Report of the Director-General of Public Health, New South Wales.

REPORT

OF THE

DIRECTOR-GENERAL
OF PUBLIC HEALTH

FOR THE YEAR ENDED
31st DECEMBER, 1960

1961

PARLIAMENT OF NEW SOUTH WALES

REPORT

OF THE

Director-General of Public Health

For 1960

Ordered to be printed, 1 *November*, 1961

Wholly set up and printed in Australia by

VICTOR C. N. BLIGHT, GOVERNMENT PRINTER, SYDNEY, NEW SOUTH WALES

1962

P 63387 1961—109 [25*s.*]

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DIVISIONS OF BRANCHES

The following divisions are controlled by the Director-General of Public Health: Maternal and Baby Welfare; Tuberculosis; School Medical Service; Dental Services; Epidemiology; Industrial Hygiene; Government Medical Officer for Sydney; Medical Officers of Health, Metropolitan, Newcastle, South Coast, Mitchell, Richmond-Tweed and Broken Hill Districts; Microbiological Laboratory; Chemical Laboratory; Health Education; Pure Food; Health Inspection; Institute of Clinical Pathology and Medical Research, etc.

The Hospital Division comprises the David Berry Hospital; Lidcombe and Newington State Hospitals and Homes; Strickland Convalescent Hospital, Vaucluse; Randwick Chest Hospital; Garrawarra Hospital.

LEGISLATIVE ENACTMENTS

The Minister for Health is charged with the administration of the following Acts, for the promotion of the public health, execution of which is left to the Director-General of Public Health and the staff working under his control: Food Preservation by Sulphur Dioxide Enabling Act, 1920; Noxious Trades Act, 1902–1944; Private Hospitals Act, 1908–1954; Public Health Act, 1902–1952; Pure Food Act, 1908–1958; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937; Venereal Diseases Act, 1918; Radioactive Substances Act, 1957; Fluoridation of Public Water Supplies Act, 1957; Burials in closed cemeteries and the exhumation of bodies for the purpose of re-internment, etc., are also dealt with.

Report of the Director-General of Public Health

TO

The Honourable the Minister for Health

(The Hon. W. F. SHEAHAN, Q.C., LL.B., M.L.A.)

Sir,

I have the honour to present the Annual Report for the year ended 31st December, 1960, in respect of the work of this Office.

VITAL STATISTICS

The population at the end of 1960 was 3,872,809. During the year the increase in population, by excess of births over deaths, was 46,953, and by migration 35,586, making a total increase for the year of 82,539. The total live births were 81,983, equivalent to 21·41 per 1,000 of the mean population. The number of stillbirths registered was 1,261, equal to 15·15 per 1,000 total births (live and still). Deaths during the year numbered 35,030, equivalent to a rate of 9·15 per 1,000 of population. The rate is 1·08 per cent. below the average of the previous five years. The number of children under one year of age who died was 1,735, equal to 21·16 per 1,000 live births. Again the rate for the Metropolis was considerably lower than that for the remainder of the State; 19·67 and 22·64 per 1,000 live births.

DIVISION OF EPIDEMIOLOGY

Infectious Diseases

The number of cases of infectious disease notified during the year was 7,812—2,037 more than in 1959, but with more notifications there were 53 fewer deaths. The increase in notifications in the main was due to Infectious Hepatitis (+1,742), Tuberculosis (+367). Decreases occurred under Staphylococcal Diseases in infants under four weeks (—74), Scarlet Fever (—60) and Staphylococcal Pneumonia (—33).

Infectious Hepatitis—there were 4,925 notifications and 20 deaths. The figure in 1959 was 3,183 cases and 29 deaths.

Tuberculosis—there was an increase in notifications during 1960 of 367—1,533 in contrast to 1,166 in 1959. Deaths decreased from 224 to 172.

Scarlet Fever—a decrease of 63 notified cases occurred during 1960 over those notified in 1959. The figures for the two years were 478 and 415 respectively.

Venereal Disease

Compared with 1959, there was an increase of 586 cases of venereal disease in 1960. This increase comprised 136 cases of syphilis, 414 cases of gonorrhoea and 36 cases of other forms of venereal disease. Notifications, during the year, amounted to 515 cases of syphilis (408 males and 107 females) and 2,706 cases of gonorrhoea (2,410 males and 296 females). The sex ratio for syphilis and gonorrhoea was 3·8 and 8·1 males to one female respectively.

The rise in the incidence of gonorrhoea and syphilis was considered by the National Health and Medical Research Council, which recommended the convening of an Interstate Conference to discuss various aspects of the problems involved. Also discussed at the conference were resistant strains of Neisseria gonorrhoeae to penicillin and penicillin reactions.

The number of attendances at the veneral disease clinics, during the year, was 50,901 (47,861) males and 3,000 (2,417) females, and 23,236 (21,867) treatments were given at the prophylactic clinic. This latter service was available continuously day and night throughout the period under review. (The figures in parenthesis are those for 1959.)

In June, 1960, following on the re-organisation of Departmental Laboratory Services, the performance of seriological tests for syphilis and hydatid C.F.T. was alloted to the Division of Epidemiology. The number of tests carried out during the latter half of 1960 was 92,347 (see also Division of Pathological Laboratories).

POLIOMYELITIS VACCINATION CAMPAIGN

The Poliomyelitis Vaccination Campaign in New South Wales, which commenced in July, 1956, was continued throughout 1960, and a further satisfactory year was completed.

At the end of 1960, an acute shortage of poliomyelitis vaccine arose owing to the fact that certain batches of this vaccine failed to pass the final stringent tests required by the Commonwealth Department of Health, and had to be discarded.

The total number of injections given in 1960 was 489,492 (140,920 first dose; 137,033 second dose; and 211,539 third dose).

The total number of first, second and third injections given since the commencement of the campaign now totals 4,587,309, 1,606,397 children and adults having received one or more injections.

CHEMICAL LABORATORY

In 1960, the Branch undertook, for the first time, microbiological examinations of foods and waters. This work was, in the past, carried out in the Pathological Laboratories, Sydney, the functions of which were re-organised during the year. (See also Division of Pathological Laboratories.)

The total number of samples examined was 25,228 (25,015), distributed as follows: Pure Food Act 20,486 (20,939); Government Institutions and Statutory Authorities 4,742 (4,076); food bacteriology 471; water bacteriology 1,398; and miscellaneous examinations 2,034. (The figures in parenthesis are those relating to 1959.)

The largest item was the examination of milk samples 10,070, of which 2·66 per cent. were found to be adulterated. This was a striking improvement on the figures of 4·55 per cent. in 1959.

The number of exhibits examined, relevant to deaths which were the subject of coronial inquiries was 743, an increase of 20 per cent. over the 1959 figure. Exhibits examined in relation to crime detection for the Police Department totalled 464, an increase of 40 per cent. over the previous year.

During 1960, also, there was a substantial increase in water (20 per cent.), and sewage samples (12·5 per cent.) examined.

Restrictive legislation on the use of parathion and thallium has caused a noticeable reduction in deaths from the use of both substances.

FOOD INSPECTION

The work of this Branch deals with the legal provisions set out in the Pure Food Act, 1908 (as amended) and regulations thereunder.

During the year 13,337 samples of food and drugs were made, of which 936 were below prescribed standards. The number of successful prosecutions totalled 845, with fines and costs amounting to £7,274.

Seizures and destruction of deteriorated food and drugs comprised 38 tons; 1,070 cans, cases, jars and packets of assorted foods; 206,400 tablets; and 11,177 head of poultry.

The number of premises inspected totalled 9,799, while warning notices were served on 663 traders, and 24 traders were prosecuted, with fines and costs amounting to £508.

HEALTH INSPECTION BRANCH

To offset the shortage of trained staff, three Cadet Health Inspectors were appointed in 1960.

A final draft of an ordinance to control and regulate boarding houses (No. 42) under the Local Government Act, 1919, as amended, was referred to the Branch and, on consideration, a report recommending approval to the Board of Health was submitted. The ordinance was subsequently approved by the Board and gazetted on 24th June, 1960.

The Branch dealt with 77,070 applications for searches in connection with unhealthy building land notified under the Public Health Act, 1902–1952, an increase of 15,140 over the 1959 figure. Six new areas were notified and six revoked.

Its resources otherwise were primarily devoted to the investigation of applications of septic tanks and closets referred by local authorities for recommendation and, during the year, 6433 septic tank sites were inspected and 8,527 plans approved. Septic closet plans examined totalled 2,696.

Noxious trades premises inspected numbered 757.

PRIVATE HOSPITALS AND REST HOMES

There are now, in New South Wales, 201 private hospitals with 3,848 beds, and 251 rest homes with 5,197 beds. These figures represent an increase of three private hospitals and 18 rest homes, with an associated increase of 135 and 610 available beds respectively.

Inspections of licensed private hospitals and rest homes were carried out throughout the year.

A continuing problem, in a number of private hospitals and rest homes, was persistent overcrowding.

MEDICO-LEGAL SECTIONS AND HOSPITAL ADMISSION DEPOT

During the year, a major change occurred in the medico-legal section, when medico-legal microbiology and pathology, previously carried out by the Division of Pathological Laboratories, was brought under the control of the Government Medical Officer, Sydney. This change resulted in a closer integration of autopsy and laboratory work. (See also Division of Pathological Laboratories.)

The Government Medical Officer visited the United States of America, where he represented the Department at the Second International Meeting of Forensic Pathology and Medicine, held in New York in September. He also visited the United Kingdom, where he conferred with medico-legal experts. As a result of these two visits it is hoped to reorganise and expand the medico-legal work of the Department.

The number of examinations for the Police Department and various other Government departments was 5,728. Supervision of the health of the Police Force was maintained at the daily sick parades in Police Headquarters, where the average daily number on sick report was 130.

Autopsies continued to increase in number and the total number of bodies examined was 2,093, while 189 examinations of criminal assault cases were carried out.

Vaccinations performed during 1960 amounted to 4,719 and 425 throat swabbings were carried out of children prior to admission to various institutions.

At Newcastle during the year, 831 examinations were carried out for various State departments, while 330 autopsies were performed.

The Hospitals Admission Depot arranged the admission of 6,521 persons to Metropolitan State and chronic hospitals and convalescent homes during the year.

HEALTH EDUCATION AND PUBLIC RELATIONS

The functions of the Branch, during the year, were again to promote health education and public relations programmes. All possible means of advertising media were used in the furtherance of such campaigns.

Local authorities, schools and baby health centres received, during the year, the majority of the following publicity material, which included: posters 31,969; pamphlets 500,606; booklets 159,570; *Our Babies* 27,000; and *Healthy Motherhood* 47,000.

The film library was used extensively by schools, teachers' colleges and teaching hospitals. The number of film screenings carried out was 138, to audiences totalling 11,300. Films loaned numbered 1,653, and these were screened to a total of 47,749 persons. During Health Week, and for tuberculosis publicity programmes, 34 (35 mm.) films were screened to audiences totalling 10,460 persons.

The first issue of a new journal, *Health in New South Wales*, was published in August, 1960. This was edited by an officer of the Branch.

A "tuberculosis attitude survey" was carried out during the year. In all 1,000 persons were interviewed (500 males and 500 females). The conclusions drawn from the survey will be found in the Report of the Branch.

NUTRITION SECTION

The Nutrition Section is responsible for the interpretation of the findings of recent nutrition research to the lay public, and for the dissemination of information on nutritional requirements in health and disease. Its officers also carry out the secretarial and executive work of the State Nutrition Committee and the New South Wales Institute of Dietitians.

During 1960 regular weekly articles and radio scripts were prepared for circulation to editors of approximately 300 suburban and country newspapers and 40 radio stations. Past publications of the Section were revised, while fourteen lectures were given and 20 cookery classes were conducted at Lidcombe State Hospital to trainee nursing assistants. A total of 18 lectures were given to kindergarten and day nursery training college students, Karitane mother craft trainees and public health nurses at Forest Lodge Child Health Centre.

Six sessions were attended weekly at the pre-natal clinics.

DIVISION OF MATERNAL AND BABY WELFARE

During the year the infantile mortality rate relating to infant deaths during the first year of life was 21·65 per 1,000 live births. The rate for the metropolis was 19·67 and the remainder of the State 22·64. Live births were 81,983 and stillbirths 1,261 giving rates of 21·41 per 1,000 population and 15·15 per 1,000 total births (live and still combined) respectively.

In relation to maternal mortality, the total puerperal deaths, including criminal abortion (12 deaths) was 56.

Attendances at pre-natal clinics in 1960 totalled 12,246.

At the conclusion of the year, there were 365 baby health centres in existence in New South Wales (twelve new centres were opened in 1960), at which a total of 1,031,976 attendances were recorded. Further funds amounting to £70,000 were allocated for the financial year 1960–1961, with which another 19 centres will be built.

The Third Report of the Committee covering 319 deaths associated with pregnancy and childbirth occurring in New South Wales between 1950–1956 was published in the *Medical Journal of Australia* on January 2nd, 1960. The Special Committee on Maternal Deaths held twelve further meetings during the year.

Staphylococcal infections in maternity hospitals, the Free Consultant Service during pregnancy and delivery, a Survey of Infant Deaths by a Special Advisory Committee (appointed in 1960), and the Pre-school Child Clinics were other matters attended to by the Division, all of which are covered in the text of the Report.

TUBERCULOSIS DIVISION

A total of 1,533 new cases of tuberculosis was notified in 1960, an increase of 367 on the 1959 figure. A total of 172 persons died from the disease. The increase in the case rate is the result of the new State policy in regard to mass radiography, which really became effective in 1959; increased co-operation of general practitioners and the Repatriation Department; contact follow-up after notification by death certificate; and the follow-up of contacts of tuberculin positive children.

During 1960, 255,558 x-rays of persons were taken by the Division, including 29,957 at the Chest X-ray Centre, 697 George Street, Sydney, and the remainder, 225,601, in mass x-ray surveys in the metropolitan and country areas. A total of 36 new active cases was detected in this way, 306 cases of inactive tuberculosis diagnosed, 309 other abnormalities were detected and 65 cases were still under investigation as possible cases of tuberculosis at the end of the year.

The Epidemiology Section continued its wide activities and, during the twelve months ended 30th June, 1960, 156,198 school pupils and 5,540 other persons were Mantoux tested. This work contributed to the detection of 31 persons with active tuberculosis. The number of persons receiving B.C.G. vaccination during the period was 139.

The Visiting Nursing Section continued to function satisfactorily. Previously the sisters staffed the St. Vincent's Chest Clinic, but since the Cameron Wing was opened in 1960, the sisters now only carry out the domiciliary work of this clinic. The Metropolitan Chest Clinics at Manly, St. George and Parramatta continued to be staffed by sisters of the Division. In the country areas the work of the sisters greatly increased, due to the new administrative plan associated with miniature mass radiography. During 1960, the total number of visits made was 29,149, or 990 more than was recorded in 1959.

Findings on surveys carried out on school children in ten Metropolitan and 72 country schools and of migrants will be found in the text of the Report.

A large pilot survey of the total community of Narrabri, Namoi Shire and the District of Gunnedah was carried out in 1960.

DIVISION OF OCCUPATIONAL HEALTH

The activities of the Division in the fields of specific industrial hazards and diseases continued during the year. Almost a thousand factories were visited, 248 atmospheric pollution inspections were made, while 5,497 blood slides were examined for evidence of lead poisoning.

The problems of dust, both nuisance and siliceous, fluoride concentrations in welding, phosphine exposure in fumigating grains, hydrogen cyanide concentrations in cyanide case hardening; and organic phosphate poisoning while using pesticides, have had the attention of the Division during 1960.

A thirty-page booklet, *Agricultural Pesticides; A Synopsis of Toxicology and Treatment*, was produced and widely distributed to the medical profession and to those known to use substantial quantities of pesticides.

In the field of ergonomics, 125 industrial investigations were made in an attempt to assess and control poor postures or unstable body positions during work, and so lessen accidents, "strains" and "sprains," which cause absenteeism.

The Radiation Branch, established in 1959, to administer the Radioactive Substances Act, 1957, and its regulations, continued its activities, during the year, in investigating health hazards associated with the use of radio-isotopes and x-ray machines. The number of visits made in this connection was 137, and 325 licenses were issued compared with 147 in 1959.

SCHOOL MEDICAL SERVICE

During 1960 further progress was made with the expansion of the School Medical Service, when 16 new positions for school medical officers and 12 positions for school nurses were filled. Three permanent school medical officers and an extra nurse were appointed to Newcastle. The increase in staff resulted in many more schools being visited in 1960, but again the medical inspection of school children in the metropolitan area, Newcastle and Wollongong was not completed. The number of school children examined in the State totalled 178,818, of whom 102,772 were fully examined and 76,046 were reviewed. Of the last group, 18,621 were in the 4th grade.

Excluding dental defects, defects of a notifiable standard were found in 27·3 per cent. of the school children fully examined (26·9 per cent. in 1959). In nursery schools, however, and fourteen of these were visited, during 1960, when 746 children were examined, 57·1 per cent. of the children had defects of a notifiable standard.

Parents interviewed during the year numbered 10,449 (6,969 in 1959).

The Child Health Centre, Forest Lodge, continued to function satisfactorily. In the area 94 schools were visited and 23,353 children were examined. Nurses of the centre saw 5,159 children in 307 school visits, while additionally 2,217 home nursing visits were made.

At the beginning of the year, a senior psychiatrist was appointed to take charge of all child guidance clinics within the Service.

The Hearing, Speech Therapy Clinics and the Asthma Clinic continued to be of further benefit during 1960. The total number of attendances were 2,848, 1,087 and 1,271 respectively.

An in-service training course on "Mental Health in Childhood" was conducted throughout the year, while eighteen nurses of the Division and other Divisions of the Public Health Department attended a course in "Public Health Nursing."

The scheme for medical examination of school children conducted by local medical practitioners, for shire or municipal councils, was extended considerably during the year and operated in 19 shires and municipalities. Thirty-six local medical practitioners took part, while the number of schools visited was 209, with a total enrolment of 20,999.

DIVISION OF DENTAL SERVICES

During 1960 expansion of the School Dental Service, comprising 8 dental officers and 12 dental assistants, made it possible to commence a system of dental examination of school children in which parents were advised of dental defects by means of a marked examination chart.

Funds were also provided for the purchase of seven additional mobile dental clinics, for use in country areas, and five fixed clinics, each of two surgeries, to be erected in school grounds.

The policy of the Division is now to examine primary school children of all ages; to offer and carry out free treatment to school children 6, 7, 8 years in the metropolitan area, 6, 7, 8, 9 years in the country areas, and of all ages in the remote rural areas; and to carry out free emergency treatment for school children of all ages.

The Division carried out a total of 49,812 examinations. Of these, 23,698 were primary school children and 19,594 (82·7 per cent.) were notified as in need of dental treatment. Dental officers also examined 26,114 school children of the ages 6, 7, 8, 9, of whom 22,185 were included in a Dental Health Survey. Of the children surveyed 93·32 per cent. showed evidence of dental caries experience, and 76·56 per cent. were offered free treatment which was definitely required. The total number of school children treated during the year was 13,720.

Other dental work, for the Child Welfare Department, Mental Hospitals, State Hospitals and Homes, Penal Establishments, and the Aerial Dental Services, totalled 18,019 examinations and 7,875 treatments.

CONSULTATIVE COUNCIL FOR PHYSICALLY HANDICAPPED PERSONS

The Consultative Council for the Physically Handicapped met eleven times during the year, when general matters pertaining to the physically handicapped were discussed, new applications for help were considered and progress reports on those already helped were reviewed.

The rehabilitation of the home-bound disabled person continued to be of benefit to patient and family, while the payment of physiotherapy fees and domiciliary visits, made by the occupational therapist, were financially or materially of value to patients in need of such help.

With the Council's widening scope for rendering assistance, the percentage of applications of those in the 60 years and over group changed from 11 per cent. to the total in June, 1959, to 48 per cent. of the total in December, 1960.

The Council's work was carried on in close liaison with various other agencies also concerned with activities associated with the physically handicapped.

METROPOLITAN HEALTH DISTRICT

The mean population in 1960 of the Metropolitan health district was 1,943,960. During the year there were 35,873 live births and 723 deaths of children under one year of age.

Deaths from all causes numbered 19,643.

There were 3,612 diseases notified under the Public Health Act, and of these 173 died. Infectious hepatitis accounted for 2,123 of the cases with eight deaths. Five cases of poliomyelitis occurred during the year, with two deaths.

The work of supervising and advising local authorities in respect of environmental sanitation was extended during the year, including the investigation of a great number of complaints. The latter often stem from such precipitating factors as lack of drainage and sewerage facilities and shortage of housing accommodation.

HUNTER RIVER HEALTH DISTRICT

Population at 30th June, 1960, was 311,260. During the year there were 6,714 live births and 170 deaths of children under one year of age.

Deaths from all causes numbered 2,990.

Infectious diseases notified totalled 716 cases, of which 583 were notified as infectious hepatitis. This was a great increase over the figure for infectious hepatitis in 1959, when 191 cases were notified. There was also a great increase in notifications of staphylococcal infections (56) compared with the notifications of this disease in 1959 (9).

During 1960 a Child Guidance Clinic was established in Newcastle and a psychiatrist was appointed to the district in May. Between May and December, 1960, the number of cases attending the clinic amounted to 143.

Decentralisation of the School Medical Service occurred in August, and the appointment of two additional school medical officers ensured the continuity of school medical examinations.

SOUTH COAST HEALTH DISTRICT

The population as at 30th June, 1960, was 316,930. During the year there were 8,194 live births and 149 deaths of children under one year of age.

Deaths from all causes numbered 2,088.

Notifiable infectious diseases numbered 489, with six deaths. The incidence of infectious hepatitis (405 cases and no deaths) increased considerably during 1960 (231 cases and one death in 1959).

Applications for septic tanks, 3,417, showed an increase over applications made in 1959, when the figure was 2,439. Applications for septic closets numbered 567, a reduction of 55 over the 1959 figure of 622.

MITCHELL HEALTH DISTRICT

The population at 30th June, 1960, was 139,250. During the year there were 3,326 live births and 82 deaths of children under one year of age.

Deaths from all causes numbered 1,397.

There were 418 cases (two deaths) of notifiable infectious disease compared with 446 cases (two deaths) in 1959. Infectious hepatitis accounted for 371 cases of the above figure for 1960, compared with 377 in 1959. One case of poliomyelitis occurred, with one death.

The Medical Officer of Health followed up patients discharged from Bloomfield Mental Hospital and found that many of the patients had made only partial recovery and needed assistance in their rehabilitation. Efforts were sustained to provide this by the formation of Recovery Group discussions.

In co-operation with the Medical Officer of Health, the Director of Maternal and Baby Welfare arranged for members of her staff to visit hospitals in the Mitchell Health District to discuss details of recording staphylococcal infections.

RICHMOND-TWEED HEALTH DISTRICT

Population at 30th June, 1960, was 124,840. During the year there were 2,840 live births and 56 deaths of children under one year of age.

Deaths from all causes numbered 1,022.

Infectious diseases notified numbered 178, one less than in 1959.

A lessening in the incidence of infectious hepatitis occurred during the year. Twelve cases of leptospirosis in farm workers were notified and eleven of these came from Byron Shire.

Environmental hygiene activities included advice on a serious fly nuisance at a meat factory; the siting of sewage treatment works at Mullumbimby; discussions on a joint sewage disposal scheme for Tweed Heads and Coolangatta; the siting of a new garbage dump for Tweed Shire Council; and the inspection of 480 septic tank sites, 69 noxious trade premises and 40 sanitary depots.

BROKEN HILL AND DISTRICT

The population at 30th June, 1960, was 33,210. There were 927 live births and 37 deaths of children under one year of age.

Deaths from all causes numbered 286.

There were 89 cases of notifiable infectious disease, an increase of 51 over the 1959 figure, which totalled 38. Fifty of the increased number were due to notifications of infectious hepatitis.

Details of the wide range of medical activities undertaken by the Medical Officer of Health for Broken Hill and District are given in his report.

STATE HOSPITALS AND HOMES AND SANATORIA

There was a total daily average of 2,270 persons accommodated in the establishments at Randwick, Vaucluse (Strickland Convalescent Hospital), Waterfall, Lidcombe, Newington and Berry (David Berry Hospital) maintained by the Department. The gross average annual maintenance cost per patient on gross maintenance expenditure was £637 16s. 8d. and the net average annual cost per patient on net maintenance cost to the State was £495 6s.

At Lidcombe State Hospital and Home the erection of a new church and recreation hall was commenced during the year, and three new residences were completed.

Renovations to the wards at Randwick Chest Hospital during 1960 have provided greater facilities for both patients and staff.

A fully trained and experienced Physiotherapist was appointed to Garrawarra Hospital in August, and an Occupational (Diversional) Therapist took up her duties at the same hospital in November, 1960, both on a part-time basis.

At the end of August, Strickland Convalescent Hospital ceased to function as a convalescent hospital. It was re-named "Strickland House" and then accommodated indigent and aged patients only. These were transferred mainly from Newington State Hospital and the Hospitals Admission Section of the Department.

DIVISION OF PATHOLOGICAL LABORATORIES

In June, 1960, the unit of the Department of Health known as the Pathological Laboratories, was closed down. All clinical laboratory functions were transferred to the Institute of Clinical Pathology and Medical Research at Lidcombe. A little later during the year the other sections of the Division were transferred as follows: medico-legal, microbiology and pathology to the Government Medical Officer's Division; public health microbiology to the Government Analyst's Division; and venereal serology to the Division of Epidemiology.

From January to June, 1960, the number of examinations and serological tests carried out totalled 56,804, and these are detailed in the last Annual Report of the Division of Pathological Laboratories.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

During the middle of 1960 arrangements were completed whereby all clinical laboratory functions were transferred from the Division of Pathological Laboratories to the Institute at Lidcombe (see also Report of Division of Pathological Laboratories). Today the functions of the Institute broadly comprise the provision of a clinical pathology diagnostic service; the training of medical technologists and medical graduates as specialist pathologists; and research work.

The recognition in 1960 of the Institute as an approved centre for the training of post-graduate candidates for the Diploma in Clinical Pathology will, it is hoped, make a material contribution towards overcoming the serious shortage of specialist pathologists in New South Wales.

Another important feature of the educational side of the work at the Institute is the programme of weekly staff seminars, sponsored jointly by the staff of the Institute and the staff of Lidcombe State Hospital.

During 1960 there was a steady increase in the volume of work carried out and a broadening of the range of investigations offered.

The number of specimens received and examinations completed in each section of the Institute during the year was: histopathology 5,433, examinations 10,572; biochemistry 5,569, examinations 10,835; bacteriology and serology 10,138, examinations 38,419; virology 689, examinations 595; haematology 3,718, examinations 5,466. The total number of investigations completed was 65,887.

C. J. CUMMINS,
Director-General of Public Health.

VITAL STATISTICS OF NEW SOUTH WALES FOR THE YEAR 1960

POPULATION

The estimated population of New South Wales as at 31st December, 1960, was 3,872,809, of whom 1,937,580 were males and 1,935,229 were females. During the year the increase of population by excess of births over deaths was 46,953 and by migration 35,586, making a total increase for the year of 82,539 (64,584 in 1959). The estimated mean population for 1960 was 3,829,952.

A histogram has been prepared covering the last hundred years tabulating, in ten-year periods, average annual numbers and rates of live births, deaths, natural increases and net migration for the State during 1861–1960. (See Appendix "A.")

Over this one-hundred year period it will be seen from the histogram that the birth rate, per 1,000 mean population, has fallen by approximately 50 per cent. and the crude death rate, per 1,000 mean population, has been reduced by approximately 43 per cent. The rates of natural increase on the same basis fell fairly consistently until the 1941–1950 period, and at the end of the 1931–1940 period the rate was only 33 per cent. of the 1861–1870 rate. However, there has been steady improvement since 1941 and during the 1951–1960 period the rate of natural increase had risen to approximately 50 per cent. of the 1861–1870 rate. It will be observed that migration rates have varied considerably throughout the hundred year period.

For comparison a histogram detailing average annual rates of population increase in periods 1850–1900 and 1950–1956, has been proposed (see Appendix "B") showing rates of population increase for New South Wales compared with other continents in the world.

In the statistical section of the Annual Report of the Department for 1959, figures were given in Table 1 of the distribution of the population by age groups, but these figures referred to Australia. It has been felt more appropriate, this year, to give figures for New South Wales.

TABLE 1—DISTRIBUTION OF THE POPULATION BY AGE GROUPS, NEW SOUTH WALES AT CENSUS PERIODS AND 1960

Age Group	Proportion per cent. of Total Population at 30th June				
	Census, 1921	Census, 1933	Census, 1947	Census, 1954	1960
Under 15	32·30	28·13	24·85	27·88	29·17
15–64	63·40	65·86	67·39	63·64	62·06
65 and over	4·30	6·01	7·76	8·48	8·77
(Proportion per cent. of total 65 and over age group to total 15–64 age group)	6·78	9·12	11·51	13·32	14·13
50 years and over	15·33	18·26	22·98	22·43	22·50
60 years and over	7·27	9·26	12·14	12·76	12·55

The percentage of the aged (65 years and over) in the total population of New South Wales has more than doubled since 1921.

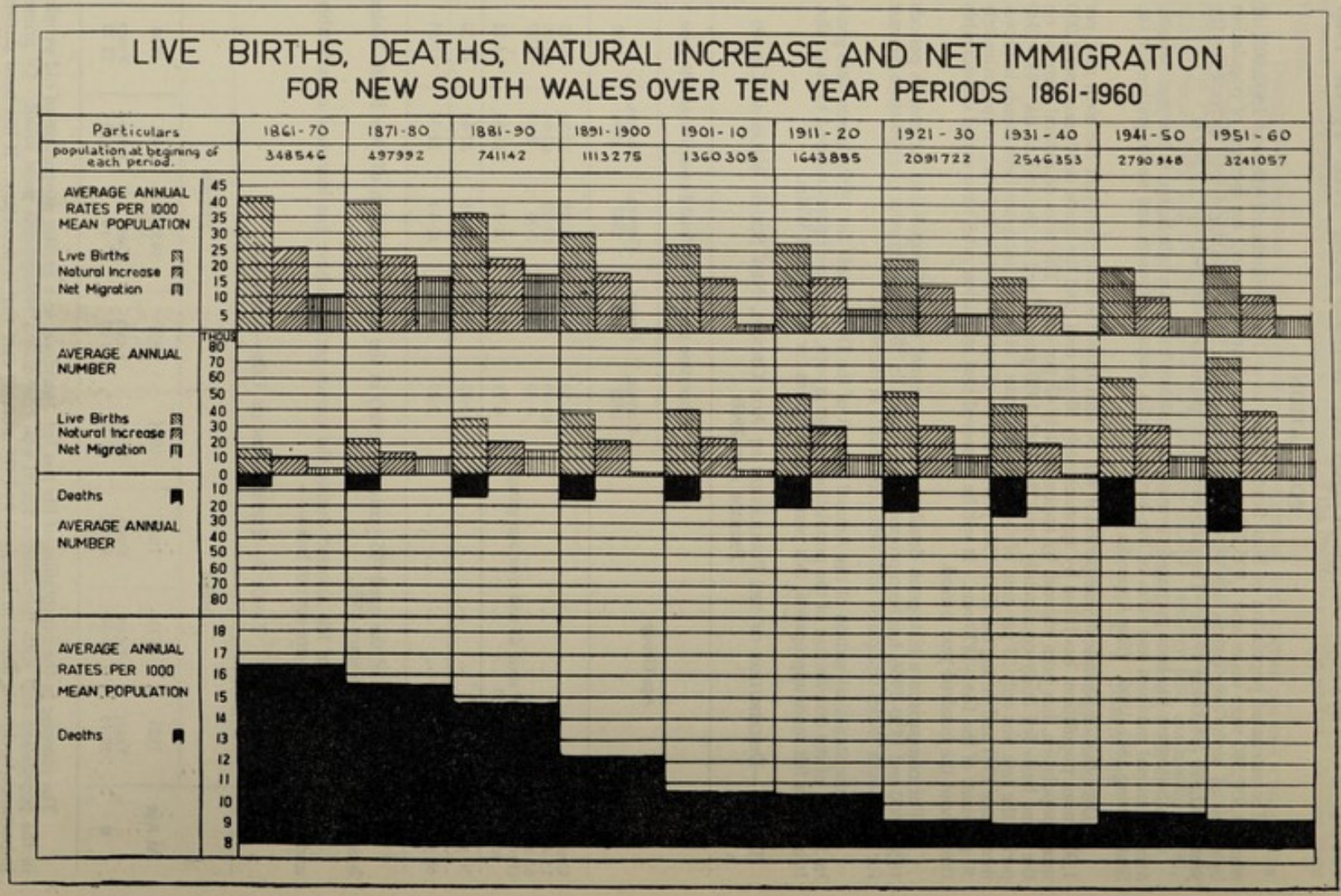
The expectation of life assessed during the census periods above has increased considerably and figures for Australia are set out below:—

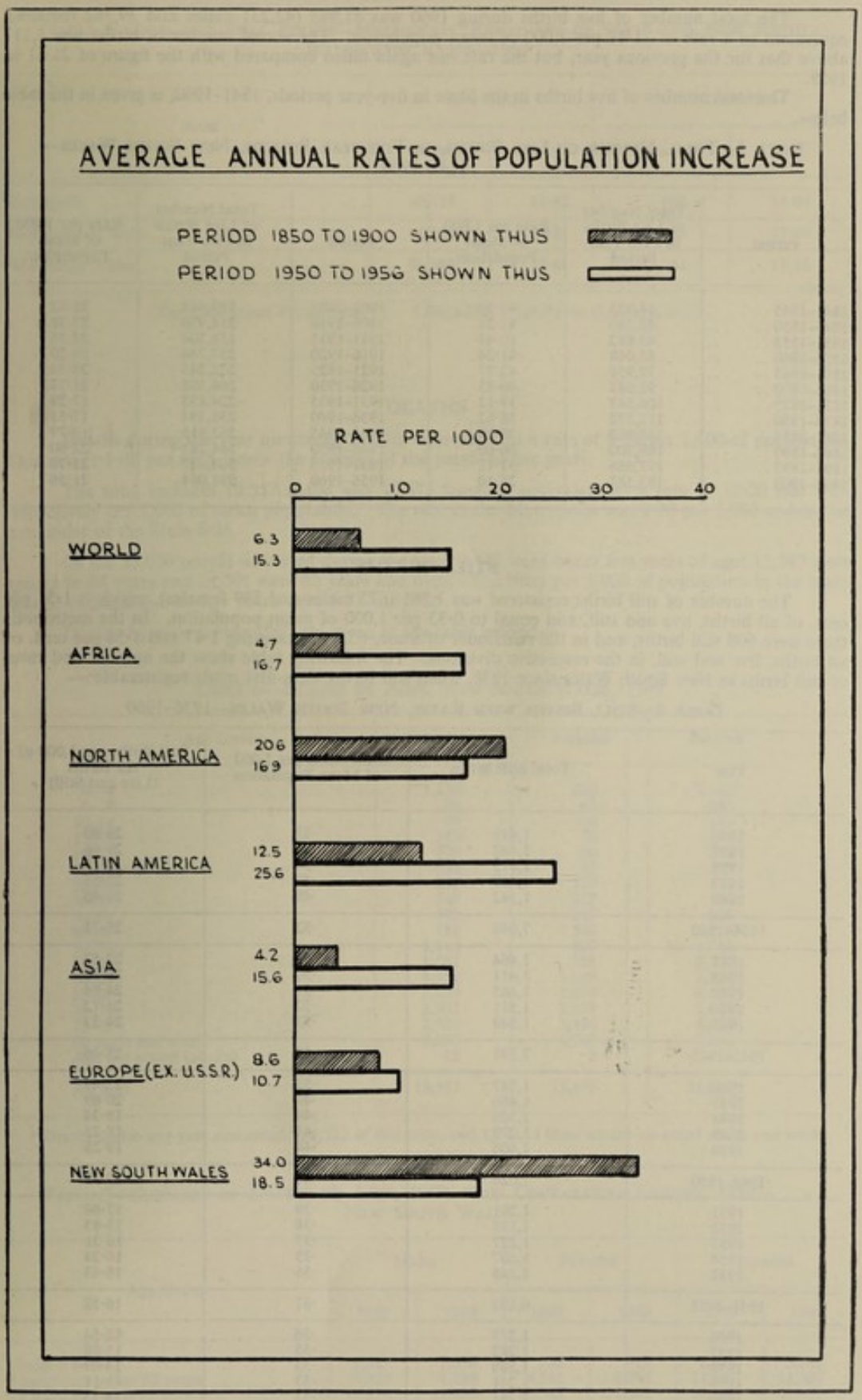
TABLE 2—EXPECTATION OF LIFE—AUSTRALIA

	Males				Females			
At Age	1921	1933	1947	1954	1921	1933	1947	1954
	Years	Years	Years	Years	Years	Years	Years	Years
0	59·15	63·48	66·07	67·14	63·31	67·14	70·63	72·75

The increase in the expectation of life has led, therefore, to a greater proportion of old people in the population and with this change social and economic developments must result. Of prime importance is chronic illness in the aged and the nursing care that is necessary. It has been shown that diabetes, neoplasms, anaemia, heart disease, bronchitis and affections of the eye increase in the old age groups. Admissions to mental hospitals are very common in this period of life also, and the incidence of blindness is high and accidents tend to be more common. In Sheffield, England, out of a total of 5,387 new cases dealt with by the Home Nursing Service, a total of 2,768 cases were over sixty-five years.

LIVE BIRTHS, DEATHS, NATURAL INCREASE AND NET IMMIGRATION
FOR NEW SOUTH WALES OVER TEN YEAR PERIODS 1861-1960




AVERAGE ANNUAL RATES OF POPULATION INCREASE
PERIOD 1850 TO 1900 SHOWN THUS
PERIOD 1950 TO 1956 SHOWN THUS
RATE PER 1000
0
10
20
30
40
WORLD
6.3
15.3
AFRICA
4.7
16.7
NORTH AMERICA
20.6
16.9
LATIN AMERICA
12.5
25.6
ASIA
4.2
15.6
EUROPE(EX. U.S.S.R.)
8.6
10.7
NEW SOUTH WALES
34.0
18.5

LIVE BIRTHS

The total number of live births during 1960 was 81,983 (42,231 males and 39,752 females), equivalent to a rate of 21·41 per 1,000 of mean population. The actual number of births was 1,117 above that for the previous year, but the rate has again fallen compared with the figure of 21·51 in 1959.

