Hospital, etc., Benefits"; and 13 per cent to vote "Health". The major contributing factors to these increases were:

Vote "Health":

Salaries and Wages: Increased by £307,000. Accounted for by an increase of 325 in the total staff employed allied with the general salary increase granted public servants as from 1 April 1956. Staff increases related mainly to dental and student dental nurses (134) and mental hygiene staff (150). The improved staffing position in the mental hospitals resulted in some saving in overtime payments, although these are still substantial as, despite the improved recruitment position, there are still many vacancies.

Poliomyelitis Vaccination: £31,196 was spent in the purchase of vaccine from the United Kingdom, the provision of special containers in which to store the vaccine within the prescribed temperature range, and other expenses associated with the inaugural vaccination programme.

Mental Hygiene: Salaries and wages, for the reasons mentioned above, accounted for more than half the increased costs in running our 11 mental hospitals. The balance relates mainly to bedding and clothing (£15,954), fuel, light, power, etc. (£25,913), rations (£18,750), and drugs (£17,383). Increases under these heads are due to a rise in prices on certain items combined with the fact that more patients and staff were provided for. A contributing factor to the increased expenditure for drugs was the high cost of some of the newer "tranquillising" group of drugs.

Loans, Subsidies, and Grants: £70,054 more was spent this year than last in payments to religious and welfare organisations to provide accommodation for old people. £81,524 was paid to local authorities by way of subsidy for the erection of cottages and flats for old people. Provision for this item in previous years was made on vote "Public Works and Services". Both items are covered in more detail below.

Vote "Subsidies to Hospital Boards":

Nearly £13 million was paid in subsidies to hospital boards – an increase of approximately £2,190,000 over the previous year. It is accounted for as follows:

	£
Decrease in local body levies	420,000
Increased capital payments met from subsidy	550,000
Increased maintenance expenditure ..	750,000
Increased salary payments	470,000
	£2,190,000

The foregoing figures are analysed in detail in the report of the Director, Division of Hospitals.

Vote "Medical, Hospital, etc., Benefits":

Social security benefits under this vote increased by £1,225,558 to £16,772,712 – an increase of approximately 8 per cent, compared with 23·5 per cent last year. Details of the increases are as follows:

	£
Maternity benefits	38,203
Medical benefits	248,982
Hospital benefits	104,787
Pharmaceutical benefits	533,412
Supplementary benefits	300,174
	£1,225,558

Although substantial, the increase is considerably less than the £3 million for the previous year, when hospital benefits were increased and pharmaceutical benefits rose by nearly £1 million. The increase in pharmaceutical benefits this year is still high at just over £500,000, but is at a much lower ratio than the violent upcurve of the previous year. There is perhaps hope for the future in the fact that the appropriation for this benefit, based on a carefully compiled estimate, was, in the event, underspent by £122,000.

The pricing and payment of the 12½ million prescriptions received (1¼ million more than the previous year) again imposed some strain on the sections responsible for this work. Overtime was necessary to handle this formidable task. As a matter of interest it is worth recording that one of the Department's female pricers has consistently priced an average of 285 prescriptions an hour – a considerable accomplishment when it is remembered that she has to decipher the prescription before she can price it. The following table shows the growth in these benefits since 1943:

Table 2—Pharmaceutical Benefits

Year Ended 31 March—	Expenditure	Mean Population	Number of Prescriptions	Average Cost Per Prescription	Number of Prescriptions Per Head	Cost of Prescriptions Per Head of Population
	£			s. d.		£ s. d.
1943 ..	563,247	1,640,191	3,500,000	3 3	2·1	0 6 10
1944 ..	762,198	1,637,570	4,250,000	3 7	2·6	0 9 4
1945 ..	980,237	1,664,585	4,900,000	4 0	3·0	0 11 10
1946 ..	1,133,366	1,710,680	5,400,000	4 2½	3·2	0 13 3
1947 ..	1,439,686	1,770,291	6,100,000	4 8½	3·4	0 16 3
1948 ..	1,558,350	1,807,611	6,300,000	4 11½	3·5	0 17 3
1949 ..	1,793,159	1,843,767	6,500,000	5 6	3·5	0 19 5
1950 ..	2,043,843	1,881,317	7,240,000	5 7½	3·8	1 1 9
1951 ..	2,097,000	1,917,934	7,300,000	5 9	3·8	1 1 11
1952 ..	2,428,216	1,958,729	7,850,000	6 2¼	4·0	1 4 10
1953 ..	3,015,833	2,009,506	9,146,000	6 7	4·5	1 10 0
1954 ..	2,919,620	2,061,376	9,763,000	5 11¾	4·7	1 8 3
1955 ..	3,047,331	2,105,766	10,299,561	5 11	4·9	1 8 11
1956 ..	4,039,145	2,150,290	11,251,100	7 2	5·3	1 17 8
1957 ..	4,572,557	2,182,617*	12,562,000	7 3½	5·7	2 1 11

*As at 31 December 1956.

CARE OF THE AGED

During the year the Department has continued to promote the welfare of old people. In general the work has continued along the lines of previous years, but there has been one major development in policy (meals on wheels) and a further development (laundry service) has been under consideration and should be in operation by the time this report is presented.

Further progress has been made in implementing the recommendations of the National Conference on the Care of the Aged held in Wellington in June 1955. In the Department's annual report for 1956 a table was published summarising the action which had been taken on these recommendations up to 31 March 1956. A similar table will be published separately later in the year, showing the final action taken on all the recommendations.

The Advisory Committee on the Care of the Aged, which was established to continue the work of the national conference and to advise the Minister of Health on matters relating to the welfare of old people, met on three occasions during the year. In addition to co-ordinating work on behalf of old people and following up the recommendations of the national conference, the committee has co-operated most helpfully with the Department by advising on policy development.

Accommodation for Old People

(i) **Religious and Welfare Organisations:** During the year religious or welfare organisations were granted subsidies totalling £325,384 to assist them to provide accommodation for 242 old people. The total subsidies and grants approved under this heading since April 1950, when the present policy was initiated, amount to £1,204,220, and the total number of old people who will be accommodated is 1,707. In addition the Department is providing loan finance amounting to £52,318.

The Department now has under consideration several schemes which between them will result in a very large increase in the accommodation available for old people.

(ii) **Local Authorities:** With the help of financial assistance from Government sources there has also been a very large increase in the number of old people who will be accommodated in cottages or flats erected by local authorities. Subsidies totalling £141,210 and loans totalling £117,280 have been granted to local authorities during the year to enable them to build cottages or flats for 317 old people. Up to the date of this report, subsidies approved since the inception of the scheme have totalled £342,234 and loans approved have totalled £479,965. With this assistance twenty-seven local authorities will be providing accommodation in cottages or flats for 864 old people. The number of local authorities which have taken advantage of this subsidy and loan scheme up to the present time is disappointingly small. The Department is now considering ways and means of interesting a greater number of local authorities in the provision of accommodation for old people.

Meals on Wheels

In September 1956 Cabinet decided as a matter of policy that, except in Christchurch, hospital boards should be encouraged to supply meals to old people in their own homes where there is a need for a service of that nature. In Christchurch city the North Canterbury centre of the New Zealand Red Cross Society has for some years been successfully running a meals-on-wheels service for the old people in that city. A capital subsidy and a maintenance subsidy have been granted to the centre to enable it to continue and improve its service. As at 31 March 1957, 355 old people living in ten centres of population were receiving the benefit of a meals-on-wheels service. Since that time the service has expanded still further.

YOUTH HOSTELS

During the year subsidies totalling £16,727 were approved to assist in providing accommodation for 35 young people. Since this policy was initiated in 1951 subsidies totalling £152,056 have been approved and the buildings erected or to be erected will accommodate 295 young people.

SHORT-STAY HOMES FOR INTELLECTUALLY HANDICAPPED CHILDREN

Further subsidies totalling £6,537 have been approved during the year to provide accommodation in short-stay homes for 15 intellectually handicapped children. Since May 1954, when it was decided to assist the Intellectually Handicapped Children's Parents' Association to establish short-stay homes for these children, subsidies totalling £13,475 have been approved to assist in establishing five short-stay homes, which will provide accommodation for 41 intellectually handicapped children.

BURSARIES

These were reviewed in 1956 and worth-while increases were approved for all classes. It was hoped these increases would attract more applicants. This hope has not been realised, as the following table shows (1955–56 figures in parentheses).

Table 3—Bursaries

—	New Awards	Renewals 1956–57	Total	Amount Paid
				£ £
Dental	8 (14)	77 (63)	85 (77)	14,971 (11,978)
Dietetic	4 (5)	12 (13)	16 (18)	2,165 (2,820)
Post-graduate nursing	11 (8)	..	11 (8)	3,623 (3,482)
Medical	5 (9)	21 (53)	26 (62)	4,375 (5,956)
Nursing (infant welfare training)	49 (62)	..	49 (62)	5,508 (6,852)
Physiotherapy	35 (33)	63 (60)	98 (93)	8,872 (8,654)
Totals	112 (131)	173 (189)	285 (320)	39,514 (39,742)

PLUNKET SOCIETY

During the year under review substantial financial assistance was again given to the Plunket Society. A total of £177,679 was paid out – an increase of £5,500 on the previous year. The major contribution is in respect of nurses' salaries, which are subsidised to the extent of 60 per cent. Payments made in the past two years are summarised as follows:

Table 4

	1955–56	1956–57
	£	£
From vote "Health"—		
Nurses salaries	84,988	86,297
Nurses milage	10,097	12,003
Contributions in respect of indigent branches	237	..
Salaries of professional, clerical staff, and travelling expenses	5,151	5,835
Contributions in respect of new motor cars	1,706	1,726
Contributions to Dominion Training Centre	3,000	3,000
Karitane hospitals: Subsidy on new capital works	14,568	6,506
Totals	119,747	115,367
From vote "Social Security"—		
Hospital benefits	38,414	42,583
£2 for £3 subsidy in respect of donations to hospitals	13,966	19,729
Totals	£52,380	£62,312
Grand totals	£172,127	£177,679

GENERAL

Action has continued during the year to strengthen the administrative staff, particularly in Head Office. This has permitted, amongst other things, the development of a full inspection programme of the lay administration of hospital boards to the mutual benefit of both the boards and the Department. Much useful work is being done in overhauling stores procedures, particularly in our mental hospitals, where expenditure under this heading is substantial. The introduction of mechanised stores accounting in these institutions is under investigation. In conjunction with the Government Stores Board a comprehensive survey of surplus stores, obsolescent equipment, etc., in mental hospitals has been undertaken with good results.

The pilot scheme started in Wellington District Office last year to produce general medical service refund warrants by a partially mechanised process has proved successful. It resulted in worth-while staff savings and is being extended to other districts. For audit purposes, the warrants, when paid, have to be manually sorted in numerical sequence. The application of the "pre-punched card" system to these warrants should enable the sorting to be done much quicker by mechanical means and with less staff. This is being investigated.

With a total staff of approximately 5,000, and a correspondingly high rate of turnover, staff training, the publication and maintenance of manuals of instruction, and the training of supervisors, are all matters which require constant attention if full efficiency is to be obtained. Much has been achieved in this field but much more remains to be done. Attention is primarily directed to "on the job" training, the establishment of job break-down files, and central courses for selected staff covering the techniques of supervision. Conferences of various groups – medical officers of health, medical superintendents, district executive officers, principal dental officers, health inspectors, nurse inspectors, and health education officers, matrons and head attendants – all serve their purpose in keeping staff abreast of developments in their particular fields.

The inadequacy of our office accommodation in several centres is an ever-present problem. This is particularly so in Auckland, Wellington, Dunedin, Gisborne, New Plymouth, and Head Office. In all these places, but especially in Wellington, certain staff are working under difficult and trying conditions. We are grateful for the efforts made by the Accommodation Board to improve matters and it is realised that the only satisfactory long-term solution is the erection of more departmental buildings.

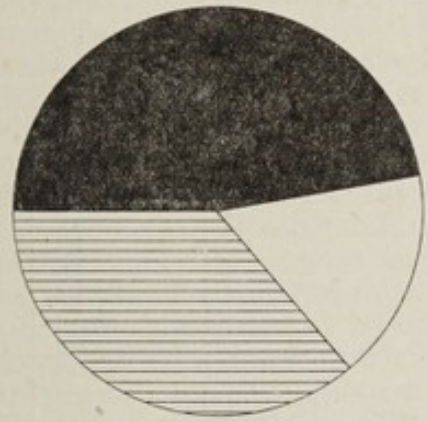
The principal role of the executive and administrative staff is to handle the day-to-day administration under the professional heads of the several divisions. This necessarily entails the closest liaison and collaboration between lay and professional staff, and the efficient conduct of the Department's business is, in itself, an indication that this essential conjunction of work and effort has been successfully achieved.

I express my thanks to the staff at all levels for the help they have given me during the year.

D. A. HUNN,
Deputy Director-General (Administrative).

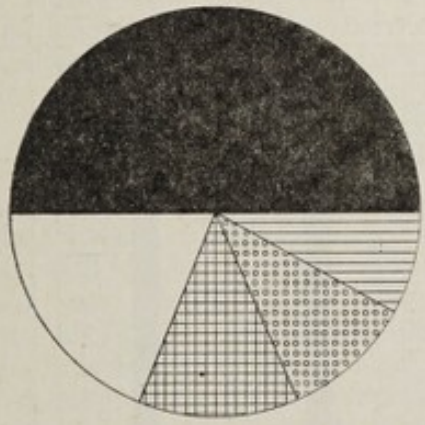
DEPARTMENT OF HEALTH
NET. EXPENDITURE 1956—57

TOTAL EXPENDITURE £ 35,780,972



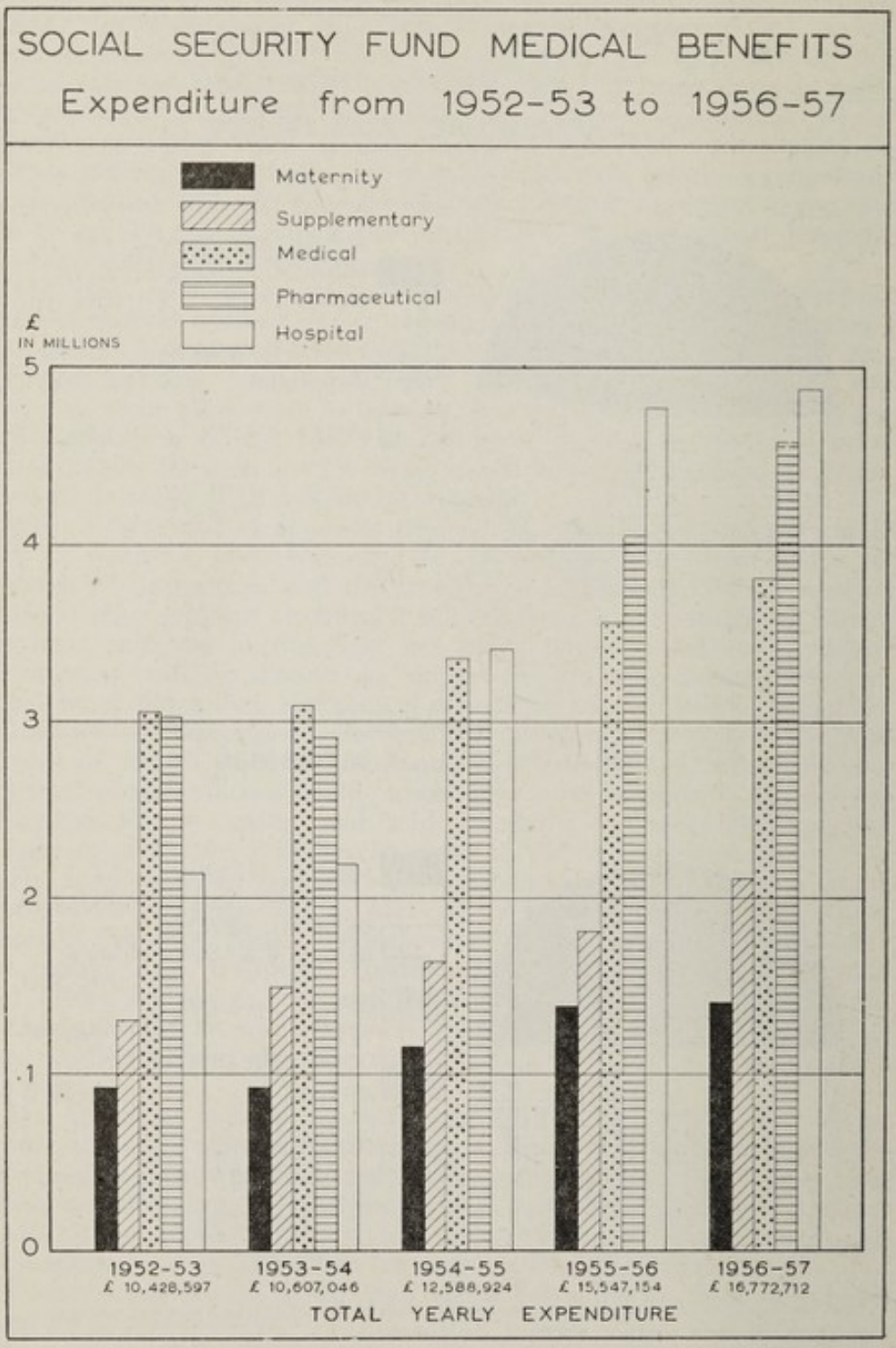
- SOCIAL SECURITY — MEDICAL, HOSPITAL, etc. BENEFITS £ 16,919,309
- HOSPITAL BOARD SUBSIDIES £ 12,895,674
- VOTE-HEALTH £ 5,965,989

VOTE— HEALTH £ 5,965,989



- MENTAL HYGIENE £ 2,960,364
- GENERAL HEALTH SERVICES & ADMINISTRATION £ 1,135,951
- DENTAL HYGIENE £ 758,363
- LOANS, SUBSIDIES & GRANTS £ 631,814
- DEPARTMENTAL INSTITUTIONS * £ 479,497

* These Institutions include : Queen Mary Hospital, Hanmer, Queen Elizabeth Hospital, Rotorua, St. Helens Hospitals, Auckland, Wellington, Christchurch.


SOCIAL SECURITY FUND MEDICAL BENEFITS
Expenditure from 1952-53 to 1956-57
Maternity
Supplementary
Medical
Pharmaceutical
Hospital
£ IN MILLIONS
5
4
3
2
.1
0
1952-53 £ 10,428,597
1953-54 £ 10,607,046
1954-55 £ 12,588,924
1955-56 £ 15,547,154
1956-57 £ 16,772,712
TOTAL YEARLY EXPENDITURE

REPORT OF THE DIRECTOR, DIVISION OF PUBLIC HYGIENE

The highlight of the year was the passing of the Health Act 1956 which, from 1 January 1957, replaces the old act of 1920. The 1920 Act, although very adequate for about twenty years, has in recent years been amended frequently, and many of its provisions were out of date. The new Act brings the quarantine provisions for ships and aircraft into line with current practice, and with the provisions of the International Sanitary Regulations by which New Zealand is bound.

A new part dealing with atmospheric pollution has been incorporated, and has become necessary because of the rapid growth of our chemical industry. Control will operate in much the same way as has proved so successful in Great Britain, and in drafting the relative sections helpful advice was received from a past Chief Alkali Inspector of the English Ministry of Housing and Local Government.

Another important change in the Act is a complete modification of the constitution and functions of the Board of Health. It is hoped that in future the Board of Health, in addition to its other duties, will undertake advisory functions covering the whole field of health, including the relationship of preventive medicine with curative medicine and with hospital administration. The total expenditure in this field is now so large, and is increasing so rapidly, that it would seem desirable that it should be studied by an independent and non-political body.

ADMINISTRATION

Towards the end of the year the Division of Occupational Health was abolished and its functions have been taken over by this division. Dr D. P. Kennedy has been appointed as Assistant Director and his main duties will be concerned with occupational health. In future, occupational health will be more closely integrated with the work of the medical officers of health, and for this reason the administrative change would seem to be an appropriate one.

ATMOSPHERIC POLLUTION

In 1955 a Commission of Inquiry was set up to investigate complaints in the southern Auckland metropolitan area of pollution of the atmosphere with acid fumes. One of the recommendations of the Commission was that the services of an experienced inspector under the British Alkali, etc., Works Regulation Act 1906 be obtained to advise on the enactment of similar legislation here, and as to the appointment of a suitable inspector to give effect to the legislation and to assist the industry to comply with it. Through the courtesy of Her Majesty's Government we were fortunate to obtain the services of Mr W. A. Damon, late Chief Alkali Inspector, who was in New Zealand from 1 November 1956 to 25 January 1957. Besides spending some weeks in Auckland, Mr Damon travelled extensively throughout both islands and made a detailed study of our chemical industry. His report, which has already been published, makes a number of useful recommendations, which, if acted on, will improve technical efficiency and lessen the discharge of offensive fumes.

INFECTIOUS DISEASES

(Figures given are for the calendar year 1956)

Poliomyelitis

At the beginning of the year the last poliomyelitis epidemic was still in progress and was passing from the North to the South Island. The figures for December 1955 showed a preponderance of nearly two-thirds of the cases in the North Island, whereas in January 1956 the position was exactly reversed. The epidemic continued with lessening intensity until July, the week ending 28 July being the first for many months in which no cases were reported. Since then cases have occurred sporadically at the rate of 10 to 15 cases a month.

The outbreak lasted from about August 1955 to July 1956 and some 1,490 cases occurred in these twelve months. The outbreak is therefore comparable with our largest epidemics of past years. The age distribution of the cases for 1956 is given in Table 8c and includes the latter half of the epidemic when the majority of cases were occurring in the South Island. A noticeable feature was the comparatively high attack rate in adults.

A number of faecal specimens were examined for typing the virus and showed that the predominating type was type I.

Table 5 shows how the outbreak started in the Hamilton - New Plymouth area and spread north and south. By the end of 1955 it was declining in the North Island and increasing in the South Island.

Particulars of individual cases did not come to hand in time to make a detailed report on the whole outbreak, and this must be postponed until a later date.

In last year's report mention was made of the arrival in September 1955 of an overseas ship with cases of poliomyelitis on board. In July-August 1956 there was a repetition of these events, also involving a ship arriving via the Panama Canal.

This ship left London on 6 July, called at Curaçao on 17 July, at Panama on 19 July, and reached Wellington on 7 August. One passenger died from poliomyelitis the day before the ship reached Wellington, and four others were admitted to the Wellington Hospital on arrival. In one case type I polio virus was isolated from the faeces.

Dr Hickling, Deputy Medical Officer of Health, Wellington, made an investigation into the outbreak and from this it appeared that there may have been 12 cases of poliomyelitis on board during the voyage and that the infection probably originated in England. About 14 or 15 July, nine days after leaving London, one of the stewards developed a suggestive 5-day illness with fever (102°), generalised muscular aches and pains, muscle tenderness, and apparent partial loss of power in both legs. A specimen of his faeces was examined four weeks later but was negative for polio virus. Five of the other persons concerned were served by this steward at table, and they developed the disease at varying dates between 23 July and 6 August.

The man who died had been ashore at Panama on 19 July and had eaten food there. He became ill on 6 August, fifteen days later, and as poliomyelitis was occurring at Panama at that time he may have contracted the infection there. Several of the other definite cases, however, developed within four to six days after leaving Panama and were unlikely to have originated there. It seems probable that polio virus was present on board during the whole voyage and accounted for most if not all of the cases.

Table 5—Poliomyelitis: August 1955 to July 1956
(All cases)

—	1955					1956							Totals (12 Months)	Rate Per 10,000
	August	September	October	November	December	January	February	March	April	May	June	July		
Whangarei	..	..	3	3	4	4	6	8	3	..	..	2	33	4·02
Auckland	4	7	19	23	21	15	19	22	15	1	1	4	151	3·50
Hamilton	17	5	2	8	8	9	9	3	2	2	2	..	67	3·28
Tauranga	1	..	3	19	16	7	6	2	7	5	1	1	68	11·59
New Plymouth ..	5	30	32	46	10	8	6	4	..	..	..	..	141	16·96
Gisborne	1	1	11	21	4	6	7	2	7	4	4	3	71	8·52
Palmerston North ..	..	3	9	18	32	18	25	23	19	8	3	3	161	6·53
Wellington	3	3	20	54	39	21	12	6	3	4	4	2	171	6·17
North Island ..	31	49	99	192	134	88	90	70	56	24	15	15	863	5·88
Nelson	..	..	..	2	5	11	31	40	23	10	2	..	124	18·70
Christchurch	..	2	..	..	4	35	33	44	20	3	..	..	141	5·95
Greymouth	..	..	..	..	1	9	12	1	1	1	..	..	25	6·02
Timaru	..	..	1	3	14	57	18	10	3	3	2	1	112	12·46
Dunedin	..	..	4	50	39	31	23	2	1	..	1	..	151	10·32
Invercargill	..	..	1	..	20	35	11	4	2	1	..	..	74	8·74
South Island ..	..	2	6	55	83	178	128	101	50	18	5	1	627	9·42
New Zealand ..	31	51	105	247	217	266	218	171	106	42	20	16	1,490	6·99

Precautions, as before, consisted of a measure of quarantine for school children and food handlers, but nothing was done to hinder the passengers proceeding to their intended destinations.

Poliomyelitis Vaccination

Through the courtesy of the English Ministry of Health and Glaxo Laboratories Limited, approximately 45 litres of poliomyelitis vaccine was made available to us in September. On the recommendation of the advisory committee set up by the Minister it was decided to purchase this vaccine and to offer it in the first place to nine-year-old children and later to eight-year-olds and others of the five- to nine-year age group. Consent cards were issued to the parents of eight- and nine-year-old children, and the percentage of consents over the whole country was 89 per cent. Sufficient vaccine was obtained to vaccinate 44,169 children.

The vaccine was transported by sea from England and immediately transferred to cold storage at the Wellington District Office. From there it was distributed by air in specially constructed insulated containers and held at district headquarters until used. The programme of vaccination in each health district was organised by the medical officer of health and was carried out by teams of departmental medical officers and nurses.

Restriction of the vaccination to nine-year old children, and a few eight-year-olds, involved a great deal of travelling to deal with relatively few children in small country schools. In view of this, and of the undoubted fact that children in rural areas have a higher incidence of poliomyelitis, there would seem to be a strong case for vaccinating in the first place all country school children up to nine years of age, and it is likely that this will be done when vaccine again becomes available.

Reactions

Generally speaking, reactions to poliomyelitis vaccination were few and mild, and mainly followed first injections. A common type of mild reaction produced headache, listlessness, and some vomiting, with rises of temperature for two or three days, and concerned some 44 children, a few of whom were kept in bed for upwards of three days. In most of these cases the second injection was given without any reaction.

In the case of two boys there was an acute pyrexial illness with confusion, headache, vomiting, and signs of meningeal irritation. In both cases the cerebrospinal fluid was under pressure but was otherwise normal. In one case the reaction followed the first injection and in the other the second injection. Both boys had indulged in strenuous exercise closely before or after the injection and it is suggested that this may have been a contributory factor.

In one case of an epileptic child, whose condition was concealed by the parents, the first injection was followed by an epileptic fit. The second injection was given at home and was followed by a mild "blackout" only. Another child who suffered from asthma had an attack after the first injection and was successfully treated with adrenelin. The second injection caused no ill effect.

Recently a small monthly supply of vaccine has been offered to us by the Commonwealth Serum Laboratories, Melbourne. This vaccine will be used in the first place to immunise hospital staffs and pregnant women. On receipt of further large supplies the immunisation of children will be proceeded with.

Infective Hepatitis

This disease was made notifiable in April 1956, and during the eight months following 570 cases were notified. It is certain that the disease is a very common one, and is likely to become the predominating acute infectious notifiable disease. Much still remains uncertain concerning the epidemiology of this disease, although infection is known to leave the body in the faeces in much the same way as happens in poliomyelitis. As in the latter disease some doubt exists as to practical and effective measures that will limit its spread.

An extensive water-borne outbreak of infective hepatitis occurred in a country school and has been described* by Dr C. E. Anderson, Deputy Medical Officer of Health, Auckland. Between October 1956 and January 1957, 167 cases were notified, the majority of patients being between the ages of five and seventeen, and all attending the same school. Investigation showed that the infection was water-borne, and was caused by pollution from the school septic tank gaining access to a faulty underground tank connected with the school water supply.

An outbreak involving 16 children at another school was thought to be connected with the flooding of the playground with septic-tank effluent.

At a mental institution for children 40 persons contracted hepatitis. The patients included 28 inmates, 7 nurses, and 5 male attendants.

It has become customary to regard a low typhoid-fever rate as an index of a good sanitary environment. This may only indicate that the typhoid-carrier rate is low, and the increasing incidence of such faecal diseases as hepatitis and bacillary dysentery are perhaps a better indication that much still remains to be done to achieve and maintain a sanitary environment.

Diphtheria

A new record was achieved with 31 cases only for the year. Twelve of these occurred in one health district, while in seven health districts there were no cases. The majority of persons concerned had refused or escaped preventive inoculation. With the full co-operation of parents it should be possible to eradicate the disease entirely.

Enteric Fevers

There was a slight increase in the incidence of typhoid fever with 61 cases, as compared with 51 cases in 1955. Nineteen cases occurred in the Auckland district and many of them were connected with the taking of shellfish from polluted areas. Six cases only of paratyphoid fever were notified.

**New Zealand Medical Journal*, June 1957.

Bacillary Dysentery

Two hundred and one cases were notified, which is a considerable reduction on the 457 cases notified in 1955. The disease is generally very mild and probably many cases are not notified.

Amoebic Dysentery

Thirteen cases were notified, which is the lowest figure for any year since the last war.

Food Poisoning

One hundred and eighty-four cases were notified, but notifications were not received in respect of one large outbreak involving over 100 cases. Particulars of some of the outbreaks are given below:

(1) Of 15 persons who had their evening meal at a country hotel, 10, including 3 of the 4 members of the hotel staff, were affected with food poisoning in varying degrees. The symptoms came on in 4 + hours after the meal, and included pain, vomiting, and diarrhoea. In three cases the symptoms were severe. The only article of food common to all the sufferers was some whipped cream, and no one who did not eat the cream became ill. The history was suggestive of a staphylococcal entero-toxin outbreak, but there were no conclusive laboratory findings.

(2) Ten persons who attended a small wedding party were affected with vomiting, abdominal pain, and diarrhoea in varying degrees The food included cold chicken, ham, and savouries, all of which had been prepared by the same woman. Samples of these foods were negative on bacteriological examination, but the woman who prepared them was observed to have an infected skin lesion below her right eye which she touched with her fingers frequently. A swab was taken from this lesion and a pure culture of coagulase-positive haemolytic staphylococcus aureus was grown from it. It seems likely, therefore, that the outbreak was caused by staphylococcal entero-toxin.

(3) Twenty boys at a preparatory boarding school were affected with food poisoning. There were no positive bacteriological findings.

(4) At a general hospital a total of 67 persons, all patients except for one nurse, became ill with diarrhoea and vomiting. The most likely vehicle of infection was meat pasties which were made partly from four-days-old cooked beef. The bacteriological findings were inconclusive.

