

Report of the Department of Health / New Zealand.

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THE PUBLIC HEALTH

REPORT OF THE DEPARTMENT OF HEALTH FOR THE YEAR ENDED 31 MARCH 1976

*Presented to the House of Representatives Pursuant to
Section 10 of the Health Act 1956*

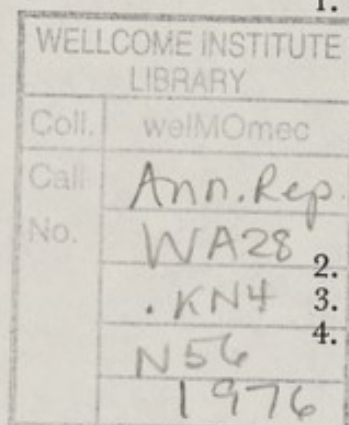
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REPORT

THE DIRECTOR-GENERAL OF HEALTH TO THE MINISTER OF HEALTH, WELLINGTON.

Pursuant to section 10 of the Health Act 1956, I have the honour to lay before you the annual report of the department for the year 1975-76.

INTRODUCTION

Statutory Committees

Board of Health (p. 11)

Two important reports were published during the year:

1. Children With Handicaps (Report Series No. 24), Wellington, Government Printer, 1975.
2. 1975 Grading of Public Water Supplies in N.Z. (Report Series No. 25), Wellington, Government Printer, 1975.

Hospitals Advisory Council (p. 11)

An expert committee under the chairmanship of a member of the council was set up to report to council on matters related to renal dialysis units.

Hospital Works Committee (p. 12)

Hospital building - engineering projects are continuing to increase and a number of major projects are well advanced.

Administration and Management

Policy Review and Development (p. 13)

Consultative groups set up to discuss and make recommendations on the White Paper on Health will be disbanded after making interim reports to the Minister. A Special Advisory Committee on Health Services Organisation is to be set up and sector committees will tender advice in certain specialised areas.

Community Health Development (p. 17)

A programme is being developed to improve the planning, delivery, and evaluation of community health services.

Management Services and Research Unit (p. 13)

The social services research programme is progressing well and includes work on the accommodation needs of the elderly, a family growth study, Wellington Hospital consumer survey, and a household health survey in the greater Porirua area.

The P.A. Management Consultants involvement at Wellington Hospital has ended; major benefits of this exercise are already apparent.

A section of the MSRU was established in April 1975 in Christchurch as part of the department's policy to decentralise its management services and research functions.

A variety of publications presenting the work of the unit is now available.

Manpower planning will receive an added impetus as a result of a Medical Manpower Planning Conference to be held in April 1976.

Developments in E.D.P. (p. 15)

Reorganisation of data processing is planned and will involve the establishment of a division of the department which will provide data processing services for hospital boards and the department based on three core systems for initial development.

National Health Statistics Centre (p. 15)

There was further expansion of the centre's work during the year with the development of systems to monitor congenital anomalies, assess immunisation status of children, study patterns of disease among foreign seamen, collect data on terminations of pregnancy, plan the 1976 bed occupancy survey, and to participate in a WHO coding trial.

Death rates for cancer of the bronchus, lung, and trachea and for bronchitis have doubled in the last 25 years.

Cigarette smoking is undoubtedly implicated as a causative agent in all these conditions.

Health and Environment

Legislation (p. 19)

The Obstetric Regulations 1975 substantially update the Obstetric Regulations 1963.

The Venereal Disease Regulations 1964 were amended.

The Burial and Cremation Act 1964 was amended.

The Health Act 1956 was amended to permit the appointment of hospital board medical staff as deputy medical officers of health.

An amendment updated the Food and Drug Regulations 1973 and revoked the Food Additives Notice 1975.

Environmental Health (p. 19)

There has been continuing progress in the provision of adequate water supplies and improved sewage disposal systems.

1975 grading of water supplies records that the number of people served by unsatisfactory water supplies has halved since 1970 but still numbers nearly 125 000.

Good progress has been made in the licensing of industrial premises under the Clean Air Act 1972 and regular emission testing is being carried out. Christchurch has sought to establish the first clean air zone under the legislation.

Disease Control (p. 24)

Notified cases of hepatitis, both A and B, were below the 5-year average but the numbers are still considerable.

Leptospirosis notifications dropped slightly. Half the cases are from the Hamilton district.

There was a significant reduction in the number of cases of brucellosis notified.

A Tuberculosis Advisory Committee was set up to advise the Minister on matters concerned with Tb control.

Venereal disease presents a continuing problem with a substantial increase in the number of cases of gonorrhoea notified in 1975.

Family Health (p. 27)

There has been an increase in the number of aural toilet clinics in areas where there is an established need.

Observation and handicapped children's registers will improve the surveillance of children at risk or in greatest need.

Dental Health (p. 38)

A project designed to assess the full potential of auxiliary workers in a dental team has commenced at the North Canterbury Hospital Board where two school dental nurses have been attached to the Dental Department.

Hospitals (p. 58)

A committee to assess the progress made in the development of health centres has been set up. Committed projects will proceed, while new projects will be deferred until the committee has reported.

Ambulance Services (p. 61)

The restructured Ambulance Transport Advisory Board has met and defined its philosophy and objectives.

Improved standards of training are the first objectives.

The regional committee system is working well.

Physiotherapy (p. 69)

The control of the New Zealand School of Physiotherapy was transferred from the Otago Hospital Board to the Otago Polytechnic.

The first graduates qualified from the Auckland School of Physiotherapy in November 1975.

Mental Health (p. 70)

The Minister's approval for the Princess Margaret Hospital, Christchurch, to operate for the temporary care of patients under certificate marks an important step forward towards the wider use of general hospital psychiatric units in providing for the total range of acute psychiatric disorders.

The maximum security unit at Lake Alice has completed 10 years' operation and a report on its 10 years of service is being prepared.

Practice Nurses

The number of nurses employed in general practices under either the urban or rural practice nurse schemes has increased from 160 in March 1975 to 299 in March 1976.

INTERNATIONAL HEALTH

World Health Organisation

The Director-General of Health was the chief New Zealand delegate to the twenty-eighth World Health Assembly held at Geneva in May

1975.¹ New Zealand's membership of the Executive Board expired during 1975 and Dr C. N. D. Taylor completed his term as chairman of the board.

It is pleasing to record that during the Assembly, Tonga was one of three countries admitted to the WHO.²

New Zealand made a strong plea for a strengthening of epidemiology in the field of chronic non-infectious diseases (especially cardiovascular disease) and co-sponsored a resolution on mental retardation calling for guidelines for research and studies on prevention.³ Emphasis was placed on the needs of handicapped adults as well as children. This year's technical discussions dealt with the problem of sexually transmitted diseases. This subject is of growing public health concern throughout the world and the papers and report⁴ will be of real significance to our work in this area in New Zealand.

Dr R. Dickie, Director, Division of Hospitals, was New Zealand's representative at the twenty-sixth Session of the WHO Regional Committee Meeting for the Western Pacific held at Manila in September 1975.⁵

In October/November 1975, Mr N. Thom, Regional Air Pollution Control Officer, Auckland, served as WHO short-term consultant on air pollution problems to the Government of Papua New Guinea and Mr R. R. L. Harcourt, Assistant Director (Environmental Health), Division of Public Health, served as a short-term consultant on the provision of basic sanitary measures to the WHO Regional Office at Manila. Mr P. B. V. Hunter, Principal Dental Officer (Research), Division of Dental Health, as New Zealand co-ordinator of the WHO/DD* International Collaborative Study of Dental Manpower Systems in Relation to Oral Health Status, attended meetings of co-ordinators at Sydney and Chicago in August and October respectively.

Four WHO travel fellowships were allocated to New Zealand during the year. The fellows were Miss A. E. Warner, Assistant Director, Division of Nursing, who studied nursing services; Mr H. R. Atkinson, Assistant Director, National Radiation Laboratory, who studied radiation health physics and radiation standards; Mr A. L. Thorstensen, Principal Environmental Health Engineer, who studied environmental health, and Mr F. H. Foster, Chief Health Statistician, National Health Statistics Centre, who studied health statistics.

A number of WHO seminars held during the year were attended by New Zealand participants, selected from amongst departmental, hospital, and educational institution staff. These seminars provide an excellent opportunity for information exchange on mutual health problems of member countries. The costs of attendance were met by WHO.

¹ Official Records of the WHO, No. 226, 227, Geneva, 1975.

² No. 226, WHA 28.1.

³ Ibid. WHA 28.57.

⁴ In preparation.

⁵ WHO Regional Committee for the Western Pacific, twenty-sixth Session, Report of the Regional Committee, Manila, 1975.

*Division of Dentistry, U.S. Public Health Service.

The WHO-sponsored Fellowship Training Centre for Nurses at the New Zealand School of Advanced Nursing Studies, Wellington, closed at the end of 1975 because the WHO was unable to continue its support.

Commonwealth

The Commonwealth Medical Co-operation Programme, which has reached its eighth year of operation, provides for 12 post-graduate training awards for doctors from developing Commonwealth countries; 10 in clinical medicine; and 2 in public health. Six doctors are currently in New Zealand being trained under this scheme.

South Pacific

A matter of concern during the year was a serious outbreak of type 1 dengue fever in Fiji, Western Samoa, and Tonga. In consultation with the department, the Ministry of Foreign Affairs provided knapsack sprayers and chemicals to the South Pacific Commission to help bring the disease under control.

The department is assisting the Ministry of Foreign Affairs in the administration of a medical consultants scheme under which New Zealand specialists visit Pacific Island countries for up to a month for the purpose of teaching or clinical work or a combination of both. Dr R. D. Scott, Senior Casualty Officer, Christchurch Hospital, and Dr J. B. Mackay, Chest Physician, Wellington Hospital, have both recently visited Western Samoa under the scheme and visits to other countries in the near future are planned.

During the year a limited number of patients from Fiji, Western Samoa, Tonga, the Cook Islands, Niue, and the Tokelau Islands, were referred for treatment in New Zealand under the free specialist medical treatment scheme. Quotas apply to the numbers of patients accepted under this scheme from Fiji, Western Samoa, or Tonga.

During June/July 1975, Mr P. Watson, Scientist, National Radiation Laboratory, undertook under New Zealand's Bilateral Aid Programme, a radiation survey of X-ray establishments in Fiji, Tonga, Western Samoa, and the Cook Islands.

The Apia National Hospital was formally opened on 17 October 1975. The Deputy Director-General of Health, Dr R. A. Barker, visited Apia in November for discussions with the local health authorities on the future development plans for the Western Samoan health services. In February 1976 Dr Barker represented New Zealand at the Seventh Conference of Directors of Health held under the auspices of the South Pacific Commission, at Port Vila, New Hebrides. Also in February, the Deputy Director-General of Health (Public Health), Dr B. W. Christmas, accompanied the Minister of Immigration to a number of South Pacific countries for discussions on immigration and health.

Training Assistance by New Zealand

The following tables show the extent and nature of the training assistance in the health field provided for overseas students and arranged through the department:

Table (i)*Number of Students Arriving by Auspices and Fields of Study 1975-76*

	Medical	Nursing	Dental	Paramedical	Totals
Bilateral Aid Programme..	7	27	8	13	55
Commonwealth ..	4	..	1	..	5
WHO ..	7	17	6	19	49
Other ..	..	9	..	1	10
Totals ..	18	53	15	33	119

Table (ii)*Number of Students Arriving by Students' Home Regions and Fields of Study 1975-76*

	Medical	Nursing	Dental	Paramedical	Totals
South Pacific Islands ..	10	43	5	16	74
Western Pacific* (other than South Pacific Islands) ..	2	9	4	11	26
South East Asia* ..	6	..	3	4	13
Africa* ..	..	..	3	..	3
Americas* ..	..	1	..	2	3
Totals ..	18	53	15	33	119

*Using WHO regional boundaries.

Other International Co-operation

In April/May 1975 Mr W. Milne, Air Pollution Engineer, Auckland, undertook a short-term assignment under the Colombo Plan to assist the Government of Singapore on fuel burning equipment problems. In June 1975 Dr C. N. D. Taylor attended, as its president, the First International Congress of the World Federation of Public Health Associations at Bonn. Mr E. A. Kennedy, Deputy Director-General of Health (Administrative), represented New Zealand at the Nineteenth International Hospital Congress held at Zagreb in June. In October 1975 Mr O. R. Nicholson, Senior Orthopaedic Surgeon, Middlemore Hospital, under the joint auspices of the Accident Compensation Commission and the department, visited the People's Republic of China to study the methods of treating fractures in that country. In November 1975 Mr R. K. Logan, Director, Division of Dental Health, attended an ASEAN meeting at Bangkok at which a proposed inter-country dental project was discussed. In December 1975 Mr M. J. Hollis, Assistant Director, Division of Dental Health, visited Colombo under the New Zealand Bilateral Aid Programme to evaluate the Sri Lankan dental services for the purposes of possible New Zealand assistance.

Vietnam

All members of the New Zealand surgical team were evacuated from Vietnam in March/April 1975, bringing to an end 12 years of medical assistance to that country. It is with pleasure that I record that Dr J. J. Enwright, Surgeon Leader, was awarded the C.B.E. in the 1976 New Year's Honours List, for his humanitarian services in Vietnam.

A warm tribute must be paid to the many New Zealand health workers who over the years gave their services, under very difficult conditions, to the war-stricken people of Vietnam.

Overseas Visitors

The following visitors were received during the year:

Australia: Mr A. G. Murray, Assistant Secretary and Administrator, Greenwich Hospital, N.S.W.; Sir Leonard Mallen, Chairman of the Statutory Committee, to examine and report on notifications of abortions in South Australia.

Britain: Mr A. Morris, Parliamentary Under-Secretary for the Disabled.

Canada: Dr R. A. Armstrong, Director-General of Health Insurance and Health Programmes, Ottawa; Dr R. J. Rossiter, Vice-President (Health Services), University of Western Ontario; the Hon. J. Buchanan, Minister of Indian and Northern Affairs.

Chile: Professor F. Monckeberg, Executive Co-ordinator of the National Council for Food and Nutrition.

International Organisations (other than WHO): Dr Julia J. Henderson, Secretary-General, International Planned Parenthood Federation.

Malaysia: Mr Syed Rossley, Deputy Director-General of Social Security.

Thailand: Dr Pradit Chareonthaitawee, Associate Professor, Department of Anaesthetics, Siriraj Hospital; Dr Roongtam Ladphi, Associate Professor of Neurosurgery, Siriraj Hospital; Dr Kawee Tungsubutra, Dean, Faculty of Medicine, Khon Kaen University.

Sweden: Professor P-O Åstrand, Professor of Physiology, College of Sport and Gymnastics, Stockholm; a parliamentary delegation of five led by Mrs A-G Skantz of the Social Democratic Labour Party.

United States: Professor M. W. Raffel, Professor of Health Planning, Pennsylvania State University; Dr Siegfried Centerwall, Director-General of Health, San Bernadino County, California.

WHO: Dr K. W. Newell, Director, Division of Strengthening of Health Services, WHO Headquarters; Dr K. Kupka, Chief Medical Officer, International Classification of Diseases Unit, WHO Headquarters; Dr J. Hirshman, Representative for the South Pacific, Fiji.

ACKNOWLEDGMENTS

Many long-serving officers have retired or resigned from the department over the last year. The 44 officers who have given sovereign service over the years are too many to mention but notable among them are Dr B. J. Mackay, Assistant Director (Family Health), Division of Public Health, Mr N. Callow, Deputy Director, Management Services and Research Unit, Mr J. O'Driscoll, Chief Inspector of Health, Miss R. McEwan, Principal, School of Advanced Nursing Studies and Medical Officers of Health, Dr R. S. Stewart, Dr J. J. Horan, and Dr T. H. Bierre. Two officers who were with the Department of Health for their whole 40 years' Public Service career also retired this year. The officers were Mr P. A. M. Dales, Chief Office Inspector, and Mr E. R. Dunn, District Executive Officer, Hamilton District Office.

Dr A. W. S. Thompson, Director, Division of Clinical Services, who retired in November 1975 deserves special mention. In his 29 years with the department, and especially with the Division of Clinical Services, Dr

Thompson developed a sound basis for co-operation between the department and the medical profession and was held in high esteem by his colleagues.

During the past year, two of the Deputy Directors-General of Health have moved to positions of wider responsibility outside the department. Dr C. N. D. Taylor, Deputy Director-General of Health (Public Health), joined the World Health Organisation in October 1975 as the chief of the Health Education Unit at the WHO Headquarters in Geneva. Mr E. A. Kennedy, Deputy Director-General of Health (Administrative), transferred to the State Services Commission in March 1976 as Deputy Chairman.

Dr Taylor had been with the department for 28 years. He worked as medical officer of health in Wellington, Auckland, Gisborne, and Palmerston North and as Director of the Divisions of Health Education and Maternal Health and Public Health, before being appointed Deputy Director-General of Health (Public Health). Mr Kennedy returned to the State Services Commission after 16 years with the department as Deputy Director (Administration), Division of Hospitals, and Deputy Director-General of Health (Administrative).

I thank the 44 officers named and unnamed for loyalty and service to the department and to the country's health administration, and wish them well in their new positions or in their retirement.

Congratulations to Dr N. T. Barnett, Medical Officer of Health, Auckland District Office, who was awarded the O.B.E. in the Queen's New Year's Honours List.

I should like to thank all officers for their work during the year. It has been a particularly difficult time for many officers with the change of Government bringing a new emphasis to the country's health services. The continued cheerfulness and willingness of staff to undertake extra tasks has been much appreciated over this time.

H. J. H. HIDDLESTONE,
Director-General of Health.

SPECIAL COMMITTEES

1. BOARD OF HEALTH

Although the board did not meet during the year its standing committees continued to operate and actively consider and make recommendations upon the matters for which they were established.

The Committee on Children with Handicaps completed its task of assessing the resources available for the treatment, remedial training, and education of children with all types of handicaps and the need for the future. Its report,¹ *Children with Handicaps*, was completed and published and drew attention to the necessity for handicapped children to be fitted as far as possible for life in the community. The year saw the publishing of the fourth report² on the grading of public water supplies, the first having been published in 1962. Now that evaluations are being undertaken at regular intervals on an acceptable basis for grading it is possible to measure the progress being made to reach the standards of the World Health Organisation International Standards for Drinking Water.

2. HOSPITALS ADVISORY COUNCIL

The council met once during 1975. Applications from the Otago and Wellington Hospital Boards for the establishment of home dialysis programmes at their respective base hospitals were considered. The Waikato Hospital Board also sought endorsement of its renal transplant services. Council, however, took the view that proper criteria set by qualified people were needed to establish a basis on which such applications could be judged since without such guidelines there could be a proliferation of units without regard for national needs, resources or economies. The council's recommendation, which was accepted by the Minister of Health, was that a special committee of renal physicians and renal surgeons under the chairmanship of a member of council be established to report to council on this matter. This committee is now sitting.

Council also considered proposals to establish a cardiac surgery unit at Christchurch Hospital to become functional in 1977. The Minister approved council's recommendation that planning should proceed.

Proposals to change the use of two small maternity hospitals were also supported by council: the Mangakino Hospital to be converted to a home for ambulant patients and the Murchison Hospital to become a community hospital. The Minister approved both of these recommendations.

¹ New Zealand Board of Health. *Children with Handicaps* (Report Series No. 24). Wellington, Government Printer, 1975.

² New Zealand Board of Health. *1975 Grading of Public Water Supplies in New Zealand* (Report Series No. 25). Wellington, Government Printer, 1975.

3. HOSPITAL WORKS COMMITTEE

The Hospital Works Committee met 12 times during the year, making recommendations to the Minister of Health on the following subjects:

(1) Hospital boards—

Building and engineering projects	..	..	195
Land purchase and sale	..	..	13
Hospital works loans	..	..	16
General items	..	..	49
(2) Health centres	..	..	9
(3) Private hospital loan applications	..	..	—
(4) Group practice loan schemes	..	..	10
(5) Old people's homes	..	..	16
(6) Psychiatric hospital building and engineering projects	..	..	69

Council also considered proposals to establish a cardiac surgery unit at Christchurch Hospital to become functional in 1977. The Minister approved Council's recommendation that planning should proceed.

Proposals to change the use of two small maternity hospitals were also supported by Council: the Mangahine Hospital to be converted to a home for ambulant patients and the Murchison Hospital to become a community hospital. The Minister approved both of these recommendations.

¹ New Zealand Board of Health, Children with Handicaps (Report Series No. 24), Wellington, Government Printer, 1975.
² New Zealand Board of Health, 1975 Grading of Public Water Supplies in New Zealand (Report Series No. 25), Wellington, Government Printer, 1975.

PART I—BUREAU OF ADMINISTRATIVE SERVICES

I. POLICY REVIEW AND DEVELOPMENT

During the year, the series of consultative groups set up by the previous Government did a great deal of work in examining submissions on the White Paper, *A Health Service for New Zealand*, with a view to devising means by which the principles and policies contained in the White Paper could be brought into effect.

The White Paper generated considerable interest and 409 submissions on the proposals were received from a wide variety of individuals and organisations. All submissions were referred to appropriate consultative groups.

The new Government has indicated that, in determining the best means of implementing its health policies, it wishes to take account of the work done by consultative groups.

The groups have been asked to report on the work which they have done to date and these reports will be placed before a broadly based Special Advisory Committee on Health Services Organisation. This committee is being established by the Minister of Health, using his powers under the Health Act 1956 and the Hospitals Act 1957. It will have broad terms of reference enabling it to draw up comprehensive proposals for a system of health care more appropriate to modern needs.

Consultative groups will be disbanded, having made their reports to the Minister, but Government proposes to establish sector advisory committees to tender advice in certain specialised areas of health services organisation. The Government has indicated that the experience and skills of individual members of consultative groups will be taken into account when selecting members of these sector committees and the great majority of consultative group members have expressed a willingness to assist.

Both the Special Advisory Committee and the sector committees will have access to the submissions made on the White Paper.

While the department's Review and Development Section has necessarily devoted considerable attention to servicing and co-ordinating the previous consultative process, it has also been preparing a number of background papers on a wide variety of subjects. These concern matters which are expected to require the early attention of the new advisory committees and the Government.

2. MANAGEMENT SERVICES AND RESEARCH UNIT

Good progress has been made during the year with the unit's social survey research programme. Publication of the definitive report on the *Accommodation and Service Needs of the Elderly* study is expected in June. The first results from the "family growth study", carried out in the Hutt Valley in late 1975, will be published soon. Work on the Wellington Hospital Consumer Survey (1974) will be brought to report in a publication later in the year. A number of other projects are now in the formative or data collection phases. One of the most interesting of these is a household health survey in the greater Porirua area. As planned, the survey marks the beginning of an on-going "Porirua

community health project" involving community leaders and the local consumers and providers of care. The ultimate aim is to involve local people in all aspects of their health care.

Work continues in the general area of development planning where the aim is to produce better researched, more comprehensive, and detailed guidelines for the use of health service planners.

The unit's programme of management services work in hospitals continues to grow. Interesting projects recently completed include the establishment of a hospital price index and the institution of a system of clinical laboratory work load measurement.

The involvement of P.A. Management Consultants at Wellington Hospital has ended. The activities commenced by the consultants are being continued by the Management Development Unit at the hospital supported by the State Services Commission and the department. Major benefits from this work are already apparent and these are expected to multiply in the years ahead.

In April 1975 a section of the unit was established in Christchurch. Called the Christchurch Health Planning and Research Unit it is under the leadership of Dr Laurence Malcolm, M.D., F.R.C.P., D.T.M. AND H., F.A.C.M.A., M.F.C.M. This is part of the department's effort to decentralise its management services and research functions and to encourage these activities at the local level. In the short period he has been operating Dr Malcolm has vigorously pursued the objectives of the unit which relate in the main, to developing a health planning methodology. He and his team are assisting planning groups working in a number of fields. Particular progress has been made in the area of mental health and in geriatric services and interesting possibilities are being explored in the field of primary health care.

M.S.R.U. continues with its policies to encourage and promote efforts to improve planning and management performance in the health service. An important part of this work is the publication of material for wide distribution. The unit now has a variety of publications—the *Two-monthly Report*, *Management Services News*, the Occasional Paper Series, and the Department of Health Special Report Series. The aim is to provide for a range of publication possibilities from simple unpretentious papers on the one hand to detailed research reports on the other.

Work continues on preparation of a statistical source book about the allocation and use of resources in the health service. Publication is likely in late 1976.

3. MANPOWER PLANNING

This small section is making good progress in obtaining stocktaking information on the health professions. Good data are now being obtained on those professions whose members are required to obtain an annual practising certificate. The professional bodies concerned in this work have been most helpful. Without their active participation and continuing support the stocktaking required as a pre-requisite for planning would be impossible. Later in the year it is intended to publish an updated edition of *New Zealand Health Manpower Resources*.

In April 1976 the Medical Council, in association with the World Health Organisation and the department, will hold a 4-day residential workshop on medical manpower planning. M.S.R.U. will service the workshop which will be attended by two overseas consultants as well as local experts. It is hoped that this will mark the beginning of an on-going programme to plan not only medical manpower but all health manpower in New Zealand.

4. ELECTRONIC DATA PROCESSING

Following an intensive and searching investigation into departmental and hospital data processing, the firm of Touche Ross and Co. was retained to reorganise data processing for the health service. The reorganisation involves the establishment of a division of the department which will provide data processing services for hospital boards and the department.

An extensive selection process and subsequent negotiations resulted in an agreement with Digital Equipment Corporation who have installed one computer in a temporary centre in Auckland. A second computer centre is to be commissioned in Christchurch during July 1976.

Three core systems have been identified for initial development; payroll, laboratory processing, and admissions and discharges. These systems are expected to be operational and partially implemented on a nationwide basis before the consultants contract expires in August 1977.

Conversion of existing data processing systems has commenced and is expected to be completed in 1976.

A study to investigate and decide upon priorities for additional systems was commenced in March 1976.

5. NATIONAL HEALTH STATISTICS CENTRE

The centre's role as a supplier of statistical data was expanded during the past year by the development of systems to:

- (i) Monitor congenital anomalies reported in stillbirths and the newborn.
- (ii) Assess the immunisation status of children.
- (iii) Study patterns of disease among foreign seamen attending the Auckland Waterfront Clinic.
- (iv) Collect data on terminations of pregnancy.

Further developments were:

- (v) The planning and preparation of the 1976 bed occupancy survey to coincide with the national population census on 23 March; and
- (vi) Participation in a World Health Organisation coding trial to test systems for classifying the site and type of cancer.

During the year, staff from the centre were closely involved with the department's EDP consultants in the admission/discharge project. Data capture methods and record content designed for the new admission/discharge systems have been aligned with innovations and changes already planned by National Health Statistics Centre and other

departmental units to replace existing public hospital discharge notifications.

A major benefit to the centre from the proposed health computer systems has been the impetus given to the transition of the centre's data processing requirement from unit record machines to computer.

WHO Fellows

Participation in the WHO statistical training scheme continued with fellows from Burma, Singapore (2), Tonga, Fiji, and Thailand accepted for training.

Publications

Reports on mental health data, cancer data, mortality and demographic data, hospital and selected morbidity data, hospital management data, and trends in health and health services were published during the year. Also published were preliminary statements for mortality (1974) and psychiatric inpatients (1974), a short report on infant and perinatal deaths (1973), a review of mortality rates of pre-school children in New Zealand and selected countries, a review of neonatal and post-neonatal death rates (1972), and a supplement to the hospital management data report (1975). A study of mortality patterns in coronary heart disease in New Zealand was published in the *New Zealand Medical Journal*.

Private Hospital Morbidity Data

Preliminary processing of statistical data for patients discharged from private hospitals in 1974 has now been completed. The results show that 67 852 patients were discharged from, or died in private hospitals in 1974. During the same period 52 315 surgical operations were carried out.

A preliminary statement containing basic tabulations will be published soon and more detailed data will be incorporated in the annual Hospital Morbidity Data report to be published later in the year.