The total number of live births in the State in five-year periods, 1841–1960, is given in the table below.

TABLE 3—TOTAL NUMBER OF LIVE BIRTHS, IN FIVE-YEAR PERIODS, NEW SOUTH WALES—1841–1960

Period	Total Number of Live Births in Five Year Period	Rate per 1,000 of Mean Population	Period	Total Number of Live Births in Five Year Period	Rate per 1,000 of Mean Population
1841–1845	34,925	42·96	1901–1905	189,844	26·82
1846–1850	45,246	41·24	1906–1910	214,970	27·38
1851–1855	45,882	40·44	1911–1915	258,304	28·76
1856–1860	65,048	41·24	1916–1920	257,744	26·29
1861–1865	79,958	42·77	1921–1925	272,245	24·74
1866–1870	92,643	40·83	1926–1930	266,592	21·77
1871–1875	106,543	39·12	1931–1935	224,835	17·29
1876–1880	117,572	38·62	1936–1940	238,394	17·51
1881–1885	158,965	38·00	1941–1945	282,915	19·79
1886–1890	188,300	36·60	1946–1950	344,283	22·60
1891–1895	197,566	33·15	1951–1955	368,687	21·78
1896–1900	183,582	28·10	1956–1960	398,064	21·56

STILL BIRTHS

The number of still births registered was 1,261 (672 males and 589 females), which is 1·51 per cent. of all births, live and still, and equal to 0·33 per 1,000 of mean population. In the metropolis there were 608 still births, and in the remainder of State, 653, representing 1·47 and 1·56 per cent. of all births, live and still, in the respective divisions. The following table show the number and rates of still births in New South Wales since 1936, when still births were first made registerable:—

TABLE 4—STILL BIRTHS WITH RATES, NEW SOUTH WALES—1936–1960

Year	Total Still Births	Still births per 1,000 of Mean Population	Still Births per 1,000 of All Births (Live and Still)
1936	1,419	·53	29·80
1937	1,452	·54	29·66
1938	1,473	·54	30·19
1939	1,360	·49	27·55
1940	1,342	·48	26·46
1936–1940	7,046	·52	28·71
1941	1,464	·52	27·52
1942	1,411	·50	26·10
1943	1,465	·51	24·94
1944	1,511	·52	24·72
1945	1,540	·53	24·37
1941–1945	7,391	·52	25·46
1946	1,547	·53	22·49
1947	1,466	·49	20·69
1948	1,326	·44	19·34
1949	1,279	·41	18·25
1950	1,406	·44	19·26
1946–1950	7,024	·46	19·99
1951	1,291	·39	17·60
1952	1,195	·36	15·85
1953	1,257	·37	16·51
1954	1,207	·35	16·24
1955	1,243	·36	16·43
1951–1955	6,193	·37	16·52
1956	1,273	·36	16·54
1957	1,282	·35	15·88
1958	1,208	·33	14·87
1959	1,241	·33	15·11
1960	1,261	·33	15·15
1956–1960	6,265	·34	15·49

LIVE AND STILL BIRTHS—METROPOLIS AND REMAINDER OF STATE—1960

TABLE 5—LIVE AND STILL BIRTHS—METROPOLIS, REMAINDER OF STATE AND NEW SOUTH WALES WITH RATES—1960

Area	Live Births		Still Births	
	Number	Rate*	Number	Rate†
Metropolis	40,778	19·42	608	14·69
Remainder of State	41,205	23·81	653	15·60
New South Wales	81,983	21·41	1,261	15·15

* Per 1,000 Mean Population. † Per 1,000 Total Births (Live and Still).

DEATHS

Deaths during the year numbered 35,030, equivalent to a rate of 9·15 per 1,000 of population. This rate is 1·08 per cent. below the average of the previous five years.

The total includes 19,557 males and 15,473 females, equivalent to a rate of 10·20 and 8·09 respectively per 1,000 of mean population. The rate in the Metropolis was 9·70 per 1,000 and in the remainder of the State 8·36.

Of the 35,030 people who died during the year, 2,142 were under five years of age; 11,387 were aged 5 to 64 years and 21,501 were 65 years and over. The rates per 1,000 of population in the main groups under and over five years were 5·51 and 9·56.

Deaths by ages during 1960 are given in the table below:—

TABLE 6—DEATHS BY AGES, NEW SOUTH WALES, 1960

Age Group	Males	Females	Persons
0– 4	1,230	912	2,142*
5– 9	96	65	161
10–14	99	64	163
15–19	185	73	258
20–24	209	66	275
25–29	180	89	269
30–34	235	137	372
35–39	349	213	562
40–44	479	347	826
45–49	788	530	1,318
50–54	1,148	607	1,755
55–59	1,567	758	2,325
60–64	1,954	1,149	3,103
65–69	2,489	1,654	4,143
70–74	2,932	2,137	5,069
75–79	2,529	2,406	4,935
80 years and over	3,076	4,265	7,341
Age not stated (adults)	12	1	13
All ages	19,557	15,473	35,030

* Deaths under one year amounted to 1,735 of this total, and 1,109 of these deaths occurred under one week.

TABLE 7—SUMMARY OF DEATHS BY AGES, 1960, WITH COMPARATIVE FIGURES, 1959—NEW SOUTH WALES

Age Group	Males		Females		Persons	
	1959	1960	1959	1960	1959	1960
Under 5 years	1,283	1,230	935	912	2,218	2,142
5 years and under 65 years	7,229	7,289	4,112	4,098	11,341	11,387
65 years and over	11,336	11,026	10,343	10,462	21,679	21,488
Age not stated (adults)	9	12	2	1	11	13
All ages	19,857	19,557	15,392	15,473	35,249	35,030

There has been a steady improvement in the death rate of children under 5 years of age, as is seen from Table 8.

TABLE 8—DEATHS UNDER FIVE YEARS OF AGE, NEW SOUTH WALES, 1906–1960

Period	Average Annual Number	Rate*	Year	Number	Rate*
1906–1910	4,419	24·34	1950	2,364	7·01
1911–1915	5,002	22·55	1951	2,363	6·65
1916–1920	4,708	19·31	1952	2,305	6·48
1921–1925	4,246	17·25	1953	2,325	6·47
1926–1930	3,995	15·95	1954	2,346	6·56
1931–1935	2,610	11·37	1955	2,300	6·37
1936–1940	2,593	12·08	1956	2,188	6·01
1941–1945	2,621	10·82	1957	2,207	6·00
1946–1950	2,442	7·96	1958	2,087	5·58
1951–1955	2,328	6·51	1959	2,218	5·82
1956–1960	2,168	5·78	1960	2,142	5·51

* Number of deaths per 1,000 of mean population under 5 years of age.

The rate of mortality in the quinquennium 1956–1960, compared with that of 1906–1910, represents an annual saving of 19 lives in every 1,000 children under 5 years of age in the State.

Children are more susceptible to the attacks of disease in the earlier years of life than later, and the death rate decreases steadily until the age of 10 years is reached. The high death rate for preventable diseases, in earlier years, was due partly to parental ignorance of the proper food or treatment required, and improvement in the rate may be attributed in large measure to more widespread knowledge of infant hygiene, mothercraft, modern drug therapy and immunisation procedures.

The principal causes of death in age groups with percentage in each age group, and to total deaths during 1960 are set out in Table 9. From this table it will be observed that of 1,264 deaths between the ages of 1 year and 24 years, 588 deaths or 46·5 per cent. were caused by accidents which, more than probably, could have been prevented; and in the 15 to 24 year period the percentage of deaths due to accidents is approximately 60. In the 45 to 85 years and over period there were 29,989 deaths, of which 12,813 deaths or 42·8 per cent. were due to heart disease. Deaths from malignant neoplasms, in the 25 to 85 years and over period, totalled 4,978 of 32,018 deaths, or 15·5 per cent. of all deaths in this period.

A graph has been prepared showing the leading causes of death during the year (see Appendix "C.") These are also set out in Table 10.

TABLE 9—PRINCIPAL CAUSES OF DEATH BY CERTAIN AGE GROUPS, NEW SOUTH WALES, 1960

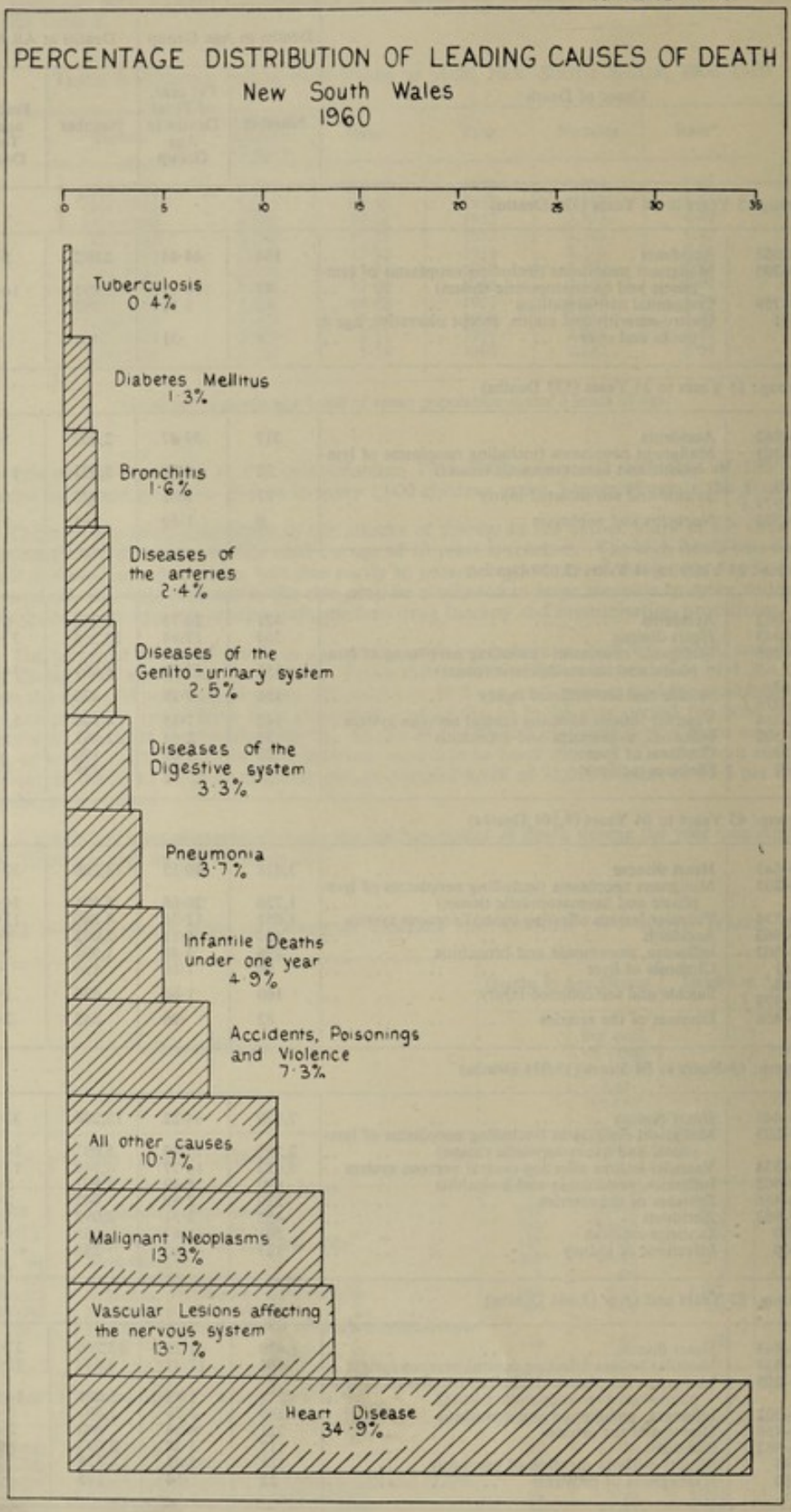
	Cause of Death	Deaths in Age Group		Deaths at All Ages	
		Number	Per cent. of Total Deaths in Age Group	Number	Percentage of Total Deaths
Age Group: Under 1 Year (1,735 Deaths)					
776	Immaturity, unqualified	412	23·75	412	1·18
750–759	Congenital malformations	282	16·25	395	1·13
762	Post-natal asphyxia and atelectasis	127	7·32	127	·36
760, 761	Birth injuries	267	15·39	267	·76
391–393	Otitis media and mastoiditis	1	·06	3	·01
480–502	Influenza, pneumonia and bronchitis	163	9·39	1,891	5·40
763–768	Infections of the newborn	64	3·69	64	·18
770	Haemolytic disease of the newborn (erythroblastosis)	46	2·65	46	·13
Age Group: 1 Year and Under 5 Years (407 Deaths)					
800–962	Accidents	127	31·20	2,092	5·97
750–759	Congenital malformations	42	10·32	395	1·13
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	29	7·13	5,091	14·53
480–502	Influenza, pneumonia and bronchitis	75	18·43	1,891	5·40

	Cause of Death	Deaths in Age Group		Deaths at All Ages	
		Number	Per cent. of Total Deaths in Age Group	Number	Percentage of Total Deaths
Age Group: 5 Years to 14 Years (324 Deaths)					
800–962	Accidents	144	44·44	2,092	5·97
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	48	14·81	5,091	14·53
750–759	Congenital malformations	18	5·56	395	1·13
571	Gastro-enteritis and colitis, except ulcerative, age 4 weeks and over	1	·31	141	·40
Age Group: 15 Years to 24 Years (533 Deaths)					
800–962	Accidents	317	59·47	2,092	5·97
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	32	6·00	5,091	14·53
963, 970–979	Suicide and self-inflicted injury	31	5·82	426	1·22
590–594	Nephritis and nephrosis	9	1·69	381	1·09
Age Group: 25 Years to 44 Years (2,029 Deaths)					
800–962	Accidents	421	20·75	2,092	5·97
410–443	Heart disease	364	17·94	13,206	37·70
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	355	17·50	5,091	14·53
963, 970–979	Suicide and self-inflicted injury	158	7·79	426	1·22
330–334	Vascular lesions affecting central nervous system	145	7·15	4,840	13·82
480–502	Influenza, pneumonia and bronchitis	53	2·61	1,891	5·40
581	Cirrhosis of liver	22	1·08	196	·56
260	Diabetes mellitus	8	·39	439	1·25
Age Group: 45 Years to 64 Years (8,501 Deaths)					
410–443	Heart disease	3,413	40·15	13,206	37·70
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	1,756	20·66	5,091	14·53
330–334	Vascular lesions affecting central nervous system	1,051	12·36	4,840	13·82
800–962	Accidents	434	5·11	2,092	5·97
480–502	Influenza, pneumonia and bronchitis	296	3·48	1,891	5·40
581	Cirrhosis of liver	99	1·16	196	·56
963, 970–979	Suicide and self-inflicted injury	160	1·88	426	1·22
450–456	Diseases of the arteries	82	·96	842	2·40
Age Group: 65 Years to 84 Years (18,024 Deaths)					
410–443	Heart disease	7,970	44·22	13,206	37·70
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	2,595	14·40	5,091	14·53
330–334	Vascular lesions affecting central nervous system	3,022	16·77	4,840	13·82
480–502	Influenza, pneumonia and bronchitis	990	5·49	1,891	5·40
450–456	Diseases of the arteries	520	2·89	842	2·40
800–962	Accidents	452	2·51	2,092	5·97
260	Diabetes mellitus	301	1·67	439	1·25
600	Infections of kidney	123	·68	248	·71
Age Group: 85 Years and Over (3,464 Deaths)					
410–443	Heart disease	1,430	41·28	13,206	37·70
330–334	Vascular lesions affecting central nervous system	603	17·41	4,840	13·82
140–205	Malignant neoplasms (including neoplasms of lymphatic and haematopoietic tissues)	272	7·85	5,091	14·53
480–502	Influenza, pneumonia and bronchitis	290	8·37	1,891	5·40
450–456	Diseases of the arteries	221	6·38	842	2·40
800–962	Accidents	117	3·38	2,092	5·97
794	Senility without mention of psychosis	188	5·43	318	·91
610	Hyperplasia of prostrate	22	·64	135	·39

Total Deaths: 35,030.

NOTE—Thirteen deaths are not included in the above age groups as the age at death was not stated.

APPENDIX C


PERCENTAGE DISTRIBUTION OF LEADING CAUSES OF DEATH
New South Wales
1960
0
5
10
15
20
25
30
35
Tuberculosis
0·4%
Diabetes Mellitus
1·3%
Bronchitis
1·6%
Diseases of the arteries
2·4%
Diseases of the Genito-urinary system
2·5%
Diseases of the Digestive system
3·3%
Pneumonia
3·7%
Infantile Deaths under one year
4·9%
Accidents, Poisonings and Violence
7·3%
All other causes
10·7%
Malignant Neoplasms
13·3%
Vascular Lesions affecting the nervous system
13·7%
Heart Disease
34·9%

The percentage distribution of the leading causes of deaths for 1960 is given in the table below.

TABLE 10—PERCENTAGE DISTRIBUTION OF LEADING CAUSES OF DEATHS—1960

International Code Number	Disease	Deaths Expressed as Percentage
430–434	Heart disease	34·9
331, 332	Vascular lesions affecting the central nervous system	13·7
140–199	Malignant neoplasms	13·3
E.800–E.999	Accidents, poisonings and violence	7·3
001–E.999	Infant deaths under one year	4·9
490–493	Pneumonia	3·7
530–587	Diseases of digestive system	3·3
590–637	Diseases of genito-urinary system	2·5
450–456	Diseases of the arteries	2·4
500–502	Bronchitis	1·6
260	Diabetes mellitus	1·3
001–008	Tuberculosis	0·4
001–E.999	All other causes	10·7

AGE—SPECIFIC AND CRUDE DEATH RATES

It will be observed from Table 11 below that, in the short period 1946–1948 and 1960, there has been a considerable reduction in deaths from all causes in each age group, except the 85 years and over group.

TABLE 11—AGE—SPECIFIC AND CRUDE DEATH RATES, NEW SOUTH WALES, 1946–1948 TO 1960

DEATH RATE*

Age Group (Years)	1946–1948	1953–1955	1956	1957	1958	1959	1960
0– 4	8·59	6·54	6·01	6·00	5·58	5·82	5·51
5– 9	·79	·64	·45	·53	·48	·52	·43
10–14	·67	·55	·46	·47	·44	·38	·45
15–19	1·03	1·12	·87	1·01	·89	1·00	·89
20–24	1·27	1·28	1·40	1·23	1·41	1·21	1·09
25–29	1·52	1·25	1·21	1·33	1·11	1·17	1·10
30–34	1·82	1·57	1·56	1·65	1·37	1·61	1·34
35–39	2·55	2·12	2·12	2·02	1·97	2·18	1·97
40–44	3·78	3·33	3·34	3·24	3·09	3·32	3·26
45–49	6·04	5·55	5·47	5·19	5·28	5·51	5·32
50–54	9·82	8·73	8·72	8·52	8·44	8·16	8·38
55–59	14·59	14·60	13·91	13·04	12·58	13·52	13·55
60–64	22·79	21·56	21·19	21·82	20·56	21·16	21·27
65–69	35·03	33·35	33·31	32·88	30·72	33·38	32·82
70–74	54·41	53·04	56·30	52·14	50·19	53·24	49·52
75–79	86·76	83·82	86·19	80·42	75·72	83·36	81·91
80–84	138·15	129·65	143·68	132·00	121·97	131·55	122·79
85 and over	235·08	233·27	240·29	227·33	215·86	236·39	241·46
All ages—crude rate	9·77	9·38	9·58	9·20	8·76	9·38	9·15

* Average annual number of deaths during 1946–1948 and 1953–1955, with actual numbers 1956–1960 per 1,000 of mean population at ages shown.

INFANTILE MORTALITY

The number of children under one year of age who died was 1,735, equal to 21·16 per 1,000 live births. To this total the Metropolis contributed 802, or 19·67 per 1,000 live births and the remainder of the State 933, or 22·64 per 1,000 live births. The rate for 1960 is 7·96 per cent. below the average of the previous five years. Of the deaths under one year of age, 1,109, or 64 per cent. occurred under one week, 1,250, or 72 per cent. under one month, and 1,384, or 80 per cent. under three months.

There are few other vital statistical rates which reflect more sensitively the general health conditions in a given community than the infant mortality rate. A favourable infant mortality rate means successful workings of public health programmes, availability of good hospital facilities to the majority of the population, medical care of high quality, adequate sanitary conditions and above all, high living standards. In 1955, a year where it has been possible to compare infant mortality rates, in different parts of the world with that of New South Wales, only Norway, the Netherlands, New Zealand and Sweden had lower rates than those obtained in the State. A selection of these rates are set out in Table 12 below:—

TABLE 12—INFANTILE MORTALITY RATES IN FIFTEEN COUNTRIES, 1955

Country	Rate
Burma	177·6
Egypt	171·6
Belgian Congo	148·0
India	99·9
Portugal	90·2
Italy	50·9
East Germany	48·8
U.S.S.R.	48·0
West Germany	41·7
Canada	31·3
U.S.A.	26·4
England and Wales	24·9
Australia	22·0
New Zealand	20·1
Sweden	17·4

In 1960, immaturity, congenital malformation, injury at birth and pneumonia accounted for 67·3 per cent. of deaths of infants under one year of age.

Table 13, below, enumerates the principal causes of infant and neonatal deaths as percentages in each category. The neonatal deaths shown are those deaths that occurred under one week. A graph has also been prepared (see Appendix "D").

TABLE 13—CAUSES OF INFANT AND NEONATAL DEATHS—NEW SOUTH WALES, 1960

Cause of Death	Neonatal Deaths* per cent.	Infant Deaths per cent.
Immaturity	36·7	24·6
Post natal asphyxia and atelectasis	11·3	7·3
Congenital malformations	12·6	16·2
Injury at birth	23·2	15·3
Diseases of respiratory system (including pneumonia of newborn)	2·1	12·6
Haemolytic diseases of newborn	3·9	2·6
Other causes	10·2	21·4

* Deaths under one week.

Since the beginning of the century the improvement in infant mortality has been greatest in the age group six to twelve months, followed by ages three to six months and one to three months. There has also been substantial improvement in the group one week and under one month. Deaths of of infants of one month and over are mainly due to post-natal influences such as epidemic diseases, diseases of the respiratory system and digestive system, and the decline is due to the effectiveness of the measures taken to overcome these post natal causes of death.

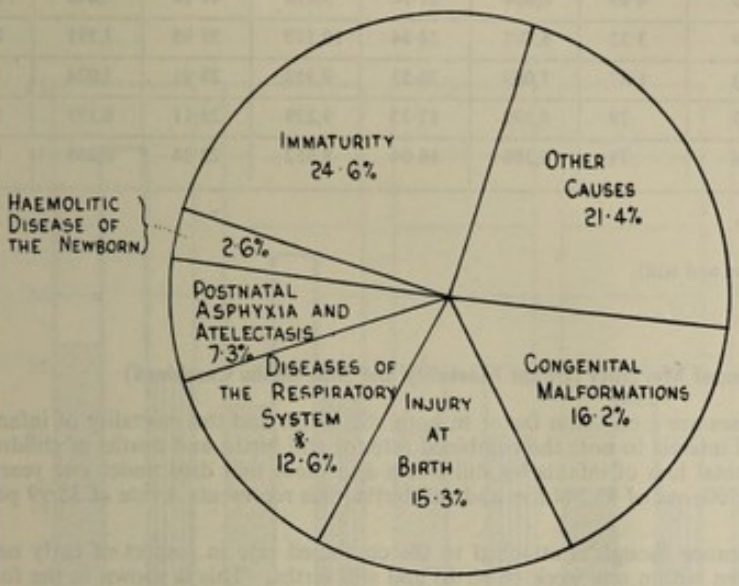
A graph will be found (see Appendix "E") giving a composite picture, in five year periods from 1936, of infant mortality, still births and maternal mortality each with rates, in New South Wales. The maternal mortality rates shown in the graph are commented on below. A Table showing these figures is also given on page 26.

APPENDIX D

CAUSES OF INFANT AND NEONATAL DEATHS

New South Wales
1960

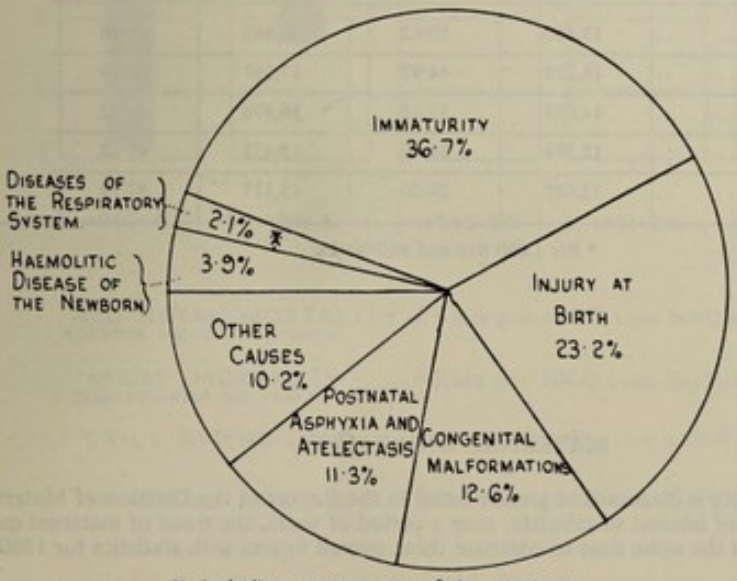
INFANT DEATHS



PROPORTION OF INFANT DEATHS.

NEONATAL DEATHS

(Deaths under one week)



X Including pneumonia of the newborn.

TABLE 14—MATERNAL, INFANT AND FOETAL MORTALITY IN FIVE-YEAR PERIODS FROM 1936–1960 —NEW SOUTH WALES

Five Year Period	Maternal Mortality		Neo-natal* Mortality		Infant Mortality		Foetal Mortality	
	Total Puerperal Deaths	Rate†	Number	Rate†	Number	Rate†	Number	Rate‡
1936–1940	1,165	4·89	6,614	27·74	9,816	41·18	7,046	28·71
1941–1945	939	3·32	6,887	24·34	10,170	39·95	7,391	25·46
1946–1950	507	1·47	7,069	20·53	9,952	28·91	7,024	19·99
1951–1955	293	·79	6,395	17·35	9,259	25·11	6,193	16·52
1956–1960	284	·71	6,386	16·04	8,852	22·24	6,265	15·49

* Deaths under one month.

† Per 1,000 live births.

‡ Per 1,000 of all births (live and still).

Perinatal Mortality (Infant Mortality and Still Births Combined)

As pre-natal causes are a common factor in both still births and the mortality of infants subsequent to birth, it is of interest to note the combined rate for still births and deaths of children who were born alive. The total loss of infants by still births and those that died under one year of age amounted to 2,996 in 1960, out of 83,244 live and still births, this represents a rate of 35·99 per 1,000 of all births.

Particular significance though is attached to the combined rate in respect of early neo-natal deaths (deaths of children within one week of birth) and still births. This is shown in the following Table. The year 1936 is the first for which figures are available on this basis.

TABLE 15

PERINATAL DEATHS (INFANT MORTALITY AND STILL-BIRTHS COMBINED), IN FIVE-YEAR PERIODS, NEW SOUTH WALES, 1936–60

Year	Deaths Under One Week, plus Still-births		Deaths Under One Year, plus Still-births	
	Number	Rate*	Number	Rate*
1936–1940	13,660	50·82	16,862	68·70
1941–1945	14,278	44·97	17,561	60·49
1946–1950	14,093	37·32	16,976	48·32
1951–1955	12,588	31·40	15,452	41·22
1956–1960	12,651	29·30	15,117	37·39

* Per 1,000 live and still-births.

MATERNAL MORTALITY

Maternal mortality is discussed in greater detail in the Report of the Division of Maternal and Baby Welfare, but it is of interest to tabulate, over a period of years, the trend of maternal mortality and its causation and at the same time to compare these overall figures with statistics for 1960.

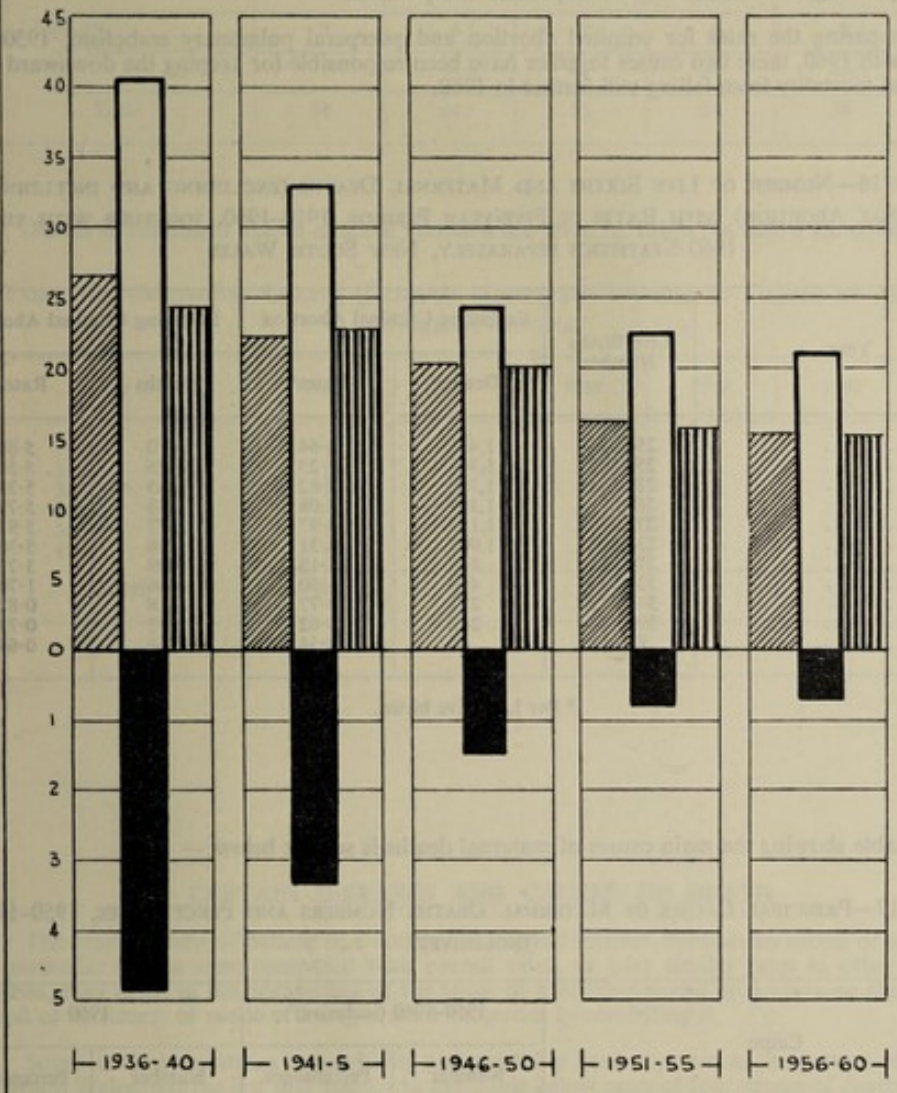
Table 16, tabulates maternal deaths with rates, excluding and also including criminal abortions, 1910–1960. At the same time the number of live births has been given in the table for these years. Appendix "E" illustrates the downward trend of maternal mortality graphically.

APPENDIX E

MATERNAL, NEO-NATAL AND INFANT MORTALITY, TOGETHER WITH STILL BIRTHS

IN FIVE YEAR PERIODS FROM 1936-'60

New South Wales



It will be observed that since 1945, maternal mortality rates per 1,000 live births, have fallen considerably and if reference is made to past Public Health Departmental Reports the two main reasons for this are clear. On looking at the Report for 1940, it will be seen that puerperal septicaemia and albuminuria and eclampsia (now toxaemia of pregnancy) accounted together for 120 of 276 deaths, or 43·6 per cent. (puerperal septicaemia 21·4 per cent., albuminuria and eclampsia 22·2 per cent.) of all maternal deaths in that year. In 1945, this combined figure had been reduced to 52 of 139 maternal deaths or 37·4 per cent. (puerperal septicaemia 9·4 per cent., albuminuria and eclampsia 28·0 per cent.). The advent of antibiotics was responsible for the reduction in the number of cases of puerperal septicaemia. From 1947, the percentage rate for toxaemia of pregnancy began to fall also; the result of ante-natal care and the early diagnosis and care of toxaemias of pregnancy. In 1960, no case of puerperal septicaemia occurred and only nine cases of toxaemia of pregnancy, or 16·4 per cent. of all maternal deaths in that year.

There are other causes of lesser significance for the general fall in the maternal mortality rate and perhaps the greatest is delivery with specified complication.

Comparing the rates for criminal abortion and puerperal pulmonary embolism, 1950–1960 inclusive with 1960, these two causes together have been responsible for keeping the downward trend of maternal mortality from falling still further in 1960.

TABLE 16—NUMBER OF LIVE BIRTHS AND MATERNAL DEATHS (EXCLUDING AND INCLUDING CRIMINAL ABORTION) WITH RATES IN FIVE-YEAR PERIODS, 1910–1960, TOGETHER WITH THE 1960 STATISTICS SEPARATELY, NEW SOUTH WALES

Year	Live Births Number	Excluding Criminal Abortion		Including Criminal Abortion	
		Deaths	Rates*	Deaths	Rates*
1910–1914	250,952	1,415	5·64	1,470	5·86
1915–1919	256,655	1,348	5·25	1,426	5·56
1920–1924	271,604	1,308	4·82	1,465	5·39
1925–1929	269,071	1,367	5·08	1,558	5·79
1930–1934	232,295	1,155	4·97	1,377	5·93
1935–1939	233,688	1,007	4·31	1,238	5·30
1940–1944	270,635	847	3·15	1,009	3·75
1945–1949	334,353	499	1·50	566	1·70
1950–1954	365,872	277	0·77	318	0·87
1955–1960	390,488	242	0·62	283	0·73
1960	81,983	44	0·54	56	0·68

* Per 1,000 live births.

A table showing the main causes of maternal deaths is set out below:—

TABLE 17—PRINCIPAL CAUSES OF MATERNAL DEATHS NUMBERS AND PERCENTAGES, 1950–1960 (INCLUSIVE)*

Cause	1950–1960 (inclusive)		1960	
	Number	Percentages	Number	Percentages
Toxaemias of pregnancy	127	19·1	9	16·4
Ectopic pregnancy	38	5·7	3	5·2
Abortion, excluding criminal	50	7·6	4	7·1
Criminal abortion	92	14·0	12	21·4
Delivery complicated by haemorrhage	88	13·4	8	14·3
Delivery with specified complication	94	15·9	5	8·9
Puerperal pulmonary embolism	43	6·5	6	10·7
All other complications	168	17·8	9	16·0

* Including criminal abortion

Deaths in childbirth, 1956–1960, by age at death in certain age periods is given in Table 18 below.

TABLE 18—MATERNAL DEATHS—NUMBER OF DEATHS BY AGE AT DEATH—1956–1960

Age at Death	1956	1957	1958	1959	1960
15–20	3	3	2	5	4
21–25	12	10	15	11	8
26–30	13	19	11	9	12
31–35	14	17	10	16	18
36–40	8	11	12	9	11
41–45	7	4	2	4	3
46	1	—	—	—	—
Total	58	64	52	54	56

Deaths in childbirth due to criminal abortion are given in Table 18A below for comparison.

TABLE 18A—MATERNAL DEATHS (CRIMINAL ABORTION)—NUMBER OF DEATHS BY AGE AT DEATH—1956–1960

Age at Death	1956	1957	1958	1959	1960
15–20	1	—	1	2	—
21–25	2	3	—	—	3
26–30	2	—	2	2	2
31–35	—	1	—	4	4
36–40	1	2	—	—	1
41–45	4	2	—	1	2
Total	10	8	3	9	12

CERTAIN DISEASES AND CAUSES OF DEATH

The exact pattern of disease in a country is of great interest, because an excess or a deficiency of a particular disease when compared with overall rates, or with similar rates in other individual countries, may assist in the unravelling of the cause of that disease and in confirming that a certain method of treatment or mode of living is most successful in combating it.

Some marked variations in morbidity and mortality have occurred in the pattern of disease in New South Wales over the last fifty years. In the Table below rates of four causes of deaths are tabulated, together with the rate of deaths from accidents. It will be observed from the Table that there are very great changes in the rates over the period 1910–1960. These figures have also been illustrated graphically in Appendix "F."

TABLE 19—DEATHS FROM SELECTED CAUSES, RATES PER MILLION, 1910 AND 1960—NEW SOUTH WALES

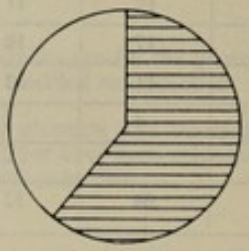
International Code Number	Cause of Death	1910	1960
001–008	Tuberculosis of respiratory system	750	40
490–493	Pneumonia	519	335
140–199	Malignant neoplasms	707	1,218
420–422	Arteriosclerotic and degenerative heart disease ..	983	2,841
E800–E999	Accidents	551	2,586

APPENDIX F

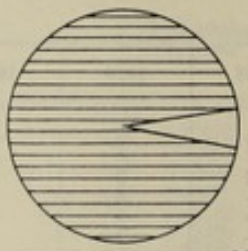
DEATHS FROM SELECTED CAUSES

New South Wales

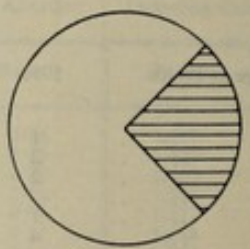
Rates per million 1910 and 1960



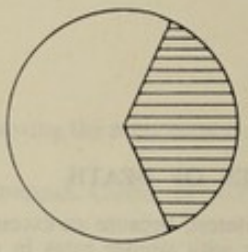
PNEUMONIA
1910 519
1960 335



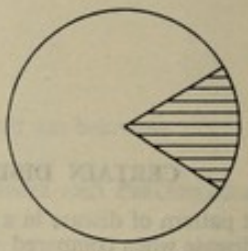
TUBERCULOSIS OF RESPIRATORY SYSTEM
1910 750
1960 40



ARTERIOSCLEROTIC AND DEGENERATIVE HEART DISEASE
1910 983
1960 2841



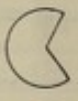
MALIGNANT NEOPLASMS
1910 707
1960 1218



ACCIDENTS
1910 551
1960 2586

1910 shown thus.....