(5) Over 100 persons out of more than 1,000 who attended a church dinner were affected with food poisoning. The cases were not notified at the time and when inquiries were made it was too late to obtain any food samples. The meal comprised cold roast mutton, cold ham loaf, lettuce and tomato salad, hot potatoes and peas, fruit salad, jelly, sponge trifle, and cream. The fruit salad was prepared in enamel buckets, and the cooked peas, which were partly frozen and partly tinned peas, were said to have been mixed and stored before cooking, in a galvanised iron tub. The dinner was a "special occasion" and the magnitude of the undertaking was beyond the normal

resources of any professional caterer. The cold meats were cooked five days before and sliced up four days before the dinner. Although said to have been kept in cold storage, there was a possibility of infection at the time of cutting up with sufficient time thereafter for bacterial growth. There is also the possibility of chemical poisoning with antimony or zinc from the enamel buckets or the galvanised iron bath in which the fruit salad and the peas were stored. Although the source of the trouble could not be identified the outbreak is a good example of the risks attendant on undertakings of this magnitude where improvised catering on a large scale is carried out by persons having little knowledge of the safe handling of food and the risks involved.

(6) At a hostel accommodating 11 men, 9 suffered from acute attacks of diarrhoea and vomiting after an evening meal. The vehicle of infection was thought to have been milk as the 2 men who escaped infection had not taken the milk. Inquiry showed that the metal milk containers in use were of cheap quality with roughened seams and cracks containing food debris. The two women cooks had recently suffered from sore throats, and were accustomed to roll and smoke cigarettes while engaged in preparing food. There was therefore ample opportunity for infection of the milk (which was unpasteurised and unbottled) with food-poisoning staphylococci.

(7) Six family outbreaks involving 2, 3, and 4 persons were also recorded.

Ophthalmia Neonatorum

The number of cases reported was 93, whereas for many years past the yearly notifications have not reached double figures. The explanation is that up to and including 1955 ophthalmia neonatorum, as notified, was caused by gonorrhaeal infection and was uncommon owing to the low incidence of infection in parturient women and the prophylactic measures taken. During 1956 the majority of cases of ophthalmia notified have been attributed to staphylococcal infection, which type of infection has caused also skin infections and pneumonia.

Leptospirosis

The cases numbered 143, which shows an increasing tendency. The disease seems to be an occupational disease of farmers and reflects the increasing incidence of leptospirosis in farm animals.

Salmonellosis

Salmonella infections, other than salmonella food poisoning and the enteric fevers, numbered 55 – a slight reduction on recent yearly figures.

Other Notifiable Diseases

The returns for other notifiable diseases do not call for special comment here.

Venereal Diseases

Tables 6 and 7 show the returns for first attendances at the main venereal diseases clinics.

Table 6—Number of Persons Seen for the First Time and Found to be Suffering from Syphilis

Year	Auckland		Wellington		Christchurch		Dunedin		Totals		Grand Totals
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1952 ..	7	27	6	19	11	1	10	3	34	50	84
1953 ..	7	16	11	22	2	2	9	4	29	44	73
1954 ..	11	29	5	13	7	1	4	..	27	43	70
1955 ..	10	13	6	18	8	1	7	..	31	32	63
1956 ..	16	5	14	15	9	4	7	..	46	24	70

Table 7—Number of Persons Seen for the First Time and Found to be Suffering from Gonorrhoea

Year	Auckland		Wellington		Christchurch		Dunedin		Totals		Grand Totals
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1952 ..	489	270	267	26	79	13	12	1	847	310	1,157
1953 ..	506	288	259	35	64	9	25	1	854	333	1,187
1954 ..	404	221	245	30	28	5	20	1	697	257	954
1955 ..	407	206	151	36	27	4	10	2	595	248	843
1956 ..	474	166	146	41	60	17	21	4	701	228	929

Tables 8A, 8B, 8C, 8D, and 8E give details of the diseases notified during the year.

Table 8A—Notifiable Diseases in New Zealand for the Year Ended 31 December 1956, Showing Distribution by Months

ALL CASES (INCLUDING MAORIS)

Months	Diphtheria	Enteric Fever		Tuberculosis		Cerebrospinal Meningitis	Poliomyelitis	Influenza	Erysipelas	Puerperal Fever		Eclampsia	Tetanus	Hydatids	Trachoma	Ophthalmia Neonatorum	Food Poisoning	Dysentery		Undulant Fever	Leptospirosis	Salmonellosis	Malaria	Actinomycosis	Lethargic Encephalitis	Anchylostomiasis	*Infective Hepatitis	*Pemphigus Neonatorum	Leprosy	Beriberi	Totals
		Typhoid	Paratyphoid	Pulmonary	Other Forms					Ordinary	Following Abortion							Bacillary	Amoebic												
January	1	1	1	93	19	6	266	..	3	3	1	6	6	2	..	..	22	6	1	2	7	9	..	..	..	..	..	..	..	..	455
February ..	1	2	1	112	14	1	218	1	5	3	1	3	2	4	1	..	10	35	..	1	5	6	1	..	1	..	..	..	2	..	430
March	4	11	2	156	29	8	171	..	4	5	..	5	3	2	1	..	3	15	1	6	4	5	1	..	..	..	..	..	..	..	436
April	5	6	1	107	24	3	106	..	2	4	1	3	2	3	..	..	31	27	2	3	5	6	..	1	..	..	..	..	..	..	342
May	4	4	..	133	15	3	42	..	5	2	..	6	2	5	1	2	8	13	2	8	6	9	..	..	..	..	50	32	..	..	352
June	4	3	..	101	8	8	20	..	3	3	2	3	..	1	1	3	3	11	..	3	3	3	1	..	..	..	58	63	..	..	305
July	2	..	..	137	20	16	16	8	6	2	1	7	1	4	2	1	71	16	1	3	5	2	1	..	1	..	68	92	..	..	483
August	..	1	..	155	15	7	10	10	3	4	1	2	1	2	1	11	2	18	..	..	4	..	..	1	..	..	120	70	1	..	439
September ..	1	12	..	168	28	6	9	1	..	1	..	2	1	3	..	25	7	8	1	..	13	..	1	..	1	..	49	49	..	..	386
October	1	10	..	151	24	1	11	..	5	2	1	2	1	4	..	16	14	26	2	4	34	5	1	..	..	2	88	52	..	..	457
November ..	5	10	1	146	30	10	17	1	6	5	1	5	3	3	2	22	10	15	2	1	41	6	..	..	1	..	65	75	..	1	484
December ..	3	1	..	106	15	3	11	..	6	1	2	3	1	5	1	13	3	11	1	1	16	9	..	..	..	1	72	49	..	..	334
Totals ..	31	61	6	1,565	241	72	897	21	48	35	11	47	23	38	10	93	184	201	13	32	143	60	6	2	4	3	570	482	3	1	4,903
1955 ..	51	51	9	1,640	277	91	703	4	68	29	10	49	32	36	12	3	198	457	18	44	74	84	10	1	1	1	..	..	..	..	3,953
1954 ..	69	34	17	1,651	258	121	43	3	128	20	25	73	24	41	5	2	370	438	22	60	60	105	67	2	2	5	..	..	2	..	3,647
1953 ..	89	90	21	1,710	363	123	403	9	184	31	31	73	30	61	9	1	271	123	23	81	133	69	65	1	..	4	..	..	..	..	3,998
1952 ..	52	53	32	1,705	391	104	890	11	184	39	21	83	32	39	11	9	312	115	28	78	32	71	45	2	1	1	..	..	1	2	4,352

*Declared a notifiable infectious disease from 26 April 1956.

Table 8B—Notifiable Diseases in New Zealand for Year Ended 31 December 1956, Showing Distribution by Health Districts

ALL CASES (INCLUDING MAORIS)

Districts	Diphtheria	Enteric Fever		Tuberculosis		Cerebrospinal Meningitis	Poliomyelitis	Influenza	Erysipelas	Puerperal Fever		Eclampsia	Tetanus	Hydatids	Trachoma	Ophthalmia Neonatorum	Food Poisoning	Dysentery		Undulant Fever	Leptospirosis	Salmonellosis	Malaria	Actinomycosis	Lethargic Encephalitis	Anchylostomiasis	Infective Hepatitis	Pemphigus Neonatorum	Leprosy	Beriberi	Totals
		Typhoid	Paratyphoid	Pulmonary	Other Forms					Ordinary	Following Abortion							Bacillary	Amoebic												
Whangarei ..	..	14	..	87	15	6	25	..	2	..	..	..	..	4	..	5	68	11	..	11	52	3	..	..	..	..	59	55	..	..	417
Auckland.. ..	12	19	3	339	46	19	83	9	6	2	1	8	4	2	8	45	42	59	1	3	20	2	..	..	1	3	30	48	2	..	817
Tauranga ..	4	2	..	34	8	5	32	3	4	1	..	2	2	1	..	..	4	5	..	3	14	..	2	..	..	..	18	22	..	..	166
Hamilton.. ..	7	9	..	175	14	10	33	1	1	3	..	3	2	..	1	1	4	19	..	4	14	3	1	..	..	..	44	14	..	..	363
New Plymouth ..	3	1	..	27	7	4	19	..	..	..	..	3	2	4	..	..	2	19	1	..	20	7	..	..	1	..	1	15	..	..	136
Gisborne	..	13	1	137	30	4	37	..	..	4	..	..	1	4	..	8	..	18	..	..	5	13	..	..	..	..	124	16	..	..	414
Palmerston North ..	1	1	..	150	27	11	103	6	8	1	..	4	4	10	..	32	20	5	..	1	10	2	..	..	2	..	86	119	..	1	604
Wellington ..	2	..	..	189	19	5	70	2	9	4	9	4	2	6	..	..	10	3	7	2	2	3	2	..	..	..	143	27	1	..	521
Nelson	..	..	..	49	..	..	119	..	..	1	..	1	1	..	..	..	1	1	..	1	..	1	..	1	..	..	34	23	..	..	233
Christchurch ..	..	..	1	167	34	3	136	..	3	17	..	17	3	5	..	1	12	3	2	4	1	13	..	1	..	..	13	118	..	..	555
Greymouth ..	..	..	..	25	3	..	24	..	3	1	..	1	..	1	..	..	3	1	1	1	4	2	1	..	..	..	11	2	..	..	84
Timaru	..	..	1	51	11	1	104	..	5	..	..	1	..	1	..	..	4	36	1	..	1	5	..	..	..	..	6	7	..	..	240
Dunedin ..	..	1	..	92	19	2	59	..	4	1	..	1	1	..	1	..	7	9	..	1	..	1	..	..	..	..	1	2	..	..	202
Invercargill ..	2	1	..	43	8	2	53	..	3	..	1	2	1	..	..	1	7	12	..	1	..	5	..	..	..	..	..	14	..	..	156
Totals ..	31	61	6	1,565	241	72	897	21	48	35	11	47	23	38	10	93	184	201	13	32	143	60	6	2	4	3	570	482	3	1	4,903

Table 8C—Notifiable Diseases in New Zealand for the Year Ended 31 December 1956, Showing Distribution by Age and Sex

ALL CASES (INCLUDING MAORIS)

Diseases	Under 1 Year		1 and Under 5		5 and Under 10		10 and Under 15		15 and Under 25		25 and Under 45		45 and Under 65		65 and Over		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Diphtheria	..	1	4	2	9	1	2	2	2	2	4	1	1	..	..	..	22	9	31
Enteric fever—																			
A. Typhoid	..	..	6	9	4	4	4	2	5	7	7	4	4	1	2	2	32	29	61
B. Paratyphoid	..	..	2	..	1	..	..	..	1	..	..	..	1	1	..	..	5	1	6
Tuberculosis—																			
A. Pulmonary	7	10	58	43	36	41	20	32	119	169	316	261	237	93	97	26	890	675	1,565
B. Other forms	2	1	6	23	10	16	7	5	21	29	39	38	14	16	9	5	108	133	241
Cerebrospinal meningitis	7	13	12	5	6	6	7	2	2	1	5	2	..	2	2	..	41	31	72
Poliomyelitis	5	4	82	49	118	73	86	45	98	92	112	118	8	7	..	..	509	388	897
Influenza	..	1	1	..	..	..	..	..	..	1	4	4	1	3	3	3	9	12	21
Erysipelas	..	..	1	..	..	1	1	..	2	..	9	6	4	14	3	7	20	28	48
Puerperal fever—																			
A. Ordinary	..	..	..	..	..	..	..	..	..	16	..	19	..	..	..	..	..	35	35
B. Following abortion	..	..	..	..	..	..	..	..	..	3	..	8	..	..	..	..	..	11	11
Eclampsia	..	..	..	..	..	..	..	..	..	27	..	20	..	..	..	..	..	47	47
Tetanus	2	..	1	1	3	..	5	1	2	..	..	1	1	2	3	1	17	6	23
Hydatids	..	..	..	2	2	3	3	3	3	1	2	7	5	..	7	..	22	16	38
Trachoma	..	..	..	..	1	1	..	1	1	..	3	2	..	1	..	..	5	5	10
Ophthalmia neonatorum	56	35	..	..	..	1	..	..	..	..	..	1	..	..	..	..	56	37	93
Food poisoning	4	4	10	6	9	5	23	2	8	18	16	39	13	11	8	5	92	92	184*
Dysentery—																			
A. Bacillary	6	4	29	19	25	23	12	13	7	16	13	21	3	4	5	1	100	101	201
B. Amoebic	..	..	..	..	..	..	..	..	..	1	9	..	3	..	..	..	12	1	13
Undulant fever	..	..	..	..	1	1	1	1	6	1	12	5	3	1	..	..	23	9	32
Leptospirosis	..	1	..	..	..	..	11	..	26	..	79	6	19	1	..	..	135	8	143
Salmonellosis	5	12	7	5	4	2	1	..	5	5	2	5	3	1	3	..	30	30	60
Malaria	..	..	..	..	..	..	..	..	1	..	4	..	1	..	..	..	6	..	6
Actinomycosis	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	2	..	2
Lethargic encephalitis	..	1	1	1	..	..	..	..	..	..	..	..	..	1	..	..	1	3	4
Anchylostomiasis	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	3	..	3
Infective hepatitis	2	..	11	12	72	50	43	39	60	55	109	72	20	14	6	5	323	247	570
Pemphigus neonatorum	303	179	..	..	..	..	..	..	..	..	..	..	..	..	..	..	303	179	482
Leprosy	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	2	1	3
Beriberi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1

* Included in Total are 3 cases ages unknown.

Table 8D—Notifiable Diseases in New Zealand for Year Ended 31 December 1956, Showing Distribution by Health Districts

MAORIS

Districts	Diphtheria	Enteric Fever		Tuberculosis		Cerebrospinal Meningitis	Poliomyelitis	Influenza	Erysipelas	Puerperal Fever		Eclampsia	Tetanus	Hydatids	Trachoma	Ophthalmia Neonatorum	Food Poisoning	Dysentery		Undulant Fever	Leptospirosis	Salmonellosis	Malaria	Actinomycosis	Lethargic Encephalitis	Anchylostomiasis	Infective Hepatitis	Pemphigus Neonatorum	Leprosy	Beriberi	Totals
		Typhoid	Paratyphoid	Pulmonary	Other Forms					Ordinary	Following Abortion							Bacillary	Amoebic												
Whangarei ..	..	14	..	58	10	2	1	..	1	..	..	..	..	2	..	..	21	7	..	1	1	1	..	..	..	..	9	19	..	..	147
Auckland.. ..	1	15	1	110	18	3	..	4	..	..	..	..	1	1	6	7	11	..	..	..	1	1	..	..	..	..	3	2	..	..	185
Tauranga ..	..	2	..	19	5	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	3	..	..	35
Hamilton.. ..	..	7	..	105	12	3	8	..	..	2	..	..	..	..	1	1	..	5	..	..	..	..	..	..	..	..	3	3	..	..	152
New Plymouth ..	1	1	..	10	3	..	1	..	..	..	..	..	..	2	..	..	..	4	..	..	1	1	..	..	..	..	..	1	..	..	25
Gisborne	..	11	..	100	25	4	13	..	..	2	..	..	..	4	..	2	..	11	..	..	..	1	..	..	..	..	23	6	..	..	202
Palmerston North ..	1	..	..	57	7	4	11	2	..	1	..	..	..	3	..	7	..	1	..	..	..	1	..	..	2	..	2	12	..	..	111
Wellington ..	..	..	..	32	2	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	40
Nelson	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Christchurch ..	..	..	..	18	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	24
Greymouth ..	..	..	..	1	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Timaru	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Dunedin ..	..	..	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Invercargill ..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Totals ..	3	50	1	524	92	16	42	6	1	5	..	1	1	12	7	17	32	28	..	1	4	7	..	..	2	..	46	46	..	..	944

Table 8E—Notifiable Diseases in New Zealand for the Year Ended 31 December 1956, Showing Distribution by Age and Sex

MAORIS

Diseases	Under 1 Year		1 and Under 5		5 and Under 10		10 and Under 15		15 and Under 25		25 and Under 45		45 and Under 65		65 and Over		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Diphtheria	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Enteric fever—																			
A. Typhoid	..	..	7	9	3	4	3	2	5	5	3	3	2	1	1	2	24	26	50
B. Paratyphoid	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Tuberculosis—																			
A. Pulmonary	5	8	40	29	22	25	12	25	51	80	65	81	40	29	8	6	243	281	524
B. Other forms	1	1	5	14	4	9	2	1	12	17	13	8	4	1	..	..	41	51	92
Cerebrospinal meningitis	1	2	3	..	2	2	2	..	1	..	1	1	..	..	..	1	11	5	16
Poliomyelitis	1	1	6	3	8	7	3	2	4	4	1	2	..	..	..	..	23	19	42
Influenza	..	1	1	..	..	..	..	..	..	..	1	..	..	1	1	1	3	3	6
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
Puerperal fever—																			
A. Ordinary	..	..	..	..	..	..	..	..	..	2	..	3	..	..	..	..	..	5	5
B. Following abortion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eclampsia	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Tetanus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Hydatids	..	..	1	1	..	2	2	1	1	1	..	1	1	..	1	..	6	6	12
Trachoma	..	..	..	..	1	1	..	1	..	..	1	2	..	1	..	..	2	5	7
Ophthalmia neonatorum	11	4	..	..	..	1	..	..	..	..	..	1	..	..	..	..	11	6	17
Food poisoning	1	1	4	4	..	..	2	..	2	5	2	7	4	..	..	..	15	17	32
Dysentery—																			
A. Bacillary	3	3	7	4	3	1	..	..	..	4	..	1	..	1	1	..	14	14	28
B. Amoebic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Undulant fever	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Leptospirosis	..	..	..	..	..	..	1	..	1	..	1	..	1	..	..	..	4	..	4
Salmonellosis	1	3	1	1	..	..	..	..	..	..	..	1	..	..	..	..	2	5	7
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Infective hepatitis	1	..	4	2	7	1	4	5	4	2	9	5	1	1	..	..	30	16	46
Pemphigus neonatorum	25	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25	21	46
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Beriberi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lethargic encephalitis	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	2

PORT QUARANTINE

The number of ships and aircraft arriving from overseas and undergoing medical inspection during 1956 were as follows:

	Ships	Aircraft
Auckland	422	394
Wellington	187	4
Christchurch	104	48
Dunedin	39	..
New Plymouth	23	..
Napier	17	..
Bluff	11	..
Whangarei	10	..
Other ports or airports	17	5
	830	451

In addition some 13 flights a week, or approximately 670 aircraft a year, arrive at either Christchurch or Auckland from Australia. By arrangement with the Commonwealth health authorities these aircraft are not subjected to medical inspection unless word is received that some unusual conditions make it necessary.

No cases of quarantinal disease was found on any ship or aircraft.

Forty-three ships were fumigated and issued with Deratting Certificates, and 98 ships were inspected in 9 ports and issued with Deratting Exemption Certificates.

Rats trapped or poisoned in wharf buildings and installations numbered 4,869, while 163 rats were caught or destroyed on ships. A total of 356 rats were examined bacteriologically but no evidence of plague infection was detected.

After the passing of the new Health Act, new quarantine regulations – The Quarantine (Ship) Regulations 1957 – were enacted. An important new provision is procedure for the granting of radio pratique. For the present this is restricted to passenger ships on regular schedules which carry a medical officer. After the system has been found to work smoothly it may be feasible to extend it to cargo vessels trading between this country and Australian ports.

FOOD AND DRUGS

Table 9 sets out the number and varieties of foods, other than milk, that were sampled and analysed, and Table 10 shows the results of milk sampling. Food sampling is a routine procedure and the figures do not call for any special comment.

The subject of food additives is now being studied by joint committees set up by the World Health Organisation and the Food and Agricultural Organisation. The first report has been prepared and deals chiefly with the question of synthetic food colours. This is a subject which has created much interest of recent years, and food-colouring substances have been closely examined for toxicity in the United Kingdom and elsewhere. The usual pattern of events is that synthetic colours, previously assumed

to be safe have been found to possess toxic properties, and in some cases possibly carcinogenic properties. The apparent increase in the incidence of cancer throughout the world is possibly attributable to many factors, and no one can say with any certainty that the increased use of food colours is not one of them.

The joint WHO-FAO report shows the extent to which food colours are controlled in different countries, and it is very clear that the artificial colouring of foods is permitted to a less extent in New Zealand than in any other country, and in addition the list of permitted colours is smaller. This has been a traditional policy in the Department and it would seem that the policy has been well justified. Artificial colouring adds nothing to the nutritive value of food and the public expresses a preference for highly coloured food only to the extent that they are encouraged by manufacturers to do so. It is claimed that brightly coloured food encourages the appetite and increases the enjoyment of food. This may be questioned; and, in any case is of doubtful benefit if attended by possible dangers, and in a country, moreover, where excess of food rather than too little food is a cause of ill health.

Table 9—Food and Drug Sampling, 1956

—	Total Samples	Samples Non-complying	Warnings Issued	Prosecutions Recommended
Cereals and bread	7	..	..	..
Table confections	1	..	..	..
Aerating ingredients	1	..	..	..
Sausages	826	152	74	3
Mincemeat	672	36	28	6
Bacon and ham	144	54	5	..
Fresh meat	134	8	2	1
Other meats	64	8	4	..
Meat-pickling preparations	20	16	..	..
Fresh fish	1	..	..	..
Other fish	37	1	..	..
Eggs and egg products	2	..	..	..
Cream	895	225	76	5
Milk shakes	495	227	33	..
Butter	239	14	2	..
Other milk products	24	2	..	..
Tea, coffee, and cocoa	31	9	..	..
Salts and spices	153	35	4	..
Sauces, vinegar, and pickles	32	2	..	..
Sweetening substances and confectionery	5	1	..	..
Ice cream	752	258	52	..
Fruit, vegetables, and products	23	6	2	..
Jams and conserves	15	..	..	..
Culinary essences	13	4	4	..
Beverages (non-alcoholic)	83	18	1	..
Beverages (alcoholic)	34	..	..	..
Drugs and proprietary medicines	18	2	..	..
Soaps and toilet powders	4	..	..	..
Colouring substances	2	..	..	..
Enamelware	13	2	2	..
Totals	4,740	1,080	289	15
Seizures and destructions	116	..	..	..

Table 10—Milk Sampling Summary for Year Ended 31 December 1956: Tests Applied and Results

N/C = Non-complying. W = Warning. P. = Prosecution recommended.

Districts	Total Samples				Fat			Solids Not Fat			Water			Reductase			Phosphatase		
	No.	N/C	W	P	No.	N/C	Per Cent N/C	No.	N/C	Per Cent N/C	No.	N/C	Per Cent N/C	No.	N/C	Per Cent N/C	No.	N/C	Per Cent N/C
Whangarei ..	127	29	7	..	127	1	0·8	127	5	3·9	127	..	..	54	23	42·0	7	..	..
Auckland ..	7,163	327	93	14	7,161	46	0·6	7,161	64	0·9	7,161	21	0·3	7,135	79	1·1	5,222	..	..
Tauranga ..	458	44	25	4	458	17	3·9	458	24	5·2	458	10	2·1	22	2	9·1	458	..	..
Hamilton ..	2,281	68	64	2	2,055	8	0·4	2,054	12	0·6	2,055	9	0·4	1,624	39	2·4	1,429	..	..
Gisborne ..	575	24	12	..	538	6	1·1	533	..	..	538	..	..	414	15	3·6	139	..	..
New Plymouth ..	640	55	6	..	388	3	0·8	388	13	3·4	388	..	..	230	12	5·2	92	9	9·8
Palmerston North ..	1,521	176	61	28	847	31	3·6	847	56	6·6	847	30	3·5	715	60	8·4	74	..	..
Wellington ..	1,662	50	27	..	1,282	8	0·6	1,282	18	1·4	1,282	1	0·1	279	14	5·4	19	1	5·3
Nelson	429	16	3	..	202	7	3·4	202	2	1·0	202	2	1·0	194	5	2·6	65	..	..
Christchurch ..	1,982	433	32	4	1,976	14	0·7	1,974	368	18·0	1,974	1	0·1	1,977	26	1·3	1,291	3	0·2
Greymouth ..	272	48	4	1	165	10	0·6	165	34	21·0	165	..	..	127	4	3·1	59	..	..
Timaru	887	224	67	..	879	13	1·4	879	127	14·4	857	20	2·3	542	45	8·3	257	19	7·4
Dunedin ..	731	106	32	..	723	24	3·3	723	82	11·0	723	..	..	348	3	0·1	175	..	..
Invercargill ..	547	96	22	..	462	24	5·1	461	67	14·5	461	..	..	400	9	2·3	61	4	6·6
Totals ..	19,275	1,696	455	53	17,263	212	1·2	17,254	872	5·0	17,238	94	0·5	14,061	336	2·4	9,348	36	0·4

ENVIRONMENTAL SANITATION

Although public health now includes many functions, the maintenance of a healthy environment is still of the utmost importance and is truly the foundation on which all public health is built. The provision of safe water supplies, adequate drainage systems, and satisfactory disposal of refuse are now accepted in the public mind as being desirable and necessary, and as they are provided by community effort, as represented by local authorities, the plan of action is well defined. This, however, is not enough, and many infectious diseases are still spread by contaminated and infected food. The public mind is still a long way from appreciating the importance of the hygenic handling of food. Furthermore, in this section of environmental sanitation community action has a very limited scope. It can require the registration of food premises and their proper construction and equipment, but beyond that the maintenance of safe conditions lies in the hands of individual food handlers, which includes all housewives as well as those who work in eatinghouses, food factories, and food shops. The only weapon we can employ is health education, and this can become effective only gradually.

Offensive Trades

The new Health Act has an important new provision concerning offensive trades. Any local authority whose boundary is within five miles of the site of a proposed offensive trade now has a right to be notified of the proposal, and may appeal against its establishment. In the past many offensive trades have been established within the jurisdiction of a County Council but have been near enough to a city or borough to be the cause of offence to its inhabitants. The operation of this new provision will be watched with interest.

OCCUPATIONAL HEALTH

All figures in the following tables relates to the calendar year 1956.

Industrial Health Centres

The six centres staffed by departmental nurses have continued during the year to provide a service to local industry. The following table sets out the attendances at each centre:

Table 11—Attendances at Industrial Health Centres, 1956

District	Centre	Attendances			Referred to—	
		First	Re-dressings	Total	Own Doctor	Hospital
Auckland ..	Penrose	2,793	4,938	7,731	95	186
	Queens Wharf	8,491	8,357	16,848	1,053	269
Wellington ..	Waterfront	3,362	1,754	5,116	378	316
Christchurch ..	Woolston	981	430	1,411	89	17
	Lyttelton Waterfront ..	2,204	2,045	4,249	312	27
Dunedin ..	Foreshore	1,258	611	1,869	215	196

Notification of Conditions Arising from Occupation

Table 12 gives the number of official notifications, i.e., those notified to the Department under the terms of the Notifiable Diseases Notice 1953. Also included in the table is an analysis under the eight headings contained in the Schedule to the notice of notifications received from all sources. It will be seen that little more than half the cases which come to the notice of the Department do so through official notifications.

Table 12—Notification of Conditions Arising from Occupation

—	Whangarei	Auckland	Hamilton	Gisborne	New Plymouth	Palmerston North	Wellington	Nelson	Christchurch	Timaru	Dunedin	Invercargill	Total
Official notifications	3	18	7	6	3	11	17	1	30	5	30	12	143
All sources—													
1. Skin diseases	3	62	6	8	2	29	21	..	34	4	22	5	196
2. Damage to eyesight ..	..	8	1	..	1	..	18	..	1	1	8	7	45
3. Impaired hearing ..	..	..	..	..	..	1	1	..	..	..	1	..	3
4. Damage to respiratory system	..	2	..	..	..	..	1	..	..	..	..	..	3
5. Poisoning from insecticide, etc.	..	1	..	..	..	..	..	..	..	..	..	..	1
6. Poisoning from gas, etc. ..	..	7	..	..	..	1	..	..	3	..	1	..	12
7. Poisoning from solvents ..	..	3	..	..	..	..	..	..	..	..	..	..	3
8. Poisoning from metals, etc.	..	1	..	..	..	..	2	1	5	..	1	..	10
9. Unclassified	..	..	..	..	..	..	..	..	2	..	..	..	2
Totals	3	84	7	8	3	31	43	1	45	5	33	12	275

Apart from cases of lead poisoning, which are dealt with under that heading in this report, there is little that calls for comment in the cases notified. Cases of dermatitis, which form the bulk of the notifications received, are followed up by the medical officer or public health nurse and advice given on how to avoid contact with irritant substances concerned.

Three men were engaged in spray painting the interior of a freezing works, all doors being closed because of the possibility of meat contamination. The painters wore Martindale masks and two of them had ten minutes in and ten minutes out, the head painter going in from time to time. Painting commenced at 11 a.m., but the room was already misty from setting up and trying out the apparatus. At 2 p.m. the man inside was found in an unconscious state. He was taken outside, treated by the first-aid attendant, and taken to the first-aid room and thence to hospital, where he stayed overnight. This was the first major spraying job to be done with this particular paint which had been on the market for a short time only. The suppliers were given advice regarding the hazards of the solvents used and precautions which should be taken.

A small number of the cases notified prove on investigation to be non-occupational in origin.

Supervision of Workers Exposed to Lead

Table 13 summarises the work undertaken by the public health nurses in supervising the health of workers exposed to lead in the industries where the hazard occurs. Of those found to be absorbing lead in an unhealthy quantity, seven were suspended altogether, twelve were suspended from working in contact with lead, two were removed from overtime, and one was admitted to hospital. Others were kept under supervision by the public health nurses.

At the request of his own doctor a home visit was paid to see a man notified as suspected acute lead poisoning. This man had previously been a special investigating officer in Kenya during the Mau Mau uprising and had lived as a native African, suffering dysentery and gastric upsets. He had shown a rising stipple cell count for some months, but an acute attack of lead poisoning was precipitated by a "blow back" of the furnace while smelting lead.

A welder, age thirty-one, employed on welding in an enclosed space inside a ferry pontoon for six weeks, reported sick with gastro-intestinal upset, anaemia, and enlarged spleen. The iron work had been treated with "Seakrome" paint, which contains 46 per cent of lead compound in the form of red lead oxide and lead chromate. The patient was seen by the District Industrial Medical Officer six weeks after he had ceased work and then diagnosed as a case of lead poisoning. His blood was checked at regular intervals over a two month's period with gradual diminution in the stippled cell count.