Principal Causes of Death, 1950-74 (see table 5)

The numbers and rates per 100 000 mean population of the principal causes of death between 1950 and 1974 are shown in table 5. The 1970-74 figures are provisional. The figures have been aggregated into 5-year periods, so that the influence of chance yearly variations is minimised. The number of deaths refer to total deaths which were registered during each period; the rates, on the other hand, are the mean annual rates for each period.

There has been a significant reduction in deaths from tuberculosis; the 1950-54 rate (23) being over seven times higher than that for 1970-74 (2.9). The rate for all other infectious and parasitic diseases has also fallen. In 1950-54 it stood at 11.8, which was more than twice as high as the 1970-74 level of 5.5. A very clear upward trend is shown for deaths from malignant neoplasm of bronchus, lung, and trachea. The 1950-54 rate was 11.6. In each subsequent 5-year period the rate increased, the 1970-74 level being over twice as high as that for 1950-54. The increase is in marked contrast to deaths from all other forms of

malignant neoplasm taken as a group, which decreased a little during the 25-year period. For diabetes mellitus and for cerebrovascular disease, rates show a small upward movement. On the other hand, the rates for active rheumatic fever and chronic rheumatic heart disease decreased steadily from 13.9 in 1950-54 to 6 in 1970-74. Other forms of heart disease and hypertension, which include coronary heart disease, are the principal cause of death listed in the table. Although the rates for coronary heart disease have risen in recent years, this reflects in part a change in terminology as well as a true increase in incidence. Nevertheless, taken as a group, the rates for other forms of heart disease and hypertension have decreased over the period reviewed.

The number of deaths from influenza fluctuates year by year. Between 1950 and 1974 the highest number was 191 (in 1962) and the lowest was 17 (in 1967). During the 5 years 1965-69 the highest annual total was 51. This resulted in a very low rate of 1.3 for those 5 years. The death rate for pneumonia increased from 28.4 in 1950-54 to 46.4 in 1960-64, and has since remained at about that level. The principal reason for this change is the greatly increased number of people aged 85 years and over who have been certified as dying from this cause.

The death rate for bronchitis almost doubled between 1950-54 and 1970-74, disclosing a pattern of increase similar to that of another cause of death associated with cigarette smoking, cancer of the lung.

Although the rates for asthma have fluctuated, those for ulcer of stomach and duodenum, diseases of liver and gallbladder, nephritis and nephrosis, hyperplasia of prostate, and congenital anomalies all showed substantial decreases during the period. The rates for motor vehicle accidents showed a considerable increase from 14.8 in 1950-54 to 24.7 in 1970-74, but the rates for other accidental and violent deaths, for suicides, and for homicides were stable throughout the period. Overall the crude death rates for all causes combined decreased from 929.7 per 100 000 in 1950-54 to 851.3 per 100 000 in 1970-74.

In the years 1970-74 there were 639 deaths from alcoholic cirrhosis of the liver, alcoholism and alcoholic psychosis combined. These cases are included under the heading of "Diseases of liver and gallbladder" and "all other causes" in table 5.

Although the annual numbers and rates for this group of alcohol-related diseases have more than doubled during the past 5 years, it is at present not clear whether the rate of increase is as rapid as the figures suggest or whether this is a reflection of past under-reporting.

6. COMMUNITY HEALTH DEVELOPMENT

With the approval of the State Services Commission the department is currently developing a programme to improve the planning, delivery, and evaluation of community health services. The programme is aimed at promoting the Government's policy to place increased emphasis on preventive health services.

Multi-disciplinary management groups with specific responsibilities for the definition, planning, and evaluation of community health programmes have already been set up in some health districts on a trial basis. Changes are being made in district health office organisation to

strengthen clerical and executive support for professional and technical staff and research functions are being developed to provide a better knowledge of local community health problems.

Intensive staff development is an essential part of the programme. Multi-disciplinary courses in community health management have already been held and further courses are proposed in 1976. Specialist training for clerical and executive staff is also planned to supplement on the job training. The courses include instruction and workshop sessions on the practical application of such concepts as:

- (1) Setting objectives, planning, and evaluating achievements.
- (2) The use of multi-disciplinary teams in community health management.
- (3) The use of basic research techniques in planning, formulating local policy, and evaluation.
- (4) A "systems" approach to the organisation of health services at the community level.

PART II—BUREAU OF PUBLIC HEALTH AND ENVIRONMENTAL PROTECTION

Legislation

The Obstetric Regulations 1975 substantially updated and revised the Obstetric Regulations 1963. They reflect the changes that have taken place in obstetric care and practices in the last 10 years, and the need for higher standards in obstetric nursing. The principal change made by the present regulations is to distinguish between "obstetric units", "maternity units", and "maternity after care units", and to prescribe standards and rules appropriate to each. Better and in some cases new provision is made for the notification of births and of certain medical conditions and communicable diseases.

An amendment to the Venereal Diseases Regulations 1964, updates provisions for medical examination and tests designed to determine whether a patient is suffering from syphilis, and whether the disease has been cured.

The Burial and Cremation Act 1964 was amended to allow disposal of land in a cemetery to another local authority if that land is to be held for cemetery purposes. Minor metric amendments were also made.

The Health Act 1956 was amended to allow suitably qualified medical officers employed by hospital boards to be appointed part-time deputy medical officers of health.

A number of requirements were updated by an amendment to the Food and Drug Regulations 1973 which also revoked the Food Additives Notice 1975.

1. PUBLIC HEALTH SERVICES

(a) Environmental Health

General

In the past year progress continued in the provision and improvement of water supplies and sewerage systems. However, substantial increases in their capital costs are likely to cause a reduction in the rate of provision of these basic sanitary measures as the ability of local authorities to raise money declines. Much of the heavy outlay of the past two decades has been used to improve neglected and outdated facilities and due consideration should be given by local authorities to the need for extending and improving these services, in any assessment of priorities for the allocation of the funds available.

Provision of Water Supplies

The department examined and made recommendations to the Local Authorities Loans Board on 66 water supply schemes valued at \$24.43 million, a decrease of \$1.21 million on those examined in the previous year.

Chlorine Supplies

Supplies of chlorine gas for the disinfection of water supplies became scarce during the winter due to difficulties in shipping the gas from Australia, a shortage of drums, and the termination of a local source of supply. Local authorities were warned to conserve their stocks, return empty drums to the supplier promptly, and to favour the disinfection of

drinking water sources instead of swimming pools. For as long as chlorine gas has to be imported, the rate of supply will continue to be governed by the vagaries of overseas manufacture, shipping, and shortages of drums. There seems to be no immediate prospect of a supply of locally produced gas.

Electrolytic chlorine generators which are being tried at some swimming pools, could, if successful, lead to a reduction in the summer demand for chlorine supplies.

1975 Grading of Public Water Supplies

A fourth grading of public water supplies was completed and the results published during February 1976 in Board of Health Report Series, No. 25, *1975 Grading of Public Water Supplies in New Zealand*. This showed that since the last grading, which was conducted in 1970, 93 percent of the population on public water supplies now receive water from satisfactory sources, instead of 85 percent in 1970. Eighty-four percent of the total population is now served by public water supplies.

Ninety-six percent of the unsatisfactory supplies are for communities of less than 5000 people, and of the 124 865 people on unsatisfactory supplies, 69 percent are in such communities. However, the number of people served by unsatisfactory supplies is half the number for 1970. The report concludes that "the type of improvements needed in many communities include improved sources of water, better catchment control, better water treatment, more storage at source and in the distribution system, and the provision of better engineering and operational control".

Fluoridation

Two more local authorities fluoridated their water supplies during 1975. With the addition of Masterton and Hokitika the population now served by fluoridated water supplies is 64 percent of those on public water supplies or 54 percent of the total population. A list of communities served by fluoridated supplies was published in the *1975 Grading of Public Water Supplies in New Zealand* mentioned above.

Water Pollution Control

The department continues to develop its relationship with the regional water boards in order to promote environmental health aspects of water resource management.

A *Report on Pollution in the Waikato River Basin*, 1956, was prepared for the Pollution Advisory Council by the Ministry of Works in co-operation with the Department of Health and the Department of Scientific and Industrial Research, and showed the improvements in the disposal of sewage and industrial waste which were considered necessary at the time, to reduce the pollution of the river.

The completion of the Hamilton City sewage treatment plant, the early prospect of the complete elimination of its municipal septic tanks together with the work on updating the sewage disposal arrangements at Huntly, Te Awamutu, and Te Kuiti and the earlier completion of works at Ngaruawahia, Cambridge, and elsewhere in the Waikato River basin, has implemented these proposals.

Food Hygiene

The implementation of the 1974 revision of the Food Hygiene Regulations has been generally effective, but some difficulties in interpretation of the requirements have been experienced, although there were lengthy consultations with the parties concerned at the drafting stage.

Amendments are being prepared which, it is hoped, will clarify the intention of the regulations.

Sewage Disposal

Progress in the provision of improved sewage disposal services continued throughout the year, with work proceeding on schemes for several smaller communities such as Raglan, Bulls, Featherston, Waihi, Martinborough, Seddon, Morrinsville, and Palmerston.

The Auckland Regional Authority commenced improvements and extensions to the Mangere sewage treatment plant, which were estimated in 1974 to cost \$46 million. Careful operation of the existing plant has enabled it to continue to cope with increasing loads of industrial wastes and domestic sewage, with no significant nuisance during the year.

The department was represented on an inter-departmental committee which was formed by the Department of Scientific and Industrial Research to study the requirements for the disposal of treated sewage on land. The committee's report will be published in the form of guidelines for local authorities and consulting engineers.

A number of local authorities are conducting surveys of the likely sources of infiltration of stormwater into separate foul sewers. The substantial increases of flows during wet weather is causing the overloading of sewers, pumping stations, and sewage treatment plants which results in storm overflows into natural waters.

The department examined and made recommendations to the Local Authorities Loans Board on 74 sewage disposal and drainage schemes valued at \$37.65 million, a decrease of \$26.46 million on the figure for the 1974-75 financial year.

Solid Waste Disposal

Some local authorities are improving their disposal of refuse by controlled tipping. The Auckland Regional Authority is proceeding with its proposals to construct refuse transfer and pulveriser stations as part of a comprehensive scheme for the disposal of all refuse in the region. Five loan proposals for refuse disposal considered during the year by the department's staff amounted to \$1.74 million.

Swimming Pools

Although gas chlorine supplies were short during the year and water supply needs were given priority, there were no reports of difficulty in maintaining the hygienic condition of swimming pools. A combination of effective use of solid forms of chlorine producing chemicals, good operation, and reduced public demand due to poor summer weather enabled local authorities and others to provide a satisfactory service.

Recreational and Other Municipal Facilities

Recommendations were made to the Local Authorities Loans Board during the year on 69 proposals for civic centres, recreational reserves, swimming pools, camping grounds, abattoirs, and crematoria to a total value of \$34.03 million, an increase of \$1.76 million on the previous year.

Water and Sewerage Subsidies

There were no changes in the conditions for the granting of subsidies during the year. The summary of the current position of the subsidy scheme as at 31 March 1976 is given below.

Type of Works	New Works Approved for Subsidy 1975-76		Total Works Approved for Subsidy to 31 March 1976		Expenditure 1975-76	Expenditure 1974-75
	Number	Value	Number	Value†		
		\$		\$	\$	\$
Sewage treatment and disposal* ..	21	2,376,220	199	31,749,029	4,142,973	2,372,050
Initial sewerage reticulation ..	13	1,644,264	91	7,408,473	1,387,252	556,814
Water supplies ..	27	3,762,117	153	34,276,826	5,375,640	5,162,050
Totals ..	61	\$7,782,601	443	\$73,434,328	\$10,905,865	\$8,090,914

*These figures include a limited sewage treatment subsidy scheme which operated from 1960 to September 1969 before being substituted by the present extended scheme.

†Includes the value of additional subsidies approved towards completing works begun in previous years.

Expenditure on the 10 percent loan capital repayment subsidy scheme was \$583,747, an increase of \$75,258 on last year. This subsidy applies to the principal content of water and sewerage loans raised by local authorities before 30 September 1969. Over 1500 such loans are currently subsidised.

Training in Food Hygiene for Food Industry Staff

Following consultations with organisations in the food industry, including management, the unions, and the Trades Certification Board, a long felt need has been met by the holding of the first courses in food hygiene leading to formal examinations. Of the 104 candidates sitting the examination 82 (79 percent) passed.

Training of Public Health Inspectors

The changes in the training of health inspectors, which were recommended in the Board of Health Report Series, No. 7, *The Training and Employment of Health Inspectors in New Zealand* (Second Report) in 1973, were implemented during the year with the appointment of seven cadets in the Department of Health and three in local authorities.

The present training course, which has operated for 27 years, will be terminated after a transition period, in which both courses will be run in conjunction, in order to maintain a satisfactory number of trained inspectors.

Airport and Aircraft Food Hygiene Service

The surveillance of food preparation services and water supplies for consumption at airports and for passengers in flight, by physical inspection and the use of microbiological examination was maintained throughout the year.

The periodic outbreaks of food-borne illness among aircraft passengers reported from overseas emphasise the need for more care

by health authorities and the airlines. While some of the food served may appeal to sophisticated tastes, it is often the most manipulated and hence most likely to cause food-borne illness.

Shellfish Sanitation

Routine surveillance of shellfish growing areas continued and a further four initial sanitary surveys and intensive water quality surveys were completed.

Drainage and Plumbing Regulations

The committee appointed by the Minister of Health to consider the revision of the Drainage and Plumbing Regulations has received a legal draft of the regulations.

Air Pollution Control

Industrial processes are licensed for the purposes of air pollution control in three categories.

Schedule A processes are those licensed and supervised by the Department of Health because they are very large potential sources of air pollutants, are technically complex or because the "best practicable means" (b.p.m.) of control is still to be determined. There are currently 430 such licences issued.

Schedule B processes are those licensed by the local authority. There are currently 380 such licences but this number will increase with the transfer of some licences from Schedule A when the b.p.m. has been determined.

Schedule C processes are smaller but of importance in the urban situation and local authorities may optionally licence these.

Initial licensing has been a major task but now only a few industrial processes covered by the schedules are known where no application has been made for a licence. Further action is being considered in these cases.

Licensing provides the basis for keeping a running inventory of air pollution emissions from industry against which control programmes can be evaluated. It also provides the basis for setting specific performance targets which can be checked by emission tests.

As the main work of the licensing has been completed it has been possible to resume regular emission testing. Of 524 such tests a small proportion exceeded the targets set in the licence but in most cases corrections were promptly made. In the case of two firms where repeated warnings did not have any effect prosecutions were taken under the Clean Air Act 1972.

Another function of air pollution control officers is to carefully examine applications made under section 31 of the Act to establish new scheduled processes. Twenty-one such applications were examined.

In co-operation with the Commission for the Environment and other organisations the department has been involved in the evaluation of air pollution aspects of major industrial developments where the concept of b.p.m. has to be extended to something expressed as the "best practicable environmental option". Examples of such developments are the proposed p.v.c. plant, a chromate plant, a cement plant, and all proposed thermal electric power generating stations.

As well as the monitoring of individual industries it is necessary to establish the pattern and extent of urban pollution throughout the country. This work has been concentrated in Auckland and Christchurch which represent the extremes of two patterns of pollution found in New Zealand. If a third, such as Rotorua (characteristic of geothermal areas) were added, information on three basic patterns would be established. Relatively few measurements would then be needed to investigate other areas of interest which would fall into one or other or a combination of the three basic patterns.

The work which has already been carried out has shown either a satisfactory level of the conventional combustion pollutants, sulphur dioxide and smoke, or a decline over recent years. In the South Island this decline seems now to have halted.

In an effort to improve air quality in the city Christchurch has sought to establish the first clean air zone under the legislation. This sets high requirements on industry and can also apply smoke control to domestic premises. As required by the Act objections were called for and 28 were received. Nine persons subsequently made personal representations to Dr J. Bamford who was appointed to conduct the first hearing of its kind under the Clean Air Act 1972.

Staffing—to better administer the various aspects of the legislation, assistant air pollution control officers were appointed to Christchurch and for the Waikato-Rotorua area bringing the field staff directly concerned with works inspections and assistance to local authorities to 12.

(b) Disease Control Immunology and Quarantine

Influenza

During 1975 sporadic influenza morbidity was reported during the winter months with outbreaks in some areas, but no major epidemic was experienced. Both influenza A and influenza B occurred, the virus of influenza A being closely related to the Port Chalmers strain. Influenza vaccine was recommended for those in whom a medical indication existed for immunisation.

Infective Hepatitis (Hepatitis A)

A reduction in the number of cases of infective hepatitis from 3818 in 1974 to 2993 in 1975, was notified to the department, and this number is below the annual average of 3666 cases during the past 5 years. Some health districts showed a marked reduction in the number of cases notified while others showed an equally marked increase. The greatest number of cases notified were to be found in the age groups 15 years to 45 years and more frequently in males. Investigation of cases frequently does not reveal the source of infection. Immunoglobulin continues to be recommended by the department to prevent close family contacts contracting the disease.

Serum Hepatitis (Hepatitis B)

The number of cases of serum hepatitis notified has progressively increased over the last 5 years and increased from 90 cases in 1974 to 160 cases in 1975. Some of this increase is due to the availability of laboratory techniques for diagnosis of the disease and the greatest number of cases notified were from two health districts where a particular interest was shown in this disease. The recognition of hepatitis B

is likely to increase in the future. The age group in which the disease is most frequently noted is between 15 years and 25 years and it is more common in males.

Leptospirosis

Four hundred and eighty cases of leptospirosis were notified in 1975 compared with 509 cases in 1974 and this reduced number is below the annual average of 534 notified cases for the past 5 years. Of the cases notified 89 percent were occupational and 79 percent of these occurred in farmers. Over half the cases were notified from the Hamilton Health District and the population group in which cases were most frequently noted was males between the age of 25 years and 45 years. An educational programme for the prevention of this disease among dairy farmers continues. Spring and early summer months produced the highest number of cases.

Food Poisoning

The number of cases of food poisoning notified in 1975 was 504 and this was the highest number for 5 years. In one health district the commonest type of food poisoning reported was staphylococcal in origin and the second most common type was due to clostridium perfringens. The incidence of this reflects a need for higher standards of food handling and food preparation.

Tuberculosis

The total number of cases of all forms of tuberculosis increased in 1975 to 668 from 615 in 1974 but the number was just below the annual average of 672 cases for the past 5 years. Five hundred and fifty-nine cases of pulmonary tuberculosis were notified in 1975 compared with 544 cases notified in 1974, but again these numbers are below the annual average of 567 cases of pulmonary tuberculosis notified during the past 5 years. The yield of cases of active tuberculosis from mass miniature radiography in 1975 was 43, a reduction of 20 from the previous year (63 cases); this represents 7.8 percent of all pulmonary cases notified.

The policy of recommending chest X-rays only to groups in the community specially at risk for tuberculosis continues. The offering of B.C.G. vaccination to all neonates at risk for tuberculosis has been carried out in the Hutt and Wellington health districts and will be extended this year to other health districts where the medical officer of health considers it necessary.

A Tuberculosis Advisory Committee was formed in August under section 9A of the Health Act to advise the Minister on matters involving tuberculosis control. The committee includes specialists in this field from various parts of the country.

Brucellosis

The total number of cases notified to the department in 1975 was 72, a significant reduction from last year's total of 119 and the lowest annual figure over the past 5 years. These notifications are not sufficiently complete to indicate a trend in incidence though it is expected that the number of cases of brucellosis will reduce as the brucellosis eradication programme progresses.

Veneral Disease

The total number of cases of gonorrhoea attending hospital board clinics continues to rise giving a total of 4267 in 1975 compared with 3442 in 1974. The ratio of males to females attending for this disease was 1.5:1.

The total number of cases of syphilis attending clinics was 68 in 1975 compared with 64 in 1974 and represents little significant change over the past 5 years. An increased health education programme and the establishment of more venereal disease clinics in cities is being planned at the present time. It is intended to provide a course for the training of paramedical personnel in venereology and to offer training opportunities for medical practitioners in this field.

Immunisation

Schick surveys were carried out in three health districts in 1975 and these showed a generally satisfactory level of immunity to diphtheria in those districts.

Measles immunisation is receiving greater acceptance in the community and surveys conducted in 1975 have indicated an acceptance in some districts of between 50 percent and 70 percent of the age group recommended for immunisation. In one district an acceptance of 70 percent was not sufficiently high to prevent outbreaks of measles occurring among non-immune children.

The acceptance of rubella immunisation for 5-year-old children has been disappointing in some districts but has varied between 20 percent and 80 percent.

Some suspected cases of congenital rubella were notified in 1975 but investigations have yet to be completed to determine whether these are confirmed cases or not. The importance of the rubella immunisation programme cannot be over-emphasised if congenital rubella is to be prevented.

Quarantine

No cases of quarantinable disease occurred in New Zealand in 1975. Due to the success of the WHO smallpox eradication programme, New Zealand, in line with a number of other countries, has been able to relax its smallpox vaccination certificate requirements for entry into this country. New Zealand now requires a certificate only from travellers who, within the preceding 14 days, have been in a country any part of which is infected.

An International Conference on Quarantine was held in Wellington in March 1975 attended by representatives from Australia, Fiji, and Papua New Guinea. A more co-ordinated approach to quarantine was discussed and the meeting proved to be of considerable value.

Non-Infectious Diseases

The department has continued its involvement with the Cancer Society and the Diabetic Association. The cigarette advertising agreement with the tobacco companies limiting cigarette advertising is to be renegotiated in 1976.

(c) Family Health

The introduction of revised obstetric regulations in July 1975 has been an important step forward. The notification of all births to the medical officer of health and the recommendation for all infants to have a medical examination at about 9 months of age will go a long way towards ensuring that no child is overlooked.

Guidelines for nursing and medical supervision of all infants and pre-school children have been distributed to all Plunket and public health nurses. Where it is not practicable for the general practitioner to do the 9 months of age examinations, departmental medical officers will undertake this work. These medical officers at present examine at 9 months, infants who are under the supervision of the public health nurse.

Observation and handicapped children's registers have been set up to further ensure the care of those infants and children most at risk or in greatest need.

Further aural toilet clinics have been set up with the co-operation of hospital staff in areas where need is established. The public health nurses undertake the work under supervision of an otologist. A special programme for treatment of discharging ears in the Whangarei Health District has proved an outstanding success. A mobile van, provided by the Deafness Research Foundation, was used.

The attachment of a public health nurse to the paediatric wards in Auckland and better liaison elsewhere continues to be of benefit both to the hospital and to the family afterwards.

Two reports published this year by the department will prove useful in formulating future policy; one on Growth of New Zealand Pre-school Children¹ and one on Maternal and Infant Care in Wellington².

Maternity Services Committee

Apart from the birth notification scheme and a general interest in maternal health the main responsibility for the Obstetric Regulations 1975 and with it the membership of the Maternity Services Committee of the Board of Health has passed to the Hospitals Division.

National Co-ordinating Committee

This committee of Plunket and departmental officers met twice during the year and made some progress in seeking better co-ordination of infant care services. Having completed a trial period the committee agreed that progress justified continuation of the committee.

Inter-departmental Committees of Health, Education, and Social Welfare

This committee is now meeting at least once a term and there is improved awareness of departmental programmes of concern to other departments.

¹Growth of New Zealand Pre-school Children (Special Report Series No. 44).

²Maternal and Infant care in Wellington (A Health Case Consumer Study). (Special Report Series No. 45).

Royal Commission on Contraception, Sterilisation, and Abortion

A background paper on contraception and sterilisation was prepared and presented at the opening session of the Royal Commission on Contraception, Sterilisation, and Abortion.

The department was involved in the preparation of the inter-departmental report on Population Policy Guidelines and preparation of papers and attendance at working parties in connection with activities of International Women's Year.

Family Planning

There has been an increase in the numbers of family planning clinics operated by the New Zealand Family Planning Association (Inc.) (33 clinics now operating) and by hospital boards (5).

The general practitioner continues to provide much of the family planning. It is unfortunate that those who would benefit most by spacing their children seem least motivated to accept these services. There has been a small increase in financial support to N.Z.F.P.A. (Inc.).

Infants and Pre-School Children

Supervision of these children by the Plunket and public health nurses has continued this year. Medical examinations by medical officers have shown that ear and respiratory infections are a major concern. Nutrition and feeding problems are still common. One area has set up courses of six weekly talks by Plunket and public health nurses on infant care.

Social and emotional deprivation is becoming more evident which seems to indicate increasing stress in the family unit.

Developmental screening tests performed by the public health nurses are much appreciated by parents.

Child care centres and residential homes for children have been routinely supervised. Departmental officers have been involved in training programmes for assistants in pre-school centres.

A pamphlet on non-accidental injury to children has been distributed to all services concerned with children's welfare.¹

Phenylketonuria

There were 56 471 tests carried out this year and 2 cases of phenylketonuria were identified and 4 other metabolic disorders demonstrated.

Handicapped Children's Register

With the inception of these registers, it is planned to ensure all the handicapped children are under surveillance and that full use is made of all services available. A medical examination of the children on the register by the departmental medical officer at age 4-5 years and consultation with other disciplines will ensure appropriate educational placement.

Schools and classes for handicapped children have been regularly visited by medical officers.

¹The Battered Child: Health Information Series No. 293.

Primary School Children

Public health nurses have regularly visited primary schools and referred children for examination by medical officers when necessary. The numbers of children referred by parents and teachers have increased. Behaviour problems, poor school progress, and ear infections are the major defects referred. Many children still suffer from poor physical health.

Scabies and pediculosis were still prevalent in most areas but with intensive treatment of whole families the incidence should decrease.

Maori and Polynesian Health

Infected ears leading to defective hearing and poor school progress account for the major number of referrals. Language difficulties are common to many Polynesians who have had no pre-school education.

The increase in tuberculosis among Polynesian children is of concern and steps are being taken with the Disease Control Branch to combat this, including more extensive use of B.C.G. vaccination for infants at risk.

Vision and Hearing

An increasing number of pre-school children are being tested by the audiovision testers as they gain greater experience with this group. Unsuitable accommodation for testing does limit the effectiveness of this programme. Infants under 1 year are screened for defects of vision and hearing by Plunket and public health nurses as well as by medical officers. Parents still need to be encouraged to ensure that defects are treated.

Post-primary School

Medical officers have visited schools to complete B.C.G. vaccinations and to examine children in work experience classes. Most other children referred for examination have had behaviour or adolescent problems. Advice on health education programmes and assistance in implementing such programmes has been given where requested by medical officers.

Health Education

Concern is felt by medical officers for the number of young solo parents who lack basic knowledge of child care. Comprehensive health programmes should be developed in schools covering nutrition, hygiene, physical, and emotional care of the young child as well as human development and human relationships. Many young people leaving school are ill prepared for the responsibilities of parenthood. Medical officers have continued to give talks to schools and community groups where requested but a great deal more needs to be done in all schools.

Two senior officers in family health attended a health education planning workshop organised by the Department of Education in Hogben House, Christchurch. Implementation of recommendations from this meeting are supported by the Department of Health.

Health Camps

The rebuilding of the Maunu Camp, Whangarei, was completed this year. There has been no increase in the number of beds available but there are many more applicants, usually more boys than girls. As in previous years children have been admitted with asthma, nutritional problems, ear infections, poor school progress, and emotional problems. There has been an increasing number of behaviour problems but health camps have not the facilities to deal with severe emotional disturbance. Most children have benefited from a short stay, especially those who are under stress at home or in school.

All camps now run staff training programmes for health assistants.

Surveys

Schick Testing

The results showed wide variations from 94 percent immune in the Napier area to 86.3 percent in Christchurch. In all areas the proportion of Maoris found to be non-immune was higher than in Europeans.

Testing in Christchurch was carried out at 15 schools including all 10 intermediate schools. The overall result of 13.7 percent Schick positive was within the accepted figure for a community but varied considerably from school to school, and was disturbingly high in certain areas. A higher than expected proportion of Maoris or part Maoris were found to be non-immune, and there was a substantial association between Schick positivity and large families.

In one area the large majority of those non-immune in 1972 were traced and retested. Of these almost 70 percent were now immune. Further follow up of the remaining 30 percent is being carried out.