1960 shown thus.....



A. Arteriosclerotic and Degenerative Heart Disease

Even allowing for improved diagnostic methods a startling change in the number of deaths from "heart disease" has occurred. Coronary artery disease has today, become a household word. New South Wales is not alone in this upsurge for it is general in all countries populated by white people except, peculiarly enough, France. The reason for the great increase in the rate is not wholly understood, but the following factors are of interest: (*a*) The ratio of coronary heart disease is five males to one female; (*b*) the disease is an especially important mortality factor in the middle-aged males and the tendency is for the age of onset to occur earlier in life, while females are more prone after the cessation of the menses; (*c*) familial history is most common in cases occurring relatively early in life; (*d*) an advanced general hypothesis that physical activity of man's occupation is a protection against ischaemic heart disease; (*e*) excessive smoking may be related to chances of death from coronary disease; (*f*) the role played by diet is complex and confused; (*g*) certain female hormones may protect against arterial change; (*h*) the "stress" of life may accelerate normal arterial change; (*i*) the disease is commoner in the "professional class" of worker.

Below, in Table 20, the number of cases of arteriosclerotic and degenerative heart disease for the past five years are tabulated.

TABLE 20—DEATHS FROM ARTERIOSCLEROTIC AND DEGENERATIVE HEART DISEASE, NEW SOUTH WALES, 1956–1960 (CODES 420–422)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	5,885	3,827	9,712	3,295	2,163	2,731
1957	5,575	3,711	9,286	3,065	2,058	2,563
1958	5,720	3,747	9,467	3,089	2,035	2,563
1959	6,416	4,123	10,539	3,409	2,197	2,804
1960	6,453	4,426	10,879	3,367	2,313	2,841

B. Deaths from Vascular Lesions affecting the Central Nervous System

These deaths may be classified as subarachnoid haemorrhage, cerebral haemorrhage and cerebral embolism and thrombosis.

Contrary to what was seen above with "heart disease," more females are affected by these lesions, probably because of their greater survival into old age, in fact as age increases these lesions become an increasingly important cause of death.

The factors which cause these deaths are as follows: (*a*) There is an undoubted familial tendency with a further inherited causative factor in hypertension; (*b*) the disease is increasing in civilised communities, most probably due to the lengthened life-span in such countries; (*c*) they mostly occur in conurbations in contrast to rural areas; (*d*) excessive eating, drinking, smoking and irregular habits with minimal exercise are aetiological factors. Of more importance though is the high fatality rate, the physical and mental deterioration in non-fatal cases and the socio-economic burden to the community by residual handicaps and the increasing frequency of such disasters in the population.

In Table 21 figures are given for the past five years with rates of deaths from vascular lesions.

TABLE 21—DEATHS FROM VASCULAR LESIONS AFFECTING THE CENTRAL NERVOUS SYSTEM, NEW SOUTH WALES, 1956–1960 (CODES 330–334)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	2,066	2,640	4,706	1,157	1,492	1,323
1957	2,128	2,652	4,780	1,170	1,470	1,320
1958	1,998	2,493	4,491	1,079	1,354	1,216
1959	2,092	2,705	4,797	1,112	1,441	1,276
1960	2,184	2,656	4,840	1,139	1,387	1,264

C. Deaths from Malignant Neoplasms

There has been a steady increase in deaths from cancer over the past few years. Male deaths from lung cancer have shown a steady rise and this, together with the increase in neoplasms of lymphatic and haematopoietic tissues in both sexes has, in the main, caused the overall increase.

The factors thought responsible for the increase in the death rate due to cancer are as follows: (*a*) better diagnosis and more accurate death certification; (*b*) increased expectation of life; and (*c*) a widening field of exogenous carcinogenic factors to which persons are exposed.

Cancer is essentially an affliction of maturity, but the following causes are of interest setiologically: (*a*) Heridity seems to play a part; (*b*) race factors all play a part, but it must be remembered the expectancy of life in white populations is generally greater than that recorded in black populations; (*c*) there is definitely some hormonal relationship in some types of cancer; (*d*) urban areas show an excess of cases, due to exposure to more exogenous factors than residents in rural areas; (*e*) occupation plays a part in as much as exposure to specific external irritants is the outcome of such occupations; (*f*) external factors such as carcinogenic hydrocarbons (cigarette smoke) have a cumulative effect, and are most probably responsible for some types of cancer.

Three Tables follow below showing death rates from cancer over the past five years.

TABLE 22—DEATHS FROM MALIGANT NEOPLASMS, NEW SOUTH WALES, 1956–1960 (CODES 140–239)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	2,508	2,228	4,736	1,404	1,259	1,332
1957	2,611	2,234	4,845	1,435	1,239	1,337
1958	2,650	2,221	4,871	1,431	1,206	1,319
1959	2,676	2,296	4,972	1,422	1,223	1,323
1960	2,854	2,305	5,159	1,489	1,205	1,347

TABLE 23—DEATHS FROM MALIGANT NEOPLASMS OF THE LUNG, NEW SOUTH WALES, 1956–1960 (CODES 162–163)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	464	68	530	259	38	149
1957	480	81	561	264	45	155
1958	514	63	577	278	34	156
1959	544	85	629	289	45	167
1960	572	84	656	298	44	171

TABLE 24—DEATHS FROM NEOPLASMS OF THE LYMPHATIC AND HAEMATOPOIETIC SYSTEM, NEW SOUTH WALES, 1956–1960 (CODES 200–205)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	195	143	338	109	81	95
1957	193	150	343	106	83	95
1958	205	169	374	111	92	101
1959	212	168	380	113	90	101
1960	255	171	426	133	89	111

DAETHS FROM RESPIRATORY DISEASES

A. Deaths from Tuberculosis

There has been a striking decline in the age-specific death rates for tuberculosis of the respiratory system for New South Wales since 1932. These findings are in keeping with epidemiological evidence from civilised communities elsewhere and are the result of improved environmental conditions present in the second half of this century. Since 1948 the steep decline in death rates is the result of the introduction of chemotherapeutic anti-tuberculous agents. Prevalence, unfortunately, has not declined proportionately with mortality rates and this may be the result of the chronic infector pool of tuberculosis which exists in middle-aged and elderly male cases.

From the age-specific death rate two facts emerge. In the first place, since the male and female rate are fairly comparable up to the 40–44 age group, it would be expected that middle-aged females would follow the same tuberculosis death pattern as the middle-aged male, but this is not the case. The diseases, therefore, after 45 years is preponderantly a disease of the middle and old-aged male.

The reason for this is not entirely clear, but since during the child bearing period the female death rate is proprotionately high, perhaps antenatal care, while not entirely checking deaths during this period or after, does result in early diagnosis, treatment and cure. Secondly, since the death rates show a high incidence in the middle and old-aged male groups this most probably is due to industrial hazards in earlier life and also to the mode and pattern of male living during this period and later. There seems little doubt that smoking, the abuse of alcohol are concomitant factors in increasing the male mortality rates from tuberculosis in later life.

TABLE 25—DEATHS FROM RESPIRATORY TUBERCULOSIS, NEW SOUTH WALES—AGE-SPECIFIC DEATH RATES

(Per One Million of Mean Population)

Age Group (Years)	1910–1912		1920–1922		1932–1934		1946–1948		1953–1955		1960	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0– 4 ..	456	476	259	253	156	127	65	72	22	25	5	5
5– 9 ..	111	87	98	84	31	35	14	29	2	—	—	—
10–14 ..	144	110	80	69	29	51	12	22	5	3	—	—
15–19 ..	272	439	273	301	102	209	30	83	3	12	—	—
20–24 ..	639	827	583	630	322	557	75	154	17	9	—	—
25–29 ..	962	1,105	900	765	432	527	140	294	26	44	16	—
30–34 ..	1,090	1,003	1,047	739	569	582	257	369	41	57	28	22
35–39 ..	1,288	1,133	1,177	728	685	545	309	291	98	67	35	43
40–44 ..	1,374	969	1,207	664	772	361	519	236	113	93	40	39
45–49 ..	1,653	851	1,498	606	975	430	691	236	193	72	24	33
50–54 ..	1,607	752	1,228	621	1,140	335	864	251	243	82	103	39
55–59 ..	1,827	843	1,571	651	1,264	345	1,027	190	445	55	187	12
60–64 ..	1,740	998	1,393	489	980	343	1,299	186	582	69	340	64
65–69 ..	1,532	1,129	1,262	766	1,042	397	1,243	246	675	98	342	42
70–74 ..	1,216	1,103	964	495	926	349	1,398	272	802	131	468	87
75–79 ..	824	560	730	445	572	275	938	314	769	132	567	28
80–84 ..	831	440	291	589	482	168	574	117	583	156	332	256
85 and over ..	1,278	—	418	—	139	332	463	110	609	172	193	—
All ages ..	824	668	728	467	487	325	387	187	146	49	67	22

TABLE 26—DEATHS FROM TUBERCULOSIS (ALL FORMS), NEW SOUTH WALES, 1956–1960 (CODES 001–019)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	243	82	325	136	46	91
1957	196	52	248	107	29	68
1958	149	41	190	80	23	51
1959	179	45	224	95	24	59
1960	129	43	172	67	23	45

From the above Table it will be observed that there has been a considerable improvement in male deaths from tuberculosis (all forms) during 1960.

B. Deaths from Pneumonia

There has been a general lessening of death rates from pneumonia during 1960, but, as in previous years, there is a considerable excess in male deaths.

TABLE 27—DEATHS FROM PNEUMONIA, NEW SOUTH WALES, 1956–1960 (CODES 490–493)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	763	544	1,307	427	307	368
1957	776	591	1,367	427	328	377
1958	713	479	1,192	385	260	323
1959	894	667	1,561	475	355	415
1960	747	537	1,284	390	281	335

P 63387—3

C. Deaths from Bronchitis

Again, male mortality is greater than female mortality possibly due to greater exposure to environmental causative factors. Deaths occur in the older age-groups, 45 and upwards. Heavy smoking most definitely favours bronchitis and alcoholism predisposes to it. The disease is frequently associated with asthma, fibrosing pulmonary disorders and chronic cardiac and renal disease.

TABLE 28—DEATHS FROM BRONCHITIS, NEW SOUTH WALES, 1956–1960 (CODES 500–502)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	293	89	382	164	50	107
1957	292	77	369	161	43	102
1958	279	86	365	151	47	99
1959	378	116	494	201	62	131
1960	452	107	559	236	56	146

From the above Table it will be observed that there has been a steep rise in male deaths during 1960.

D. Deaths from Influenza

Incidence of influenza falls evenly on all persons, but fatality rates are higher in young children and the aged.

The lowest recorded number of cases during the five-year period 1956–1960 occurred in 1960.

TABLE 29—DEATHS FROM INFLUENZA, NEW SOUTH WALES, 1956–1960 (CODES 480–483)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1956	16	15	31	9	8	9
1957	69	47	116	38	26	32
1958	11	7	18	6	4	5
1959	109	88	197	58	47	52
1960	9	39	48	5	20	13

CASES AND DEATHS FROM COMMUNICABLE DISEASES

A. Poliomyelitis

Figures for poliomyelitis from 1948–1960 are given in Table 30. During 1960 there were nine cases and two deaths. Eight of these cases were not vaccinated and both deaths also occurred in the unvaccinated.

TABLE 30—CASES AND DEATHS—POLIOMYELITIS, NEW SOUTH WALES, 1948–1960 (CODE 080)

Year	Number of Cases	Number of Deaths
1948	87	5
1949	182	8
1950	789	55
1951	1,528	134
1952	414	42
1953	630	55
1954	555	32
1955	222	8
1956	240	16
1957	58	4
1958	23	—
1959	16	2
1960	9	2

B. Diptheria

For many years past now New South Wales has, like many other civilised countries in the world, had few cases of diphtheria. This is due to recent publicity given to the efficacy of immunisation against diphtheria and the response made by the public to such appeals.

During 1960, and for the first time, no death from diphtheria occurred.

TABLE 31—CASES AND DEATHS, DIPHTHERIA, NEW SOUTH WALES, 1948–1960 (CODE 055)

Year	Number of Cases	Number of Deaths
1948	600	51
1949	627	36
1950	390	24
1951	362	21
1952	266	14
1953	499	33
1954	366	21
1955	140	14
1956	70	5
1957	56	3
1958	28	1
1959	14	3
1960	10	Nil

C. Cases and Deaths—Typhoid and Paratyphoid Fevers

The last minor outbreak of typhoid fever occured in New South Wales in 1953, when there were 102 cases and six deaths. The State has a fortunate record as far as these two diseases are concerned due, most probably, to the vigilance of the Department and in particular to the record kept of typhoid carriers.

There were seven cases, with no deaths from typhoid during 1960. Below in Table 32 cases and deaths are tabulated.

TABLE 32—CASES AND DEATHS—TYPHOID, PARATYPHOID COMBINED, NEW SOUTH WALES, 1948–1960 (CODE 040–041)

Year	Number of Cases	Number of Deaths
1948	17	2
1949	6	—
1950	16	4
1951	12	1
1952	15	1
1953	102	6
1954	31	2
1955	17	—
1956	4	1
1957	6	—
1958	27	1
1959	11	1
1960	9	—

D. Cases and Deaths—Infectious Hepatitis

This disease first became notifiable in 1954. During 1960 many more cases were reported than in any previous year, a peak in incidence occurring in November. Cases and deaths from 1954 are tabulated in Table 33 below.

TABLE 33—CASES AND DEATHS, INFECTIOUS HEPATITIS, NEW SOUTH WALES, 1954–1960 (CODE 092)

Year	Number of Cases	Number of Deaths
1954	1,610	1
1955	2,489	27
1956	4,435	20
1957	2,401	27
1958	3,261	17
1959	3,183	29
1960	4,925	20

ACCIDENTS

Mention has been made above of the number of accidents in New South Wales and these were listed in age groups. A more detailed list of causes is given in Table 34. A graph has been prepared showing these in detail also. (See Appendix "G.")

SUMMARY OF VITAL STATISTICS

Tables showing figures of some of the graphs drawn in this Report are given below.

NUMBER OF ACCIDENTAL AND VIOLENT DEATHS

New South Wales
1960

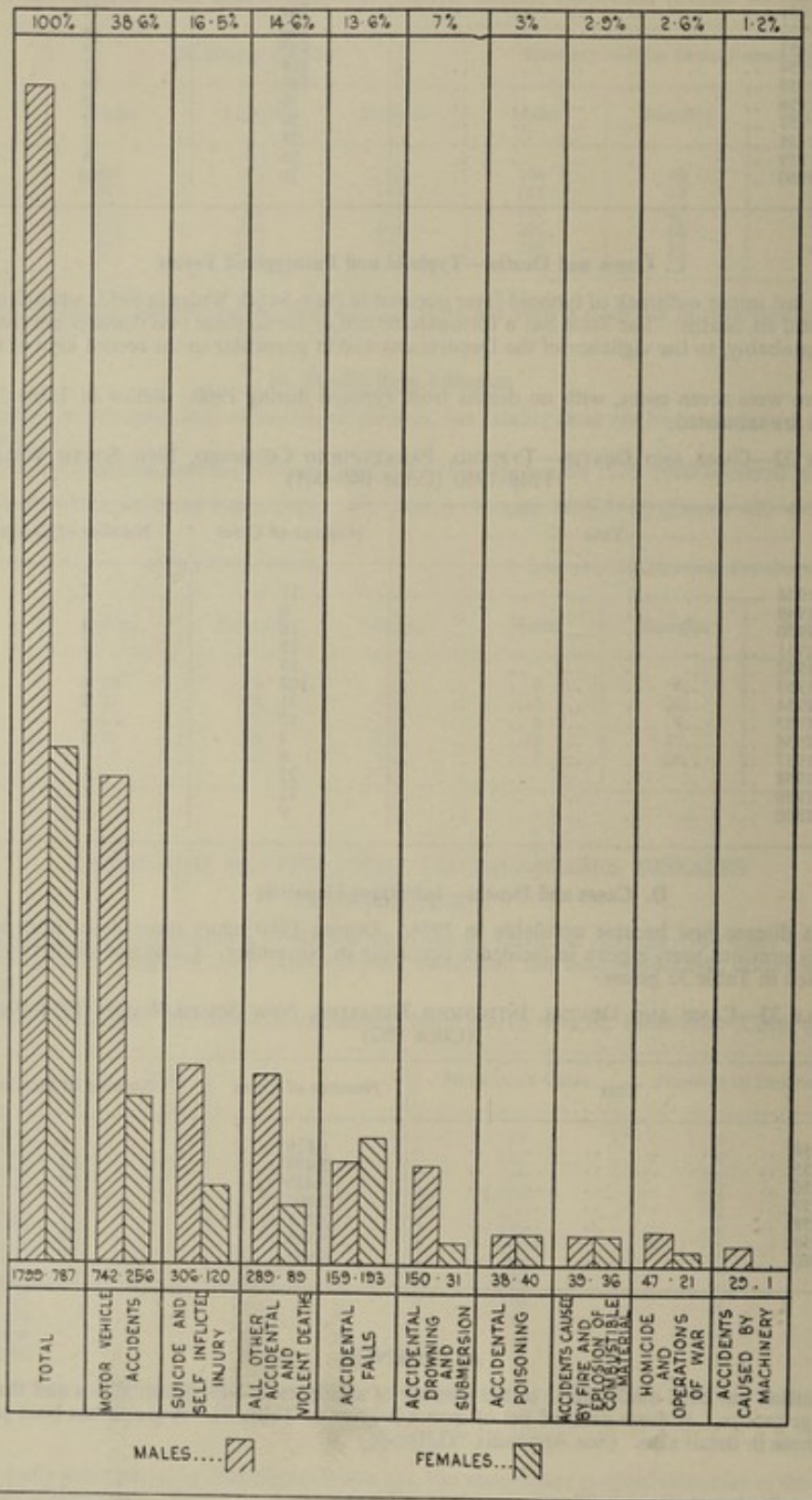


Table 34—Deaths by Accident and Violence in Age Groups—New South Wales—1960

	Cause of Death	Age at Death (Years)																							Total Deaths	Category as per cent. of all Accidents
		Under 1	1	2	3	4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85 and Over	Not Stated		
	Males																									
810–835	Motor vehicle accidents	..	1	8	5	4	25	20	87	101	63	49	59	44	44	34	41	37	40	39	26	9	4	2	742	51·31
850, 851, 929	Drowning and submersion, accidental	1	11	6	5	3	16	11	12	11	4	9	7	9	6	7	10	7	3	8	3	..	..	1	150	10·37
870–888, 890–895	Accidental poisoning	1	2	4	2	..	..	1	..	1	2	2	4	2	4	3	1	..	1	3	2	2	..	1	38	2·63
900–904	Accidental falls	3	1	2	..	1	..	3	1	4	3	6	11	6	8	10	7	10	16	14	12	17	24	..	159	11·00
912	Accident caused by machinery	..	..	..	2	..	1	..	2	1	2	4	1	3	5	2	3	1	1	1	..	..	..	..	29	2·00
916	Accident caused by fire and explosion of combustible material	..	1	..	2	..	2	1	1	2	3	4	..	2	3	5	2	3	1	1	4	..	1	1	39	2·70
	All other accidents	38	7	3	3	1	10	15	26	28	15	10	17	15	21	16	20	6	10	7	9	8	3	1	289	19·99
800–962	Total Accidents	43	23	23	19	9	54	51	129	148	92	84	99	81	91	77	84	64	72	73	56	36	32	6	1,446	100·00
964, 965, 980–999	Homicide and operations of war	..	..	1	..	..	3	1	3	2	4	5	5	5	6	5	2	1	2	2	..	..	..	..	47	..
963, 970–979	Suicide and self-inflicted injury	..	..	..	..	..	..	1	8	17	17	26	38	30	33	29	24	22	31	17	4	3	3	3	306	..
	Females																									
810–835	Motor vehicle accidents	4	5	5	2	3	13	8	25	10	7	9	10	12	23	19	13	18	20	23	15	7	4	1	256	39·63
850, 851, 929	Accidental drowning and submersion	..	3	4	1	3	5	5	..	1	1	1	..	1	1	1	..	1	..	1	2	..	..	..	31	4·80
870–888, 890–895	Accidental poisoning	1	3	1	1	..	..	..	..	..	2	1	3	2	5	3	4	2	3	2	4	1	2	..	40	6·19
900–904	Accidental falls	1	..	..	1	..	1	1	..	..	..	1	1	1	1	3	5	4	10	15	35	43	70	..	193	29·88
912	Accident caused by machinery	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	·15
916	Accident caused by fire and explosion of combustible material	2	1	2	1	2	4	..	..	1	..	..	2	3	1	1	3	1	5	5	1	..	1	..	36	5·57
	All other accidents	22	8	5	1	1	1	..	3	..	4	1	..	3	5	1	..	3	4	8	6	5	8	..	89	13·78
800–962	Total Accidents	30	20	17	7	9	24	15	28	12	14	13	16	22	36	28	25	29	42	54	63	56	85	1	646	100·00
964, 965 980–999	Homicide and operations of war	1	1	..	..	1	1	1	1	2	1	2	3	2	2	..	..	..	2	1	..	..	..	..	21	..
963, 970–979	Suicide and self-inflicted injury	..	..	..	..	..	..	..	3	3	5	10	14	15	20	9	15	8	6	6	2	1	..	..	120	..
	Persons																									
810–835	Motor vehicle accidents	4	6	13	7	7	38	28	112	111	70	58	69	56	67	53	54	55	60	62	41	16	8	3	998	47·70
850–851, 929	Accidental drowning and submersion	1	14	10	6	6	21	16	12	12	5	10	7	10	7	8	10	8	3	9	5	..	..	1	181	8·65
870–888, 890–895	Accidental poisoning	2	5	5	3	..	..	1	..	1	4	3	7	4	9	6	5	2	4	5	6	3	2	1	78	3·73
900–904	Accidental falls	4	1	2	1	1	1	4	1	4	3	7	12	7	9	13	12	14	26	29	47	60	94	..	352	16·83
912	Accident caused by machinery	..	..	..	2	..	1	1	2	1	2	4	1	3	5	2	3	1	1	1	..	..	..	..	30	1·43
916	Accident caused by fire and explosion of combustible material	2	2	2	3	2	6	1	1	3	3	4	2	5	4	6	5	4	6	6	5	..	2	1	75	3·59
	All other accidents	60	15	8	4	2	11	15	29	28	19	11	17	18	26	17	20	9	14	15	15	13	11	1	378	18·07
800–962	Total Accidents	73	43	40	26	18	78	66	157	160	106	97	115	103	127	105	109	93	114	127	119	92	117	7	2,092	100·00
964, 965, 980–999	Homicide and operations of war	1	1	1	..	1	4	2	4	4	5	7	8	7	8	5	2	1	4	3	..	..	..	..	68	..
963, 970–979	Suicide and self-inflicted injury	..	..	..	..	..	..	1	11	20	22	36	52	48	53	38	39	30	37	23	6	4	3	3	426	..

TABLE 35—SUMMARY OF VITAL STATISTICS, NEW SOUTH WALES, 1950–1960

Year	Population as at 31st December	Mean Population Year ended 31st December	Live Births	Deaths	Natural Increase	Infant Deaths	Neo-natal Deaths	Maternal Deaths	Marriages	Divorces (Decrees Absolute)	Nullities of Marriage (Decrees Made Absolute)
1950	3,241,057	3,193,208	71,592	30,965	40,627	1,936	1,345	80	30,036	3,419	31
1951	3,314,672	3,279,415	72,069	31,932	40,137	1,895	1,298	73	30,341	3,303	25
1952	3,367,986	3,341,476	74,196	32,038	42,158	1,818	1,229	68	29,351	3,335	27
1953	3,409,009	3,386,556	74,890	31,707	43,183	1,846	1,286	48	27,573	3,725	21
1954	3,462,313	3,428,488	73,125	32,444	40,681	1,850	1,294	49	27,503	2,816	28
1955	3,525,923	3,492,385	74,407	32,553	41,854	1,850	1,288	55	27,645	2,874	17
1956	3,588,344	3,555,854	75,714	34,064	41,650	1,777	1,285	58	27,313	3,125	18
1957	3,660,497	3,622,557	79,456	33,317	46,139	1,804	1,302	64	28,767	2,975	32
1958	3,725,686	3,693,282	80,045	32,350	47,695	1,704	1,225	52	28,554	3,217	18
1959	3,790,270	3,758,881	80,866	35,249	45,617	1,832	1,324	54	28,201	3,363	23
1960	3,872,809	3,829,952	81,983	35,030	46,953	1,735	1,250	56	29,328	3,243	27

TABLE 36—SUMMARY OF LIVE BIRTHS, DEATHS, NATURAL INCREASE AND NET MIGRATION, NEW SOUTH WALES IN TEN-YEAR PERIODS, 1861–1960

Ten Year Period	Live Births		Deaths		Natural Increase		Net Immigration	
	Average Annual Number over Ten Year Period	Average Annual Rate per 1,000 Mean Population over Period	Average Annual Number of Deaths over Period	Average Annual Rate per 1,000 Mean Population over Period	Annual Average over Period	Average Annual Rate per 1,000 Mean Population over Period	Annual Average over Period	Average Annual Rate per 1,000 Mean Population over Period
1861–1870	17,260	41·71	6,803	16·44	10,457	25·27	4,487	10·84
1871–1880	23,412	38·85	9,417	15·62	13,995	23·22	10,320	17·12
1881–1890	34,727	37·22	13,756	14·75	20,971	22·48	16,243	17·41
1891–1900	38,115	30·51	15,459	12·37	22,656	18·14	2,047	1·64
1901–1910	40,481	27·11	15,901	10·65	24,580	16·46	3,778	2·53
1911–1920	51,605	27·47	19,819	10·55	31,786	16·92	13,154	7·00
1921–1930	53,884	23·17	21,543	9·26	32,341	13·91	13,117	5·64
1931–1940	46,323	17·40	24,166	9·08	22,157	8·32	2,171	0·81
1941–1950	62,720	21·24	28,680	9·71	34,040	11·53	14,818	5·02
1951–1960	76,675	21·67	33,068	9·34	43,607	12·32	22,020	6·22

TABLE 37—ESTIMATED POPULATION, NEW SOUTH WALES, 1860–1960

Year	Estimated Population at 31st December	Year	Estimated Population at 31st December
1860	348,546	1920	2,091,722
1870	497,992	1930	2,546,353
1880	741,142	1940	2,790,948
1890	1,113,275	1950	3,241,057
1900	1,360,305	1960	3,872,809
1910	1,643,855		

CAUSES OF DEATH, NEW SOUTH WALES, 1960

International Code No.	Cause of Death	Number of Deaths		
		Males	Females	Persons
001–138	Infective and parasitic diseases	223	116	339
001–008	Tuberculosis of respiratory system	123	32	155
010	Tuberculosis of meninges and central nervous system	..	2	2
011–019	Tuberculosis, other forms	6	9	15
020–029	Syphilis and its sequelae	19	5	24
040–041	Typhoid and paratyphoid fever	..	..	..
045–048	Dysentery	7	2	9
050	Scarlet fever	..	..	..
052	Erysipelas	..	1	1
055	Diphtheria	..	..	..
056	Whooping cough	..	2	2
057	Meningococcal infections	10	7	17
061	Tetanus	16	4	20
080	Acute poliomyelitis	2	..	2
081	Late effects of acute poliomyelitis	..	..	..
082	Acute infectious encephalitis	3	5	8
083	Late effects of acute infectious encephalitis	..	2	2
085	Measles	2	3	5
092	Infectious hepatitis	7	13	20
Residual	Other infective and parasitic diseases	28	29	57
140–239	Neoplasms	2,854	2,305	5,159
140–199	Malignant neoplasms	2,572	2,093	4,665
200–205	Neoplasms of lymphatic and haematopoietic tissue	255	171	426
210–239	Other neoplasms	27	41	68
240–289	Allergic, endocrine system, metabolic and nutritional diseases	281	392	673
260	Diabetes mellitus	161	278	439
280–286	Avitaminoses and nutritional deficiency states	17	13	30
Residual	Other allergic, endocrine system, metabolic and nutritional diseases	103	101	204
290–299	Diseases of the blood and blood forming organs	39	73	112
300–326	Mental, psychoneurotic and personality disorders	73	73	146
330–398	Diseases of the nervous system and sense organs	2,371	2,806	5,177

Causes of Death, New South Wales, 1960—*continued*

International Code No.	Cause of Death	Number of Deaths		
		Males	Females	Persons
	Vascular lesions affecting central nervous system:—			
331	Cerebral haemorrhage	958	1,147	2,105
332	Cerebral embolism and thrombosis	915	1,143	2,058
330, 333, 334	Other	311	366	677
340	Meningitis, except meningococcal and tuberculous	21	21	42
343	Encephalitis, myelitis and encephalomyelitis (except acute infectious)	4	7	11
341–342, 344–398	Other disorders of the nervous system and sense organs	162	122	284
400–468	Diseases of the circulatory system	8,260	6,293	14,553
400–416	Rheumatic fever and chronic rheumatic heart disease	127	154	281
420–422	Arteriosclerotic and degenerative heart disease	6,453	4,426	10,879
430–434	Other diseases of the heart	690	609	1,299
440–447	Hypertensive disease	511	656	1,167
450–456	Diseases of arteries	431	411	842
460–468	Diseases of veins and other diseases of circulatory system	48	37	85
470–527	Diseases of the respiratory system	1,398	792	2,190
480–483	Influenza	9	39	48
490–493	Pneumonia	747	537	1,284
500–502	Bronchitis	452	107	559
470–475, 510–527	Other diseases of the respiratory system	190	109	299
530–587	Diseases of the digestive system	687	487	1,174
540–545	Diseases of stomach and duodenum	213	105	318
550–553	Appendicitis	25	12	37
560–561	Hernia of the abdominal cavity	38	36	74
570	Intestinal obstruction without mention of hernia	64	43	107
571	Gastro-enteritis and colitis, except ulcerative, age four weeks and over	80	61	141
572	Chronic enteritis and ulcerative colitis	31	31	62
576–577	Peritonitis and peritoneal adhesions	3	4	7
581	Cirrhosis of liver	125	71	196
Residual	Other diseases of digestive system	108	124	232
590–637	Diseases of genito-urinary system	506	367	873
590–594	Nephritis and nephrosis	193	188	381
610–612	Diseases of the prostate	138	..	138
600–609, 613–637	Other diseases of the genito-urinary system	175	179	354
640–689	Deliveries and complications of pregnancy, child-birth and puerperium	..	56	56
640–649	Complications of pregnancy	..	17	17
650–652	Abortion:—			
6502, 6512, 6522	Criminal	..	12	12
Residual	Other	..	4	4
670–678	Complications of delivery	..	13	13
680–689	Complications of puerperium	..	10	10
690–716	Diseases of the skin and cellular tissue	21	38	59
720–749	Diseases of the bones and organs of movement	51	67	118
750–759	Congenital malformations	212	183	395
760–776	Certain diseases of early infancy	605	414	1,019
760–761	Injury at birth	163	104	267
762	Post-natal asphyxia and atelectasis	76	51	127
776	Immaturity unqualified	232	180	412
763–775	Other diseases of early infancy	134	79	213
780–795	Symptoms, senility and ill-defined conditions	177	224	401
794	Senility without mention of psychosis	130	188	318
780–793, 795	Other symptoms and ill-defined conditions	47	36	83
E800–E999	Accidents, poisonings and violence	1,799	787	2,586
E800–E962	Accidents	1,446	646	2,092
E970–E979, E963	Suicide and self-inflicted injury	306	120	426
E964, E965, E980–E999	Homicide and operations of war	47	21	68
001–E999	All Causes	19,557	15,473	35,030

Causes of Death, New South Wales, 1960

International Code No.	Cause of Death	Rate per 1,000,000 of Mean Population		
		Males	Females	Persons
001–138	Infective and parasitic diseases	116	61	89
001–008	Tuberculosis of respiratory system	64	17	40
010	Tuberculosis of meninges and central nervous system	..	1	1
011–019	Tuberculosis, other forms	3	5	4
020–029	Syphilis and its sequelae	10	3	6
040–041	Typhoid and paratyphoid fever	..	..	..
045–048	Dysentery	4	1	2
050	Scarlet fever	..	..	..
052	Erysipelas	..	1	..
055	Diphtheria	..	..	..
056	Whooping cough	..	1	1
057	Meningococcal infections	5	4	4
061	Tetanus	8	2	5
080	Acute poliomyelitis	1	..	1
081	Late effects of acute poliomyelitis	..	..	..
082	Acute infectious encephalitis	2	3	2
083	Late effects of acute infectious encephalitis	..	1	1
085	Measles	1	2	1
092	Infectious hepatitis	4	7	5
Residual	Other infective and parasitic diseases	15	15	15
140–239	Neoplasms	1,489	1,205	1,347
140–199	Malignant neoplasms	1,342	1,094	1,218
200–205	Neoplasms of lymphatic and haematopoietic tissue	133	89	111
210–239	Other neoplasms	14	21	18
240–289	Allergic, endocrine system, metabolic and nutritional diseases	147	205	176
260	Diabetes mellitus	84	145	115
280–286	Avitaminoses and nutritional deficiency states	9	7	8
Residual	Other allergic, endocrine system, metabolic and nutritional diseases	54	53	53
290–299	Diseases of the blood and blood forming organs	20	38	29
300–326	Mental, psychoneurotic and personality disorders	38	38	38
330–398	Diseases of the nervous system and sense organs	1,237	1,466	1,352
	Vascular lesions affecting central nervous system:—			
331	Cerebral haemorrhage	500	599	550
332	Cerebral embolism and thrombosis	477	597	537
330, 333, 334	Other	162	191	177
340	Meningitis, except meningococcal and tuberculous	11	11	11
343	Encephalitis, myelitis and encephalomyelitis (except acute infectious)	2	4	3

Causes of Death, New South Wales, 1960—*continued*

International Code No.	Cause of Death	Rate per 1,000,000 of Mean Population		
		Males	Females	Persons
341–342, 344–398	Other disorders of the nervous system and sense organs	85	64	74
400–468	Diseases of the circulatory system	4,310	3,289	3,800
400–416	Rheumatic fever and chronic rheumatic heart disease	66	80	73
420–422	Arteriosclerotic and degenerative heart disease	3,367	2,313	2,841
430–434	Other diseases of the heart	360	318	339
440–447	Hypertensive disease	267	343	305
450–456	Diseases of arteries	225	215	220
460–468	Diseases of veins and other diseases of circulatory system	25	19	22
470–527	Diseases of the respiratory system	729	414	572
480–483	Influenza	5	20	13
490–493	Pneumonia	390	281	335
500–502	Bronchitis	236	56	146
470–475, 510–527	Other diseases of the respiratory system	99	57	78
530–587	Diseases of the digestive system	358	255	307
540–545	Diseases of the stomach and duodenum	111	55	83
550–553	Appendicitis	13	6	10
560–561	Hernia of the abdominal cavity	20	19	19
570	Intestinal obstruction without mention of hernia	33	22	28
571	Gastro-enteritis and colitis, except ulcerative, age four weeks and over	42	32	37
572	Chronic enteritis and ulcerative colitis	16	16	16
576–577	Peritonitis and peritoneal adhesions	2	2	2
581	Cirrhosis of liver	65	37	51
Residual	Other diseases of digestive system	56	65	61
590–637	Diseases of genito-urinary system	264	192	228
590–594	Nephritis and nephrosis	101	98	99
610–612	Diseases of the prostate	72	..	36
600–609, 613–637	Other diseases of the genito-urinary system	91	94	92
640–689	Deliveries and complications of pregnancy, child-birth and puerperium	..	29	15
640–649	Complications of pregnancy	..	9	4
650–652	Abortion:—			
6502, 6512, 6522	Criminal	..	6	3
Residual	Other	..	2	1
670–678	Complications of delivery	..	7	3
680–689	Complications of puerperium	..	5	3
690–716	Diseases of the skin and cellular tissue	11	20	15
720–749	Diseases of the bones and organs of movement	27	35	31
750–759	Congenital malformations	111	96	103
760–776	Certain diseases of early infancy	316	216	266
760–761	Injury at birth	85	54	70
762	Post-natal asphyxia and atelectasis	40	27	33
776	Immaturity, unqualified	121	94	108
763–775	Other diseases of early infancy	70	41	56
780–795	Symptoms, senility and ill-defined conditions	92	117	105
794	Senility without mention of psychosis	68	98	83
780–793, 795	Other symptoms and ill-defined conditions	25	19	22
E800–E999	Accidents, poisonings and violence	939	411	675
E800–E962	Accidents	755	338	546
E970–E979, E963	Suicide and self-inflicted injury	160	63	111
E964, E965, E980–E999	Homicide and operations of war	25	11	18
001–E999	All Causes	10,205	8,086	9,146

Causes of Death of Infants Under One Year of Age, New South Wales, 1960

International Code No.	Cause of Death	Number of Deaths			Rate per 1,000 Live Births		
		Males	Females	Persons	Males	Females	Persons
001–019	Tuberculosis	..	..	..	..	..	..
020–029	Syphilis and its sequelae	..	..	..	..	..	..
057	Meningococcal infections	6	2	8	·14	·05	·10
080–081	Poliomyelitis	..	..	..	..	..	..
082–083	Infectious encephalitis	..	2	2	..	·05	·02
030–056, 058–074, 084–138	Other infective and parasitic diseases	3	5	8	·07	·13	·10
340	Meningitis, except meningococcal and tuberculous	12	10	22	·28	·25	·27
490–493	Pneumonia (age 4 weeks and over)	86	64	150	2·04	1·61	1·83
500–502	Bronchitis	5	7	12	·12	·18	·15
571	Gastro-enteritis and colitis, except ulcerative, age 4 weeks and over	18	20	38	·43	·50	·46
750–759	Congenital malformations	158	124	282	3·74	3·12	3·44
7600–7610	Injury at birth, without mention of immaturity	84	44	128	1·99	1·11	1·56
7605–7615	Injury at birth, with immaturity	79	60	139	1·87	1·51	1·70
7620	Post-natal asphyxia and atelectasis, without mention of immaturity	40	25	65	·95	·63	·79
7625	Post-natal asphyxia and atelectasis with immaturity	36	26	62	·85	·65	·75
7630	Pneumonia of newborn, without mention of immaturity	25	10	35	·59	·25	·43
7635	Pneumonia of newborn, with immaturity	3	8	11	·07	·20	·13
7640	Diarrhoea of newborn, without mention of immaturity	3	..	3	·07	..	·04
7645	Diarrhoea of newborn, with immaturity	..	..	..	..	..	..
7650, 7660, 7670, 7680, 7690–7694, 7700–7702, 7710, 7720, 7730	Other diseases of early infancy, without mention of immaturity	59	35	94	1·40	·88	1·15
7655, 7665, 7675, 7685, 7695–7699, 7705–7707, 7715, 7725, 7735	Other diseases of early infancy with immaturity	36	20	56	·85	·50	·68
774	Immaturity with mention of any other subsidiary condition	8	6	14	·19	·15	·17
776	Immaturity unqualified	232	180	412	5·49	4·53	5·03
E800–E999	Accidents, poisonings and violence	43	31	74	1·02	·78	·90
Residual	All other causes	70	50	120	1·66	1·26	1·46
001–E999	All Causes	1,006	729	1,735	23·82	18·34	21·16

SECTION I

A. (a) DIVISION OF EPIDEMIOLOGY

STAFF

(as at 31st December, 1960)

Director: Dr. H. C. Johnston, M.B., B.S., D.P.H.