Three men engaged in lead burning at a fertiliser works were found to be absorbing excessive quantities of lead as revealed by the serial blood counts and were kept off all lead work until the counts were within a safe limit. The source of trouble seemed to be the inadequate exhaustion of the fumes from lead burning and it was decided to have a mobile exhaust which could be placed on the floor of the tank when lead burning was being carried out.

The District Industrial Medical Officer, Wellington, reports on the following case of lead poisoning of special interest:

With regular supervision, including workers' medical examinations of all industries with a known lead hazard, cases of frank lead poisoning in these industries are now almost unknown, but almost every year a case of frank lead poisoning turns up in some situation where it could not really be foreseen. This case occurred in a factory where copper sheeting is made into sanitary fittings and, as is quite a normal practice in the trade, punching of holes in the copper sheets is done on slabs of lead about 9 in. × 5 in. size. Every week or so the lead slabs become hammered out of shape and are re-shaped by melting them in small metal trays. The practice in this works was to do this by turning the oxy-acetylene torch on to the lead blocks, requiring some ten to fifteen minutes for complete melting. The man concerned had been doing this once a week for about six months before he was admitted to hospital with marked and undoubted lead poisoning, which soon cleared on treatment with calcium disodium versenate. Of the six or seven other men there, only one showed stippled cells on blood examination – it seems likely that the man affected stood over the melting lead whilst burning it, but that the others merely laid the torch down on the lead and went away until the lead had melted. Since this event alternative harmless methods of remoulding the lead have been suggested and put into effect. The main interest lies in the extremely short exposure of ten to fifteen minutes per week necessary to cause lead poisoning severe enough to necessitate hospitalisation – with a torch temperature of over 2,000°c. the concentration of fume would naturally be high.

Table 13—Supervision of Workers Exposed to Lead

Industry	Number of Firms	Approximate Number of Workers Under Supervision	Number of Examinations	Number Absorbing Lead in Unhealthy Quantity	Number of Cases of Lead Poisoning Notified
Battery manufacture, assembly, and repair	25	190	1,569	160	5
Lead smelting and recovery ..	15	73	372	28	..
Paint manufacture, painting, and spraying	26	338	487	5	..
White lead manufacture ..	1	18	49	..	..
Printing and newspapers ..	58	468	704	3	..
Motor-body assembly and lead buffing	5	61	185	15	..
Ship repair	2	16	49	..	..
Lead burning and sulphuric acid manufacture ..	11	70	433	8	..
Plumbers and apprentices ..	2	138	138	1	..
TEL blending, petrol pump cleaning, and repairs, etc. ..	6	31	31	..	..
Other industries	26	264	365	10	1
Totals	177	1,667	4,382	230	6
Totals, 1955 ..	188	1,457	5,047	100	6

Supervision of Workers Engaged in Electro-plating Processes

In accordance with the Electro-plating Regulations 1950, public health nurses are authorised to examine the hands and noses of workers engaged in electro-plating processes. Table 14 sets out the results of such examinations.

Table 14—Supervision of Workers Engaged in Electric-plating Processes

District	Number of Firms	Approximate Number of Workers Under Supervision	Number of Examinations	Number of Workers Suffering from Conditions Arising from Occupation
Whangarei	..	..	..	..
Auckland	34	741	515	16
Hamilton	..	..	..	..
Gisborne	1	2	10	1
New Plymouth	1	4	9	1
Palmerston North ..	5	40	122	4
Wellington	21	43	144	3
Nelson	..	..	..	..
Christchurch	21	64	590	8
Timaru	..	..	..	..
Dunedin	9	18	192	1
Invercargill	2	6	18	1
Totals	94	918	1,600	35

Conditions discovered included twenty-two chrome ulcers, the remainder being nickel and chrome rashes. Some necessitated referral to their own doctors and advice was given as to protective measures where necessary.

Examination of Juveniles

Table 15 shows the number of examinations under section 37 of the Factories Act 1946 for each year since 1950.

Table 15—Examination of Juveniles

Year	Number Examined	Number of Certificates of Fitness Issued	Number Rejected	Percentage Rejected
1956	3,624	3,616	8	0·22
1955	3,513	3,509	4	0·114
1954	3,006	3,000	6	0·2
1953	3,182	3,170	12	0·377
1952	2,967	2,952	15	0·52
1951	2,916	2,905	11	0·4
1950	3,116	3,097	19	0·6

Acknowledgment

This is the last occasion on which I shall write the annual report of this division and I would take this opportunity to express my thanks for the valuable work carried out in the various districts by the medical officers of health and their senior inspectors, inspectors of health, shipping inspectors, and dangerous drugs inspectors. Little would be achieved without an efficient and conscientious staff of field officers. Very considerable advances have been made during the past thirteen years but much still remains to be done. In the future medical officers of health will be responsible also for occupational health. This change is welcomed because industrial hygiene is only a branch of environmental sanitation – most of the problems are similar, as are the remedies.

I am also under a deep debt of gratitude to those who have assisted me in Head Office, and in particular to Mr H. W. Carter who has been the Divisional Clerk for the last ten years or so, to Mr H. H. Martindale, who only recently completed fifteen years as Principal Inspector, and more recently to Mr T. W. Adams, the present Principal Inspector. I am grateful also to the other clerical officers of the divisions who have all done valuable work.

F. S. Maclean,
Director, Division of Public Hygiene.

REPORT OF THE DIRECTOR, DIVISION OF MENTAL HYGIENE

STATISTICS

During the year 13,995 persons (including voluntary boarders) were under the care of mental hospitals in New Zealand at one time or another. The weekly average number of occupied beds was 9,792. At the end of the year 10,716 persons were on the register of the division, including those at Ashburn Hall, the private licensed institution at Dunedin, and including those on leave in the care of relatives or friends.

This year saw the first appearance as a separate publication of the detailed analyses of the statistical material concerning the medical work of the division. The compilation of these tables and reports by the Medical Statistics Branch has called for much time and effort, not only on the part of the Statistics Branch but also by medical and clerical staff of the division. Throughout the planning and initiating of this project there has been a most happy collaboration, and the division as a whole is grateful to the Medical Statistician for the interest he and his officers have shown in the project.

In view of the very detailed figures now available from the Statistics Branch the publication of tables as part of this report has been reduced to a minimum.

ADMISSIONS AND DISCHARGES

Persons admitted to mental hospitals during the year numbered 3,540, an increase of 382 on the figures for the previous year. Of this number, those seeking admission themselves as voluntary boarders accounted for 1,615, an increase of 332. Those admitted by order of a Magistrate or other authority numbered 1,935, an increase of 50. The total number discharged during the year was 2,510, or 70·9 per cent when calculated on the number admitted. Of these 1,572 or 44·4 per cent were discharged as "recovered". During the year 1,468 voluntary boarders were discharged, 803 of them as "recovered".

The fact that in an increase of 382 admissions for the year 332 were voluntary boarders may be taken as an indication of increasing public enlightenment with regard to problems of mental illness and continuing confidence in the therapeutic resources of the division's hospitals.

STAFFING

Although our female nursing staff still has a shortage of 290 in an establishment of 880, there has been a gain in strength. Local recruiting campaigns were conducted by three hospitals during the year and in every case resulted in greatly increased recruiting for the hospital concerned. It is felt that campaigns of this type have a value over and above any actual gain in staff by providing an opportunity to interest local communities in the work of their own mental hospital. The increased

understanding of the scope and nature of the work of the hospital is an important contribution to mental hygiene in the community as a whole.

While this improvement in the numbers of nursing staff available is welcome, the overall position is still unsatisfactory. A great deal of overtime work is required of our nurses and unless further recruits are available it will be difficult to meet the demand for the hospital services of the division.

TREATMENT

No major innovations in psychiatric treatment have appeared during the year but some newer products of the "tranquillising" group of drugs have become available. Drugs of this group are in use at all hospitals and the medical staff are unanimous in affirming their value in appropriate cases. The greatest value of these compounds seems to be with the more acutely disturbed patients, and all hospitals report improved conditions in disturbed wards as the result of their use.

On the other hand there is no confirmation within New Zealand of the more dramatic claims which still appear in overseas literature from time to time. In only a small number of cases has the use of tranquillising drugs appeared to be the critical factor in producing recovery. While the smallness of this group in no way indicates that these recoveries are not of great importance, it is an indication that extravagant hopes as to the efficacy of this particular treatment are ill founded.

There has been continuing emphasis on the importance of the general therapeutic atmosphere of the mental hospital. The work of renovating and modernising all older buildings is continuing and constant efforts are made to improve the living conditions of patients. In addition to these general measures there has been an increase in the planning and organising of programmes for both rehabilitation and patients' recreation. To carry out these projects extra staff have already been appointed to some hospitals (as training and welfare officers) and it is hoped that other positions will be filled soon.

The special training programme devised for the children at Levin Farm has earned much favourable comment from both professional and lay visitors to the institution. A similar project at Templeton Farm was commenced during the year and has made a good beginning.

OUTPATIENTS AND EXTRA-MURAL SERVICES

There is a continuing demand for psychiatric services at outpatient departments of general hospitals and for consulting services to the Courts and other Departments. With the medical staff still below strength it is at times difficult to provide the services asked for outside our hospitals. It is hoped that in the near future the appointment of some part-time medical officers will enable the division to increase extra-mural services, particularly those to Child Health Clinics.

ACCOMMODATION, MAINTENANCE, AND NEW BUILDING

Our standard accommodation for patients has reached 8,554, but with an average of 9,792 occupied beds the overcrowding is 1,238. This overcrowding represents a serious encroachment on dayroom and living

space in order to provide beds for patients and is a matter of constant concern to medical superintendents. Fortunately, during the year acceleration of the building programme enabled us to spend £708,828 out of an allocation of £830,000.

In addition to new building, hospitals have benefited greatly from renovations and adaptations of existing buildings carried out by the maintenance staff of the division.

APPRECIATION

I wish to thank the district inspectors, official visitors, and clergy who spend their time so readily in the interests of patients. There are in addition numerous organisations who make arrangements for the welfare and recreation of patients. While these cannot be mentioned individually in this report, they can be assured that their efforts are valued and appreciated by both patients and staff of all hospitals.

During the year several officers have retired after long terms of service with the division. I would like to assure them that their good work is not forgotten.

In conclusion, I should like to express my thanks to the staff of the division for their continued good work on behalf of our patients.

R. G. T. Lewis,
Director, Division of Mental Hygiene.

Table 16—Voluntary Boarders, 1955 and 1956

Year	First Admissions			Not First Admissions			Total Admissions		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
1955	406	437	843	200	240	440	606	677	1,283
1956	492	543	1,035	251	329	580	743	872	1,615

Year	Transferred to Register of Patients			Died			Discharged			Remaining on 31 December		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1955 ..	1	6	7	14	15	29	564	664	1,228	247	301	548
1956 ..	14	10	24	26	22	48	721	747	1,468	229	394	623

Voluntary Boarders Discharged Recovered	Males	Females	Total
Thirteen weeks and under	303	299	602
Fourteen to twenty-five weeks	47	43	90
Twenty-six weeks and over	28	20	48
On probation	31	32	63
Total	409	394	803

Table 17—Admissions, Discharges, and Deaths, 1956

Hospitals	In Hospitals on 1 January 1956			Admissions in 1956						Transfers			Total Number of Patients Under Care		
				First Admission			Not First Admission								
	M.	F.	T.	M.	F.	T.	M.	F.	T	M.	F.	T.	M.	F.	T
Auckland ..	737	796	1,533	123	136	259	53	55	108	12	14	26	925	1,001	1,926
Kingseat ..	464	449	913	63	70	133	13	14	27	17	7	24	557	540	1,097
Raventhorpe	7	263	270	..	..	..	..	..	..	7	27	34	14	290	304
Tokanui ..	454	457	911	81	64	145	17	36	53	6	4	10	558	561	1,119
Lake Alice ..	211	..	211	1	..	1	..	..	..	14	..	14	226	..	226
Levin Farm	273	111	384	9	9	18	..	..	..	1	2	3	283	122	405
Porirua ..	602	852	1,454	154	191	345	75	100	175	18	7	25	849	1,150	1,999
Nelson ..	583	504	1,087	26	36	62	3	7	10	23	3	26	635	550	1,185
Seaview ..	240	309	549	14	13	27	3	4	7	..	8	8	257	334	591
Sunnyside ..	752	768	1,520	85	111	196	18	42	60	8	5	13	863	926	1,789
Seacliff ..	618	449	1,067	108	116	224	33	28	61	46	1	47	805	594	1,399
Ashburn Hall	2	6	8	4	7	11	..	3	3	..	1	1	6	17	23
Totals ..	4,943	4,964	9,907	668	753	1,421	215	289	504	152	79	231	5,978	6,085	12,063

Hospitals	Patients Discharged, Transferred, and Died												Total Discharged, Transferred, and Died		
	Discharged Recovered			Discharged Not Recovered			Transferred			Died					
	M.	F.	T.	M.	F.	T.	F.	F.	T.	M.	F.	T.	M.	F.	T.
Auckland	63	73	136	38	24	62	18	25	43	62	63	125	181	185	366
Kingseat	12	18	30	10	10	20	6	21	27	48	47	95	76	96	172
Raventhorpe ..	..	..	..	..	1	1	6	2	8	..	20	20	6	23	29
Tokanui	50	53	103	14	13	27	9	2	11	32	34	66	105	102	207
Lake Alice ..	..	..	..	1	..	1	5	..	5	3	..	3	9	..	9
Levin Farm ..	..	..	..	1	..	1	1	2	3	5	1	6	7	3	10
Porirua	107	199	306	38	34	72	27	7	34	78	96	174	250	336	586
Nelson	16	15	31	7	7	14	1	4	5	33	24	57	57	50	107
Seaview	7	9	16	2	8	10	..	1	1	19	10	29	28	28	56
Sunnyside	31	39	70	15	11	26	70	14	84	36	72	108	152	136	288
Seacliff	24	46	70	18	16	34	7	1	8	67	76	143	116	139	255
Ashburn Hall ..	3	4	7	1	4	5	2	..	2	..	..	..	6	8	14
Totals	313	456	769	145	128	273	152	79	231	383	443	826	993	1,106	2,099

Hospitals	In Hospital on 31 December 1956			Average Number Resident During the Year			Percentage of Recoveries on Admissions During the Year			Percentage of Deaths on Average Number Resident During the Year		
	M.	F.	T.	M.	F.	M.	M.	F.	T.	M.	F.	T.
Auckland	744	816	1,560	657	646	1,303	35·80	38·22	37·06	9·44	9·75	9·59
Kingseat	481	444	925	447	413	860	15·79	21·43	18·75	10·74	11·38	11·05
Raventhorpe ..	8	267	275	10	257	267	..	..	..	..	7·78	7·49
Tokanui	453	459	912	393	405	798	51·02	53·00	52·02	8·14	8·40	8·27
Lake Alice	217	..	217	213	..	213	..	..	..	1·41	..	1·41
Levin Farm ..	276	119	395	257	105	362	..	..	..	1·95	1·00	1·66
Porirua	599	814	1,413	567	796	1,363	46·72	68·38	58·85	13·76	12·06	12·77
Nelson	578	500	1,078	533	436	969	55·17	34·88	43·06	6·19	5·50	5·88
Seaview	229	306	535	219	284	503	41·18	52·94	47·06	8·68	3·52	5·77
Sunnyside	711	790	1,501	663	688	1,351	30·10	25·49	27·34	5·43	10·47	8·00
Seacliff	689	455	1,144	678	502	1,180	17·02	31·94	24·56	9·88	15·14	12·12
Ashburn Hall ..	..	9	9	9	12	21	75·00	40·00	50·00	..	..	..
Totals ..	4,985	4,979	9,964	4,646	4,544	9,190	35·45	43·76	39·95	8·24	9·75	8·99

Table 18—Showing the Admissions, Discharges, and Deaths, With the Mean Annual Mortality and Proportions of Recoveries Per Cent of the Admissions

Year	Admitted			Discharged									Died			Remaining on 31 December in Each Year			Average Number Resident			Percentage of Recoveries on Admissions			Percentage of Deaths on Average Number Resident		
				Recovered			Relieved			Improved																	
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1954 ..	883	1,115	1,998	285	526	811	180	223	403	..	..	..	292	342	634	4,989	4,898	9,887	4,567	4,434	9,001	32·17	47·22	40·55	6·39	7·71	7·04
1955 ..	846	1,029	1,875	356	462	818	135	129	264	..	..	..	401	372	773	4,943	4,964	9,907	4,642	4,533	9,175	42·08	44·90	43·63	8·64	8·21	8·43
1956 ..	883	1,042	1,925	313	456	769	145	128	273	..	..	..	383	443	826	4,985	4,979	9,964	4,646	4,544	9,190	35·45	43·76	39·95	8·24	9·75	8·99

Table 19—Average Cash Cost of Each Patient for Financial Year 1956–57

Hospitals	Average Number Resident (Inclusive of Voluntary Boarders)	Salaries	Overtime, Penal Rates, Shift, Meal, and Standby Allowances	Bedding and Clothing	Buildings, Equipment, Improvements, Repairs, and Replacements	Farm	Fuel, Light, Power, Water, and Cleaning	Furniture, Furnishings, and Equipment, Including Maintenance
		£	£	£	£	£	£	£
Auckland	1,418	143·86	31·96	14·93	11·01	2·50	14·23	3·69
Kingseat (Papakura) ..	909	114·12	36·38	8·95	8·46	5·37	14·88	5·76
Raventhorpe (Bombay)	277	77·72	22·17	5·49	11·97	9·89	13·28	2·57
Tokanui (Te Awamutu)	857	118·53	40·11	16·56	19·37	12·07	15·45	11·44
Lake Alice (Marton) ..	214	117·42	36·89	18·10	2·72	11·03	15·88	3·01
Levin Farm (Levin) ..	362	153·44	44·41	47·19	12·25	1·78	27·33	19·91
Porirua	1,487	117·47	51·28	20·86	6·42	3·76	22·93	5·24
Ngawhatu (Nelson) ..	1,005	142·67	46·14	12·17	12·98	3·24	17·16	4·64
Seaview (Hokitika) ..	515	154·05	34·01	24·00	6·49	0·99	19·84	4·08
Sunnyside (Christchurch)	1,430	156·60	39·88	13·47	7·07	7·85	22·90	4·31
Seacliff	1,245	158·68	50·36	20·39	13·38	11·76	28·53	6·88
Head Office (Wellington)	..	−1·05	..	..	..	..	..	..
Average total cost ..	9,719	138·09	41·77	17·21	9·36	6·41	20·16	5·78

Hospitals	Rations	Surgery and Dispensary	Miscellaneous	Total Cost Per Patient (*)	Receipts (†)	Net Cost Per Patient (†)	Net Cost Previous Year	+Increase or −Decrease in 1956–57
	£	£	£	£	£	£	£	£
Auckland	38·43	3·68	22·25	286·54	3·4	283·24	272·0	+10·8
Kingseat (Papakura) ..	42·40	4·43	22·67	263·32	8·1	255·22	240·1	+15·1
Raventhorpe (Bombay)	41·71	0·58	19·33	204·71	1·05	203·65	178·2	+25·4
Tokanui (Te Awamutu)	27·94	7·20	21·77	290·44	11·96	278·48	250·4	+28·0
Lake Alice (Marton) ..	43·73	4·08	33·14	286·00	21·81	264·19	259·2	+ 4·9
Levin Farm (Levin) ..	60·77	5·09	30·96	403·13	2·22	400·91	314·1	+86·8
Porirua	40·10	6·78	23·76	298·60	1·78	296·82	269·4	+27·4
Ngawhatu (Nelson) ..	39·65	3·54	21·01	301·20	4·59	296·61	294·3	+ 2·3
Seaview (Hokitika) ..	49·55	4·52	18·48	316·01	5·76	310·25	297·3	+12·9
Sunnyside (Christchurch)	47·54	6·39	24·74	330·75	14·25	316·50	285·6	+30·9
Seacliff	47·25	7·26	32·38	376·87	13·76	363·11	366·5	− 3·4
Head Office (Wellington)	..	..	1·65	2·70	..	2·70	1·9	+ 0·8
Average total cost ..	42·36	5·30	25·89	312·42	7·82	304·60	..	+20·6

* Cost does not include interest on capital and depreciation on buildings, etc. † Receipts from maintenance not included.

REPORT OF THE DIRECTOR, DIVISION OF HOSPITALS

1. INTRODUCTION

The magnitude and scope of the hospitals service can be gauged from a consideration of the main figures set out in this report. With 216,000 inpatients and 673,000 outpatients treated during the year, 15,000 available beds, 19,700 staff, and expenditure of over £20,000,000, the public hospitals service of New Zealand is by any standards a major undertaking. For many years Government, through the division, has provided an increasing proportion of finance by way of subsidy on local rates for hospital purposes until this year expenditure was approximately 79½ per cent from the Consolidated and Social Security Funds, 15 per cent from loans and 3 per cent from rates, and 2½ per cent from other sources. In many respects the system of administration of public hospitals of New Zealand arising from this method of finance has enabled the development on a national basis of desirable measures of co-ordination not available to the hospital administration of some other countries.

The end of this financial year marked the cessation of local authority hospital rates and, except for loan finance for capital construction, the assumption by Government of financial responsibility for the equipment and operation of all our public hospitals.

A new Hospitals Bill, which was referred to in last year's annual report, is nearly completed in draft form.

Hospital staffs in all countries have a long tradition of service before self, and this essential attitude is maintained at a high level by the boards and their staffs throughout New Zealand. I am glad of this opportunity to record my appreciation of their work in the interests of the patients. The staff of the division, too, remains conscious that its efforts are devoted not to impersonal administration, but to co-operation in the task of assisting in the relief and cure of pain and illness.

The division receives valuable help from and is appreciative of the co-operation given by other divisions of the Department. I am also pleased to record my special appreciation of the counsel and assistance of the Director-General of Health.

2. SCOPE OF THE REPORT

The following brief summary of the matters dealt with indicates the scope of this report.

(a) *Hospital Beds*: For the first time in several years the ratio of beds available per 1,000 of population at 31 March 1956 remained stable at 8·0 beds per 1,000. There was an increase of 436 beds in public hospitals and of 31 beds in private hospitals.

(b) *Patients Under Treatment:* The number of inpatients under treatment continues to increase steadily but the improved turnover resulted in a lower total of occupied beds and a decline in the percentage of available beds actually occupied.

(c) *Medical Statistics:* Some figures and related comments extracted from the volume of medical statistics for 1954 calendar year are given to summarise the hospital experience of the population. This information confirms the trend of recent years towards a shorter stay of patients in hospital.

(d) *Special Departments of Hospitals:* Examinations by X-ray and Pathology departments continued to increase but treatments by X-ray Therapy and Physiotherapy departments declined. The reasons for these variations are not obvious, but the rise in X-ray and pathological examinations parallels the increase in number of inpatients treated.

(e) *Staff:* Staff employed in public hospitals at 31 March 1956 totalled 19,732, an increase of 754 on the previous year. Household staff increased by 399 and nurses by 167.

(f) *Post-graduate Medical Study Leave:* Five whole-time and 7 part-time medical officers received grants of study leave to be taken in 1957 at a total estimated cost of £10,823 for salary and assistance with fares. Since the Selection Committee has been in operation (since 1952) grants have been made to 35 whole-time and 49 part-time medical officers.

(g) *Hospital Works:* Major hospital works at various stages of planning and in progress are summarised. Works for which working drawings are being prepared were estimated to cost £6·3 millions and those for which sketch plans only are being prepared were estimated to cost £8·2 millions. During 1956–57 ministerial consents for the erection of buildings totalled £2·5 millions.

(h) *Finance:* The total expenditure of hospital boards in 1955–56 was £20 millions, of which £15·5 millions was for maintenance and £4·5 millions for capital purposes.

The report also includes sections relating to ambulance services, dietary services, and inspections.

3. HOSPITAL BEDS AND PATIENTS TREATED

Hospital board institutions classified as hospitals of various types now number 194, a decrease of 1 from the previous year due to a hospital being reclassified. Two new maternity hospitals were opened during the year and two institutions – a maternity hospital and a tuberculosis sanatorium – were closed.

Available Beds

The numbers of beds provided in all public and private hospitals at 31 March 1956, at end of previous year, and at 31 March of each two preceding quinquenniums are shown in the following table:

Table 20

	Number of Beds Available at 31 March				
In hospital Board and Department of Health	1946	1951	1955	1956	
institutions—					
General	12,740	12,569	12,450	12,772	
Maternity	1,130	1,825	2,100	2,214	
	13,870	14,394	14,550		14,986
In private hospitals—					
General	1,877	1,812	1,891	1,927	
Maternity	905	577	437	432	
	2,782	2,389	2,328		2,359
	16,652	16,783	16,878		17,345
Number per 1,000 of population	9·2	8·7	8·0		8·0

In addition there were at 31 March 1956, 123 hospital beds in old people's homes: The total non-hospital accommodation for the aged in those homes was 824 beds.

Patients Under Treatment

The following are the figures for all hospital board and Department of Health hospitals classed as "public hospitals":

Table 21

	1946	1951	1955	1956
Average daily numbers of occupied beds ..	11,252	10,803	11,515	11,311
Percentage of available beds occupied ..	84·4%	76%	79%	76%
Inpatients under treatment	176,864	190,681	214,310	216,152
Outpatients under treatment	414,023	582,358	723,813	673,472
Outpatients attendances	1,176,510	1,396,096	1,374,026	1,526,256
Dental outpatients	35,831	25,015	36,744	37,639

The respective averages of the yearly turnover of patients treated per occupied bed for all classes of patients were 15·7, 17·7, 18·6, and 19·1.

This last figure is the highest yet attained and represents a material gain in ten years, the average turnover figure in 1946–47 being 16·5.

These figures illustrate that hospitals are maintaining every effort to get the utmost output from existing available beds.

Morbidity Statistics

The division receives material assistance in the form of information provided by the Medical Statistics Branch. The following comments based on the last compilation 1954 (calendar year) figures have been taken from the volume of medical statistics just published by that branch, to whom I express my appreciation.

Hospital Statistics

Statistical returns relating to inpatients are received quarterly from all the public hospitals. St. Helens hospitals, private hospitals, and solely maternity hospitals are excluded. Inmates of old people's homes or infirmaries controlled by the hospital boards are included in the statistics of patients treated, where hospital benefits for such treatment are payable under the Social Security Act.

Diseases are classified on a basis of the principal condition causing the patient to seek treatment in hospital, and the detailed list of the International Classification is used. The statistics relate only to patients who died or were discharged during the year, and not to all patients receiving treatment.

Since the formation of the Medical Statistics Branch in New Zealand in 1949 much work has been done to make the data collected from hospitals of greater value to persons working in the fields of public health, medical research, and hospital administration.

About 80 per cent of all persons treated in hospitals are treated in public hospitals. It has been possible to obtain reliable details about each patient admitted to the public hospital system, which makes available a wide cognisance of all the conditions that may cause persons to seek treatment in public hospital.

The absence of similar data from private hospitals leaves a gap in the overall statistical picture.

Application of Statistical Information

In attempting to interpret the information collected and to adapt it to the needs of hospital administration at all levels, the following four principal aims have been concentrated upon:

(1) To determine to what extent local conditions are responsible for differences in the relative importance of the different types of illness for which patients are admitted, and to assess the use made of hospital beds in different areas against the background of a varying pattern of disease in those areas, having regard to the age distribution and other characteristics of the population at risk.

(2) To select certain groups of conditions that are likely to give some indication of the efficiency of a hospital in terms of the response to treatment and the length of hospitalisation which that treatment has entailed. A popular term for this nowadays is "medical audit".

(3) To shed light on the reasons for persons being kept in hospital for undue length of time.

(4) To determine basic trends in hospitalisation and to make estimates of future needs for hospital construction in terms of changes in the population at risk and in the modes of therapeutic procedures.

From 1954 the data received from hospitals has been co-related with records of post-mortems done in public hospitals and with relevant death certificates. This enables detailed classification of causes of death. The post-mortem reports, which are separately coded, give additional material of the incidence and prevalence of basic conditions, and will in future provide valuable records of trends.

Summary of Inpatient Statistics

The following table is a summary of inpatients for the year 1954; by age and sex, showing comparisons of numbers of patients, and length of stay in hospital. This analysis was first compiled for the year 1950 and certain figures for that year are included in the table to show the movement that has taken place in the various figures between 1950 and 1954.

Admissions due to pregnancy, childbirth, or puerperal conditions are omitted from these figures.

Table 22—Incidence and Prevalence of Hospital Experience by Age and Sex, 1954

——	0–7	8–14	15–44	45–64	65 and Over	Total Males
			(a) *Males*			
Number of patients	16,462	7,154	26,871	14,860	13,368	78,715
Days' stay in hospital	251,414	114,914	557,747	387,322	533,232	1,844,629
Average number of days' stay per patient	15·3	16·1	20·8	26·1	39·9	23·4
Number of patients per 1,000 persons in age group—						
1954	81·7	52·8	61·0	74·8	149·5	73·9
1950	81·7	63·6	62·8	72·7	131·1	74·2
Number of days' stay per 1,000 persons in age group—						
1954	1,248	848	1,267	1,950	5,963	1,731
1950	1,234	1,054	1,428	2,062	5,643	1,836
Percentage of total days in hospital of all persons	7·2	3·3	16·0	11·2	15·4	53·1

Table 22—Incidence and Prevalence of Hospital Experience by Age and Sex, 1954—continued

——	0–7	8–14	15–44	45–64	65 and Over	Total Females	Totals, Males and Females
			(b) *Females*				(a + b)
Number of patients	12,357	5,662	26,115	13,772	10,430	68,336	147,051
Days' stay in hospital	197,234	96,293	509,880	329,267	496,054	1,628,728	3,473,357
Average number of days' stay per patient	16·0	17·0	19·5	23·9	47·6	23·8	23·6
Number of patients per 1,000 in age group—							
1954	64·2	43·6	61·1	68·7	101·8	64·9	69·4
1950	63·4	50·8	62·1	62·9	88·3	63·7	69·0
Number of days' stay per 1,000 persons in age group—							
1954	1,025	742	1,192	1,642	4,840	1,547	1,640
1950	1,008	918	1,427	1,779	4,481	1,655	1,746
Percentage of total days in hospital of all persons	5·7	2·8	14·7	9·5	14·2	46·9	100·0

The number of patients treated has increased by 13,400, or 10 per cent, since 1950, with a corresponding increase in the total days' stay of all patients of 104,700, or 3 per cent.

Generally speaking, males stay in hospital for a shorter period on the average than females. This is true for both years compared, with the exception of age groups 15–44 and 45–64 in 1954. On the other hand more hospital beds are required to cater for males because of the greater frequency of admissions, as disclosed by the figures of admissions in proportion to the population. In 1954 there were 73·9 male patients per 1,000 of population, as compared with only 64·9 females. This disparity between the sexes was common to all age groups, with the exception of the earlier working years (15–44).