Rubella

A sample survey was carried out in Takapuna to find out the state of Rubella vaccination. A questionnaire was sent to all parents of children who commenced school at the age of 5 years in 1974. Of the replies received 25.9 percent of the children had neither been immunised nor had had the disease.

The medical officer (special duties), Auckland, continued to be involved in the health survey of Tokelau Islanders. The "sudden infant death" survey continued during 1975 in the Auckland district.

Medical Officers

Recruitment of medical officers is difficult so many areas are understaffed and two districts are without a medical officer. Concentration of resources has been set in the pre-school field to ensure early detection of defects. Medical officers have given time where possible to seeking children with adolescent problems but more is needed to deal with the increasing number of referrals in this age group.

Much of the medical officers' work is concerned with 10-20 percent of families who seldom visit their own doctors and who for a variety of reasons are not managing very well. Medical officers continue to provide guidance for public health and Plunket nurses in medical aspects of their work and to help with their inservice education.

Eighteen medical officers attended an inservice paediatric refresher course and many attended local post-graduate seminars concerned with facets of their work.

Medical officers have good liaison with other agencies concerned in child care and take part in local community health projects. They also serve on many local committees.

(d) Occupational Health and Toxicology

Environmental Chemistry Laboratory

The laboratory analysed 3622 biological specimens, a reduction of 217 on the previous year. Dust and fumes were measured in 26 factories. All air sampling equipment for occupational health was calibrated and modifications made to improve the accuracy of chromic acid mist detectors.

Surveillance and Monitoring Programmes

Hearing Conservation

An increased awareness in the community of the dangers of excessive noise is reflected in continuing requests for noise surveys in private industry. The implementation of hearing conservation programmes where hazardous noise levels are found is always encouraged and assisted but requires constant effort to be successful. One district reports a gratifying increase in numbers of workers wearing ear protection but a lack of co-operation by the men involved when carrying out audiometry.

The hearing conservation programme in Government institutions continues to operate satisfactorily.

Full use is being made of the department's revised pamphlet *Hearing Conservation* which became available during the year and the availability of a noise dosimeter is of assistance in the programme.

School Dental Service

Early in the year instruments for monitoring mercury levels in air were obtained and inspectors of health instructed in their use. Arrangements were made with hospital laboratories in Auckland, Christchurch, and Dunedin to assist, with the Environmental Chemistry Laboratory, in urinalysis determinations for mercury.

A programme of monitoring the working environment in dental nurses was proceeded with; 1116 clinics were monitored and 913 urine tests performed followed by appropriate action in clinics where the threshold level values for mercury were exceeded and/or the urine tests indicated mercury absorption.

Vinyl Chloride Monomer in PVC Fabricating Plants

Twelve major PVC fabricating plants were studied to determine the atmospheric concentrations of vinyl chloride monomer in the working environment. All levels were below the hazard level of 1 p.p.m. time weighted average.

Arsenic Absorption in Timber Workers

When the urinary arsenic levels in two persons working at a timber treatment plant in the Christchurch district were found to be above the hazard level of 1974 the medical officer of health instituted a survey of

workers in other timber treatment premises. Although not yet completed there have been no other persons with urinary arsenic levels found to be above the hazard level.

Sodium Fluoro Acetate (1080)

Chronic toxicity from 1080 has not been described in the literature but a report was received suggesting that this had occurred in a pest destruction worker handling this material.

With the co-operation of a Pest Destruction Board and the New Zealand Forest Service a small survey sampling workers urine before and after laying bait treated with 1080 showed no evidence of any absorption.

Lead Process Regulations 1950

The number of lead workers under supervision has increased year by year over the last 5 years from 1431 in 1971 to 2043 in 1975. The high rate of suspensions experienced in 1974 (6 percent) has not continued, the rate falling in 1975 to 4 percent which compares favourably with the 5-year average of 4 percent. Public health nurses carry out an important role in this work, the need for which is confirmed by these figures.

The pamphlet *Health Advice for Lead Workers* printed in Cook Island, Maori, Niuean, Samoan, and Tokelauan became available during the year, providing assistance in health education for these ethnic groups.

Electroplating Regulations 1950

The number of men under supervision in the electroplating industry was similar to 1974 and the rate of workers affected shows little change; 5.5 percent in 1974 compared with 5.4 percent in 1975. The high incidence of chrome ulceration in 1974 has not been repeated but this reduction has been offset by an increased incidence in those otherwise affected by plating processes.

Medical, Nursing, and First Aid Services

Services in Private Industrial Undertakings and Government Factories

Over the past 5 years the number of industrial medical officers has increased 62 percent from 64 in 1971 to 104 in 1975; similarly, nurses in industry have increased 34 percent from 120 to 183. During the same period the number of employees in registered factories has increased only 9 percent from 326 501 to 355 284. This is an encouraging trend illustrating the gradual acceptance by industry of the value associated with an industrial medical service.

Table 17 shows the statistics for medical and nursing services in 1975.

Occupational Health Centres and Waterfront Clinics

Table 11 shows the services rendered by these centres and clinics. The total attendances show a decrease of 852 (1.6 percent) on last year. This is the first time there has been a decrease for a number of years; the reason for this is not clear but could be related to greater activity in the provision of private services, and changes in handling procedures on the waterfront.

Progress has been made in providing for additional services in new areas, sites having been procured for centres in Wiri in South Auckland and Wairau Valley in Takapuna.

The centre on the wharf at Mt. Maunganui had to be moved to temporary premises due to port development. Planning is proceeding for a new centre.

Occupational Health in Hospitals

An occupational health service is now operating successfully in Gisborne where over 600 contacts have been made with employees for medical or social reasons from a hospital staff of approximately 700.

In Auckland progress has been halted due to lack of finance.

Occupational Health Nursing

Departmental nursing personnel maintain close liaison with nurses in private industry providing support and assistance where possible. A seminar in Auckland organised by the occupational health nurses group was attended by departmental nurses and a study day organised by the department was attended by 11 nurses employed by private industry in the Wellington and Lower Hutt areas.

Medical Examination of Young Workers

The number of young workers examined under the Factories Act 1946 was 1339; 845 males and 494 females. One male was rejected due to a severe hearing defect.

Occupational Diseases

Notifications are reduced in all categories of occupational disease listed in table 15 except those due to physical agents which are raised from 18 in 1974 to 19 in 1975.

Skin diseases continue to comprise the major portion of those not due to infectious agents. There was a reduction of 84 from 278 in 1974 to 194 in 1975. This continues a downward trend over the last 5 years from 332 notifications in 1971.

Diseases due to dust fumes and gases fell from 96 to 60, a level comparable with other years in the 5-year period.

Notifications of leptospirosis continue at a high level (420) but brucellosis (62) is the lowest for some years. It is hoped that the downward trend in the incidence of brucellosis will continue as the brucellosis eradication programme concludes.

Toxicology

Advisory Committee on Commercial, Agricultural, and Household Poisons

The Advisory Committee met on three occasions during the year and considered and advised on the scheduling of poisons affecting their availability and on proposed changes in the legislation.

Chemical Spillages

Medical officers of health report that technical liaison committees set up to co-ordinate action in the event of chemical emergencies are

operating satisfactorily. The department is represented on an inter-departmental committee established to consider problems relating to the transport of hazardous substances.

Poisoning Cases

The decrease in poisoning notifications last year has been maintained with a reduction of 213 this year to 6282. Of these 2910 are in the 0 to 5 years age group emphasising the continued need to keep medicines and household chemicals in places inaccessible to toddlers.

(c) Food and Nutrition

(i) Food

Food and Drug Regulations 1973, Amendment No. 2

Amendment No. 2 came into force on 5 March 1976. It incorporated recommendations to the Minister of Health from the Food Standards Committee and the Department of Health. The major amendments included the reduction of the level of nitrite in cured meats, a standard for vegetable wine, improved consumer information on the labelling of non-standard foods, and the updating of the permitted food additives. In addition, a number of requirements of the principal regulations relating to various foods were updated in the light of the latest technological information available. The Food Additives Notice 1975 was incorporated into the amendment.

Food Standards Committee

During the year the Food Standards Committee has continued to receive submissions on food standards from industry and consumers and has submitted its annual report to the Minister of Health.

Progress is being made in the review of the Food and Drug Regulations 1973 in the light of Codex Alimentarius Standards and a report on food labelling and date marking is expected in 1976.

Prosecutions and Seizures

Due to increased surveillance of imported and locally manufactured foods, prosecutions and seizures for the year have increased. There were 79 seizures, with food to the value of \$13,808 being destroyed.

Imported Foods and Food Utensils

Surveillance of imported foods has been increased in an attempt to ensure that food of a satisfactory quality is being brought into the country.

Foods of unsatisfactory bacteriological quality, containing non-permitted additives, misleadingly labelled, and containing gross insect infestations have been encountered. Action has been taken to ensure that such foods are not sold in New Zealand.

Action has also been necessary to prevent the importation of food utensils that have been found to contain excessive quantities of heavy metals in their coatings. With the co-operation of the Customs Department only utensils of certified quality have been accepted.

Inspection of Food Manufacturing Premises and Products Manufactured

Departmental staff have been involved in detailed inspections of food processing methods, food ingredients, the use of food additives, and the labelling of products. This programme has received the co-operation of the food manufacturing industry and has resulted in changes to meet the minimum standards. Experience is showing that this programme is proving to be the best way of providing effective enforcement for the many commodities that are manufactured.

Bacteriological Guidelines for Foods

Since 1973 the department has been developing bacteriological guidelines for the fitness of foods. These have been applied to both locally produced and imported commodities. It is now becoming evident that these guidelines, apart from establishing the acceptability of foods, have highlighted poor handling techniques and physical conditions in factories.

Vinyl Chloride Monomer in Food Packaging

The occurrences of vinyl chloride in PVC food wraps and in foods packaged in PVC have been studied. The levels found have been within the current Department of Health guidelines.

New packaging material now being imported has been monitored. However, no vinyl chloride monomer has been detected at the level of 50 parts per billion.

(ii) Nutrition

The Nutrition Section was involved in service nutrition training of nurses, medical officers and dental nurses. New printed material prepared included a comic on slimming. Staff took part in talk back and other radio programmes, post-graduate lecture courses, and scientific meetings. Main areas of public interest were weight control and infant and child feeding.

In association with the Epidemiology Unit, Wellington Hospital the first stage of a study of food consumption of Tokelauan families living in Taupo, was completed in June 1975. The dietary survey is part of the Tokelau Island migration study which is examining the effects of migration on health. Dietary surveys were made in the Tokelau Islands in 1968 and 1971 and changes in diet are being studied as part of a general assessment of the effect of changes of environment on health.

(f) Public Health Nursing

Nursing staff have been more readily available for public health nursing services this year. This improvement relates to the overall increase in the number of nurses seeking employment and possibly to the greater interest shown in the preventive aspects of health care.

Two registered comprehensive nurses from the first classes to graduate from the technical institute programme are now practising as public health nurses. The Public Service Determination 438 (Nursing Occupational Class) was amended in November 1975 to provide for the appointment as staff nurses, of qualified nurses with less than 1 year's post basic experience.

The number of men in public health nursing has again increased from three to five. These nurses have each received a special orientation programme in maternal and child health nursing, and work well in community health nursing.

Interim reports on the experimental employment of health assistants in the Auckland, South Auckland, and Wellington health districts show that although different patterns of deployment have developed in each district, these staff members are able to undertake many tasks which do not require professional judgment and so conserve the time of health professionals. They are intended to help selected families with communication problems and with other aspects of daily living which affect health in the urban environment.

In most health districts encouraging progress in family health has been made through the work of national and regional co-ordinating committees of the Plunket Society and the Department of Health staff. A working group of the National Co-ordinating Committee has been established to review existing nursing records and statistics. It intends to make recommendations to encourage uniformity and to improve information used as a basis for decisions on the development of maternal and child health services.

Some principal public health nurses have developed a more effective liaison with the chief nurses of hospital boards, with general practitioners, and with the staff of health centres. In Otago two public health nurses are now working from the Mosgiel Health Centre and at South Auckland, four nurses and a senior public health nurse work from the Mangere Health Centre. In Wellington and Lower Hutt respectively one public health nurse is based at Waitangirua and two at Wainuiomata Health Centre. These new developments in the deployment of public health nurses are being evaluated locally.

Staff of the Gisborne Health District have co-operated with the Cook Hospital Board to assist with the development of an occupational health service for the board's staff. This venture is the result of co-operative planning. It could provide a useful pattern particularly for the improvement of the preventive aspects of hospital occupational health services. Several hospital boards have shown interest in improving their current staff health services along the lines outlined in the Board of Health Report, No. 23, *An Improved System of Nursing Services in New Zealand* (1974).

Increased attention given to the supervision of infants and pre-school and school children has highlighted the need for public health nurses to improve their clinical expertise in this area. The short post basic technical institute courses in community health nursing are resulting in improved knowledge and skill in this and other areas of nursing. They are particularly valuable for those who are as yet unable to take advantage of the longer post basic programmes in advanced nursing.

One national conference for principal public health nurses and three regional conferences for principal and supervising public health nurses emphasised the need for co-ordinated health services, improved job satisfaction through staff training, and better overall preparation.

Two principal public health nurses benefited from overseas study through fellowships sponsored respectively by the Nuffield Foundation and the Winston Churchill Memorial Trust. The reports of these

nurses highlighted the need to continue to study and implement many of the recommendations made in the Board of Health Report Series, No. 23, on nursing services.

2. HEALTH EDUCATION

World Health Day

The theme for World Health Day "Smallpox Point of No Return" was highlighted in the *Health Bulletin*. The national programme centred on an exercise involving district health staff in the review of present procedures to be taken in the event of a smallpox case entering this country. All districts alerted proved to be adequately prepared for the exercise.

National and District Programmes

The co-ordinating role of health education officers in the community during 1975 was extensive. More professional people are becoming actively engaged in sharing knowledge and a greater number of community groups are participating in educational programmes.

Successful efforts in Hamilton to form a closer and effective relationship with the Maori community in co-operation with officers of the Department of Maori Affairs were most gratifying. These efforts began with a long period of establishing contacts with community leaders, a study of existing beliefs, and definition of the expressed needs of the people. This work culminated in a special health education programme for young people living in trade trainee hostels. There has since been an increasing involvement in health teaching embracing a wide range of subjects in physical, mental, and social health for many groups within the Maori community.

"Home safety" education which was given special emphasis in a campaign commencing 4 years ago is still very active in all districts. In Nelson there has been community involvement in research pertaining to safe kitchen design.

In Rotorua medical practitioners are participating with the local health education officer in distributing health education literature to patients, and local groups are being encouraged to invite doctors to take part in panel discussions and to give talks on health issues.

Health education officers report that there is an increase of health education in schools. The interest is growing from pre-school to polytechnic level. There is an increase in organised programmes in primary schools, activities in secondary schools, and projects in training colleges. To support the growing requirements necessary to implement health teaching in schools, health educators in the department have participated in formal lecturing and student group discussion, and have supplied resource material and information. Several health education officers are also active members of planning committees for the introduction of health education to the secondary school curriculum.

Health Information

Television advertising has been increased this year as a back up to district programmes and for the first time two subjects have been produced in colour: "Patient Co-operation" and "Venereal Disease". Television is a very expensive but effective medium.

There was an increased number of pamphlets prepared for family health education particularly in the mother and infant care subjects. There continues to be a steadily increasing demand for material for schools and teachers' training colleges, doctors' waiting rooms and schools of nursing.

Training

Students attending the health education diploma course numbered six for district health appointments, one dental health education tutor, and two from Caroline Islands.

General

The printing of the booklet *Plants in New Zealand Poisonous to Man* in colour and now on sale in Government Printing Office bookshops is another first for health education. This is a valuable reference book for parents of young children.

Local programmes have varied according to the needs of the people in districts with requirements for more intensified education and printed information for the Polynesian community becoming evident.

3. DENTAL HEALTH

An international collaborative study of dental manpower systems, instituted by WHO in 1973 included New Zealand as one of six participating countries. The purpose of the study was to assemble data to assist WHO in the preparation of guidelines on the utilisation of resources, for countries seeking advice on the development of dental services. The feature of the New Zealand dental care delivery system which had attracted attention was its combination of school dental service for children, dental benefits for teenagers, and private dental practitioners services for adults. Interest was focussed on the extent to which the readily available, and universally acceptable services for young people, had been of long-term benefit to the dental health status, attitudes, and practices of the adult population. The New Zealand study involved surveys of representative samples of residents in the Canterbury statistical district in the age groups 8-9, 13-14, and 35-44.

Preliminary results of the survey of 13-14 year olds have demonstrated that while the prevalence of dental decay remains at a level that is high by international standards, the existing programmes have brought the dental caries problem under control and have achieved some reductions in caries incidence. Further reductions will require increased emphasis on positive health promotion and preventive therapy as distinct from treatment to repair the consequences of dental disease.

At an early stage of the survey of 35-44 year olds it became apparent that this age group, born in the period 1929-1938 had not received the full benefits of existing programmes for children and teenagers and

therefore did not reflect the effectiveness of services available today. The survey revealed a high number of denture wearers. At the same time it pointed to the need for a comprehensive assessment of the dental health status and the dental service needs of the total adult population.

Dental Division in collaboration with the Dental Unit of the Medical Research Council, the University of Otago Dental School, and the New Zealand Dental Association is planning for a survey of adult dental health in New Zealand in 1976.

The department has also collaborated with the Dental Council of New Zealand in planning a detailed analysis of existing dental manpower resources, to be undertaken as a complementary project.

School Dental Service

Since 1966 Dental Division has been operating within a 10-year programme for development of the School Dental Service to provide a high standard of dental care for all children of pre-school, primary, and intermediate school age. During 1975 a comprehensive review of the total activity was undertaken by the department in conjunction with Treasury and the State Services Commission, in order to establish a firm basis for future planning in terms of personnel training and capital expenditure requirements. In February 1976 Cabinet approved the conclusions arising from the review, as the 10-year planning objectives for the period 1976-77 to 1985-86.

The School Dental Service has aimed to achieve a balanced programme incorporating health education, preventive care, and restorative treatment. As the more urgent needs for treatment have declined emphasis is shifting to the health promotion and disease prevention aspects of the programme.

Principal dental officers in all health districts have reported continuing improvements in the dental health of school children. Improvements are recorded as the number of children with caries free mouths increases and tooth loss rates are reduced. Observations have been consistent with the findings of the WHO survey which revealed that 13-14-year old New Zealand children had experienced a very much lower rate of tooth loss than children from any of the other five countries included in the study. Improvements in dental health have been most marked in areas where water supplies have been fluoridated for periods in excess of 8 years.

School Dental Service Recruitment, Training and Staffing

Over a period of years a consistent pattern of resignations and applications for reappointment to the School Dental Service was established. In 1975 this pattern changed significantly and recruitment was adjusted accordingly. While the number of resignations declined by 25 percent an increase occurred in the number of married women seeking re-employment. Many of the applicants were placed at short notice but in some districts there were no vacancies for women seeking positions at specific locations.

Provision of dental care, through clinics attached to country schools, has been a long standing feature of the school dental programme. Continuation of this service in rural areas is dependent on the availability of trained personnel who are free to move out of urban areas. At

present nearly sixty percent of field staff are married women, mainly urban residents, and a change is occurring in the mobility of the service.

The total number of students in training in the three schools for dental nurses in Auckland, Wellington, and Christchurch is 349. This total includes 24 students from Australia, 4 from Sierra Leone, 2 from the Seychelles, and 1 from the Cook Islands. The number of New Zealand students has declined from 378 in 1975 to 318 in 1976.

During the year 195 students graduated, including 18 from Australia, 2 from Sierra Leone, and 1 from Western Samoa.

Mercury in School Dental Clinics and Health Surveillance

The occupational hazards arising from the use of mercury in dentistry have become better understood in recent years. Maximum safety levels applying in industry have been applied to school dental clinics and a programme for monitoring mercury vapour levels and testing urine samples for mercury content has continued throughout the year.

Mercury vapour levels exceeding the threshold limit values were found in 58 of the 1116 clinics monitored. The levels were quickly reduced by ventilation and decontamination of clinics and supervision of techniques. Regular decontamination procedures were continued in all clinics. Urinalysis for mercury was offered to all staff and during the year 26 school dental nurses were off work for varying periods because their levels exceeded the maximum.

An investigation of closed systems involving the mixing of mercury-alloys in sealed capsules was completed. The introduction of a new technique is being phased in this year as equipment and materials become available. The use of capsules will ensure that the risk of exposure by school dental nurses is well within safety levels.

Dental Benefits for Teenagers

The dental benefits scheme provides regular examinations and treatment for all teenagers between 13 and 16 years of age and for dependants up to 18 years of age. Private dental practitioners contract to provide dental benefit services and almost all dentists engaged in general practice participate in the scheme on a fee-for-item of service basis, either as principals or assistants.

Following agreement by the Government in 1974 to a proposal for regular review of dental benefit fees, the first annual submission by the New Zealand Dental Association sought an increase of 17 percent to be effective from 1 April 1975. The submission was considered in terms of the existing stabilisation of remuneration policy and fees were increased by 10 percent.

The total expenditure of \$4,993,915 represented an average cost of \$14.11 per completed treatment.

20 438 dental clinic patients were enrolled for special dental benefits for treatment which was beyond the scope of the school dental nurse.

Dental Manpower

While the number of dentists in active practice appears adequate to meet current demands for dental services, the movement of young dentists out of New Zealand and the age distribution of dentists remaining

in active practice are matters for concern. During the year under review the number of dentists who left New Zealand exceeded the combined totals of dentists returning from overseas and graduates from the University of Otago who took out practising certificates.

A comprehensive analysis of the Dental Register is planned for 1976.

In submissions to Government on the need for a new Act to govern the practice of dentistry, the New Zealand Dental Association has put forward the concept of trained dental auxiliaries working in a dental team.

A project designed to assess the full potential of auxiliary workers in a dental team has been commenced at the North Canterbury Hospital Board. Two school dental nurses have been attached to the dental department where they will provide a wider range of services, under a more direct form of supervision and guidance, than is available in the School Dental Service field situation.

4. PUBLIC HEALTH SCIENTIFIC SERVICES

(a) National Audiology Centre

Hospital Audiology Clinics

Throughout the year the centre has been actively assisting hospitals in the establishment and maintenance of audiology clinics. This assistance covers all stages of development from the preparation of the first sketch plans for an audiology clinic through to the selection, appointment, and training of staff, the selection, purchase, modification, calibration, and installation of equipment, and the organisation of local services. In addition, established clinics received help to train new staff, make equipment changes, and solve problems that arose. Advice on plans for new clinics was prepared for six hospitals during the year.

There has been some difficulty in recruiting and retaining audiologists during the year, partly because of the lack of an attractive salary scale. Three hospital audiologists resigned during the year, six were appointed, and one hospital which was unsuccessful in appointing a graduate eventually appointed a technician. Four hospital audiologists are attending the Melbourne University post-graduate diploma course in audiology in 1976.

While the standard of New Zealand's audiological services provided by hospitals is improving steadily, it is clear that the achievement of a uniformly high standard of service will take some time.

Special Projects

The audiological section arranged two major projects during the year. A one-day management seminar on hearing conservation was held at Auckland University for employers in noisy industries. The course, though well attended, tended to attract safety and personnel officers rather than senior management staff.

The centre's audiologists presented the programme at the 1975 New Zealand Otolaryngological Society Conference which was devoted entirely to audiology. The programme included papers on paediatric

and diagnostic audiology, videotapes of child testing techniques, a closed circuit television demonstration of hearing aid fitting with impedance audiometry, and workshop sessions on audiometric masking, speech audiometry, and impedance audiometry. In conjunction with the conference, the centre arranged a visit to New Zealand by Mr John Macrae, Research Audiologist at the National Acoustic Laboratories in Australia, who spent some of his time at the centre and lectured at the Otolaryngological Conference on the assessment of hearing handicap for compensation purposes.

In addition to these projects, the centre provided advice, equipment, and training for impedance audiometry screening in Northland carried out in conjunction with the Deafness Research Foundation caravan treatment programme there.

The centre's staff also assisted in an evaluation of evoked response audiometry.

Equipment for Deaf Education

Two current trends in the area of deaf education equipment are notable. Recent Australian research has shown that body-worn hearing aids amplify high frequencies less effectively than electroacoustic measurements suggest. At the same time the development of high-powered ear-level aids has progressed and the use of such aids in trials abroad has resulted in an improvement in the children's speech. As a result of these findings the National Audiology Centre has promoted the fitting of recent model high-powered ear-level hearing aids to deaf children in New Zealand. The disadvantage of such aids is their increased susceptibility to acoustic feedback. The solution to this problem lies in improved earmould technology and since commercial firms in New Zealand have shown no interest in developing their earmoulds the centre has purchased earmould laboratory equipment in order to experiment with new materials and manufacturing techniques.

The other major trend in deaf education equipment is towards f.m. (radio transmission) equipment. The centre has been obtaining data and samples of equipment from around the world for evaluation in order to recommend suitable equipment for schools for the deaf and the Homai Deaf-Blind Unit.

Schools for the Deaf

An open day for audiologists was held at Kelston School for the Deaf and a week long workshop involving audiologists was held at Sumner School for the Deaf, with the intention of improving co-ordination between advisers on deaf children and hospital staff. The centre's staff participated in both.

Training

Training has become a major function of the audiology section of the centre. During the year courses and lectures taken by staff included two 3-week hospital audiometry courses, a hearing conservation course, an audiovision testers' course, lectures to trainee advisers on deaf children, trainee nurses, Plunket nurses, stage III psychology students, and general practitioners. The audiology section participated in conducting

nine Departments of Health and Labour inspectors' courses. Audiologists were given training preparatory to attending the Melbourne course. Individual instruction was also given to newly appointed audio-vision testers, to an audiologist who was coached for the Melbourne University diploma examination, and to an otologist in impedance audiometry. The Whangarei audiovision tester was trained in impedance audiometry.

Advice and training was also given to general practitioners setting up hearing screening facilities in their practices. This increased interest by general practitioners in hearing services, particularly in the early detection of congenital deafness, is a welcome trend. Part of the interest shown by general practitioners resulted from an address given by the senior audiologist to a post-graduate seminar on otolaryngology and ophthalmology at Palmerston North.

Staff

The audiological staff was reduced to two with the resignation of an assistant audiologist in April.

One of the audiologists visited the United States in January and February 1976, and spent 3 weeks at the Texas Medical Centre working with Professor James Jerger who is well known for his research into diagnostic techniques in audiology. Much valuable experience was gained, particularly in the field of diagnosis of lesions involving the central auditory system.

Engineering Section

The routine work of calibration and maintenance continued but at a slightly increased level.

Delay in the delivery of a new precision analyser meant that the design of the new screening audiometer has been put back 6 months or so, but the prototypes should be ready in the middle of this year. This will mean that the older screening audiometers used by the department will soon be replaced.

Occupational Noise

Occupational health training programmes have now been extended to include occupational health nurses, safety officers, and management staff from industry generally, and plans are afoot to run courses for commercial enterprises selling audiological or hearing conservation equipment so that they may be better able to service the demands of industry.

A survey of selected industries is being carried out using dosimeters to quantify noise dosage on personnel likely to be subject to varying exposures. Construction sites, ships, and the timber industry are three areas at present being surveyed, and the New Zealand Forest Service is carrying out a parallel survey, especially on their mobile plant.

The problems of impulsive noise continues to concern us, and there is now no doubt that this is becoming the one single area in occupational health to which more attention should be paid. There are not yet dosimeters capable of accurately assessing impulse noise so that the services this centre can offer in instrumentation analysis of this kind of noise have become especially valuable to industry.

Environmental Noise

In the field of environmental noise control and similar community problems, considerable effort has been expended with worthwhile results.

Some eight surveys for local authorities are currently under way with a view to providing local authorities with a basis for noise zoning in their review of district schemes. Staff have acted successfully as technical witnesses in the Magistrate's Court and before the Town and Country Appeal Board. It is felt that the appeal board particularly is a very practical forum in which the department is able to advance its noise control programme.