Two Medical Officers (Venereal Disease); One Medical Officer (Serology); One Microbiologist (Serology); One Clinical Assistant; One Assistant Clinical Assistant; Two Laboratory Attendants; One Laboratory Assistant in Training; Five Attendants; One Office Assistant; Two Assistant Office Assistants; One Senior Clerk; Three Clerks.

(i) COMMUNICABLE DISEASE—1960

Divisional activities in this connection have continued along the lines previously reported. The divisional staff concerned were almost overwhelmed in their work consequent on the great increase in the reported incidence of infectious hepatitis in New South Wales, which started about June and reached its peak month in November, when 988 cases were reported.

Notifiable Infectious Diseases Recorded in New South Wales during the Years 1958, 1959, and 1960, under Public Health Act, 1902–1952

The Public Health Act, 1902–1952, provides that the Governor may, by proclamation in the *Government Gazette*, declare that any disease named therein is an infectious disease.

Disease	Notifiable from—	Cases and Deaths Notified					
		1958*		1959*		1960*	
		Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	20th December, 1881	..	..	..	..	..	..
Leprosy	26th November, 1890	3	1	1	..	2	..
Typhoid and paratyphoid fevers	1st January, 1898	17	1	2	1	7	..
		10	..	9	..	2	..
Scarlet fever	1st January, 1898	703	..	478	..	415	..
Diphtheria or membranous group	1st January, 1898	28	1	14	3	10	..
Plague	23rd January, 1900†	..	..	..	..	..	..
Acute anterior poliomyelitis	1st February, 1912‡	23	..	16	2	9	2
Meningococcal infection	11th October, 1915†	72	20	75	20	62	17
Virus encephalitis	1st April, 1926†	25	7	25	12	19	8
Cholera	12th August, 1927	..	..	..	..	..	..
Typhus fever	12th August, 1927	5	..	2	..	1	..
Yellow fever	12th August, 1927	..	..	..	..	..	..
Puerperal infection	16th August, 1929†	54	9	56	11	67	14
Brucellosis	13th August, 1937†	23	1	7	..	8	..
Tuberculosis (all forms)	14th May, 1945§	1,399	190	1,166	224	1,533	172
Infantile diarrhoea	11th July, 1952	193	38	237	52	298	52
Rheumatic fever	11th July, 1952	105	15	59	1	73	10
Chorea (rheumatic)	11th July, 1952	6	..	3	..	8	3
Ancylostomiasis	11th July, 1952	20	1	37	2	78	2
Dengue fever	11th July, 1952	..	..	..	..	..	..
Ornithosis	11th July, 1952	..	..	2	1	2	..
Leptospirosis	11th July, 1952	18	..	9	..	13	..
Ascariasis	22nd January, 1954	33	..	58	1	81	4
Infectious hepatitis	22nd January, 1954	3,261	17	3,183	29	4,925	20
Staphylococcal mastitis	19th September, 1958	6	..	38	..	10	..
Staphylococcal pneumonia	19th September, 1958	6	2	97	44	64	46
Staphylococcal diseases in infants under 4 weeks of age	19th September, 1958	5	..	201	11	127	11
Totals		6,015	303	5,775	414	7,812	361
Population as at 31st December		3,725,686		3,790,270		3,872,809	

* Classified according to the Seventh (1958) Revision of the International List.

† Definition reproclaimed 11th July, 1952.

‡ Definition reproclaimed 14th August, 1931, and 11th July, 1952. Cases and deaths shown are those notified during the year.

§ Pulmonary tuberculosis has been notifiable as follows: (*a*) from 1904, City of Sydney only; (*b*) from 1915, Metropolitan and Hunter River districts; (*c*) from 1916, Blue Mountains districts added; (*d*) from March, 1929, notification was extended to cover the whole State. On 14th May, 1945, extra-pulmonary tuberculosis was made notifiable.

Note:—Diseases notifiable prior to 1902 were notifiable under the following Acts: Infectious Diseases (Smallpox) Supervision Act, 1881; Leprosy Act, 1890; Public Health Act, 1896.

General

A total of 7,812 cases of infectious disease were notified under the Public Health Act during 1960, or 2,037 more than in 1959. The increases occurred predominantly under Infectious Hepatitis (+1,742), Tuberculosis (+367). Decreases occurred under Scarlet Fever (−63), Staphylococcal Pneumonia (−33), and Staphylococcal diseases in infants under four weeks (−74).

A total of 53 fewer deaths occurred, and the main decrease was under Tuberculosis (−50).

Pulmonary Tuberculosis

Notified cases amounted to 1,455, an increase of 289 on the 1959 figure. There were 155 deaths during the year, a decrease of 69.

Infectious Hepatitis

There were 4,925 notified cases, with 20 deaths, in contrast to 3,183 and 29 deaths in 1959.

Acute Anterior Poliomyelitis

Only 9 cases of the above disease were notified in 1960, with 2 deaths. This is a further reduction of 7 cases on the 1959 figures (16 cases). The Poliomyelitis Vaccination Campaign has been responsible for these encouraging figures over the past few years.

Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, each Health District, 1960

Age Group	Ancylostomiasis						Ascariasis						Infectious Hepatitis						Virus Encephalitis						Typhoid Fever						Paratyphoid Fever					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
METROPOLITAN AREA DISTRICT																																				
All ages	..	..	Nil	..	..	..	5	3	8	..	..	..	1113	1010	2123	1	7	8	3	2	5	..	1	1	1	4	5	..	..	..	..	1	1	..	..	Nil
Under 1 year	..	..	..	..	..	..	1	..	1	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	3	2	5	..	..	..	43	37	80	..	..	..	1	..	1	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	1	1	2	..	..	..	500	420	920	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	1	1	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	192	211	403	..	1	1	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	192	165	357	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	103	81	184	..	..	..	..	1	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	42	35	77	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	21	24	45	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	8	18	26	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	12	18	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
HUNTER RIVER HEALTH DISTRICT																																				
All ages	..	..	1	1	..	1	1	..	..	Nil	..	..	254	307	561	..	2	2	1	..	1	1	..	1	..	..	Nil	..	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	1	1	..	1	1	..	..	..	..	..	21	13	34	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	146	167	313	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	29	50	79	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	26	36	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	13	16	29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	5	6	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	3	3	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	6	7	13	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	5	9	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SOUTH COAST HEALTH DISTRICT																																				
All ages	..	..	Nil	..	..	..	..	..	Nil	..	..	..	203	195	398	2	..	2	1	1	2	..	1	1	..	..	Nil	..	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	6	8	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	102	99	201	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	29	27	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	27	36	63	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	31	15	46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
RICHMOND-TWEED HEALTH DISTRICT																																				
All ages	..	20	12	32	1	..	1	11	5	16	1	..	1	30	26	56	1	..	1	1	..	1	..	..	..	..	..	Nil	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	6	2	8	1	..	1	7	2	9	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	8	5	13	..	..	..	3	1	4	..	..	..	10	13	23	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	1	1	..	..	..	..	1	1	..	..	..	10	3	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	2	2	..	..	..	..	..	..	..	..	..	3	3	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	1	1	2	..	..	..	..	1	1	..	..	..	2	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	4	1	5	..	..	..	1	..	1	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	1	..	1	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, EACH HEALTH DISTRICT, 1960—*continued*

Age Group	Ancylostomiasis						Ascariasis						Infectious Hepatitis						Virus Encephalitis						Typhoid Fever						Paratyphoid Fever					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
MITCHELL HEALTH DISTRICT																																				
All ages	..	..	Nil	..	..	..	..	..	Nil	..	..	..	181	194	375	2	..	2	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	9	11	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	86	105	191	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	35	29	64	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	21	24	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	15	10	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	8	8	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BROKEN HILL HEALTH DISTRICT																																				
All ages	..	..	Nil	..	..	..	..	..	Nil	..	..	..	47	42	89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	4	3	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	28	26	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	7	9	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	6	1	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
REMAINDER OF STATE																																				
All ages	..	27	18	45	..	..	..	30	27	57	2	1	3	685	586	1271	1	4	5	4	4	8	2	2	4	1	1	2	..	..	Nil	1	..	1	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	16	6	22	..	..	..	25	18	43	2	1	3	29	23	52	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..
5–14 years	..	10	9	19	..	..	..	4	8	12	..	..	..	271	255	526	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	2	2	..	..	..	1	1	2	..	..	..	106	103	209	..	..	..	2	1	3	1	1	2	..	..	..	..	..	..	1	..	1	..	..	..
25–34 years	..	1	..	1	..	..	..	..	..	..	..	..	..	141	106	247	..	1	1	1	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	66	35	101	1	1	2	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	26	24	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	13	13	26	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	15	11	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	1	1	..	..	..	..	..	..	..	..	..	18	16	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
IMPORTED CASES																																				
All ages	..	..	Nil	..	..	..	..	..	Nil	..	..	..	5	3	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, EACH HEALTH DISTRICT, 1960—*continued*

Age Group	Ancylostomiasis						Ascariasis						Infectious Hepatitis						Virus Encephalitis						Typhoid Fever						Paratyphoid Fever					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
ARMED FORCES																																				
All ages	..	..	Nil	..	..	..	..	..	Nil	..	..	..	40	4	44	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	27	3	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	9	..	9	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
NEW SOUTH WALES																																				
All ages	..	..	47	31	78	1	1	2	46	35	81	3	1	4	2558	2367	4925	7	13	20	11	8	19	3	5	8	2	5	7	..	..	Nil	1	1	2	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	2	..	1	1	..	2	2	..	2	2	..	1	1	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	22	9	31	1	1	2	35	22	57	3	1	4	113	95	208	..	1	1	1	1	2	..	..	..	..	4	4	..	..	..	..	..	..	..	..	..
5–14 years	..	..	18	14	32	..	..	..	8	10	18	..	..	..	1143	1085	2228	1	1	2	3	2	5	1	1	2	..	..	..	..	..	..	..	1	1	..	..	..
15–24 years	..	..	..	3	3	..	..	..	1	2	3	..	..	..	435	435	870	..	1	1	4	2	6	1	2	3	..	..	..	..	..	..	1	..	1	..	..	..
25–34 years	..	..	1	2	3	..	..	..	..	..	..	..	..	..	428	373	801	2	1	3	2	..	2	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
35–44 years	..	..	1	1	2	..	..	..	1	1	2	..	..	..	236	163	399	1	1	2	1	1	2	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..
45–54 years	..	..	4	1	5	..	..	..	..	..	..	..	..	..	79	71	150	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40	48	88	2	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	40	76	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	47	56	103	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, each Health District, 1960—*continued*

Age Group	Tuberculosis (All Forms)						Brucellosis						Acute Anterior Poliomyelitis						Staph. Mastitis						Staph. Pneumonia						Staph. Disease in Infants under 4 Weeks of Age					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
METROPOLITAN AREA DISTRICT																																				
All ages	663	270	933	74	25	99	..	..	Nil	..	..	..	4	1	5	2	..	2	..	2	2	..	..	..	18	14	32	12	9	21	40	39	79	2	4	6
Under 1 year	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	5	7	2	3	5	40	39	79	2	4	6
1– 4 years	4	11	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	..	1	1	..	..	..	..	..	..	..
5–14 years	7	4	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	35	21	56	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
25–34 years	62	52	114	4	1	5	..	..	..	..	..	..	2	1	3	1	..	1	..	1	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..
35–44 years	119	70	189	5	6	11	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	3	1	4	1	1	2	..	..	..	..	..	..	..
45–54 years	148	47	195	9	6	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	2	1	3	..	..	..	..	..	..	..
55–64 years	121	24	145	24	4	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	1	1	2	..	..	..	..	..	..	..
65 and over	164	41	205	32	8	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	2	10	6	2	8	..	..	..	..	..	..	..
Not stated	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
HUNTER RIVER HEALTH DISTRICT																																				
All ages	83	32	115	18	5	23	..	..	Nil	..	..	..	..	..	Nil	..	..	..	..	..	Nil	..	..	..	5	1	6	5	1	6	6	5	11	1	1	2
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	3	..	3	6	5	11	1	1	2
1– 4 years	3	3	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	1	1	2	..	..	..	..	..	..	..
5–14 years	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	5	2	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	10	4	14	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	14	6	20	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	19	6	25	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	23	5	28	7	1	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..
65 and over	8	6	14	7	2	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SOUTH COAST HEALTH DISTRICT																																				
All ages	84	52	136	11	5	16	..	..	Nil	..	..	..	..	..	Nil	..	..	..	..	..	Nil	..	..	..	5	1	6	4	1	5	11	4	15	1	..	1
Under 1 year	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	4	15	1	..	1
1– 4 years	4	3	7	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4	2	1	3	..	..	..	..	..	..	..
5–14 years	5	5	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..
15–24 years	3	6	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	16	16	32	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	14	7	21	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..
45–54 years	14	7	21	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	18	1	19	3	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	10	6	16	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
RICHMOND-TWEED HEALTH DISTRICT																																				
All ages	25	16	41	3	..	3	1	..	1	..	..	..	..	..	Nil	..	..	..	..	1	1	..	..	..	..	..	Nil	..	..	..	8	3	11	..	..	..
Under 1 year	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	3	11	..	..	..
1– 4 years	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	2	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	2	3	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	3	2	5	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	7	1	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	9	3	12	3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, each Health District, 1960—*continued*

Age Group	Tuberculosis (All Forms)						Brucellosis						Acute Anterior Poliomyelitis						Staph. Mastitis						Staph. Pneumonia						Staph. Disease in Infants under 4 Weeks of Age					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
MITCHELL HEALTH DISTRICT																																				
All ages	21	5	26	3	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	..	..	..	3	1	4	3	1	4	1	..	1	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	1	..	1	..	..	..
1– 4 years	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	5	2	7	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	9	3	12	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BROKEN HILL DISTRICT																																				
All ages	9	2	11	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	4	1	5	..	..	..
Under 1 year	..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5	..	..	..
1– 4 years	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	3	1	4	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..
REMAINDER OF STATE																																				
All ages	183	88	271	18	6	24	5	2	7	..	..	..	2	2	4	..	..	..	..	3	3	..	..	..	11	3	14	7	2	9	3	2	5	1	1	2
Under 1 year	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	6	1	7	4	1	5	3	2	5	1	1	2
1– 4 years	3	5	8	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
5–14 years	5	6	11	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
15–24 years	11	14	25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	26	7	33	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
35–44 years	31	25	56	3	2	5	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
45–54 years	40	10	50	2	2	4	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..
55–64 years	36	7	43	3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..
65 and over	30	13	43	10	2	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
Not stated	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
IMPORTED CASES																																				
All ages	..	..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, EACH HEALTH DISTRICT, 1960—*continued*

Age Group	Tuberculosis (All Forms)						Brucellosis						Acute Anterior Poliomyelitis						Staph. Mastitis						Staph. Pneumonia						Staph. Disease in Infants under 4 Weeks of Age					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
ARMED FORCES																																				
All ages	..	..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
NEW SOUTH WALES																																				
All ages	..	1068	465	1533	129	43	172	6	2	8	..	..	..	6	3	9	2	..	2	..	10	10	..	..	..	43	21	64	31	15	46	73	54	127	..	..	..
Under 1 year	..	2	2	4	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	12	6	18	10	4	14	73	54	127	..	..	..
1– 4 years	..	15	26	41	1	1	2	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	5	5	10	4	3	7	..	..	..	..	..	..
5–14 years	..	18	16	34	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	1	1	..	..	..	2	1	3	1	1	2	..	..	..	..	..	..
15–24 years	..	55	43	98	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
25–34 years	..	118	82	200	6	3	9	2	..	2	..	..	..	2	1	3	1	..	1	..	3	3	..	..	..	3	..	3	2	..	2	..	..	..	..	..	..
35–44 years	..	184	111	295	10	11	21	1	2	3	..	..	..	1	..	1	1	..	1	..	1	1	..	..	..	5	1	6	2	2	4	..	..	..	..	..	..
45–54 years	..	228	72	300	14	8	22	3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	2	1	3	..	..	..	..	..	..
55–64 years	..	211	40	251	39	6	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	1	2	3	..	..	..	..	..	..
65 and over	..	233	73	306	59	14	73	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	11	2	13	9	2	11	..	..	..	..	..	..
Not stated	..	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..

Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, Each Health District, 1960

Age Group	Meningococcal Infection						Rheumatic Fever						Rheumatic Chorea						Scarlet Fever						Infantile Diarrhoea						Diphtheria					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
METROPOLITAN AREA																																				
All ages	9	15	24	3	4	7	8	11	19	3	2	5	1	2	3	1	1	2	107	101	208	..	..	Nil	76	68	144	10	7	17	1	..	1	..	..	..
Under 1 year	3	3	6	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	47	51	98	6	7	13	..	..	..	..	..	..
1– 4 years	1	6	7	..	1	1	1	..	1	..	..	..	..	..	..	..	..	..	27	28	55	..	..	..	29	16	45	4	..	4	..	..	..	..	..	..
5–14 years	3	..	3	..	..	..	3	7	10	..	..	..	..	1	1	..	..	..	72	70	142	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	1	1	..	..	..	..	2	2	..	1	1	..	..	..	..	..	..	8	2	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	2	2	4	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
45–54 years	1	1	2	..	1	1	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	1	1	2	1	1	2	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	3	3	..	1	1	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
HUNTER RIVER HEALTH DISTRICT																																				
All ages	2	..	2	1	..	1	5	3	8	..	..	..	1	..	1	..	..	Nil	7	16	23	..	..	..	13	12	25	..	1	1	..	..	..	..	..	..
Under 1 year	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	7	16	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	3	7	..	..	..	4	5	9	..	1	1	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	3	3	6	..	..	..	1	..	1	..	..	..	2	11	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SOUTH COAST HEALTH DISTRICT																																				
All ages	1	3	4	1	2	3	4	3	7	..	1	1	..	1	1	..	..	Nil	26	14	40	..	..	Nil	8	3	11	2	1	2	..	1	1	..	..	..
Under 1 year	1	2	3	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	3	10	1	..	1	..	..	..	..	..	..
1– 4 years	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	4	12	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	4	2	6	..	1	1	..	1	1	..	..	..	18	10	28	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
15–24 years	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
RICHMOND-TWEED HEALTH DISTRICT																																				
All ages	1	1	2	1	..	1	2	..	2	..	..	..	..	1	1	..	..	Nil	2	1	3	..	..	Nil	..	..	Nil	..	..	..	1	..	1	..	..	..
Under 1 year	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	1	..	1	1	..	1	1	..	1	..	..	..	1	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, Each Health District, 1960—*continued*

Age Group	Meningococcal Infection						Rheumatic Fever						Rheumatic Chorea						Scarlet Fever						Infantile Diarrhoea						Diphtheria					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
MITCHELL HEALTH DISTRICT																																				
All ages	1	3	4	..	..	Nil	1	1	2	..	1	1	..	..	..	..	..	..	17	13	30	..	..	Nil	3	1	4	1	1	2	..	1	1	..	..	..
Under 1 year	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	3	1	4	1	1	2	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	1	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	15	8	23	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BROKEN HILL DISTRICT																																				
All ages	1	..	1	1	..	1	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	Nil	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
1– 4 years	1	1	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
REMAINDER OF STATE																																				
All ages	15	6	21	3	1	4	15	17	32	2	1	3	..	2	2	..	1	1	45	66	111	..	..	Nil	59	54	113	19	11	30	5	1	6	..	..	..
Under 1 year	2	..	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	43	33	76	10	7	17	1	..	1	..	..	..
1– 4 years	7	3	10	1	1	2	3	1	4	..	..	..	..	..	..	..	..	..	15	15	30	..	..	..	16	21	37	9	4	13	1	..	1	..	..	..
5–14 years	3	1	4	..	..	..	10	16	26	..	1	1	..	1	1	..	..	..	27	42	69	..	..	..	..	..	..	..	..	..	3	..	3	..	..	..
15–24 years	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	6	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
25–34 years	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	1	..	1	1	..	1	..	1	1	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
IMPORTED CASES																																				
All ages	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, EACH HEALTH DISTRICT, 1960—*continued*

Age Group	Meningococcal Infection						Rheumatic Fever						Rheumatic Chorea						Scarlet Fever						Infantile Diarrhoea						Diphtheria					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
ARMED FORCES																																				
All ages	4	..	4	..	..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
NEW SOUTH WALES																																				
All ages	34	28	62	10	7	17	36	37	73	6	4	10	2	6	8	1	2	3	204	211	415	..	..	Nil	159	139	298	32	20	52	7	3	10	..	..	..
Under 1 year	7	8	15	6	2	8	..	..	..	..	..	..	..	..	..	..	..	..	1	5	6	..	..	..	109	96	115	18	15	33	1	..	1	..	..	..
1– 4 years	9	10	19	2	2	4	4	1	5	..	..	..	..	..	..	..	..	..	56	62	118	..	..	..	50	42	92	14	5	19	1	..	1	..	..	..
5–14 years	8	1	9	1	..	1	23	30	53	1	1	2	1	4	5	..	..	..	135	131	266	..	..	..	..	..	..	..	..	..	3	1	4	..	..	..
15–24 years	5	2	7	..	..	..	2	3	5	..	1	1	..	..	..	..	..	..	11	8	19	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..
25–34 years	1	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	1	1	2	..	..	..	3	2	5	2	1	3	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	1	2	3	..	1	1	1	..	1	1	..	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
55–64 years	1	1	2	1	1	2	1	..	1	1	..	1	1	1	2	1	1	2	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
65 and over	..	3	3	..	1	1	1	1	2	1	1	2	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..

NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, EACH HEALTH DISTRICT, 1960—*continued*

Age Group	Ornithosis						Leptospirosis						Puerperal Infection						Puerperal Infection						Puerperal Infection					
	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
	METROPOLITAN AREA						RICHMOND-TWEED HEALTH DISTRICT						METROPOLITAN AREA						REMAINDER OF STATE						RICHMOND-TWEED HEALTH DISTRICT					
All ages	1	..	1	..	..	..	11	1	12	..	..	Nil	..	19	19	..	5	5	..	22	22	..	4	4	..	8	8	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	5	..	5	..	..	..	..	7	7	..	1	1	..	5	5	..	..	..	..	4	4	..	..	..
25–34 years	1	..	1	..	..	..	..	..	..	..	..	..	..	7	7	..	2	2	..	9	9	..	2	2	..	3	3	..	..	..
35–44 years	..	..	..	..	..	..	2	..	2	..	..	..	..	3	3	..	2	2	..	5	5	..	2	2	..	1	1	..	..	..
45–54 years	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	3	3	..	..	..	..	..	..	..	..	..
	HUNTER RIVER HEALTH DISTRICT						REMAINDER OF STATE						HUNTER RIVER HEALTH DISTRICT						TOTAL N.S.W. PUERPERAL INFECTION											
All ages	..	1	1	..	..	..	..	1	1	..	..	Nil	..	10	10	..	3	3	..	67	67	..	14	14	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	..	..	..	..	21	21	..	1	1	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	..	1	1	..	27	27	..	7	7	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	1	1	..	..	..	..	2	2	..	2	2	..	11	11	..	6	6	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	8	8	..	..	..	..	..	..	..	..	..
	ORNITHOSIS TOTAL N.S.W.						LEPTOSPIROSIS TOTAL N.S.W.						SOUTH COAST HEALTH DISTRICT																	
All ages	1	1	2	..	..	Nil	11	2	13	..	..	..	..	7	7	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	5	..	5	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	1	..	1	..	..	..	..	..	..	..	..	..	..	3	3	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	1	1	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
													MITCHELL HEALTH DISTRICT																	
All ages	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1– 4 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5–14 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15–24 years	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
25–34 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35–44 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45–54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55–64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

1 case Typhus Fever; male; aged 11 years; Hunter River Health District (Maitland)

SUMMARY, 1960

District	Estimated Population, 30th June, 1960	Ancylostomiasis		Ascariasis		Brucellosis		Chorea (Rheumatic)		Diphtheria		Infantile Diarrhoea		Virus Encephalitis		Infectious Hepatitis		Leptospirosis		Meningococcal Infection		Paratyphoid Fever	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	1,943,130	..	..	..	..	..	..	3	2	1	..	144	17	5	1	2,123	8	..	..	24	7	1	..
Hunter River Health District	311,260	1	1	8	..	..	..	1	..	..	..	25	1	1	1	561	2	..	..	2	1	..	..
South Coast Health District	316,930	..	..	..	..	..	..	1	..	1	..	11	2	2	1	398	2	..	..	4	3	..	..
Richmond-Tweed Health District	124,840	32	1	16	1	1	..	1	..	1	..	Nil	..	1	..	56	1	12	..	2	1	..	..
Mitchell Health District	139,250	..	..	..	..	..	..	..	..	1	..	4	2	1	1	375	2	..	..	4	..	..	..
Broken Hill District	33,210	..	..	..	..	..	..	..	..	..	..	1	..	..	..	89	..	..	..	1	1	..	..
Remainder of State	959,695	45	..	57	3	7	..	2	1	6	..	113	30	8	4	1,271	5	1	..	21	4	1	..
Residence outside of State	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..
Armed Forces	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	44	..	..	..	4	..	..	..
Total—New South Wales	3,828,315	78	2	81	4	8	Nil	8	3	10	Nil	298	52	19	8	4,925	20	13	Nil	62	17	2	Nil

District	Estimated	Acute Anterior Poliomyelitis		Rheumatic Fever		Scarlet Fever		Tuberculosis		Typhoid Fever		Typhus Fever		Ornithosis and Psittacosis		Staphylococcal Pneumonia		Staphylococcal Mastitis		Stapyylococcal Disease in Infants Under 4 Weeks of Age		Puerperal Infection	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	1,943,130	5	2	19	5	208	..	933	99	5	..	..	..	1	..	32	21	2	..	79	6	19	5
Hunter River Health District	311,260	..	..	8	..	23	..	115	23	..	..	1	..	1	..	6	6	..	..	11	2	10	3
South Coast Health District	316,930	..	..	7	1	40	..	136	16	..	..	..	..	..	..	6	5	..	..	15	1	7	1
Richmond-Tweed Health District	124,840	..	..	2	..	3	..	41	3	..	..	..	..	..	..	Nil	..	1	..	11	..	8	..
Mitchell Health District	139,250	..	..	2	1	30	..	26	4	..	..	..	..	..	..	4	4	4	..	1	..	1	1
Broken Hill District	33,210	..	..	3	..	..	..	11	3	..	..	..	..	..	..	1	..	..	..	5	..	..	..
Remainder of State	959,695	4	..	32	3	111	..	271	24	2	..	..	..	..	..	14	9	3	..	5	2	22	4
Residence outside of State	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Armed Forces	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
Total—New South Wales	3,828,315	9	2	73	10	415	Nil	1,533	172	7	Nil	1	Nil	2	Nil	64	46	10	Nil	127	11	67	14

Table—Showing the number of Cases of Infection Diseases notified in the State of New South Wales during the years 1898 to 1960 inclusive, and the number of deaths therefrom.

Year	Mean Population	Typhoid and Paratyphoid Fever		Scarlet Fever		Diphtheria		Acute Anterior Poliomyelitis		Meningococcal Infection		Virus Encephalitis		Pulmonary Tuberculosis		Puerperal Infection		Infectious Hepatitis	
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1898	1,312,455	3,302	387	6,342	83	1,493	169	..	..	..	..	..	..	..	..	..	..	..	..
1899	1,333,605	2,783	347	1,389	25	741	60	..	..	..	..	..	..	..	..	..	..	..	..
1900	1,354,335	3,442	398	895	9	726	63	..	..	..	..	..	..	..	..	..	..	..	..
1901	1,366,900	2,702	291	1,288	16	922	131	..	..	..	..	..	..	..	..	..	..	..	..
1902	1,388,400	2,624	276	2,010	61	757	74	..	..	..	..	..	..	..	..	..	..	..	..
1903	1,407,400	4,855	475	5,358	87	1,214	134	..	..	..	..	..	..	..	..	..	..	..	..
1904	1,428,700	2,370	249	4,056	50	1,584	156	..	..	..	..	..	..	146	..	..	..	..	..
1905	1,454,800	2,226	239	1,773	21	1,118	102	..	..	..	..	..	..	128	..	..	..	..	..
1906	1,484,600	2,373	271	3,085	42	1,219	100	..	..	..	..	..	..	118	..	..	..	..	..
1907	1,517,900	1,972	189	2,570	26	1,376	133	..	..	..	..	..	..	161	..	..	..	..	..
1908	1,545,700	2,607	307	2,755	40	2,001	123	..	..	..	..	..	..	112	..	..	..	..	..
1909	1,577,200	2,615	287	7,178	30	2,419	166	..	..	..	..	..	..	196	..	..	..	..	..
1910	1,616,200	2,714	294	1,642	23	4,989	207	..	..	..	..	..	..	184	..	..	..	..	..
1911	1,665,265	1,864	184	2,618	11	4,784	226	..	..	..	..	..	..	222	..	..	..	..	..
1912	1,743,958	2,126	236	662	11	5,440	253	..	..	..	..	..	..	265	..	..	..	..	..
1913	1,820,066	2,187	236	1,120	23	6,380	310	47	10	..	..	..	..	228	..	..	..	..	..
1914	1,870,460	2,284	250	3,207	21	5,831	247	79	14	..	..	..	..	293	..	..	..	..	..
1915	1,891,191	1,941	219	8,335	97	5,838	264	63	11	50	33	..	..	361	86	..	..	..	..
1916	1,893,479	1,742	209	5,759	107	6,588	309	311	21	309	145	..	..	1,499	666	..	..	..	..
1917	1,905,194	1,091	103	2,255	27	5,805	247	16	12	197	98	..	..	1,319	584	..	..	..	..
1918	1,943,356	810	112	1,308	15	5,151	221	50	12	120	80	..	..	1,308	586	..	..	..	..
1919	2,000,573	857	106	959	10	2,826	114	8	3	28	23	..	..	1,102	678	..	..	..	..
1920	2,068,585	1,016	132	937	24	5,043	263	45	10	34	27	..	..	1,509	674	..	..	..	..
1921	2,108,485	949	129	1,060	8	6,854	306	184	22	30	28	..	..	1,240	791	..	..	..	..
1922	2,155,522	706	99	1,153	11	4,094	207	33	5	21	22	..	..	1,045	517	..	..	..	..
1923	2,201,531	873	104	2,623	13	3,480	176	104	8	27	22	..	..	1,218	657	..	..	..	..
1924	2,244,403	768	97	3,421	29	4,364	222	108	6	29	38	..	..	1,096	730	..	..	..	..
1925	2,295,516	533	80	3,043	27	3,004	118	57	14	37	27	..	..	1,195	617	..	..	..	..
1926	2,346,903	698	80	4,755	53	3,579	147	81	21	32	23	..	..	1,265	705	..	..	..	..
1927	2,403,881	460	68	8,369	113	4,059	179	25	4	25	10	3	27	1,158	632	..	..	..	..
1928	2,460,410	453	60	5,531	105	3,835	168	30	2	31	8	18	23	1,212	815	..	..	..	..
1929	2,503,026	438	45	5,219	78	4,274	215	241	29	28	10	26	30	1,215	1,151	44	79	..	..
1930	2,532,289	380	48	4,400	54	4,051	176	30	6	43	12	14	20	1,917	1,022	269	82	..	..
1931	2,555,871	340	35	4,477	36	4,432	168	103	10	30	9	20	16	1,588	1,014	319	83	..	..
1932	2,579,741	233	31	4,905	57	4,310	160	384	44	43	7	12	18	1,485	969	292	59	..	..
1933	2,601,782	188	28	4,259	55	3,912	169	13	4	24	5	11	15	1,441	951	222	100	..	..
1934	2,623,560	141	19	2,166	19	6,167	193	94	13	29	7	6	15	1,509	955	238	63	..	..
1935	2,645,575	173	20	2,250	18	4,913	194	181	20	29	5	7	16	1,571	939	266	72	..	..
1936	2,667,839	132	19	3,939	26	7,064	220	23	6	11	4	7	5	1,372	955	326	82	..	..
1937	2,694,679	118	18	2,493	17	4,244	143	70	5	17	7	9	4	1,771	991	241	52	..	..
1938	2,721,196	91	20	2,599	12	3,935	156	658	19	22	7	11	10	1,797	946	259	47	..	..
1939	2,749,134	63	13	3,190	11	4,103	192	33	2	22	6	6	4	1,687	922	243	38	..	..
1940	2,777,898	67	9	3,026	15	1,834	74	11	1	41	13	7	4	1,907	892	245	50	..	..
1941	2,800,537	40	8	3,385	6	3,063	121	90	8	411	84	13	4	1,916	934	270	29	..	..
1942	2,831,080	31	6	1,576	9	1,454	79	34	1	879	125	12	3	1,912	958	244	36	..	..
1943	2,857,547	24	4	3,940	13	2,268	99	25	2	400	89	8	2	1,722	890	224	45	..	..
1944	2,886,204	24	5	5,618	11	1,402	69	15	2	172	59	3	2	1,743	825	205	26	..	..
1945	2,917,415	29	2	6,977	6	1,478	84	668	47	117	29	3	4	1,688	803	151	13	..	..
1946	2,945,220	25	3	3,090	4	1,279	57	656	52	89	29	3	1	1,671	818	185	10	..	..
1947	2,985,073	28	..	1,540	2	761	49	83	8	65	23	2	2	1,751	816	85	12	..	..
1948	3,047,354	17	2	1,358	4	600	51	87	5	82	29	..	1	1,711	815	72	22	..	..
1949	3,150,341	6	..	1,514	3	627	36	182	8	87	30	6	4	1,641	769	26	22	..	..
1950	3,241,810	16	4	1,052	1	390	24	789	55	98	21	2	..	1,787	671	14	9	..	..
1951	3,315,528	12	1	866	3	362	21	1,528	134	99	17	4	1	1,743	630	8	10	..	..
1952	3,368,572	15	1	923	..	266	14	414	42	161	56	12	16	1,803	495	8	19	..	..
1953	3,409,334	102	6	646	1	499	33	625	55	128	38	20	13	1,763	374	18	11	..	..
1954	3,462,313	31	2	703	..	366	21	552	32	198	53	33	9	2,038	324	17	3	1,610	1
1955	3,525,923	17	..	619	..	140	14	223	8	128	32	30	7	1,712	236	43	15	2,489	27
1956	3,588,344	4	1	574	2	70	5	240	16	112	26	34	16	1,534	299	41	14	4,435	20
1957	3,660,497	6	..	485	2	56	3	58	4	98	26	19	8	1,492	232	43	7	2,401	27
1958	3,693,282	27	1	703	..	28	1	23	..	72	20	25	7	1,399	190	54	9	3,261	17
1959	3,758,881	11	1	478	..	14	3	16	..	75	20	25	12	1,166	224	56	11	3,183	29
1960	3,829,952	9	..	415	..	10	..	9	2	62	17	19	8	1,455	155	67	14	4,925	20

The following diseases were notifiable from:—

Typhoid and paratyphoid fevers	1st January, 1898
Scarlet fever	1st January, 1898
Diphtheria or Membranous group	1st January, 1898
Acute anterior poliomyelitis	1st February, 1912†
Meningococcal infection	11th October, 1915*
Virus encephalitis	1st April, 1926*
Puerperal infection	16th August, 1929*
Pulmonary tuberculosis	14th May, 1945‡
Infectious hepatitis	22nd January, 1954

* Definition reproclaimed 11th July, 1952.

† Definition reproclaimed 14th August, 1931, and 11th July, 1952. Cases and deaths shown are those notified during the year.

‡ Pulmonary tuberculosis has been notifiable as follows: (*a*) from 1904, City of Sydney only; (*b*) from 1915, Metropolitan and Hunter River District; (*c*) from 1916, Blue Mountains Districts added; (*d*) from March, 1929, notification was extended to cover the whole State. On 14th May, 1945, extra-pulmonary tuberculosis was made notifiable.

NOTE—Diseases notifiable prior to 1902 were notifiable under the following Acts: Infectious Diseases (Smallpox) Supervision Act, 1881; Leprosy Act, 1890; Public Health Act, 1896.

(ii) VENEREAL DISEASE

Statistics concerned with the administration of the Venereal Diseases Act follow this introduction.

The reported number of cases of gonorrhoea increased by 18·1 per cent. over the total for 1959, whereas the proportion of cases notified by private practitioners fell from 19·2 per cent. to 18·7 per cent.

The reported incidence of syphilis again rose, but not at such a steep rate as in 1959. The rise was 35·9 per cent. over the 1959 total. 81·7 per cent. of these cases were in an infectious stage. It is gratifying to note that the proportion of the cases notified by private practitioners rose from 16·4 per cent. in 1959 to 26·02 per cent., confirming the viewpoint that, unlike gonorrhoea, early syphilitic infections are fairly completely notified.

The rise in incidence in gonorrhoea and syphilis last year was considered by the National Health and Medical Research Council, which recommended the convening of an interestate conference to discuss various aspects of the problems involved. The Director attended this conference in August as the representative of this State and it is anticipated that many of the resolutions passed will be implemented in New South Wales during 1961.

Two of the more clinical problems discussed at the conference were the emergence of strains of *Neisseria gonorrhoeae* resistant to penicillin and penicillin reactions.