The proportions of the population receiving inpatient treatment indicate that there has been an increase in 1954 as compared with 1950 in the age groups 45–64 and 65 and over for males, and 0–7, 45–64, and 65 and over for females. By far the greater increase has occurred in the years of retirement (65 and over), indicating that more and more hospital bed space is being occupied by the elderly as the years go by.

Special Departments

Statistics of the work of special departments were introduced in 1951–52. Summarised totals (inpatients and outpatients combined) indicating the work done by all hospitals are as follows:

Table 23

	1951–52 (000)	1952–53 (000)	1953–54 (000)	1954–55 (000)	1955–56 (000)
X-ray diagnostic: Number of examinations	508	543	581	600	609
X-ray therapy: Number of treatments	75	80	78	81	77
Physiotherapy: Number of treatments	613	718	786	898	862
Pathology: Number of reports ..	688	652	716	793	896
	No.	No.	No.	No.	No.
Post-mortems: Number of cases ..	2,430	2,488	2,676	3,072	3,276

4. STAFF

The total of employees of all hospital board and departmental hospitals (other than mental hospitals) at 31 March 1956 was 754 more than a year earlier. Difficulty is still experienced in obtaining nursing staff, and the total number of nurses increased by 167 only. The services of part-time nurses are still providing much appreciated assistance but it is still necessary in some areas to limit admissions according to staff available. The largest increase was 399 in household and other institutional staff.

In the tables following, the institutional staff employed at 31 March 1956 total 18,904 for the total of 15,933 beds in hospitals and old people's homes. Of these beds 12,122 were occupied daily. Staff engaged averages 1·2 persons per available bed or 1·6 per occupied bed. Medical and nursing staff engaged averaged 0·1 and 0·7 respectively per occupied bed. In the preceding year staff engaged were 1·1 persons per available bed but the other averages were the same.

Staff Employed

The numbers of staff employed in public hospitals and other institutions and activities controlled by hospital boards and the Department at 31 March 1956, and the actual payments of remuneration for the year which ended on that date, with the corresponding figures for the previous year in parentheses, were as shown below:

Table 24

	Numbers Employed at 31 March 1956		Salaries and Wages Payments for 1955–56 £(000)	£(000)
Institutional medical (whole-time and part-time)	1,194	(1,148)	893	(851)
Other professional technical	1,267	(1,173)	681	(628)
Nursing	8,667	(8,500)	2,834	(2,757)
Other treatment staff	304	(322)	207	(204)
Domestic and other institutional staff (including maintenance and grounds)	7,504	(7,105)	4,018	(3,675)
Administration (mainly secretarial staffs)	479	(460)	344	(310)
District nursing	150	(150)	92	(89)
Farm (including vegetable garden)	75	(90)	47	(44)
Miscellaneous (including architects)	92	(30)	62	(15)
	19,732	(18,978)	£9,178	£(8,573)

Medical Staff

The number of whole-time medical officers employed by hospital boards at 31 March 1957 was 465, whilst visiting medical officers employed for regular sessions numbered 552. In addition forty-five positions were filled by part-time medical officers not performing regular weekly hours. These figures relate to medical officers under the Hospital Employment Regulations and therefore omit positions temporarily vacant and visiting medical officers of some small maternity hospitals, which are, however, included in the table above.

The table below sets out details of the numbers employed and the class of medical service provided. Visiting staff not engaged on a regular

weekly basis have been excluded and the hours of other visiting medical officers have been converted to show the number of whole-time employees required to give an equivalent service.

Table 25

—	Whole-time	Part-time	Whole-time Equivalent	Total
Medical administrators	46	22	11	57
Physicians—				
General	18	95	29	47
Tuberculosis	18	4	2	20
Others	6	54	13	19
Surgeons—				
General	16	96	29	45
Others	6	118	39	45
Pathologists	27	..	..	27
Radiologists and Radiotherapists ..	27	25	9	36
Anaesthetists	17	114	26	43
Other medical staff	6	24	6	12
	187	552	164	351
Registrars	101	..	..	101
House surgeons and house physicians ..	177	..	..	177
	465	552	164	629

Note—These figures do not include sixth-year students acting as house surgeons.

Overseas Post Graduate Medical Study Leave

The Selection Committee met in September 1956 to consider applications by boards for their officers to be granted overseas study leave, and the following were granted leave for refresher courses to be taken overseas in 1957:

Table 26

Specialty	Number Granted Leave
Whole-time staff—	
Administration	2
Medicine	1
Pathology	1
Radiology	1
	— 5
Part-time staff—	
Obstetrics and gynaecology	1
Neuro-surgery	1
Medicine	2
Surgery	1
Gastroscopy	1
Orthopaedics	1
	— 7
	12

This will involve payment of salary and assistance with fares amounting to a total estimated cost of £10,823.

Since the Overseas Leave Selection Committee has been in operation (since 1952) grants have been made to thirty-five whole-time officers and forty-nine part-time officers, a total of 84.

Additional grants involving salary payments only were approved in the case of two medical officers proceeding overseas to study for higher qualifications, one in radiology and one in pathology.

Hospital Employment Regulations

General increases for all hospital board employees whose conditions of employment are determined under these regulations were granted with effect from 1 April 1956.

These increases were the result of a review made by a Sub-committee of Cabinet which had been set up to review the salaries of senior administrative, technical, and professional staff in all fields of employment where the Government was responsible for providing all or a major portion of the finance.

Other amendments arising from recommendations made by the various salaries advisory committees at meetings in December 1955 were incorporated in the revised scales and conditions of employment.

In the case of nursing staff a major increase was provided in the rate payable to a pupil nurse on qualifying, and consequential amendments made in the scales for more senior positions by reducing the number of steps required to reach the maximum rates. The new rate for a nurse in the first year after qualifying is now approximately 60 per cent above the rate received as a pupil nurse.

Provision was also made for the establishment of a grading committee for senior dietitians.

At the end of the financial year further increases effective from 19 November 1956 were granted to employees under the Hospital Employment Regulations following the general order of the Court of Arbitration which applied from that date.

5. HOSPITAL WORKS AND DEVELOPMENT

For the first time for several years our statistics do not show a decline in the ratio of available beds per 1,000 of population, the ratio having remained at 8·0 per 1,000 as in the previous year. As major developments referred to later in this section are completed we can look forward to an improvement in the number of beds available, though the normal growth in population will limit improvement in the ratio.

Hospital Works Committee

The Inter-departmental Hospital Works Committee, now in its third year, has this year considered 99 projects coming within its terms of reference, and has recommended works in various stages of planning or building of a total value of £8·6 millions.

Planning Bases Committee

A considerable amount of research and inquiry has gone into the preparation of planning bases for hospital laboratories which will have been distributed by the time this report is published. The work on hospital kitchens is still proceeding.

Hospital Buildings

During the past year a further number of major hospital works have been completed, and the considerable overall building programme continues to advance steadily and on the whole smoothly. This latter progress is evidenced in the summary below (Table 27) of hospital works, showing this year an increase of £471,000 in the value of "sketch plans approved", and £586,000 in the category of "working drawings approved", while the figure for "work in progress" has declined by £320,000, representing an increase in the amount of work completed.

The new Wakari Hospital was opened by His Excellency The Governor-General in March of this year, providing the Otago Hospital District with 200 urgently needed beds. Other works completed include substantial additions to the nurses' home at Cook Hospital, new maternity hospitals of 10 beds at Tokoroa and 14 beds at Helensville, 20 beds occupied as the maternity section of a new ward block at Thames, and wards and auxiliary service buildings at Hamilton, Tauranga, Wairoa, Napier, and Christchurch (the new supervoltage therapy unit donated to the North Canterbury Hospital Board by Sir Arthur Sims). "Threehouse" hospitals have been completed in Waiouru and Porirua, and the latter is now occupied.

The first stage of the Cashmere Hospital and the new hospital at Westown are both making satisfactory headway. Among other major works at present progressing satisfactorily are the new hospitals (maternity) at Kaikohe, North Shore, Te Awamutu, Paraparaumu, and Tuatapere; wards or clinical services buildings at Thames, Rotorua, Whakatane, Taumarunui, Te Puia, Dannevirke, Palmerston North, Masterton, Nelson, Clyde, Kew (Invercargill), and Gore; nurses' home additions at Tauranga, Whakatane, Wellington, Burwood, Oamaru, and Balclutha; and additions or renewals to boiler services at Thames, Hamilton, Green Lane, and Waipukurau. In addition major development works will shortly be under way at Whangarei, Tauranga, Cook (Gisborne), and Hastings Memorial Hospitals.

A substantial programme of necessary works is coming forward in planning, and there is reason to believe that the figure given in last year's report (2,760 new beds, i.e., 2,084 general and 676 maternity) to be commissioned by 31 March 1961 will be achieved.

In many localities, however, the figure of available beds still lags much behind acceptable and recommended bed ratios and a great deal of co-ordinating assistance is being and will continue to be required of this division to ensure an equitable distribution of the available resources in materials, labour, and finance.

The following is a summary of the position regarding hospital works and buildings as determined by the Hospital Works Committee at 31 December 1956 (previous December's figures in parentheses):

Table 27

	Finance from Loan		Finance from Capital	
	£(000)	£(000)	£(000)	£(000)
Category A: Work commenced	7,367	(7,687)	504	(412)
Category B: Tenders accepted	470	(576)	114	(91)
Category C: Tenders called	856	(252)	125	(135)
Category D: Working drawings approved	2,116	(1,535)	14	(39)
Category E: Sketch plans approved	5,873	(5,402)	481	(275)
Category F: Preparation of sketch plans authorised	8,002	(9,844)	172	(177)
Category G: Provisionally approved	6,377	(6,191)	77	(51)
	£31,061	£(31,487)	£1,487	£(1,180)

Consents to Capital Expenditure

(1) *Buildings*—During the year 1956–57 ministerial consents were granted to hospital boards for the commencing of building projects (with figures for 1955–56 for comparison) as follows:

	1955–56 £(000)	1956–57 £(000)
Major works exceeding £20,000	3,078	1,735
Consents ranging from £10,000 to £20,000	345	227
Consents ranging from £5,000 to £10,000	343	218
Consents ranging from £250 to £5,000	371	367
	£4,137	£2,547

Fluctuations in these figures do not reflect diminution of hospital building activity but merely indicate the point of time at which proposals reach the stage of "consent".

(2) *Hospital Equipment and Furnishings*—In the same period approvals were issued to boards for the expenditure of £424,000 for items of equipment and furnishings exceeding £250 in cost, as compared with £451,000 in the previous year. These sums were made up as follows:

Table 28

	1955–56 £(000)	1956–57 £(000)
Motor ambulances, trucks, and cars	52	60
X-ray equipment	71	55
Furniture, nurses' homes and staff accommodation ..	20	16
Ward equipment	151	72
Surgical and specialists' equipment	51	40
Laundry equipment	64	76
Hospital equipment including dietary, maintenance, and electrical stand-by plants	42	105
	£451	£424

This is a decrease of 6 per cent on approvals issued in the preceding year.

The gradual replacement of worn-out ambulances and a similar replacement of other vehicles plus necessary additions to the fleets concerned are largely responsible for the increase in this item. Under "Hospital Equipment", £17,000 was for initial equipment for a new hospital.

The total amounts of capital consents for expenditure on equipment and furnishings in 1956–57, in the preceding year, and five years ago were as follows:

	£(000)
1952–53	224
1955–56	451
1956–57	424

It can be expected that with the heavy hospital-building programme and the gradual commissioning of additional new wards and services further increases will occur.

6. AMBULANCE SERVICES

Ambulance Transport Advisory Board

Following his appointment as Chief Secretary to the Order of St. John, Mr C. Meachen was appointed to the board as one of the two representatives of the Order, replacing the late Mr Keith Falconer. Appreciation is expressed of the services of Mrs B. Leck (now Mrs Menara) during the time she acted as a member of the board.

The board formally met quarterly on four occasions during the year and the working committee of Wellington members met several times at irregular intervals.

Finance

Grants were considered during the year on the basis already established. Payments by hospital boards to voluntary ambulance organisations, approved by the Minister on the recommendation of the board, totalled £106,000 for maintenance and £14,400 for capital purposes. Approvals of capital expenditure by hospital boards for replacement of ambulances totalled £16,600.

Applications for approval of grants under action at 31 March totalled £48,000.

The Government policy relating to charges for road ambulance services was promulgated during the year and at 31 March all hospital boards conducting their own ambulance services had adopted the prescribed charges. Of the 19 services conducted by voluntary ambulance organisations 9 had agreed to adopt the scale, 5 were continuing a free service, and 5 were still under action.

A policy for voluntary organisations to set aside funds for replacement of ambulances was implemented during the year. Depreciation actually invested for the purpose of ambulance replacement may be included in expenditure in calculating future grants by hospital boards to subsidised organisations.

Air Ambulance Services

Arrangements were completed and a scheme for air ambulance services was implemented in September 1956. Provision is made for aircraft duly approved for ambulance work to be engaged for air transportation of patients on the authorisation of air ambulance requisitioning officers appointed by each hospital board. Air transport is provided free to patients who require to be transported between hospitals for treatment where other transport would be prejudicial, and to patients from isolated areas. Information has been provided for the guidance of air ambulance requisitioning officers regarding flight instructions and possible complications in air transportation of patients.

I desire to record my appreciation of the help provided by the R.N.Z.A.F. ambulance service during the year.

Future Policy

Matters to which attention has yet to be given under the original assignment to the board include co-ordination of ambulance services, possibly by the establishment of zones under zone committees, and measures to improve the training of ambulance personnel. The encouragement of voluntary effort in the provision of ambulance services

involving not only voluntary labour but also voluntary financial contributions for such purposes is the firm policy for future operation of ambulance services.

General

The board advised the Departmental Motor Vehicles Committee during the year on the purchase of ambulances for Army Department and the Forestry Service.

Returns of all road ambulance services, including the extent of the ambulance fleet, now coming in are providing useful information on the operation of these services. It is proposed to publish the returns in the appendix to this report, which will be issued later.

Quarterly returns of air ambulance services are also being obtained and a summary of these may also be included in the appendix.

7. INSPECTIONS

Professional and Technical

Several special tours of hospital districts in both the North and South Islands were undertaken by the Director-General accompanied by myself, our aim being to meet the members and officers of boards for discussion of their local problems, and at the same time to see as many as possible of their hospitals, both large and small. In addition, the medical and nursing activities of hospitals were inspected by the two assistant directors and the assistant inspectors of the Nursing Division, the former with particular reference to building works, the latter as regards nurse training schools. Laboratories at hospitals were inspected by the inspecting pathologists and reports made to the Department. The Inspecting Dietitian and Inspecting Physiotherapist have inspected the dietary and physiotherapy departments of hospitals.

The division is appreciative of the reports on inspections of maternity hospitals made from time to time by nurse inspectors attached to district offices.

The hospital inspectors in the administration and accounting field have inspected 11 boards' offices and hospitals. In addition to visiting some of these boards with the inspectors, the Inspecting House Manager visited 8 boards independently. An active policy of inspection is being pursued and much work is being done on administrative systems and procedures, including policies and systems for mechanisation of financial and stores accounting. Inspections are of mutual benefit – the inspectors learn of systems and procedures in operation by one board which are applicable elsewhere; at the same time, by observance of the best practices in hospital administration throughout New Zealand and by keeping in close touch with hospital administration overseas and with public administration generally, the division can give substantial help to boards.

Dietary Services

Regular inspections of the dietary sections of hospitals have been made throughout the year, 25 hospitals being visited.

The appointment was made of one Public Health Dietitian, South Island. From the wide variety of advisory service which she has already been called upon to provide to hospitals in which no dietitian is employed, to old people's homes, and to child welfare institutions it is obvious that this field must be expanded as soon as possible.

Two booklets *Meal Planning for Maternity Patients*, and *Meal Planning for the Elderly* have been prepared to assist those responsible for the catering services in maternity hospitals and old people's homes.

Negotiations are under way for the establishment of refresher courses for hospital cooks, and for a training course for dietitians' assistants.

The division is aware of and concerned at the fact that in a number of instances hospital boards are still allowing the supply of raw milk to their institutions. It is realised that in some of these cases an alternative pasteurised supply is not practicable at present, while the institution of individual pasteurising procedures is not generally favoured. However, where a pasteurised supply is available boards are being strongly advised to use it.

8. FINANCE

Amounts of actual receipts and payments of hospital boards usually published were not available when this report was compiled but will appear in the appendix to be published later.

The actual expenditure of hospital boards and Department of Health institutions in 1955–56 for both maintenance and capital purposes (inclusive of expenditure from loans but exclusive of amounts paid between boards or to Government institutions) totalled over £20 million, and is summarised thus:

Table 29

	1954–55			1955–56		
	Hospital Boards	Departmental Institutions	Total	Hospital Boards	Departmental Institutions	Total
	£(000)	£(000)	£(000)	£(000)	£(000)	£(000)
Maintenance ..	14,810	424	15,234	15,510	456	15,966
Capital ..	3,849	33	3,882	4,536	40	4,576
	18,659	457	19,116	20,046	496	20,542

Maintenance Expenditure

A summary of the maintenance expenditure of hospital boards for 1955–56, with the figures for 1954–55 for comparison, is set out below:

Table 30

	1954–55		1955–56	
	Amount £(000)	Percentage of Total	Amount £(000)	Percentage of Total
Hospital maintenance	13,200	89·1	13,781	88·8
Interest on loans	366	2·5	440	2·8
Indoor relief	265	1·8	273	1·8
Transport of patients (including grants) ..	164	1·1	161	1·0
District nursing (including grants) ..	143	0·9	156	1·0
Superannuation	114	0·8	117	0·8
Miscellaneous	109	0·7	110	0·7
Grants to private hospitals, etc.	37	0·3	30	0·2
Outdoor relief	24	0·2	25	0·2
Administration	388	2·6	417	2·7
	£14,810	100·0	£15,510	100·0

Hospital Maintenance

For the year 1955–56 the average daily expenditure per individual inpatient was £3 2s. 3d., i.e., with an average of 11,300 patients in hospital, outgoings totalled £35,000 each day for resident patients. On average, every inpatient cost £59 14s. as compared with £57 12s. in the preceding year. Outpatients numbered 673,000 and the average expenditure per outpatient was £1 10s. 4d. There were 38,000 dental outpatients and the average expenditure was £1 8s. 4d. per case.

The daily expenditure per inpatient was made up of:

	1954–55				1955–56			
Treatment expenditure—	£	s.	d.	£ s. d.	£	s.	d.	£ s. d.
Salaries and wages—								
Medical	0	2	11		0	3	2	
Nursing	0	12	6		0	12	11	
Technical and other treatment staff ..	0	1	4		0	1	5	
				0 16 9				0 17 6
Special departments (e.g., X-ray, laboratory)	0	1	8		0	1	11	
Supplies and expenses	0	3	5		0	3	7	
				0 5 1				0 5 6
Sub-total, treatment				1 1 10				1 3 0
Institutional administration	0	4	6		0	4	10	
Heat, light, power, and water	0	5	5		0	5	7	
Household (housekeeping, dietary, laundry) ..	1	3	7		1	5	1	
Buildings and grounds	0	3	4		0	3	9	
Sub-total, non-treatment				1 16 10				1 19 3
Total daily expenditure				£2 18 8				£3 2 3

It will be seen that the top rate of hospital benefits at 21s. per day did not quite cover the average daily direct expenditure for treatment in 1954–55 and that the deficiency increased in 1955–56. This deficiency and the maintenance and other non-treatment expenditure were met by the Government subsidy, the reduced hospital levy, and other (minor) income.

The average inpatient stays in hospital about nineteen days and the total expenditure per inpatient is made up as follows:

	1954–55			1955–56		
	£	s.	d.	£	s.	d.
Treatment	21	8	0	22	0	0
Institutional administration	4	8	0	4	12	0
Heat, light, power, and water ..	5	6	0	5	8	0
Household	23	2	0	24	0	0
Buildings and grounds	3	7	0	3	13	0
Miscellaneous	0	1	0	0	1	0
	£57	12	0	£59	14	0

The appended charts illustrate the percentages of inpatient and outpatient expenditure and the main divisions of expenditure on salaries and wages, food, and "other" expenditure.

Control of Expenditure

The figures of institutional maintenance expenditure for 1955–56 set out above are the second year's published under the new system. The information now available thus provides a comparison with the preceding year, and when 1956–57 figures are published in the appendix to

this report sufficient figures on a uniform basis will be available to discern the trends in expenditure.

This information should be of utmost value to hospital boards and their officers in controlling their expenditure by providing pointers indicating by the comparisons available where the rate of expenditure is above average and is increasing too rapidly. The presentation is such that the actual expenditure for which each is responsible can be indicated to the various department and section heads of hospitals and their co-operation can be sought in the control of expenditure.

As costs of the national hospital system increase it is essential that expenditure be to the best advantage and under the closest supervision.

Government Subsidies

Subsidies paid to boards in 1956–57 amounted to £12,896,000, comprising £10,390,000 for maintenance and £2,505,000 for capital purposes. The preliminary estimate of the amount required for 1957–58 is £15,500,000.

Levies on Local Authorities

Hospital levies on local authorities for 1956–57, the last year of the levy, were £658,000. The cessation of the hospital levies on contributory local authorities marks the end of an era in hospital finance. From 1 April 1957 begins a new era in which hospitals are to be financed solely from funds raised by Government taxation, as was the case in many areas before the first Hospitals Act was passed in 1895.

9. GENERAL

Staff

During the year Dr I. J. Jeffery was appointed Assistant Director, to replace Dr D. P. Kennedy, transferred to the Division of Public Hygiene.

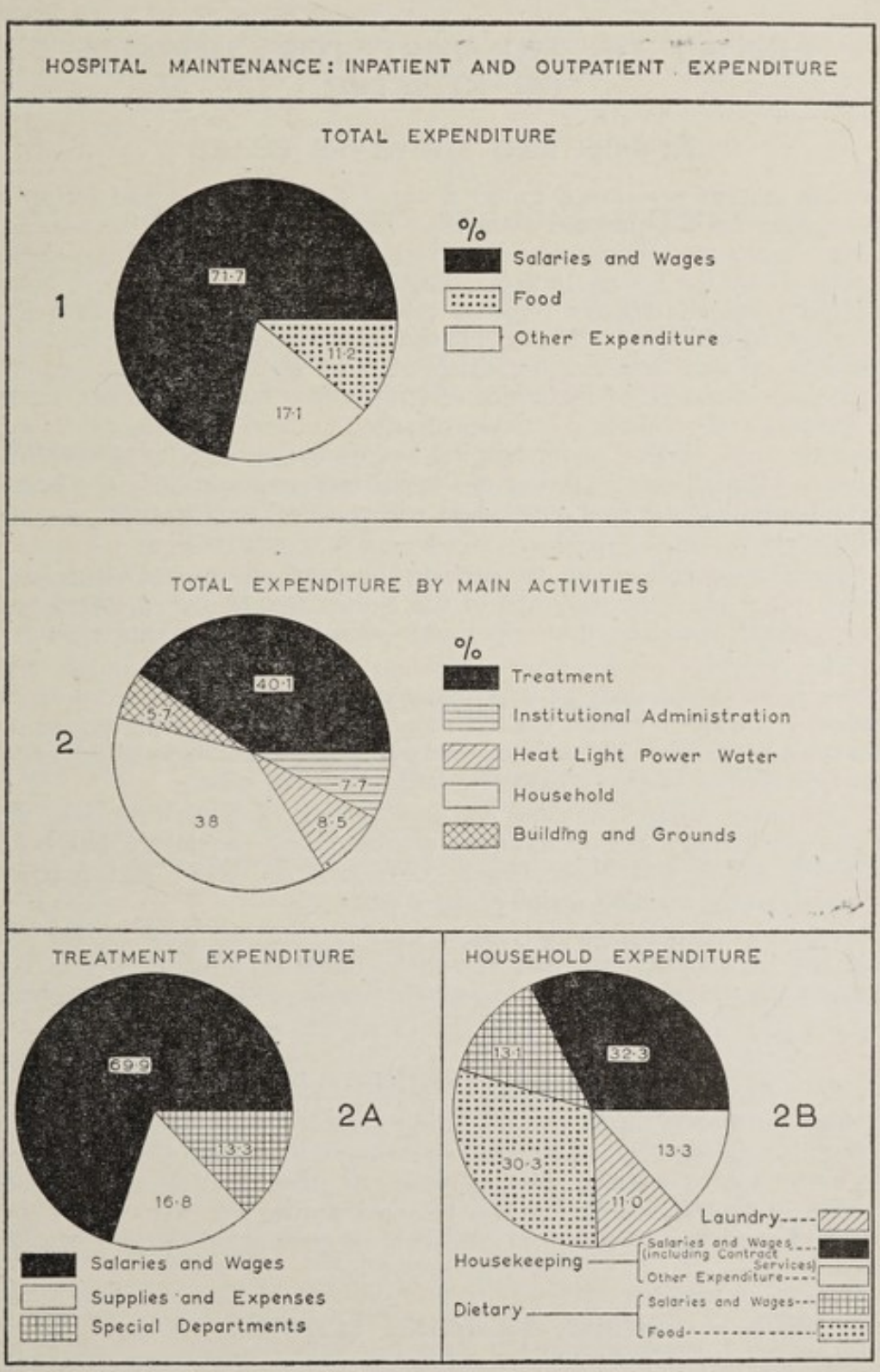
The position of Chief Executive Officer was filled by the appointment of Mr A. E. Galletly, following the retirement of Mr A. V. Keisenberg. I welcome the strengthening of the administrative staff by additional appointments which will enable the division to cope with its much-increased responsibilities.

Mr E. Chappell, Inspecting House Manager, retired during the year after thirty-four years' service with the Department, first as House Manager at Queen Mary Hospital, Hanmer, and then in Head Office as Inspecting House Manager. I desire to record our appreciation of his excellent service over the years and trust he will enjoy a long and pleasant retirement. His position has been filled by the appointment of Mr N. G. Crossman.

Conclusion

I thank the officers of my division most sincerely for their loyalty and efficient work in the past year.

C. A. Taylor,
Director, Division of Hospitals.


HOSPITAL MAINTENANCE: INPATIENT AND OUTPATIENT EXPENDITURE
TOTAL EXPENDITURE
1
71·7
11·2
17·1
%
Salaries and Wages
Food
Other Expenditure
TOTAL EXPENDITURE BY MAIN ACTIVITIES
2
40·1
5·1
7·7
38
8·5
%
Treatment
Institutional Administration
Heat Light Power Water
Household
Building and Grounds
TREATMENT EXPENDITURE
69·9
13·3
16·8
2A
Salaries and Wages
Supplies and Expenses
Special Departments
HOUSEHOLD EXPENDITURE
13·1
32·3
30·3
13·3
11·0
2B
Laundry
Housekeeping
Salaries and Wages (including Contract Services)
Other Expenditure
Dietary
Salaries and Wages
Food

REPORT OF THE DIRECTOR, DIVISION OF NURSING

NURSES AND MIDWIVES BOARD

Last year in my annual report I stated that the board had set up a committee for the purpose of revising the basic curriculum in nursing. This committee recommended certain changes, which have been approved by the board. In order that as many as possible should learn of the proposed changes regional tutorials were held throughout the country, to which were invited medical superintendents, matrons, tutor sister, ward and departmental sisters of nurse training schools, matrons and sister-in-charge of maternity and midwifery training schools, nurse inspectors and public health nurses attached to district health offices, and district nurses serving under hospital boards. An overwhelming majority at each tutorial were in favour of the changes recommended. The board now hopes that the new curriculum will be introduced towards the end of this year.

The changes to be made are perhaps the most radical ones which have taken place since the inception of the Nurses and Midwives Board and it is natural, therefore, that opposition was received from some quarters.

The objective of the new curriculum is recruitment of nurses and there is no doubt that, as it is planned, it has a definite recruitment value. If we are to recruit the right type of girl to the nursing profession we must ensure that her training is based on sound educational lines and thus enable her to give a high standard of nursing care.

The basic course in nursing will now include obstetrical nursing; the State preliminary examination, in anatomy and physiology has been deleted, which will allow better correlation of theory and practice throughout the training period of three years.

A new curriculum giving a three-year training for male nurses will also be introduced this year. It will be based on similar lines to the nurse curriculum but will not include the nursing of women and children.

MALE NURSE TRAINING SCHOOLS

The number of male nurse training schools has reduced during the year, Palmerston North and Wellington having revoked their approvals to train due to shortage of applicants. At present there are 41 male nurses in training, 6 having discontinued during the year. There are only 13 registered male nurses employed in male nurse training schools.

NURSE TRAINING SCHOOLS

For the first time in many years there has been an increase in the number of nurses in training, the increase over last year's figures being 372. The number who have left during training this year was 666, as against 699 last year. Of those in training 165 were Maori girls, 27 were

girls from the Pacific Islands, and 17 were girls of other races. The total increase in all nursing staff was 500, a small decrease in registered staff being offset by increases in part-time staff and in staff other than registered nurses. Only 413 beds are closed in nurse training schools due to staffing shortages. The ratio of registered staff to student nurses is 1 to 2·2 and the ratio of total full-time staff to average patients nursed is 1 to 1·5.

OBSTETRIC NURSE TRAINING SCHOOLS

Midwifery

There was a marked decrease in the number of midwifery candidates, particularly during the second term of this year. This meant that additional registered midwives had to be employed to make up the number of total staff required to give adequate nursing care.

Maternity

There was also a decrease in the number taking maternity training. Of the 398 taking their maternity training 217 were eighteen months' maternity trainees, which was an increase on last year's figures.

A total of 28,976 confinements took place in obstetrical training schools during the year.

NURSE AID TRAINING SCHOOLS

A total of 11,961 patients are nursed in our nurse aid training schools. There was a slight increase in the number undertaking their training this year. The ratio of total staff to patients nursed was 1 to 1·4 and the ratio of trained staff to untrained was 1 to 1·2. One hundred and seventeen Maori girls are at present undertaking their nurse aid training.

NURSES' POST-GRADUATE SCHOOL

Fifty-five students completed the course for 1956. Of these, 6 were from overseas countries – 3 from Indonesia, 2 from East Pakistan, and 1 from Egypt.

During the year arrangements were finalised for the introduction in 1957 of a Paediatric Ward Sisters' Course. This course is being conducted in conjunction with the Post-graduate School and the Auckland Hospital Board. During the course the students will spend a period of three months' practical work in the Princess Mary Hospital, Auckland, where they will be given the theory and practice in the care of sick children under the guidance of the paediatric specialists on the staff of this hospital. The remainder of the course will be taken with the other classes at the Post-graduate School where the core subjects of the school will be studied. In addition they will study the development of the normal child and will make related visits to public health and social agencies in the community which provide services for normal child care. At the conclusion of the course the successful students will be awarded a Diploma in Paediatric Nursing.

IMMIGRANT NURSES

A total of 67 nurses came to New Zealand last year under the immigration scheme. Of these, 26 were registered nurses only, 6 have in addition their maternity certificate, and 27 have an additional midwifery qualification. Six assisted immigrants are undertaking nurse training and 2 their maternity training.

Whilst these nurses are in New Zealand they are given the opportunity of taking any one of the post-certificate courses available to registered nurses and quite a number take advantage of this opportunity to gain additional qualifications.