The continued pressure for environmental surveys has resulted in the need for unattended equipment able to be left in the field. A remote monitoring set has been designed in the centre and construction of a prototype is almost completed. This design work is being done in parallel with analysis equipment needed for real time analysis of occupational and impulse noise, and when completed will allow for a far more efficient handling of all noise analysis undertaken.

It is hoped that early in 1977 this equipment will be available to assist local authorities to conduct surveys as an aid to noise zoning in urban planning.

Future Plans

During the year a senior scientific officer from the centre visited the National Acoustics Laboratory in Sydney and attended the Conference of the Institution of Radio and Electronic Engineers (Australia). The information and technical contacts resulting from this visit have been of great value in planning for the future services of the Engineering Section to be housed in the new building at Remuera.

To provide for better and more efficient handling of calibration and survey work in the South Island, it is proposed during the coming year to set up a sub-office in Christchurch staffed initially by an engineer from the centre. This will allow for a prompt calibration and maintenance service of audiometers, sound level meters, and similar equipment, especially for hospitals and the School for Deaf at Sumner, and also will allow for greater attention to be paid to the noise problems of industry in the South Island, and for environmental noise surveys and similar requests from local authorities to be dealt with on a regional basis.

Overseas Visitors

Mr F. Pfaffman of General-Radio and Grason-Stadler in the United States.

Mr A. Morris, British Parliamentary Under-Secretary for the Disabled.

Mr John Macrae, Research Audiologist, N.A.L., Sydney.

Miss J. Steevens, Public Health Nurse, Singapore.

Dr L. C. Young, Hong Kong.

Mr John Davey, C.S.I.R.O., Melbourne.

Mr B. Skov, Denmark.

Mr Norman Alexander and Miss D. Watt, representatives International Sound Foundation Society, Canada.

Dr Darcy Dale, Senior Lecturer in Education of the Deaf, University of London.

National Audiology Centre, Auckland
 Statistics—12 Months Ended 31 December 1975

	Initial	Revision	Total
Otological Examinations—			
Audiology Centre	49	37	86
Kelston School for Deaf ..	13	276	289
Sumner School for Deaf ..	92	117	209
Homai College Deaf-Blind Unit ..		4	4
	154	434	588
Hearing Tests—			
Normal Hearing	275	43	318
Mild Loss	272	25	297
Moderate	73	13	86
Severe	44	4	48
Inconclusive	32	7	39
	696	92	788

Hearing Tests for Babies

	Doubtful (for recall)	Passed	Total
National Womens "at risk"	18	216	234
St. Helens "at risk"	4	142	146
Doctors and Plunket referrals	1	54	55

Revision

	Normal	Mild	Moderate	Severe	Incon- clusive	
National Womens ..	22	7	1	..	10	40
St. Helens ..	5	2			7	14
Doctors and Plunket refer- rals ..	8	7	3	1	13	32
	35	16	4	1	30	521

Adult Assessments	139
Referred to Advisers on Deaf Children	16
Advisers on Deaf Children held clinics at the centre 25 times	

(b) National Health Institute

Introduction

The demand for public health laboratory services continues to increase particularly as both local and overseas requirements of microbiological quality are promulgated. All branches and sections of the National Health Institute report increased laboratory workloads during 1975. The availability of locally trained graduates continues to improve the staffing situation.

A further meeting of medical microbiologists was held at the institute and useful suggestions were put forward particularly on the rational use of laboratory facilities.

Expansion of the institute during the previous 2 years has resulted in an increasing pressure on available laboratories. Urgent expansion will be necessary in the immediate future to cope with these demands.

Staff and Training

Senior staff attended and presented papers at a number of scientific meetings and conferences in New Zealand. A senior scientist from the institute visited the National Biological Standards Laboratory in Canberra, Australia, to review methods of sterility testing and analysis of antibiotics for biological potency. A new laboratory to analyse these products is being organised at the institute. The officer in charge of the Serology Section (in receipt of an Alex Harvey Industries fellowship through the Vocational Training Council) visited venereal disease laboratories in the United States, United Kingdom, Denmark, and Australia preparatory to the institute assuming the position as venereal disease reference centre for laboratory examinations.

Two courses on enteric microbiology have been held at the institute for laboratory technicians from hospitals and other laboratories. There is a demand for this type of continuing education and future courses are planned for 1976. WHO fellows from Western Samoa, the Solomon Islands and the Philippines also spent periods of training at the institute. Staff of the institute also assisted with organisation and teaching of a course on *Salmonella* methodology at Lincoln College. This course was primarily for persons involved in the food industry and departmental certification. A 1-day seminar on virology in conjunction with the visit of Professor Grist from Scotland was also organised by the institute.

Lectures and Publications

Two regular publications from the institute have been commenced. *Laboratory Services Notes* are distributed to all pathologists and laboratories with details of recommended methods, which are both accurate and consistent with modern techniques. A bi-monthly *Microbiology Newsletter* has also been distributed with current information on micro-organisms of public health significance isolated from food and environmental samples.

Lectures have been given by senior staff to students at the Veterinary School, Massey University; the Department of Preventive and Social Medicine, Otago University Medical School; the School for Advanced Nursing Studies; to members of the Institute of Food Technology and to students of the Wellington Polytechnic. Papers were presented by staff members at the Food Science and Technology Conference, New Zealand Microbiological Society Conference, and the NZIMLT Conference.

Epidemiology Branch

The resignation of the medical epidemiologist at the beginning of the year limited the activities of this section. The notifiable diseases and salmonella registers were continued and staff assisted with programming and recording of two field surveys to investigate meningococcal, diphtheria, and streptococcal carrier rates. A follow up survey of possible hypertensives and controls was conducted in Napier in September.

Surveillance of Sterilisers and Sterilisation Programmes

A wide range of sterilisers in use by hospitals, universities, technical institutes, and pharmaceutical manufacturers have been examined and

tested. Defects were noted in 68 percent of the equipment which emphasises the need for the continued training of inexperienced staff to alert them to the development of these faults.

The standard of locally manufactured sterilisers has continued to improve and advice has been given on improvements.

Ethylene oxide sterilisers have been found to be unpredictable and so far only one machine out of six major units was within specification at the time of testing.

Laminar flow cabinets for product protection and Biohazard cabinets for operator protection are being increasingly used both in laboratories and by manufacturers of biological materials. A number of these units have been found to be operating at less than desirable efficiency. Calibration and testing has been undertaken by institute staff.

The demand for services by the steriliser testing unit has continued to increase over the last 10 years and inquiries for practical assistance and educational materials have been received from authorities in the United States, England, and Australia. With an increase in staff, the unit plans to enlarge its educational programme by conducting seminars for both hospital maintenance staff and other technical staff at hospitals within New Zealand.

Virology Branch

The problems of providing an adequate viral diagnostic service to hospitals and medical practitioners has been highlighted in a recent Medical Research Council publication.¹ A meeting is scheduled to be held at the institute in 1976 to make long-term proposals for a more extensive coverage of the country and also to rationalise viral reference services.

Virus Diagnostic Section

The range and number of examinations carried out in 1975 continued to increase. A total of 3793 serum samples and 692 other specimens were examined for evidence of viral infection or attempted viral isolation. Six percent of sera showed evidence of identifiable viral infections, e.g., cytomegalovirus, herpes, influenza, mumps, morbilli, psittacosis, and Cocksackie B. Sixteen percent of clinical specimens examined yielded viruses such as herpes, enteroviruses, influenza, and vaccinia.

An influenza surveillance programme was initiated in collaboration with medical officers of the Student Health Service at Victoria University, Wellington. Sera and throat swabs were examined and both influenza A and B viruses were isolated.

Following the initiation of the above surveillance programme in July, widespread outbreaks of influenza A and B occurred in the community. Samples were received from New Plymouth, Tauranga, Hamilton, Whakatane, and Palmerston North as well as local medical practitioners, and nurses, homes in the Wellington area. A total of 26 influenza virus isolates were made (21 B, 5 A) and a further 103 patients showed seroconversion (63 to influenza A, 40 to influenza B).

¹ Medical Research in New Zealand (1975). Special Report Series No. 4: Medical Research Council of New Zealand.

A total of 234 sera from new born infants were examined for evidence of both viral infections and congenital toxoplasmosis. The immune status of 1667 patients to rubella was measured; 64 percent had antibodies present and thus 36 percent were considered susceptible to infection.

Virus Special Projects Unit

A large number of faecal specimens and throat swabs were examined for viruses, in conjunction with a study of rheumatic fever in the Wairoa district. Although a number of viruses were recovered it was not possible to relate these to any cardiomyopathy.

A study of 590 sera for evidence of antibodies to Cocksackie A7, revealed that approximately 90 percent possessed antibodies. Although this virus has the propensity to cause severe paralysis, only one isolate appears to have been in New Zealand so far.

Preliminary results suggest the opossum may be a very useful experimental animal for influenza and also as a source of antisera.

Collaborative studies with DSIR have continued on the use of Sarcoma 180 in mice.

Microbiology Branch

Hospital Cross Infection Section

Following a review of requests for phage-typing of *Staphylococcus aureus* the number examined at the institute dropped to 2108 in 1975. Phage-typing of *Salmonella typhimurium*, one of the more significant causes of food poisoning in New Zealand was also instituted in 1975. Preliminary results indicate geographical differences in phage types which may be of considerable significance in the investigation of salmonellosis. A small outbreak of salmonellosis occurred in a hospital but whether this was of food borne origin or spread from person to person was not determined.

Outbreaks of *Klebsiella* infection were investigated in two hospitals. Several infants died in one outbreak and it was found that a very high percentage of the bacteria isolated were resistant to the antibiotic Kanamycin. Following discontinuation of this drug the number of resistant strains dropped markedly.

A Nosocomial infection advisory committee was formed during the year with representatives from the Hospitals and Nursing Divisions as well as from the institute. Staff from the National Health Institute have visited several major hospitals to observe variations in methods used for the disinfection of equipment.

Reference Bacteriology and Development Section

An increased number of bacterial cultures (3642) was referred to this section from hospital and other laboratories in New Zealand. A feature of many of these micro-organisms is that they appear to be of clinical significance and also pose considerably greater problems in speciation. Regular exchange of bacteria with overseas reference centres is maintained to ensure conformity in taxonomy.

Approximately 900 *Salmonella* cultures were referred in 1975, with *S. typhimurium* continuing to be the predominant serotype. Two large outbreaks of salmonellosis were documented. In one outbreak chicken contaminated with *S. newington* was the causative food while in the other instance the evidence strongly suggested a cooked meat contaminated with *S. anatum*. Five new *Salmonella* serotypes and two unusual *Shigella* cultures were identified during the year. All of these were from patients who had recently returned from overseas. It is perhaps significant that these new strains do not appear to have become established in the community.

Several community surveys were conducted during the year to establish carriage rates of *Neisseria meningitidis* (meningococci) and *Corynebacteria diphtheriae* (diphtheria).

The section continued to participate in the proficiency testing programme organised by the United States Public Health Service, and an additional staff member has been engaged to organise a similar programme within New Zealand.

In addition to the two courses previously referred to, eight technologists visited this section for varying periods.

National Health Institute Type Culture Collection

During 1975, 283 cultures were checked and freeze dried. The type culture collection was further enlarged with cultures of topical interest and strains for preparing antisera and for bacterial typing systems. Five hundred and forty-eight freeze dried cultures were distributed to laboratories and teaching institutions representing a 100 percent increase over 1974 requests. In view of the potential hazard of the use of some micro-organisms, draft guidelines were prepared in conjunction with the Ministry of Agriculture and Fisheries staff for curators of culture collections in New Zealand.

Serology Section

During 1975, 7225 serum samples were examined for the presence of antibodies to a range of infective agents. This represents approximately a 10 percent increase over 1974 figures. More requests are being received for unusual serological examinations especially in New Zealand residents returning from overseas travel. Further collections were made to the National Serum Bank from residents of Christchurch.

Mycology Reference Section

This section has now been established for 1 year and appears to be fulfilling a definite need for both hospital and private medical laboratories. One thousand two hundred and sixty examinations were carried out during 1975, including 275 fungal cultures referred for identification or confirmation. Among the more unusual cultures were *Schizophyllum commune*, *Fonsecaea pedrosoi*, and a red variant of *Epidermophyton floccosum* from patients. Several projects were initiated including a survey of oral myco-flora of asthma patients. Nine visiting technologists spent varying periods in this section. The senior mycologist visited 23 other laboratories to advise on techniques and several lectures and scientific papers were presented.

Streptococcal Reference Section

This section was established during the year to investigate streptococcal infections and in particular to investigate the bacteriological aspects of rheumatic fever. Close collaborative studies were commenced with the Wellington Hospital Epidemiology Unit. A prospective study of group A streptococcal throat carriage was initiated in the Wairoa area. Approximately 14 percent of college students were shown to be carriers.

Reference strains of *Streptococci* were obtained from overseas and antisera are currently being prepared at the institute. These studies will assist in identification of strains which are the causative agents of rheumatic fever in New Zealand.

Further work was carried out on the typing of group B *Streptococci* from women and new born infants. Results showed that in New Zealand type 1a, 1c, and III appear to predominate. A collaborative study on these infections was initiated with the National Women's Hospital, Auckland.

Research Section

Immunological studies of leptospirosis have continued in collaboration with the Microbiology Department at Monash University, Victoria, Australia. An initial human volunteer trial was carried out at Monash University and sera from this trial were assayed at the institute for their protective ability in hamsters.

A new screening test for leptospirosis was developed suitable for use in smaller laboratories particularly in rural areas.

A contract with the Zoology Department, Victoria University, Wellington, on leptospiral infections in non-domestic animals was concluded. Results showed that *Leptospira hardjo* infections were widespread in opossums, but that *Leptospira pomona* did not appear to have a significant reservoir in wild animals.

Biological Products Section

Surveillance of antimicrobial sensitivity of micro-organisms of public health significance continued. A decrease in the number of *Shigellas* resistant to one or more antibiotics was noted. An increase in the number of *Salmonellas* resistant was noted especially of serotypes other than *Salmonella typhimurium*.

Two isolates of *Staphylococcus aureus* were found to be resistant to methicillin. No evidence of sulphonamide resistance to *Neisseria meningitidis* was detected.

Several investigations into sterility problems in commercial products were investigated in conjunction with Clinical Services Division during the year.

Amoebic Research

During 1975 a contract was established with the Department of Microbiology and Genetics at Massey University, Palmerston North, to carry out further investigations into the ecology and ways of controlling the amoeba (*Naegleria fowleri*) causing fatal meningitis in man.

Animal Breeding Station

Considerable modifications and alterations were carried out to the facilities. Approximately 23 500 animals were supplied to the institute for experimental purposes, and also to other teaching and departmental research institutions.

Other Reference Laboratories

Syphilis Serology Reference Laboratory, Auckland

The Auckland Laboratory continued to operate a reference service in 1975. The number of tests have steadily increased as over past years. There were 4576 FTA tests performed. Approximately half of these were specifically requested and nearly 60 percent originated in the Auckland area. With the development in the National Health Institute of a special serology section, the Auckland Laboratory continues to operate as a Regional Reference Laboratory and proficiency testing is undertaken by NHI.

The Tuberculosis Reference Laboratory

The Tuberculosis Reference Laboratory in Greenlane Hospital examined 11 619 specimens for the year ending 31 December 1974. Two hundred and twenty-three of these specimens were referred from other laboratories. The mean percentage of culture positive specimens was 7.9 percent and 289 patients were involved altogether.

During the year a reference laboratory for mycobacteria other than human tuberculi was established at the Animal Health Reference Laboratory of the Ministry of Agriculture and Fisheries at Wallaceville. *M. tuberculosis* will continue to be referred to Greenlane Hospital.

Environmental Chemistry Branch

Requests for laboratory analysis of biological specimens for metals and pesticides continue to occupy a large proportion of the workload. A total of 3116 specimens were received and in addition dust and fumes were measured in 26 factories.

Specific Projects

Dental Nurse Mercury Levels

A survey of mercury exposure of dental nurses in the Wellington area was expanded to include 800 nurses in central New Zealand. The level of absorption of mercury vapour has decreased markedly following adoption of preventive measures resulting from the initial survey.

Vinyl Chloride Fumes in the PVC Industry

Twelve major PVC fabricating plants were studied to determine the atmospheric concentration of vinyl chloride monomer in the working environment. All levels were below acceptable hazard levels, i.e., 1 ppm time weighted average.

Lead in Soil

One hundred and forty-eight soil samples from domestic properties in the older Wellington suburbs yielded surprisingly high lead concentrations. Similar overseas studies have shown that infants ingesting such soil are at risk. Further studies are planned on protoporphyrin levels in young children in areas of high soil lead content.

Calibration of Occupational Health Field Equipment

All air sampling equipment for occupational health was withdrawn for recalibration. Modifications were made to improve the accuracy of chromic acid mist detectors.

Public Health Laboratory Branch

The Central Public Health Laboratory has become a national reference centre of some importance and it is pleasing to note an increase in the number of district health offices referring work to the laboratory or one of the peripheral laboratories.

The Wellington laboratory analysed 4227 specimens mostly local as well as imported foods and also those associated with food poisoning. Prominent among the imported products were seafoods, the microbiological quality of which at times has given cause for concern. In a few instances shipments have been rejected on this basis.

In-flight meals from Air New Zealand continue to be monitored on a regular basis with satisfactory results.

The Dunedin Public Health Laboratory at the Wakari Hospital renders a very useful service to the health districts in the southern area of the South Island. Further laboratories are planned for Auckland and Christchurch.

Water samples were checked for faecal coliform levels in the Pauatahanui area as part of an inter-departmental environmental research committees project (PERC).

During 1975 five surveys of shellfish growing waters were examined for compliance with bacteriological standards.

Publications

Robinson, R. A. (1976). *Antibiotic Resistance of Shigellas in New Zealand*. N.Z. Med. J., 83 (557): 81-82.

Cornere, B. M. and Cawley, P. F. M. (1976). *Vibrio parahaemolyticus*—food poisoning—case report. N.Z. Med. J., 83 (559): 155-6.

Brockie, R. E. (1975). *Isolation of Leptospira hardjo from the Possum Trichosurus Vulpecula*. N.Z. Vet. J., 23 (9): 216.

Woodgyuer, A. J. (1976). *A Survey of Pasteurella Multocida in the oral cavities of cats*. N.Z. J. Med. Lab. Technol., 30: 6.

Rush-Munro, F. M. (1976). *Spores VI: A Review*. N.Z. J. Med. Lab. Technol., 30-31.

Miscellaneous publications included:

Robinson, R. A. (1975). *Microbiological diagnosis of Salmonella*. Diagnosis: 10 Technical Circular Animal Health Labs. Ministry Ag. and Fish., An. Health Division.

Harding, S. M. and Cooper, E. (1975). *Guidelines for the use of Chemical Disinfectants*. Information Pamphlet.

(c) National Radiation Laboratory*

Occupational Monitoring

At 31 December 1975 the laboratory was providing monitoring films to 875 New Zealand and 57 Asian and Pacific establishments. A total of 3940 persons (220 overseas) were being monitored. During 1975 doses

* A more detailed report for the year 1975, incorporating fuller technical information together with statistical data is available from the National Radiation Laboratory, P.O. Box 25-099, Christchurch.

were assessed for 20 047 films and a new explanatory brochure on the film badge service was produced in conjunction with a new radiation dose report form.

Environmental Radioactivity

The results of routine measurements of long-lived fission products and natural radioactivity, largely for the New Zealand area, were published.¹ France concluded her atmospheric nuclear weapons testing in 1974 and started underground tests in 1975. The laboratory consequently reorganised its monitoring service for the Pacific Island area. From June air and rainwater monitoring has been conducted continuously at Rarotonga, Aitutaki, Western Samoa, Tonga, and Fiji. Daily gamma radiation monitoring is also conducted at Penrhyn. The purpose of this continuous monitoring in the Pacific area is to detect any venting of fission products from underground tests.

In early 1975 short-lived contamination of air and rainwater, which was still detectable following the 1974 atmospheric tests, decreased gradually until, at mid year and thereafter, levels were at or below the minimum detectable both in New Zealand and the Pacific area. No increase following reported underground tests has been detected.

The levels of long-lived strontium-90 in rain and also in milk (including caesium-137) continued to remain at the very low values which had been measured in the previous 2 years. The programme of measuring radionuclides in the 118 human bone samples obtained since 1961 concluded. Results show that the average long-term dose to bone from strontium-90 is less than 2 percent of that from the "average" natural radiation environment, and that naturally-occurring bone-seeking radium-226 and lead-210, also measured in these samples, gives a dose about 12 times greater than strontium-90.

Further environmental surveys are continuing, particularly on New Zealand soils. The soil surveys include depth of penetration of strontium-90 and caesium-137, measurements of natural radioactivity, calculations and measurements of dose rates from terrestrial radiation. These studies have often required the development of suitable radiochemical and gamma spectroscopic procedures. Published work has included the results of a lead-210 soil profile study,² the development of simple analytical procedures for determining uranium in soils³ and a study of the energy loss of beta particles on scattering.⁴ The Environmental Section also collaborates internationally on measuring intercomparison samples and on testing proposed new measurement procedures.

Radiotherapy and Nuclear Medicine

Three radiation surveys were carried out in new or reconstructed buildings in conjunction with routine dosimeter intercomparison and machine calibration visits to hospitals and private practitioners using

¹ Environmental Radioactivity, Annual Report 1974, NRL-F/54, issued June 1975.

² Profiles of Lead-210 and Radium-226 in Four New Zealand Soils: T. Baltakmens, *N.Z. Journal of Science*, 1974, 4, 435.

³ Simple Method for the Determination of Uranium in Soils by Two Stage Ion Exchange: T. Baltakmens, *Analytical Chemistry*, 1975, 47, 1147.

⁴ Energy Loss of Beta Particles on Scattering: T. Baltakmens, *Nuclear Instruments and Methods* 1975, 125, 169.

X-ray equipment for superficial therapy. Calculations were performed of barrier thicknesses required in three major hospital radiotherapy departments including a cobalt suite of a hospital in Thailand. A survey was commenced of radiation doses received by persons undergoing radiation external beam therapy. From the data obtained a calculation will be made of the genetically significant dose to the population from radiation therapy thus complementing earlier laboratory surveys in diagnostic radiology and nuclear medicine. A paper describing an earlier survey of radiopharmaceutical use in New Zealand medical practice has been published¹ and papers on other dosimetric studies in nuclear medicine have also been published.^{2, 3}

A laboratory report⁴ has been prepared on the construction and operation of a prototype aluminium calorimeter which was built to assess the difficulties in construction, stability, and potential accuracy and the precision of absorbed dose measurement of an instrument of this type.

Non-ionising Radiations

The safety of lasers used in surveying equipment and in the construction industry was investigated, and recommendations were made to a number of users. Several inquiries about possible hazards associated with ultra-violet and microwave radiations were received.

A device was constructed for the measurement in water of absorbed microwave radiation energy, and this is being evaluated. Commercial instruments are available for power density measurement in air but because of the complexity of the distribution of absorbed energy within objects such as the human body, and the fact that the measuring instrument may itself perturb the radiation field, it is difficult to relate measurements obtained with such instruments to potential biological effects.

Radiation Protection in Diagnostic X-ray Installations

The numbers of architects' plans of new or modified X-ray departments submitted for the specification of lead and other shieldings increased to five major hospitals (including one in Western Samoa) and nine other installations in smaller hospitals and clinics.

In the regular programme of radiation protection survey visits, the number of X-ray machines worked on rose slightly from 360 in 1974 to 382 in 1975. Following particular attention in 1974 to patient dose assessments in chiropractic and dental radiography, emphasis shifted in 1975 to medical fluoroscopy and veterinary installations.

¹ Unsealed Radioactive Materials in Medical Practice in New Zealand: A. C. McEwan, *N.Z. Medical Journal*, 1975, 82, 163.

² Radiation Dosimetry of Yb-169 DTPA in Cisternography: A. C. McEwan, *Australasian Radiology*, 1975, 19, 8.

³ Patient Radiation Doses from Radiopharmaceuticals: A. C. McEwan, *Australasian Radiology*, 1975, 19, 72.

⁴ Evaluation of a Prototype Calorimeter: A. C. McEwan, NRL Report 1975/2.

In major hospitals, modern image-intensification fluoroscopy predominates, and the older direct-viewing fluoroscopy machines are mainly to be found in smaller and provincial hospitals, and private hospitals. As was expected, protection faults involving possible primary beam exposure of the fluoroscopist were more often found in direct viewing fluoroscopy. However, exposure rates to the patient were in excess of the recognised guideline in only a few cases with direct-viewing fluoroscopy. With automatic brightness control on many image intensifier units, exposure rates to patients can vary over a wide range. None were, however, found excessive.

In veterinary X-ray installations the few protection faults involving shielding materials or X-ray equipment were of a minor nature. Protection of the operator depended mainly on awareness of the need to take precautions against exposure to the primary beam when animals had to be held in position during exposures.

Patient Doses in Chiropractic Radiography

The survey of patient dosage in chiropractic radiography was concluded and reported.¹ The annual genetic dose to the population of New Zealand from chiropractic radiography was substantially lower of 0.43 mrad per capita in 1974 than in 1963-64 when it was estimated to be 1.8 mrad per capita. The reduction was achieved despite an increase in the number of chiropractic X-ray examinations and has been attributed to widespread use of gonad shielding, particularly for male patients.

Patient Doses in Medical Radiography

A study was commenced of radiation doses to patients undergoing mammography. This examination, for which the radiographic technique is still being influenced by advances in X-ray film and intensifying screen technology, can result in relatively high skin doses to patients. Early measurements in the few installations where these examinations are being routinely conducted showed doses to be moderate.

An additional abdominal section was designed and constructed for the patient-equivalent phantom to simulate conditions for X-ray examinations in pregnancy (and for obese patients). A study of patient doses for these examinations is planned.

Dental Radiography

The survey of safety and accuracy of dental X-ray timers was completed in conjunction with routine field visits. The results confirmed the preliminary findings given in the previous annual report that more than three-quarters of the timers then checked complied with all of the four basic safety criteria. The possibility of serious over-exposure resulting from timer faults is considered remote but at least 10 percent of all timers, mainly older models, had faults requiring correction. Many older timers were inaccurate and it is only because a constant setting is used by dentists for intra-oral

¹ A Survey of Doses to Patients Undergoing Chiropractic X-ray Examinations: P. Watson, B. D. P. Williamson, I. A. Luketina, and D. A. Stockdill, NRL Report, 1975/4.

radiography that consistently satisfactory radiographs are obtained. A paper on this work is in preparation. The results of earlier field survey measurements and of postal monitoring of patient exposure in dental radiography were published.¹

Industrial and Research Applications

Industrial radiography was on a reduced scale during the year. Field visits and monitoring film results indicated that generally, industrial radiography was safely controlled by licensees. In the absence of other proof of their knowledge of radiation safety, licence applicants are required to pass a written examination; 12 out of 14 candidates passed examinations during the year. Potential hazards are being studied in the new use of a pipeline "crawler" for radiography operations in the construction of land and submarine natural gas pipelines. This consists of a battery powered, self propelled X-ray generator which will drive itself through the pipeline to the required position.

Interest in industrial gauging has continued as indicated by a further increase in the number of instruments incorporating sealed radioactive sources for such applications as measuring thickness, density, and moisture content. A feature has been the installation of sophisticated on-line control systems in which variable factors in a manufacturing process are continuously controlled at a preset or optimum value by a computer whose input is the signal from the gauge. Control of the use of radioactive materials in static electricity eliminators has continued. Late in 1974 it was discovered that approximately 100 anti-static brushes each containing 24 microcuries of americium-241 had been imported and sold, mainly to photographic laboratories. Moves were made to trace them and either have them withdrawn from use or have licences issued to control their use. Since a simple investigation demonstrated the ease of removal of uranium from pottery glazing an application for a licence to allow the use of up to 500 kg per year of uranium compounds for this purpose was declined.