In the divisional clinic the routine treatment for acute uncomplicated gonorrhoea in the male has, since May, 1958, been a single intramuscular injection of potassium penicillin 300,000 units, procaine penicillin 300,000 units, benzathine penicillin 600,000 units (B.A.P.). The cure rate with this routine treatment is still high, but the failure rate is increasing.

Year	Total No. Treated	No. of Relapses	Failure Rate
1959	1,272	5	0·7%
1960	1,441	26	1·8%

One of the relapse cases had an epididymo-orchitis and another a periurethral abscess, while two others had infected para-urethral canals. Seven of the cases had contracted the infection abroad (Japan, Manila, Puerto Rico). Cultures from cases tested for sensitivity by the disc method often showed a reduced sensitivity to penicillin and on two occasions complete resistance to streptomycin.

Allergic skin reactions developed in 9 out of 1,441 gonorrhoea cases (0·6 per cent.) treated with B.A.P. 1·2 mega units and in 6 out of 186 syphilis cases (3·2 per cent.) treated with a repository penicillin preparation for at least ten days. No anaphylactic reactions occurred.

The incidence of non-gonococcal urethritis seen in the divisional clinic is shown for three years.

	1958	1959	1960
Number of cases	1,258	1,298	1,337

Serological Laboratory

Following on the reorganisation of the Departmental Laboratory Services, the Laboratory performing serological tests for syphilis became part of this Division on 24th June, 1960. The staff of the Laboratory consists of one medical officer, one microbiologist, one laboratory assistant, one typiste and two attendants. The Reiter protein complement fixation test was started during the year and its use as a diagnostic aid is still under evaluation.

The following table shows a comparison of the numbers of each test performed in 1959 and 1960.

	1959	1960
Kolmor W.R.	22,827	24,454
Quantitative W.R.	995	1,028
R.P.C.F.T.	—	8,520
Standard Kahn	21,827	23,645
Meinicke	7,883	8,743
V.D.R.L.	22,827	24,454
Gonococcal C.F.T.	1,278	1,426
Hydatid C.F.T.	86	77

The following table shows the number of tests performed on the specimens submitted from the named sources during 1960.

Divisional clinic	37,740
State Hospitals	1,033
Mental Hospitals	10,313
Commonwealth Government Departments	2,371
Prisons and Child Welfare Departments	1,061
Rachel Forster Hospital	3,466
Other Public Hospitals	21,381
Private Practitioners	14,982
	92,347

During the year urethral and prostatic cultures were made and stained prostatic smears were examined by microbiologists on the staff of the Government Analyst. In addition, 3,312 urethral smears and 503 dark field examinations were made in the Divisional Clinic.

VENEREAL DISEASES ACT, 1918

Report on notifications received during the year ended 31st December, 1960

Three thousand four hundred and nine notifications of venereal disease were received during the year 1960, which total was an increase of 586 as compared with the previous year.

Of the total notifications, 92·2 per cent. came from the metropolitan area.

Notifications from private practitioners amounted to 19·1 per cent. of the total, compared with 18·9 per cent. in 1959 and 20·8 per cent. in 1958.

SYPHILIS

There were 515 notifications of syphilis (408 males and 107 females), a figure 136 above that for the previous year. The sex ratio was 3·8 males to 1 female.

Of the patients notified 26·02 per cent. were being treated privately, as compared with 16·4 per cent. in 1959 and 8·5 per cent. in 1958.

Syphilis contributed 15·1 per cent. of the total notifications, as compared with 13·4 per cent. in 1959 and 9·7 per cent. in 1958.

Of the syphilis infections notified, 421 (81·7 per cent.) were early infections as compared with 293 (77·3 per cent.) in 1959 and 166 (70·9 per cent.) in 1958.

The notifications of syphilis gave an incidence of 13·38 per 100,000 of mean population, as compared with 10·04 in 1954 and 6·34 in 1958.

GONORRHOEA

Of the total notifications received during the year, 2,706 were for gonorrhoea (2,410 males and 296 females), which was a figure 414 above that for the previous year. The sex ratio was 8·1 males to 1 female.

The notifications received from private practitioners amounted to 18·7 per cent. of the total gonorrhoea, as compared with 19·2 per cent. in 1959 and 23·0 per cent. in 1958.

The percentage of gonorrhoea in the total notifications of venereal disease received during 1960 was 79·4 per cent. as compared with 81·2 per cent. in 1959 and 84·3 per cent. in 1958.

The notifications of gonorrhoea gave an incidence of 70·29 per 100,000 of mean population, as compared with 60·73 in 1959 and 54·09 in 1958.

OTHER FORMS OF VENEREAL DISEASE

	1958	1959	1960
Soft chancre (chancroid)	2	5	4
Gonococcal ophthalmia	Nil	2	3
Venereal warts	129	118	171
Gleet	13	27	9
Lymphogranuloma Ven...	Nil	Nil	1

During 1960 the names and addresses of 1,413 defaulters (1,329 males and 84 females) were notified. This figure was 397 above that for the previous year.

Because of inaccurate information given by patients, or because of failure to notify change of address, 411 (29·08 per cent.) "follow up" letters were returned unclaimed.

The following table show the percentage of defaulters who remained permanent defaulters:—

Year	Total Defaulters Reported	Resumed, Treatment, Died, Left State, or Not Finalised	Remained in Default	Percentage Remaining in Default	Percentage of Total Venereal Disease Notifications
1956 ..	857	538	319	37·2	16·0
1957 ..	946	598	348	36·8	14·4
1958 ..	916	623	293	32·0	12·2
1959 ..	1,016	670	346	34·0	12·3
1960 ..	1,413	959	504	35·7	14·8

Prosecutions

During the year summonses to appear before a magistrate were issued against 548 persons for breach of Section 5 of the Act (failure to continue under treatment). Seven males and 3 females were arrested and completed treatment after being placed on verbal recognisance.

CLINICS

Attendances at clinics for males totalled 50,901 (48,150 of this total being attendances at the clinic in the Division of Epidemiology, Sydney), as compared with 47,861 in 1959 and 45,285 in 1958.

At the clinics for females the attendances were 3,000 (76·5 per cent. of this total being at the special clinic at the Rachel Forster Hospital for Women and Children, Sydney), as compared with 2,417 in 1959 and 2,183 in 1958.

The sex ratio of attendances at clinics was 16·967 males to 1 female.

Metropolitan District

Nine clinic centres are available for investigation and treatment of venereal diseases. Of these, one centre provides for males only and one for females only.

Prophylactic facilities for males are available continuously at the clinic in the Division of Epidemiology, Albert Street, Sydney, and 23,236 prophylactic treatments were given during the year 1960 as compared with 21,867 for the year 1959.

Newcastle District

The clinics at the Royal Newcastle Hospital provided 98 per cent. of the notifications of venereal diseases from the Newcastle district. Prophylactic facilities are available at the hospital.

District General Hospitals

Treatment is available at country general hospitals.

Bed Accommodation

Beds are available in the metropolitan area as required. There is very little demand, nor need, for bed accommodation.

The following tables are appended:—

Table 1—Notifications received during 1959, arranged in order of district from which notification comes.

Table 2—Return of cases of venereal disease notified during 1959, showing forms of disease and age and sex of patients.

Table 2A—Syphilis: Age-sex grouping by stage of disease.

Table 3—Summary of attendances at the 10 clinics during 1959.

Table 4—12-year comparison of total cases and cases reported for failure to continue treatment.

Table 5—3-year comparison of notifications received from private practitioners as compared with public hospitals and 10 clinics.

Table 6—Monthly return of cases of venereal disease notified during year.

TABLE I—NOTIFICATIONS RECEIVED DURING 1958 TO 1960, ARRANGED IN ORDER OF DISTRICTS

	Metropolitan Area						Newcastle District						Remainder of State					
	1958		1959		1960		1958		1959		1960		1958		1959		1960	
Gonorrhoea	M. 1,713	1,876	M. 1,935	2,152	M. 2,216	2,506	M. 100	110	M. 73	78	M. 137	140	M. 35	38	M. 52	62	M. 57	60
	F. 163		F. 217		F. 290		F. 10		F. 5		F. 3		F. 3		F. 10		F. 3	
Syphilis	M. 167	222	M. 290	347	M. 361	461	M. 10	12	M. 19	20	M. 9	11	..		M. 9	12	M. 38	43
	F. 55		F. 57		F. 100		F. 2		F. 1		F. 2		..		F. 3		F. 5	
Soft chancre	M. 2	2	M. 5	5	M. 4	4	..		..		..		..		..		..	
	F. —		F. —		F. —													
Gleet	..		..		..		M. 13	13	..		..		..		M. 27	27	M. 9	9
							F. —								F. —		F. —	
Venereal warts	M. 129	129	M. 116	117	M. 170	170	..		..		..		..		M. 1	1	M. 1	1
	F. —		F. 1		F. —										F. —		F. —	
Gonococcal ophthalmia	..		M. 1	1	..		..		..		..		..		M. —	1	M. 1	3
			F. —												F. 1		F. 2	
Lymphogranuloma Ven.	..		..		M. 1	1												
					F. —													
Totals	M. 2,011	2,229	M. 2.347	2,622	M. 2,752	3,142	M. 123	135	M. 92	98	M. 146	151	M. 35	38	M. 89	103	M. 106	116
	F. 218		F. 275		F. 390		F. 12		F. 6		F. 5		F. 3		F. 14		F. 10	

TABLE II—RETURN OF CASES OF VENEREAL DISEASE NOTIFIED DURING 1960 SHOWING FORMS OF DISEASE AND AGE AND SEX OF PATIENT

Diseases	0–14		15–24		25–29		30–34		35–39		40–49		50–59		60–69		70 and Over		Age Unknown		Totals		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Gonorrhoea	1	..	1,232	20	463	184	317	34	169	19	168	17	45	17	11	4	2	1	2	..	2,410	296	2,706
Syphilis	2	1	101	39	79	14	73	8	57	11	52	22	30	10	10	1	1	1	3	..	408	107	515
Soft chancre	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	4
Gleet	..	..	1	..	3	..	3	..	2	..	..	..	..	..	..	..	..	..	..	..	9	..	9
Venereal warts	..	..	88	..	45	..	15	..	8	..	6	..	6	..	3	..	..	..	..	..	171	..	171
Gonococcal ophthalmia ..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
Lymphogranuloma Ven. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals	4	3	1,424	59	592	198	408	42	237	30	226	39	81	27	24	5	3	2	5	..	3,004	405	3,409

TABLE IIA—SYPHILIS—AGE-SEX GROUPING BY STAGE OF DISEASE

	0–14		15–24		25–29		30–34		35–39		40–49		50–59		60–69		70 and Over		Unknown		Totals		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Primary	..	..	78	9	59	5	54	1	46	5	32	4	16	5	2	..	1	..	3	..	291	29	320
Secondary..	..	..	6	13	10	6	7	2	4	3	5	10	3	1	..	..	..	..	..	..	35	35	70
Latent, 1st year	..	..	6	6	2	1	4	1	1	1	2	2	4	1	..	..	..	..	..	..	19	12	31
Cardio-vascular	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	3	..	3
C.N.S.	..	..	..	..	..	..	1	..	..	..	..	..	1	..	2	..	..	..	..	..	4	..	4
All other late and latent ..	..	..	5	11	3	2	3	4	6	2	8	6	4	3	3	1	..	1	..	..	32	30	62
Treated	..	..	6	..	5	..	4	..	..	..	5	..	2	..	..	..	..	..	..	..	22	..	22
Congenital, under 1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Congenital, over 1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Relapse	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	1	1	102	39	79	14	73	8	57	11	52	22	30	10	10	1	1	1	3	..	408	107	515

TABLE III — TABLE SHOWING ANNUAL ATTENDANCE RETURNS AT PUBLIC CLINICS FOR TREATMENT OF VENEREAL DISEASE — 1958, 1959 AND 1960, INCLUSIVE

Year	Attendances			New Cases					
				Gonorrhoea			Syphilis		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
HEALTH DEPARTMENT CLINIC									
1958	43,700	..	43,700	1,083	..	1,083	117	..	117
1959	45,938	..	45,938	1,272	..	1,272	202	..	202
1960	48,150	..	48,150	1,463	..	1,463	212	..	212
ROYAL PRINCE ALFRED HOSPITAL									
1958	479	71	550	32	3	35	7	..	7
1959	622	140	762	70	1	71	14	5	19
1960	787	224	1,011	73	5	78	10	6	16
SYDNEY HOSPITAL									
1958	342	32	374	93	7	100	8	2	10
1959	525	31	556	96	4	100	30	3	33
1960	668	127	795	218	43	261	41	19	60
ROYAL ALEXANDRA HOSPITAL FOR CHILDREN									
1958	2	6	8	..	..	..	..	..	..
1959	3	6	9	..	..	..	..	..	..
1960	1	2	3	..	2	2	1	..	1
ROYAL SOUTH SYDNEY HOSPITAL									
1958	8	..	8	3	..	3	..	..	..
1959	4	1	5	4	1	5	..	..	..
1960	9	..	9	9	..	9	..	..	..
ROYAL NEWCASTLE HOSPITAL									
1958	706	377	1,083	65	8	73	4	1	5
1959	701	317	1,018	71	4	75	7	2	9
1960	1,052	326	1,378	132	2	134	9	2	11
RACHEL FORSTER HOSPITAL FOR WOMEN									
1958	..	1,678	1,678	..	86	86	..	22	22
1959	..	1,891	1,891	..	107	107	..	21	21
1960	..	2,295	2,295	..	137	137	..	40	40
PARRAMATTA DISTRICT HOSPITAL									
1958	21	..	21	1	..	1	1	..	1
1959	57	28	85	5	2	7	3	1	4
1960	227	24	251	15	..	15	2	2	4
ST. GEORGE HOSPITAL, KOGARAH									
1958	5	1	6	2	..	2	..	..	..
1959	11	3	14	1	..	1	..	..	..
1960	7	2	9	7	..	7	..	..	..
BALMAIN AND DISTRICT HOSPITAL									
1958	2	..	2	..	..	..	..	..	..
1959	..	..	..	..	..	..	..	..	..
1960	..	..	..	..	..	..	..	..	..
TOTALS									
1958	45,285	2,183	47,468	1,279	104	1,383	139	25	164
1959	47,861	2,407	50,278	1,519	119	1,638	256	32	288
1960	50,901	3,000	53,901	1,917	189	2,106	275	69	344

Table IV

Year	Syphilis	Gonorrhoea	Other Venereal Diseases	Total	Cases Reported for Failure to Continue Treatment				
					Total Number Reported	Letters Returned Unclaimed	Treatment Resumed	Cases Not Finalised as at 31st December	Deceased, Left State, etc.
1938	942	4,844 (Highest since 1923)	410	6,196 (Highest since 1923)	1,843 { M. 1,532 F. 311	712 { M. 602 F. 110	882 { M. 732 F. 150	120 { M. 72 F. 48	29 { M. 26 F. 3
1950	627	1,657	169	2,453	821 { M. 730 F. 91	253 { M. 217 F. 36	536 { M. 485 F. 51	23 { M. 20 F. 3	9 { M. 8 F. 1
1951	443	1,179	139	1,761	776 { M. 679 F. 97	274 { M. 234 F. 40	472 { M. 418 F. 54	24 { M. 22 F. 2	6 { M. 5 F. 1
1952	486	1,078	82 (Lowest)	1,646	593 { M. 527 F. 66	238 { M. 209 F. 29	342 { M. 306 F. 36	10 { M. 10 F. —	3 { M. 2 F. 1
1953	317	1,324	102	1,743	559 { M. 515 F. 44	245 { M. 218 F. 27	297 { M. 281 F. 16	14 { M. 13 F. 1	3 { M. 3 F. —
1954	255	1,042 (Lowest)	110	1,407 (Lowest)	371 { M. 352 F. 19 (Lowest)	176 { M. 165 F. 11	180 { M. 172 F. 8	13 { M. 13 F. —	2 { M. 2 F. —
1955	275	1,398	124	1,797	470 { M. 446 F. 24	182 { M. 170 F. 12	271 { M. 261 F. 10	7 { M. 7 F. —	10 { M. 8 F. 2
1956	240	1,584	103	1,927	857 { M. 801 F. 56	299 { M. 274 F. 25	503 { M. 477 F. 26	20 { M. 19 F. 1	35 { M. 31 F. 4
1957	241	2,108	129	2,478	946 { M. 883 F. 63	271 { M. 252 F. 19	599 { M. 559 F. 40	25 { M. 24 F. 1	51 { M. 48 F. 3
1958	234 (Lowest)	2,024	144	2,402	916 { M. 878 F. 38	217 { M. 212 F. 5	567 { M. 554 F. 13	23 { M. 20 F. 3	33 { M. 30 F. 3
1959	379	2,292	152	2,823	1,016 { M. 965 F. 51	363 { M. 336 F. 27	629 { M. 605 F. 24	17 { M. 14 F. 3	25 { M. 24 F. 1
1960	515	2,706	188	3,409	1,413 { M. 1,329 F. 84	411 { M. 370 F. 41	861 { M. 826 F. 35	22 { M. 20 F. 2	26 { M. 25 F. 1

TABLE 5—NOTIFICATIONS RECEIVED, 1958–1960, FROM PUBLIC CLINICS, HOSPITALS, AND PRIVATE PRACTITIONERS

Disease	Public Hospitals and Departmental Clinic						Private Practitioners					
	1958		1959		1960		1958		1959		1960	
Gonorrhoea	1,558	M 1,433 F 125	1,852	M 1,692 F 160	2,200	M 2,011 F 189	466	M 415 F 51	440	M 368 F 72	506	M 399 F 107
Syphilis	214	M 162 F 52	317	M 269 F 48	381	M 302 F 79	20	M 15 F 5	62	M 49 F 13	134	M 106 F 28
Other forms of venereal disease	131	M 130 F 1	119	M 117 F 2	176	M 175 F 1	13	M 13 F —	33	M 33 F —	12	M 11 F 1
Totals ..	1,903	M 1,725 F 178	2,288	M 2,078 F 210	2,757	M 2,488 F 269	499	M 443 F 56	535	M 450 F 85	652	M 516 F 136

Table VI—Monthly Return of Cases of Venereal Diseases Notified during 1960

Disease	Sex	January	February	March	April	May	June	July	August	September	October	November	December	Total	Grand Total
Gonorrhoea	Male	270	177	216	183	174	149	182	157	241	158	291	212	2,410	2,706
	Female	29	10	51	22	19	19	13	22	36	23	35	17	296	
Syphilis	Male	26	33	60	20	30	22	39	12	30	29	56	51	408	515
	Female	5	10	16	5	4	11	7	7	12	3	16	11	107	
Soft chancre	Male	..	..	..	1	1	..	..	..	..	1	..	1	4	4
	Female	..	..	..	..	..	..	..	..	..	..	..	..	..	
Gleet	Male	..	..	..	..	1	2	2	3	..	..	1	..	9	9
	Female	..	..	..	..	..	..	..	..	..	..	..	..	..	
Venereal warts	Male	13	10	11	10	20	15	14	18	21	14	12	13	171	171
	Female	..	..	..	..	..	..	..	..	..	..	..	..	..	
Gonococcal ophthalmia	Male	..	..	..	..	1	..	..	..	..	..	..	..	1	3
	Female	..	..	..	1	..	..	..	1	..	..	..	..	2	
Lymphogranuloma ven.	Male	..	..	..	..	..	..	1	..	..	..	..	..	1	1
	Female	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals	Male	309	220	287	214	227	188	238	190	292	202	360	277	3,004	3,409
	Female	34	20	67	28	23	30	20	30	48	26	51	28	405	

A. (b) POLIOMYELITIS VACCINATION CAMPAIGN

ANNUAL REPORT 1960

Director: Dr. E. S. A. Meyers.

Staff: One Medical Officer (part-time); Four Clerical Staff; and One Packer.

The Poliomyelitis Vaccination Campaign in New South Wales, which commenced in July, 1956, was continued throughout 1960, and a further satisfactory year was completed.

From the commencement of the campaign until the end of 1960, syringes and needles for use at vaccination clinics conducted by councils were supplied from a pool provided by the Department. The preparation, including reconditioning of needles, and the sterilisation of this equipment was undertaken by the blood transfusion service of the New South Wales Division of the Australian Red Cross Society, the Society being recouped by the Department for expenditure incurred in this work. This arrangement was discontinued at the end of 1960, councils being then required to provide and maintain their own equipment and to arrange for sterilisation of needles and syringes. The thanks of the Department are due to the Red Cross Society for the valuable co-operation and assistance previously given.

During December, 1960, an acute shortage of poliomyelitis vaccine arose, owing to the fact that certain batches of this vaccine in course of preparation at the Commonwealth Serum Laboratories in Melbourne failed to pass the final stringent tests required and had to be discarded. As a result, supplies of poliomyelitis vaccine to councils and private medical practitioners had to be suspended. This occurrence was particularly unfortunate in that a scheme whereby poliomyelitis vaccine was to be made available to private medical practitioners for the first time, through the local councils, as an extension of the Campaign, had been commenced only at the beginning of December, 1960.

The general extent of the work of the campaign in New South Wales during 1960 is indicated by the following figures:—

Persons (children and adults) given:—	
1st dose of vaccine	140,920
2nd dose of vaccine	137,033
3rd dose of vaccine	211,539
Total number of injections given	489,492

Similar figures for the whole four-and-a-half year period of the Campaign, from its commencement in July, 1956, to the end of 1960, are:—

Persons (children and adults) given:—	
1st dose of vaccine	1,606,397
2nd dose of vaccine	1,558,492
3rd dose of vaccine	1,422,420
Total number of injections given	4,587,309

Over the whole period of the campaign, a total of 4,891,698 doses of poliomyelitis vaccine has been issued to councils and other bodies undertaking the vaccinations. The excess of 303,389 doses of vaccine issued, over doses of vaccine actually administered, represents a loss of vaccine for all reasons of some 6·2 per cent. In a campaign of this magnitude, using a vaccine which, even when stored under optimum conditions of refrigeration, has a short expiry period, this is a not unreasonable margin.

During 1960, 16 cases were notified in New South Wales under the provisions of the Public Health Act, 1902–1952, as cases of poliomyelitis. Reports on the clinical findings, and the serological and virological examinations, in these cases were, in accordance with established procedure, submitted to the Surveillance Committee. Of the 16 notified cases reviewed by the Committee, 7 were considered to be *not* cases of poliomyelitis, so that the number of notified cases of poliomyelitis finally accepted and confirmed as such by the Committee for the year 1960, was 9.

The following figures show, for each year of the campaign, the number of confirmed cases of poliomyelitis, and the number of deaths, related to the vaccination status of the patients:—

1956 (1st July–31st December):
Not vaccinated: 26 cases, 3 deaths
*Vaccinated: 2 cases, 0 deaths
Total: 28 cases, 3 deaths
*One received 1 dose only, one received 2 doses

1957:
Not vaccinated: 44 cases, 2 deaths
*Vaccinated: 1 case, 0 deaths
Total: 45 cases, 2 deaths
*Received 2 doses

1958:
Not vaccinated: 9 cases, 0 deaths
*Vaccinated: 2 cases, 0 deaths
Total: 11 cases, 0 deaths
*Each received 1 dose only

1959:
Not vaccinated: 15 cases, 2 deaths
*Vaccinated: 1 case, 0 deaths
Total: 16 cases, 2 deaths
*Received 2 doses

1960:
Not vaccinated: 8 cases, 2 deaths
*Vaccinated: 1 case, 0 deaths
Total: 9 cases, 2 deaths
*Received full course of 3 doses

It should be pointed out that, of the total of seven cases included above against "vaccinated" persons:

Three occured in persons who had received only 1 dose of vaccine, which would have produced a negligible, if any, immunity;

Three occurred in persons who had received only 2 doses of vaccine, and who could, therefore, be said to be incompletely immunised; and

One only occurred in a person who had received the full recommended course of immunisation of 3 doses. This case presented certain anomalous features, which raised some doubt as to whether it was, in fact, poliomyelitis, though ultimately accepted as such.

It may also be pointed out that, of the total of nine deaths, none occurred in any person who had received any injection of vaccine.

The assistance of councils and other bodies which have co-operated with the Department in the conduct of the Campaign must again be acknowledged.

Statistical tables showing details of poliomyelitis vaccinations since the commencement of the Campaign are appended.

TABLE 1—PROGRESS TOTALS OF PERSONS GIVEN FIRST, SECOND, AND THIRD INJECTIONS OF POLIOMYELITIS VACCINE BY YEAR OF BIRTH SINCE COMMENCEMENT OF CAMPAIGN—NEW SOUTH WALES

Year of Birth	First Injection	Second Injection	Third Injection	Total	Number of Children Residing in New South Wales according to Year of Birth*
1941	16,833	15,754	13,944	46,531	52,500
1942	37,038	35,849	32,333	105,220	54,100
1943	46,543	45,463	43,322	135,328	57,100
1944	52,414	51,543	49,943	153,900	61,700
1945	56.022	55,384	53,605	165,011	63,200
1946	64,190	63,622	61,741	189,553	69,900
1947	65,491	64,988	62,746	193,225	72,100
1948	65,037	64,569	62,328	191,934	69,700
1949	65,627	65,359	63,315	194,301	70,400
1950	67,471	66,440	64,244	198,155	71,600
1951	65,290	64,517	62,473	192,280	72,000
1952	65,580	64,341	63,044	192,965	73,100
1953	65,214	64,299	62,239	191,752	73,300
1954	64,741	63,744	61,548	190,033	72,900
1955	65,674	64,348	62,053	192,075	73,900
1956	67,669	66,173	63,926	197,768	78,100
1957	65,758	63,198	61,024	189,980	78,400
1958	63,904	60,474	55,815	180,193	79,400
1959	60,607	56,975	34,347	151,929	80,000
1960	24,817	20,801	206	45,824	..
Others	460,477	440,651	388,224	1,289,352	..
Total	1,606,397	1,558,492	1,422,420	4,587,309	..

* Estimated as at 31st December, 1959

B. PUBLIC HEALTH ADMINISTRATION

GOVERNMENT ANALYST'S BRANCH—ANNUAL REPORT, 1960

Government Analyst: Ernest Samuel Ogg, B.Sc.(Hons.), A.R.A.C.I.

Deputy Government Analyst: William Frank Fisher, A.S.T.C., A.R.A.C.I.

The staff consisted of 12 Analysts, 1 Laboratory Assistant, 7 Laboratory Assistants in training, 2 Laboratory Attendants and 4 Office Assistants. Vacancies exist for 4 Analysts and 1 Laboratory Attendant.

In addition, the Branch this year undertook the microbiological examination of foods and waters. To undertake the work in these fields, 2 Microbiologists, 1 Laboratory Assistant in training, 2 Laboratory Attendants were added to the staff.

General

The number of samples examined during the year totalled 25,228, distributed as follows, the figures for the year ending 31st December, 1959, being tabled for comparison.

Authority	Samples Examined	
	1959	1960
Pure Food Act—		
Milk	11,581	10,070
Meats	7,857	8,768
Smallgoods	353	267
Other foods	1,148	1,381
Total	20,939	20,486
Public Services of the State—		
Subsidised institutions	471	400
Government stores	526	703
Police authorities	334	466
Coroners' enquiries	1,356	1,610
State municipal and departmental authorities—Waters	541	643
Authorities—Sewages	231	287
Division of Occupational Health	307	270
Department of Prisons	44	56
Department of Labour and Industry	14	4
Miscellaneous authorities	252	303
	25,015	25,228
Food bacteriology	..	471
Water bacteriology—Routine examination	..	1,240
Water bacteriology—Pollution research	..	158
Miscellaneous examinations	..	2,034

Particulars of samples other than milk and meat analysed under the Pure Food Act, together with adulterations, are listed in Appendix 1.

Activities

MILK

The number of milks examined showed a falling off on that of the previous year. Very striking is the improvement shown in the number of adulterated milks. The numbers of milks adulterated, showing deficiency in fat and added water have decreased in comparison with the numbers in the previous year by 49 per cent., 44 per cent., and 58 per cent. respectively. In the case of added water, some of this improvement is accounted for by the fact that a certificate as to the freezing point of milk is no longer recognised as *prima facie* evidence in legal proceedings under the Pure Food Act. It will be interesting to see whether this marked decrease in milk adulteration is temporary or permanent.

Particulars of samples taken and adulterations are outlined below:

District of Collection	Metropolitan Area		Country Districts		Milk Board		Total	
Number of milk samples collected	4,133		1,230		4,707		10,070	
Number and proportion of adulteration found—	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Deficient in milk fat	29	0·70	55	4·47	45	0·95	129	1·28
Containing added water	42	1·01	21	1·71	46	0·98	109	1·09
Deficient in milk fat and containing added water	11	0·27	11	0·89	7	0·15	29	0·29
Total Adulterations	82	1·98	87	7·07	98	2·08	267	2·66

MILK PRODUCTS

Two hundred and eighty-nine samples of cream and cream mixture were examined. All samples conformed, with the exception of one cream, which was found not to be fresh.

Four out of 29 butters used in sandwiches were found to contain fat foreign to butter.

MEAT AND MEAT PRODUCTS

There was a large increase in the number of meat samples analysed during the year. The total number adulterated was 680, much the same as in the previous year. The percentage of minced meat samples preservatised fell to 8·5 per cent., compared with 10 per cent. in previous years. The number of sausage samples showing excess fat was 106, compared with 66 in 1959. The number of smallgoods adulterations fell from 91 in 1959 to 16 in 1960.

GENERAL FOODS

Bread: Of 107 samples of bread examined, 12 were of unsatisfactory baking quality. Thirty-two of the samples contained extraneous material such as mould, grease, wood, various fibres, rodent excreta, insects, nails, cigarettes, tobacco and other dirt.

Cheese: Of 6 samples of cheese, 2 were unfit for human consumption and 1 contained wire.

Coffee and Chicory: 1 out of 4 samples was deficient in caffeine content.

Foreign Substances in Food: In Appendix 1 it will be seen that a large number of foods were found to contain a variety of foreign substances. This large number was due to public response to a weekly radio session conducted by the Chief Food Inspector.

FISH

Seventeen consignments of *frozen fish* were examined and seven of these were condemned. Four samples of *smoked fish* contained *artificial colour* in contravention of the regulations.

FRUIT DRINKS

Of 244 samples of fruit drinks, 4 were deficient in fruit juice content, 1 contained saccharin, and 7 others failed to comply.

OLIVE OIL

One sample contained 20 per cent. arachis oil.

SPIRITS

One hundred and sixty-four samples of spirits were submitted for examination. Of these, 75 had been adulterated with water and 21 were not true to label. The position as regards the policing of spirits in the future is somewhat obscure. Finance for inspection and analyses of the samples has been provided by a trade association and it has been decided that such a situation where one section of the liquor trade provides finance for the prosecution by a Government body of another section of the trade, if not unethical, is undesirable.

VINEGAR

Of 36 samples of vinegar, 3 were deficient in acetic acid and 2 were falsely described.

OIL OF LEMON

In view of a suggestion that the present standard for lemon oil was rather harsh, particularly as regards the citral content, a survey was made of a series of 42 specimens of oil of lemon prepared during the period extending from April to September, 1959. These oils were recovered by centrifuge from the wash water from lemons rumbled in machine.

Of these, 1 was slightly high in specific gravity, 3 were slightly low in optical rotation and 3 were deficient in citral content to a slight extent. The full analytical figures are shown in Appendix IV and a breakdown of the citral figures is appended below:—

Citral Content	No. of Specimens
3·35—3·5	3
3·5 —3·75	11
3·75—4·0	18
4·0 —4·25	8
4·25—4·7	2

For comparison, analytical figures for six other oils on sale in New South Wales are included in the Appendix. Of these, 2 were of Silician, 1 of Italian and 1 of Victorian origin. Of these the only one that did not conform to the Pure Food Regulations was the one of Victorian origin, which was markedly deficient in citral content (3·0 per cent.).

SUBSIDISED INSTITUTIONS

Four hundred specimens were examined from hospitals, homes, etc., comprising body fluids and tissues, drugs, foodstuffs, etc. This was a decrease of 71 on the previous year.

GOVERNMENT STORES DEPARTMENT

There was an increase of 34 per cent. in the number of samples examined for the Government Stores Department. This work is very varied in nature and covers miscellaneous preparations used by Government Departments and subsidised institutions.

WATERS, SEWERAGES, ETC.

In this section a substantial increase in the work has taken place, 20 per cent. in the case of waters and 12·5 per cent. in the case of sewage samples. Most of these were routine analyses of waters used for drinking and domestic purposes and of sewage effluents in connection with sewerage installation. Fluoridation is more active in the minds of local government authorities and a number of inspections and analyses of water supplies have been carried out in connection with projected fluoridation schemes. The Branch has organised several instruction courses for local government engineers, health inspectors and water works employees on the principles and control of fluoridation.

DIVISION OF OCCUPATIONAL HEALTH

The usual work was carried out for this Division in connection with industrial hazards.

CRIMINAL INVESTIGATION

The work undertaken for the Police Department has increased considerably, the number of exhibits being 40 per cent. in excess of the number examined in 1959. A table showing the nature of the exhibits and attendant charges is shown in Appendix 11. Considerable progress has been made in the method of approaching these investigations and new instruments and techniques have proved of considerable assistance. Particularly is this so in connection with identification of drugs and chemicals, where recording ultra-violet and infra-red spectrophotometers have shortened the time of investigation and increased the certainty of results to a considerable extent. Forty-two bloods and 59 urine specimens were submitted in connection with drive under the influence prosecutions.

CORONIAL ENQUIRIES

Here again an increase in work is shown, approximately 20 per cent. in numbers of exhibits over those of the previous year. A much stronger and better comparison is obtained by comparing the number of cases in connection with which the exhibits were submitted—318 cases in 1960 as against 253 in 1959, an increase of over 25 per cent.

Details of the results of these investigations are included in Appendix III.

Barbiturate derivatives continue to be the predominant drug found in these coronial cases, account for 122 out of the 318 cases, of which 84 proved negative. So that, of the positive findings, over 50 per cent. were derivatives of barbituric acid.

Twenty-nine cases have been attributed to brominated ureides, though the evidence is not conclusive, due to the rapid breakdown of the drugs *in vivo*.

The number of deaths due to parathion dropped to 4. Since the introduction of new legislation placing parathion beyond the reach of the home gardener, no deaths have resulted from this insecticide.

The restrictive legislation on the sale of thallium is also showing its effects, no deaths resulting from this cause during the year.

Four hundred and four specimens of post-mortem blood were submitted for blood alcohol content. A breakdown of the results of these analyses is shown below.

Alcoholic Content mg/100 ml.	Coroners' Exhibits	Criminal Investigation Bureau	Other Sources
Negative	145	..	..
0– 50	57	..	2
51–100	36	1	2
101–150	35	8	11
151–200	31	4	23
201–250	47	21	21
251–300	23	6	11
301–350	16	..	..
351–400	8	2	..
More than 400	6	..	..

Included in this table are blood specimens from living subjects submitted by the Criminal Investigation Branch and other sources, mainly in connection with charges of driving under the influence.

Thirty-three deaths due to carbon monoxide poisoning were recorded during the year.

MICROBIOLOGICAL SECTION—FOOD BACTERIOLOGY

Disinfectants: The investigation into disinfectants, commenced in 1959–1960, was continued into 1961. In all, 195 disinfectants or antiseptics were examined.

Oysters: Following reports of bottled oysters causing food poisoning, 28 samples of bottled and shell oysters were examined. No proof of the cause could be found, although coagulase positive staphylococci were recovered from five specimens.

The complaints occurred after heat-wave conditions, combined with extremely low tides had caused high mortality in oysters around Sydney.

Food Poisoning: Three foods implicated in cases of food poisoning showed high counts of *staphylococcus aureus*. In each case the staphylococcus appeared to be coagulase negative.

Fish paste gave a standard plate count in excess of 50,000,000 organisms per gram, with staphylococci over 8,000,000 per gram.

Sliced ham sausage showed a standard plate count of 100,000,000 per gram with staphylococci in excess of 20,000,000 and corned beef gave a total count of 300,000,000 organisms with 200,000,000 staphylococci per gram.

Follow-up investigations into sealed containers of fish or meat paste and corned beef could demonstrate no signs of gross contamination, most samples gave no growth from 1–10 dilutions.

Desiccated Coconut: From 167 specimens of desiccated coconut, two strains of salmonellae (*S. hvittingfoss* and *S. waycross*) were recovered and 71 (42 per cent.) showed the presence of faecal coli.

Water Bacteriology: Apart from routine investigations of waters as to suitability for drinking and domestic purposes, a programme of investigation is being carried out into pollution of swimming pools and the nature of pollution organisms (bacteria, algae, animal life) in polluted waters.

Miscellaneous Examinations: A number of examinations, quite unconnected with water and food bacteriology, are carried out for other divisions of the Health Department. These are outlined in Appendix V.

STAFF

The shortage of staff was very acute during the year, but the position improved slightly towards the end of the year. This shortage of necessity restricts research and investigational work and the full use of new instruments and new techniques of analysis. In addition, cuts at times have had to be made in the quantity of work carried out in the various divisions.