HEALTH OF NURSING STAFF

This year there has been a considerable increase in the incidence of boils, septic fingers, tonsillitis, and laryngitis in all training schools. The loss of duty time by those contracting these conditions means a reduction in the number available for nursing care and is a serious matter when it is viewed in conjunction with general shortage of staff. Measures to prevent the incidence of such wastage of nursing staff must be strictly enforced and research undertaken by all hospitals to find the underlying causes. It is not sufficient to find and treat these conditions. Research into techniques (particularly those to do with hand washing, cleaning and disposal of used equipment, soiled dressing disposal) and attention directed to the nurses' personal hygiene should help obviate such infections in the future.

GENERAL

During the year there were many changes of matrons of training schools. I wish to thank the matrons and senior sisters who have retired for their long years of service to the nursing profession and to wish new appointees a happy and successful term of office.

I wish also to express appreciation of the services of the following departmental officers who retired during the year: Miss C. M. Ryan, Nurse Instructor of Industrial Health Nursing; Miss J. S. Livingstone and Miss E. M. Mills, Public Health Nurses; and Mrs M. W. M. Pickard who resigned to become Dominion Secretary of the New Zealand Registered Nurses Association.

Miss R. A. Davis, Nurse Inspector of Hospitals, and Miss M. I. Nicholls of the Plunket Society were granted scholarships by the New Zealand Committee of the British Commonwealth and Empire Nurses War Memorial Fund to undertake courses in the United Kingdom.

During the year the recipients of honours conferred by Her Majesty Queen Elizabeth II included Miss W. E. Delugar, Miss E. S. Brown, Miss Mary Reidy, and Miss M. E. Baxter.

In conclusion, I wish to place on record my grateful thanks to all the staff of my division, both professional and clerical, for their continued loyalty and devotion to duty and to assure them that their combined efforts make a valuable contribution to the successful functioning of the division.

F. J. CAMERON
Director, Division of Nursing.

REPORT OF THE DIRECTOR, DIVISION OF CHILD HYGIENE

STAFF

There are 21 whole-time and 20 part-time medical officers on the staff of the division, which is the equivalent approximately of 29 whole-time medical officers. This is a slight improvement on last year. More applications for positions in the Child Hygiene Division were received than was previously the case, but these were mostly for part-time positions. Part-time medical officers, unfortunately, are not so suitable as whole-time medical officers, as administrative difficulties in planning their work arise. Nevertheless, these part-time medical officers have contributed very materially to the work of the divison, which would have been seriously hampered without their help. Even so, it is still not possible to examine all the children who need it.

MEDICAL WORK AMONG PRE-SCHOOL CHILDREN

This work is carried out mainly in Plunket clinics but occasionally pre-school clinics arranged at kindergarten and day nurseries and other institutions have been held. Home visiting of pre-school children by Plunket and public health nurses is, of course, a very important aspect of the work. In general the work has proceeded on the same lines as last year with continued concentration on the search for defects of hearing and vision which so much interfere with a child's education, particularly that aspect of education which it receives during the first five years of its existence.

The commonest defects found in this particular age group are enlargement of tonsils, flat feet, and undescended testicles. In addition there have been several cases of malnutrition reported. In these days of plenty this is somewhat surprising, and it is undoubtedly due to ignorance or carelessness on the part of the mothers, or to some problem situation which exists at home.

Many mild behaviour problems also are brought to light at pre-school clinics and mothers are grateful for the advice which is given in connection therewith. One of the most important functions of pre-school clinics is the ascertainment of any degree of mental retardation in the child which would interfere with its progress at school. Such cases if they go to school at the ordinary age can cause considerable upset to themselves and to other children. It has now been arranged that, on the recommendation of a medical officer, these children may be retained in kindergarten until they are seven, or their admission to primary school delayed until that age. By so doing more accurate diagnosis is possible and more appropriate arrangements for their education can be made.

Immunisation of children against diphtheria and whooping cough has been carried out by medical officers and nurses, but this work is now mainly in the hands of general practitioners.

MEDICAL WORK ON PRIMARY SCHOOL CHILDREN

The culling system referred to in annual reports continued in operation throughout the year. Under this system defects are looked for among the school children by the public health nurses, and the suspected defects are referred to medical officers for confirmation. In cases of urgency children are referred directly to the family doctors for treatment. The examination of children entering school for the first time who have not been seen previously at a pre-school clinic is conducted by medical officers, who see in addition all special-class children, that is to say, children who cannot keep pace in the ordinary classes. The majority of defects found consist of dental caries and errors of refraction. Many hitherto unsuspected cases of deafness are still being detected by the use of gramophone audiometry, which continues to be a quick method of screening large numbers of children of Standard 2 and upwards for the presence of deafness.

The occurrence of bed-wetting and psychological problems among children is still relatively common, and such cases are referred wherever possible to the family doctors for advice and treatment or to the appropriate child health clinic. Further work in primary schools is concerned with the selection of children for health camps. Children may be referred to a health camp by family doctors or by the school medical officers, but as there are usually far more wishing to enter the health camps than there are places available it is necessary to have some standard of priority.

It is regretted that it has not been possible, so far, to extend the work of the Child Hygiene Division among the post-primary schools. The B.C.G. programme continues to afford an excellent opportunity of entry into the schools and discussing certain problems regarding the children with teachers and others. The routine inspection, however, of these young adolescents in spite of its importance has not been carried out as insufficient medical and nursing staff were available.

A survey of foot defects in girls attending one of the Wellington secondary schools was carried out by Dr Mulholland. This survey showed a surprisingly large number of defects in the feet of these girls, which in most instances had resulted from wearing of faulty footwear.

General health and nutrition of post-primary pupils appeared to be satisfactory. Again a few cases of quite severe deafness and severe errors of refraction were picked up in the examinations which were carried out.

CHILD HEALTH CLINICS

No further additions to the existing number of child health clinics were made during the year. It is pleasing to report that the value of these clinics is being recognised by private doctors to an increasing extent. When they commenced there was a certain amount of uncertainty as to the role they would fill. This uncertainty has now disappeared and increasing use is being made by private practitioners of these clinics, which provide a service which is nowhere else available for the assessment and treatment of psychologically and emotionally disturbed children. In many cases the work of these clinics is still hampered by

not having a complete staff, the services of the psychiatrist being sometimes difficult to obtain owing to the pressure of their other work. Nevertheless, the results which are being achieved are in many cases spectacular and will probably improve when psychiatric services can be regularly established.

MEDICAL STATE OF CHILDREN, 1956

The classification of defects found during the examination of school children was revised at the beginning of 1956, and improvements carried out in the system of recording these defects. As a result the figures published in the following tables may not bear strict comparison with those of previous years, but the pattern now established should enable comparable statistics to be obtained for future years.

Table 31 covers 97,617 primary school children and 4,226 post-primary children in the first part, and 26,553 pre-school children, including Plunket examinations in the second part. Maoris are included in all the above figures.

GENERAL MATTERS

The vaccination of 44,169 children against poliomyelitis was carried out by medical officers of the Child Hygiene Division during the year, each child receiving two injections. The work involved the cessation of all other activities by medical officers and nurses in order that the immunisation should be accomplished in the relatively short time in which the vaccine was active. It is noteworthy that the whole operation was carried out without a hitch, although other aspects of child hygiene work suffered in consequence.

The examination of candidates for teachers' training colleges and dental nurses again took up a considerable amount of time of the medical officers. Approximately 2,100 training college candidates and 300 dental nurse students were examined. As each examination takes on an average twenty minutes, about 800 hours was occupied in this work.

Great effort has been made to get the mothers of the children being examined to attend at the examinations conducted by nurses or medical officers. Only by these means can full information in respect of the child's health be obtained; and, more important still, education in health matters can be given to the mother. This is one of the most important ways in which the general knowledge of the population on health matters can be improved.

All medical officers' reports indicate increasingly greater co-operation from the family doctors and hospitals, particularly in respect of the notification of the results of any tests and treatment that have been carried out. Such information when received by a medical officer engaged in purely diagnostic work is very satisfying and helps to add interest to the work.

In conclusion I would like to acknowledge the great help and courtesy I have received from officers of the Department of Education and the loyal co-operation I have received from the medical officers, nurses, and clerical staff working for the division.

G. A. Q. Lennane,
Director, Division of Child Hygiene.

Table 31—School and Pre-school Children, 1956

	School Children				Pre-School Children (Including Plunket Examinations)			
	Europeans		Maoris		Europeans		Maoris	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Children examined	93,586	..	8,257	..	25,355	..	1,198	..
Children found to have defects	9,145	9·77	1,192	14·44	3,778	14·90	93	7·76
Children showing evidence of defects—								
Defects in general condition—								
Fair	227	0·24	32	0·39	88	0·35	3	0·03
Bad	133	0·14	17	0·20	65	0·26	3	0·03
General uncleanliness	63	0·07	14	0·17	12	0·05	..	..
Other	247	0·27	22	0·27	85	0·33	2	0·02
	670	0·72	85	1·03	250	0·99	8	0·07
Skin conditions—								
Impetigo	130	0·14	56	0·68	41	0·16	3	0·03
Scabies	13	0·01	61	0·74	1	..	6	0·05
Pediculosis	4	..	21	0·25	..	..	..	..
Eczema	105	0·11	19	0·23	166	0·66	6	0·05
Other	408	0·44	51	0·62	240	0·95	3	0·03
	660	0·70	208	2·52	448	1·77	18	0·15
Eyes—								
Visual defect untreated	1,692	1·81	86	1·05	22	0·09	..	..
Visual defect treated	620	0·66	38	0·46	18	0·07	..	..
Squint untreated	151	0·16	16	0·19	172	0·68	..	..
Squint treated	108	0·11	1	0·01	105	0·41	..	..
Other	204	0·22	9	0·11	86	0·34	2	0·02
	2,775	2·96	150	1·82	403	1·59	2	0·02
Ears—								
Otitis media with little or no impairment of hearing	23	0·02	45	0·54	4	0·02	7	0·06
Otitis media with impairment of hearing	45	0·05	58	0·71	5	0·02	4	0·03
Other impairment of hearing	313	0·34	45	0·54	29	0·11	1	0·01
Other	21	0·02	43	0·52	6	0·02	6	0·05
	402	0·43	191	2·31	44	0·17	18	0·15
Mouth, nose, and throat—								
Unhealthy tonsils	1,409	1·50	134	1·62	724	2·85	9	0·08
Nasal disease or defect	208	0·22	24	0·29	97	0·38	2	0·02
Adenoids	136	0·15	4	0·05	87	0·34	..	..
Untreated dental caries	1,111	1·19	301	3·65	492	1·95	16	0·12
Other diseases of teeth and gums	172	0·18	11	0·13	39	0·15	1	0·01
Other	55	0·06	14	0·17	27	0·11	..	..
	3,091	3·30	488	5·91	1,466	5·78	28	0·23
Goitre—								
Incipient	119	0·13	13	0·16	21	0·08	3	0·03
Other	19	0·02	1	0·01	9	0·04	..	..
	138	0·15	14	0·17	30	0·12	3	0·03
Speech, nervous system, psychological—								
Stuttering or stammering	229	0·24	19	0·24	138	0·54	2	0·02
Enuresis	341	0·36	7	0·08	110	0·43	..	..
Other behaviour or emotional problems	209	0·22	10	0·12	176	0·69	..	..
Impaired intelligence	186	0·20	21	0·25	62	0·24	1	0·01
Epilepsy	45	0·05	5	0·06	20	0·09	..	..
Other	16	0·02	1	0·01	9	0·04	2	0·02
	1,026	1·09	63	0·76	515	2·03	5	0·04

Table 31—School and Pre-school Children, 1956—continued

	School Children				Pre-School Children (Including Plunket Examinations)			
	Europeans		Maoris		Europeans		Maoris	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Children showing evidence of defects—*contd*								
Orthopaedic, Musculo-skeletal system—								
Flat foot	176	0·19	14	0·17	244	0·96	2	0·02
Hallux valgus	79	0·08	2	0·02	12	0·05	..	..
Club foot	34	0·04	29	0·35	146	0·57	3	0·03
Other orthopaedic conditions of lower limb(s)	210	0·22	22	0·27	325	1·27	4	0·03
Curvature of the spine	59	0·06	7	0·08	4	0·02	..	..
Residual paralysis following poliomyelitis	26	0·03	5	0·06	14	0·06	..	..
Other residual paralysis	66	0·07	8	0·10	37	0·15	1	0·01
Postural defects not due to the above conditions	158	0·17	5	0·06	56	0·22	1	0·01
Other	47	0·05	5	0·06	17	0·07	..	..
	855	0·91	97	1·17	855	3·37	11	0·09
Heart (including cardio-vascular system)—								
Congenital heart disease with no impairment of function	38	0·04	6	0·07	59	0·23	1	0·01
Congenital heart disease with impairment of function	14	0·01	2	0·02	12	0·05	..	..
Rheumatic heart disease with no impairment of function	9	0·01	8	0·10	1	..	..	..
Rheumatic heart disease with impairment of function	11	0·01	10	0·12	1	..	..	..
Heart disease unspecified	44	0·06	8	0·10	73	0·29	2	0·02
Other heart or blood-vessel conditions, e.g., varicose veins, lower limbs	12	0·01	4	0·05	59	0·23	3	0·03
	128	0·14	38	0·46	205	0·80	6	0·05
Lungs—								
Chronic bronchitis, bronchiectasis	61	0·07	20	0·25	37	0·15	3	0·03
Effects of old infection, e.g., thickened pleura, fibrosis of lung, collapse	3	..	6	0·07	1	..	..	..
Asthma	200	0·21	15	0·18	105	0·42	2	0·02
Tuberculosis	3	..	4	0·05	1	..	1	0·01
Other	34	0·04	11	0·13	23	0·09	..	..
	301	0·32	56	0·68	167	0·66	6	0·05
Other conditions—								
Undescended testicle	203	0·22	34	0·41	82	0·32	5	0·04
Hernia	82	0·09	31	0·38	75	0·30	6	0·05
Other	164	0·17	14	0·17	139	0·55	..	..
	449	0·48	79	0·96	296	1·17	11	0·09

REPORT OF THE DIRECTOR, DIVISION OF DENTAL HYGIENE

It is pleasing to be able to report another year of satisfactory progress in the development of the work of this division with a further increase in the number of pre-school and primary school children brought under the care of school dental clinics.

As the result of the great rise in annual total births in New Zealand since 1940, and the consequent increase since 1945 in the number of children attending primary school, it has not yet been possible to provide treatment for all primary school children in school dental clinics. In those centres where there has been a shortage of dental nurse staff a certain number of children in the upper classes of primary schools have been transferred to the care of private dentists for treatment under the Social Security (Dental Benefits) Regulations, while school dental nurses have concentrated on the treatment of the pre-school and the younger primary school children. The increasing number of primary school children receiving regular dental attention is shown in the table below:

Table 32

Year	Total Children of Primary School Age	Treated at Dental Clinics	Treated by Private Dentists Under Social Security	Total Treated	Percentage of Children of Primary-School Age Under Treatment
1922	242,466	4,061	..	4,061	1·7
1927	256,225	18,125	..	18,125	7·1
1932	243,081	66,985	..	66,985	27·5
1937	248,044	84,812	..	84,812	34·2
1942	245,592	118,784	..	118,784	48·4
1947	274,854	198,449	..	198,449	72·2
1952	341,156	215,471	77,367	292,838	85·8
1957	392,000*	270,022	98,059	368,081	93·9

* Estimated number.

The rate at which the School Dental Service can extend its treatment to further sections of the primary school population depends on the annual output of trained school dental nurses from its three training schools. The Dominion School for Dental Nurses in Wellington, which was planned to provide 50 graduates per year, was opened in 1940. A second school was opened in Auckland in 1952, and the third school in Christchurch in 1956.

February of this year saw the first group of 18 nurses complete training at the Christchurch school and a combined total of 108 school dental nurses graduate from the three schools. This is the largest number of nurses to complete training at any one time since the inception of the

School Dental Service, and with the 39 nurses who graduated from the Wellington school in August 1956 gave a total of 147 graduates for the year.

It is planned that from 1958 the total annual output of trained dental nurses from the three schools should not be less than 200 per year. It is hoped that this number will provide an increase in field staff sufficient to meet the dental needs of the rapidly growing primary school population and at the same time allow the service to resume responsibility for those primary school children who are now temporarily receiving treatment from private dental practitioners under social security. The factors which will govern this output of trained staff are, first, sufficient applicants with suitable educational qualifications and other attributes required of a student dental nurse, and secondly, an adequate experienced dental officer instructional staff. While there has been a decided improvement in the number of suitable applicants over the last two years the experienced dental officer instructional staff of our schools is depleted to a serious degree.

Some of the main features of the growth of the Dental Service since 1922 when the first group of student dental nurses commenced their first year of training are as follows:

Table 33

Year	Dental Districts	Dental Clinics	Dental Officers	Dental Tutor Sisters, Nurse Inspectors, Matrons	Dental Nurses	Total Children Under Treatment by Dental Nurses and Dental Officers	Fillings	Extractions	Total Operations
1922 ..	..	6	8	..	..	4,061	13,722	16,544	39,853
1927 ..	..	47	19	1	44	19,325	84,723	53,232	201,002
1932 ..	4	204	12	1	170	68,995	334,827	80,389	562,759
1937 ..	4	252	17	3	161	89,803	498,121	72,088	725,069
1942 ..	6	376	20	13	306	126,706	792,665	84,951	1,204,845
1947 ..	6	456	20	19	423	226,798	1,080,000	68,663	1,578,605
1952 ..	6	614	47	24	548	249,403	1,286,174	90,458	2,019,778
1957 ..	9	783	53	35	700	321,219	1,614,677	94,053	2,476,473

From statements which appear from time to time in the public press drawing attention to the high rate of dental decay in New Zealand it could well be assumed by those who have no knowledge of the dental neglect, which was a universal feature of the New Zealand school child prior to the establishment of the School Dental Service, that little impact has been made on the New Zealand dental problem. With this in mind I refer to a survey made in 1916 of 836 primary school children (five to fourteen years of age) in Wellington and conducted by a panel of dental practitioners. The tabulated result showed that only 2 children in the 836 had perfect sets of teeth. Two children of five years of age had already lost all their teeth; 116 children had chronic alveolar abscesses (then popularly known as "gumboils") discharging into the oral cavity; 280 had already had first permanent molars extracted; 2,546 extractions

were still required; and only 27 children in the 836 did not still require fillings or extractions or both.

The latest figures to hand covering all clinics in New Zealand reveals that a similar survey of 836 children in an urban area today would show 14·5 per cent of the children between five and six years of age with perfect sets of teeth, only 22 with a first permanent molar extracted, no chronic alveolar abscesses, and 95 per cent to 100 per cent under regular dental care. However, it is only right to stress that while there has been a marked improvement in the dental condition of younger children there is still an average of 6·6 defective teeth in all children between five and six years of age.

Another set of figures which illustrates the general improvement is the ratio of teeth extracted to teeth preserved by filling, in the School Dental Service. In 1924 the ratio of teeth extracted to teeth preserved by filling was 78·6 extractions to each 100 fillings. By 1935 the ratio had been reduced to 17·5 extractions to each 100 fillings, and for the twelve months under review is only 5·7 extractions to each 100 fillings. This last figure includes not only teeth removed as unsavable but also extractions required in the treatment of malocclusion and the extraction of loose deciduous (first) teeth.

STAFF

On 31 March 1957 the professional and technical staff of the Dental Division numbered 1,218, comprising 53 dental officers, 4 matrons, 5 hostel matrons, 31 dental nurse inspectors and dental tutor sisters, 700 school dental nurses (of whom 71 are part-time), 406 student dental nurses, 18 dental attendants, and 1 dental technician. The total figure last year was 1,057.

DENTAL PRACTITIONER SERVICE

This service is provided by—

(a) Full-time salaried dental officers of the Department; and
(b) Private dental practitioners operating under the Social Security (Dental Benefits) Fee for Service Scheme.

(a) Treatment by Salaried Dental Officers of the Department

No new State dental clinics designed for dental officers have been established during the year.

The following are the statistics for the year under review for clinics controlled by dental officers (figures for previous year in parentheses):

Table 34

Number of dental officers	18	(16)
Number of dental attendants	17	(19)
Number of treatment centres (including sub-bases)	17	(20)
Number of schools under treatment	64	(78)
Number of patients under treatment	7,148	(10,168)
Operative dental treatment—		
Total number of fillings	33,283	(54,628)
Total number of teeth extracted	2,799	(3,468)
Total number of operations	55,806	(86,079)

(b) Treatment by Private Dental Practitioners

The number of persons enrolled under the Social Security (Dental Benefits) Regulations and the amount paid for dental benefits for each year since the regulations took effect in 1947 are:

Table 35

Year Ending 31 March	Total Patients Enrolled for General Dental Benefits	Amount Paid for Dental Benefits
		£
1947 .. .. }	43,231	105,159
1948 .. .. }		
1949	67,945	226,373
1950	86,719	322,730
1951	107,529	383,752
1952	124,718	472,935
1953	160,694	545,003
1954	168,496	663,950
1955	162,699	712,175
1956	172,379	799,320
1957	172,724	906,313

SCHOOL DENTAL NURSE SERVICE

The following are the statistics relating to the work of the School Dental Service (including the dental nurse training schools) for the year ended 31 March 1957. (The previous year's figures are in parentheses).

Table 36

Number of school dental nurses	700	(632)
Total number of treatment centres (including sub-bases) ..	766	(717)
Number of schools under treatment	2,405	(2,360)
Number of children under regular treatment	314,071	(284,284)
Operative dental treatment—		
Total number of fillings	1,581,394	(1,460,973)
Number of teeth extracted	91,254	(81,124)
Total number of operations	2,420,667	(2,243,279)

The number of children under regular treatment shows a rise of 29,787 on the previous year's figure and an increase of 73,299 since 1944. It is also most satisfactory to find that there has been a further increase in the enrolment of pre-school children at school dental clinics. The number of pre-school children now receiving regular treatment is 50,197 and, as with last year, represents more than one in every three of all children between two and a-half and five years of age.

Efforts are continuing with the object of having 50 per cent of all pre-school children enrolled at school clinics, and future staffing of the Dental Service is planned on the basis that this will be achieved. In this matter I would make mention of the good work which is done throughout New Zealand by Plunket nurses in urging parents to see that their pre-school children receive early dental care.

DENTAL CLINIC COMMITTEES

These committees are the liaison between the School Dental Service and the local community and continue to render invaluable aid in making the School Dental Service a smooth-functioning organisation. All principal dental officers in charge of dental districts pay tribute to the help which is rendered to the school dental nurse and the Dental Service by committee members who are prepared to give freely of their time in the interests of the dental welfare of the child population.

TRAINING SCHOOLS FOR DENTAL NURSES

With the object of building up the strength of the division's field staff as rapidly as possible steps have been taken during the past year to increase the training facilities in three training schools.

The training school annex in Wellington has been extensively renovated. Extensions to the existing School for Dental Nurses, Auckland, are nearing completion and will allow an intake of at least 55 students per year. In Christchurch, plans for the new training school which is to be erected in the grounds of "Holly Lea" have been completed; as an emergency measure it was necessary to erect a temporary building in the hostel grounds to provide clinic accommodation for 26 senior student nurses.

The School for Dental Nurses, Christchurch, has functioned exceedingly well under difficult conditions, and full credit is due to the Principal, Mr E. Brebner, and his staff for maintaining a high morale in the student group. Miss D. H. Hamilton, Principal of the Auckland School, has also had to work under conditions made difficult by building operations and a student group too large for the school's present facilities; while in Wellington the Principal, Mr J. G. Espie, was forced to find temporary quarters in and around Wellington for 43 senior students for nearly three months when the annex was closed for renovations and repairs. I wish to record my indebtedness to the principals and staff of the three schools for the uncomplaining way in which a most exacting year has been met.

Table 37—Student Dental Nurses in Training

31 March	Wellington	Auckland	Christchurch	Total
1950	203	..	..	203
1951	205	..	..	205
1952	167	48	..	215
1953	170	79	..	249
1954	174	100	..	274
1955	209	98	..	307
1956	190	101	73	364
1957	199	101	106	406*

* This figure does not include overseas students training under the Colombo Plan.

REFRESHER COURSES

The one course organised in the year under review was held in May 1956 at the Wellington school and was attended by 24 nurses, all of whom had graduated from the Wellington school more than fourteen

years previously. This was the fourth course to be held in a period of three years and took the form of lectures, demonstrations, and exercises in clinical work. As with previous refresher courses it was much appreciated by the nurses attending, and I am sure that apart from any gain in the way of improved clinical efficiency the effect of meeting as a group in Wellington and renewing interest in service affairs is of very great psychological value to all nurses participating.

DENTAL HEALTH EDUCATION

Health education has always been considered an integral part of the work of the School Dental Service and is closely interwoven with all phases of clinical teaching and practice. All children attending a clinic for the first time are given instruction in the use of the tooth brush, and both parent and child are given advice about diet and care of the teeth. Among the many dental health activities carried out by school dental nurses during the past year were 4,111 lectures and addresses given to parents and children, and 734 health exhibits and stalls organised for public functions. School dental nurses also spent more than 63,637 hours in classroom and chairside instruction of children in the care of the teeth and oral hygiene. Booklets, pamphlets, folders and newspaper advertisement reprints issued by the Department and dealing with the need for dental care and ways of maintaining dental health have averaged a total of more than 589,000 items for each of the five years 1952–56, in all a total in excess of 2,945,000 items, more than sufficient to provide one item each year for each household in New Zealand. To this must be added dental health advertisements appearing every 4 months in 41 metropolitan and provincial daily newspapers, 8 weekly and 23 monthly publications and dental health posters distributed to all clinics, schools, Plunket rooms, kindergartens, and other such organisations. Within recent months a supply of a folder urging older children to care for their teeth has been sent to every post-primary school in New Zealand, and head teachers asked to arrange that copies be made available to children in the highest form of the school.

It is gratifying that the results of years of effort in this field are now becoming apparent in the improvement in the dental condition of younger children, the increasing number of pre-school children brought to clinics for early attention, and the growth of dental consciousness in the community as a whole.

COLOMBO PLAN

In accordance with the Department's policy, this division has been giving assistance where sought in the development of dental services in the countries of the western Pacific and South-East Asia regions. As mentioned in my last report, a New Zealand dental mission (consisting of a senior dental officer and two tutor sisters) is in Ceylon to assist in the establishment of a school for the training of dental nurses and the planning of a school dental service. The initial term of duty of this mission terminated in December 1956, but at the request of the Ceylon Government Mr F. B. Rice, the Officer in Charge, has had his term extended another twelve months, and the two tutor sisters, Miss K. A. M.

Salter and Miss B. V. Webber, who returned to New Zealand in January of this year, have been replaced by Miss E. S. Smith and Miss M. A. Garland who will remain for a further two years.

Dr S. S. P. de Jong de Silva, Principal of the Colombo School for Dental Nurses, completed a five months' study of the New Zealand School Dental Service in July and returned to Ceylon, where he is now working with Mr Rice in the establishment of the Ceylon service.

To assist the Medical Service of North Borneo in the development of its School Dental Service, two senior dental nurses, Mrs M. O. I. Finlayson and Miss R. E. Rishworth, have been seconded to North Borneo for two years. This term of special duty commenced in June 1956.

Students from Thailand, North Borneo, and Sarawak are at present in training in the Auckland and Wellington schools and will return to their respective countries on completion of the New Zealand two-year training course.

DENTAL BURSARIES

Dental bursaries awarded, renewed, suspended, and lapsed over the period of the last five years are as follows:

Table 38

—	New Bursaries Awarded	Previous Bursaries Renewed	Bursaries Suspended Temporarily	Bursaries Terminated	Total Bursaries in Effect at 31 March
1953	28	54	7	..	89
1954	27	49	17	1	93
1955	14	63	15	3	92
1956	13	77	6	1	96
1957	10	55	2	2	67

ACKNOWLEDGMENTS

I am glad to express my appreciation of the loyal support given me by all members of the Dental Division during this first year that I have held the position of Director, and to acknowledge the way in which all officers have responded to the heavy calls that have been made upon them in meeting the rapidly growing commitments of the dental service.

I also gratefully acknowledge the co-operation of all those organisations and individuals, including other branches of the Department, who in various ways have assisted the work of the division during this past year.

J. Bruce Bibby,
Director, Division of Dental Hygiene.

REPORT OF THE DIRECTOR, DIVISION OF PRIVATE AND MATERNITY HOSPITALS

PRIVATE HOSPITALS

I have the honour to present my final annual report as Director of the Division of Private and Maternity Hospitals; I leave the division with a great deal of regret as I have found the work both pleasant and interesting. The good will which, generally speaking, I found to exist between private hospitals and the Department, largely fostered by the efforts of the late Dr Paget, has greatly facilitated my work, which has also been made easier by the Government's policy towards private hospitals, a policy that has proved both successful and popular. As indicated in my last annual report, private hospitals are now increasingly taking their place as an important adjunct to our hospital services.

Suspensory loans to private hospitals were instituted in 1954. Since 1952 loans had been granted on a non-suspensory basis, and from then until 31 March 1957 over £400,000 has been loaned at an actual cost to the State of approximately £17,000, the suspensory portion of the loans. These loans have been the means of saving from closure 102 beds, and adding 184 new beds – a total of 286 beds. Loans for a further £400,000 have been approved for an additional 145 new beds, plans have been approved for 88 new beds, and proposals have been received for building within the next few years another 470 beds – a total of 989 beds since 1952. This makes for a very much brighter outlook than ever would have been thought possible before the institution in 1954 of increased hospital benefits and the suspensory loan scheme – two measures which have infused new hope and new life into the service.

The standard of private hospitals continues to improve, and the 20 per cent suspensory loan for alterations required by the Department has greatly assisted in this direction. Although there are a few hospitals of the older type which are difficult to bring up to modern requirements, the great majority are now of a very satisfactory standard and many compare favourably with our best public hospitals.

Medical and convalescent hospitals in particular are making progress, and the improvement in the number of beds available in private hospitals is largely due to the increase in this type of hospital. During the year eight medical and convalescent hospitals representing 108 beds were opened, and 5 beds were added to already existing hospitals. One hospital of 10 beds was closed, reducing the gain to 103 beds. The 75 per cent subsidy granted for the building of medical and convalescent hospitals reserved for old people has been responsible for the addition of 93 beds over the past few years, and 35 more are in the process of being built. These and other medical and convalescent hospitals perform a very useful service for the community.

Two medical and surgical hospitals representing 33 beds closed down, while one new medical and surgical hospital of 10 beds was opened and 16 beds added to existing hospitals – in all, there was a loss of 7 beds.

Loans have been granted for the addition of 32 beds as extensions to existing hospitals, and there are several other proposals to establish medical and surgical hospitals which should greatly improve the position in regard to this group. It may, I think, therefore be fairly said that the medical and surgical and medical and convalescent groups of hospitals have survived the crisis facing private hospitals, and that these groups are now once again firmly established. Indeed there are more beds now in these groups of hospitals than ever before.