In solid state dosimetry, apart from the preparation of a large quantity of calcium sulphate TLD phosphor, the main effort has been devoted to a study of thermally stimulated exo-electron emission (TSEE) dosimetry. Initially it was hoped this technique would offer the possibility of measuring very low dose levels. Problems encountered with equipment led to an improved appreciation of the difficulties involved in detecting low energy electrons. The reliability and reproduceability of the detecting equipment was improved and described in a report.² A programmable temperature controller for TSEE studies was developed and reported.³ A prolonged investigation followed of the TSEE properties of lithium metaborate and lithium tetraborate. It was found that both phosphors have emission curves which are potentially useful for dosimetry but are insufficiently sensitive.

¹ Irradiation Hazards and Safety Standards for Patients in Dental Radiography: B. D. P. Williamson, *N.Z. Dental Journal*, 1975, 71, 129.

² An Electron Detector for TSEE Dosimetry: M. K. Robertson and L. J. Tucker, NRL Report, 1975/1.

³ A Heating Controller for TSEE Dosimetry: D. I. Roy, NRL Report, 1975/3.

A scientist from this section visited Australian health authorities and industrial sites to study in particular industrial applications and solid state dosimetry developments.

Courses

A 3-day instruction course in the safety aspects of industrial radiography was provided for potential licensees, a 1-week course was held for health inspectors and three courses each of 3 days' duration were provided for armed services personnel. Three fire brigade classes have been instructed in radiation hazards in fire fighting.

PART III—BUREAU OF MEDICAL SERVICES AND DRUG CONTROL

Legislation

The most important measure enacted during the year, as far as the Hospitals Division was concerned, was the Hospitals Amendment Act 1975 of 28 May 1975. The Bill, leading to the Act, was introduced into Parliament as a Private Member's Bill by Dr Wall, member for Porirua, and its intention was to limit the carrying out of therapeutic abortions to public hospitals and licensed private hospitals approved by the Director-General of Health for that purpose. Important conditions attached to the granting of such a licence were that any institution so licensed must maintain or use adequate and independent counselling services and provide satisfactory operation and after-care facilities. The onus was placed on the Director-General for ensuring not only that these conditions were fulfilled, but also that all operations authorised to be performed in such an institution are "within the law". Since its enactment five private hospitals have been granted a licence by the Director-General in terms of the Act, but it is now generally conceded that the question of "lawful" abortions is a matter which concerns the Crimes Act rather than the Hospitals Act.

Other legislation enacted during the year included:

Hospitals Amendment Act (No. 2) dealing with the remuneration of members of hospital boards for attending meetings and enabling a revision of the honoraria payable to hospital board chairmen;

The Nurses Amendment Act 1975;

The Pharmacy Amendment Act 1975;

The Misuse of Drugs Act 1975; and

The Social Security Amendment Act (Part II) 1975.

In addition a number of regulations were promulgated including:

Dietitians Regulations 1975;

Food and Drug Regulations 1973, Amendment No. 2;

Obstetric Regulations 1975;

Pharmacy Regulations 1975;

Narcotic Regulations 1966, Amendment No. 5;

Physiotherapy Regulations 1953, Amendment No. 5; and

Poisons Regulations 1964, Amendment No. 11.

1. HOSPITALS

Introduction

There is an increasing awareness by hospital boards of the wider aspects of health care. The emphasis placed on the development of community health care and facilities in the Government's health manifesto, has been reiterated by the Minister to the Hospital Boards Association and its executive. Boards are showing a growing realisation of the need to extend their services outside the institutions under their control, into the community, as an integral part of the services they provide. In the field of community care of the mentally subnormal, a significant step forward was made following joint discussions between the Departments of Health and Social Welfare and the Society for the Intellectually Handicapped. Hospital boards were authorised to build hostels and workshops in approved areas, using funds provided from

Vote: Health, with the society staffing and running the facilities thus provided and the Department of Social Welfare supervising the admission of patients. Although some boards took early and active steps to implement this policy, others were slow to take advantage of the funds available in the department's psychiatric hospital building programme. Details of the progress made to date are included in the section on Mental Health. However, it appears likely that Government will carry out its original intention of stopping the separate funding of psychiatric buildings in 1977, 5 years after the handover of the psychiatric hospitals to hospital boards in 1972. The intention is that after 1 April 1977 boards will have to include psychiatric buildings in their building loan programmes. It would be unfortunate if this results in the provision of such desirable and badly needed facilities being given a low priority by boards. This aspect will have to be closely watched.

The problem of the extent to which highly specialised national or regional units such as cardiac surgical units and facilities for renal dialysis and kidney transplantation, should proliferate, has been the subject of debate during the year by hospital boards concerned and by the department and the Hospitals Advisory Council. These units, expensive to establish, equip and staff, tend to absorb a higher proportion of a board's annual maintenance grant than the number of patients treated would, to some, appear to warrant. A special committee was set up during the year by the Minister, on the recommendation of the Hospitals Advisory Council, to consider the question of renal dialysis and transplantation facilities, and to establish criteria for the admission of patients to hospital and home dialysis programmes. A report is expected about mid 1976. The decision by the previous Government to support a recommendation of the Hospitals Advisory Council that a fourth cardiac surgery unit be established at the Princess Margaret Hospital in Christchurch sparked off a heated country-wide debate. This and the associated questions of a proposed extension to the throughput of patients at the Green Lane Hospital Unit in Auckland, and the future development of a unit at the Waikato Hospital, have led the Minister to convene a special meeting of the Hospitals Advisory Council to consider the whole question of cardiac surgical facilities in New Zealand. The feasibility of special funding of such units has been raised, and will be one of the matters under consideration at the H.A.C. meeting to be held early in April 1976.

Obstetric Services

The special report on the obstetric facilities survey carried out by a subcommittee of the Board of Health Maternity Services Committee, mention of which was made in last year's annual report, has been well received by hospital boards and their staffs. Action has been taken by most boards to implement the recommendations in the report and considerable progress has already been made in many areas. Consultant services to the smaller peripheral units have been developed by a number of boards, and the provision of neonatal intensive care facilities has greatly increased. Circulation of the report has until now been restricted to hospital boards but it is shortly to be printed for wider publication.

The new Obstetric Regulations 1975, drawn up by the Board of Health Maternity Services Committee, were gazetted during the year.

The stricter provisions in them relating to the staffing of maternity units have led to adverse criticism from hospital boards. It is their view that the separate staffing provisions laid down, spell the death knell of the small combined general and maternity community hospitals which are maintained in rural areas by many boards, under general practitioner supervision. The authority which was contained in the previous regulations, for the Director-General, under certain conditions, to relax the strict staffing provisions in combined hospitals, was removed in the new regulations and the question of whether or not it should be restored is currently under consideration by the Board of Health Committee.

Health Centres

The Wainuiomata Health Centre was opened in November 1975 and the purchase of Otumoetai Medical Centre in Tauranga during the year brought the number of operating health centres to six. It is of interest to note that at Waitangirua (Porirua) and Wainuiomata centres there are respectively three and two practitioners who were not in practice in these areas before a commitment to build a health centre was made.

The cost of establishing and operating health centres has been of some concern to the department. A number of difficulties have arisen between tenants on the one hand and hospital boards and the department on the other in regard to rental, staffing, and equipment. It is now considered necessary not only to iron out these problems but to try to evaluate the benefits of health centres in terms of primary health care. To this end, the Minister of Health has approved the appointment of a Health Centre Advisory Committee with wide terms of reference to report on the establishment and operation of these centres. The committee will be chaired by the Deputy Director-General of Health and will comprise nominees of the Hospital Boards Association, Nurses Association, Medical Association, and College of General Practitioners, and departmental officers.

Until this committee has reported, only committed projects will proceed beyond the planning stage.

Design and Evaluation Unit

The position of principal medical officer in charge of this unit is still vacant. Nevertheless its work has continued, mainly on the requirements for accommodation for geriatric patients. This has been a complex task owing to the large variety of facilities which have had to be studied in depth, the differing ideals of medical, nursing, and other staff and the relative paucity of information from overseas. It has been necessary to carry out many detailed observations to support the guidelines for planning. The second part of this study "Toilet Facilities for Geriatric Patients" is in the hands of the printer. It is hoped to publish the remainder of the study during the next financial year. In the meantime the unit has built up a comprehensive knowledge of accommodation requirements in this field which is proving of great help to the Architectural Section and to hospital boards.

A number of minor investigations have been carried out, some are new, e.g., a study of the Ganymede system of food service, which is not yet complete, while others were designed to test, in recently completed projects, conclusions previously reached and published.

Medical Staffing

The improvement in medical staffing over recent years has been maintained and the degree to which doctors arriving in New Zealand outnumber those leaving has steadily increased.

During the year, following considerable agitation from resident medical officers for improved working conditions and greater compensation for hours worked and periods on call, it was decided by Government to establish an Advisory Committee to report to the Minister of Health. The committee was convened in January and has met regularly since that date.

It has been given a wide ranging order of reference covering not only employment conditions of resident medical officers but also all aspects of their education, training, and involvement in hospital work.

It is hoped that this committee on which resident staff are fully represented will provide for the better utilisation of their services, not only for their own benefit but also for that of their employing board.

A further step in providing better avenues of communication between resident staff and management has been taken by the appointment of a representative of the junior resident medical officers to the Hospital Medical Officers Advisory Committee.

Ambulance Services

The restructured Ambulance Transport Advisory Board had its first meeting in April 1975. At a special meeting in May, the board defined its philosophy and objectives. Committees on training and standards, on vehicles and equipment and on finance and policy have been established. A member of the training committee represents the board on the National Ambulance Officers Training School Administration Committee set up by the St. John Ambulance Association (Auckland Centre) Trust Board. Improved standards of training are the first objectives of the Ambulance Transport Board and the fillip given to this by the TV 2 Telethon collection of over \$0.5 million for the establishment of a training school, is much appreciated by the board.

The regional committee system is working well and the committees provide a channel of communication between ambulance operators and the board through the committee chairmen who are members of the board. The committees are currently engaged in surveying the resources of their regions.

There has been criticism of the ambulance services from a number of quarters. The board is well aware of the deficiencies and is doing all it can to overcome these within the limits of available resources. Inevitably the current economic difficulties will have some effect in this field as elsewhere, but the board considers that the training of ambulance personnel, and the double manning of all vehicles are matters of urgency meriting special consideration by Government.

Post-graduate Medical Education

The Royal Colleges have been actively engaged over recent years, in revising the training programmes and requirements for admission to specialist registration, in the different disciplines. The new programmes are now well established in most areas, and rotating registrar schemes are in operation to meet the needs of trainees in the smaller centres.

The administration and funding of the general practitioner registrar scheme, previously in the Hospital Division's hands has now more properly become the concern of the Clinical Services Division. This scheme, and the related problem of the continuing education of general practitioners have been the subject of recent discussions between the department and the New Zealand College of General Practitioners, and are reported on elsewhere in this report.

Supply of Pituitary Gland Hormones

The pending cessation of assistance previously provided by Dr Wilhelmi in the United States in the extraction of growth hormone from glands removed in New Zealand at autopsies, led to the setting up of a steering committee to study the problem and make recommendations on the best solution.

Firm proposals for the establishment of a National Pituitary Gland Extraction Laboratory at Auckland, under the supervision of the Auckland University Department of Biochemistry, have now been made to Government, and its decision is awaited. Meantime interim arrangements are being made with the C.S.I.R.O. Commonwealth Serum Laboratories in Australia for the extraction there of pituitary hormones from glands sent from New Zealand, to allow treatment with growth hormone to continue in the meantime.

Allied Health Personnel

(a) Social Workers

A review of gradings of supervising and senior social work posts in the hospital service was carried out during the year. This led to the regrading of 8 posts and to approval for 17 additional positions at senior level to assist the management of larger social work departments and to help improve in-service training and staff development programmes. Since this review greater authority has been extended to hospital boards in making appointments to their social work services, a procedure which is the first step towards greater delegation to boards for other occupational groups. These changes mark to a considerable degree the end of the first phase of the work of the department's advisory social work section. Since its inception in 1970 it has necessarily devoted most attention to organisational aspects. In future, it should increasingly be able to concern itself with social work developments appropriate to the health care field, to standards of social work practice, and to providing a consultancy service to hospital boards and other health services.

During the year 17 hospital boards were visited to advise on organisation and the services provided by their social work departments. Visits were also paid to four universities for recruitment purposes and to co-ordinate social work planning with the new professional courses at Auckland, Canterbury, and Massey universities. This related particularly to the establishment of social work student units, five of which have now been set up based in hospitals in the Wellington, Auckland, and Christchurch districts. Approval has been given for a further three to be in operation by the end of 1977. These units will enable a substantial proportion of students attending university social work courses to have at least one of their fieldwork placements in a health care setting, which experience may persuade a number of them to seek appointment with a hospital board on graduation.

The need for more attention to training for social work is universally acknowledged but, too often, not expressed through decisive action. Even though only 1 in 3 of the nearly 100 persons appointed as social workers in the previous year had a professional qualification or previous experience in social work, the total number of social work study awards granted by hospital boards at the end of 1975 was only 4. Budgeting and planning for social work services may overlook the need to make provision for training. Although the response to the "in-service" programme of social work training was better, not all places allocated were taken up. During 1975, 25 (about half of those eligible) attended a 3-month induction course and 21 attended shorter refresher or supervision courses.

The advisory social work staff are involved in many aspects of the department's activities to which their experience or approach is pertinent. During the year they organised a conference for personnel in child psychiatric services and undertook a study of the place of social work in general practice and community health services. This latter issue may well indicate a significant change in emphasis in health social work service during the next few years.

(b) Opticians

The new Opticians Bill has now been drafted by Parliamentary Counsel, and is due to go before the Cabinet Committee on Legislation soon. The Bill consolidates and amends the Opticians Act 1928 and its amendments. The generic term "optician" has been retained in the Short Title and, wherever practicable, in the text of the Bill, but it recognises and relates to the two distinct callings of optometry on the one hand, and optical dispensing on the other.

(c) Radiographers

The report of the Advisory Committee on Registration and Training of Medical Radiographers, reported on in last year's annual report, has been approved by the Director-General, and negotiations are in hand with the Department of Education on the details of the course structure for diagnostic radiographers and the involvement of the technical institutions in the academic part of the course. It is hoped to introduce the new course at technical institutes in 1978. Negotiations are also underway towards the establishment of a parallel course for therapy radiographers.

(d) Nuclear Medicine Technicians

The course which was established 2 years ago at the Central Institute of Technology for nuclear medicine technicians, covering both the scanning and laboratory aspects of the work done in nuclear medicine departments, has not proved to be successful. The general feeling now is that nuclear medicine technology should be taught as a post-basic qualification subject to medical technologists on the one hand, and to radiographers wishing to enter the scanning field, on the other. The Medical Technologists Board has already introduced nuclear medicine as a subject for parts II and III of the Certificate of Proficiency in

Medical Laboratory Technology. Discussions are currently being held for the introduction of organ imaging techniques as a post-basic qualification for radiographers.

(e) Dietitians

During the year 13 hospital boards have been visited by the department's dietitians. To assist with the advisory work involved in planning and equipping several hospital dietary departments, a programme has been initiated with the Design and Evaluation Section to evaluate the first 2 years' operation of the centralised tray service at Waikato Hospital. In October 1975 the new kitchen and cafeteria in the Special Departments block at Taranaki Base Hospital was commissioned.

The steady increase in plans for subsidised residential institutions has continued this year—34 plans for 31 organisations having been seen by dietitians. District office dietitians have given advice to architects before plans have been submitted to Head Office.

The programme of advisory visits to Department of Social Welfare institutions has continued and the regular contact with staff from both Departments of Education and Social Welfare hostels has been maintained through staff training courses at the Kohitere centre.

The department's contribution to the courses at Waikato and Christchurch technical institutes has been maintained and 80 people attended these courses in 1975. Additional courses have been recommended by the Vocational Training Council's Institutional Training Advisory Council, and it is envisaged that pre- and post-entry courses for both school leavers and food service employees will commence during 1977.

There has been an increase in the number of dietitians applying for positions in the main centres but difficulty in recruiting staff to work in the smaller hospitals has resulted in an increase in the number of hospital boards without dietitians. Board dietitians are employed part time at both Waitangirua and Mosgiel health centres. Of 128 established positions 103 are filled leaving 25 vacancies mainly outside the main cities.

The Dietitians' Board has registered 19 newly qualified dietitians who passed the State examination in December. Dietetic bursaries were discontinued by the department from 1976. All current bursars either transferred to the standard tertiary bursary system or elected to give bonded service in return for an additional allowance.

The Dietitians Board has entered into discussions with hospital boards, the dietetic profession, and educational authorities with a view to establishing a central dietetic training school to replace the existing three schools.

Hospital Works and Development Programme

Annual returns submitted by hospital boards giving details of works under construction or planned are combined in a national total and shown in table 2 of the appendix. The table shows the total estimated value of all projects over \$20,000 in planning stages or in hand to be \$571.7 million. Expenditure on these projects to 31 March 1976 was \$109.4 million.

Hospital boards have again shown a tendency to be optimistic over the capacity of the building industry and consequently to overestimate the speed of construction. This results in overestimation of likely

expenditure and the department, in consultation with the Treasury and the Ministry of Works and Development examines the estimates to set a level consistent with planning and construction capabilities and the availability of finance. The estimated forecast by hospital boards for 1975-76 was \$57.2 million but was reduced to \$33.1 million after examination.

The actual expenditure for 1975-76 was \$33.7 million. This represents a 51.5 percent increase over the previous year's expenditure.

The Wellington Hospital Board is approaching a peak in its development programme and accounts for approximately one-quarter of the total hospital boards' works expenditure. Other boards with major development programmes are Auckland, Waikato, Palmerston North, North Canterbury, and Otago.

The Government's policy of restraint on expenditure, and the limits imposed by the Local Authorities Loans Board on loan raising, came too late in the year to have any effect during 1975-76. However, these policies will have a dampening effect in the coming year although expenditure is likely to maintain a high level for a time on account of committed works.

Major projects completed or under construction during the year include:

Whangarei boiler house extension.	Taranaki base special departments block.
Whangarei ward and administration block.	Palmerston North ward and clinical services block.
Waikato theatre block.	Palmerston North kitchen block.
Rotorua clinical services block.	Wellington clinical services block.
Tokoroa ward block.	Wellington O and G block.
Tauranga clinical services block.	Christchurch ward and clinical services block.
Hutt redevelopment stage 1, phase II.	Princess Margaret academic facilities, outpatients department, and psychological medicine.
Kenepuru stage 1, phase II.	Timaru, clinical services block.
Wairau ward block.	Dunedin ward block, stage I.
Nelson ward and clinical services block.	Napier conversion chest block to maternity.
Kew obstetric unit.	Horowhenua, phase III.
Grey theatre block.	Wellington Clinical School ward support and link blocks.
Otara spinal injury unit, stage 1.	
Waikato Women's Hospital.	
Wellington emergency programme.	
Timaru boilerhouse.	

Architectural Section

There has been no relaxation of workload which was at an exceptionally high level the previous year, and although the architectural staff is still below establishment, the advisory building services engineering section has recently been strengthened. Fire protection inspections are up to date, whilst 306 planning proposals have been examined for fire protection against 303 and 95 for the previous 2 years.

Financial requirements for committed building projects are at a peak level, and while much work is going on in the planning stages and should continue to do so in terms of overall forward programming, it is now evident that some restraint will be needed to reduce annual capital commitments.

A continuing concentration by boards and the department on survey of existing hospital buildings and services has facilitated the establishment of priorities when formulating forward development planning and programming. Wherever practicable, emphasis is placed on planning building works in a staged progression to allow spread of financial commitments.

The size and scope of projects considered has been varied and covered many building types and functions. These have included the full range of acute hospital buildings and departments; obstetric services; geriatric, psychiatric, and acute services for assessment, rehabilitation, and long stay care; welfare services homes and hospitals; community care projects; health centres, staff accommodation; laundries, boilerhouses; site and building services. As appropriate consideration is given to all proposals from initial development planning, briefing, and scheduling, through to completion of tender documents.

Institutional Beds, Patients, and Services

Public and Departmental Institutions

In the department's annual report, entitled "Hospital Management Data, Year Ended 31 March 1975", 186 hospital board institutions were listed and consisted of 76 general hospitals, 69 maternity hospitals, 26 special hospitals, and 16 old people's homes. The number of beds at 31 March 1975 of all descriptions available for patients or residents in all public institutions and private licensed hospitals are shown in the following table.

Type of bed	Public Institutions		Private Licensed Hospitals	
	Number of Available Beds	Average Number of Occupied Beds per Day	Number of Available Beds	Total Number of Available Beds
General	15 034	11 953	4 235	19 269
Per 1000 of population ..	4.8	3.9	1.4	6.2
Maternity	2 907	1 597	195	3 102
Per 1000 of population ..	0.9	0.5	0.1	1.0
Total hospital beds ..	17 941	13 550	4 430	22 371
Per 1000 of population ..	5.7	4.4	1.5	7.2
Non-hospital beds ..	885	717	..	..

Persons Being Treated or Maintained in Public Hospitals

The number of persons who were treated or maintained at some time in public institutions during the year ended 31 March 1975 was 370 146. This is equivalent to 11.9 percent of the total population.

The table on the next page summarises patient details compared with the previous year.

Number of Patients

	Available		Average Beds Occupied Per Day		Inpatients Treated		Outpatient Attendances (Including Dental, but excluding X-ray, Laboratory, and Pharmacy)	
	1974	1975	1974	1975	1974	1975	1974	1975
General hospital beds	..	..	14 869	15 034	11 851	11 953	2 980 842	3 187 254
Maternity beds—								
In institutions classed as general hospitals	1 500	1 548	973	973	372 176	370 146	2 980 842	3 187 254
In separate maternity hospitals..	1 470	1 359	664	624	372 176	370 146	2 980 842	3 187 254
Grand totals	17 839	17 941	13 488	13 550	372 176	370 146	2 980 842	3 187 254

Staff in Public Hospitals

The figures for staff employed in public hospitals and other institutions and activities controlled by hospital boards at 31 March 1975 and the actual payments of remuneration for the year ended on that date are shown below:

			Number Employed at 31 March 1975	Salaries and Wages Payments for 1974-75 \$(000)
Medical	..	..	1 765	20,217
Laboratory workers	..	..	461	3,124
Physiotherapists	..	..	338	1,886
Radiographers	..	..	331	1,994
Other professional staff	..	..	1 064	6,653
Social workers	..	..	111	585
Nursing—				
Qualified	..	..	7 647	41,651
Students	..	..	6 784	21,125
Non Qualified	..	..	2 997	10,362
Clerical	..	..	3 462	15,885
Other staff	..	..	11 391	43,410
Domiciliary staff	..	..	808	3,851
			37 159	\$170,743
1973-74	..	..	35 100	\$150,480

As a result of the revision of the department's information needs in April 1974 it is not possible to provide corresponding figures for the previous year under the above headings.

Finance

Payments by hospital boards in 1974-75 for both capital and maintenance purposes totalled over \$301 million and are summarised as:

			1973-74 \$(000)	1974-75 \$(000)
Operating grant	..	..	211,607	258,445
Minor capital grant	..	..	5,033	6,739
Capital works financed from loan funds			21,074	22,901
Repayment of loans	..	..	12,509	13,499
			\$250,223	\$301,584

Operating Grants to Boards

Early in the year there were indications that some hospital boards would over-spend their operating grants because of the engagement of freely available additional staff, the cost of which could not be met from the growth allowance of 2 percent of the 1974-75 basic allocation. In order to prevent a large scale laying off of staff Government made available special grants to certain boards amounting to \$2,122,000. For 1976-77 a similar growth allowance of 2 percent has been approved by Government. This, of course, is in addition to the amount which is allocated for new commissionings.

For the year ended 31 March 1976 hospital boards were initially allocated an amount equivalent to 5 percent of the non-personnel portion of their expenditure towards expected price rises during the year. In the event, two further allocations of 5 percent and 3 percent respectively were made during the year in the light of upward movements in the Hospital Price Index.

Private Hospitals

Patient daily benefits for private hospitals were increased substantially during the year. From 1 October 1975 the rates for surgical and maternity benefits were increased from \$9 to \$12 per day and from 1 January 1976 the medical and geriatric benefits were increased from \$5.50 and \$8 per day to \$9 and \$11 per day respectively.

Private hospital loans were again restricted this year to proposals for upgrading work with four small loans being approved. Three projects previously approved and which were under construction during the year included additions and alterations to existing private hospitals in Hamilton, New Plymouth, and Feilding.

Under the subsidy policy for the provision of geriatric hospital beds by religious and welfare organisations, assistance has been provided towards the provision of 223 beds licensed during the year. A further 135 beds are under construction and 150 are in the planning stages.

One privately financed hospital increased its number of licensed beds by 13 during the year, for use by geriatric patients.

Two small maternity hospitals and one small medical hospital closed during the year. One religious organisation converted part of its premises, previously licensed as residential home beds, to provide an additional 25 geriatric hospital beds.

Amounts paid by way of private hospital loans over the last 3 years were as follows:

1973-74	1974-75	1975-76
\$387,607	\$167,291	\$201,203

The following table shows the bed state of licensed private hospitals over the last 3 years:

Type of Hospital	Number of Hospitals			Number of Licensed Beds		
	31 March 1976	31 March 1975	31 March 1974	31 March 1976	31 March 1975	31 March 1974
Maternity	10	12	12	85	102	111
Medical and surgical	36	36	37	1 195	1 177	1 160
Medical	97	94	94	2 670	2 397	2 231
Medical and children's (Kari-tane)	6	6	6	255	255	255
Maternity, medical, and surgical	3	3	3	466	466	460
Psychiatric	2	2	2	33	33	33
Total	154	153	154	4 704	4 430	4 250

2. REHABILITATION AND PHYSICAL MEDICINE

The control of the New Zealand School of Physiotherapy was transferred from the Otago Hospital Board to the Otago Polytechnic on 1 February 1976. It is now known as the School of Physiotherapy,

Otago Polytechnic. The transfer proceeded smoothly and the hospital board has recruited a full staff of physiotherapists to replace those who transferred as tutors. A committee, on which the Department of Health is represented, has been established to advise on the establishment of the new course. The first class to graduate from the new Auckland School of Physiotherapy did so in November. A total of 93 physiotherapists graduated from the two schools during the year and 39 overseas graduates were also registered by the Physiotherapy Board. An amendment to the Physiotherapy Regulations was promulgated. This dealt principally with matters affecting training and examination procedures which arose out of the Physiotherapy Amendment Act 1974.

Hospital occupational therapy departments have shown some slight improvement in staffing this year due partly to more occupational therapists returning to the service, and partly to new graduates remaining longer. In spite of this, however, only 270 of the 324 established posts in hospitals were filled. A total of 52 New Zealand graduates and 15 overseas therapists were registered during the year. The Occupational Therapy Board has instigated an annual survey aimed at evaluating the relationship of the training programme to the actual practice of occupational therapy. After new graduates have worked in the field for 1 year a questionnaire is sent to them and to the senior occupational therapist with whom they are working. The information gained is fed back to the training school. The second survey has just been completed and it is intended to repeat it annually for at least the next 3 years.

It is encouraging to note that more hospital boards are providing physiotherapists and occupational therapists to work in health centres. This is a very important extension of the rehabilitation services of the hospital out into the community and provides a valuable service to general practitioners who have patients requiring such treatment.

The Palmerston North Hospital Board Aids and Appliance Unit is developing in a very satisfactory manner. It has recently moved into more suitable accommodation and has recruited additional staff from the United Kingdom. As well as working in such fields as housing for the disabled, car adaptations, body support systems, wheel chairs, etc., it has been providing courses for the liaison officers of the Accident Compensation Commission. The commission has made considerable use of this unit in their rehabilitation programmes for accident cases.

Work has continued on developing a joint training programme for orthopaedic technicians and artificial limb makers. It is hoped that such a course may start in one of the technical institutes in the not too distant future.