APPENDIX I

Nature of Sample	No. Examined	No. Adulterated	Particulars of Adulteration
Apples, toffee	1	0	
Apricots, dried, etc.	6	0	
Baby foods	4	0	
Beans, Lima	1	0	
Beans, baked	2	1	Rodent excreta
Beer	55	0	
Beer, waste	3	1	No methyl violet
Biscuits	2	0	
Bottles	2	1	Dried varnish
Bread, brown	12	2	Not good quality
Bread, white	95	1	Contained label
		7	Contained grease
		4	Contained mould
		5	Contained doughy seam
		1	Old dough
		3	Contained insect excreta
		1	Contained wood
		1	Contained fibres
		2	Contained insects
		3	Contained rodent excreta
		5	Unsatisfactory quality
		1	Contained a nail
		1	Contained tobacco
		1	Contained cigarette
		4	Contained dirt
		2	Contained hair
Breakfast foods	5	0	
Butter	29	2	Not butter fat
		2	Foreign fat added
		1	Contained insect
Cakes	8	0	
Caramel syrup	1	1	Excess benzoic acid
Caviar	2	0	
Celery	1	0	
Cheese	6	1	Contained wire
		2	Unfit for human consumption
Cherries, maraschino	1	0	
Cherry cordials	1	0	
Chicken pie	1	0	
Chinese food	1	0	
Cider	3	0	
Claret cup	2	0	
Cleansers, oven	3	0	
Cocoa	1	0	
Coconut	6	1	Wood inclusion
Coffee	1	0	
Coffee essence	2	0	
Coffee and chicory essence	4	1	Caffeine below 0·25 per cent.
Colouring matter for food	6	0	
Confectionery	5	1	Iron rust found
Cottonseed oil	1	0	
Cream—Milk Board	173	0	
Cream—pure food	111	1	Not fresh cream
Cream mixture	5	0	
Dairy Queen	4	0	
Dates	1	0	
Drinks and cordials, non-alcoholic	305	2	Excess preservative
		8	Deficient in fruit juice
		1	Contained saccharin
Fairy floss	10	0	
Fish, cooked	3	1	Unfit for sale
Fish, frozen, raw	17	1	Contaminated with ammonia gas
		6	Unfit for sale
Fish, smoked	6	4	Artificial colour
Fish, tinned	10	3	Unsuitable for sale
		1	Arachis oil found
Flour	3	2	Contained rodent excreta
Foreign matter	10	0	
Fruits, mixed	1	0	
Garlic, oil of	1	0	
Glucose	13	0	
Grapes	1	0	
Honey	3	0	
Ice blocks	12	0	
Ice cream	21	0	
Ice cream mix	3	0	
Jam	18	1	Contained glass
		1	Contained jute fibres
Jelly crystals	3	0	
Lard	1	0	
Margarine	1	0	
Meat extract	1	0	
Milk, condensed, etc.	13	2	Unfit for consumption
Milk shake additive	1	0	

APPENDIX I—*continued*

Nature of Sample	No. Examined	No. Adulterated	Particulars of Adulteration
Milo	1	0	
Molasses	1	0	
Mushrooms	1	0	
Mustard	14	0	
Meat, fresh, pure food	591	47	Contained preservative
Meat, fresh, municipal	17	0	
Meat, minced, pure food	3,147	276	Contained preservative
Meat, minced, municipal	235	10	Contained preservative
Meat, sausages, pure food	3,775	221	Excess preservative
		99	Contained excess fat
Meat, sausages, municipal	352	10	Excess preservative
		7	Excess fat
Meat, tripe, pure food	207	7	Contained preservative
		2	Excess alkalinity
Meat, tripe, municipal	8	1	Excess alkalinity
Meat, smallgoods	267	1	Contained preservative
		15	Contained excess starch
Meat, hospital	1	0	
Meat flavourings	4	0	
Meat, cooked, smoked	3	1	Unfit for consumption
Meat, fresh	2	1	Rubber ring found
Meat pies	11	0	
Meat, tinned	6	0	
Meat, smallgoods	5	0	
Milk food	1	0	
Nut meat	1	0	
Oatmeal	3	1	Roden excreta
Oil, edible	2	0	
Olive oil	9	1	20 per cent. ground nut oil
Oranges, fresh	5	0	
Paper	1	0	
Pastry	2	0	
Peaches, tinned, etc.	4	0	
Peanut oil	3	0	
Pears, tinned	3	0	
Peas, tinned	1	0	
Pickles	2	0	
Pola cream	5	0	
Prunes, juice	1	0	
Salt	1	0	
Snow Dream	2	0	
Soap powder	3	1	
Soup	3	0	
Spice	1	0	
Sugar	3	1	Contained rodent excreta
		1	Contained potash alum
		1	Contained salt
Spirits	164	13	Underproof
		1	23·5; overproof
		61	Excess water
		21	Not according to label
Tea	1	0	
Tomato sauce, etc.	8	1	
Vegemite	1	0	
Vegetables	1	0	
Vinegar	36	3	Insufficient acetic acid
		2	False labelling
Waffles	2	0	
Walnuts	1	0	
Wine	3	0	

BACTERIOLOGICAL EXAMINATIONS

	Total Number of Samples
Air	47
Chemical closets	3
Coconut (2 salmonellae found)	172
Dinsinfectants	80
Filter—air	1
Food poisoning	28
Food spoilage	11
Oils (in relation to dermatitis)	35
Oysters	30
Paste (fish and meat)	38
Resistance to sterilisation	4
Spore strips	16
Sterility	6
Total	471

DRUGS

	No. Examined	No. Adulterated	Particulars of Adulteration
Adrenaline	1	0	
Alka-Seltzer	1	0	
Aspirin	14	0	
Avil tablets	1	0	
Bioflavinoid	5	1	Contained rutin
Celontin	1	0	
Dexedrine	1	0	
Fruit salts	1	0	
Hesperidin	1	0	
Noludar	1	0	
Protractol	1	0	
Rutin	1	0	
Tapes, test	2	0	
Toothpaste	1	0	
Vitamin B	1	0	
Vitamin C	1	0	
Wak-ets	1	0	
Xylocaine	2	0	

Appendix II

CRIMINAL INVESTIGATION

Nature of Exhibits	No. of Exhibits	Nature of Charges
Paint	59	Fail to stop, hit and run, break, enter and steal, suspected arson, attempted murder, manslaughter, false pretences, driving under the influence.
Tablets	15	Selling without prescription, breaches of the Poisons Act, murder.
Ampoules	46	Found on beach.
Blood	42	Driving under the influence.
Urine	49	Suspected poisoning, driving under the influence.
Drugs	19	Stealing and self-addiction, death, unlawful possession.
Tools	8	Break, enter and steal.
Stomach wash	2	Suspected poisoning.
Hair	9	Suspected poisoning.
Clothing	55	Suspected poisoning, attempted murder, acid damage, assault with intent to rape, snatch and grab, manslaughter, kidnap, death, hit and run, accident, rape, break, enter and steal, indecent assault, murder, fail to stop.
Miscellaneous	154	Break, enter and steal, suspected poisoning, suspected arson, goods in custody, attempted murder, stealing, death, road accident, car burnt, attempted suicide, kidnap, suicide, abortion, driving under the influence, consuming liquor in park, firing rifle in street, selling liquor without licence, indecent assault, murder, drowning, unlawful possession of drugs, fail to stop, false pretences.
Nails	8	Suspected poisoning.

Appendix III

CORONIAL INVESTIGATIONS

Result of Examination	No. of Cases
No poison	84
Alcohol	259
Alcohol—nil	145
Adrenaline	1
Arsenic	15
Barbiturates	122
Brominated ureides	29
Carbon monoxide	33
Chloral hydrate	6
Cyanide	4
Dichlorophenoxyacetic acid	1
Ethinylcyclohexyl carbamate	1
Glutethimide	2
Lead	2
Mercury	1
Nicotine	2
Organic phosphates	1
Paraldehyde	1
Phenols	5
Parathion	4
Phenothiazine	1
Phenytoin	2
Phenolphthalein	1
Quinine	1
Quinine and strychnine	1
Salicylic acid	5
Sodium fluoride	1
Sulphuric acid	1
Strychnine	12

Appendix IV

OILS OF LEMON

Batch	Date	Appearance	S.G. 15·5°C.	R.I. 25°C.	Opt. Rotation 20°C.	Per cent. Citral
Pure Food Regulation Standard			0·854—0·862	1·470—1·480	+56° to +65°	Not less than 3·5
1	21.4.59	Dark green. Slight sediment	0·860	1·473	+60·00°	4·03
2	29.4.59	Dark brownish green. Sediment	0·857	1·472	58·86°	3·89
3	30.4.59	Pale green. Sediment	0·863	1·473	60·76°	4·04
4	6.5.59	Brownish green. Sediment	0·860	1·473	59·06°	3·80
5	7.5.59	Very dark brownish green. Sediment	0·859	1·473	59·54°	3·81
6	28.5.59	Dark green. Sediment	0·858	1·473	60·68°	3·84
7	11.6.59	Dark yellow. Sediment	0·857	1·473	60·15°	4·13
8	18.6.59	Dark brownish yellow. Sediment	0·856	1·473	63·12°	4·70
9	19.6.59	Dark brownish yellow. Sediment	0·856	1·473	64·08°	4·48
10	1.7.59	Brownish yellow. Sediment	0·858	1·473	58·50°	3·64
11	3.7.59	Dark yellow. Slight sediment	0·857	1·473	56·76°	3·63
12	6.7.59	Light yellow. Sediment	0·858	1·473	59·12°	4·00
13	7.7.59	Light greenish yellow. Sediment	0·858	1·473	56·93°	4·05
14	8.7.59	Dark yellow. Slight sediment	0·857	1·472	55·84°	3·93
15	15.7.59	Orange. Sediment	0·857	1·473	58·58°	3·89
16	16.7.59	Orange. Sediment	0·857	1·473	58·46°	4·04
17	22.7.59	Greenish yellow. Sediment	0·858	1·473	58·65°	4·01
18	27.7.59	Pale greenish yellow. Slight sediment	0·857	1·473	58·25°	3·83
19	28.7.59	Yellow	0·857	1·472	58·14°	3·90
20	29.7.59	Yellow	0·857	1·473	+57·74°	3·88
21	30.7.59	Pale greenish yellow. Sediment	0·858	1·473	56·74°	3·58
22	31.7.59	Pale greenish yellow. Sediment	0·858	1·472	58·28°	3·74
23	3.8.59	Pale greenish yellow. Sediment	0·857	1·472	58·39°	3·46
24	4.8.59	Orange. Sediment	0·857	1·472	58·40°	3·67
25	5.8.59	Pale greenish yellow. Slight sediment	Insufficient sample	1·473	..	3·82
26	6.8.59	Greenish yellow. Sediment	..	1·472	..	3·94

Batch	Date	Appearance	S.G. 15·5°C.	R.I. 25°C.	Opt. Rotation 20°C.	Citral per cent.
27	7.8.59	Dark orange. Sediment	0·858	1·472	58·04°	4·05
28	11.8.59	Dark orange. Sediment	0·858	1·473	57·02°	3·85
29	18.8.59	Dark orange. Sediment	0·857	1·472	58·34°	3·87
30	19.8.59	Dark orange. Sediment	0·858	1·472	57·80°	4·18
31	31.8.59	Dark orange. Sediment	0·858	1·472	57·12°	3·63
32	1.9.59	Greenish yellow. Sediment ..	0·859	1·473	58·35°	3·88
33	2.9.59	Dark orange. Sediment	0·858	1·473	56·66°	3·98
34	3.9.59	Orange. Sediment	0·855	1·472	58·97°	3·41
35	4.9.59	Greenish yellow. Sediment ..	0·858	1·473	55·96°	3·67
36	8.9.59	Dark orange. Slight sediment ..	0·858	1·473	58·05°	3·84
37	16.9.59	Orange. Sediment	..	1·473	..	3·68
38	17.9.59	Greenish yellow. Sediment ..	..	1·473	..	3·93
39	18.9.59	Dark orange. Sediment	0·858	1·473	56·67°	3·63
40	22.9.59	Dark greenish yellow. Sediment ..	0·857	1·473	57·78°	3·60
41	23.9.59	Greenish yellow. Sediment ..	0·858	1·473	55·39°	3·62
42	24.9.59	Yellow. Sediment	0·857	1·473	56·00°	3·35
For comparison purposes the following were examined in the beginning of 1961:—						
		Origin—				
		Sicily	0·861	1·474	+60·7	4·1
		Sicily	0·858	1·472	+59·8	4·5
		Italy	0·859	1·473	+60·6	4·6
		Victoria	0·860	1·473	+63·5	3·0
		New South Wales	0·858	1·473	+54·6	3·9
		New South Wales	0·860	1·473	+62·3	4·0

APPENDIX V

MISCELLANEOUS BACTERIOLOGICAL EXAMINATIONS

Prostatic smears for gonorrhoea	1,107
Cultures for organisms and sensitivity	297
Identification of micro organisms	66
Rats examined for plague	564

PURE FOOD BRANCH—ANNUAL REPORT, 1960—REPORT OF THE ACTING CHIEF INSPECTOR ON THE GENERAL ADMINISTRATION OF THE PURE FOOD ACT, 1908, AS AMENDED, FOR THE YEAR ENDING 31st DECEMBER, 1960

Staff

Chief Inspector: W. J. Madgwick; Deputy Chief Inspector: J. W. Wing; Senior Inspector (Newcastle); 14 Inspectors; 1 Clerk; 1 Attendant.

The work of this Branch includes the supervision of the sale of food and drugs, the premises in which they are prepared, stored and sold and the equipment, appliances and vehicles, and the carrying out of the incidental duties necessary to secure the wholesomeness, cleanliness and freedom from contamination of food and drugs and compliance with the legal provisions set out in the Pure Food Act, 1908, as amended and regulations thereunder.

Milk

Samples taken by officers of this Branch totalled 3,874, of which 135 did not comply with the standard. Thirteen (13) warnings were issued and 122 prosecutions were undertaken. Fines and costs imposed by the Court amounted to £857 15s.

Food and Drugs

Of 9,463 samples of various food and drugs, other than milk, 801 were on analysis found to be below the prescribed standards. Seventy-eight (78) warnings were issued and 723 traders were prosecuted for fines and costs totalling £6,416 8s.

Seizures and Destruction of Deteriorated Food and Drugs

During the year over 38 tons and 710 cans, 214 packets and jars of assorted foods and drugs were placed under seizure and subsequently destroyed as being unfit for human consumption. Inspection of birds sold at the City Poultry Markets resulted in the destruction of 11,177 head of poultry.

Premises Inspected

Of 9,799 premises inspected, 663 warning notices were served on traders to effect structural repairs or to remedy other defects in regard to their premises, this applied particularly in regard to glass and dish washing provisions in hotels and other eating places and exposure of unwrapped foods on shop counters or other places. Twenty-four (24) traders were prosecuted for failing to keep premises clean and in this connection fines and costs of Court amounted to £508 10s. Five traders were also proceeded against under the Local Government Act, Ordinance 39, for unclean premises and were fined a total of £118 6s.

Breaches

Many breaches against the various regulations were also reported and the number of prosecutions amounted to 390, with penalties against the offenders totalling £2,820 12s.

Complaints

Complaints made by members of the public concerning unhygienic food handling practices received priority and 1,339 such complaints were investigated, whilst all of these complaints cannot be substantiated on investigation, many prosecutions did result from the prompt attention that was given to these matters and the public relations with this Department is greatly improved by this co-operation.

Legal Proceedings

The total number of prosecutions successfully instituted by departmental officers was 1,264 and the amount of fines and costs imposed was £10,721 11s.

Summary

The overall amount of work performed compares favourably with that of previous years.

TABLE 1—SUMMARY OF WORK PERFORMED BY PURE FOOD OFFICERS FOR THE YEAR ENDING 31ST DECEMBER, 1960

Milk	Samples Taken by		
	Departmental Officers	City Municipal and Shire Councils Inspectors	Total
Number of samples from all parts of the State	3,874	690	4,564
Number below standard	135	35	170
Number of warnings	13	7	20
Number of prosecutions	122	28	150
Amount of fines and costs	£857 15 0	£162 19 0	£1,020 14 0

Food and Drugs Other than Milk	
Number of samples from all parts of the State	9,463
Number below the standard	801
Number of warnings	78
Number of prosecutions	723
Amount of fines and costs	£6,416 8 0

Food and Drugs Unfit for Human Consumption Seized and Destroyed	
The seizure and destruction comprising approximately 39 tons of food and drugs, 11,177 head of poultry, 710 cans, 146 cases, 214 packets and jars and 206,400 tablets	
Number of prosecutions	Nil

Inspection of Premises Used for the Preparation, Sale and Storage of Food	
Number of inspections in all parts of the State	9,799
Number of notices issued	663
Number of prosecutions	24
Amount of fines and costs	£508 10 0

Particulars of General Breaches of Pure Food Act and Regulations	
Number of prosecutions	390
Amount of fines and costs	£2,820 12 0

Action Taken Under Other Acts—Local Government Act	
Number of prosecutions	5
Amount of fines and costs	£118 6 0

Table 2—Summary of Legal Proceedings, 1960

Offences Under the Pure Food Act, as Amended	Number of Prosecutions	Amount of Fines and Costs
		£ s. d.
Adulterated milk	122	857 15 0
Adulterated food and drugs	723	6,416 8 0
Unclean premises	24	508 10 0
General breaches	390	2,820 12 0
Local Government Act	5	118 6 0
Grand Totals	1,264	£10,721 11 0

Table 3—Summary of Work carried out by Pure Food Officers under the Pure Food Act, 1908, as amended from the Date of its Operation, October, 1909, to 31st December, 1960

	No. of Premises Inspected	Total No. Samples Taken	Total Below Standard	Prosecutions	Amount of Fines and Costs
					£ s. d.
Premises inspected	471,457	..	..	3,137	21,549 12 0
Breaches of Act and regulations	..	..	..	5,157	24,835 19 6
Milk samples	..	391,951	13,185	8,614	44,671 18 0
Food and drug samples	..	246,581	20,523	14,975	72,115 0 10
Food and drug seizures	..	..	..	435	2,044 11 0
Totals	471,457	638,532	33,708	32,318	£165,217 1 4

Food and Drug Samples—Particulars of Samples of Food and Drugs taken for Analysis by Departmental Officers during the year ending 31st December, 1960

Samples	No. of Samples	No. of Warnings	No. of Prosecutions	Amount of Fines and Costs
				£ s. d.
Ales and beers	59	..	..	..
Butter	29	1	6	61 0 0
Bread	74	..	..	..
Cream	127	..	5	36 0 0
Coffee and chicory	7	..	..	..
Cheese	6	..	1	10 0 0
Confectionery	15	..	..	..
Condiments	7	..	..	..
Cordials	305	4	9	64 0 0
Cereals	1	..	..	..
Drugs and disinfectants	73	..	..	..
Edible fats and oils	16	..	1	6 0 0
Fruit, fresh and preserved	21	..	..	..
Fish	37	..	4	17 0 0
Flour	1	..	..	..
General	73	..	..	..
Honey	3	..	..	..
Ice cream and flavoured ices	46	..	..	..
Jam and fruit pulp	15	..	..	..
Milk	3,874	13	122	857 15 0
Margarine	1	..	..	..
Microbiological	94	..	..	..
Meat	8,263	71	623	5,666 3 0
Pastry	12	..	..	..
Wines	2	..	..	..
Spirits	122	1	68	518 5 0
Soaps	3	..	..	..
Sugar	10	..	..	..
Tea	1	..	..	..
Vinegar	36	1	5	26 0 0
Vegetables	3	..	..	..
Walnuts	1	..	1	12 0 0
Totals	13,337	91	845	£7,274 3 0

Particulars of Inspections by Pure Food Branch Officers during 1960

District	No. of Inspections	No. of Notices	No. of Prosecutions	Amount of Fines and Costs
				£ s. d.
Abercrombie	8	..	..	..
Albury	45	6	..	..
Ashfield	109	6	..	..
Ashford	10	..	..	..
Auburn	70	..	..	..
Bankstown	140	8	1	31 0 0
Barraba	1	1	..	..
Bathurst	72	..	..	..
Bateman's Bay	6	..	..	..
Baulkham Hills	46	2	..	..
Bega	19	..	..	..
Bellingen	2	2	..	..
Bingara	1	1	..	..
Blacktown	124	4	1	20 0 0
Blue Mountains	90	..	..	..
Boorowa	12	1	1	5 0 0
Boree	15	..	..	..
Botany	75	6	..	..
Bowral	31	1	..	..
Burwood	94	6	..	..
Byron	2	1	..	..
Camden	34	..	..	..
Campbelltown	53	6	2	32 0 0
Canobolas	11	1	..	..
Canterbury	114	12	2	93 0 0
Casino	21	..	..	..
Cessnock	135	59	..	..
Coff's Harbour	19	..	..	..
Concord	81	1	..	..
Coolamon	29	1	..	..
Cooma	71	..	..	..
Cootamundra	6	..	..	..
Corowa	21	..	..	..
Cowra	149	2	..	..
Crookwell	14	..	..	..
Cudgegong	12	..	..	..
Drummoyne	90	1	..	..
Dubbo	101	2	..	..
Eurobodalla	25	1	..	..
Fairfield	42	7	2	34 0 0
Forbes	15	..	..	..
Gloucester	11	..	1	26 0 0
Gosford	94	9	1	21 0 0
Goulburn	73	4	..	..
Grenfell	25	2	..	..
Gunnedah	35	..	..	..
Harden	47	..	..	..
Holroyd	41	6	..	..
Hornsby	218	9	..	..
Hume	1	..	..	..
Hunter's Hill	4	1	..	..
Hurstville	150	7	..	..
Illabo	3	..	..	..
Imlay	13	..	..	..
Inverell	48	3	..	..
Jindalee	20	1	..	..
Junee	17	..	..	..
Kempsey	25	..	..	..
Kiama	5	..	..	..
Kogarah	77	2	..	..
Ku-ring-gai	155	6	..	..
Kyogle	1	1	..	..
Lake Macquarie	112	39	..	..
Lane Cove	39	6	..	..
Leichhardt	412	17	..	..
Lismore	20	..	..	..
Liverpool	50	9	..	..
Lyndhurst	45	1	..	..
Macleay	27	..	..	..
Maitland	99	22	..	..
Manilla	3	3	..	..
Manly	136	5	..	..
Manning	7	..	..	..
Marrickville	230	10	..	..
Mitchell	11	..	..	..
Mittagong	14	1	1	31 0 0
Molong	25	..	..	..
Moruya	3	..	..	..
Mosman	74	5	..	..
Moss Vale	3	..	..	..
Mudgee	51	2	..	..
Mullumbimby	11	..	..	..
Mulwaree	4	2	..	..
Mumbulla	9	2	..	..
Murrumburra	4	2	..	..
Muswellbrook	17	..	..	..

Particulars of Inspections by Pure Food Branch Officers during 1960—continued

District	No. of Inspections	No. of Notices	No. of Prosecutions	Amount of Fines and Costs
				£ s. d.
Nambucca	22	..	..	..
Narrabri	46	..	..	..
Narrandera	24	..	..	..
Narromine	19	..	..	..
Narooma	4	..	..	..
Newcastle	464	64	1	11 0 0
North Sydney	310	12	2	23 0 0
Nowra	41	..	..	..
Oberon	11	1	..	..
Orange	36	7	..	..
Parkes	28	..	..	..
Parramatta	224	10	1	21 0 0
Penrith	4	..	..	..
Port Macquarie	14	..	..	..
Port Stephens	21	4	..	..
Queanbeyan	85	5	1	11 0 0
Randwick	200	14	..	..
Rockdale	61	4	..	..
Ryde	396	15	1	11 0 0
Shellharbour	1	..	..	..
Shoalhaven	38	4	..	..
Singleton	36	12	..	..
Snowy Mountains	13	..	..	..
Strathfield	53	2	..	..
Sutherland	152	6	..	..
Sydney	1,606	124	4	114 0 0
Tallanganda	9	..	..	..
Taree	3	..	1	18 10 0
Tenterfield	22	..	..	..
Tumbarumba	21	3	..	..
Tumut	2	1	..	..
Turon	6	..	..	..
Tweed	41	4	..	..
Wagga Wagga	75	..	..	..
Walgett	10	..	..	..
Warren	25	1	..	..
Warringah	262	7	..	..
Waugoola	1	..	..	..
Waverley	110	12	..	..
Wellington	15	..	..	..
Willoughby	178	5	..	..
Windsor	16	2	..	..
Wingecarribee	35	..	..	..
Wingham	1	..	1	6 0 0
Wollondilly	10	1	..	..
Wollongong	190	6	..	..
Wollahra	163	9	..	..
Wyong	30	2	..	..
Yallaroi	2	2	..	..
Yarrowlumla	9	..	..	..
Yass	42	3	..	..
Young	128	6	..	..
Totals	9,799	663	24	£508 10 0

Seizures—Particulars of Foods and Drugs seized as Unfit for Human Consumption and Destroyed during the year ending 31st December, 1960

Food	Tons	Cwts.	Qrs.	Lbs.	Other Amounts
Cereal	5	2	1	26	
Cheese	1	3	1	1	
Coffee beans	1	15	1	1	
Confectionery	..	13	1	13	
Drugs	..	..	..	..	206,400 tablets
Fish	6	19	3	10	
Flour	..	..	..	15	
Fruit (dried)	4	12	1	6	
Fruit (fresh and juice)	..	2	..	16	632 tins, 146 cases
General	..	13	1	4	78 tins, 52 packets, 162 jars
Meat	14	13	3	7	
Milk products	..	..	2	13	
Nuts	..	3	1	26	
Olives	..	5	1	12	
Pickles	..	4	1	22	
Poultry	..	..	..	..	11,177 birds
Spices	1	10	..	..	
Spirits	..	..	..	..	6 pints
Sugar	..	1	1	..	
Vegetables	..	12	3	18	
Total	38	13	3	22	206,400 tablets 710 tins 146 cases 52 packets 162 jars 11,177 birds 6 pints

Particulars of General Breaches of the Act and Regulations undertaken by Departmental Officers during the period 1st January to 31st December, 1960

Offence	Number of Prosecutions	Amount of Fines and Costs
		£ s. d.
No methyl violet in waste beer	19	172 0 0
Jug in drip tray	1	4 0 0
Bags on dough	8	60 0 0
Smoking on food premises	80	512 0 0
Unlabelled oysters	27	151 0 0
Food, including bread, exposed to dust, etc.	100	691 13 0
Bread returned to delivery vehicle	42	224 8 0
Food exposed on counters	51	316 0 0
Unnecessary food handling	5	37 0 0
Meat in contact with dirty material	1	16 0 0
Meat carried in boot of car	1	16 0 0
Sale of meat from other than butchers' shops	5	36 0 0
Cockroach and fly infested premises	18	246 10 0
Unclean utensils, appliances, etc.	9	123 0 0
Unclean vehicles	1	6 0 0
Permit animals in food premises	5	33 0 0
Selling incorrect labelled food	2	6 0 0
Water closet in direct communication with food room	1	6 0 0
Storing food in water closet	1	11 0 0
Selling pets' meat in butchery	1	6 0 0
Obstructing officer in course of duty	1	13 7 0
Refusing to give name	1	4 0 0
Falsely described food	1	6 0 0
Premises not free from foul odours	4	48 0 0
Food exposed to and affected by flies	5	75 14 0
Totals	390	£2,820 12 0

Particulars of General Breaches of the Act and Regulations reported following the Board's Approval to Prosecute by City, Municipal and Shire Councils' Authorised Officers for the year ending 31st December, 1960

Council	Particulars of Offence	Number of Prosecutions	Fines and Costs
			£ s. d.
Armidale	Food exposed to flies	1	29 3 0
	Fly-infested premises	1	29 3 0
Auburn	Fruit exposed below 2 ft. 6 in.	1	16 12 0
Bowral	Unclean premises	1	21 0 0
Cooma	Smoking on food premises	2	18 7 0
	Faulty construction of premises	1	11 3 0
	Unclean premises	1	24 3 0
Corowa	Unclean premises	1	16 0 0
	Unclean utensils	2	15 0 0
Leeton	Smoking on food premises	1	9 4 0
	Unclean premises	2	14 6 0
	Meat wrapped in newspaper	1	8 4 0
	No methyl violet in waste beer	1	6 4 0
	Non-removal of feathers	1	8 4 0
	Uncovered waste bins	1	8 4 0
Leichhardt	Smoking on food premises	1	11 5 0
	Food exposed to dust and flies	4	28 11 0
	Unclean premises	2	33 6 0
Lockhart	Smoking on food premises	1	7 5 0
	Flies on food premises	2	17 8 0
	Unclean premises	2	16 8 0
	Using bags on dough	1	8 5 0
	No head covering while delivering meat	1	6 3 0
Macleay	Food exposed to dust	1	7 4 0
Mitchell	Unclean premises	1	13 2 0
North Sydney	Unclean premises	1	26 15 0
Tumbarumba	Unclean milking machine	1	21 10 0
	Carrying water on milk vehicle	1	9 0 0
Wagga Wagga	Smoking in food premises	1	5 0 0
Willoughby	Unclean premises	1	28 7 0
Wollongong	Unclean utensils	1	20 0 0
Totals		40	£494 6 0

Particulars of Samples of Milk taken by Authorised Officers of City, Municipal and Shire Councils during the year ending 31st December, 1960

Council	No. of Samples	No. Below Standard	No. of Warnings	No. of Prosecutions	Amount of Fines and Costs
					£ s. d.
Albury	26	1	..	1	6 0 0
Broken Hill	13	1	..	1	8 0 0
Condobolin	10	1	..	1	9 0 0
Cootamundra	16	..	..	..	..
Corowa	20	..	..	..	..
Cowra	17	2	1	1	10 0 0
Culcairn	21	3	..	3	3 0 0
Goulburn	11	1	..	1	3 10 0
Gunnedah	12	..	..	..	..
Hay	14	..	..	..	..
Imlay	11	3	1	2	12 0 0
Junee	9	..	..	..	..
Leeton	60	10	3	7	43 19 0
Maitland	16	1	..	1	6 0 0
Manilla	4	..	..	..	..
Merriwa	5	1	..	1	2 0 0
Mudgee	1	..	..	..	..
Newcastle	43	..	..	..	..
Quirindi	8	..	..	..	..
Sydney	240	1	..	1	6 0 0
Temora	16	..	..	..	..
Tumbarumba	24	2	..	2	11 10 0
Tumut	5	..	..	..	..
Tweed	17	..	..	..	..
Wagga	53	5	1	4	30 0 0
Warren	5	3	1	2	12 0 0
Yarrowlumla	3	..	..	..	..
Young	10	..	..	..	..
Totals	690	35	7	28	£162 19 0

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HEALTH INSPECTION BRANCH—ANNUAL REPORT, 1960

(1) Staff at the 31st December, 1960, comprised: Chief Health Inspector, Mr. K. R. Horne, F.I.H.S. (Aust.); Deputy Chief Health Inspector, Mr. D. H. Way, F.I.H.S. (Aust.); 10 Health Inspectors; 3 Cadet Health Inspectors; 2 Surveyors; 1 Female Tracer; 2 Junior Clerks; and 1 Records Attendant. One position of Health Inspector was vacant.

In addition to the staff in the Head Office Branch, 4 Senior and 3 Health Inspectors are seconded for duty in the metropolitan and four established country health districts.

(2) *Functions and Responsibilities*—The Branch is charged with the carrying out of duties and responsibilities relating to environmental sanitation under the following acts:—

Public Health Act, 1902, as amended,

Noxious Trades Act, 1902, as amended,

Local Government Act, 1919, as amended,

Under Sections 55 and 56 of the Public Health Act, 1902,

as amended, the survey section of the Branch, comprising two licensed surveyors, a senior female tracer, and two junior clerks functions and all action taken throughout the State is done from Head Office through this Branch.

New South Wales is the only state in the Commonwealth that notifies land as being unsuitable for building purposes, and administers its development.

It is considered that this section renders a valuable contribution to the development of the State in that it—

(*a*) Lays down conditions for the improvement of low-lying land, ensuring its proper drainage prior to being built upon.

(*b*) Restricts development of disused sanitary and garbage depots until the sites are rendered suitable for building.

(*c*) By the issue of certificates to solicitors and members of the public, protects prospective purchasers from purchase of land that may appear satisfactory but, in wet weather, becomes waterlogged for protracted periods.

Most transactions of land, either vacant or built upon, are at the moment financed by banks, building societies and loan companies.

It appears that the increase in land enquiries received is due to a large extent to lending authorities now insisting on a certificate from this Department prior to advancing loans for land transactions. There has also been a notable increase in enquiries from members of the general public, both personal and by telephone.

Several areas, particularly canal-type subdivisions, that would in the normal course of events be notified as unsuitable for building purposes are being treated satisfactorily prior to sale by large firms working to the requirements laid down by this Branch, and the restriction of notifications are thereby avoided. In the same fashion notified areas have been treated *in toto* and the notification revoked prior to sale, which reflects the current trend of large-scale subdivisions and treatment of inferior quality land by large companies who wish to give purchasers a clear title. These lots are generally sold at auction.

By working in conjunction with these firms and clearing say 100 lots at one time, much work is saved rather than dealing with individual enquiries from new owners, as they are in a position to build.

Issue of Certificates: A charge of five shillings is made for each certificate. From the 1st January, 1959, to the 31st December, 1960, 77,070 certificates were issued by this Branch, giving a revenue of £19,267.

Notification of Areas: This is generally carried out at the request of local councils throughout the State—surveys and inspections are made from head office by the staff of the section, sometimes aided by Council's officers. Unfortunately it is impractical for this work to be carried out by District Office staff, as they do not have the necessary survey gear or staff.

A Comparison of the Work: The following compares the work done by this section during the past two years, and illustrates the increasing importance of this section of the Branch activities:—

	January to December, 1959	January to December, 1960	Increase
Land enquiries received	61,930	77,070	15,140
Surveys carried out	267	397	130
Inspections made	258	290	32
New areas notified	8	6	—2
Old areas revoked	5	6	1
Housing Commission enquiries	223	219	—4
Reports on U.B. land	625	625	0
Revenue	£15,482	£19,267	£3,785

The work of the Health Inspectors includes the inspection and investigation of Council's records, sanitary depots, nightsoil and garbage removal services, sewerage works, business and private premises, public hospitals, public buildings, schools, hotels, motels, swimming pools, cemeteries, crematories, recreation grounds.

Investigations of applications for approval of scavenging districts, sanitary depots, septic tanks and septic closets, licences for noxious trades, crematories, theatres and public halls, and any matter when directed, requiring the approval of the Board of Health.

The investigation, inspection and reporting on bedding and flock manufacturers' activities.

Preparation of draft legislation and amendments and examination and reporting on proposed legislation and amendments submitted under the abovementioned Acts and Regulations.

Instituting legal proceedings where approved and the preparation and conducting of such legal proceedings.

Examining and reporting on town planning proposals.

(3) *Routine Work Carried Out:*

Sanitary surveys (towns)	17
Shops and buildings inspected	21
Hospitals, institutions and schools	41
Public halls and theatres	49
Air tests	20
Swimming pools	7
Slaughtering premises and abattoirs	57
Knackeries	78
Pet food shops	47
Removal of dead stock from Flemington Saleyards (pigs 356, horses 263, sheep 12,280, cows and calves 322)	13,221
Flock and bedding—	
Inspection of premises	43
Samples collected	14
Camps, showgrounds and cemeteries inspected	19
Saleyards	3
Sanitary depots—	
Proposed	44
Existing	60
Approval for disposal of nightsoil in furrows	2
Septic tanks—	
Recommended for approval	8,527
Recommended for refusal	914
Septic tank sites inspected—	
Existing	138
Proposed	6,433
Septic tank manufacturers' design plans examined for approval	39
Testing of bores for the disposal of septic tank effluent	8
Septic closet plans examined and reports submitted to the Board—	
Approvals	2,696
Refusals	34
Sewerage treatment works inspected	4
Public water supplies inspected	5
Private water supplies inspected	24
Infectious diseases investigations	3
Fumigations made	4
Scavenging districts (proposed)	17
Specimens collected (faeces, blood, urine)	6
Nuisances (investigations)	39
Samples—	
Water (other than from swimming pools)	52
Effluent	3
Sludge, dust, sawdust, soil	0
Air	14
Trade waste	2
Inspection of dairies	11

Assisting councils, licensing court, land court	2
Amendments to Acts	2
Visits to offices of local authorities on various matters	243
River and beach pollution	18
Aborigine reserves	5
Piggeries and fat extraction premises not under the Noxious Trades Act	27
Aerodromes	5
Joint inspections with the Public Works Department	25
Interviews with architects re sewerage, drainage plans and layout	83
Sorting, dead wool	6
Noxious trades premises	757
Investigation of disposal of septic tank effluent onto an area	15
Branch registration (records) new	3,000
Inspections of unhealthy building land	290
Surveys of unhealthy building land	397
New areas of unhealthy building land	6
Revocations of unhealthy building land	6
Reports re unhealthy building land	625
Searches at Registrar-General's Department	610
Letters to solicitors	20
Land enquiries on unhealthy building land	77,070

(4) *Interesting Developments*—A new development in the staff position was the appointment of three cadet health inspectors, which was done primarily to offset the shortage of trained staff and to replace the loss of trained staff by retirements and resignations, which have been problems obtaining over a number of years.

It is hoped that by training staff in the Branch they can be retained on the completion of their cadetships and the obtaining of their certificate as a health inspector thus reducing the high incidence of turnover of staff at present being experienced.

Acts and Regulations: The final draft of the Regulations under the Public Health Act, 1902, as amended, re-arranged in a new format and including an amendment to Regulation 63 relating to the sale of bedding and upholstery, was completed on the 6th June, 1960. After approval of the Board of Health and the Parliamentary draughtsman being obtained, the existing regulations were repealed and the regulations in the new format published in the *Government Gazette* No. 101, of 1st September, 1960.

The work of rearranging, renumbering, division into parts, insertion of sub-headings and preparing of the draft of these regulations was done by this Branch.

Following the gazettal of the regulations the books of schedules for issue to medical practitioners and local authorities were reviewed and rearranged to reduce these books to either foolscap or quarto size for convenient storage and postage.

Under the Noxious Trades Act, 1902, as amended, a proposed amendment to Regulation 7 applying to the trade of rag-dealer was reported upon and it was recommended that this regulation be amended to permit rag dealers purchasing washed and cleaned rags from another registered rag dealer to trade in such rags without again washing them.

This proposed amendment was approved by the Board of Health and published in the *Government Gazette* on the 28th October, 1960.

A final draft of an ordinance to control and regulate boarding houses (No. 42) under the Local Government Act, 1919, as amended, forwarded for the approval of the Board of Health under Section 26B of the Public Health Act, 1902, was referred to this Branch for report. (Note—Several drafts of this proposed ordinance had been considered and reported upon during the year 1959.)

On consideration of this final draft a report recommending the approval of the Board of Health thereto was submitted on 26th January, 1960; the proposed new ordinance was approved by the Board of Health on 10th February, 1960, and was published in the *Government Gazette* of 24th June, 1960.

This ordinance filled a long-felt need for some authoritative control over boarding houses and houses let in lodgings, and should in a few years greatly improve the standard of private accommodation available for public use, particularly in tourist areas from which many complaints regarding the poor standard of boarding accommodation have been received in years past.

Disposal of septic tank effluent by means of deep bores.

During the year a number of deep bores were tested (8) to ascertain whether they would deal with the effluent from septic tanks.

This is a revival of a system of effluent disposal which was fairly common during the nineteen twenties, but was not persisted with owing to such bores, after a few years' use, failing to perform satisfactorily, owing to clogging by solids in suspension in such effluent.