Of the private maternity hospitals, seven, representing 57 beds, closed during the year. Two of these, however, were immediately replaced – one of 20 beds was improved and re-opened with 3 extra beds, and one of 7 beds was replaced by a new hospital of 14 beds, so that the actual loss was 20 beds. In one of the mixed hospitals the number of maternity beds was reduced by 2, but this was balanced by an increase of 2 beds in a small maternity hospital. In an endeavour to encourage the establishment of new private maternity hospitals the Government during the year increased the suspensory loan for the building of private maternity hospitals to 20 per cent, and for improvements required by the Department to 30 per cent. This provision has already been effective in that a 15-bed maternity hospital is being built in Dunedin, and proposals are to hand for two other units in the North Island – one of 38 beds and one of 20. The two great difficulties facing maternity hospitals are the cost of building and the shortage of staff. It is hoped that the present generous loan conditions may offset the first of these difficulties and that the new nurses' curriculum will assist towards the staffing position. It may well be that these two factors may herald a new and improved outlook for maternity hospitals.

During the year salary increases for all public hospital nurses were of necessity followed by an increase in the salaries of nurses in private hospitals. To meet this position a subsidy of 2s. 6d. per occupied bed per day was approved to date from 1 April 1956.

The private hospitals' strength as at 31 December 1956 was:

Maternity hospitals: 36 hospitals with 303 beds.
Medical and surgical hospitals: 51 hospitals with 953 beds.
Medical and convalescent hospitals: 56 hospitals with 753 beds.
Mixed hospitals: 9 hospitals with 106 maternity beds and 334 medical and surgical beds.
Total: 152 hospitals with 2,449 beds.

I feel I cannot complete my final annual report of private hospitals without saying that I have every confidence in their future. I have found a large number of nurses devoted to this service – a service which they feel is more personal and more satisfying than that in public hospitals: it is to many a true vocation. Private hospitals provide a type of service which has its advantages, and I feel sure that there will always be a fair section of the community who will prefer that service.

STATISTICS RELATING TO MATERNAL AND INFANT CARE

Statistics relating to birth rates and maternal and infant mortality are given in Table 39, an analysis of the causes of maternal deaths in Table 40, and the statistics relating to confinements in maternity hospitals with the complications encountered are given in Table 41.

The maternal mortality rate (excluding septic abortion) for Europeans, 0·28, is again an all-time record, as is also the infant mortality rate, 19·39. The neo-natal death rate, 13·34, is also a record and this factor has no doubt contributed to the improved infant mortality rate. The still-birth rate, 16·73, and the combined still-birth and neo-natal death rate, 29·85, are both slightly up on last year's figures, but are still very satisfactory and indicate a high standard of ante-natal care and of obstetrical skill.

The graph on page 80 presents a pleasing picture of the steady progress in maternal welfare that has been made since 1927. The main features of the graph have been discussed on many former occasions so that further comment on these is not called for, but the latest addition still further emphasises the advancement in the standard of obstetrical skill and care and reflects great credit on all doctors and nurses engaged in this field.

One unsatisfactory feature of the latest trienniel addition does, however, call for special comment. I refer to the increased number of deaths from septic abortion: 3 deaths this year, 4 in 1955, and 4 in 1954 – a total of 11 as against 7 in the previous three years. The very irregular nature of this element of the graph is in itself a clear indication that this is a condition which is not coming under the influence of our maternal services, so successful in other directions. Most of these cases do not seek medical care until too late and it is distressing to realise that these lives are needlessly sacrificed in this way. The success that has attended modern prevention and treatment of puerperal sepsis – 1 death in the past three years – gives clear proof of what should be achieved in this direction if medical science were given a fair chance. New Zealand has always had an unenviable reputation in regard to septic abortion, but as I stated in a previous report the question is a sociological rather than a medical one.

The Maori figures, although not so satisfactory as those for Europeans, do tend to maintain the steady improvement that has been evidenced now for some years. The Maori infant mortality rate is an all-time record and the maternal mortality rate, although it has been bettered on two occasions, is still satisfactory. General indications are that the Maori people are more and more coming to learn the advantage of proper ante-natal care during pregnancy and of skilled obstetrical care during confinements.

I wish to acknowledge with thanks the consideration that I have always received from licensees and managers of private hospitals and the valuable help and co-operation I have received from nurse inspectors and medical officers of health.

L. S. Davis,
Director, Division of Private and Maternity Hospitals.

Table 39—Number of Births Per Annum, Birth Rate, Infant Mortality, and Maternal Mortality Rates, 1952–56

—		1952	1953	1954	1955	1956
Number of live births per annum..	E.	46,469	46,414	48,431	49,869	50,430
	M.	5,459	5,529	5,700	5,807	6,163
Live birth rate	E.	24·77	24·12	24·63	24·86	24·67
	M.	45·41	44·54	44·37	43·64	44·64
	C.	26·01	25·35	25·84	26·03	25·93
Infant mortality rate per 1,000 live	E.	21·82	20·06	19·99	20·09	19·39
births	M.	84·45	73·07	58·60	62·51	54·36
	C.	28·40	25·70	24·05	24·52	23·20
Still-birth rate per 1,000 total birth	E.	17·88	18·75	17·69	15·71	16·73
	M.	19·75	21·59	19·10	16·10	19·72
	C.	18·08	19·05	17·84	15·75	17·06
Neo-natal death rate per 1,000 live	E.	15·14	14·31	14·33	14·14	13·34
births	M.	25·83	26·95	20·00	19·63	19·96
	C.	16·27	15·65	14·93	14·71	14·07
Still-birth rate and neo-natal death	E.	32·76	32·79	32·02	29·62	29·85
rate combined per 1,000 total	M.	45·07	47·96	38·72	35·41	39·29
births	C.	34·06	34·41	32·50	30·23	30·89
Maternal mortality rate (including	E.	0·71	0·54	0·52	0·44	0·34
septic abortion) per 1,000 live	M.	2·56	1·27	1·58	2·07	1·46
births	C.	0·91	0·62	0·63	0·61	0·46
Maternal mortality rate (excluding	E.	0·62	0·52	0·43	0·36	0·28
septic abortion) per 1,000 live	M.	2·02	1·27	1·23	1·89	1·30
births	C.	0·77	0·60	0·52	0·52	0·39

Table 40—Maternal Deaths, 1955 and 1956

Causes of Death	Number of Deaths		Rate Per 1,000 Live Births	
	1955	1956	1955	1956
A. Europeans				
642. Toxaemia of pregnancy—				
642.2. Pre-eclampsia of pregnancy	..	1	..	0·02
642.3. Eclampsia of pregnancy	1	2	0·02	0·04
642.5. Other	1	3	0·02	0·06
	2	6	0·04	0·12
644. Haemorrhage of pregnancy	2	..	0·04	..
650. Abortion without mention of sepsis or toxaemia—				
650.0. Spontaneous or unspecified	1	..	0·02	..
651. Abortion with sepsis—				
651.0. Spontaneous or unspecified	2	..	0·04	..
651.2. Induced for other than medical reasons ..	1	3	0·02	0·06
651.3. Other	1	..	0·02	..
	4	3	0·08	0·06
670. Delivery complicated by placenta praevia or ante-partum haemorrhage	1	1	0·02	0·02
671. Delivery complicated by retained placenta ..	1	1	0·02	0·02
672. Delivery complicated by other post-partum haemorrhage	4	1	0·08	0·02
674. Delivery complicated by disproportion or mal-position of foetus	1	..	0·02	..
675. Delivery complicated by prolonged labour of other origin	3	..	0·06	..
677. Delivery with other trauma	1	3	0·02	0·06
681. Sepsis of childbirth and the puerperium	..	1	..	0·02
682. Puerperal phlebitis and thrombosis	..	1	..	0·02
684. Puerperal pulmonary embolism	1	..	0·02	..
686. Puerperal toxaemia	1	..	0·02	..
Totals, including septic abortion	22	17	0·44	0·34
Totals, excluding septic abortion	18	14	0·36	0·28

Table 40—Maternal Deaths, 1955 and 1956—continued

Causes of Death	Number of Deaths		Rate Per 1,000 Live Births	
	1955	1956	1955	1956
B. Maoris				
642. Toxaemia of pregnancy—				
642.2. Pre-eclampsia of pregnacy	1	..	0·17	..
642.5. Other	1	..	0·17	..
643. Placenta praevia	..	1	..	0·16
645. Ectopic pregnancy—				
645.0 Without mention of sepsis	..	1	..	0·16
650. Abortion without mention of sepsis or toxaemia—				
650.0. Spontaneous or unspecified	1	2	0·17	0·31
651. Abortion with sepsis—				
651.2. Induced for other than medical reasons	1	1	0·17	0·16
670. Delivery complicated by placenta praevia or ante-partum haemorrhage	..	1	..	0·16
671. Delivery complicated by retained placenta ..	1	2	0·17	0·31
672. Delivery complicated by other post-partum haemorrhage	1	1	0·17	0·16
675. Delivery complicated by prolonged labour ..	1	..	0·17	..
677. Delivery with other trauma	1	..	0·17	..
681. Sepsis of childbirth and the puerperium	1	..	0·17	..
684. Puerperal pulmonary embolism	1	..	0·17	..
685. Puerperal eclampsia	1	..	0·17	..
688. Other and unspecified complications of the puerperium	1	..	0·17	..
Totals, including septic abortion	12	9	2·07	1·46
Totals, excluding septic abortion	11	8	1·89	1·30

Table 41—Statistics of Maternity Services and Cases, 1956

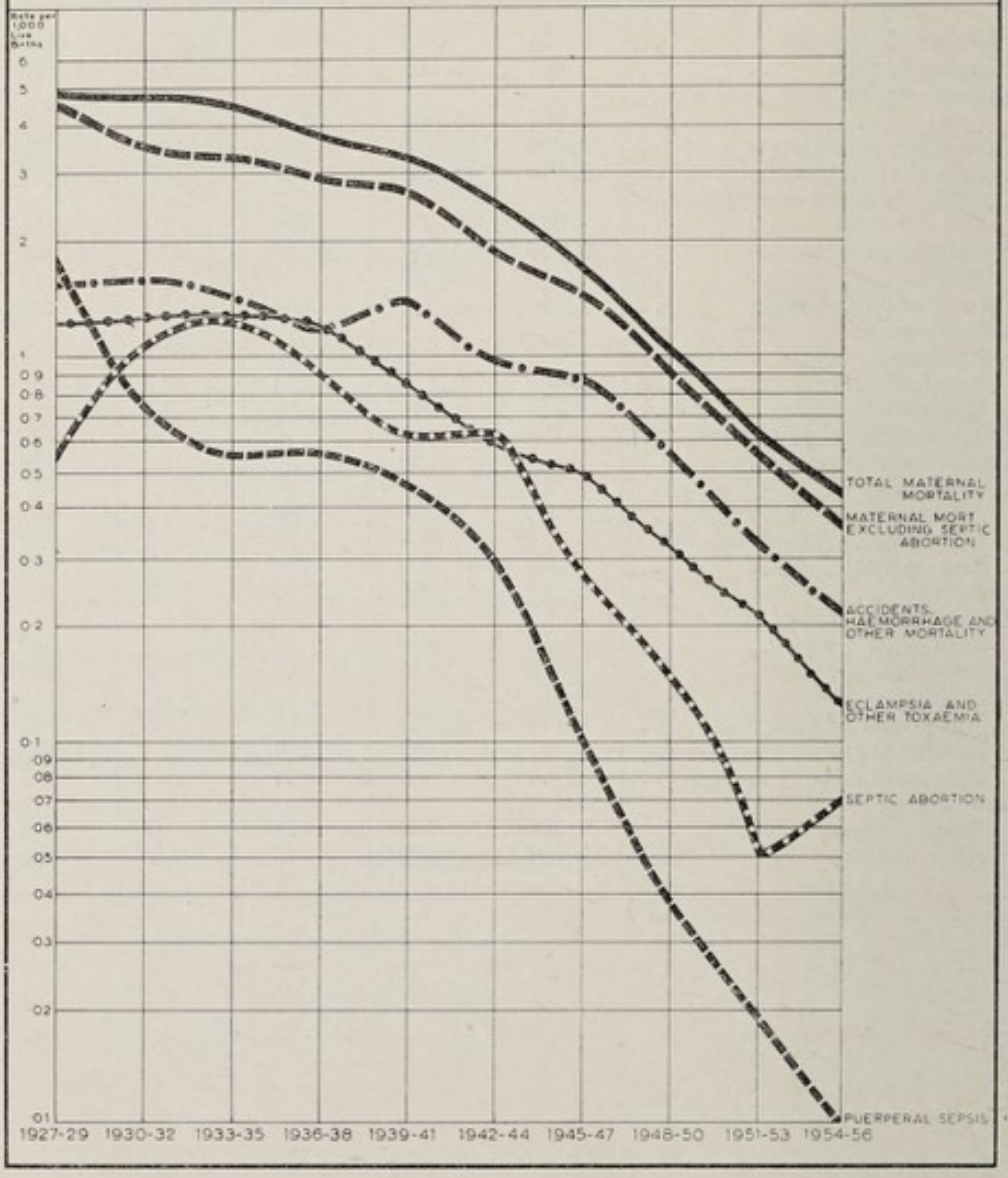
—	Private Hospitals	Public Hospitals	St. Helens Hospitals	Alexandra Home, Wellington	Totals
Number of hospitals ..	51	149	3	1	204
Number of beds	431	1,195	125	19	1,770
Admissions for ante-natal treatment	461	4,061	202	14	4,738
Admissions for delivery ..	9,290	42,710	3,180	441	55,621
Confined at full term ..	8,518	40,265	2,920	409	52,112
Confined between seventh month and full term	621	2,387	186	20	3,214
Total confinements ..	9,139	42,652	3,106	429	55,326
Abortions	9	99	4	..	112
Instrumental delivery ..	1,199	3,511	188	31	4,929
Inductions—					
Medical	619	3,329	226	33	4,207
Surgical	530	2,258	124	17	2,929
Combined	227	1,041	66	16	1,350
Manual removal of placenta ..	95	589	52	6	742
Caesarean section	109	754	50	..	913
Haemorrhage—					
Accidental	30	339	38	..	407
Unavoidable (placenta praevia)	24	269	27	1	321
Post-partum	69	1,700	181	7	1,957
Eclampsia	12	53	6	2	73
Deaths of infants—					
Born alive	53	476	19	1	549
Still-born	112	715	42	9	878
Morbidity—					
Not notifiable (mild) ..	154	1,118	65	5	1,342
Notifiable (puerperal pyrexia)	95	1,162	128	..	1,385
Puerperal fever	..	2	..	..	2
Transferred—					
Before delivery	106	360	23	9	498
After delivery	67	770	16	1	854

MATERNAL MORTALITY IN NEW ZEALAND (European)

Showing the Number of Deaths from all Puerperal Causes, 1927-29 to 1954-56.

	1927-29	1930-32	1933-35	1936-38	1939-41	1942-44	1945-47	1948-50	1951-53	1954-56
Puerperal sepsis	128	58	39	44	46	30	12	5	3	1
Accidents, haemorrhage, and other mortality	124	124	104	91	135	94	110	79	47	32
Eclampsia, and other toxaemia	101	97	93	94	80	58	62	44	30	20
Septic abortion	47	85	91	68	58	61	33	17	7	11
Total Maternal mortality	400	364	327	297	319	243	217	145	87	64
Maternal mortality excluding septic abortion	353	279	236	229	261	182	184	128	80	53

DEATHS PER 1,000 LIVE BIRTHS FOR TRIENNIAL PERIODS 1927-29 to 1954-56



REPORT OF THE DIRECTOR, DIVISION OF TUBERCULOSIS

The mortality from tuberculous disease continues to fall. For the year 1956 the overall mortality was 10·9 per 100,000 population. (European rate 7·8, Maori rate 56·5).

The number of newly notified cases was 1,806, a decrease of 111 on the previous year. Mass miniature X-ray continues to play an important part in finding unsuspected cases. Units stationed at Whangarei, Auckland, Hamilton, Palmerston North, Wellington, Christchurch (Greymouth), and Dunedin carried out examinations in 202,672 persons and were responsible for discovering 359 cases. These amount to 23 per cent of all notified pulmonary cases.

The following table shows the results achieved:

Table 42

Unit Number	Number Examined	Tuberculosis				Other Lung Conditions	Cardio-vascular Disease
		Healed	Inactive	Active	Active Cases Per 1,000 Examined		
001 ..	29,717	296	117	40	1·35	262	169
002 ..	31,015	279	194	68	2·20	177	31
003 ..	40,681	618	59	47	1·16	516	85
004 ..	21,972	129	56	97	4·42	229	102
005 ..	13,168	55	50	33	2·50	86	74
006 ..	40,051	946	57	26	0·65	772	188
007 ..	26,068	68	17	48	1·88	310	94
Totals	202,672	2,391	550	359	1·77	2,352	643

The policy of Mantoux testing and B.C.G. vaccination remains unchanged from the previous year. A total of 25,757 persons were Mantoux tested and 20,460 vaccinated (Table 43).

With the shorter stay of patients in institutions, a world-wide development made possible with modern treatment, it has been deemed advisable to divert some sanatorium accommodation to other uses. At a conference of interested hospital boards it was agreed that Pukeora Sanatorium be closed and patients accommodated at Otaki Sanatorium.

The division has co-operated with the Island Territories Department in instituting an anti-tuberculosis campaign for the Cook Islands.

During 1956 the Director of the Division was granted a fellowship by the World Health Organisation to study developments in the tuberculosis services in the Netherlands, Great Britain, and the United States of America.

The division's thanks are due to hospital chest physicians and surgeons for their co-operation and to tuberculosis associations throughout the country for their work in the field of social services.

G. O. L. Dempster,
Director, Division of Tuberculosis.

Table 43—Results of Mantoux Testing and B.C.G. Vaccinations, 1956

	0–4		5–9		10–14		15–19		20–24		25–34		35+		B.C.G. Vaccinations
	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive	
(a) Contacts	1,644	91 (5·5%)	895	142 (15·8%)	552	127 (23%)	161	36 (22·4%)	99	34 (34·4%)	159	84 (52·6%)	51	28 (55%)	2,770
(b) Hospital workers (both races)	..	..	..	..	..	..	703	150 (21·4%)	351	147 (41·8%)	193	98 (50·6%)	42	28 (66·6%)	968
(c) Others (Europeans)	367	14 (3·8%)	710	34 (4·8%)	14,195	1,559 (11·1%)	2,193	409 (18·7%)	482	169 (35%)	660	366 (55·5%)	527	337 (63·8%)	15,502
(d) Others (Maori) ..	86	4 (4·65%)	328	19 (5·7%)	702	120 (17·3%)	404	82 (20·5%)	17	4 (23·6%)	27	14 (55·3%)	9	6 (66·6%)	1,220
Totals ..	2,097	109 (5·2%)	1,933	195 (10·1%)	15,449	1,806 (11·7%)	3,461	677 (19·6%)	949	354 (37·3%)	1,039	562 (54%)	629	399 (63·6%)	20,460

Note—(i) A "contact" is a person who has lived with or been closely associated with a person who has tuberculosis notifiable under the Tuberculosis Act 1948.
(ii) "Hospital workers" include persons engaged in nursing or other duties while employed in any institution under the control of a hospital board or the Department of Health which admits medical and surgical cases.
(iii) "Others" are all persons not included in the above groups.

Table 44—Morbidity—Notification of New Cases of Tuberculosis During Statistical Year: Incidence of Type of Disease by Race and Sex With Number and Rate Per 10,000 Estimated Mean Population

Year	Respiratory						Non-respiratory						All Types		
	European			Maori			European			Maori			Both Races		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1952	686	526	1,212	255	238	493	139	131	270	54	67	121	1,134	962	2,096
	7·3	5·6	6·5	41·4	40·6	41·0	1·5	1·4	1·4	8·8	11·4	10·7	11·3	9·7	10·5
1953	669	520	1,189	271	250	521	132	118	250	52	61	113	1,124	949	2,073
	6·9	5·4	6·1	42·2	40·7	41·5	1·4	1·2	1·3	8·1	9·9	9·03	10·8	9·2	10·02
1954	645	433	1,078	280	293	573	84	90	174	49	35	84	1,058	851	1,909
	6·5	4·4	5·5	42·2	46·3	44·2	0·8	0·9	0·9	7·4	5·5	6·4	10·0	8·1	9·5
1955	660	479	1,139	234	267	501	87	102	189	42	46	88	1,023	894	1,917
	6·7	4·9	5·8	35·8	41·7	38·8	0·87	1·0	0·96	6·4	7·2	6·8	9·8	8·5	9·1
1956	647	392	1,039	245	283	528	65	84	149	42	48	90	999	807	1,806
	6·3	3·9	5·1	39·6	42·0	38·2	0·63	0·83	0·73	6·0	7·1	6·5	9·1	7·4	8·4

Table 45—Morbidity—Cases of Tuberculosis on Tuberculosis Register at End of Statistical Year: Prevalence of Type of Disease, by Race, With Number and Rate Per 10,000 Estimated Mean Population

Year	Respiratory						Non-respiratory					
	European		Maori		Both Races		European		Maori		Both Races	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1952 ..	7,135	38·0	2,638	219	9,773	49·5	956	5·1	492	40·9	1,448	7·3
1953 ..	7,395	38·1	2,831	225	10,226	49·4	1,007	5·2	535	42·6	1,542	7·3
1954 ..	7,476	37·8	3,075	237	10,551	50·1	901	4·5	586	45·2	1,487	7·1
1955 ..	7,802	39·8	3,523	273	11,325	54·1	763	3·9	340	26·3	1,103	5·3
1956 ..	8,146	39·8	3,749	270	11,895	55·0	711	3·5	402	29·1	1,113	5·1

Table 46—Cases of Tuberculosis on Tuberculosis Register at End of Statistical Year: Prevalence of Bacteriological and Clinical States

Year	Bacteriological State				
	Sputum or Discharge		No Sputum or Discharge Available	Not Investigated	Cases on Register
	T.B.+	T.B.−			
1952	1,218	4,184	4,359	1,460	11,221
1953	1,117	4,338	4,576	1,737	11,768
1954	998	4,989	4,757	1,294	12,038
1955	841	5,524	4,809	1,254	12,428
1956	691	5,829	5,005	1,483	13,008

Year	Clinical State					
	Active		Inactive	Unknown or Believed Well		Removed from Register as Recovered During Year
	Deteriorating and Stationary	Improving	Quiescent and Arrested	Unknown	Believed Well	
1952	1,365	2,222	6,719	510	505	754
1953	1,220	2,446	6,990	631	481	901
1954	1,111	2,534	7,370	630	393	1,147
1955	1,036	2,388	8,134	651	219	1,043
1956	770	2,496	8,501	758	483	693

Table 47—Cases of Tuberculosis on Tuberculosis Register at End of Statistical Year: Disposition

Year	Institution			Other Residence				Residence Unknown
	In Hospital	In Sanitorium	Total	In Home	In Hutment	In Boarding-house or Nomadic	Total	
1952 ..	1,091	529	1,620	9,003	154	314	9,471	130
1953 ..	1,177	548	1,725	9,264	112	296	9,672	371
1954 ..	1,113	472	1,585	9,714	158	260	10,132	321
1955 ..	1,069	417	1,486	10,339	116	185	10,640	302
1956 ..	914	354	1,268	11,089	128	151	11,368	372

Table 48—Morbidity—Cases of Tuberculosis on Tuberculosis Register at End of Statistical Year: Prevalence, by Race and Sex, With Number and Rate Per 10,000 Estimated Mean Population

Year	European						Maori						Both Races					
	M.		F.		T.		M.		F.		T.		M.		F.		T.	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1952 ..	4,225	44·9	3,865	41·4	8,090	43·1	1,404	228	1,727	294	3,131	260	5,629	56·1	5,592	56·7	11,221	56·2
1953 ..	4,414	45·3	3,988	41·3	8,402	43·3	1,544	240	1,822	296	3,366	268	5,958	57·4	5,810	56·5	11,768	56·9
1954 ..	4,436	44·4	3,941	40·1	8,377	42·4	1,688	254	1,976	312	3,661	282	6,121	59·2	5,917	56·6	12,038	57·1
1955 ..	4,583	46·7	3,967	40·2	8,550	43·4	1,785	273	2,093	328	3,878	301	6,368	60·9	6,060	57·8	12,428	59·4
1956 ..	4,827	47·0	4,029	39·6	8,856	43·2	1,902	269	2,250	333	4,152	310	6,729	61·2	6,279	57·7	13,008	60·0

Table 49—Mortality—Deaths from Tuberculosis During Statistical Year, Mortality by Type of Disease, by Race and Sex, With Number and Rate Per 100,000 Estimated Mean Population

Year	Respiratory									Non-respiratory									All Types								
	European			Maori			Both Races			European			Maori			Both Races			European			Maori			Both Races		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
1952—																											
Number ..	159	67	226	54	57	111	213	124	337	27	20	47	20	18	38	47	38	85	186	87	273	74	75	149	260	162	422
Rate ..	16·9	7·1	12·0	87·7	97·2	92·3	21·1	12·3	16·7	2·9	2·1	2·5	32·5	30·7	31·6	4·7	3·8	4·3	19·7	9·3	14·5	120·2	127·9	123·9	25·9	16·3	21·1
1953—																											
Number ..	114	61	175	46	36	82	160	97	257	33	21	54	21	18	39	54	39	93	147	82	229	67	54	121	214	136	350
Rate ..	12·1	6·5	9·3	74·7	61·4	68·2	15·9	9·8	12·9	3·5	2·2	2·9	34·1	30·7	32·4	5·4	3·9	4·7	15·6	8·8	12·2	108·7	92·1	100·7	21·3	13·7	17·6
1954— ..																											
Number ..	137	44	181	34	37	71	171	81	252	16	6	22	16	13	29	32	19	51	153	50	203	50	50	100	203	100	303
Rate ..	13·9	4·5	9·2	51·8	59·0	55·3	16·2	7·8	12·0	1·6	0·6	1·1	24·3	20·7	22·5	3·0	1·8	2·4	15·5	5·1	10·3	76·1	79·7	77·8	19·2	9·6	14·4
1955—																											
Number ..	136	59	195	35	26	61	171	85	256	10	13	23	11	3	14	21	16	37	146	72	218	46	29	75	192	101	293
Rate ..	13·5	5·9	9·7	51·4	40·0	45·8	15·9	8·0	12·0	1·0	1·3	1·1	16·1	4·6	10·5	2·0	1·5	1·7	14·5	7·2	10·9	67·5	44·6	56·4	17·8	9·5	13·7
1956—																											
Number ..	96	46	142	30	32	62	126	78	204	13	6	19	5	11	16	18	17	35	109	52	161	35	43	78	144	95	239
Rate ..	9·3	4·5	6·9	42·5	47·4	44·9	11·5	7·2	9·3	1·3	0·6	0·9	7·1	16·3	11·6	1·6	1·6	1·6	10·6	5·1	7·8	49·6	63·7	56·4	13·1	8·8	10·9

REPORT OF THE DIRECTOR, DIVISION OF CLINICAL SERVICES

This is my first report as Director of this division. Nine of the eighteen months which have passed since I was appointed have been spent on study leave, mainly in Great Britain. Some general observations may therefore be appropriate.

The New Zealand social security medical scheme is primarily a general practitioner service. The British scheme is much more comprehensive. Within its limits, however, I consider that our scheme compares very favourably with that in Britain. The average New Zealand graduate is in my opinion a better doctor than his English counterpart. Patients here expect a great deal from their doctors, and on the whole they are well looked after. The rooms, equipment, assistance, and facilities provided by the average practitioner in this country are of a higher standard than is usual in Britain. Admittedly it is easier there to get a doctor at the weekend than it generally is here, but the same applies to many other things: the way of life is different.

Social security medicine in New Zealand has one great advantage over the British scheme; it has departed only in minor degree from the ordinary conditions of general practice. Most doctors here make a direct charge to the patient. If a doctor is hard pressed during an epidemic he has at least the satisfaction of increasing his earnings. If he is called out at night or on a holiday he gets an extra fee. He is not, as in Britain, "bound to his patient by the iron fetters of a legal contract enforceable day and night at the whim of the patient";* now, as in the past, the bond that unites them is "the golden thread of mutual esteem and confidence, and the obligation to render service is enforceable only by the conscience of the doctor". These, in my view, are good features of the scheme which should be preserved.

There are defects in our present system. It has often been criticised, sometimes with good reason. It is true to say that some doctors have accepted more patients than they could care for properly, that the service given has been, at times, hurried and inadequate, that prescriptions have been issued unnecessarily and regardless of cost, that powerful drugs have been misued. If these were usual features of the service it might justly be condemned. I believe that this is very far from being the truth.

From an intimate knowledge of the largest health district in this country I can say quite definitely that the proportion of doctors who give poor service to their patients is very small.

There are over 1,700 doctors claiming for general medical services. If only 5 per cent gave rise to criticism, this would be 85 in all. In a small community such as ours, such a number could do untold damage

*Dr Ian D. Grant, President, College of General Practitioners, November 17 1956.

to the good name of the profession; yet nineteen out of twenty might be giving excellent service. In fact, however, nothing like this number has ever come under criticism. The list of those whose names have ever been referred to the Disciplinary Committee, or brought before the Medical Council, is quite short; and not all of these complaints were sustained.

If the distribution of doctors were uniform (which at present it is not) any doctor who gave poor service would soon lose his practice. The situation has altered greatly in the last ten years:

Year	Doctors Claiming on G.M.S. Fund	Average Population Per Doctor
1946–47	.. 1,121	1,579
1951–52	.. 1,307	1,497
1956–57	.. 1,704	1,276

It may be anticipated that competition for patients will in the next few years help to correct some of the defects mentioned above.

Extravagant prescribing is receiving close attention. A special committee "to inquire into the increasing cost of pharmaceutical benefits and advise the Minister of Health regarding any measures which might be taken with a view to effecting economies" first met on 4 February 1957. Its report was presented in May. Action had, however, already been commenced on certain measures proposed by this committee:

(a) Appointment of a senior general practitioner as Assistant Director of Clinical Services, to advise family doctors in regard to prescribing, with special reference to cost.

(b) New regulations controlling extravagant prescribing and excessive numbers of "services".

(c) Limitation of ordinary prescriptions to ten days' treatment plus one similar repeat, together with a widening of the extended supplies provisions in suitable cases.

(d) Increase in the number and quantity of materials obtainable on a Medical Practitioner's Supply Order for use in his practice.

These measures should go a long way towards correcting the principal faults of the present system.

Some widely circulated criticisms of the service do not stand up to close examination. For example:

(a) *"People run to the doctor with trivial complaints":*

It is difficult to get the truth about this. Doctors differ in their opinions, but many will not agree. They point out that what seems trivial often has something much more important behind it. Cancer and general health propaganda urge people to see their doctors early; we cannot have it both ways. Last year visits to (or by) the doctor averaged 4·4 per head of population. Is this really a high figure? In Britain the rate is considerably higher than this.

(b) *"Far too many prescriptions are issued":*

Last year the average was 5·7 per head. This represents about 3·2 separate prescription forms a head per annum. Is this excessive? How many "healthy" wage earners would be ashamed to take a prescription to the chemist three or four times in a year? In England, despite a tightly controlled service where doctors are liable to be fined for over-prescribing, the average has always been much higher than ours. I firmly believe that the practice of "good medicine" could lower the proportion of prescriptions issued – but not by any very large percentage.