3. MENTAL HEALTH

Hospital Admissions and Discharges 1975

The trends previously noted continue. The average occupied bed figure per 1000 of population is provisionally 2.73 compared with 2.93 for the preceding year. If the figures for psychiatric units and the Salvation Army institutions operating under the Alcoholism and Drug Addiction Act are added, then the figure for 1975 is 2.83 compared with 3.02 for 1974.

Admissions under the provisions of the Alcoholism and Drug Addiction Act 1966 include those admitted to the two programmes conducted by the Salvation Army, namely Roto Roa Island, Auckland, and the Bridge, Wellington. Total admissions under that Act for the year were 400, a slight drop on the preceding year's figures. Table 7 at the back of this report shows the provisional figures for 1975 with the corrected figures for 1974. Detailed figures in the usual form will be made available and published as part of the medical statistics report for 1975 in due course.

Care in the Community

The collaborative venture between the Society for the Intellectually Handicapped and individual hospital boards referred to in last year's report is continuing. For the present this represents the major thrust towards the setting up of alternative forms of care in the community for persons who might otherwise require facilities in a psychopaedic hospital. The department has at present before it in various stages of the necessary processing, applications from some 15 hospital boards for the building of hostel and workshop accommodation for the intellectually handicapped. The various schemes involve the provision of over 450 hostel beds throughout the country, 140 of these beds being in areas where at present the local hospital board does not make specific provision for the intellectually handicapped. These proposals if approved would go some considerable distance towards meeting the need established by the survey of patients at present in hospital which was referred to in last year's annual report.

Princess Margaret Hospital, Christchurch

During the year the Minister of Health, on the application of the North Canterbury Hospital Board, gave approval for Princess Margaret Hospital to operate for the temporary care of patients under certificate as provided by section 117 (4) of the Mental Health Act 1969. This empowers the hospital to detain a patient for up to 21 days or until the hearing of the determination of an application for a reception order by a magistrate. The same safeguards and rights of appeal by a patient or relative acting on his behalf are applicable here as would be the case in a psychiatric hospital.

This arrangement marks an important move towards the wider use of general hospital psychiatric units in providing for the total range of acute psychiatric disorder in the community. The North Canterbury Hospital Board and its psychiatric staff are to be complimented on their initiative in this matter which is a further step towards the merging of the roles of the general hospital psychiatric unit and the traditional psychiatric hospital.

It is a matter of interest to note in connection with this move that the figures for 1975 show that just under one-fifth of the total admissions to all hospitals formerly administered by the Mental Health Division were in the status of committed patients. The figures for individual hospitals vary widely from the 34 percent recorded by Porirua Hospital at one end of the scale to the 3 percent at Braemar and the entire absence of committed patients in the admissions at Levin, Templeton, and Mangere hospitals. The national figure shows 18 percent committed patients in a total admission of 9167.

Child Psychiatric Services

From 14 to 17 April 1975 the conference of staff from child health clinics and the similar services throughout New Zealand was held at Lake Alice Hospital, Marton. This was a useful venture for the staff of a section of the Health Services which is still too often isolated to a much greater degree than is desirable from the mainstream of health care services throughout the country. All the same it served once again to indicate the relative paucity of psychiatrists with special interest or training in this field. It was most valuable to have as a visitor to the conference, Dr Constance Dennehy, a New Zealander who now holds a consultant appointment in child psychiatry, London. The papers presented at the conference had been collected and published by the department under the title *Child Psychiatric Practice*.

Lake Alice Hospital, Marton

During 1975 there were 326 male and 293 female admissions to Lake Alice, this number included 69 children admitted under the age of 16 years. The home visiting service has continued to operate as in previous years and has also been supplemented by an industrial counselling service made available by staff of the hospital to factories and similar places of work in the region. This service has attracted a good deal of interest and has been most welcome to those who have taken the chance to avail themselves of it.

The unit for children provides a total of 46 beds and has associated with it a specially staffed school unit. It is under the direction of a trained child psychiatrist and has a child therapist as well as other ancillary staff attached to it. It is under considerable pressure to accept children from all over the country since it is one of the few residential long-term treatment resources for psychotic and disturbed children under the age of 15. During the year it was the subject of certain public comments which seemed to indicate that there are many people still unaware of the fact that mental illness can and does occur in children as well as in adults. Lake Alice is fortunate to have staff with the appropriate training and experience to provide treatment for such children.

The maximum security unit at the hospital, which serves a national function, has now completed 10 years of operation. It is noteworthy that in that period there has been not one case of unauthorised absence from the unit. It is also notable that during the period the unit has maintained a very high rate of staff stability and a correspondingly good morale among staff. A detailed review of the unit working during its first 10 years in commission is being undertaken and it is hoped that some suitable published account of this can be made before the end of the current year.

The Asylum Role

The very great scientific advances made in psychiatry, no less than in other sections of medicine in the last few decades, have tended to concentrate attention on the treatment of the short term and more recoverable forms of illness. The benefit of more effective treatment

and need to pursue vigorously a constant improvement in the standards is a matter which needs no emphasis. At the same time it must be acknowledged that the ready and sometimes dramatic interest created by recent advances may tend to obscure the very real needs which still exist in other areas. It is sometimes forgotten that the historical role of all hospitals is the provision of a place of asylum. This comment is particularly applicable to the psychiatric hospital. It is most unfortunate that the ancient and honourable word asylum, with all its connotations of humanity and caring, should have acquired strong negative overtones so that nowadays its use tends to be avoided. In avoiding the use of the term it is all too easy to overlook the requirements of the role. Medicine as a whole is still a long way from being able to offer a cure in the strict sense of that word, for all forms of human illness and disability. While this situation remains there will always be a need for suitable places of refuge for those individuals whose state of health or lasting physical or mental disability renders them unable to cope with the ordinary demands of every day living. Not all people in this category require to be kept in a hospital, but substantial numbers of them do need continuing day to day care as well as skilled professional treatment. The professions of medicine and nursing have a long tradition of providing just that type of care and much of their present professional skill has its roots deep in that tradition. In recent years it has become fashionable to express criticism of the shortcomings of the so-called "medical model" for the establishment and operation of services for the handicapped. Although there are undoubted shortcomings in the standard and extent of services for the handicapped in a number of areas, it must be seriously questioned whether these do derive from any defects in the so called medical model. It is hard to avoid the conclusion that the "model" attacked is in fact a mere outline, if not simply a caricature set up for polemical reasons. The true medical model has always been concerned with the total interaction between the individual and his environment and the implications of this for both health and disease.

It is understandable that staff in many categories who have been trained to a high level of professional expertise and confidence should wish to work in a situation where their skill is put to the maximum use. At the same time they can, under such motivation, lose sight of the very great degree of professional skill which is called for in the rehabilitation of the long-stay patient and the improvement of the health, comfort, and quality of life for those who cannot be fully rehabilitated. While it is easy to sympathise with those who would wish in the terms of one recently published comment to "concentrate our efforts in the areas of greatest reward" it is not possible to accept this as anything other than a limited goal within the total requirements of a comprehensive health care service.

The role of the traditional psychiatric hospital was a comprehensive one and included a due concern for its asylum function. If, in its enthusiasm for modern trends in treatment, any psychiatric or psycho-paedic hospital wishes to restrict its role to treatment of acute and largely recoverable cases, it still has an inescapable obligation to interest itself in alternative forms of care for those to whom it may now deny asylum. It must concern itself with the quality and adequacy of such care before it can be seen to be discharging its obligations to those who suffer from psychiatric disabilities.

It is very much to be hoped that the trend towards more active treatment and long-term care in the community continues. It would be tragic if in the process a group of persons who are already disabled should become further disadvantaged.

4. CLINICAL SERVICES

(a) Health Benefits

Benefit payments increased considerably and were \$28,761,156 higher than the previous year. Of the total expenditure of \$139,797,721, general medical services accounted for \$30,171,137 and specialist medical services for \$2,634,684. Details are supplied in table 6 (page 96).

General Medical Services

The considerable increase in expenditure on the general medical service benefit reflects the first full year of extra costs following the introduction of higher rates of benefits in December 1974. A survey conducted during the year also indicated an increase in the total number of services provided. This was particularly evident in certain health districts including Wanganui, Palmerston North, Hamilton, South Auckland, and Takapuna. In a few districts however, the survey suggested a decrease in services provided.

The new benefit rates were increased in the main for special group patients and for urgent consultations and visits. Comparison of doctors' claims for July 1974 and July 1975 showed a significant shift towards pensioner and emergency services. This trend was very marked in some health districts.

For the months surveyed there was an overall increase in emergency services of 21 percent and for pensioner services of 7 percent. The most dramatic increase was for emergency visits to pensioners; these rose by over 62 percent compared with an increase of 10 percent for emergency visits to ordinary patients. The higher benefit therefore appears to act as an incentive to doctors to provide more pensioner and emergency services as well as stimulating the demand for such services. The number of emergency consultations has doubtless been influenced also by the accident compensation legislation.

Information obtained from the survey was used to calculate the average GMS payment per service provided. For July 1974 this average was \$1.62; a year later it had risen to \$2.40, an increase of almost 50 percent.

It is interesting to note that the increased patient benefits resulted initially in a fall in the quarterly Index of General Practitioners Charges. By the third quarter of 1975 this index had begun to rise again.

On 1 December 1975 administration of the chronically ill benefit was transferred to district health offices. In the first year of this new benefit about 1700 applications had been approved; a surprisingly small number.

Immunisation Benefit

Increases in the rates of this benefit were approved as from 1 October 1975. Where the vaccine is administered by the doctor the benefit moved from the previous rate of \$1.50 to \$1.85 and from \$1.25 to \$1.55 if the service is given by the doctor's nurse under his supervision.

Practice Nurses in General Practice

The team approach to the provision of primary health care in New Zealand has been slow to develop. In many countries the arguments for and against the use of allied health personnel in the health team are over. The role of the general practitioner in this country requires reconsideration in view of the changing needs of the community and the importance of delegating some tasks to others. The place of the nurse in the primary health team is now beginning to become defined. The first subsidised practice nurse scheme was introduced for rural doctors in January 1970. By November 1970, 70 doctors were obtaining this subsidy and by March 1975, 154 rural doctors were employing 183 subsidised practice nurses.

In July 1974 a second subsidised scheme was introduced for doctors working in both rural and urban areas. This was the 100 percent scheme. It had never been anticipated that the demand for this subsidy in urban areas would be high. Previous surveys had indicated that of urban doctors less than 20 percent were interested in working with a practice nurse.¹ A later study showed more doctors in group practices or partnerships in favour of employing practice nurses than solo practitioners.²

Despite earlier criticisms of the 100 percent scheme and many misconceptions about the role of the department in its administration, there has been a rapid increase in the number of doctors obtaining the subsidy. In addition, many rural doctors have changed from the original 50 percent scheme to the new subsidy in view of its obvious economic advantages in many practices. In table 1 can be seen the number of doctors receiving subsidies in March 1976 compared with the situation a year earlier. Almost 300 nurses are now employed under the terms of these schemes. Expenditure for the year on the subsidies was \$647,482 compared with \$268,486 in the previous year.

Table 1—Doctors in Receipt of Practice Nurse Subsidy

	March 1975	March 1976
50 percent scheme	108	93
100 percent scheme—		
Rural doctors	22	61
Urban doctors	30	145
Totals	160	299

In August 1975 a survey was undertaken of the work of practice nurses. It was evident that the wide range of nursing skills available in the general practice setting was doing much to improve the quality

¹ N.Z. Department of Health, Annual Report, 1971.

² N.Z. Department of Health, Annual Report, 1972.

of health care provided. In many practices the nurses were able to ease the work load of the doctors considerably or enable him to care for a larger number of patients. A few doctors were delegating traditionally medical tasks and technical procedures to nurses and this aspect of the nurses' work will doubtless increase in future. Extensive use of practice nurses and other members of the health team will certainly influence present thinking on acceptable G.P./patient ratios. Acceptance by the public of the practice nurse is general and has also been documented.¹ It is now not an uncommon experience for patients to ask for the nurse and not the doctor!

Visiting Practitioners

In spite of a vacancy existing for a third visiting practitioner throughout the year, 1028 doctors were visited. This figure includes specialists. The confidential monthly reports of the visiting practitioners continue to prove invaluable as a ready means of assessing the medical situation in the areas visited. Comments of individual doctors are often of assistance to members of various advisory committees. It is evident from these reports that there has been increased recruitment into general practice, a preference being shown to joining established group practices. Both visiting practitioners have independently noted that areas reputed to be deficient in general practitioners have, on inquiry, often been shown to be adequately served. The concern of general practitioners about the rising cost of pharmaceutical benefits is reflected in the increasing number of requests made to the visiting practitioners for more lists of comparative costs of medicines, and for more frequent information about individual prescribing costs and habits.

Prescribers' Notes

Seventeen issues of Prescribers' Notes, including nine Therapeutic Notes, were sent to doctors. Where appropriate these were also sent to dental practitioners and pharmacists. The inquiry, conducted by visiting practitioners in 1972-73, into the reactions of general practitioners to these publications showed that they provided a very acceptable means of continuing education. The popularity of these notes continues to grow, and the department is deeply indebted to those authors who give freely of their knowledge and time to make the series a success.

Chiropractic Patient Benefit Petition

During 1975 a parliamentary petition praying that patients of registered chiropractors should be entitled to the same subsidies as exist in relation to other health services under the Social Security and Accident Compensation Acts, was considered by the Petitions Committee of Parliament in May last year. The committee recommended that the petition be referred to Government for most favourable consideration. The Government was considering the establishment of a Commission of Inquiry into the practice of chiropractic when the change of administration occurred. The present Government is actively examining the question. Throughout, this division has been involved in presenting the views of the Department of Health.

¹ Dixon, C. W. *et al* *N.Z. Med. J.* 1975, 82: 5-9.

Special Areas

Principally on account of prolonged illness and injury to the resident doctors in two special areas, there were some difficulties in maintaining medical coverage at the desired level in these areas. The situation has again stabilised in both, although one in particular is carrying a heavy load, by reason of the considerable population to be served over a wide area. Staffing for 1976 is satisfactory. It involved directing three medical bursars, but all have co-operated well and there have been few problems. One doctor who has served several years in special areas is currently on post-graduate study leave, under the study scheme for these areas.

Medical Bursaries

With the introduction of the standard tertiary bursary some modifications have been made to the medical bursary available from the department. Applications for this assistance are few.

Trainee Registrarships in General Practice

Difficulties have arisen with this scheme, firstly on account of the financial conditions as they relate to host general practitioners, and secondly, the problems encountered by hospital boards in making financial provision for additional registrars. Special arrangements were necessary by the department to ensure continuation of the scheme. This has enabled hospital boards to engage 14 registrars to participate in the scheme since December 1975. Its development is of key importance in establishing a programme of vocational training in primary health care and improving the basis of community and family medicine.

Complaints Against Medical Practitioners and Disciplinary Measures

During the year a number of complaints received by the Minister of Health were referred to the Medical Practitioners Disciplinary Committee for appropriate action. Complaints involved difficulty in obtaining general practitioner, medical attention in emergency situations, or related to standards of medical care.

The department initiated several complaints to the Medical Practitioners Disciplinary Committee. These involved allegations of excessive attendances on patients and subsequent claims for general medical services benefit.

All medical officers of health were circulated during the year about their responsibilities in relation to disciplinary proceedings involving medical practitioners. Their involvement in inquiries of this nature is onerous and is not helped by the antagonism of some practitioners when approached for information. The whole subject of medical discipline requires urgent review.

The failure of some doctors to adjust their fees and pass on to patients the effect of the higher rates of general medical services benefit introduced by Government as from 1 December 1974 gave rise to complaints to Government in the earlier half of 1975. A considerable number of these were referred to the Medical Practitioners Disciplinary Committee and resulted in several cases in penalties being imposed by the committee.

(b) Pharmaceutical Benefits and Medicines Control

Cost of Pharmaceutical Benefits

Total expenditure amounted to \$69,866,751, an increase of \$13,387,388 on the previous year. The average cost of prescriptions passed for payment was \$2.67 (\$2.29 last year). These represent 8.7 prescriptions per head of population (7.2 last year).

The service fee for dispensing prescriptions increased by 18.4 percent, as compared with 17.9 percent last year. The cost of medicines has continued to rise dramatically, partly as a result of devaluation of the New Zealand currency, plus the impact of overseas inflation.

It is estimated that during the year an overpayment of \$291,150 occurred to retail pharmacies under the formula operating in respect of pharmaceutical dispensing. The service fee for dispensing to be paid during next year has been adjusted in order to recover this amount.

At the end of the previous year there were approximately 2½ million prescriptions awaiting pricing and final adjusting payments. An advance payment of more than 90 percent had already been made. The backlog is now largely overtaken; this is one reason for the large increase in the number of prescriptions passed for payment during the year. The system of advanced payments is still needed to a limited extent.

The Drug Tariff

The Pharmacology and Therapeutics Advisory Committee met on 3 occasions, and 62 applications for the inclusion of medicines in the Drug Tariff were considered. Twenty-two were recommended for inclusion.

In an endeavour to reduce expenditure, the maximum period of supply per prescription allowed as a charge against public funds was reduced from 7 to 5 days with effect from 1 August 1975. There was no further restriction on extended supply prescriptions.

For reasons of economy, the decision was taken during the year to stop sending copies of the Drug Tariff and the Alphabetical List of Proprietary Preparations to medical and dental practitioners. Instead, current changes are published in Clinical Services Letters, but full copies are available from medical officers of health. Similarly the full list of medicines which are restricted in availability under the Drug Tariff will only be published annually.

Expensive Prescriptions

A survey was carried out of those prescriptions which cost more than \$100 and those which cost between \$50 and \$100. In many of those in the first category it was apparent that the prescriber was unaware of the high cost of the particular medicine, and in all cases practitioners have been informed of the prescription cost. Those in the second category consisted largely of predictable types of medicine with rifampicin, high dosage beta-blockers, heparin, and sodium cromoglycate being prominent. A list of the medicines commonly found in expensive prescriptions is to be circulated to practitioners.

Whilst in no way interfering with clinical judgment, comments were sought from those practitioners considered to be prescribing extravagantly.

New and Changed Medicines

During the year 138 new medicine applications were received of which 97 (including 62 from the previous year) were approved for distribution, 5 were declined, 3 were withdrawn, and 95 are still being evaluated.

Notifications were received of changes to 203 medicines; 203 (including 80 received in the previous year) were accepted, 5 withdrawn, and 75 are pending.

To provide improved guidelines, a new edition of *Drug Distribution* was published with updating of all sections including pharmacological, toxicological, clinical, and quality control. Revised application forms for new and changed medicines were included.

Drug Assessment Advisory Committee

The committee met on 3 occasions and considered applications for 39 new medicines, of which 24 were accepted, 10 deferred, and 5 declined. One changed medicine was considered and accepted. The committee also accepted one application for inclusion of a medicine in the Schedule to the Therapeutic Drugs (Permitted Sales) Regulations.

During the year, the committee adopted a policy of recommending a restricted consent to market in the case of medicines which have an uncertain incidence of side effects. In most cases this involves an assurance by the manufacturers that they will restrict distribution to appropriate specialists, that they will not advertise the product, and that they will encourage all adverse reactions being reported to the Committee on Adverse Drug Reactions.

These medicines are divided into class I, where the restriction will be permanent, and class II, where the restriction is likely to be temporary. The latter group will be further evaluated by the committee at the request of the manufacturer as significant new information becomes available.

At present the scheme is run on a voluntary basis, but is expected to become mandatory when the proposed Medicines Bill is enacted.

The committee also discussed proposals for a monitored release scheme to enable the earlier release of certain medicines under strictly controlled monitoring in the post-marketing phase. This will facilitate the detection of serious or unexpected adverse reactions.

Withdrawal of Hormonal Pregnancy Tests

Following reports of a small number of birth defects associated with the use of hormonal pregnancy tests, the department decided to advise that these products be withdrawn from the market as from 1 June 1975. The questionable safety of these products and the advent of reliable laboratory techniques for pregnancy diagnosis dictated this move. Both manufacturers affected by this decision collaborated fully with the department.

Oral Contraceptives

Contraceptives containing megestrol acetate were withdrawn from the market on a world-wide basis in December 1975 by the

manufacturers. A meeting in London of national drug regulatory authorities from all over the world, including a representative from the department, was called at short notice to consider toxicological evidence presented by the company concerned.

This showed an association between the use of megestrol acetate in beagle bitches, over a 7-year period, with a high incidence of breast tumours, some of which were malignant. Synchronised statements were issued on a world-wide basis announcing the withdrawal of these products. Three brands were affected in New Zealand.

Sequential hormonal contraceptives have also been under scrutiny following the suggestion that unopposed oestrogen, as used in the first half of the cycle with this type of contraceptive, may be associated with an increased incidence of endometrial carcinoma. Several brands of sequential contraceptives have been withdrawn from the market in the United States. New Zealand has only one similar contraceptive on the market, and this is a "step up" type rather than a true sequential.

Poisons Committee

Two meetings were held and 27 therapeutic medicines were recommended for classification as prescription poisons.

Discussions on safety packaging continued with interested parties, culminating in an amendment to the Food and Drug Regulations 1973. This makes it compulsory for tablets of aspirin, iron, paracetamol, barbiturates, phenothiazines, and certain antidepressants to be supplied in safety or strip packaging made of aluminium foil or opaque laminated plastic resistant to opening by young children. This requirement will apply to manufacturers not later than 1 September 1977, and to wholesalers and pharmacies not later than 1 December 1977. Provisions have been included for exemptions, for example, if the prescribing practitioner does not wish his patient to know the nature of the medicine being provided, or if he considers the patient is too physically disabled to be able to open the safety package.

Inspection of Pharmaceutical Manufacturing Premises

Forty-five inspections were made to pharmaceutical manufacturing premises during the year, including five 2-day visits. The inspection team usually consists of two staff from the Division of Clinical Services and the local public health pharmacist. It is important to include the latter in the team to widen his experience, and to contribute his local knowledge. Three visits were made by public health pharmacists on their own.

Considerable progress was made towards the upgrading of good manufacturing practice standards. The department's Code of Good Pharmaceutical Manufacturing Practice now requires some minor alterations, although it has been generally well received since its publication in 1974. A number of requests are received from New Zealand and overseas for copies of the Code.

Seminar on Good Manufacturing Practice

A successful seminar on Good Manufacturing Practice organised by the department in conjunction with the Pharmaceutical Manufacturers' Association was held in Wellington on 30 March

1976. This, the first seminar of its kind to be held in New Zealand, was primarily intended for those involved with pharmaceutical manufacturing including representatives from general management, production and quality control. Over 35 companies were represented, and delegates from other interested bodies also attended.

The seminar was successful; not only because of the educative aspects, but because it provided a forum for participants to discuss mutual problems. It is likely that further seminars will be arranged in the future.

Meetings with Industry

Meetings were held in Auckland and Wellington with representatives from the pharmaceutical industry, a total of 129 attending. The meetings adopted a similar format to previous years and provided a good opportunity for staff of the department to meet and discuss with the industry matters of mutual interest.

Medicine Testing

During the year four groups of medicines were tested by the Department of Scientific and Industrial Research. They were diuretics, codeine, paracetamol, and quinine or quinidine preparations. The testing of the tranquilliser group, initiated in 1974, was completed early in the year. Only solid dosage medicines were included in the programme, but it is hoped that additional dosage forms can be included in future programmes. Within the five groups, 94 different items were tested, but in certain instances this involved two batches of the same product. Six samples did not comply, but in general failure was due to minor discrepancies. In these cases follow-up action was taken with the companies involved.

Unfortunately the scheduled programme could not be adhered to due mainly to a lack of testing staff, but occasionally as a result of special testing required by the department. There are strong grounds for additional staff being employed by the Department of Scientific and Industrial Research for this purpose, particularly as many groups in the 1975 programme have yet to be completed.

The introduction of sterility and bioassay testing by the National Health Institute in future programmes will considerably widen the range of products tested.

Drug Recalls

Eight drug recalls were instituted during the year; three of these were of major importance and recall was to retail and hospital pharmacy level. Recalls were not instituted on three other occasions, where retail and wholesale outlets were requested to examine stock because of suspected labelling errors.

Control of Drugs Liable to Abuse

The Misuse of Drugs Act was enacted during 1975 with the object of revising and strengthening the law controlling the misuse of drugs. When in force, this Act will replace the Narcotics Act 1965.

The legislation will give effect to provisions of the 1971 United Nations Convention, and to many of the recommendations in the second report of the committee set up by the Board of Health to study and report on drug dependency and abuse in New Zealand.

It is also intended to update and consolidate the law enacted over a decade ago to control the use and misuse of drugs. The Act groups drugs according to their potential for harm, to permit a scale of maximum penalties for offences more in line with court decisions.

As the new legislation will cover drugs outside the limited term "narcotic", the expression "controlled drug" has been substituted. Controlled drugs will include not only the drugs presently classed as narcotics, but also certain drugs with stimulant or depressive properties now listed in the Schedules to the Poisons Regulations 1964.

Use of Narcotics in the Capture of Deer

The capture of live feral deer for farming and export is becoming an established industry in the South Island. It involves the use of helicopters, expert marksmen, and tranquillising drugs, particularly narcotics. But the use of these drugs for animals is restricted to veterinary surgeons for the treatment of animals under their care. Legislation was introduced during the year to provide for the issue, with discretion, of a restricted licence to any suitable person engaged in this industry.

Narcotic Burglaries from Retail Pharmacies

The increasing incidence of burglaries or attempted burglaries of retail pharmacies continues to cause concern, being nearly twice the figure for last year. Considerable thought has been given to this problem in association with the various pharmaceutical bodies. Plans are well advanced to reduce the stocks of narcotics in retail pharmacies, and to ensure that pharmacists are able to obtain smaller replacement stocks.

The Control of Herbal Remedies

Following a report in the journal of the American Medical Association on the association of agranulocytosis with the consumption of certain Chinese herbal remedies, due to the undeclared presence of phenylbutazone and/or amidopyrine, a wide survey was made of stocks being kept for sale through retail outlets in New Zealand. One product named in the report was found on analysis by the Chemistry Division of the Department of Scientific and Industrial Research to contain not less than 25.7 mg of undeclared phenylbutazone in each pill.

All stocks of the product were seized under section 30 of the Poisons Act 1960 and this item has been made a prohibited import under the Customs Act 1966. Close co-operation has been established with customs and port agricultural officers to screen private imports of the suspected substances.

Periodic surveys of retail outlets will continue, as they have led to the prohibition of sale of certain items which contain scheduled poisons or which make therapeutic claims disallowed by the Food and Drug Act 1969.

The Medicines Bill

A Medicines Bill is proposed but remains at departmental draft stage. The object of the Bill is to update and consolidate existing legislation controlling therapeutic substances, including the Poisons Act 1964 and

the Food and Drug Act 1969, in the one piece of legislation. Certain new measures are also proposed. Preliminary discussions have already been held with a large number of organisations affected by the proposed legislation.

5. HOSPITAL BOARD NURSING SERVICES

The department has given further emphasis to the development of hospital board domiciliary nursing services as a means of enabling people to remain in their own homes. The extent of these services provided by boards varies considerably but nurses are more successful in assisting people to stay at home when they have had effective education or staff training for this function and when they are able to utilise, but not themselves provide, home aid, laundry, equipment, and "meals on wheels" services.

Twenty-five of the 29 boards provide domiciliary nursing services while one board (North Canterbury) subsidises services provided in its region by the Nurse Maude District Nursing Association. Although three smaller boards do not employ domiciliary nurses, public health nurses in the region generally make these services available.

Some domiciliary nurses are now working from health centres although they remain as hospital board employees. Others have by other means improved their liaison with Plunket nurses, public health nurses, and general practitioners. In most areas, however, there needs to be education of people regarding the advantages of remaining in the community and the availability of services to assist them. More use could also be made of the domiciliary services by some doctors. The Government has stated its intention to make health services in the home more readily available and the Board of Health Report Series, No. 23, *An Improved System of Nursing Services in New Zealand* (1974), recommended that such nursing services be available, when necessary, on a 24 hours a day, 7 days a week basis. Any serious attempt to help people remain in their own homes will require extension of both the quality and quantity of domiciliary nursing services.