In the case of the present bores the final effluent after normal treatment in a septic tank having an aerobic filter is passed through a sand filter and apparently this further treatment is reducing the solids in suspension to a minimum and the bores to date are operating satisfactorily as no clogging is yet occurring.

This method of effluent disposal arises primarily from the new development of "home units" and "shopping centres" in unsewered areas and where there is no land available for the normal type of disposal of septic tank effluent in shallow absorption trenches and the like. It is considered uneconomical for general practice.

(5) *Difficulties*—The major difficulty experienced during the year was in the recruitment as replacements for trained and very experienced staff of seven new officers who had had no previous experience as health inspectors, and three cadet health inspectors neither qualified nor experienced.

As the total establishment of the Head Office Branch for health inspectors is a chief health inspector, a deputy chief health inspector, 12 health inspectors (2 attached to the Metropolitan Medical Officer of Health) and 3 cadet health inspectors, the task of training seven untrained health inspectors and three cadet health inspectors proved burdensome, and reflects on the volume of work performed during the year.

In addition, two trained officers resigned and only one position was filled, this officer had had previous experience as a health inspector with councils.

It appears likely that this disability will persist during 1961.

(6) *Statistical Appendix*—Nil.

PRIVATE HOSPITALS AND REST HOMES BRANCH—ANNUAL REPORT, 1960

Private hospitals and rest homes in the State of New South Wales are licensed under the Private Hospitals Act, 1908–1954, under the authority of a license granted by the Minister for Health on the recommendation of the Board of Health. These separate types of institutions are defined in the Act. Private hospitals and rest homes may be of certain classes prescribed in regulations made under the Act, and the license granted in each case specifies the class of private hospital or rest home to which the license applies.

Private hospitals are licensed in the following prescribed classes:—

(*a*) Medical;
(*b*) Post-operative;
(*c*) Surgical;
(*d*) Lying-in;
(*e*) Psychiatric;
(*f*) A combination of two or more of the foregoing classes, other than (*e*).

Rest homes are licensed in the following prescribed classes:—

(*a*) After-care (patients who are recuperating from childbirth, and who require only nursing care, including children to three years of age);
(*b*) Psychiatric;
(*c*) General (patients, including those in class (*b*), who, on account of age, senility, infirmity, chronic ill-health, or the effects of illness, other than childbirth, from which they are recuperating, require the exercise of oversight, nursing care and control, with or without occasional attention by a medical practitioner).

The license granted to a private hospital or rest home specifies in each case the maximum number of patients who may be accommodated in the institution at any one time, and details the maximum number of patients who may be accommodated in each licensed ward. Where, however, a private hospital is licensed to combine two or more classes, the license does not specify any particular number or proportion of the total licensed beds to be allocated to each of the classes which are combined.

The appended tables give statistical information in respect of licensed private hospitals and rest homes in New South Wales as at the end of the year 1960, with corresponding figures for the previous year, 1959.

Table A shows the number of licensed private hospitals in each of the various prescribed classes, or combined classes, in the metropolitan area of Sydney, and in the remainder of the State. By far the largest number of private hospitals are licensed as combined medical and post-operative hospitals.

Table B shows the aggregate number of licensed beds and cots provided in private hospitals of each class, or combined class.

Table C gives a classification of licensed private hospitals according to size as based on licensed bed capacity. By far the greatest number of private hospitals falls within the group licensed for between five and twenty beds, and relatively few are licensed for more than twenty beds. The largest private hospital is licensed as a medical, surgical and lying-in hospital with 187 beds.

Similar tables D and E are appended in respect of licensed rest homes. Nine rest homes which do not as yet fully comply with all requirements for full licensing are at present operating under interim licenses granted under Section 7A of the Private Hospitals Act. The vast majority of rest homes are licensed as general rest homes with only one classed as after-care and three classed as psychiatric. Again, by far the greatest number of rest homes fall within the group licensed for between five and twenty beds, with relatively few licensed for more than twenty beds. The largest rest home is licensed as a general rest home with 157 beds.

During 1960, the number of licensed private hospitals increased by three, providing an additional 135 beds and 134 cots, while the number of licensed rest homes increased by eighteen, providing an additional 610 beds. This is in conformity with the small increase in the numbers of those institutions which had occurred each year since the commencement, in 1955, of the Private Hospitals (Amendment) Act, 1954, under which rest homes were first required to be licensed. The total numbers of licensed private hospitals and rest homes in New South Wales in each year over the twenty-year period from 1941 to 1960, are shown in Table F.

The staff of the private hospitals and rest home branch consists of one medical officer-in-charge and four supervisory nurses. All of these officers are authorised by the Board of Health under the Private Hospitals Act to carry out inspections of private hospitals and rest homes for the general purposes of administration of the Act and Regulations. Periodic inspections of all licensed private hospitals and rest homes in the metropolitan area of Sydney and throughout the remainder of the State of New South Wales are carried out by the supervisory nurses, and special visits for particular reasons may be made by the Medical Officer from time to time. Of the 201 private hospitals and 251 rest homes in New South Wales licensed as at 31st December, 1960, 139 and 227 respectively were within the metropolitan area of Sydney.

The activities of the Branch cover a considerable amount of routine work, which was carried on as usual throughout 1960. Such work includes:—

Inspections of all licensed private hospitals and rest homes covering general conduct and management and care of patients, condition of premises, equipment, records, living conditions of nursing staff, adequacy of staff and general compliance with necessary requirements.

Examination of plans and specifications, and inspections, in connection with proposed new buildings, or alterations or extensions of existing buildings, used or intended to be used as private hospitals or rest homes.

Checking on registration with the Nurses' Registration Board of nursing staff employed.

Investigation of complaints regarding private hospitals and rest homes covering such matters as lack of care and attention to patients, inadequate or unwholesome food, excessive charges, inadequate sanitary facilities, etc.

Submission of reports and recommendations to the Board of Health.

A continuing problem in a number of private hospitals and rest homes is that of persistent overcrowding, with failure of licensees to report to the Board of Health the admission of patients in excess of the maximum numbers approved in the license, as required under the Private Hospitals Regulations.

TABLE A—NEW SOUTH WALES—PRIVATE HOSPITALS: NUMBER OF HOSPITALS

District	Hospitals									
	M. S. & L.	M. & S.	L.	M. & P-O.	M.	P.	M. & L.	M. P-O. & L.	M. S & P-O.	Total
1959										
Sydney	20	35	4	71	2	2	1	1	..	136
Country	19	11	9	10	2	..	2	8	1	62
Total—N.S.W. ..	39	46	13	81	4	2	3	9	1	198
1960										
Sydney	19	37	4	72	3	2	1	1	..	139
Country	18	11	9	10	2	1	3	7	1	62
Total—N.S.W. ..	37	48	13	82	5	3	4	8	1	201

M. S. & L. = Medical, Surgical and Lying-in
M. & S. = Medical and Surgical
L. = Lying-in
M. & P-O. = Medical and Post-operative
M = Medical
P. = Psychiatric
M. & L. = Medical and Lying-in
M. P-O. & L. = Medical, Post-operative and Lying-in
M. S. & P-O. = Medical, Surgical and Post-operative

TABLE B—NEW SOUTH WALES—PRIVATE HOSPITALS: NUMBER OF BEDS

District	M. S. & L.	M. & S.	L.	M. & P-O.	M.	P.	M. & L.	M. P-O. & L.	M. S. & P-O.	Total
1959										
Sydney	730 +6 cots	1,002	13 +1 cot	1,344	38	45	8	5	..	3,185 +7 cots
Country	148 +3 cots	132 +8 cots	53	97	16 +18 cots	..	9	63	10	528 +29 cots
Total—N.S.W. ..	878 +9 cots	1,134 +8 cots	66 +1 cot	1,441	54 +18 cots	45	17	68	10	3,713 +36 cots
1960										
Sydney	733 +4 cots	1,038 +15 cots	13	1,368 +64 cots	60	45	8	5	..	3,270 +83 cots
Country	145 +15 cots	143 +14 cots	62	122 +15 cots	18 +23 cots	.. +18 cots	14	64 +2 cots	10	578 +87 cots
Total—N.S.W. ..	878 +19 cots	1,181 +29 cots	75	1,490 +79 cots	78 +23 cots	45 +18 cots	22	69 +2 cots	10	3,848 +170 cots

TABLE C—NEW SOUTH WALES—PRIVATE HOSPITALS

(Showing Classification of Private Hospitals Licensed at December 31st, with respect to Size, as signified by Number of Beds Available)

	1 Bed	2 Beds	3 Beds	4–5 Beds	6–10 Beds	11–20 Beds	Over 20 Beds	Total
1959								
Sydney and districts	2	1	1	6	30	49	47	136
Country districts	7	1	2	10	20	16	6	62
Totals	9	2	3	16	50	65	53	198
1960								
Sydney and districts	2	2	1	5	25	54	50	139
Country districts	6	1	2	10	20	16	7	62
Totals	8	3	3	15	45	70	57	201

TABLE D—NEW SOUTH WALES—REST HOMES—NUMBERS OF REST HOMES AND BEDS

District	Rest Homes				Number of Beds			
	General	After-care	Psychia-tric	Total	General	After-care	Psychia-tric	Total
1959								
Sydney	204	1	2	207	4,211 +24 cots	.. 26 cots	27	4,238 +50 cots
Country	18	..	..	18	253	..	..	253
Total—N.S.W. ..	222	1	2	225	4,464 +24 cots	26 cots	27	4,491 +50 cots
1959								
Interim licenses—								
Sydney ..	7	..	..	7	89	..	..	89
Country ..	1	..	..	1	7	..	..	7
Total—N.S.W. ..	8	..	..	8	96	..	..	96
1960								
Sydney	217	1	2	220	4,678 +24 cots	.. 26 cots	27	4,705 +50 cots
Country	22	..	..	22	407	..	..	407
Total—N.S.W. ..	239	1	2	242	5,085 +24 cots	.. 26 cots	27	5,112 +50 cots
1960								
Interim licenses—								
Sydney ..	6	..	1	7	57	..	14	71
Country ..	2	..	..	2	14	..	..	14
Total—N.S.W. ..	8	..	1	9	71	..	14	85

TABLE E—NEW SOUTH WALES—REST HOMES

(*Showing Classification of Rest Homes Licensed at December 31st, with respect to Size, as signified by Number of Beds Available*)

	1 Bed	2 Beds	3 Beds	4–5 Beds	6–10 Beds	11–20 Beds	Over 20 Beds	Total
1959								
Sydney and districts	..	..	..	7	47	88	65	207
Country districts	..	..	..	..	5	12	1	18
Total	..	..	..	7	52	100	66	225
1959								
Interim licenses—								
Sydney and districts	..	..	..	2	2	2	1	7
Country districts	..	..	..	..	1	..	..	1
Total	..	..	..	2	3	2	1	8
1960								
Sydney and districts	..	..	..	6	48	96	70	220
Country districts	..	..	..	1	2	16	3	22
Total	..	..	..	7	50	112	73	242
1960								
Interim licenses—								
Sydney and districts	..	..	..	2	2	3	..	7
Country districts	..	..	..	..	2	..	..	2
Total	..	..	..	2	4	3	..	9

TABLE F—NEW SOUTH WALES—PRIVATE HOSPITALS AND REST HOMES

(*Numbers of Licensed Private Hospitals and Rest Homes in each year over Twenty-year Period from* 1941 *to* 1960)

	Private Hospitals	Rest Homes
1941	496	..
1942	462	..
1943	433	..
1944	388	..
1945	364	..
1946	348	..
1947	310	..
1948	303	..
1949	262	..
1950	229	..
1951	196	..
1952	180	..
1953	172	..
1954	171	..
1955	188	220
1956	175	222
1957	180	223
1958	184	232
1959	198	233
1960	201	251

MEDICO-LEGAL SECTION—GOVERNMENT MEDICAL OFFICER FOR SYDNEY—ANNUAL REPORT, 1960

Staff

Medical Staff: The Government Medical Officer, C. E. Percy, M.B., Ch.M.; The Deputy Government Medical Officer, J. Laing, M.B., B.S.; Four Medical Officers.

Hospital Admission Depot: The Officer in Charge; The Assistant Officer; The Night Officer; The Relieving Night Officer; Escort Attendants (from Lidcombe State Hospital); The Almoner.

Medico-Legal Laboratory: One Medical Officer; One Microbiologist; One Laboratory Attendant.

Activities

ADMISSIONS TO HOSPITALS AND HOMES

During the year the following admissions were arranged:—

Metropolitan Hospitals	1,742
State Hospitals and Homes and Chronic Hospitals	4,228
Convalescent Homes	551

There was slightly less demand for admission of the more acute cases and an increased demand for the more chronic cases.

MEDICAL EXAMINATIONS

Two thousand, six hundred and ten examinations were made for the Police Department and 3,118 for various other Government Departments. There was an increase in both groups. In the case of the Police Department it was due to an increase in the authorised strength of the Police Force.

Supervision of the health of the Police Force was maintained at the daily sick parade at Police Headquarters. The average daily number on sick report was 130, the strength in the metropolitan district being 3,545.

MEDICO-LEGAL WORK

The autopsy work for the City Coroner continued to show an increase, the total number of bodies examined being 2,093, while the 189 examinations of criminal assault cases represented a slight decrease from the peak year 1959. The medical staff are called upon to give evidence in various courts in connection with this work.

OTHER MEDICAL SERVICES

Four thousand, seven hundred and nineteen vaccinations against smallpox were done and 6,378 International Certificates were issued for these and for vaccinations done by private medical practitioners.

Four hundred and twenty-five throat swabbings were taken from children about to be admitted to various institutions.

A comparison of the activities for the years 1959 and 1960, with further details, are given in Table 1.

THE MEDICO-LEGAL LABORATORY

At the end of June, 1960, the medico-legal work of the Department's former microbiological laboratory was transferred to the Government Medical Officer's Branch. This new organisation will now provide patholigical and biological services to assist in the investigation of crimes and in the determination of the cause of death in cases from various coroners, and the services are available for metropolitan and country cases. The work includes histopathology, the grouping of blood and secretions, the investigation of blood stains and seminal stains and the examination of hairs and fibres.

For the six months, July to December, 1960, the following examinations were made in the laboratory:—

Articles of clothing, weapons, etc., examined for blood stains	87
Articles of clothing examined for seminal stains	128
Examinations of specimens of hair	76
Examinations of vaginal smears for the presence of spermatozoa ..	41
Blood grouping	39
Histopathological examination of organs	291

SPECIAL FEATURES OF THE YEAR'S ACTIVITIES

During the year a major change occurred in the medico-legal section, when, as indicated above, the medico-legal work previously done by the former microbiological laboratory was brought under the control of the Government Medical Officer. This change will lead to a closer integration of the autopsy work and the laboratory work and brings the organisation more in line with overseas patterns, although the present time is one of readjustment and of establishing the laboratory on a new basis in regard to equipment and staff.

In September and October, 1960, the Government Medical Officer visited the United States of America and the United Kingdom. The primary object of the visit was to represent the Department at the Second International Meeting on Forensic Pathology and Medicine, held in New York from 18th to 22nd September, and during this period, the almost completed new building for the Chief

Medical Examiner of New York was dedicated and the opportunity was taken of inspecting and studying the largest single medico-legal organisation in the world. The itinerary was arranged to give the opportunity also of conferring with medico-legal experts in other large cities in the United States and in the major centres in the United Kingdom. This visit has been the subject of a special report.

As a result of these two events, it is hoped to reorganise and expand the medico-legal work in the Department. This will depend on the stabilising of staff and the provision of adequate space, the latter being the main handicap at present.

TABLE 1—SHOWING ACTIVITIES FOR THE YEARS 1959 AND 1960

	Year ending 31st December, 1959	Year ending 31st December, 1960
Admissions to Hospitals and Homes—		
Metropolitan hospitals	1,822	1,742
State hospitals and homes, chronic hospitals	4,030	4,228
Convalescent homes	784	551
Medical Examinations for Various Government Departments	2,555	3,118
Medical Examinations for the Police Department—		
Police recruits—First examinations	1,413	1,323
Police recruits—Re-examinations	324	676
Probationary constables—Confirmation of appointment	319	400
Periodic examination of cadets	249	211
Daily average of police on sick report	122	130
Examinations for the City Coroner (including weekends)	2,067	2,093
Examinations of criminal assault cases	207	189
Vaccinations and International Certificates—		
Vaccinations (smallpox)	4,565	4,719
International certificates	5,497	6,378
Throat Swabbings	593	425

MEDICO-LEGAL SECTION—THE GOVERNMENT MEDICAL OFFCER, NEWCASTLE ANNUAL REPORT, 1960

Staff

Dr. P. A. Rundle—Government Medical Officer.

Medical Work	No. of Examinations
(1) Examination of persons for appointment to and fitness to continue in the Public Service for State Government Departments and various allied bodies	319
(2) Examinations of returned soldier applicants for travelling concessions	151
(3) Attendance at Admission Centre, Newcastle, in connection with the examination and certification of insane patients	361
(4) The Government Medical Officer is a medical referee and member of the local Medical Board for the Worker's Compensation Commission.	

Medico-legal Work

(1) The performance of autopsies at the request of the district coroner in cases of homicide, suicide and violent and uncertified deaths	330
(2) The examination of persons at the request of the Police Department in cases of rape, assault, etc.	40
(3) Attendance at various courts and giving evidence in connection with any of the above cases.	

PUBLICITY BRANCH—ANNUAL REPORT, 1960

The staff of the Publicity Branch consists of the Publicity Officer, Assistant Publicity Officer, a Clerk (Grade II), an Office Assistant and a Projectionist.

The functions of the Branch are to promote health education and public relations programmes, using all possible means of advertising media.

In general, because of the wide range of material to be distributed, and the large scattered population, most of these programmes are presented by using the indirect method, that is the press, radio, television, films, posters, pamphlets and exhibitions.

The Branch's film library was used extensively by schools, teachers' colleges and teaching hospitals, whilst much of the material issued, such as posters, pamphlets, etc., was distributed to those locations for teaching purposes. A heavy demand is placed upon the Branch by councils for all types of publicity material.

Local authorities and schools received the main bulk of the following supplies, which emanated from this Branch during 1960:—

Posters	31,969
Pamphlets	500,606
Booklets	159,570

A large quantity of booklets and leaflets were also sent direct to schools and baby health centres by printers, including 27,000 booklets, *Our Babies* and 47,000, *Healthy Motherhood.*

One hundred and thirty-eight 16 mm. film screenings were carried out by the Branch to a total audience of 11,330. Film loans (16 mm.) totalled 1,653. These were screened to an audience of 47,749. During Health Week and for tuberculosis survey publicity, 34 35 mm. films were screened to 10,460 persons.

Other details of the Branch's work during 1960 are:—

Press—Except for publicising tuberculosis surveys in the press, very little paid advertising was used this year. As in previous years, however, all metropolitan, suburban and country papers were supplied with two press articles, and every opportunity was taken to provide the press with articles of a topical nature.

Radio—Paid announcements over commercial radio stations were only used in connection with the chest x-ray surveys in country areas. Two articles per week were sent to all radio stations for broadcasting and departmental staff frequently made broadcasts on general health subjects. During the year a weekly broadcasting series was arranged with a Sydney radio station, and this has now become a regular feature.

Television—Departmental staff appear from time to time on television programmes, including a regular monthly appearance on Channel 2. Cost of using this media for advertising is prohibitive as far as this Branch's financial resources are concerned, so all time obtained from television stations is necessarily free.

Health Week—The National Health Week theme for 1960 was "Community Health Is Your Responsiblity." Health Week in New South Wales is organised by this Branch and, as was the case last year, a special drive was made through the schools and local councils to explain the responsibilities of each citizen towards the health of the community. This was done by the insertion of a special supplement in the *Education Gazette*. Two essay competitions were held in which primary and secondary schoolchildren were invited to compete. Health and educational material, notes for radio talks and newspaper articles were also distributed.

The Branch again arranged an exhibit at the Health Week Exhibition in the Sydney Town Hall. An exhibit was also included in the Old Peoples' Week Exhibition at the Town Hall.

Voluntary Organisations—The Branch works as closely as possible with the many voluntary organisations operating in the field of public health and endeavours to assist these groups by personal liaison, film screenings, supply of health education material and expert advice.

During the year the Branch co-operated with these groups on a wide variety of projects, including mental health, old peoples' welfare, life-saving techniques, world health, and tuberculosis.

New Projects—The first issue of the new journal, *Health in New South Wales*, which is edited by an officer of this Branch, was made in August of this year. It proved to be an immediate success and many requests for copies of early issues and for placement on the distribution list have been received.

During the year a tuberculosis attitude survey was carried out, 1,000 persons being interviewed to determine their attitude towards tuberculosis and the need for an annual chest x-ray. Those interviewed comprised 500 males and 500 females between the ages of 18 years (minimum) and 65 years (maximum).

The most significant conclusions drawn from the survey were:—

(1) People tend to think that old age confers immunity from tuberculosis—the percentage of people who do not have x-rays is higher in the 55 and over age group. This faulty concept has been consistently refuted in all tuberculosis campaign publicity since the report was received.

(2) Complacency is an important factor in the dropping off of attendances—the attitude was engendered in part by official statements which consistenly reflected upon what had been achieved. Later publicity has of course, been developed along the opposite line, viz., what has yet to be accomplished.

(3) A large group believes that the first sign of tuberculosis is a visible or physical one, i.e., acute coughing/chronic colds. As a result, people in apparent(?) good health tend to think it unnecessary to have an x-ray. This aspect was given special attention in publicity following receipt of the report and is still being "pushed" in present-day publicity.

C. NUTRITION SECTION

ANNUAL REPORT, 1960

Staff

3 Dietitians and 1 Secretary to State Nutrition Committee.

Functions and Responsibilities

The Nutrition Section is responsible to a medical officer for the interpretation of the findings of recent nutrition research to the lay public and for the dissemination of information on nutritional requirements in health and disease, food values and costs, cooking methods and the organisation of food services. Its officers also carry out the secretarial and executive work of the State Nutrition Committee and the New South Wales Institute of Dietitians.

Activities During the Year

Press Articles, Broadcasts, Telecasts, etc.

Regular weekly articles and radio scripts (200–400 words) were prepared for circulation to editors of approximately 300 country and suburban newspapers and 40 radio stations.

The weekly broadcast script advising the housewife as to the best value in fruit and vegetables was discontinued in September.

A direct broadcast was done for the A.B.C. Women's Session, the subject being "Feeding Children in Hot Weather."

Three tape recordings of interviews on various topics of nutritional interest were made for metropolitan radio stations.

A television appearance was made demonstrating with actual foods some "Do's and Don'ts of Food Storage."

Journalists were given material for feature articles on the History of Nutrition; Food Facts and Fallacies; the Nutritive Value of Vegetables, the Place of Wines in the Diet and the Nutritive Value of Modern Processed Foods.

Special articles written were entitled, "Do We Need Fruit in the Diet?", "Nutrition and Safety," "Meat, Milk, Bread, Protein, Fats, Carbohydrates: Calories. How Do They Link Up?", "Food Fads and Fallacies," and "Vitamania."

Publications

Publications were revised when necessary for reprinting. These included minor revision of *Food and Nutrition, How Shall I Feed Him* and *Wise Eating for the Elderly* and a major revision of the diet section in *Healthy Motherhood.*

Work on a new pamphlet on weight reducing was commenced.

Plans were made and table settings and food prepared for the colour photography on a new prenatal diet poster.

Lectures and Talks

A total of fourteen lectures and twenty cookery classes were given to junior and senior groups of trainee nursing assistants at Lidcombe State Hospital, during the year.

Two courses of ten lectures were given to kindergarten and day nursery training college students.

Two courses of four lectures were given to Karitane mothercraft trainees.

A new course of four lectures was given to public health nurses at Forest Lodge Child Health Centre.

Three special lectures were given to different V.A. detachments and one to an infants' school mothers' club.

Prenatal Clinics

Weekly attendance was maintained at Parramatta and Hurstville prenatal clinics throughout the year. From June attendances were resumed at Granville, Manly, and Dee Why clinics and from August 2nd at Liverpool Clinic, making a total of six sessions attended weekly.

Enquiries

Numerous enquiries regarding normal nutrition, food values, costs and methods of cooking were dealt with by telephone, letter and personal interview.

Detailed individual therapeutic diets were supplied to those enquirers from whose physicians' authority for the diets were received.

Institutions

A report was submitted on the staff and equipment required and possible methods of administering a special diet service to fifty patients at Lidcombe State Hospital.

At the request of the matron, a visit was made to Western Suburbs' Hospital and advice given on food service, staff rosters and menu planning.

The North Ryde Psychiatric Centre was visited to advise on the food service and dietary problems of a group of disturbed children. Three new cycle menus were prepared for the hospital generally.

Plans were made for a new cookery classroom for nursing assistants at Lidcombe State Hospital.

Proposed Nutrition Survey of a Group of Sydney School Children

A small pilot study for the dietary part of the proposed survey was conducted at Forest Lodge Public School.

New South Wales State Nutrition Committee

The executive and secretarial work of this Committee was carried out.

New South Wales Institute of Dietitians

The executive and secretarial work of this body was done.

Committee Appointed to Inquire into the Training and Recruitment of Dietitians in New South Wales

The secretarial work of this Committee was carried out.

D. DIVISION OF MATERNAL AND BABY WELFARE

ANNUAL REPORT, 1960

Staff

Director: Dr. Grace J. Browne, M.B.E., M.B., Ch.M., F.R.C.O.G.

Deputy Director: Dr. Maureen Grattan-Smith, M.B., B.S., D.P.H.

Establishment—Medical Officers: four full-time; three part-time; Nurse Inspectors: three; Clerical Staff: six.

General

This Division is concerned with all aspects of the welfare of mothers and of babies. This field is wide and variable and includes all such matters as the care of the mother during and after her pregnancy, with special emphasis on the protection of mothers and their babies by medical supervision throughout pregnancy, the care of the baby from birth through the formative and impressionable pre-school years until the child goes to school at 5 years of age. The deaths of mothers and infants in New South Wales are investigated and the policy of the Division is to use every available facility to prevent these deaths and to lessen the sum of tragedy and heartbreak which is accumulated by death or ill-health for either mother or baby, which sometimes follows childbirth.

Health education and other public health measures are encouraged throughout the community. Lectures to medical students, trainee nurses, kindergarten and nursery school teachers and any other groups are given as routine procedures. The Division has good liaison with many departments and other authorities, which are concerned with mothers and their children. Maternity hospitals, child welfare department, local government authorities, country women's associations, Red Cross and many other bodies work closely with the Division.

The welfare and care of the mother and baby is fundamental in any community and this is the primary reason for the existence of this Division.

THE SPECIAL COMMITTEE INVESTIGATING MATERNAL MORTALITY

The Special Committee held twelve meetings at monthly intervals during 1960. Members of the Committee were:—

Chairman—Dr. C. J. Cummins

Professor B. T. Mayes (Professor of Obstetrics, University of Sydney)

Emeritus Professor F. J. Browne

Dr. R. B. C. Stevenson, Women's Hospital, Crown Street

Dr. F. A. Bellingham (Alternate to Dr. R. B. C. Stevenson)

Dr. J. V. Mutton, Royal Hospital for Women

Dr. K. S. Richardson (Alternate to Dr. J. V. Mutton)

Dr. E. A. Tivey, British Medical Association Representative

Dr. M. Elliott-Smith (Alternate to Dr. E. A. Tivey)

Dr. J. N. Chesterman, representing the New South Wales Branch of the Royal College of Obstetricians and Gynaecologists

Dr. Grace J. Browne, Medical Secretary

In January, 1960, the Third Report of the Committee covering 319 deaths associated with pregnancy and childbirth occurring in New South Wales between 1950 and 1956, was published in the *Medical Journal of Australia*. (*Med. J. Aust.* 1960 1 : 1.)

During the year Dr. J. N. Chesterman retired as representative of the Women's Hospital, Crown Street, but was subsequently re-appointed as representative of the New South Wales Branch of the Royal College of Obstetricians and Gynaecologists.

Dr. R. B. C. Stevenson, who had been acting as an "alternate" to Dr. J. N. Chesterman, was appointed vice Dr. Chesterman, and now represents the Women's Hospital, Crown Street.

The following are the more interesting and important matters which were brought forward during the year.

In the course of the first meeting the Chairman, Dr. C. J. Cummins, announced that the Minister had granted approval for the establishment of a committee to investigate deaths from anaesthesia. This, it was agreed, would assist this committee where obstetric factors were involved.

Subsequently Dr. Holland attended a meeting and advised on the anaesthetic management and has assisted the committee on a number of occasions.

The Chairman also announced that every endeavour was being made to raise the standard of post mortem examination done by Government medical officers in the country, by forwarding circulars giving instruction on improved post mortem techniques.

Further, the Committee on Forensic Laboratories had suggested that all forensic pathology and morbid anatomy should be centralised in Sydney, and that consideration was being given to this suggestion.

The Committee had for years been anxious to improve the standard of post mortem examination, particularly in relation to maternal and foetal pathology and, therefore, received with enthusiasm any suggested activity for improvement in this direction.

Attention was again drawn to the number of deaths of pregnant women, where death was not certified as an obstetric cause and was, therefore, not classified as a maternal death. The Chairman promised to try and have the word "pregnancy" put on all death certificates, irrespective of the actual cause of death.

The proposed new classification of "birth" or "childbirth" to replace the "livebirth" and "still birth" were discussed in detail by the committee at general meetings. The aim is to establish uniformity throughout the States of Australia in relation to infant mortality. The National Health and Medical Research Council were investigating the matter in detail and the procedure and method for recording infant deaths was under discussion. It was anticipated that finality may be reached during 1961.

Extension of the existing blood transfusion services, both for obstetrics and paediatrics, were discussed fully by the Committee.

The Medical Secretary reported on the work being done by the Division in relation to blood transfusion services in New South Wales.

FREE CONSULTANT SERVICE DURING PREGNANCY AND DELIVERY

A free consultant service for mothers who cannot afford the additional fee is available to medical practitioners anywhere in New South Wales.

The medical practitioner has free choice of consultant and direct access to any consultant on the departmental consultant panel. A booklet indicating these names and the methods for claiming fees has been distributed to all medical practitioners.

Obstetrics has long been recognised as team work between general practitioner, consultants, obstetric hospital, public health authorities and ancillary services. Until consultations are used more frequently during both pregnancy and delivery, it is unlikely that preventible deaths in obstetrics will be reduced. In New South Wales, in 1960, there were 42 preventible maternal deaths.

A further important aspect of consultation in obstetric practice is the resultant reduction of morbidity which cannot be measured.

Consultant service during pregnancy is of primary importance in the reduction of stillbirths and early neonatal deaths. Unless pre-eclamptic toxaemia is skilfully controlled and antepartum haemorrhage effectively treated, babies will continue to die unnecessarily before or after birth.

The consultant service was not used extensively this year. The major percentage of the consultations were with consultants now based in towns outside Sydney, Albury, Cooma, Kurri Kurri, Newcastle, Orange, Queanbeyan, Tamworth and Wollongong.

There were three consultants called from Sydney to the country and two calls in Sydney and eighteen in the country.

STAPHYLOCOCCAL INFECTIONS IN MATERNITY HOSPITALS

Notifications

Certain types of staphylococcal infections were declared notifiable in September, 1958.

Early in 1959, it was discovered that very few cases were being notified. On inquiry it was ascertained that there was confusion as to the definition of lesions to be notified, particularly those in relation to "infants under four weeks."

In order to clarify this problem and to attempt to assess the infection occurring in maternity hospitals, a survey of maternity hospitals was begun.

This survey fell broadly into two divisions:—

A. The recordings of lesions occurring in mothers and infants.

B. A review of facilities and procedures in maternity hospitals.

The survey included all obstetric hospitals in the metropolitan area and in the departmental health districts, and all other hospitals with over 400 deliveries per annum, with five exceptions.

Some other hospitals were also inspected if there was a known high infection rate, or a request was made to the Department for assistance.

Early in 1960 the recordings of the major metropolitan hospitals were collected for a period of seven months. Dr. Godfrey-Scott, of the School of Public Health and Tropical Medicine, assisted with the work of analysing the figures.

No results of any statistical significance could be extracted, because it was immediately obvious that the fundamental fault was the inability of the observers at the various hospitals to recognise and/or record staphylococcal lesions. The errors were over-recording, i.e., including every type of lesion as probably staphylococcal (e.g., heat rashes) or recording so few of one or other type as to be incomparable with other factors, or recording none at all. For instance, one hospital recorded over 100 pustular rashes and made no record of conjunctivitis.

The findings, therefore, were limited to general information which might be summarised as follows:—

(1) The lack of pathological investigation in a large number of hospitals, due either to lack of pathological facilities or failure on the part of the hospital staff to consider pathological investigation necessary.

(2) The varying standards in relation to the personnel responsible for the recognition of lesions and the varying definitions in use for the recognition of lesions.

This survey has clearly indicated the need for investigation of the staphylococcal problem in relation to the general welfare of the community, the problems involved in notification, and the control of infection in maternity hospitals generally.

The Department publishes a booklet, *Infection in the Newly Born and Care of the Premature Baby*.

This booklet was due for revision, and as the control of staphylococcal infection is an important section of its contents, it was decided to appoint an editorial committee to review and re-write the booklet. At the same time the committee would investigate the staphylococcal problem and make recommendations as to the control of infection.

EDITORIAL COMMITTEE FOR THE PUBLICATION OF THE BOOKLET ENTITLED *INFECTION OF THE NEWLY BORN AND CARE OF THE PREMATURE BABY*

This editorial committee was formed in July, 1960, and consists of the following members:—

Dr. J. C. Isbister—Honorary Paediatrician (Royal North Shore Hospital)

Dr. C. McCaffrey, Mr. J. Middleton } Representatives of Hospitals Commission

Dr. J. Greenwell—Medical Superintendent (Royal Hospital for Women)

Mr. Selig—Research Officer, Government Architect's Branch, representing the Government Architect

Dr. Grace J. Browne—Director of Maternal and Baby Welfare

Dr. Maureen Grattan-Smith—Deputy Director of Maternal and Baby Welfare

The Committee met six times in 1960, and discussed in detail the general problem of staphylococcal infections in this State.

On the advice of Dr. Godfrey-Scott, it was decided that to provide more accurate comparisons as to incidence of infection in relation to staffing and facilities, a survey should be undertaken by the three hospitals represented.

It was agreed that a short term survey of eight weeks should be conducted. This survey was, therefore, restricted to the three hospitals—Royal North Shore Hospital, Royal Hospital for Women, and Royal Newcastle Hospital, and to last for a period of eight weeks in the hospitals with a follow-up for eight weeks after discharge from hospital.

Because pathological investigation was essential, the three pathologists from the hospitals and the bacteriologist from the Institute of Clinical Pathology and Medical Research conferred with the committee concerning the control of the survey.

Dr. Christie—Royal Hospital for Women

Dr. Durie—Royal North Shore Hospital

Dr. D. J. Hansman—Institute of Clinical Pathology and Medical Research

The following scheme was worked out by the committee as suitable:

(1) The survey to commence 19th September, 1960.

(2) All mothers and babies present in the maternity units at the beginning of the survey to be swabbed and the swabbings cultured.

(3) All medical, nursing, domestic and other staff in the maternity unit to be swabbed and cultures made.

(4) All mothers entering the maternity hospital on and after 19th September to have a nasal swabbing and culture.

(5) The mothers to be swabbed again on fifth day and before leaving hospital if negative.

(6) All babies born to be swabbed within 48 hours of birth, at the fifth day and on discharge if negative.

(7) All lesions occurring in the period of hospitalisation to be recorded, swabbed and cultured.

(8) All mothers and babies to be followed up, i.e., visited each week and examined by officers of the Department.

All lesions which develop to be recorded, swabbed and cultured. The Institute of Clinical Pathology and Medical Research undertook the pathological work so entailed.

This survey commenced on 19th September, 1960, and the result will be available early in 1961.

At the same time as this survey was being planned and executed, details of hospital construction and facilities were discussed as also were the procedures in each of these maternity units.

The findings of the committee should be available in 1960, and a new edition of the booklet will probably be available in 1962.

PRENATAL CLINICS

There are ten prenatal clinics conducted in baby health centres in the metropolitan area of Sydney.

These clinics offer an excellent service to mothers, particularly in areas which are distant from the major maternity hospitals.

Medical officers from the Division of Maternal and Baby Welfare conduct these clinics. Dietitians from the Department are in regular attendance and assist greatly with the problem of restriction of diet and control of weight, so important in prenatal care today.

Attendances for the year are shown in Table 11.

Infant Welfare

BABY HEALTH CENTRES

During 1960 twelve baby health centres were completed and a service was begun. In the financial year 1959-1960 a sum of £100,000 was voted from loan funds for the establishment of baby health centres. This enabled the Department to settle the outstanding debt of £61,000, and devote the remainder of the money to the building and equiping of the new centres.

A further £70,000 was voted for the financial year 1960–1961, and another nineteen centres will be built.

This increase in allocation of funds has transformed the position of this Division. There are still over a hundred applications for centres, all of which are regarded as warranted, but a strict priority list is maintained.

With the rapid growth of the metropolitan area of Sydney and of the whole State of New South Wales generally, it is anticipated that the demand for baby health centres will continue.

At present the age group attending is limited to under two years of age, except in a few country centres where the centres are not heavily loaded. The high attendance rate is still maintained and extension of the age group cannot be considered. This matter is discussed fully under the section on the Pre-School Child.

Staffing, which has been a major problem with baby health centres for many years, showed a decided improvement in 1960, due directly to the introduction of the new bond training scheme and the extension of the number of temporary officers who can be employed.

Compulsory country service has always been the stumbling block in the recruitment of nurses. The year 1960 saw the swing of the pendulum, and at times there were not sufficient country circuits available to permit all trainees to take up service in country areas. This position, however, when it occurs is only temporary, as more and more centres are needed in the country, where the case load is ever on the increase, necessitating constant re-arrangement of centres and the establishment of new bases.

Details in relation to attendances, etc., are attached to this report in Table 1.

SURVEY OF INFANT DEATHS REGISTERED IN NEW SOUTH WALES DURING 1958

Surveys of infant mortality and of intermediate and late foetal deaths are being conducted in many countries.

The first investigation of this type was begun in 1959—a survey of all infant deaths registered in 1958 in New South Wales.