(c) *"Frightful rise in the cost of prescriptions":*

I agree – but the cost of everything else has been rising too. In ten years the average cost of prescriptions has increased by 52 per cent – but in the same time the Consumer's Price Index rose by 61 per cent. So in this respect pharmaceuticals have rather a better record than consumer goods in general.

(d) *"The country can't afford the cost of pharmaceutical benefits":*

The total cost of pharmaceutical benefits amounted to 0·36 per cent of the net national income at market prices in 1946–47. By 1954–55 both had more than doubled – the first increased by 112 per cent, the second by 117 per cent. Pharmaceutical benefits still represented only 0·35 per cent of the national income. The following year the proportion had jumped to 0·44 per cent, a considerable increase, which led to the appointment of the special committee already mentioned. We certainly cannot afford waste or extravagance in prescribing, and they must be checked. But neither can we afford a medical service which does not provide the best in modern methods of treatment. And what of the benefits, in money alone, of the advances made in recent years? – the useful lives spared, the working hours gained, the maintenance of production: the savings in hospital expenses, invalidity benefits, widows' pensions and the rest. The ordinary person thinks nothing of these things. But the doctor, who remembers what it was like in pre-antibiotic days, realises what a difference the revolution of the last two decades has made to his patients, and is grateful.

My considered opinion is that the New Zealand scheme is essentially sound, that its faults can be corrected, that with wise planning and good will it can in time be fashioned into something without rival in the world. This will need the closest possible co-operation between all branches of the profession, and especially between private practice and public health. The first essential is that the morale of the profession must be maintained at the highest level. Doctors must be encouraged to think well of themselves and of their calling. Denigration of the many for the faults of the few is not only unfair, but is thoroughly bad policy. We on the administrative side must have faith in the men who do the real work of running the medical service; and give them cause, on their part, to have confidence in us.

. . . . .

Table 50 shows the expenditure on the various medical benefits in each of the past ten years. Last year the total cost increased by £1,225,558, as compared with an increase of £2,958,230 in the previous year. Nearly 44 per cent of the rise in expenditure this year was due

to the increase in cost of pharmaceutical benefits, amounting to £533,412. The average cost of prescriptions was 7s. 3¼d. (7s. 2d. in 1955–56), the averages for the four district pricing offices being as follows:

	1955–56	1956–57
	s. d.	s. d.
Auckland	7 7½	7 9
Wellington	6 11¼	6 11¾
Christchurch	6 9¾	6 9½
Dunedin	6 8½	7 0½

Total prescriptions passed for payment during the year amounted to 12,561,970, as compared with 11,251,100 in the previous year.

. . . . .

I wish to record my appreciation of the valuable assistance and willing co-operation of the members of the various advisory committees, and of the medical officers of health and their staffs; and to commend the excellent work done by the staff of this division under the able direction of Mr A. R. F. Rankin; to all of whom I tender my grateful thanks. My thanks are due, also, to Dr D. P. Kennedy, who kindly deputised for me during my absence overseas.

A. W. S. Thompson,
Director, Division of Clinical Service.

Table 50—Social Security Fund Medical Benefits: Statement Showing Expenditure Since 1 April 1947

—	1947–48	1948–49	1949–50	1950–51	1951–52	1952–53	1953–54	1954–55	1955–56	1956–57
				Subdivision I—Maternity Benefits						
	£	£	£	£	£	£	£	£	£	£
Public hospital fees	301,293	389,416	400,334	414,175	417,058	443,094	455,271	606,447	753,404	776,321
Private hospital fees	214,963	221,061	188,739	178,739	168,085	157,782	142,455	170,385	200,532	190,613
Medical practitioners' fees	269,265	291,246	268,166	279,191	281,351	298,222	296,967	329,481	396,494	398,848
Medical practitioners' milage fees	5,997	7,715	7,986	7,851	8,397	9,585	9,949	12,662	14,929	14,732
Obstetric nurses' fees	8,512	6,682	6,161	5,127	4,066	4,123	4,415	3,545	4,705	4,153
Private hospital loans	..	..	..	..	..	..	7,500	15,500	6,500	30,100
Private hospital subsidies	..	..	..	233	5,824	6,616	8,059	9,287	..	..
	800,030	916,120	871,386	885,316	884,781	919,422	924,616	1,147,307	1,376,564	1,414,767
				Subdivision II—Medical Benefits						
Capitation fees	22,945	16,818	12,002	6,622	4,519	5,170	4,792	4,998	4,412	4,412
Capitation and general medical services milage	109,522	123,768	131,995	145,396	155,626	171,716	169,643	183,039	197,493	207,292
General medical services	1,993,806	2,112,304	2,328,154	2,453,516	2,529,906	2,784,051	2,835,983	3,092,144	3,275,171	3,510,971
Special arrangements under section 82	37,714	45,286	47,406	42,499	57,223	65,818	63,746	64,450	63,470	69,166
Purchase of sites and erection of residences for medical officers appointed under section 82	3,839	8,660	4,733	13,133	13,309	20,447	11,585	5,549	7,534	5,221
Remuneration, allowances, and expenses of medical practitioners in areas other than those covered by section 82	..	45	..	..	..	..	..	..	..	..
	2,167,826	2,306,881	2,524,290	2,661,166	2,760,583	3,047,202	3,085,749	3,350,180	3,548,080	3,797,062
				Subdivision III—Hospital Benefits						
Treatment in public hospitals	1,536,417	1,560,483	1,566,824	1,557,830	1,562,716	1,566,320	1,598,947	2,638,191	3,662,651	3,564,457
Out patient treatment	117,385	141,530	147,505	164,508	152,930	163,719	175,338	187,406	341,875	397,716
Treatment in private hospitals	252,850	245,000	249,085	246,199	269,142	261,878	241,918	375,069	579,542	601,126
Treatment in approved institutions	42,837	50,362	48,235	43,477	49,264	50,240	56,107	76,432	95,453	107,057
Private hospital loans	..	..	..	..	..	..	..	30,282	68,151	179,368
Private hospital subsidies	..	..	..	6,949	68,442	79,726	97,138	84,547	3,028	..
Grant to Royal N.Z. Society for Health of Women and Children towards operating costs Karitane hospitals	..	..	..	..	10,000	13,335	14,791	19,113	13,966	19,729
	1,949,489	1,997,375	2,011,649	2,018,963	2,112,494	2,135,218	2,184,239	3,411,040	4,764,666	4,869,453

Table 50—Social Security Fund Medical Benefits, etc.—continued

——	1947–48	1948–49	1949–50	1950–51	1951–52	1952–53	1953–54	1954–55	1955–56	1956–57
				Subdivision IV—Pharmaceutical Benefits						
Drugs supplied by—	£	£	£	£	£	£	£	£	£	£
Chemists	1,507,521	1,727,556	1,991,350	2,036,990	2,371,769	2,952,773	2,847,919	2,952,269	3,949,164	4,475,606
Medical practitioners	5,973	8,262	11,266	6,803	8,287	9,143	10,267	10,068	15,951	17,934
Institutions	44,856	57,341	41,227	53,207	48,160	53,917	61,434	84,994	74,030	79,017
	1,558,350	1,793,159	2,043,843	2,097,000	2,428,216	3,015,833	2,919,620	3,047,331	4,039,145	4,572,557
				Subdivision V—Supplementary Benefits						
Radiological services	209,059	249,461	276,999	294,883	310,189	350,120	379,641	409,381	448,374	474,369
Laboratory services	90,306	117,173	118,447	128,546	149,917	178,892	189,070	227,914	277,458	338,673
Physiotherapy services	47,510	57,088	63,840	67,388	62,572	62,249	62,575	64,347	64,863	66,499
Specialist services (neuro surgery)	121	4,072	6,553	4,089	3,019	4,654	2,794	2,719	3,181	2,872
District nursing services	82,756	111,289	116,007	113,571	124,250	114,931	127,016	137,339	150,117	162,016
Dental services	105,109	223,186	324,933	385,612	469,989	545,002	659,570	716,251	798,756	906,420
Domestic assistance	2,865	3,258	3,082	3,520	4,699	5,943	7,015	6,071	7,744	9,977
Grants to public servants and dependants in respect of medical, hospital, etc., expenses while stationed overseas	..	..	..	795	1,996	1,960	2,110	2,703	2,620	2,275
Ambulance benefits	..	324	303	..	..	..	..	..	..	..
Artificial aids benefits (commenced 1 July 1947), (artificial limbs, hearing aids, contact lenses) ..	8,067	96,062	99,777	62,534	55,322	46,981	61,721	63,000	63,646	73,229
Payments under section 26, Social Security Amendment Act 1943	..	..	..	..	..	190	1,310	3,090	1,359	81,263
Grants to intellectually handicapped children's parents' associations	..	..	..	..	..	..	..	251	581	1,280
	545,793	861,913	1,009,941	1,060,938	1,181,953	1,310,922	1,492,822	1,633,066	1,818,699	2,118,873
Grand totals	7,021,488	7,875,448	8,461,109	8,723,383	9,368,027	10,428,597	10,607,046	12,588,924	15,547,154	16,772,712
Recoveries	47,630	31,814	35,411	31,190	4,250	4,033	5,285	4,489	5,566	10,053
Net totals	6,973,858	7,843,634	8,425,698	8,692,193	9,363,777	10,424,564	10,601,761	12,584,435	15,541,588	16,762,659

Table 51—Cost Per Head in Health Districts, General Medical Services and Capitation, 1956–57

Health District	Population as at 1 April 1956	Number of Doctors	Average Population Per Doctor	Method of Claiming		Total Cost of General Medical Services and Capitation, Including Milage	Cost Per Head of Population
				Direct	Indirect		
				Per Cent	Per Cent	£	£ s. d.
Whangarei ..	83,330	54	1,543·1	100·0	..	148,949	1 15 9
Auckland ..	502,114	500	1,004·2	78·8	21·2	1,080,307	2 3 0
Hamilton ..	218,410	142	1,538·1	93·7	6·3	349,982	1 12 1
Gisborne ..	85,532	45	1,900·7	88·9	11·1	106,050	1 4 10
New Plymouth ..	83,778	57	1,469·8	100·0	..	149,283	1 15 8
Palmerston North ..	250,001	171	1,462·0	64·9	35·1	355,542	1 8 5
Wellington ..	274,199	225	1,218·7	48·4	51·6	376,705	1 7 6
Nelson	68,367	55	1,243·0	47·3	52·7	119,195	1 14 10
Christchurch ..	282,120	220	1,282·4	72·7	27·3	496,050	1 15 0
Timaru	91,525	61	1,500·4	82·0	18·0	147,572	1 12 3
Dunedin	146,219	115	1,271·5	73·9	26·1	285,294	1 19 0
Invercargill ..	88,467	59	1,499·4	49·2	50·8	101,378	1 2 11
Totals and averages ..	2,174,062	1,704	1,275·9	73·2	26·8	3,716,307	1 14 2

REPORT OF THE DIRECTOR, DIVISION OF PHYSICAL MEDICINE

RHEUMATIC DISEASES

Attempts to uncover the secrets of the aetiology and treatment of rheumatic diseases have not met with any great success during the past year. The discovery and use of cortisone added nothing to our knowledge of these diseases, and now cortisone has been virtually supplanted by the stronger synthetic drugs, prednisone and prednisolone. While it is recognised that these powerful drugs are most effective in abating the symptoms of rheumatoid arthritis, they do not cure or influence the course of the disease any more than cortisone did, and their continued use generally produces the same side effects.

Investigations carried out at the Queen Elizabeth Hospital into the pathological changes which occur in the tissues in rheumatoid arthritis revealed little helpful information, as the changes found could be attributed to any chronic disease.

Research done at the hospital during the past year has been mainly confined to investigation of the possible emotional, social, economic, and psychological factors which may be influential in precipitating the disease or in maintaining its progress. For this purpose it has been arranged to carry out a survey of the comparative incidence of the disease in Maoris. in Europeans born and bred in New Zealand, and in recent immigrants. For this purpose a pilot survey of the incidence of rheumatic disease was carried out in the Maoris of the Whanau-a-Apanui Tribe, on the East Coast during the year. Not only was much valuable information obtained as to the prevalence of arthritis and gout among the Maoris, but some of the pitfalls likely to be encountered in this sort of investigation were made very plain. A survey of the incidence of rheumatic diseases in a mixed section of the population is now being planned with the help of the Social Science Department of Victoria University College, and will take place this year.

A second social worker has joined the hospital staff and will assist in the work of investigating the home and family background of patients, and the social, economic, and psychological factors in their lives, which so frequently seem to have some influence on the incidence of the disease.

As far as research into the biochemical and pathological factors are concerned, this has now been transferred to Dunedin and Dr T. C. Highton, the research medical officer, has been seconded to the Medical Research Council for that purpose.

Generally speaking, treatment has been based on general principles. The mainstays of treatment are – general and local rest, measures to improve the patients' physique and constitution, graduated exercises to maintain mobility and increase muscle strength, teaching the patient to adapt his activities to his disability, and the relief of pain with aspirin. Until a specific remedy has been discovered it does not seem worth while

submitting patients, as a routine, to intensive hormonal therapy with "wonder drugs" which, while suppressing the symptoms, do not control the disease itself.

The education of the medical profession and of the public generally in the best ways of treatment and in the management of patients suffering from rheumatic diseases is regarded as one of the most important functions of the Queen Elizabeth Hospital. Unfortunately it was not possible to run a post-graduate course last year for general practitioners, but plans are under way this year for the production of a film and printed pamphlets giving information on the way these diseases may be treated and their effects minimised. Three papers were given by members of the staff at the meeting of the New Zealand Branch of the Empire Rheumatism Council held at Palmerston North last November. A closer liaison with the Medical School at Dunedin, so that medical students may appreciate more effectively the modern approach to rheumatic diseases, is urgently required.

CEREBRAL PALSY

In spite of some enlargement of the Cerebral Palsy Unit it has not been possible to take in a substantially larger number of children, due mainly to lack of trained staff. Miss R. Tipping, S.R.N., C.S.P., who has had special training overseas, took up duty as Supervisor in September, replacing Miss M. Dickinson, who had held the post with marked success since Miss Pole's resignation in December 1954.

In view of the small size of the unit, and the comparatively slow turnover of patients, a new policy has been decided upon. In future patients will be admitted for comparatively short periods in the first instance. During this time an estimate will be made as to the likely prognosis, and also as to the ability of the parents to carry out the management of the child in their own home with advice from the unit and possibly help from visiting physiotherapists. If these points are covered satisfactorily certain children will be discharged to be readmitted for a check-up later. By this means a larger number of children will be kept under treatment and supervision, and one of the major criticisms of the unit – that the children are separated from their families for too long a time – will be met. There will, of course, be quite a number of children who will require prolonged residential treatment in the unit, and for these the same provision will be made as in the past.

The visiting physiotherapist scheme, which until the end of the year was confined to Canterbury, South Canterbury, and the West Coast of the South Island, continued to flourish. Miss Hartridge, the visiting physiotherapist, was given an opportunity to study cerebral palsy overseas, the expenses of her tour being met half by the Crippled Children's Society and half by the Government. During her absence her place was very efficiently filled by Miss B. Fisher, who had had some years of experience at the Rotorua Cerebral Palsy Unit and the Cerebral Palsy School in Wellington. The position has now been reached in this area that the majority of cerebral palsy children, whose I.Q. is sufficiently high, and who have been treated under this scheme, are now able to take up their places in the ordinary primary schools, instead of needing special schools.

It shows, therefore, that provided adequate advice and treatment are given early enough to enable the mothers to manage their children at home, and provided the children are of normal intelligence, most of them are able to mix in school with normal children, and so derive greater benefit than would be the case if they were segregated.

It is obviously imperative that the scheme be extended to other areas. A start is being made this year in the Palmerston North and Wellington districts, but it has so far been impossible to obtain the necessary staff to extend the scheme to other areas of the country.

PHYSIOTHERAPY

During the year 33 students qualified as physiotherapists. Bursaries were given to 52 students commencing the course, and 56 bursaries were renewed. During the year the value of the bursaries was increased, and this led to a small increase in the number of students applying for them. The staffing position regarding physiotherapists in hospitals remains unsatisfactory, and many hospitals are working well below establishment. It is hoped that the improvement in the bursary scales will result in better hospital staffing.

OCCUPATIONAL THERAPY

The course for training in occupational therapy has now been increased to three years. The intake of occupational therapy students has been increased to 16 each six months, and there are at present 69 students attached to the school. Thirty students are in their first year, 23 in their second year, and 16 are in the last six months. During the year 18 candidates passed the final State examination and became registered as occupational therapists.

The field of occupational therapy has gradually increased, and the instruction of the patient in ways and means of overcoming the effects of his disability is one of the ways in which this form of treatment is most rewarding.

QUEEN ELIZABETH HOSPITAL

Arrangements with the Rotorua Borough Council for the acquisition of the land on which the hospital stands have not been finalised at the time of writing this report. No structural alterations were made during the year, but the inside of the hospital is being gradually repainted by its own staff.

Dr Isdale, M.R.C.P., D.C.H., who was appointed as *locum tenens* for Dr Blair during the latter's absence last year, has now joined the permanent staff as a physician. Mr J. F. White has succeeded Mr Crossman as House Manager, and Dr Highton has been seconded to Dunedin. Dr Beale, the Research Biochemist, left to take up a post in Australia.

It is pleasing to record that it is now possible for the orthopaedic surgeon to do certain operations in the hospital, so that the patients can receive treatment before and after operation on the same lines and without check. Where special facilities not available at the Queen Elizabeth Hospital were required, these have been provided by the Rotorua Public Hospital through the courtesy of the Medical Superintendent.

The workshop continued to supply splints and surgical boots, not only to the hospital's own inpatients and outpatients, but also to the Tauranga and Rotorua Hospitals, to the Pensions Department and to the Crippled Children's Society.

The number of patients admitted during the nine months ended 31 December 1956, the period covered by this report, was 509, compared with 600 for the twelve months ended 31 March 1956.

The Main Bathhouse

During the nine months ended 31 December 1956 the number of patients seen at the Bathhouse was 1,741. In addition some 300 outpatients were examined by the physicians at the Queen Elizabeth Hospital.

REHABILITATION

At the time of writing this report, tenders for the construction of the treatment block in connection with the Health Recovery Centre at Otahuhu, belonging to the Auckland Hospital Board (referred to in last year's report), have only just been accepted and some months must still elapse before the centre can be brought into use. When completed however, a great step forward in the rehabilitation of sick and injured men and women will have been achieved.

In conclusion, I would like to pay a tribute to the energy, resource, and keenness of the staff at Rotorua and to my colleagues in Head Office for their co-operation.

G. A. Q. Lennane,
Director, Division of Physical Medicine.

REPORT OF THE DIRECTOR, NATIONAL HEALTH INSTITUTE

This report covers the work of the National Health Institute Laboratories and the Medical Statistics Branch for the year ended 31 December 1956.

NATIONAL HEALTH INSTITUTE LABORATORIES

Buildings

The animal house was completed in June 1956.

Laboratory Investigations

The number of specimens received during the year increased by 75 per cent over the number for the previous year. The actual increase in work was even greater than this because the majority of specimens received were for the more complex tests and many were sent for a number of different investigations.

Table 52 shows the source of the specimens received by health districts. Most medical officers of health utilise the services of hospital laboratories for the examination of specimens of public health interests, and where necessary their dispatch to the National Health Institute Laboratories, so that many of the specimens shown as coming from hospitals will have been sent on behalf of or at the request of the Medical Officer of Health.

Table 52

—	Whangarei	Auckland	Hamilton	Rotorua	Gisborne	New Plymouth	Palmerston North	Wellington	Nelson	Greymouth	Christchurch	Timaru	Dunedin	Invercargill	Total
Medical Officer of Health	..	..	..	..	1	..	..	470	18	..	58	..	..	..	547
Hospital	197	1,090	70	205	133	67	181	1,997	193	2	126	4	34	7	4,306
Private Practitioner	1	52	4	..	4	5	42	160	10	..	10	1	2	..	291
Total	198	1,142	74	205	138	72	223	2,627	221	2	194	5	36	7	5,144

In addition 440 specimens were examined in investigations for other divisions and for work originated by the National Health Institute, and 59 specimens were examined for other departments.

The General Bacteriology Section has examined 1,631 specimens. Ten different species of Salmonella were found among the specimens sent for identification. As usual Salmonella typhi-murium was the most common and two species – Salmonella victoria and Salmonella mississipi – were identified for the first time in New Zealand.

Of the dysentery organisms, sonnei continues to be by far the most common, but flexneri type 2, type 3, and type 6 have each been found on one occasion. Since April 1956, 20 of the accepted international serotypes have been used in the diagnostic tests for leptospirosis. A large

number of sera from various parts of New Zealand has been examined and the results suggest that human infections with L. sentoti, australia B, medanensis and autumnalis A.B. or antigenically similar strains are occurring in addition to the infections with pomona, hyos, and icterohaemorrhagiae which have already been reported in New Zealand.

The need for a poliomyelitis diagnostic service and the very great increase in the number of staphylococcal cultures received for bacteriophage typing has necessitated the division of the work of the virus laboratories into three sections. Dr G. M. Richardson, Research Officer, has been placed in charge of the serological diagnostic service. The Director, with the assistance of one bacteriologist, has continued the work of virus isolation and the preparation of virus antigens and undertaken the establishment of a poliomyelitis diagnostic service.

One bacteriologist, with the assistance of another whenever possible, has undertaken the enteric Vi-phage typing and the bacteriophage typing of staphylococci under the general supervision of the Director.

The work of the serological diagnostic service is summarised in Table 53.

Table 53—Examinations for

	Influenza A	Influenza B	Psittacosis	Q. Fever	L.C.M.	Mumps	Toxo	Total
January–March	4	4	35	10	1	..	106	160
April–May	6	6	46	5	1	..	179	244
July–September	7	7	69	6	..	..	174	263
October–December	20	8	61	6	9	11	166	281
Total	37	25	211	27	11	12	625	948

The work of establishing the poliomyelitis diagnostic service has consisted mainly in developing techniques for tissue culture of human cells on a scale adequate for their use in the routine examination of a moderate number of specimens. Poliovirus type 1 was isolated from two of the 24 specimens examined. Ten sera from patients and 132 sera from nine-year-old children are in process of being examined. In addition this section has examined 625 sera by the toxoplasma dye test, 22 specimens for virus or toxoplasma organism, and 104 sera by the haemagglutination inhibition test against 4 influenza virus strains.

The Bacteriophage Typing Section has examined 3,395 specimens, forty-six Salmonella typhi have been typed; 30 of these were type E_1. In investigating a method of blanket sterilisation 276 blankets have been tested bacteriologically. In a study of the distribution of staphylococci in hospitals many hundreds of dust and other specimens have been examined. The current interest in hospital infections with staphylococci has led to a very large increase in the number of cultures sent for typing. Over three thousand staphylococcal cultures have been typed including those sent from other laboratories and those isolated at the National Health Institute. Type 80/81 is by far the commonest cause of serious hospital infections.

Vaccine Production

T.A.B. vaccine is prepared by the General Bacteriology Section; 55 litres were prepared and tested in 1956.

Vaccine lymph (smallpox vaccine) is prepared in the virus laboratories. The National Health Institute commenced to issue its vaccine in March 1956 and 20,300 doses were issued in the remainder of the year.

Research

Dr G. M. Richardson, Research Officer, has continued his work on the nutritional requirements of leptospirae and in addition has been working on the preservation of the reagents used in the complement fixation test.

Courses of Instruction

A three-week course in Salmonella serology was held in September 1956 and was attended by eight hospital bacteriologists.

Conclusion

In conclusion, I should like to pay a tribute to the staff of the laboratories for their hard and willing work throughout the year.

MEDICAL STATISTICS BRANCH

This branch is in charge of Mr C. E. Gardiner, who reports on the year's work as follows:

A detailed account of the medical statistics for New Zealand is published as a yearly report by the branch, but certain figures for 1956 in addition to those in the comment which follows may be found in different parts of this report, namely:

(1) Live and still births, infant, neo-natal, and maternal deaths: Table 39, page 76.
(2) Causes of maternal deaths: Table 40, page 77.
(3) Deaths from tuberculosis: Table 49, page 86.
(4) Child hygiene statistics: Table 31, page 64.

Principal Causes of Death

Certain causes of death and the rates per 1,000,000 of the population for Europeans and Maoris combined over a period of five years are shown in the following tables. The causes of death have been classified in accordance with the International Classification of Diseases, Injuries, and Causes of Death (1948 revision), but for the purposes of these tables, have been grouped to show the causes of death that are mainly responsible for mortality in New Zealand in recent years. All figures are provisional and are subject to minor alteration.

Maoris have been included in all figures contained in this report as it is considered that a summarised statistical survey should cover the whole population of New Zealand. In cases where race characteristics are important, separate figures can be obtained from the detailed statistics contained in the *Annual Report on Medical Statistics.*

Table 54

Causes of Deaths	Numbers of Deaths					Death-rates Per 1,000,000 of Mean Population				
	1956	1955	1954	1953	1952	1956	1955	1954	1953	1952
Tuberculosis (all forms) ..	239	293	304	357	421	110	137	145	174	211
Syphilis and its sequelae ..	19	31	29	69	66	9	14	14	34	33
Acute poliomyelitis	51	29	..	27	57	23	14	..	13	29
All other infective and parasitic diseases	132	154	141	155	173	60	72	67	76	87
Malignant neoplasms ..	3,207	3,170	2,966	2,889	2,905	1,469	1,482	1,415	1,410	1,455
Diabetes mellitus	238	216	199	253	226	109	101	95	123	113
Vascular lesions of the central nervous system	2,303	2,325	2,305	2,292	2,209	1,055	1,087	1,100	1,119	1,107
Rheumatic fever and chronic rheumatic heart disease ..	248	252	255	294	278	114	118	122	143	139
Other diseases of the heart and hypertension	6,632	6,447	6,355	6,291	6,320	3,039	3,014	3,034	3,071	3,166
Influenza	86	28	80	41	151	39	13	38	20	76
Pneumonia	783	628	584	518	603	359	294	279	252	302
Bronchitis	432	460	419	332	413	198	215	200	162	207
Ulcer of stomach and duodenum	171	176	167	161	150	78	82	82	79	75
Nephritis and nephrosis ..	120	178	220	193	211	55	83	105	94	106
Motor-vehicle accidents ..	328	364	332	318	296	150	170	158	155	148
Other accidents	618	653	816	638	618	283	305	390	311	310
All other causes	4,089	3,821	3,704	3,526	3,799	1,873	1,786	1,768	1,721	1,903
Totals	19,696	19,225	18,876	18,354	18,896	9,024	8,988	9,010	8,958	9,466

Most infectious diseases have shown a distinct improvement in the death rate for a number of years. Tuberculosis in particular continues to show the almost spectacular decline recorded for some time. Even the recurrence of poliomyelitis during 1956 did not reverse the trend of the overall infectious disease death rate for that year. The fatal incidence of cancer shows no sign of abating and the death rate from this disease continues to rise, although there was a slight fall in the rate for 1956. It is doubtful if improved methods of diagnosis, refinements of classification, or other extraneous factors are contributing much in recent years towards the upward trend in the cancer death rate. The most probable influence is the ageing of the population, which is continuing to bring a greater proportion of people into the predominating age group for cancer. The other main groups of diseases affecting the older age groups all show a tendency to decline in the recorded death rates. This applies to vascular lesions of the central nervous system, rheumatic heart disease, other diseases of the heart and hypertension, and nephritis and nephrosis. On the other hand a marked increase in the death rate is noted for the respiratory diseases such as pneumonia and bronchitis. While the death rate from motor-vehicle accidents has steadily mounted over the years, there was a slight recession recorded for 1956. Accidents exact a comparatively heavy toll of life in New Zealand. Including motor-vehicle accidents, on an average 1,000 New Zealanders lose their lives from these causes every year. The average death rate in recent years is 478 per 1,000,000 of population. Drowning is the next important accidental cause of death after the motor vehicle and is responsible for some 150 deaths every year.

In earlier years acute illnesses, especially those arising out of infectious diseases, presented the greatest problem in the public health field. In more recent years the problem of chronic disease may have produced a changed concept of the functions of public health programmes. The extent of chronic illness cannot be readily measured by the statistics available to the Department, but the following figures of the numbers of deaths occurring over a period of years from the principal chronic diseases, e.g., cancer, cerebral vascular lesions, heart disease, and nephritis at certain broad age groups serve as a pointer to the size of the problem. The figures are given for each census year from 1901 to enable death rates to be calculated on an age-specific basis. Maoris are excluded.

Table 55

Year	Numbers of Deaths				Death Rates Per 10,000 Population			
	25–44	45–64	65 and Over	Total, 25 and Over	25–44	45–64	65 and Over	Total, 25 and Over
1956	382	2,517	8,431	11,330	6·4	64·4	443·1	96·2
1951	384	2,749	8,008	11,141	7·4	76·5	458·9	105·4
1945	357	2,769	6,702	9,828	7·7	81·1	464·1	103·6
1936	284	2,202	4,371	6,857	6·7	69·2	447·5	81·3
1926	318	1,487	2,663	4,468	8·1	61·4	392·8	63·6
1921	334	1,213	1,961	3,508	9·0	61·4	329·6	55·6
1916	305	1,019	1,625	2,949	9·0	60·3	304·3	52·1
1911	278	810	1,464	2,552	8·4	60·4	306·8	50·3
1906	226	731	1,080	2,037	8·3	62·4	264·9	47·8
1901	200	716	793	1,709	9·4	68·2	252·8	49·3

It will be seen that the death rate from these chronic diseases has increased substantially over the half century (especially, of course, in the sixty-five and over age group), which means that the incidence of these diseases is changing to a marked degree. Because of the substantial increase in population, especially at the younger age groups, largely as a result of the abnormally high birth rates of recent years, the incidence rate of the chronic diseases declined between 1951 and 1956. The prevalence, or actual number of persons suffering from the more serious chronic diseases, has increased nearly ten-fold, thus throwing a considerable burden on all aspects of public health programmes designed to take care of the sick.

The total number of deaths from all causes during 1956 was 19,696, this figure being the highest ever recorded in New Zealand. The death rate of 9·02 per 1,000 of mean population, while slightly higher than that for 1955, was still lower than the average of the last ten years (9·31).

Infant Mortality

The death-rate for infants under one year of age established a new low record in 1956 for both Europeans and Maoris. The Maori rate in particular, of 54·36 per 1,000 live births, showed a substantial improvement over the average for the previous five years (66·72). The combined rate of 23·20 is among the lowest in the world in recent years.

It is satisfactory to record a continued decline in neo-natal mortality (deaths under one month) in 1956 for Europeans.