Several hospital boards have made valuable progress in collecting and analysing objective data on nursing. Some are using this information as a basis for their own decisions and in support of policies which require departmental or Government approval. This is an urgently needed and rewarding activity. There is generally a need for more objective data on which to base decisions in nursing.

The co-ordination of health services has been emphasised during all educational opportunities and was again the theme of the departmental 1-day conference for chief nursing officers from hospital boards. Visits to boards show that in nursing, considerable progress has been made in this area but there is a need for groups to formalise and regularise their planning. To date co-ordinating meetings have tended to be on an irregular and informal basis.

In most hospital board areas qualified nurses have been more readily available and a number have been unable to obtain employment in nursing. Some of these wish to work part time, while others can work a 40-hour week provided they can be assigned appropriate hours. There is still some reluctance to recognise that the labour market for women is largely "part time" and that exploiting it will require some reorganisation of both the patient's day and of the work force.

There is also some reluctance to acknowledge the greater value for money in employing qualified nurses. Few boards have significantly decreased the number of student nurses employed to allow an increase in the number of qualified nurses.

Hospital boards set their own nursing establishments below the level of charge nurse and there is a need for full study of the needs and the resources both required and available. Without a realistic annual statement of the staffing establishment as a part of budgeting, planning will be less than desirable. Wherever possible the staffing establishment should be based on qualified nurses with the student establishment related to educational rather than service criteria. At present student establishments frequently exceed the available clinical experience and are higher than the level at which unqualified staff can be effectively and economically utilised, a factor which contributes to the withdrawal rate of students.

Some nurse managers are exploring strategies for evaluating and reassessing nursing functions. This will assist job satisfaction and should help retention of qualified staff. Such staff are becoming much more objective in seeking employment and want to know more about the positions they are considering. This increased objectivity is particularly noticeable in the first nurses returning to employment after undertaking university studies in nursing and in those who have completed the Diploma of Nursing at the School of Advanced Nursing Studies.

This year the first group of nurses qualifying from the technical institute programmes sought employment. The highest proportion of these nurses are now employed by hospital boards where their more comprehensive preparation should enable them to make a valuable contribution. The distribution of bonded bursars employed in boards was: surgical nursing, 17; medical nursing, 12; mental health nursing, 3; paediatric nursing, 2; obstetric nursing, 2.

Fifteen assisted immigrant nurses, compared with 20 in 1975, were allocated by the department to hospital boards with special staffing problems. This assisted passage scheme has now ceased.

More men are needed in nursing. To this end hospital board titles for some nurses have been changed to make them more suitable for men and women. The title "matron" has been replaced by "principal nurse" and "charge nurse" replaces "ward sister".

Staff of the Division of Nursing visited 14 hospital boards during the year to obtain information, review and advise on the management of nursing services and in some instances to assist with regional staff training programmes. Considerable emphasis has been given to this latter aspect of the employers' responsibility. The recent upsurge of scientific knowledge, emphasises the need for continuing education for all health professionals.

Nursing Education

Basic Nursing Education

The nursing programmes in the Wellington and Nelson Polytechnics and the Christchurch and Auckland Technical Institutes are progressing very well. In all institutes applicants have far exceeded available

course places. The on-going evaluation being conducted by the Research and Planning Unit of the Department of Education, in consultation with the Department of Health is continuing satisfactorily. The first nurses to qualify from these programmes have obtained registration as comprehensive nurses and are now employed in a variety of settings in the health services.

Private hospitals have completed the phasing out of their schools of nursing. The Opotiki School has become part of the Whakatane School of Nursing following amalgamation of the Opotiki and Whakatane Hospital Boards.

There are now 27 hospital schools of nursing and between them they offer twenty-seven 3-year general/male nursing programmes, seven 3-year psychiatric nursing programmes, three 3-year psychopaedic nursing programmes, forty 18-month community nurse programmes, eight 6-month maternity nursing programmes, and four 6-month midwifery programmes.

Attention has been directed towards assisting these schools to improve the education and training of student nurses. Major problems relating to the employment status of student nurses continue to cause concern and some degree of student unrest has been evident. This has largely been related to the students taking excessive responsibility for the patients' care with insufficient knowledge and skill and without direct supervision from qualified nurses.

While it is generally accepted that people require comprehensive health services, progress towards providing the necessary comprehensive education and training for students of nursing is of necessity slow.

Post Basic Nursing Education

The New Zealand School of Advanced Nursing Studies has continued to modify its curriculum to meet the changing needs of nursing within the health services. Further improvements were made in the core subjects and a new course in management was introduced.

Sixty students were selected from 102 applications and 54 New Zealand students and 6 overseas nurses were enrolled in the school's Diploma of Nursing programme.

Sponsoring agencies were:					No. of Students
Hospital boards (18)	..	..	..	..	41
Department of Health	..	..	..	..	10
Ministry of Defence	..	..	..	..	1
WHO	..	..	..	..	6
Alert	..	..	..	..	1
Independent	..	..	..	..	1

Fifty-three of these nurses were awarded the Diploma of Nursing and four received certificates of attendance. Three students withdrew from the programme.

It is anticipated that the school's new building in Hobson Street, Wellington, will be occupied during May 1976 and that the 58 students at present enrolled will move to that site.

Eight overseas registered nurses from Thailand, Indonesia, and Sri Lanka also attended the 1975 programme at the school's WHO

Sponsored Training Centre for Nurses. All successfully completed the course. This was the final year of the WHO sponsorship of this programme. While the evaluation of the 5-year scheme indicated a high degree of success, the course was no longer considered a priority in respect of WHO's financial allocations.

Victoria University continues to offer nursing studies papers within its B.A. structure and Massey University offers nursing studies papers within its diploma, B.A., B.A.(Hons.), and M.A. structures. Government approved final year study awards are assisting some nurses towards obtaining a first degree or diploma, majoring in nursing studies.

Short courses in community health nursing have been offered by regional technical institutes. These are designed for people who are unable to undertake longer courses or who require some up-dating of their knowledge and skills. Similar courses for tutors are conducted by the Hamilton and Wellington Teachers Colleges. Some nurses in administrative positions, along with other colleagues in the health services, are also enrolled in the Diploma in Health Administration which is offered by Massey University.

6. WELFARE SERVICES—CARE OF THE AGED

Introduction

During the year there has been a significant increase in activity by organisations planning residential home and geriatric hospital accommodation for the aged. The major contribution in the field of care of the aged will continue to be made by the larger established religious and welfare organisations but there are a number of charitable trusts being formed in smaller towns whose aim is to provide for the needs of the elderly in their own district. These trusts gain financial support from local service organisations, thus encouraging a large measure of community involvement in their projects.

Capital subsidies for the provision of residential home and geriatric hospital accommodation by religious and welfare organisations were increased substantially on 1 October 1974. With the increased subsidies now available together with more competition in the building industry, it has been found that in many cases the subsidy has met the full cost of the buildings.

Homes and Hospitals—Religious and Welfare Organisations

The current subsidy rates for the construction of old people's homes and hospitals are \$12,000 per home bed and \$16,000 per hospital bed. In addition, a subsidy of \$500 per bed is payable in respect of land and land development for the initial establishment of homes and hospitals.

Essential fire protection work is eligible for subsidy assistance at 100 percent of actual cost. Upgrading work required for the comfort and care of residents and patients qualifies for subsidy assistance to the extent of 80 percent of actual cost. In cases where existing homes and hospitals are required to change from electric heating to a fuel-burning boiler installation, a subsidy of 100 percent of cost may be approved.

The current programme for old people's homes and hospitals is as follows:

	Home	Hospital	Total
Beds commissioned 1975-76	386	223	609
Under construction	416	135	551
Approved—awaiting construction ..	408	55	463

During the year, subsidies totalling \$5,787,554 were approved towards the establishment of 388 home beds and 58 geriatric hospital beds. Approvals for upgrading and fire protection work amounted to \$299,238.

The total assistance given since the inception of the subsidy policy in 1951 is \$43,904,988, resulting in the provision of 7098 home and hospital beds.

The following table shows the provision of home and hospital beds over the last 3 years:

Year	Commissioned	Under Construction	Total
1973-74 ..	283	763	1 046
1974-75 ..	246	816	1 062
1975-76 ..	609	551	1 160

Annual expenditure is as follows:

Year	Expenditure \$
1973-74	3,707,591
1974-75	4,511,595
1975-76	3,586,573

Licensing of Old People's Homes

Redrafting of the Old People's Homes Regulations 1965 proceeded during the year on the basis that the department would retain the licensing responsibility until such time as the proposed regional health authorities were established.

As it is not now Government policy to proceed with the previously proposed reorganisation of the health services and the establishment of regional health authorities, consideration is being given to the appropriate agency to be responsible for the administration of the regulations.

Meals on Wheels

The meals on wheels scheme is operated by 28 hospital boards and one small scheme at Port Chalmers is administered by the department. Several boards have extended their services into new areas.

The following table shows the growth of this service:

Year Ending 31 December	Total Number of Meals Provided During Year	Number of Meals Supplied Daily at End of Year
1960	203 065	985
1965	479 874	2 240
1970	783 135	3 310
1973	974 571	4 245
1974	1 074 361	4 440
1975	1 209 697	4 822

The success of the meals on wheels scheme depends largely on the many hundreds of voluntary drivers who deliver meals to the elderly. Increases in the price of petrol during the year have resulted in representations by the New Zealand Red Cross Society and hospital boards for some financial assistance to voluntary drivers to offset the additional costs.

Laura Fergusson Trust for Disabled Persons

During the year a subsidy of \$250,000 was approved to assist the trust to provide a 20-bed residential home for the physically handicapped at Naenae, Wellington. A tender for construction of the buildings has been accepted and work has commenced. The total cost of the project is expected to be to the order of \$450,000 to which the trust itself will be contributing approximately \$200,000.

The trust is also planning a 22-bed home to be built in Christchurch. The site for the home is being made available by the North Canterbury Hospital Board on lease at a nominal rental.

Government Lottery Funds

The Welfare of Aged Persons Distribution Committee, for which the department provides secretarial and advisory services, was allocated the sum of \$450,000 for distribution during the 1975-76 financial year, which is an increase of \$50,000 on the previous year.

Demands on the committee's resources are continuing to increase. The committee has made generous grants to old people's welfare councils to meet administration costs. Capital grants have been made for the provision of old folks' clubrooms, day care centres, community halls in pensioner housing settlements, and recreation rooms in the grounds of old people's homes, thus providing amenities for a large number of elderly persons within the community.

Board of Health Committee on Care of the Aged

The committee met on four occasions during the year. A wide range of subjects concerning care of the aged was considered including chiropody services, training of senior staff in old people's homes, preparation for retirement, aids for the disabled and elderly, post office facilities for old people, revision of the Old People's Homes Regulations 1965, charges for meals on wheels, and the private rest home scheme.

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APPENDIX I

TABLE I—School Dental Service Statistics (Figures for the previous year in parentheses)**SCHEDULE 1**

	1976	(1975)
Number of school dental nurses*	1 319	(1 371)
Number of treatment centres (including sub-bases) ..	1 373	(1 366)
Number of schools	2 554	(2 539)
Number of children	622 160	(623 636)
Operative dental treatment—		
Total number of fillings	2 202 169	(2 248 326)
Number of carious permanent teeth extracted ..	44	(47)
Number of carious deciduous teeth extracted ..	48 948	(48 862)
Total number of carious teeth extracted	48 992	(48 909)
Total number of operations	5 469 461	(5 271 832)

EXPLANATORY NOTE—The total number of fillings, amounting to 2 202 169, is to be contrasted with 48 992 teeth removed as unsavable. The latter figure, together with 7883 deciduous and 1421 permanent teeth extracted for School Dental Service patients by contracting dentists under dental benefits, represents a ratio of 2.6 teeth to every 100 fillings.

*The number of school dental nurses is the number working as at 31 March 1976 converted to full-time equivalents. The figure for 1975 includes those on extended leave.

SCHEDULE 2**Adolescent Dental Service**

Statistics relating to treatment rendered as social security dental benefits are as follows (figures for the previous year in parentheses):

	1976	(1975)
Number of children enrolled for general dental benefits as at 31 March 1976	247 877	(233 713)
Total amount paid private practitioners for treatment rendered under general dental benefits	\$4,993,915	(\$4,317,424)
Number of completed treatments in respect of which the above sum was paid	353 776	(331 420)
Average cost per completed treatment for general dental benefits	\$14.11	(\$13.02)

SCHEDULE 3**Ratio of Extractions to Fillings Over the Past 50 Years**

Year Ended 31 March				Fillings	Extractions	Ratio of Extractions per 100 Fillings
1925	..	..	..	59 322	43 181	72.6
1935	..	..	..	399 560	70 207	17.5
1945	..	..	..	1 017 290	76 335	7.5
1955	..	..	..	1 440 245	83 247	5.8
1965	..	..	..	2 324 017	81 030	3.4
1970	..	..	..	2 647 861	73 148	2.8
1975	..	..	..	2 248 326	56 578	2.5
1976	..	..	..	2 202 169	58 296	2.6

SCHEDULE 4**Treatment of Pre-school Children**

Year Ended 31 March				Number of Pre-school Children Treated Over the Past 25 Years	Approximate Percentage of Total Pre-school Population 2½ to 5 Years of Age
1950	..	..	..	22 514	19
1955	..	..	..	44 976	35
1960	..	..	..	63 012	44
1965	..	..	..	82 690	53
1970	..	..	..	87 197	60
1975	..	..	..	99 963	64
1976	..	..	..	101 812	65

TABLE 2—Hospital Boards Works Programmes as at 31 March 1976 (Projects over \$20,000 only)

	Total Estimated Cost	Expenditure to 31 March 1976	Expenditure 1975-76	Estimated Expenditure 1976-77	Estimated Expenditure 1977-78	Estimated Expenditure 1978-79	Estimated Expenditure 1979-80	Estimated Expenditure 1980-81	To Complete
	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
Category A	..	231,383	105,466	51,002	40,171	25,091	11,921	2,045	50
Category B	..	789	22	438	325	4	..	..	..
Category C	..	601	20	266	301	14	..	..	..
Subtotals	..	232,773	105,508	51,706	40,797	25,109	11,921	2,045	50
Category D	..	1,672	..	355	717	553	50	..	..
Category E	..	94,930	2,470	6,471	10,613	9,656	7,662	6,207	2,232
Category F	..	66,905	308	2,359	7,399	13,039	14,002	7,964	10,822
Category G	..	137,708	776	3,177	12,527	13,733	10,050	7,149	8,808
Category H	..	37,720	370	1,154	4,927	6,810	6,018	6,185	7,254
Subtotals	..	338,935	3,924	13,516	36,183	43,791	37,782	27,505	29,116
Totals—									
31/3/76	..	571,708	109,432	65,222	76,980	68,900	49,703	29,550	29,166
31/3/75	..	509,048	85,723	57,269	72,867	79,084	64,352	46,745	103,008

*In addition the total value of projects \$1,000 to \$20,000 was approximately \$2,750,000 for the year ended 31 March 1976.

Category A = Work commenced.

Category B = Acceptance of tenders authorised.

Category C = Tenders called.

Category D = Working drawings approved and calling of tenders authorised.

Category E = Sketch plans approved and preparation of working drawings authorised.

Category F = Preparation of sketch plans authorised.

Category G = Works provisionally authorised.

Category H = Works in preliminary planning stages.

TABLE 3—Infant, Neonatal, Post-Neonatal and Late Fetal Mortality by Race 1967-74

Year	Infants (Deaths Under One Year)			Neonates (Deaths Under 28 Days)			Post-neonates (Deaths 28 Days and Under 1 Year)			(Late Fetal Deaths)		
	Total Population	Non Maori	Maori	Total Population	Non Maori	Maori	Total Population	Non Maori	Maori	Total Population	Non Maori	Maori
	<i>Numbers</i>											
1967	1 102	862	240	685	584	101	417	278	139	735	623	112
1968	1 164	939	225	738	646	92	426	293	133	752	637	115
1969	1 057	855	202	677	572	105	380	283	97	625	518	107
1970	1 040	815	225	641	527	114	399	288	111	671	576	95
1971	1 070	847	223	686	571	115	384	276	108	650	561	89
1972	987	827	160	636	557	79	351	270	81	648	562	86
1973	984	837	147	594	527	67	390	310	80	551	489	62
1974†	925	773	152	559	476	83	366	297	69	504	436	68
<i>Rates*</i>												
1967	18.0	16.2	29.7	11.2	11.0	12.5	6.8	5.2	17.2	11.9	11.6	13.7
1968	18.7	17.4	27.4	11.8	11.9	11.2	6.8	5.4	16.2	11.9	11.6	13.8
1969	16.9	15.8	24.3	10.8	10.5	12.6	6.1	5.2	11.7	9.9	9.5	12.1
1970	16.7	15.1	27.2	10.3	9.8	13.8	6.4	5.3	13.4	10.8	10.7	11.5
1971	16.5	15.1	26.2	10.6	10.2	13.5	5.9	4.9	12.7	9.9	9.9	10.3
1972	15.6	14.9	20.3	10.1	10.1	10.0	5.6	4.9	10.3	10.1	10.1	10.8
1973	16.2	15.7	19.9	9.8	9.9	9.1	6.4	5.8	10.8	9.0	9.1	8.3
1974†	15.6	14.8	21.8	9.4	8.9	11.9	6.2	5.7	9.9	8.4	8.3	9.6

* Per 1000 live births for infant, neonatal, and post-neonatal deaths, and per 1000 total births for still births. The figures shown above are the latest available.
† Provisional.

National Health Statistics Centre, Wellington.

TABLE 4—Deaths of Infants Under 1 Year (Non-Maori, Maori, and Total Population) 1973-74

Principal Cause of Death	Race	Number of Deaths		Rate per 1000 Live Births	
		1973	1974*	1973	1974*
All Infant Deaths under 1 Year	Total	984	925	16.2	15.6
	Non-Maori	837	773	15.7	14.8
	Maori	147	152	19.9	21.8
Influenza, pneumonia, bronchitis ..	Non-Maori	92	100	1.7	1.9
	Maori	23	23	3.1	3.3
	Total	115	123	1.9	2.1
Gastro-enteritis, diarrhoea, and dysentery	Non-Maori	9	6	0.2	0.1
	Maori	9	5	1.2	0.7
	Total	18	11	0.3	0.2
Congenital anomalies	Non-Maori	193	205	3.6	3.9
	Maori	20	22	2.7	3.2
	Total	213	227	3.5	3.8
Neonatal disorders arising from certain diseases of the mother	Non-Maori	52	48	1.0	0.9
	Maori	8	7	1.1	1.0
	Total	60	55	1.0	0.9
Birth injury, difficult labour, and other anoxic and hypoxic conditions ..	Non-Maori	39	34	0.7	0.6
	Maori	5	9	0.7	1.3
	Total	44	43	0.7	0.7
Asphyxia of newborn, unspecified ..	Non-Maori	31	22	0.6	0.4
	Maori	3	7	0.4	1.0
	Total	34	29	0.6	0.5
Haemolytic disease of newborn ..	Non-Maori	11	5	0.2	0.1
	Maori	..	..	..	..
	Total	11	5	0.2	0.1
Hyaline membrane disease	Non-Maori	38	28	0.7	0.5
	Maori	5	8	0.7	1.1
	Total	43	36	0.7	0.6
Immaturity and multiple pregnancy ..	Non-Maori	53	47	1.0	0.9
	Maori	1	10	0.1	1.4
	Total	54	57	0.9	1.0
Remainder (all other causes) ..	Non-Maori	319	278	6.0	5.3
	Maori	73	61	9.9	8.7
	Total	392	339	6.5	5.7

*Provisional data.

National Health Statistics Centre, Wellington.

TABLE 5 — Principal Causes of Death: Numbers and Rates 1950-74

Disease Groups	Number of Deaths Registered					Mean Annual Rates per 100 000 Population				
	1950-54	1955-59	1960-64	1965-69	1970-74†	1950-54	1955-59	1960-64	1965-69	1970-74†
Tuberculosis ..	2 299	1 123	572	479	430	23.0	10.0	4.6	3.5	2.9
All other infectious and parasitic diseases ..	1 179	930	636	613	773	11.8	8.3	5.2	4.5	5.3
Malignant neoplasm of bronchus, lung, and trachea ..	1 163	1 938	2 484	3 263	4 303	11.6	17.3	20.0	24.0	29.4
Other malignant neoplasms ..	13 225	14 237	15 370	16 473	18 843	132.1	127.4	123.6	121.1	128.9
Diabetes mellitus ..	1 159	1 257	1 478	1 650	2 139	11.6	11.2	11.9	12.1	14.6
Cerebrovascular disease ..	10 774	12 336	13 536	14 947	16 941	107.6	110.4	108.9	109.9	115.8
Active rheumatic fever and chronic rheumatic heart disease ..	1 388	1 286	1 161	1 022	881	13.9	11.5	9.3	7.5	6.0
Other forms of heart disease and hypertension..	32 029	33 746	37 733	41 459	41 022	320.0	302.0	303.5	304.8	280.5
Influenza ..	461	525	444	181	393	4.6	4.7	3.6	1.3	2.7
Pneumonia ..	2 839	4 191	5 773	6 192	5 395	28.4	37.5	46.4	45.5	36.9
Bronchitis ..	1 621	2 344	3 034	3 744	4 366	16.2	21.0	24.4	27.5	29.9
Asthma ..	758*	770	580	739	600	7.6*	6.9	4.7	5.4	4.1
Ulcer of stomach and duodenum..	777	909	761	627	678	7.8	8.1	6.1	4.6	4.6
Diseases of liver and gallbladder ..	766*	905	782	776	997	7.6*	8.1	6.3	5.7	6.8
Nephritis and nephrosis ..	1 064	746	685	629	595	10.6	6.7	5.5	4.6	4.1
Hyperplasia of prostate ..	693	736	546	375	291	6.9	6.6	4.4	2.8	2.0
Congenital anomalies ..	1 402	1 549	1 687	1 570	1 604	14.0	13.9	13.6	11.5	11.0
Motor vehicle accidents ..	1 482	1 872	2 046	2 868	3 609	14.8	16.8	16.4	21.1	24.7
Suicide and self-inflicted injury ..	931	1 025	1 092	1 305	1 304	9.3	9.2	8.8	9.6	8.9
Homicide ..	96	94	116	137	158	1.0	0.8	0.9	1.0	1.1
Other accidental and violent deaths ..	3 262	3 361	3 700	4 207	4 791	32.6	30.1	29.8	30.9	32.8
All other causes ..	13 678	15 332	15 816	15 130	14 373	136.7	137.2	127.2	111.2	98.3
Totals, all causes ..	93 046	101 212	110 032	118 386	124 486	929.7	905.7	884.9	870.5	851.3

*Does not include Maori deaths for these years.

†Provisional figures.

TABLE 6—Health Benefits: Statement Showing Departmental Expenditure Since 1 April 1966

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
	<i>Subdivision I—Maternity Benefits*</i>									
Medical practitioners' fees ..	\$ 1,522,412	\$ 1,629,830	\$ 1,696,857	\$ 2,541,703	\$ 2,670,283	\$ 3,317,359	\$ 3,363,820	\$ 3,268,672	\$ 4,832,370	\$ 5,147,654
Medical practitioners' mileage fees ..	33,392	34,381	37,542	71,818	82,304	104,877	101,219	101,198	145,174	152,219
Obstetric nurses' fees ..	4,396	3,361	3,777	2,253	3,170	4,122	2,261	1,699	3,613	8,547
	1,560,200	1,667,572	1,738,176	2,615,774	2,755,757	3,426,358	3,467,300	3,371,569	4,981,157	5,308,420
	<i>Subdivision II—Medical Benefits</i>									
General medical services ..	\$ 8,100,682	\$ 8,288,660	\$ 8,209,512	\$ 9,098,663	\$ 9,784,870	\$ 9,691,881	\$ 11,820,250	\$ 17,378,100	\$ 19,902,815	\$ 28,180,510
GMS mileage ..	248,286	230,494	209,052	190,796	181,313	159,220	150,513	137,264	127,768	125,025
Specialist medical services ..	..	..	..	..	1,256,259	1,285,721	1,721,311	2,147,775	2,252,908	2,634,684
Rural practice bonus and other incentives ..	..	..	..	..	219,588	213,072	259,018	371,483	425,077	586,702
Immunisation Benefit ..	..	..	..	..	..	..	127,233	406,710	433,083	456,748
Practice Nurse subsidy ..	..	..	..	..	72,018	123,976	146,461	173,118	268,486	149,189
	8,348,968	8,519,154	8,418,564	9,289,459	11,514,048	11,473,870	14,224,786	20,614,450	23,410,137	32,632,858
Private practice and post-graduate grants ..	..	..	..	..	10,655	31,939	24,377	27,452	37,691	20,716
Special area and other arrangements— section 117 Social Security Act ..	336,372	331,012	370,800	410,258	152,130	116,892	164,260	152,986	161,138	152,293
	336,372	331,012	370,800	410,258	162,785	148,831	188,637	180,438	198,829	173,009
	8,685,340	8,850,166	8,789,364	9,699,717	11,676,833	11,622,701	14,413,423	20,794,888	23,608,966	32,805,867
	<i>Subdivision III—Hospital Benefits*</i>									
Treatment in private hospitals—maternity benefits ..	\$ 386,852	\$ 379,498	\$ 330,541	\$ 340,520	\$ 376,886	\$ 394,468	\$ 397,116	\$ 388,340	\$ 367,832	\$ 336,366
Treatment in private hospitals—medical, surgical, and Karitane ..	3,776,284	4,027,046	4,139,561	4,590,359	5,290,965	5,915,224	7,015,604	7,540,945	6,708,126	3,260,603
Treatment in private hospitals—geriatric benefit ..	..	..	..	..	..	..	..	..	2,383,557	8,589,276
Treatment in approved institutions ..	305,588	354,908	386,245	422,632	494,596	526,081	626,257	700,270	687,418	824,979
	4,468,724	4,761,452	4,856,347	5,353,511	6,162,447	6,835,773	8,038,977	8,629,555	10,146,932	13,011,224

TABLE 7—Mental Health Data 1975, Psychiatric and Psychopaedic Hospitals

(1975 figures are provisional: 1974 figures are final)

				Resident	Register	Absent
1. Average numbers 1975	..	..	..	8 475	10 184	1 709
Average numbers 1974	..	..	..	8 930	10 731	1 801
2. Admissions (excluding replacements)—					1975	1974
First admissions	..	..	..	..	3 165	3 190
Re-admissions	..	..	..	..	6 002	5 889
All admissions	..	..	..	..	9 167	9 079
3. Deregistrations						
Died in hospital	..	..	..	..	509	539
*Outright discharges			..	..	7 189	7 381
Died/discharged while on leave		..	..	..	910	979
					8 608	8 899

*Does not include discharges "not committed", 357.

Figures exclude general hospital psychiatric units; the Bridge, Wellington; and Rotorua Island.

ADMISSIONS UNDER THE ALCOHOLISM AND DRUG ADDICTION ACT 1966
(Provisional Figures)

Hospital			Section 8	Section 9	Total
Carrington	..	..	34	47	83
Kingseat	..	..	28	32	60
Tokanui	..	..	23	26	49
Porirua	..	..	11	15	26
Sunnyside	..	..	9	18	27
Cherry Farm	..	..	24	12	36
Oakley	..	..	5	33	38
Roto Roa Island	..	..	39	14	53
Bridge (Wellington)	..	..	13	15	28
			186	212	400

For 1974 the total of admissions was 429.

Section 8—Application for treatment made by patient.

Section 9—Application for treatment made by some other person on patient's behalf.

TABLE 8—Number of Notified Cases of Poisoning Treated in Hospitals During 1975

District	0-1 Year			2-4 Years			5-9 Years			10-14 Years			15-24 Years			25-54 Years			55 Years and Over			Not Known	Total
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
Whangarei ..	15	10	25	26	22	48	1	1	2	0	1	1	6	8	14	2	13	15	0	1	1	5	106
Takapuna ..	37	29	66	77	60	137	8	4	12	3	7	10	36	63	99	34	69	103	8	14	22	17	454
Auckland ..	42	28	70	90	70	160	6	5	11	3	6	9	99	182	281	80	140	220	12	25	37	0	805
South Auckland ..	36	21	57	57	45	102	7	5	12	4	6	10	19	44	63	23	40	63	1	5	6	1	313
Hamilton ..	36	21	57	85	69	154	3	0	3	2	6	8	28	67	95	18	44	62	4	11	15	1	395
Rotorua ..	20	20	40	46	28	74	2	3	5	0	7	7	28	51	79	17	47	64	3	1	4	0	274
Gisborne ..	2	2	4	36	21	57	0	0	0	0	4	4	8	14	22	14	14	28	1	0	1	0	116
Napier ..	11	10	21	58	42	100	4	2	6	0	1	1	18	26	44	12	28	40	1	6	7	0	219
New Plymouth ..	13	9	22	32	21	53	3	3	4	2	4	6	15	21	36	5	24	29	0	2	2	1	156
Wanganui ..	13	4	17	10	14	24	1	1	3	1	1	2	14	18	32	6	21	27	3	5	8	0	114
Palmerston North ..	17	15	32	39	30	69	5	5	10	3	6	9	16	43	59	21	44	65	3	3	6	2	252
Hutt ..	43	33	76	84	55	139	7	0	7	0	9	9	25	64	89	27	57	84	5	5	10	11	425
Wellington ..	24	25	49	42	42	91	6	5	11	1	5	6	62	109	171	40	92	132	3	9	12	13	485
Nelson ..	9	3	12	28	26	54	1	1	2	0	0	0	8	20	28	11	23	34	4	5	9	2	141
Christchurch ..	139	120	259	228	173	401	26	8	34	9	15	24	145	225	370	143	161	304	16	29	45	18	1455
Timaru ..	12	5	17	23	18	41	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	60
Dunedin ..	9	7	16	38	41	79	5	3	8	0	1	1	25	64	89	23	60	83	1	5	6	5	287
Invercargill ..	24	20	44	46	54	100	5	3	8	0	5	5	11	34	45	8	14	22	1	0	1	0	225
Grand totals ..	502	382	884	1 052	831	1 883	90	53	143	28	84	112	563	1 054	1 617	484	891	1 375	66	126	192	76	6 282

TABLE 9a—Notifiable Diseases in New Zealand for the Year Ended 31 December 1975 Showing Distribution by Months (All Cases)

Diseases	January	February	March	April	May	June	July	August	September	October	November	December	Total	1974	1973	1972	1971
Diphtheria	..	..	..	..	..	..	1	..	..	..	..	..	1	..	7	..	..
Dysentery—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amoebic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bacillary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eclampsia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Food poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydatids	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Infectious	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Serum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningococcal infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia neonatorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pemphigus neonatorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polio	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salmonella infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staphylococcal pneumonia or septicaemia of the new born	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other forms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Undulant fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute infective encephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anchylostomiasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharzia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Listeriosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ornithosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trachoma	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic lead poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tacniasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congenital rubella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cysticercosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	693	614	556	544	497	429	420	380	389	609	418	544	6 093	6 870	5 919	6 857	7 949

TABLE 9b—Notifiable Diseases in New Zealand for the Year Ended 31 December 1975 Showing Distribution by Health Districts (All Cases)

Diseases	Whangarei	Takapuna	Auckland	South Auckland	Hamilton	Rotorua	Gisborne	Napier	New Plymouth	Wanganui	Palmerston North	Hutt	Wellington	Nelson	Christchurch	Timaru	Dunedin	Invercargill	Total
Diphtheria	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Dysentery—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amoebic	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Bacillary	..	9	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	232
Eclampsia	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
Enteric fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Typhoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
Food poisoning	..	1	21	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	504
Hydatids ..	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15
Hepatitis—	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Infectious	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Serum ..	220	240	279	447	374	318	99	63	48	104	137	205	186	54	84	27	67	41	2 993
Leptospirosis	1	3	7	3	55	5	3	2	2	..	1	7	5	2	56	1	6	1	160
Meningococcal infections	32	4	1	11	267	35	3	..	86	3	3	8	..	13	10	1	2	1	480
Ophthalmia neonatorum	6	4	9	5	1	6	..	3	..	1	2	1	..	1	4	..	2	1	54
Pemphigus neonatorum	1	..	3	1	1	1	..	..	..	..	..	..	..	..	1	..	..	..	11
Polioomyelitis	..	1	..	2	1	11	..	..	..	..	..	..	..	..	..	..	..	..	20
Puerperal infections..	..	27	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salmonella infections	..	80	114	68	92	17	25	52	4	1	7	9	18	9	116	12	59	4	44
Staphylococcal pneumonia or septicaemia of the new born	33	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	720
Tetanus ..	..	..	..	..	..	2	..	..	1	1	..	..	..	1	..	..	..	..	3
Tuberculosis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Pulmonary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other forms	20	51	122	73	28	37	23	18	17	7	5	20	64	8	21	16	12	14	556
Undulant fever	2	6	24	15	7	15	5	5	1	3	..	5	3	6	4	2	3	1	107
Acute infective encephalitis	6	..	6	5	26	11	..	..	1	1	1	4	..	2	2	1	1	5	72
Actinomycosis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Anchylostomiasis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Bilharzia ..	..	..	30	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..	47
Leprosy ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Listeriosis ..	..	..	..	3	..	1	..	..	..	..	..	1	4	..	..	..	1	..	10
Malaria ..	..	1	2	..	..	..	..	..	..	..	1	..	..	..	3	..	..	..	9
Ornithosis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trachoma ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic lead poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congenital rubella	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cysticercosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue fever	..	3	7	1	1	..	1	..	..	..	1	..	..	..	1	..	..	..	15
Totals	335	434	642	672	945	533	273	179	163	124	223	290	383	100	473	69	184	71	6 093

TABLE 9c—Notifiable Diseases in New Zealand for the Year Ended 31 December 1975 Showing Distribution by Age and Sex (All Cases)

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		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Dysentery—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amoebic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bacillary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eclampsia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Food poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydatids	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Infectious	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningococcal infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pemphigus Neonatorum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polio myelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salmonella infections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staphylococcal pneumonia or septicaemia of the new born	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other forms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Undulant fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute infective encephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anchylostomiasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilharzia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Listeriosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ornithosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trachoma	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic lead poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congenital rubella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cysticercosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	55	56	196	163	359	305	413	300	943	682	1 088	658	411	248	114	89	3 579	2 501
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6 093	6 093

*Ages and sex were not ascertained. Eclampsia 1, food poisoning 4, pemphigus neonatorum 5, undulant fever 3.

TABLE 10—Results of Mass X-Ray Examinations 1975

Year	Number Examined	Number of Active Tb. Cases Found	Active Cases per 1000 Examined	Number of Notified Pulmonary Tb.	Active Cases Found per 100 Notified Pulmonary Tb.
1970	295 665	83	0.28	646	12.8
1971	370 370	102	0.28	552	18.4
1972	400 576	78	0.20	687	11.3
1973	393 322	47	0.12	492	9.5
1974	336 451	63	0.18	544	11.6
1975	310 263	43	0.14	556	7.7

TABLE 11—Attendances at Occupational Health Centres

District	Centre	Attendances		Total
		First	Reattendance	
Takapuna ..	New Lynn ..	2 085	3 207	5 292
Auckland ..	Mount Wellington ..	2 250	1 617	3 867
	Penrose ..	7 681	7 034	14 715
	Queens Wharf ..	4 176	8 460	12 636
	Rosebank Road ..	910	2 528	4 438
Rotorua ..	Wairakei* ..	33	336	369
	Mount Maunganui ..	918	763	1 681
Hutt ..	Petone ..	2 010	1 152	3 162
Wellington ..	Glasgow Wharf ..	1 354	576	1 930
Christchurch ..	Woolston ..	765	229	994
	Lyttleton ..	1 137	427	1 564
	Hornby ..	219	85	304
Dunedin ..	Foreshore ..	801	399	1 200
	Totals 1975 ..	25 339	26 813	52 152
	(Totals 1974) ..	(26 190)	(26 814)	(53 004)

*Operated chiefly in conjunction with hearing conservation programme.

TABLE 12—Tuberculin Testing and BCG Vaccination in Post-Primary Schools 1975

District	Number Tested	Number BCG Vaccinated	Number Heaf* Positive	Percentage Positive	Number Found to Have Clinical Tuberculosis
Whangarei ..	2 771	2 165	4	0.14	Nil
Takapuna ..	5 756	4 689	16	0.28	13
Auckland ..	5 463	4 169	11	0.20	8
South Auckland ..	5 611	4 015	25	0.45	8
Hamilton ..	5 884	4 820	24	0.41	Nil
Gisborne ..	1 409	1 303	4	0.28	Nil
Rotorua ..	4 355	3 702	22	0.51	Nil
New Plymouth ..	2 185	1 841	3	0.14	Nil
Napier ..	2 907	2 588	3	0.10	1
Wanganui ..	2 288	1 993	12	0.52	1
Palmerston North ..	2 972	2 563	23	0.77	Nil
Hutt ..	4 366	3 603	9	0.21	1
Wellington ..	3 605	3 096	8	0.22	Nil
Nelson ..	2 240	..	3	0.13	Nil
Christchurch ..	6 177	..	1	0.02	Nil
Timaru ..	2 119	..	3	0.14	Nil
Dunedin ..	2 787	..	1	0.04	Nil
Invercargill ..	2 345	..	5	0.21	Nil
Totals ..	65 240	40 547	177	0.27	32

*Heaf positive represents + + + and + + + + reactors.

TABLE 13—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						Mixed						All Types					
	Maori			Non Maori			Maori			Non Maori			Maori			Non Maori			Both Races					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
1971	77 6.8	92 8.3	169 7.6	234 1.8	125 0.9	359 1.4	17 1.5	17 1.5	34 1.5	40 0.3	32 0.2	72 0.8	6 0.5	7 0.6	13 0.6	12 0.1	9 0.1	21 0.1	386 2.7	282 2.0	668 2.3			
1972	128 11.1	100 8.8	228 10.0	275 2.1	161 1.2	436 1.6	14 1.2	17 1.5	31 1.4	35 0.3	28 0.2	63 0.2	6 0.5	9 0.8	15 0.7	11 0.1	15 0.1	26 2.8	459 3.3	330 2.3	799 2.8			
1973	85 7.13	65 5.65	152 6.44	232 1.73	115 0.86	347 1.29	17 1.43	16 1.37	33 1.40	24 0.18	30 0.22	54 0.20	8 0.67	7 0.60	15 0.64	6 0.04	4 0.03	11 0.04	372 2.55	239 1.64	611 2.09			
1974	107 8.77	86 7.04	193 7.92	187 1.33	149 1.06	336 1.19	11 0.89	8 0.82	19 0.85	20 0.14	30 0.21	50 0.18	3 0.24	4 0.33	7 0.28	7 0.05	1 0.01	8 0.03	335 2.21	278 1.84	613 2.02			
1975	85 6.69	56 4.49	141 5.60	241 1.69	155 1.08	396 1.39	13 1.02	14 1.12	27 1.07	31 0.22	29 0.20	60 0.21	10 0.78	11 0.88	21 0.83	10 0.07	8 0.05	18 0.06	390 2.51	273 1.76	663 2.13			

TABLE 14—Number of Persons Reporting for the First Time to Venereal Disease Clinics Run by Hospital Boards

	Gonorrhoea			Syphilis			Non-specific Urethritis	
	M	F	T	M	F	T	M	F
Auckland	773	249	1 022	15	3	18	1 100	..
Hamilton	93	60	153	4	2	6	67	..
Gisborne	34	43	77	..	1	1	..	..
Napier	121	71	192	2	3	5	81	..
Hastings	190	97	287	10	4	14	40	..
Wanganui	10	1	11	..	..	..	8	..
Hutt	33	14	47	1	..	1	12	..
Wellington	642	726	1 368	7	3	10	662	..
Christchurch	447	280	727	1	1	2	717	..
Dunedin	112	108	220	7	3	10	192	..
Invercargill	108	55	163	1	..	1	83	..
Totals—								
1975	2 563	1 704	4 267	48	20	68	2 962	..
1974	2 118	1 324	3 442	48	16	64	2 463	..
1973	1 848	1 027	2 875	36	14	50	2 495	..
1972	1 727	913	2 640	43	16	59	2 416	..
1971	1 578	940	2 518	49	24	73	1 773	..

First Admissions to Public Hospitals for Syphilis and Gonorrhoea Infections

	1968	1969	1970	1971	1972
Syphilis (all forms) ..	28	23	27	35	30
Gonorrhoea	88	89	81	94	93
Total	116	112	108	129	123

Table 15—Notification of Diseases Arising from Occupation

					Male	Female	Total
1. Skin diseases due to—							
Mineral oils	..	..	..	..	18	2	20
Grease	..	..	..	..	4	..	4
Organic solvents	..	..	..	..	12	4	16
Cement	..	..	..	..	8	..	8
Chrome	..	..	..	..	1	..	1
Resins and chemicals used in the manufacture of plastics	..	..	..	..	5	..	5
Hairdressing chemicals	..	..	..	..	..	2	2
Photographic chemicals	..	..	..	..	3	..	3
Other chemicals	..	..	..	..	47	3	50
Natural products—wool, tobacco, etc.	..	..	..	..	35	10	45
Physical causes	..	..	..	..	9	2	11
Other causes	..	..	..	..	27	5	32
Subtotal	..	..	..	..	169	28	197
2. Diseases due to dust, fumes, gases, vapour, or mist—							
Lead poisoning	..	..	..	..	2	..	2
Mercury poisoning	..	..	..	..	..	3	3
Metal fume fever	..	..	..	..	7	..	7
Organophosphorus insecticide poisoning	..	..	..	..	9	..	9
Poisoning by other agricultural chemicals	..	..	..	..	9	..	9
Poisoning by fumigants	..	..	..	..	1	..	1
Poisoning by other lung irritants	..	..	..	..	4	1	5
Poisoning by other gases	..	..	..	..	8	1	9
Poisoning by organic solvents	..	..	..	..	4	1	5
Any other respiratory diseases	..	..	..	..	3	..	3
Any other condition caused by the above agents—other than respiratory	..	..	..	..	8	..	8
Subtotal	..	..	..	..	55	6	61
3. Diseases due to physical agents—							
Eye conditions not due to accident	..	..	..	..	3	2	5
Hearing loss	..	..	..	..	9	..	9
Other conditions	..	..	..	..	5	..	5
Subtotal	..	..	..	..	17	2	19
4. Permanent damage to vision due to accident	..	..	..	..	13	..	13
5. Diseases due to infectious agents—							
Leptospirosis	..	..	..	..	404	23	427
Undulant fever	..	..	..	..	60	2	62
Other	..	..	..	..	5	..	5
Subtotal	..	..	..	..	469	25	494
Total cases	..	..	..	..	723	61	784
Total cases (1974)	..	..	..	..	(853)	(90)	(943)
Source of notifications—						Number	Percent
Medical practitioners	..	..	..	..	..	629	80.3
Medical officers of health	..	..	..	..	..	20	2.5
Department of Labour	..	..	..	..	..	100	12.8
Other sources (employers, unions, etc.)	..	..	..	..	..	35	4.4
Total notifications	..	..	..	..	..	784	100.0

TABLE 16—Supervision of Workers Engaged in Lead and Electroplating Processes

District	Lead Processes				Electroplating Processes										Number of Men Otherwise Affected by Plating Processes
	Number of Firms	Number of Workers Under Supervision	Number of Examinations	Number of Workers Suspended	Number of Firms Engaged in		Number of Workers Under Supervision		Number of Examinations		Number of Men With Chrome Ulcers				
					Chrome-plating	Other Plating Only	Chrome	Other	Chrome	Other	On Hands	On Nasal Septum	Other Parts of Body		
Whangarei ..	3	4	4	..	1	1	2	..	3	..	..	..	..	..	7
Takapuna ..	20	102	107	..	2	1	30	..	70	13	..	1	..	..	7
Auckland ..	11	244	618	1	20	16	78	45	583	76	..	..	2	..	3
South Auckland ..	11	106	289	1	9	1	28	6	182	3	..	..	..	..	7
Hamilton ..	10	133	146	..	3	3	18	9	28	25	1	5	..	..	..
Rotorua ..	10	61	76	..	2	..	10	..	37	..	..	..	..	..	..
Gisborne ..	5	67	119	..	1	..	3	..	9	..	..	..	..	..	..
Napier ..	8	105	20	..	3	..	15	..	120	..	..	..	..	..	..
New Plymouth ..	3	8	12	..	1	..	6	..	78	..	1	..	..	..	..
Wanganui ..	3	14	47	1	1	1	5	2	18	8	..	..	..	..	..
Palmerston North ..	12	117	117	..	1	..	1	..	1	..	..	..	..	..	..
Hutt ..	38	436	2 612	46	3	7	7	31	57	64	..	..	..	..	..
Wellington ..	11	211	623	4	5	1	30	3	44	3	..	..	..	..	..
Nelson ..	19	14	28	..	4	..	14	..	10	..	..	..	..	..	..
Christchurch ..	20	319	1 423	26	11	6	55	44	128	71	..	..	..	..	..
Timaru ..	11	12	49	..	1	..	3	..	13	..	..	..	..	..	..
Dunedin ..	10	76	111	..	3	1	48	2	106	2	..	..	..	..	..
Invercargill..	15	14	14	..	1	..	6	..	6	..	..	..	..	..	..
Totals 1975	210	2 043	6 415	79	72	38	359	143	1 493	265	2	6	2	17	
(Totals 1974)	(287)	(1 976)	(7 013)	(110)	(88)	(33)	(375)	(132)	(1 621)	(332)	(11)	(7)	(1)	(9)	

TABLE 17—Medical and Nursing Services in Private Industrial Undertakings and Government Factories

Terms of Employment	Number of Doctors and Nurses Employed	Approximate Number of Employees in Industrial Units Covered						Totals	
		0-200		201-500		501-1000		More than 1000	
		Number	Employees	Number	Employees	Number	Employees	Number	Employees
1. Industrial medical officers—									
(a) Medical officers on contracts attracting up to 60 percent subsidy ..	98	30	5 123	34	11 381	28	22 358	17	32 980
(b) Medical officers on other contracts ..	6	4	590	..	..	1	925	1	1 300
All medical officers ..	104	34	5 713	34	11 381	29	23 283	18	34 280
2. Industrial nurses—									
(a) Full-time ..	140	8	1 265	37	14 018	41	32 305	28	60 024
(b) Part-time (more than 10 hours weekly) ..	43	8	1 259	9	2 417	4	3 165	3	2 623
All nurses ..	183	16	2 524	43	15 355	45	35 470	30	62 347
Registered factories at 31 March 1975 ..		21 243		151		72		21 466	
								355 284	

TABLE 18—Food: Sampling 1975

	Total Samples	Samples Non- complying	Warnings Issued	Prosecutions Recom- mended
Milk	1 002	117	53	2
Sausages	630	60	19	28
Minced meat	297	119	32	77
Fresh meat	11	..	..	..
Other meat	185	23	7	7
Fish and shellfish	577	173	..	..
Cream	542	131	27	1
Milk beverages	354	149	97	..
Butter	32	2	..	..
Cheese	105	9	7	..
Yoghurt	70	15	..	..
Tea, coffee, cocoa	..	..	..	..
Salts, pickles	4	..	..	..
Ice cream	605	261	128	..
Fruit, vegetables, jams	89	12	..	..
Beverages (non-alcoholic)	187	31	15	10
Beverages (alcoholic)	88	22	..	..
Fats and oils	13	..	..	..
Containers	560	55	6	2
Field tests (meats)	844	42	..	..
Miscellaneous	479	53	1	..
Total	6 682	1 274	392	127
Food complaints investigated	1 677	..	503	66
Seizures of non-complying food	..	..	Number 79	Value \$13,808.46

APPENDIX II

AUDIOLOGICAL SERVICES IN NEW ZEALAND

Historical

In 1949, an otologist was appointed within the Department of Health to deal with the high incidence of discharging ears amongst pupils at the Titirangi School for the Deaf. Within the next few years, the need for the early detection of hearing loss and the subsequent fitting of hearing aids was recognised with the appointment by the Department of Education of teachers especially trained in this area (advisers on deaf children).

During the first half of 1950 the Auckland Audiology Unit was inaugurated. In 1961 the Board of Health's Committee on Services for the Deaf recommended that a National Audiology Centre should be established. The following comments were contained in the conclusions to its report:

"There is no doubt that deafness poses many problems for those who have lost their hearing either partially or totally. For children and educationalists, this poses special challenges. For adults it interrupts the tenor of normal social intercourse. For industry it presents a problem only now being appreciated."

In 1964, after considerable investigation and study, the board's recommendations were implemented. The Auckland Audiology Unit was absorbed into a new National Centre—a move which introduced a new facet into the treatment and rehabilitation services offered to New Zealanders suffering from hearing impairment.

Current Operations

It was recently estimated that there are more than 200 000 New Zealanders suffering from permanent hearing impairment of varying degrees. These people are assisted through a variety of governmental, voluntary, and private organisations and bodies in regaining their independence and confidence.

The National Audiology Centre, a head office unit of the Department of Health, acts as a co-ordinating body, providing comprehensive training schemes for personnel involved in the treatment of hearing impairment and subsequent rehabilitation. The centre's staff also provide expert advice to hospital boards throughout the country on the establishment of audiology units together with sophisticated diagnostic services. The centre maintains and calibrates audiological equipment and initiates surveys into a variety of environmental problems associated with noise within the community and industry. In addition, an otological service for the two existing schools for the deaf is given.

The centre is staffed by a director (an otologist) who is responsible to the Deputy Director-General of Health (Public Health and Environmental Protection); a senior audiologist and three audiologists; a senior engineer, a staff engineer and an engineer; a scientist and three technical officers. In addition, there is a staff sister and three clerical staff.

The National Centre is currently in the process of moving to new premises in Remuera Road, Auckland. The new site will offer a quieter environment, additional space in which to deal with an increasing work load in the engineering and audiological fields, and pleasant surroundings for the patients and staff.

Audiological Facilities

In 1974 the then Minister of Health announced a policy of upgrading audiological services. The development provided for a chain of audiology clinics in the main centres with satellite clinics in the smaller towns. These facilities will be run by graduate audiologists and will provide full diagnostic and hearing aid fitting services. They will be associated with ear, nose, and throat clinics and will function in close co-operation with speech therapists, advisers on deaf children, and the New Zealand Hearing Association. Currently, 16 hospitals are planning or building clinics in their individual areas. Advice from the National Centre is readily available on questions of site, layout, construction, and equipping together with assistance on the selection and training of staff, organisation, and operation of future services.

The philosophy behind all audiological policy is to provide a comprehensive and effective audiological service for all ages and all sectors of the community. In order to achieve this, provision has to be made for staff and facilities to meet increasing demands on audiological services. Training is dealt with by a scholarship system which enables graduates to attend courses at Melbourne University and to study for the Diploma in Audiology. Supportive training at the National Centre is also provided.

In addition to these programmes, the existence of an audiological library, the maintenance of extensive equipment files, and the continuing surveillance of overseas techniques and developments in treatment enable New Zealand's services to be fully capable of handling the nation's audiological needs.

The Environment

From 1966 the engineering section of the centre became actively concerned with the noise problems posed by a growing urban environment. An important urban survey was conducted for the Onehunga Borough Council to enable noise zoning to be included in the council's town planning ordinances. This development represented a unique step in this country's environmental control measures. It also initiated a new chapter in the investigation procedures against environmental noise and its effects on the community.

By 1969 the Department of Health's first guidelines on environmental noise nuisance were issued by the centre. Small development projects into the question of noise were also undertaken by audiologists. A steady inroad into the broader areas of audiology and environmental health continued, including the beginning of what has become annual contact between the centre and the National Acoustic Laboratory in Sydney.

From the same date, questions of occupational health and audiology also occupied the centre. Surveys were conducted into aircraft cockpit noise for the National Airways Corporation; hospital clinic design; hearing conservation programmes for the three armed services, and an airport noise survey at Nandi, Fiji. This work has continued. As part of the 1975 re-equipment programme, modern analysis equipment was brought into operation, including a real time analyser and a narrow-band tracking analyser. The former is proving especially valuable in the analysis of moderately fast impulse noise—an area in which the centre is currently conducting survey work in heavy industry.

Since 1971 the centre's staff have appeared before the Town and Country Appeal Board to provide evidence on desirable environmental noise standards. The work in this sphere involved a further forward step when, for the first time in the British Commonwealth, operational noise limits for light, single-engined aircraft were established.

Earlier this year a revitalised Standards Committee on Noise was called together under the chairmanship of the centre's senior engineer. A number of draft standards have already been prepared for public comment. The announced Government policy upgrading audiology clinics also involves the centre's engineering staff. Their involvement, together with the need to adapt a standard approach to environmental noise monitoring equipment, prompted the appointment of a scientist to the centre's staff to lead a small section devoted to forward planning and the development of equipment required for special purposes.

To deal with the community's requirements, the 18 health districts have access to the centre either on a direct basis or through the head office of the Department of Health. Additional contact through local medical officers of health or supervising inspectors of health has meant that a local authority has at its disposal immediate assistance on problems and questions involving noise and the environment. It has become apparent that the most important organisation in environmental nuisance control is the territorial local authority. Every attempt has been made by the centre and the district health offices to encourage local authority interest and participation. Many authorities are accepting their role and their responsibilities in this vital area. Regional control obviously possesses considerable potential in noise measurement techniques and noise abatement procedures. In addition, increased public contact and participation is maintained through a system of readily available information and advice on environmental noise pollution and control. In view of a growing concern about the hazards of uncontrolled environmental noise, there must be increasing attention to the challenges of noise control in the community.

Conclusion

Helen Keller once commented, "Deafness means a loss of the most vital stimulus—the sound of the voice that brings language, sets thoughts astir and keeps us in the intellectual company of men."

Attitudes and methods of treatment have changed radically since those suffering from hearing impairment were faced with the long, tortuous re-emergence as active and fully contributing members of the community. New Zealand's audiological services, in partnership with voluntary and private organisations and local authorities, are now encouraging those affected to regard the disability, not as a formidable barrier, but as a challenge to be met and overcome.

Increasingly sophisticated treatment and rehabilitation techniques will undeniably bring about considerable and increasing success. But the human qualities of skill, understanding, and patience remain essential factors and partners in the development of this country's audiological and noise control services.

BY AUTHORITY:

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Earlier this year a revised Standards Committee on Noise was called together under the chairmanship of the county's representative. A number of draft standards have already been prepared for public comment. The amended Government policy on noise is being considered by the county's representative staff. It has been agreed that the need to adopt a standard approach to noise assessment is a priority for the county and a number of the county's staff to lead a small group devoted to finding a way to develop a standard approach to noise assessment.

To deal with the community's requirements, the Health Division have agreed to the extent that on a direct basis or through the head office of the Department of Health. Additional contact through local medical officers of health or equivalent is being made. It has been agreed that a local authority has at its disposal immediate assistance in the form of health and safety notices and the environment. It has been agreed that the most important organizations in environmental noise control is the national local authority. Every attempt has been made by the county and the Health Division to encourage local authority action and participation. Many authorities are taking their role and their responsibilities in the vital area. National Council of County Councils considerable potential in noise measurement techniques and noise assessment procedures. In addition, increased public contact and participation is maintained through a system of readily available information and advice on environmental noise pollution and control. In view of a growing concern about the hazards of uncontrolled environmental noise, attention is being drawn to the importance of noise control in the community and the need for a standard approach to noise assessment.

Conclusion The county's representative staff have been working on the noise problem for some time. It is hoped that the county's representative staff will be able to provide a standard approach to noise assessment and control in the future.

A number of methods of treatment have been developed recently since then. The county's representative staff have been working on the noise problem for some time. It is hoped that the county's representative staff will be able to provide a standard approach to noise assessment and control in the future.

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BY AUTHORITY OF THE COUNTY COUNCIL, NEW ZEALAND.