Table 56—Still Births and Infant Mortality Rates (European and Maori), 1952–56

Period	European					Maori				
	Deaths Per 1,000 Live Births			Rates Per 1,000 Total Births		Deaths Per 1,000 Live Births			Rates Per 1,000 Total Births	
	Under 1 Month	1 and Under 12 Months	Total, Under 1 Year	Still Births	Still Births and Neo-natal Deaths	Under 1 Month	1 and Under 12 Months	Total Under 1 Year	Still Births	Still Births and Neo-natal Deaths
1956 ..	13·34	6·05	19·39	16·73	29·85	19·96	34·40	54·36	19·72	39·29
1955 ..	14·14	5·95	20·09	15·71	29·62	19·63	42·88	62·51	16·10	35·41
1954 ..	14·33	5·66	19·99	17·69	32·02	20·00	38·60	58·60	19·10	38·72
1953 ..	14·31	5·75	20·06	18·75	32·79	26·95	46·12	73·07	21·59	47·96
1952 ..	15·14	6·68	21·82	17·88	32·76	25·83	58·62	84·45	19·75	45·07

The principal causes of infant mortality (Europeans and Maoris combined) are shown in the next table.

Table 57—Deaths of Infants Under One Year by Causes (European and Maori Combined)

Principal Cause of Death	Numbers					Rates Per 1,000 Live Births				
	1956	1955	1954	1953	1952	1956	1955	1954	1953	1952
Influenza, pneumonia, and bronchitis	234	220	210	206	261	4·1	4·0	3·9	4·0	5·0
Gastro-enteritis, diarrhoea, and dysentery	44	67	55	69	77	0·8	1·2	1·0	1·3	1·5
Congenital malformation ..	210	214	231	199	233	3·7	3·8	4·3	3·8	4·5
Birth injury	172	175	129	159	144	3·0	3·1	2·4	3·1	2·8
Asphyxia and atelectasis ..	145	154	132	157	195	2·6	2·8	2·4	3·0	3·8
Haemolytic disease of newborn	39	40	45	42	41	0·7	0·7	0·8	0·8	0·8
Immaturity	183	202	242	204	232	3·2	3·6	4·5	3·9	4·5
Other	286	293	258	299	292	5·1	5·3	4·8	5·8	5·6
Totals	1,313	1,365	1,302	1,335	1,475	23·2	24·5	24·1	25·7	28·4

The decrease in the total infant mortality rate from 28·4 in 1952 to 23·2 in 1956 has been accomplished by some reduction in almost every main group of causes included in the above table. The explanation of the drop in the neo-natal mortality rate can be seen in the distinct improvement in the death rates for almost all groups of diseases that operate during or soon after birth.

J. D. MANNING,
Director, National Health Institute.

REPORT OF THE DIRECTOR, DOMINION X-RAY AND RADIUM LABORATORY

During the year under review there was a continuation of the steady increase in the number of X-ray plants, and in the amount of radioactive substances used in New Zealand. Again, as in previous years, the increase in the number of X-ray plants (6 per cent) and licences for their use (7 per cent) was small compared with the increase in the number of isotope orders placed (21 per cent), the increase in the number of persons holding licences to use radioactive substances (30 per cent), and the amounts of isotopes imported (e.g., 71 per cent more P 32, and 36 per cent more I 131).

During the year my attendance at the eighth International Congress of Radiology in Mexico City, and at the First Commonwealth Radiation Protection Conference in London, was combined with several series of measurements carried out at 17 laboratories in the United States of America, Europe, and Australia. In one of these series of measurements the New Zealand primary X-ray standards chamber was linked in the medium voltage range (50–300 kV.) with the United States Bureau of Standards chamber, with the West German chamber, and with the Paris chamber. In other series of measurements substandard chambers belonging to the laboratory were calibrated in the Grenzray region at Chicago, Washington, Brunswick, Eindhoven, and Melbourne laboratories. Further, in preparation for the operation of three different types of supervoltage therapy units in New Zealand, two of the laboratory's portable substandard intruments were calibrated in terms of the measuring standards used at various primary standard laboratories and treatment centres. Calibrations were carried out (listed in chronological order in each of the three groups) at one or more laboratories situated in the following towns:

(1) For Cobalt-60 beam therapy: at Chicago, Washington, New York, Brunswick, and London.
(2) For Linear Accelerators: at San Francisco, Newcastle, London, and Melbourne.
(3) For Betatrons and Synchrotrons (X-ray or electron beam): at San Francisco, New York, Zurich, and Berne.

In addition four radium sources belonging to the laboratory were calibrated for use as New Zealand gamma-ray standards in terms of the international primary radium standards at Paris and Vienna, and in terms of the national radium standards of Canada and Germany. A beta-ray applicator belonging to the laboratory was also measured at London and Brunswick, establishing a correlation with our own beta-ray extrapolation chamber.

I read a paper on "The New Zealand Primary X-ray Standard Chamber for the Medium Voltage Range (50–300 kV.)" at the Mexico International Congress of Radiology where I was chairman at one of the sessions on radiotherapy and took part in the meetings of the International Committee. In London I read a paper on "The Operation of

the Radiation Protection Legislation in New Zealand" at the Commonwealth Radiation Protection Conference, where I was chairman of the Meeting on Standards Measurements and Instrumentation.

At the London conference it was particularly gratifying to see that the New Zealand radiation protection legislation and health physics service were not only far in advance of any other country in the Commonwealth, but that the results of the work in New Zealand were rather striking, particularly when compared with countries which, until very recently, made little or no organised effort in this field. In recording, year by year, the slow and gradual improvement of radiation safety in New Zealand, it is easy to lose sight of the fact that the cumulative effect of these gradual improvements is – and was recognised as – very big indeed. Data given in the British white paper and at the London conference showed that, at present, the average exposure received by the gonads of radiation workers in Britain is at least five times as big as the average gonad dose of New Zealand radiation workers doing a similar amount and type of work. As to the radiation dose to which the whole population is exposed, e.g., during diagnostic procedures, the systematic reduction of the incident dose by providing greater filtration in the beam of virtually all New Zealand diagnostic X-ray plants has cut this dose to a fraction of what is still used in most overseas practices.

In New Zealand, as overseas, clinical workers using radium are still the group receiving the biggest amount of radiation. By concentrating on this group of workers in New Zealand it has been possible to show during the last year, in one large treatment centre, that a very material reduction of the exposure to these workers is possible. Similar work will be undertaken in other centres during the coming year.

DIAGNOSTIC SECTION

In the course of the routine survey work 329 diagnostic X-ray plants were visited and checked during the year. The operators have been instructed in the fundamentals of protection in all cases where this was found to be desirable, and advice has been given where requested (and where it is within the competence of the physicist to give such advice) as to the technical aspects of improving the diagnostic quality of the results or, of reducing patient dosage, without deterioration of the diagnostic quality.

In all cases where an X-ray plant was surveyed a report was sent to the licensee.

The X-ray plants surveyed are of diversified types. Of the total of 329 plants surveyed: 159 were used by dentists, 21 were used in shoe fitting, 16 were used by private radiologists, 16 by chiropractors, 10 by general practitioners, 7 by veterinary surgeons, 5 were used for industrial, experimental, and educational purposes, and 95 were used for general work in 38 hospitals.

In addition, lead-rubber protective aprons and gloves were tested as required.

During the year this section assumed responsibility for the supervision of that part of the Radiation Test Film Service which deals with diagnostic radiation workers. It is a source of satisfaction to the section to see the results of its work in the field reflected by the fact that, for these workers, the average exposure to radiation is less than 3 per cent of the

maximum permissible weekly exposure. There are, of course, some workers whose average is much higher than this overall average, and every effort is being made to reduce all such exposures. It is, of course, necessary to continue to keep all radiation workers aware of the insidious nature of continued exposure to radiation. To this end several pamphlets have been prepared and issued to selected groups of workers.

An ionisation chamber capable of measuring X-ray doses at the very high dose rates used in diagnostic radiology was designed and built. This instrument is proving most satisfactory for the measurement of actual dosage to the patient. A photometric method of brightness determination of fluorescent screens has been initiated and promises well.

A start has been made on the collection of data from which the genetically significant dose of X-radiation given to the population of New Zealand may be deduced, but it is expected that it will be well into the year before this can be completed.

RADIATION TEST FILM SERVICE

Over recent years radiation monitoring organisations have been established in several countries. The New Zealand service is unusual in that it is free and covers all radiation workers as a routine and that it is run by a laboratory which provides assistance and guidance in all radiation problems. In this way it serves a double purpose by providing all licensed radiation users with a knowledge of the exposure of their workers and at the same time indicating to this laboratory's field officers the direction in which further service and advice would be most profitable. One of the outstanding features of our service is the appreciative co-operation of the radiation workers who, practically to a man, make regular use of the films. There is probably no more comprehensive radiation monitoring service in the world.

The analysis of the film exposures for the year shows once again that more people are getting less radiation. The following tabulation indicates the improvement over the last three years and lists the percentage of the films returned showing exposures greater than one-tenth of the maximum permissible weekly exposure.

Year	1954–55	1955–56	1956–57
X-ray films	9·3	6·5	3·5
*Clipped films ..	24·6	17·3	12·5

*These films, issued with lead and copper filters, are used mainly by radium workers but also by operators of deep-therapy X-ray plants and industrial radiographers.

A group analysis of the film results has been made and compared with a similar survey carried out in 1953. The improvement in many occupational groups is most marked. For example, the average exposure to dentists is now less than one-quarter of what it was three years ago. Chiropractors and shoe fitters and the radiographers in many of the hospitals show a reduction in their average exposure of a similar order. The average exposure of the X-ray workers in New Zealand is now between 2 and 3 per cent of the maximum permissible exposure. More than one thousand films were specially exposed to act as controls for the 20,746 films returned for evaluation. Nine hundred and twenty films were not worn but were used for room and plant radiation surveys. The

cost of the film is a minor item in the economics of the service and it has been proved that best returns are most efficiently obtained by issuing a reasonable excess of films. Some 80 per cent of the films issued are returned and about 90 per cent of these have been worn and require evaluation.

RADIOACTIVE SUBSTANCES SECTION

Work done away from the laboratory during the year included two visits to a North Island hospital which uses a large amount of radium. Improvements in handling methods and staff protection were suggested and it has since been noted that the average exposure received by the staff of this hospital has been reduced by some 80 per cent. Advice was also given on the protection aspect of plans for a new building for this hospital and on specialised radioactive applicators.

An emergency trip was made to locate 25 mg. of radium lost by a North Island hospital. All the radium was accounted for and assistance in decontamination was given. Routine visits to users of radioactive substances were continued.

In the laboratory, special requests were met for assistance such as the dispensing and sterilising of therapeutic doses of Phosphorus 32 for a North Island hospital, the testing of radium applicators, assembling standardising sources for dosemeters employing Strontium 90, and the measurement of beta-ray applicators by film dosimetry and extrapolation chamber.

Advice and assistance was given to a number of individuals and organisations interested in commencing the use of radioactive materials for purposes as widely differing as industrial radiography, sources for use in atomic warfare training, and radioactive tracers, including a suggested method of tracing Canterbury irrigation water.

The supply of radon from the laboratory involved the dispatch of 86 consignments of radon totalling 1,114 mc. (measured at the time of insertion) in 1,267 containers.

Orders received totalled 74, of which 58 were from hospital boards, 1 from a private hospital, 8 from private medical practitioners, and 7 from research workers.

The radon was dispatched in the form of 26 needles, 1,219 seeds, 2 pieces of gold tubing, 12 phials of ointment, and 8 special applicators.

Interesting objects sent to the laboratory to be tested for radioactivity included a section of the sword of a sword fish, a gudgeon pin of a model aeroplane, and flowers brought in by a commercial grower who thought that the crop had withered because of fall-out from Australian A-bomb tests. There was no trace of radioactivity in the objects tested.

THERAPY SECTION

Until recently this section has been staffed by one physicist and one technician; since December 1956 the staff consists of two physicists. The services of this section cover, directly or indirectly, the 53 radiation therapy plants in New Zealand. This total of 53 plants is composed of 1 supervoltage unit, 15 deep and 37 superficial X-ray therapy plants; 31 are located in the North Island and 22 in the South Island; 2 deep X-ray therapy plants and 26 superficial units are privately owned.

In addition to routine half-yearly calibration visits to all X-ray therapy centres and practices in the Dominion, special visits were required for the establishment of three new installations, and one visit was added to check changes in a plant incurred during maintenance. Coupled with these activities are the intercomparison of 20 laboratory and clinical dosemeters whose stability and correction factors are periodically checked and derived within the range of radiation qualities between H.V.L. 0·01mm. of aluminium and 4mm. of copper.

Four projects, supplementary to the field work, were undertaken, viz:

(a) Associated with a group of co-operating radiotherapists, reports were circulated on aspects of radiotherapy field planning in the treatment of carcinoma of the breast, and individual field plans for a series of cases from one hospital were analysed.

(b) Grenz rays, which have become an increasingly popular way of treating superficial dermatological conditions, have in the past been calibrated provisionally. During the last year, with the introduction of more suitable instruments, grenz ray dosimetry has been converted to a uniform, if not as yet absolute, basis.

(c) A paper by Mr H. R. Atkinson "Tissue Dosage in Dermatological X-ray Therapy" was read at the New Zealand Dermatological Society Meeting, Napier, September 1956, and will be published by the *Australian Journal of Dermatology*.

(d) A very full report was prepared on dosimetric measurements, made at the Peter MacCallum Clinic, Melbourne, on clinical dosemeters, a mesh chamber, and a soft radiation free air chamber.

Advisory assistance was provided, by request, on the physical aspects of treatments for skin cancer, generalised dermatoses (in particular acne and mycosis fungoides), and the application of wedge filters.

WORKSHOP SECTION (ELECTRONIC, INSTRUMENTS, AND PHOTOGRAPHIC WORK)

In the initial stages of the year the permanent installation of X-ray plants and of workshop machine tools in the new premises engaged the staff of this section very fully.

Much work was done by the workshops in constructing equipment for the standards laboratory, and the staff was also responsible for the detailed drawings and blueprints of the New Zealand standards chamber for publication overseas.

Assistance was given to the Department of Health in overcoming the problems associated with the storage of polio vaccine, and modifications to the commercially built storage and transport containers were made in the laboratory workshops.

Much of the work undertaken in the laboratory and reported under the various section headings required the assistance of the workshops' staff and cannot be detailed here.

The photographic work of the section included the microfilm copying and printing of 1,400 pages. Most of these were issued in book form for use at the laboratory, other branches of the Department of Health, and other institutions.

Forty projection slides were made for lecture use overseas.

Photographs of the laboratory equipment, technical data, and work for other Departments involved some 200 enlargements.

In addition over 22,000 radiation test films (including controls, room protection test films, and experimental films) were processed during the year.

ACKNOWLEDGMENT

In conclusion, I wish to express my appreciation of the conscientious and competent way in which my deputy, Mr H. J. Yeabsley, carried out his duties during my absence overseas and subsequent illness. I also wish to thank the staff of the laboratory for their hard and willing work and for their unfailing co-operation, and the departmental officers whose valuable help and co-operation greatly assisted the work of the laboratory.

G. E. Roth,
Director, Dominion X-ray and Radium Laboratory.

APPENDIX

A REVIEW OF THE WORK OF THE DIVISION OF OCCUPATIONAL HEALTH DURING THE TEN YEARS 1947 TO 1956 INCLUSIVE

By T. O. GARLAND, M.A., M.D., D.P.H.

This is given in very general terms under main headings.

Training and Education

A good deal of time has been devoted to straightout education in health and safety at work. There are numerous ways in which this has been attempted. Articles and leaflets have been published periodically and a great many lectures and film shows have been given up and down the country. A proportion of the advertisements regularly inserted by the Department in newspapers have been devoted to occupational health subjects.

Lectures: Definite lecture courses have been given annually to the Nurses' Post-graduate School, to the training course for health inspectors (Wellington), to fifth-year medical students (Dunedin). Other courses have been given at intervals in all districts to Labour Department inspectors, to classes organised by St. John Ambulance Brigade, to groups of managers and/or foremen, to groups of apprentices.

It has been the agreed policy that the divison will provide a speaker on any subject in its particular field whenever requested by any organisation. In all districts a wide variety of organisations has from time to time requested a lecture, including B.M.A. branches, nursing associations, St. John Ambulance Brigade branches, Red Cross Society branches, manufacturers in particular trades, employers' associations, Rotary Clubs, trade union branches, trades councils, lunch hour meetings in particular factories, teachers' training colleges, technical schools, W.E.A. classes, Physical Education Society, Royal Society, Royal Sanitary Institute, Institute of Public Administration, and many others – dates and titles available if required for confirmation.

Broadcasts on occupational health were given in the Dunedin area in 1951 and a further series on agricultural aspects in 1952, and a series on "safety at work" was broadcast by the technical officer from Wellington the same year.

Films and Film Strips: The division has produced three film strips; in 1947, *Our Factories;* in 1952, *Eye Protection for Industrial Workers;* in 1953, *Factory Amenities.* Much work has also been done in connection with a film strip on lifting. A sound film was made in 1955 in conjunction with the Department of Labour, entitled *Wherever You May Work.* It dealt with safe working methods.

Publicity material is now issued in conjunction with the Labour Department, directed by a joint committee of eight members, four from each department. This joint committee has fathered a mobile occupational health and safety exhibit and has staged exhibits at industrial shows in the main cities.

Prior to the existence of the joint committee the division produced special numbers of the bulletin *Health* devoted to occupational health, in 1950, 1951, and 1952. Thereafter the Labour Department extended the *Labour and Employment Gazette* to include such matters. Some 30,000 to 60,000 copies of the special numbers of *Health* were distributed each year they appeared.

Other publications include a first aid placard for display in small factories, posters on first aid, ammonia and electric shock, leaflets or pamphlets on health advice to lead workers, lifting, refrigeration, Holger Nielsen method of artificial respiration, notes on diseases arising from occupation (for general practitioners). A booklet on masks was prepared in 1956, a number of photographs being specially taken for this.

In co-operation with the National Publicity Studios several exhibits have been built dealing with general or specific occupational health subjects. Some of these have formed part of the Health Department's Mobile Health Exhibit and others have been displayed at industrial fairs in different parts of the country. It is proposed to set up a permanent occupational health exhibit at the National Health Institute, Wellington.

A section on occupational health has also been included in the museum attached to the Medical School in Dunedin.

Regular articles have appeared in many trade-union journals and in some manufacturing journals. Articles by members of the division have also appeared in the following professional journals:

New Zealand Medical Journal

April 1951	Bell, A.	Death from Tricholorethylene in a Dry-cleaning Establishment.
June 1951	Kennedy, D. P.	Some Preventive Aspects of Occupational Dermatosis.
December 1951	Garland, T. O.	Comments on Death and Resuscitation after Electric Shock in New Zealand.
June 1952	Kennedy, D. P.	An Experiment in Occupational Disease Reporting.
February 1954	Bell, A.	Lead Poisoning following the Use of an Oxy-Acetylene Torch.
April 1954	Garland, T. O.	Health by Compulsion or Choice.
August 1954	Hickling, S.	Lead Poisoning in the Carpenter's Shop.
October 1954	McDougall, J. W. G. and Garland, T. O.	Hydrogen Sulphide Gas Poisoning at Rotorua.
April 1955	Bell, A.	Personal Protective Equipment.
August 1955	Bell, A.	Industrial Dermatitis.
April 1956	Hickling, S.	Household Detergents and the Housewife's Hands.

Journal of the Royal Sanitary Institute (N.Z.)

Vol. XII, No. 1, 1951	Kennedy, D. P.	Industrial Hygiene – a New Frontier in Public Health.

N.Z. Engineering

15 January, 1950	Kennedy, D. P.	The Health of the Welder.
15 October, 1951	Kennedy, D. P.	Electromagnetic Radiations and the Eye.
15 August, 1955	Bell, A.	Welding Fumes: Their Effects and Methods of Control.

Transactions of Association of Industrial Medical Officers (U.K.)

July–Oct., 1953	Garland, T. O.	Occupational Health Services in New Zealand.

General Advice and Information: The division has devoted much time to collecting reference material on matters affecting health and welfare at work. There is quite a considerable influx of literature from other countries, which has been carefully indexed and annotated to serve a dual purpose—

(1) Where information appeared to have immediate application, it has been circulated to the persons concerned, often only to our own staff. Information notes have been sent out to the district industrial medical officers and a quarterly bulletin has been published for nurses in industry. The attention of manufacturers or other persons concerned has also been called from time to time to some new development affecting health of their workers. (An item of this character to which particular attention has been given lately is the growing use of poisonous insecticides and weedkillers in agriculture and horticulture.)

(2) Other Government Departments, manufacturers, and all and sundry have been encouraged to use the division as a source of information for anything they are seeking to know affecting health and welfare. This service has been very much appreciated and the number of people making inquiries has steadily increased.

CONTROL OF TOXIC SUBSTANCES AND SPECIAL INVESTIGATIONS INTO RISKS TO HEALTH AT WORK

Lead Processes

The first common poison the division set out to control was lead. Its use in a manner likely to result in poisoning occurs chiefly in the manufacture of car batteries and paint, and both these industries were exhaustively studied throughout the country; so also were lead burning in the fertiliser works, and all forms of lead recovery among scrap metal merchants and printing establishments. The Lead Process Regulations were issued in 1950 and a routine procedure has been adopted since for the medical supervision of all workers exposed to a lead risk. This has worked very well.

Electro-plating

A survey of the electro-plating industry, chosen for special investigation because of the general use there of cyanides, chrome salts, strong acids and alkalis, and dangerous degreasers, such as trichlorethylene, resulted in the Electro-plating Regulations of 1950.

Dry-cleaning

The death from trichlorethylene of a man in a small dry-cleaning establishment in Dunedin in 1950 led to a survey of the dry-cleaning industry.

Bushworking

In 1949 a survey of accidents revealed the very high rate among bushworkers and this was the subject of a report published as an appendix to the Department's annual report in 1950.

Rabbit Destruction

The death of a rabbiter from chloropicrin in 1949 led to the investigation of the use of this substance and resulted in a close liaison with the Rabbit Destruction Council on protection of the men slaying rabbits, whether from chloropicrin, arsenic, cyanides, phosphorised pollard, or 1080. The manufacturing process associated with phosphorised pollard has also been the subject of close investigation.

Agricultural Poisons

In 1951 and 1952 much time was spent in all districts, with the exception of Wellington, on the very big range of poisons now used as insecticides and weedkillers. The most dangerous of the insecticides are the organo-phosphate compounds and the most dangerous weedkillers the dinitro-phenolic derivatives. In 1954, with the object of controlling these substances to some extent, the Noxious Substances Regulations were issued.

This work has entailed much close co-operation with the Department of Agriculture.

Gassing Accidents

In 1951 a survey of the use of cyanides, particularly for fumigating purposes in ports and flour mills, led to the issue of the Cyanide Fumigation Regulations 1952. A very similar survey was carried out in 1952 into the use of methyl bromide, which is largely replacing cyanides in the fumigation of soil, plants, and imported organic materials. Precautions in the use of this substance have been agreed with the Department of Agriculture.

In 1952 a death from ammonia in a milk-treatment plant resulted in a survey of the use of refrigerants throughout the country. A considerable range of poisonous materials is used in refrigeration and the Department subsequently issued a leaflet explaining the use of these and the precautions necessary.

In May 1953 a man died while making a connection to a gas main and the division subsequently made a survey of all gasworks in the country and the risks to workers associated with this industry. A report to the Gas Association of New Zealand was very well received and was fully discussed at the conference of the association. As a result a copy of the report was sent to each gas undertaking recommending that every endeavour be made to improve conditions as far as possible, and the association also requested the Gas Institute of New Zealand, a professional body, to examine the report in detail with a view to forming a code of health, safety, and amenity practice for recommendation to the gasworks throughout the country.

Deaths in the Rotorua district from hydrogen sulphide when working below ground level resulted in a thorough inquiry in this area, followed by a special report submitted to the Minister and the local authority, the substance of which was published in the *New Zealand Medical Journal*, October 1954.

Fumes and Dusts

The control of fumes and dusts by local exhaust ventilation is an enormous subject taking up a great deal of our time.

A very widespread industrial process is that of spraying; the commonest substance sprayed is paint, but others are lacquer, metals in atomised form, sealing mixture for car underbodies, felt, and a number of others. Much work has been done on investigating these spray processes, particularly in paint-spraying booths, and material has been collected and formulated into Spray Process Regulations, which have not yet been gazetted.

With the aim of stamping out the unnecessary use of siliceous materials a survey was made of processes which result in the diffusion of siliceous dust in the air, particularly in the use of silica-containing parting powders and siliceous abrasive materials. Information was collected on the means of eliminating some of these and formulated into regulations under the title of Abrasive Blasting Regulations. These have not yet been gazetted.

Dermatitis

This is a constantly recurring problem in a great number of industries and continually takes up much of our attention. A survey of tanneries and woollen mills was made in 1949 with a view to controlling chrome dermatitis. In 1950 a thorough review was attempted of barrier creams and hand cleaners in use in the country.

Noise

The subject of noise in industry has interested us very much. We have investigated noise levels in a number of different industries and have initiated a long-term research project among boilermaker apprentices to try to assess to what extent their hearing is damaged over the years. This involves a puretone audiometer test on each man at the start of his working life, repeated annually. A detailed investigation was made in Dunedin into a group of men who had worked for a number of years in boiler shops. Considerable work has been done on the testing and design of ear defenders.

Eye Protection

The protection of eyes at work is another matter into which a tremendous amount of work has been put. Each District Industrial Medical Officer has been provided with a stereometer for testing eye defects and these have been used on men and women working in jobs where properly corrected vision is particularly necessary – women employed as linkers in the hosiery trade, for example. Each district has also had a full range of samples of protective equipment for eyes which is available, and much publicity in the form of lectures, a film strip, posters, and leaflets, has been used to foster better care of the eyes at work. The subject is a very big one.

Lifting

Considerable attention has been given to teaching correct methods of lifting and much assistance has been given by the School of Physical Education, Dunedin. The division has now commenced to collect reports on accidents seen at industrial health clinics, in order to compile information on the actual circumstances in which muscle strains and back injuries occur from lifting or handling materials.

TREATMENT OF CASUALTIES

Although the division is primarily concerned with the prevention of industrial casualties, it is also necessary to see that those who become casualties are treated promptly and efficiently and lose as little time as possible. Advice has been given on the best first-aid service, according to the size of factory and type of industry, and help in training first-aid workers in industrial hygiene and up-to-date methods of treating minor casualties.

The Department has also advocated a policy of industrial health centres to act as combined treatment and preventive centres for groups of factories or other industrial workers. So far there has only been one properly designed centre of this character built, namely, in the Penrose area of Auckland, but more or less similar centres have been established on the waterfronts at Auckland, Wellington, and Lyttelton, and two other industrial health centres, each sited in a large factory but serving a number of neighbouring factories, are operating in the Woolston area of Christchurch and in the foreshore area, Dunedin.

The existing clinics have not been established without a great deal of preliminary work. A survey of first-aid facilities on the Wellington waterfront was the subject of a report to the Minister of Health in 1947 and in the following year a report was made to the Waterfront Industry Commission on the Lyttelton set-up. Surveys in Auckland and Dunedin followed later and investigations were also made of first-aid facilities available at the smaller ports, where satisfactory arrangements have now been made.

In 1950 an attempt was made to lay down a standard for elementary first-aid equipment in small factories, and an illustrated placard was produced for general use in any place where small groups of workers are employed.

In 1951, following deaths among linesmen from electric shock, we became very much interested in the training of such men in resuscitation. This was extended later to a drive to extend the methods and teaching of artificial respiration throughout the country. Much valuable liaison was achieved with other Departments, particularly State Hydro-electric and Post and Telegraph. Every foreman linesman throughout the whole Dominion in the latter Department, for example, was given a very thorough training in modern resuscitation techniques.

INDUSTRIAL NURSING

In 1947 an industrial health nursing training course was included as one of the post-graduate courses for trained nurses. The first two nurses completing this course were both appointed to the Division of Occupational Health and by 1950 industrial nurses had been trained and appointed in the division in Wellington, Auckland, Christchurch, and Dunedin. Industrially trained nurses are also employed by certain other Government Departments, the first such appointment being made by the Railways Department to the railway workshops at Hillside, Dunedin, followed over the next two years by appointments at Addington, Woburn, and Otahuhu. In 1949 the Post and Telegraph Department followed the

lead of the Railways and appointed a nurse in Wellington and the following year one in Auckland. The medical direction of these nurses and responsibility for their professional work has been taken by the District Industrial Medical Officer of the area.

An industrial nurse-inspector, appointed to the division in 1946, was for some years concerned with linking nurses employed in private industry with the work of the division and she has done a great deal to establish better standards of industrial nursing in these private establishments. Later, she was appointed Tutor to the Industrial Course at the Nurses' Post-graduate School. In 1948, the division organised a refresher course for all nurses in private industry at the Post-graduate School, and a similar course was run two years later.

The development of industrial nursing over the last ten years has been considerable and is indicated briefly by the following figures:

Nurses Employed in	Prior to 1944		1956	
	Private Industry	Government Departments	Private Industry	Government Departments
Auckland area	11	1	17	10
Wellington area	4	1	10	7
Christchurch area ..	3	..	6	5
Dunedin area	2	..	3	3
Palmerston North area ..	1	..	4	..
Total	21	2	40	25
	=23		=65	

NOTIFICATION OF INDUSTRIAL DISEASES

There has always been some difficulty in obtaining the information this division wants as to the sickness in the country that can be directly attributed to the nature of a man's work. In 1949 arrangements were made with the State Fire Insurance Office for the notification of all cases of this character that resulted in claims, other than straightforward accidents. It was not a very satisfactory arrangement and became very much less so when the State Fire monopoly of employers' liability insurance was abolished.

Undoubtedly, those in the best position to provide the division with this information are general practitioners. After numerous discussions with individuals, and after trial runs with B.M.A. branches in Christchurch and Dunedin, it was finally agreed with a representative committee of the B.M.A. that the list of notifiable diseases other than infectious diseases should be extended to include conditions arising from occupation. The B.M.A. also asked that all general practitioners should be circulated with some notes on diseases likely to be due to occupation. These were compiled and sent to all general practitioners early in 1953, together with the Notifiable Diseases Notice 1953 and an explanatory letter. In 1954, the first full year in which the scheme was working, 506 notifications were received. (For details see *Annual Report of the Department of Health 1955.*)

FINAL NOTE

One aspect that should perhaps be mentioned, that appears very difficult to correct with only a small staff, is the diffused character of the effort expended, which inevitably leads often to a particular project petering out. Direction from the centre has been very loose, deliberately so, but perhaps it would be well to tighten it in the future.

Important and substantial aspects of what might well be considered the work of an occupational health division have not been touched upon: we have done very little with mining, not a very big industry in this country, but one full of hazards always, and we have done much less than is desirable with the country's biggest industry, agriculture. We have not touched at all on the very important branch of health in industry covered by the term "Industrial Psychology". We have done practically nothing about rehabilitation

It is perhaps not so much what the members of the division have done themselves as what they have stirred others to do that has been their best achievement. Merely for a man with medical training and prestige to walk through a factory and discuss the process intelligently with the management can often of itself be a very valuable measure. It is a two-way exchange; with the right type of approach, managements become interested in the health and safety angle and can often learn something from the doctor, and invariably the doctor learns about the industrial process and builds up his detailed knowledge of the way of life at work. All manner of interesting details leading to chain reactions come to light in meetings of this type; they are much to be encouraged and in fact have taken up a great deal of the time of the staff.

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