An advisory committee was appointed in 1960 to assess the case histories and present the findings to the Director-General.

A Working Committee of Dr. T. Y. Nelson and Dr. Ian Cope, gave valuable service in preparing the Committee Survey Cover for each case history to facilitate the assessment by the other members of committee and the presentation of material to the meetings. The other members of committee were Dr. Lindsey Dey, Dr. Donald Vickery and Dr. S. Devenish Meares.

Following this assessment the prepared material was then discussed in committee. From these discussions much interesting and provocative information was available: further inquiry was necessary in many cases, to enable discussions concerning the cause and coding of the death and the avoidable factors if the death was considered to be preventable.

The material for the case histories was obtained by the medical officers of the Division for public ward patients in hospitals in the metropolitan area and in the Hunter River district; the public ward case histories were obtained in the remainder of the State by direct contact with the medical practitioners concerned. The case histories of private and intermediate cases, except in some instances within teaching hospitals, were obtained from the medical practitioners concerned.

Throughout the survey the officers of the Bureau of Statistics and Economics have given invaluable assistance in every phase of the work.

During the year twenty-seven meetings were held.

Pre-School Child

The need for a health service to pre-school children has been recognised for a long time. For a number of years "Well Baby" clinics have been conducted by medical officers from this Division. However, because of extreme staff shortages, both medical and nursing, these clinics had to be abandoned. Today only two small "Well Baby" clinics are conducted, one at Balmain and one at Hornsby.

It is anticipated that in 1961 the medical staff of the Division will be reviewed and increased and a plan will be formulated for "pre-school clinics" to be started in a number of centres.

It would seem that the centres around the Forest Lodge Child Health Centre would be the obvious one to set up these clinics.

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TABLE I—ATTENDANCE AT BABY HEALTH CENTRES

The attendances for the year 1960 were as follows:—

	Metropolitan	Country	Total
Individual attendances	59,208	49,152	108,360
Total Attendances	602,126	429,850	1,031,976

31st December, 1960:—

Number of Baby Health Centres at:—	
Metropolitan	114
Country	238
Newcastle	13
Total	365

DIVISIONAL PUBLICATIONS

Two divisional publications are at present being reviewed by editorial committees, *Our Babies* and *Infection of the Newly Born and Care of the Premature Baby*. (See section on Staphylococcal Notifications.)

Our Babies—This is a very popular booklet on the care and feeding of the baby and young child. There is a great demand for it, not only in New South Wales, but also outside Australia.

Because of the continuing changing trends in relation to infant care and infant feeding, and the great increase in varieties of infant foods, constant revision is necessary.

A fundamental change has been made in the booklet, as commercial advertising has been eliminated and the paper and print have been improved. This change has made it possible to approach important people in the field of child care and nutrition to join an editorial committee.

This Committee, representing the varying viewpoints on infant feeding and care, was appointed during the year.

The members are Professor T. Stapleton, Professor of Child Health, School of Public Health, University of Sydney; Dr. K. Winning, Honorary Paediatrician, Royal Alexandra Hospital for Children and Medical Director, Royal Society for Welfare of Mothers and Babies; Dr. R. Vines, Honorary Paediatrician, Royal Alexandra Hospital for Children and Honorary Physician to the Australian Mothercraft Society; Dr. F. W. Clements, Senior Lecturer, Institute of Child Health, University of Sydney; Dr. R. Gibson, Senior Physician, Royal Newcastle Hospital.

Healthy Motherhood—This booklet has been reviewed by divisional officers, with suggestions from leading obstetricians; it is planned to divide the booklet into chapters. The new edition should be available in 1961.

BIRTH STATISTICS

Live Births and Still Births—The number of live births in New South Wales during 1960 was 81,983, an increase of 1,117 compared with the previous year.

Still births numbered 1,261, showing an increase of 20 compared with the previous year.

The total number of births for the year was 83,244.

The live birth rate was 21·41 per 1,000 of the population, which is 0·10 lower than the rate for 1959, which was 21·51.

Details of births for the last three years are shown in Table III.

MATERNAL MORTALITY

Information relating to maternal mortality is shown in Tables IV–VI.

Details of deaths from puerperal causes (excluding criminal abortions) are shown for each year since 1958 in Table III.

During 1960 the number of deaths from puerperal causes (excluding criminal abortion) in New South Wales was 44, which represents a mortality rate of 0·54 women per 1,000 live births. The rate decreased by 0·02 compared with 1959.

Twelve women died in New South Wales from criminal abortion in 1960, compared with nine in 1959.

Deaths from criminal abortion at ages 15 to 44 years were equal to 0·92 per cent. of total deaths of females at these ages in 1959. The percentage increased to 1·30 in 1960.

The causes of maternal deaths are shown in Table VI.

TABLE II—ATTENDANCES AT PRE-NATAL CLINICS, 1960

Clinic	Primiparae		Multiparae		Post-natal	Total Visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Campsie	13	91	64	496	..	664	52
Dee Why	41	261	131	890	6	1,329	52
Granville	30	266	121	762	4	1,183	51
Hornsby	3	19	16	137	13	188	51
Hurstville	23	167	100	783	19	1,092	51
Liverpool	40	216	153	870	1	1,280	51
Manly	58	345	144	813	8	1,368	45
Mascot	16	105	48	376	12	557	45
Narrabeen	48	331	108	615	4	1,106	52
Parramatta	117	566	406	2,383	7	3,479	104
Total	389	2,367	1,291	8,125	74	12,246	554

TABLE III—LIVE BIRTHS AND STILL BIRTHS—NEW SOUTH WALES—1958–1960

Year	Total Births (Live and Still Combined)	Live Births		Still Births	
		Number	Rate per 1,000 Population	Number	Rate per 1,000 Total Births (Live and Still Combined)
Metropolis					
1958	40,062	39,540	19·59	522	13·03
1959	40,846	40,270	19·58	576	14·10
1960	41,386	40,778	19·42	608	14·69
Remainder of State					
1958	41,191	40,505	24·19	686	16·65
1959	41,261	40,596	23·84	665	16·12
1960	41,858	41,205	23·81	653	15·60
New South Wales					
1958	81,253	80,045	21·67	1,208	14·87
1959	82,107	80,866	21·51	1,241	15·11
1960	83,244	81,983	21·41	1,261	15·15

TABLE IV—LIVE BIRTHS AND MATERNAL MORTALITY—NEW SOUTH WALES

Year	Live Births			Deaths from Puerperal Causes (excluding Criminal Abortions)					
				Number			Rate per 1,000 Live Births		
	Metropolis	Remainder of State	New South Wales	Metropolis	Remainder of State	New South Wales	Metropolis	Remainder of State	New South Wales
1958	39,540	40,505	80,045	25	24	49	0·63	0·60	0·61
1959	40,270	40,596	80,866	19	26	45	0·48	0·64	0·56
1960	40,778	41,205	81,983	14	30	44	0·34	0·73	0·54

TABLE V—DEATHS FROM CRIMINAL ABORTION AND TOTAL PUERPERAL DEATHS—NEW SOUTH WALES

Year	Deaths from Criminal Abortions				Total Puerperal Deaths (including Criminal Abortions)			
	All Ages		Ages 15 to 44 Years		All Ages		Ages 15 to 44 Years	
	No.	Proportion per cent. of Female Deaths at All Ages	No.	Proportion per cent. of Female Deaths at Ages 15 to 44 Years	No.	Proportion per cent. of Female Deaths at All Ages	No.	Proportion per cent. of Female Deaths at Ages 15 to 44 Years
Metropolis								
1958 ..	2	·02	2	·39	27	·31	27	5·30
1959 ..	5	·05	5	·90	24	·25	24	4·30
1960 ..	7	·07	7	1·30	21	·22	21	3·90
Remainder of State								
1958 ..	1	·02	1	·25	25	·47	25	6·23
1959 ..	4	·07	4	·94	30	·51	30	7·06
1960 ..	5	·08	5	1·29	35	·59	35	9·04
New South Wales								
1958 ..	3	·02	3	·33	52	·37	52	5·71
1959 ..	9	·06	9	·92	54	·35	54	5·49
1960 ..	12	·08	12	1·30	56	·36	56	6·05

Table VI—Deaths due to Puerperal Causes—New South Wales—Number and Rate*, 1958 to 1960

Cause of Death	Metropolis						Remainder of State						New South Wales					
	1958		1959		1960		1958		1959		1960		1958		1959		1960	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Toxaemia of pregnancy	4	·10	6	·16	5	·12	5	·13	2	·05	4	·10	9	·11	8	·10	9	·11
Ectopic pregnancy	1	·03	3	·08	1	·02	..	..	2	·05	2	·05	1	·01	5	·06	3	·04
Placenta praevia and other haem. of pregnancy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other complications of pregnancy	2	·05	1	·02	2	·05	4	·10	2	·05	3	·07	6	·08	3	·04	5	·06
Abortion, excluding criminal	6	·15	2	·05	..	..	1	·02	3	·07	4	·10	7	·09	5	·06	4	·05
Delivery complicated by haemorrhage	4	·10	..	..	2	·05	5	·13	2	·05	6	·15	9	·11	2	·02	8	·10
Delivery with other specified complications	6	·14	4	·10	2	·05	3	·08	7	·17	3	·07	9	·11	11	·14	5	·06
Puerperal urinary infection without other sepsis	..	..	1	·02	..	..	..	..	..	..	..	..	..	..	1	·01	..	..
Sepsis of childbirth and the puerperium	..	..	1	·02	..	..	1	·02	1	·03	..	..	1	·01	2	·02	..	..
Puerperal phlebitis and thrombosis	..	..	..	..	..	..	1	·02	..	..	1	·02	1	·01	..	..	1	·01
Puerperal pulmonary embolism	1	·03	2	·05	..	..	2	·05	4	·10	6	·15	3	·04	6	·08	6	·07
Other and unspecified complications of the puerperium	1	·03	..	..	2	·05	2	·05	3	·07	1	·02	3	·04	3	·04	3	·04
Total, excluding criminal abortion	25	·63	20	·50	14	·34	24	·60	26	·64	30	·73	49	·61	46	·57	44	·54
Criminal abortion	2	·05	4	·10	7	·17	1	·02	4	·10	5	·12	3	·04	8	·10	12	·14
Total	27	·68	24	·60	21	·51	25	·62	30	·74	35	·85	52	·65	54	·67	56	·68

* The number of deaths per 1,000 live births.

Table VII—Infantile Mortality—New South Wales

Period	Rate*	Year	Rate*
1936–1940	41·18	1955	24·86
1941–1945	35·95	1956	23·47
1946–1950	28·91	1957	22·70
1951–1955	25·11	1958	21·29
		1959	22·65
		1960	21·65

* Number of deaths of children under one year of age (excluding still births) per 1,000 live births.

Table VIII—Infant Mortality in Age Groups—New South Wales

Year	Age at Death							
	Under 1 Week	1 Week and Under 1 Month	Total Under 1 Month	1 Month and Under 3 Months	Total Under 3 Months	3 Months and Under 6 Months	6 Months and Under 12 Months	Total Under 1 Year
	Number of Deaths							
1958 ..	1,055	170	1,225	136	1,361	149	194	1,704
1959 ..	1,166	158	1,324	141	1,465	192	175	1,832
1960 ..	1,109	141	1,250	134	1,384	164	187	1,735
	Rate per 1,000 *Live Births*							
1958 ..	13·18	2·12	15·30	1·70	17·00	1·86	2·43	21·29
1959 ..	14·42	1·95	16·37	1·75	18·12	2·37	2·16	22·65
1960 ..	13·53	1·72	15·25	1·63	16·88	2·00	2·28	21·16

Table IX—Grouped Causes of Death of Infants under One Year of Age—New South Wales—Number of Deaths per 1,000 Live Births

Class No.	Cause of Death	Metropolis			Remainder			New South Wales		
		1958	1959	1960	1958	1959	1960	1958	1959	1960
1	Infective and parasitic diseases	·38	·25	·17	·47	·49	·27	·42	·37	·22
2	Neoplasms	·08	·10	·02	·05	·05	·05	·06	·07	·04
3	Allergic endocrine system, metabolic and nutritional diseases	·18	·20	·07	·10	·05	·12	·14	·12	·10
4	Diseases of the blood and blood-forming organs	·05	..	·05	·05	·03	·05	·05	·01	·05
5	Mental psychoneurotic and personality disorders	·18	·20	·20	·10	·05	·07	·14	·12	·13
6	Diseases of the nervous system and sense organs	·20	·37	·39	·47	·47	·49	·34	·42	·44
7	Diseases of the circulatory system	·13	·03	·07	·10	·03	·05	·11	·02	·06
8	Diseases of the respiratory system	1·99	1·89	2·04	2·64	2·68	2·23	2·32	2·29	2·13
9	Diseases of the digestive system	·73	·74	·93	1·11	1·03	·90	·92	·89	·91
10	Diseases of the genito-urinary system	..	·07	·05	·07	·10	·05	·04	·09	·05
11	Deliveries and complications of pregnancy, childbirth and the puerperium	..	..	..	..	..	..	..	..	..
12	Diseases of the skin and cellular tissue ..	·05	..	·07	·02	..	·02	·04	..	·05
13	Diseases of the bone and organs of movement ..	·03	·03	·02	..	·03	·07	·01	·03	·05
14	Congenital malformations	3·97	4·17	3·22	3·41	3·69	3·66	3·69	3·93	3·44
15	Certain diseases of early infancy	11·45	12·42	11·39	12·89	14·71	13·47	12·18	13·57	12·43
16	Symptoms, senility and ill-defined conditions ..	·08	·07	·15	·12	·12	·17	·10	·10	·16
17	Accidents, poisoning and violence	·53	·37	·83	·92	·86	·97	·73	·62	·90
	Total, All Causes	20·03	20·91	19·67	22·52	24·39	22·64	21·29	22·65	21·16

TABLE X—DETAILED CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1958 TO 1960

International Code No.	Cause of Death	Rate per 1,000 Live Births		
		1958	1959	1960
001–019	Tuberculosis	·01	·01	..
020–029	Syphilis and its sequelae	·01	·01	..
057	Meningococcal infections	·14	·11	·10
080–081	Poliomyelitis	..	..	..
082–083	Infectious encephalitis	·02	..	·02
030–056, 058–074, 084–138	Other infective and parasitic diseases	·24	·24	·10
340	Meningitis, except meningococcal and tuberculous	·17	·17	·27
490–493	Pneumonia (age 4 weeks and over)	1·77	1·89	1·83
500–502	Bronchitis	·25	·24	·15
571	Gastro-enteritis and colitis, except ulcerative (age 4 weeks and over)	·50	·43	·46
750–759	Congenital malformations—			
	Monstrosity	·34	·21	·33
	Spina bifilda and meningocele	·49	·36	·32
	Hydrocephalus	·27	·43	·34
	Other malformations of nervous system and sense organs	·10	·15	·10
	Malformations of circulatory system	1·51	1·73	1·63
	Cleft palate and harelip	·04	·01	·02
	Malformations of digestive system	·46	·55	·34
	Malformations of genito-urinary system	·11	·12	·10
	Malformations of bone and joint	·02	·06	·04
	Other and unspecified congenital malformations not elsewhere classified	·35	·31	·22
760	Intracranial and spinal injury at birth	1·41	1·88	1·62
761	Other birth injury	1·80	1·87	1·63
7620	Postnatal asphyxia and atelectasis, without mention of immaturity	·88	·77	·80
7625	Postnatal asphyxia and atelectasis, with immaturity	·59	·63	·75
7630	Pneumonia of newborn, without mention of immaturity	·66	·48	·43
7635	Pneumonia of newborn, with immaturity	·13	·07	·13
7640	Diarrhoea of newborn, without mention of immaturity	·01	·01	·04
7645	Diarrhoea of newborn, with immaturity	..	..	..
765	Ophthalmia neonatorum	..	..	..
766	Pemphigus neonatorum	..	..	..
767	Umbilical sepsis	..	..	·05
768	Other sepsis of newborn	·07	·20	·13
769	Neonatal disorders arising from maternal toxaemia	·34	·49	·40
770	Haemolytic disease of newborn	·46	·61	·56
771	Haemorrhagic disease of newborn	·27	·23	·21
772	Nutritional maladjustment	·07	·11	·05
773	Ill-defined diseases peculiar to early infancy	·45	·52	·43
774	Immaturity with mention of any other subsidiary condition	·04	·16	·17
776	Immaturity unqualified	5·00	5·54	5·03
E800–E990	Accidents, poisonings and violence	·73	·62	·90
140–239	Neoplasms	·06	·07	·04
240–289	Allergic, endocrine system, metabolic and nutritional diseases	·14	·12	·10
290–299	Diseases of the blood and blood-forming organs	·05	·01	·05
300–326	Mental, psychoneurotic and personality disorders	·14	·12	·13
330–398	Disorders of the nervous system and sense organs	·17	·25	·17
400–468	Diseases of the circulatory system	·11	·02	·06
530–587	Diseases of the digestive system	·42	·46	·45
590–637	Diseases of the genito-urinary system	·04	·09	·05
690–716	Diseases of the skin and cellular tissue	·04	..	·05
720–749	Diseases of the bones and organs of movement	·01	·03	·05
780–795	Symptoms, senility and ill-defined conditions	·10	·10	·16
470–527	Diseases of the respiratory system	·30	·16	·15
	All Causes	21·29	22·65	21·16

It will be noted that the principal contributors to the infant mortality rate, both individually and as a group, remained surprisingly stable over the three years reviewed.

"Immaturity unqualified" each year represents approximately 25 per cent. of the infant mortality rate, whilst injuries and misadventure at birth constitute a further 25 per cent. Hence these two conditions together account for nearly half the yearly death rate of infants in New South Wales.

Congenital malformation consistently accounts for 20 per cent. of the total infant mortality rate and pneumonia for 10 to 12½ per cent. in an equally consistent fashion.

In each of the years 1958, 1959 and 1960, 75 per cent. of the infant mortality rate is made up by the four principal items: immaturity unqualified; injuries and misadventure at birth; congenital malformation; pneumonia. Hence all other causes of death constitute only 25 per cent. of the total infant mortality rate for those years.

E. TUBERCULOSIS DIVISION

ANNUAL REPORT, 1960

(1) Director: Dr. Keith W. H. Harris; Deputy Director: Dr. D. Ovedoff.

At the beginning of 1960 Dr. Marshall Andrew retired after ten years' service. He was primarily responsible for the planning of the tuberculosis work in the State.

(2) Policy

During 1960 an attempt was made to co-ordinate all tuberculosis activities in New South Wales, including departmental, hospital, private body and group activities. With this in view, meetings were held between leading chest physicians in the metropolitan and country areas, when various methods of control were discussed and the following specific policies were laid down. All persons who have positive bacteriological tests should be admitted to hospital until they are non-infectious. This should also apply to reactivated cases. Where it is found that domiciliary treatment is possible, the Director of the Division of Tuberculosis should be notified of such cases in order that the public health aspect of the problem will not be overlooked.

(3) Chest X-ray Centre

As far as planning in mass radiography was concerned the factors concerned in selection of an area for a survey were:

(*a*) the yield of active or probably active cases;

(*b*) the total notifications in the area;

(*c*) the ratio of active to inactive cases;

(*d*) the percentage of tuberculin-positive school children;

(*e*) the attendances and yield of previous surveys.

These were fully discussed at the National Tuberculosis Advisory Council, and agreement was reached that each must be considered in any mass radiography programme.

It must be remembered that 30 per cent. of the total notifications come from a properly conducted M.M.R. survey, and at least another 20-30 per cent. of the total notifications arise indirectly from mass radiography; through chest clinics; epidemiological surveys; and contact follow-up.

The compulsory mass radiological surveys carried out were second and third round surveys and the following shires and municipalities were examined:—

Second Round Surveys—

City of Wagga, City of Goulburn, Municipality of Cootamundra, Municipality of Tumbarumba, Municipality of Holbrook, Municipality of Bega, Municipality of Kiama, Municipality of Mittagong, Municipality of Tumut, Municipality of Gundagai, Shire of Mumbulla, Shire of Shoalhaven, Shire of Wollondilly, Municipality of Camden, Municipality of Campbelltown, Municipality of Queanbeyan, Municipality of Crookwell, Municipality of Harden, Municipality of Culcairn, Shire of Mitchell, Shire of Kyeamba, Shire of Lockhart, Shire of Imlay, Shire of Jindalee, Shire of Illabo, Shire of Hume, Shire of Boorowa.

Third Round Surveys—

Municipality of Manly, Municipality of Ku-ring-gai, Shire of Warringah, Shire of Hornsby.

In addition the mass X-ray examinations of the gaols in the area covered by this Division were completed; arrangements have been made with the Anti-Tuberculosis Association for a similar cover in their area.

Following requests by the Orient Steamship Company, this Division also chest X-rayed 1,075 crew members of the Company's steamships, but no cases of tuberculosis were found.

A summary of the details and results of the mass X-ray surveys during 1960 is appended, together with a summary of the details and results of the mass X-ray surveys during 1960, with respect to the Statistical Division.

Up to 31st December, 1960, nearly 4,999,000 X-rays have been taken during compulsory community wide X-ray surveys by the Anti-Tuberculosis Association of New South Wales and this Division. From these 3,745 new active cases of tuberculosis were discovered.

(For statistical details see Tables 1 and 2.)

A brief summary of X-rays taken since the commencement of the campaign is set out below:—

NUMBER OF MICRO-FILMS TAKEN FROM COMMENCEMENT OF COMPULSORY COMMUNITY-WIDE SURVEYS TO 31ST DECEMBER, 1960

	Department of Public Health	Anti-Tuberculosis Association of New South Wales	Total
First Round (A)			
Metropolitan Area	179,358	891,560	1,070,918
Newcastle Area (B)	..	131,596	131,596
Wollongong Area (C)	62,476	..	62,476
Other country areas	351,674 (D)	357,442	709,116
Total	593,508 (D)	1,380,598	1,974,106
Second Round			
Metropolitan Area	383,413	667,179	1,050,592
Newcastle Area (B)	..	127,942	127,942
Wollongong Area (C)	68,355	..	68,355
Other country areas	195,133	261,319	456,452
Total	646,901	1,056,440	1,703,341
Third Round			
Metropolitan Area	263,201	431,762	694,963
Newcastle Area (B)	..	84,706	84,706
Wollongong Area (C)	72,551	..	72,551
Other country areas	15,031	57,334	72,365
Total	350,783	573,802	924,585
Fourth Round			
Metropolitan Area	..	300,621	300,621

(A) Excluding approximately 40,000 X-rays in the first survey of Bankstown Municipality, accurate figures of which are not available.
(B) Comprising city of Newcastle and shires of Lake Macquarie and Lower Hunter.
(C) Comprising city of Greater Wollongong and municipality of Shellharbour.
(D) Including first round survey of Broken Hill, which was carried out by the Commonwealth Department of Health.

The following table from the Chest X-ray Centre is given in respect of M.M.R. The higher number of technical faults noted is due to many difficulties encountered with the new 70 mm. machine during the early days of operation, and were due to mechanical rather than human error. The higher number of probable abnormalities resulted from areas being surveyed where there is a higher incidence of tuberculosis and an improved standard of radiological interpretation.

	Number of Films		Number per 100 Micro Films	
	1959	1960	1959	1960
Normal	233,521	254,067	97·35	95·77
Technical faults	1,519	2,153	0·63	0·81
Probable abnormalities	4,787	9,069	2·02	3·42
Total	239,827	265,289	100·00	100·00

(4) Mass Radiography of Special Groups

Towards the end of the year plans were commenced to deal with certain special groups, and these are dealt with below.

(A) HOSPITAL IN- AND OUT-PATIENTS

The need for X-ray examination of hospital in- and out-patients has been proven in this State, other States and overseas. The greatest source of tuberculosis has been found in those who are regarded as chronically sick. With this in view, a recent survey was started towards the end of 1960.

Each hospital in the State was asked to answer a questionnaire in relation to:—

(*a*) Numbers and types of patients attending the hospital;

(*b*) The types of X-ray plant, and its efficiency;

(*c*) The routine of taking chest X-ray as existent and the total numbers taken annually;

(*d*) The routines already existing as far as chest X-ray interpretation is concerned;

(*e*) Consideration of a proposal existing in the Tasmanian hospitals where 70 mm. machines are installed and operated by a member of the Tuberculosis Division.

The coming year should see the completion of this information.

(B) THOSE WHOSE EMPLOYMENT BRINGS THEM INTO CLOSE CONTACT WITH CHILDREN

This is believed to be a special group, not necessarily because that group is a major source of tuberculosis within itself, but because of the dangers to an increasingly susceptible group of younger people. Included are school teachers—this matter is still under consideration; dentists—talks are being held with the Hospitals Commission and the Australian Dental Association; adoptive parents—these parents will have chest X-rays prior to being accepted as adoptive parents.

(5) Epidemiology

The Epidemiology Section of the Division carried out considerable work during the year in case finding. The officers of the Section preceded the mass X-ray units of both the Department and the Anti-Tuberculosis Association, and skin tested the school children of various areas. Extension of the usual routine as stated below now includes action in regard to the children who are Mantoux positive. They were regarded as contacts, and as with a notified case, their immediate family contacts were followed-up and X-rayed. This method not only helped to diagnose other cases of tuberculosis, but enabled greater education of the child and adult population to be made by means of the circular letters and pamphlets issued at the time of the surveys. On examination of the report from the Section it is to be noted that the average reactor rate in the migrant-born is much higher than the average reactor rate in Australian-born children.

In the year 1960, the Epidemiology Section continued to carry out mass, special and pilot tuberculin surveys.

B.C.G. vaccination was confined this year to aborigines, contacts and those at risk. There were now no National Service Trainees.

Prophylactic chemotherapy was arranged for the young positive reactor.

The Epidemiological Section report for the year 1959–1960 is attached (see Table 3).

(A) TUBERCULIN SURVEYS

(*a*) *Mass Surveys:—*

(i) School Surveys: Ten city and 71 country mass surveys were carried out during 1960, ranging over a large part of New South Wales and, as a result of following up the positive reactor child and his household contacts, 18 active cases of tuberculosis were discovered in the first six months of the year. This was an increase of five on the previous half year.

During the past three years the active cases found were:—

1957–1958	29
1958–1959	22
1959–1960	30

Many persons with inactive disease and other abnormalities were also discovered—these are shown for 1959–1960 on the attached tables.

On the North Coast, primary school children (5–12 years) gave a positive reactor rate of 16·41 per cent. This was somewhat higher than the all age group previously tested (14·2 per cent.).

The comparative primary school group in the city was found to be 3·77 per cent. (See Table 4.)

The school entrant group (5–6 years) in the North Coast showed a reactor rate of 7·01 per cent. against 1·57 per cent. in city schools.

(ii) Commonwealth Scholars: Surveys of these students yielded only one case of inactive tuberculosis.

(iii) Trainee Teachers: Only one person with an abnormality other than tuberculosis was found in these surveys.

(It is not possible to follow-up household contacts of the above two groups.)

(iv) Migrants: The migrants have always shown a higher Mantoux conversion rate than Australians. This is related to the higher tuberculinisation of their country of origin. The following table evidences this:—

Primary School Group (5–12 years):—

	Australian	Migrant
Number tested and read	111,512	6,382
Number of positive reactors ..	9,213	720
Positive reactor rate	8·3 per cent.	11·3 per cent.
School Beginner (5–6 years):—		
Number tested and read	13,350	450
Number of positive reactors ..	491	14
Positive reactor rate	3·6 per cent.	3·1 per cent.
School Leaver (14–15 years):—		
Number tested and read	8,390	697
Number of positive reactors ..	1,567	173
Positive reactor rate	18·6 per cent.	24·8 per cent.

(*b*) *Special Surveys:—*

Special surveys, following notification of teachers and students, revealed no further tuberculosis in the schools tested.

(*c*) *Pilot Survey:—*

A large pilot survey of the total community of Narrabri, Namoi Shire and the district of Gunnedah was carried out in 1960. A special tuberculin, RT23, excluding the non-specific reaction, was used there for the first time in Australia.

The reading of tests extended from 48 hours after application to 96 hours, and indicated a much higher Mantoux positive rate than that obtained in the Griffith area in 1959 (see last Annual Report). The higher Mantoux rate which is seen in this area is the result not only of human and bovine tuberculosis, but it is probably an overflow of the atypical organism into the northern part of New South Wales from Queensland. Arrangements are being made to assess this factor on bacteriological grounds.

(6) B.C.G. Vaccination

(A) ABORIGINES

Aborigines were tuberculin tested and the negative reactors vaccinated in areas mass surveyed. Owing to B.C.G. vaccination of all negative reactor aborigines during the past years, a natural positive reactor rate of this group cannot be given.

(B) CONTACTS

Contacts of tuberculous patients continue to be vaccinated and conversion tuberculin tests offered again after three months.

(C) THOSE AT RISK

Many nurses and negative reactor medical students about to enter wards were vaccinated. Tuberculin testing vaccination at the medical school is combined with the lectures on the subject.

(7) Prophylactic Chemotherapy

In addition to the above tuberculin testing, with follow-up of contacts and vaccination of persons at risk, prophylactic chemotherapy of the young positive reactor is arranged by referring them to a clinic or their own doctor, to whom a circular has been sent.

(8) Visiting Nurses' Section

A. Metropolitan Chest Clinics staffed by sisters of the Division were Manly, St. George and Parramatta Clinics. Previously the sisters were in charge of St. Vincent's Chest Clinic, but since the Cameron Wing was opened in 1960, the sisters only carry out the domiciliary work at this clinic, as is done for Randwick, Royal North Shore, Royal Prince Alfred, the Repatriation Department and to a limited extent for Canterbury and the Anti-Tuberculosis Association's Clinic.

The Royal Alexandra Hospital for Children requested the domiciliary staff of the Division to complete housing reports, treatment and follow-up of all contacts of notified patients, and those with Mantoux positive reactions.

Migrants are also visited by the sisters and arrangements were made for the necessary investigations or clinic attendance. The increasing numbers of Russians arriving from Hong Kong have created a great deal of work, for due to their advanced age and lack of any knowledge of English, transport to clinics has to be undertaken by the staff.

Visits to notified patients, searching for contacts and visiting them, increased during 1960.

Visits to those with abnormal X-rays increased, due to more abnormalities being found at the chest X-ray centre.

Due to the North Ryde Psychiatric Unit being without a sister for the Tuberculosis Section for most of 1960, one of the domiciliary sisters did the work and she also visited Peat and Milson Island, Parramatta, Callan Park and Gladesville and Kenmore Mental Hospitals. Skin testing and B.C.G. vaccination for these hospitals were also carried out when requested.

During 1960 the nurses made 29,149 visits, or 990 more than in 1959.

B. *Country Chest Clinics*: These continue to be staffed by the sisters of the division. Plans are being prepared to open new clinics at Taree and Gosford, and new sub-clinics at Parkes, Narrabri, Bateman's Bay and Bega.

The work of the country sisters greatly increased, due to the new administrative plan associated with miniature mass radiography. This system is explained in detail under a special section at the conclusion of the report.

C. *Domiciliary and Hospital Care—Treatment of the Active Case:* This is best considered under the visiting nurses' section. It must be stated that this is a most involved problem, and many facets arise. It is here perhaps that the closest union between the physician and public health authorities comes about. The place of treatment, effective chemotherapy, drug resistance, the relation of the length of time in hospital and its affect on the patient are all aspects which must be fully considered.

Treatment as a rule should not be commenced at home.

Certain aspects of the disease can be taught in hospital, which are important from the doctor's and the patient's point of view. Associated with this is the increasing problem of the recalcitrants. Allied also is the difficulty of persuading the patient that his disease is not healed when his sputum results are negative for tuberculosis, even though he is still on chemotherapy. This attitude can only be overcome by education which can be given by the public health sister.

The supervision of the recalcitrant occupies a considerable amount of time and energy of the staff of the Division, but it is believed that their adequate follow-up will help to control the disease.

(9) Tuberculosis Allowance Section

As can be seen from Table 6, the number of new tuberculosis allowance applications was the highest since 1957, which is in accord with the increased number of notifications.

The number of renewals has continued to decrease, which is evidence to support the effectiveness of modern therapy.

The decrease of cases in pay at the end of the year is also concerned with the factor of modern therapy, and a shorter period away from work.

One resolution of the National Tuberculosis Advisory Council, which was a step forward, was the following recommendation, namely, cases of extra-pulmonary tuberculosis excreting tubercle bacilli are medically eligible for tuberculosis allowance as in pulmonary tuberculosis cases.

(10) Notification Section and Contact Section

The number of new cases of tuberculosis notified during 1960 was 1,533, an increase of 367 on the 1959 figure. A marked increase in the "Mass X-Ray Survey—Health Department," "Hospital" and "Private Practitioner" sources of discovery was evident, and these sources accounted for approximately 68 per cent. of the increase in notifications. See Table 7.

There has been a general increase in the number of pulmonary cases, classified under the headings "Minimal," "Moderately Advanced" and "Far Advanced." These sections showed an increase of 205 on the 1959 figures. See Table 8.

As in 1958 and 1959, approximately two-thirds of the "Far Advanced" cases were discovered by "Private Practitioner" and "Hospitals," who shared fairly equally in discovering 101 of the 156 of these cases. There has been an increase in the number of "minimal" and "moderately advanced" cases discovered by mass chest X-ray survey, the number for these stages in 1960 being minimal—189, moderately advanced—229, as compared with 111 and 186 respectively in 1959.

The details of notifications are set out in the attached statistical Tables 6, 7, 8.

From case notifications much has been done to consolidate the returns and the figure of 1,533 new cases of tuberculosis at the end of 1960 is the result of various aspects.

Firstly, it is believed that the year 1959 could have been as unusual in that the drop in notifications could not be accounted for when compared with the previous years. The 1960 figures are a more accurate indication of the tuberculosis incidence in the State.

Year	Total Notifications	Total Males	Total Females	Ratio Males to Females
1957	1,609	1,096	513	1 : 0·47
1958	1,388	959	440	1 : 0·46
1959	1,166	789	377	1 : 0·48
1960	1,533	1,068	465	1 : 0·45

The new State policy in respect to mass radiography, which really became effective in 1959, could be partly responsible for the suggested increase in incidence and the higher incidence areas are being X-rayed more often. This was dealt with more fully under the section of mass radiography. Increased notifications may be due to the more concentrated effort placed on X-raying of the following groups:—

(*a*) Hospital in- and out-patients;

(*b*) Residents of homes for the aged and destitute;

(*c*) Mental hospitals;

(*d*) People whose employment brings them into close contact with children;

(*e*) The contacts of tuberculin positive school children.

Other factors which may be considered also outside and inside the Department are: increased co-operation of the general practitioners; increased co-operation from the Repatriation Department—several discussions have taken place with members of that Board; notification by death certificate—this was taken into full consideration from 1959 onward. In each case notified a check is made with the case register to see whether or not the persons concerned are already notified as cases of tuberculosis, and what action has been taken with respect to their contacts. Where necessary, contact action in these cases is then instituted. Unification of miniature mass radiography machines (70 mm.), leading to greater accuracy in film interpretation. Greater follow-up of abnormal X-rays—this may be seen below. The follow-up of contacts of tuberculin positive children. This is also dealt with below. An increased efficiency in tuberculosis case finding and related matters generally.

In the preceding paragraphs mention has been made concerning the increased incidence of disease. This again formed a matter for discussion at the National Tuberculosis Advisory Council, and it is now recommended that the case classification be altered to include primary tuberculosis.

The following criteria for notification are recommended, helping to standardise procedures throughout the State:—

(*a*) Bacteriological positive results; and/or

(*b*) Radiological change where the case is undoubtedly tuberculosis.

(*c*) Other cases, both pulmonary and non-pulmonary, where clinical and/or radiological evidence is suggestive of tuberculosis, Schedule 3 should be completed and sent in, and notification details should follow at a later date when completed.

(In all cases early notification is desirable in order to facilitate early contact follow-up.)

The following new classification which was decided at the National Advisory Council is now to be included with the Tuberculosis Notification Details Form, i.e., whether the case is one of:—

(*a*) Primary tuberculosis, which should be notified only when there is clinical and/or radiological evidence of presumably active disease;

(*b*) Tuberculous pleurisy with effusion;

(*c*) Pulmonary tuberculosis in its three stages,
Minimal,
Moderately advanced,
Far advanced;

(*d*) Non-pulmonary tuberculosis.

In children where a Mantoux positive reaction is accompanied by radiological evidence of disease, the child should be notified and treated as an active case of tuberculosis. In such a case, and where the child is purely Mantoux positive, contacts should be followed. This will be undertaken by the clinic.

(11) Notification by Death Certificate

All forms of tuberculosis are notifiable. That all cases are not being notified is shown by the number of new cases in the returns of deaths from tuberculosis from the Registrar-General's Department. Approximately 6·7 per cent. each year come under this category, and last year this figure rose to 7·6 per cent. There could be many reasons for this, including the doctor-patient relationship, and the dislike of patient "publicity."

(12) General

(A) ADMINISTRATION AND INTERPRETATION IN COUNTRY AREAS

New administrative arrangements have come into force this year.

The follow-up of all tuberculosis cases must essentially come under Departmental administration, if not under immediate Departmental care. Figures in the past have shown the necessity for this where so many persons who have been found to have abnormal chest X-rays have failed to have adequate follow-up. This could be due to a number of factors relating to the patient, his doctor and the source of discovery.

With this in view, discussions were held with Departmental authorities, the British Medical Association, the Hospitals Commission and local groups of doctors themselves, both in metropolitan and in country areas. The fact that this has received a good response is encouraging; the routines involved are as follows:—

(*a*) Only tuberculosis cases will be dealth with at the clinic. All others will be referred to and treated by their own doctor.

(*b*) In the case of the suspected pulmonary carcinoma, the patient should be immediately referred to a chest clinic capable of carrying out all relevant diagnostic procedures, including bronchoscopy with possible thoracotomy later.

(*c*) All cases should have regular follow-up and no person who has radiological evidence of inactive disease should have any longer than twelve months between chest X-rays.

(B) SURVEY ROUTINES

(*a*) Tuberculosis or suspect tuberculosis cases found by mass survey are to be sent direct to the clinic, where they are interviewed by a representative of the mass radiographic personnel and the staff of the chest clinic.

(*b*) At this stage the right of the patient to attend either their own doctor or the clinic will be emphasised.

(*c*) Routine when patient is treated by own doctor.

- (i) The clinic is to be responsible to doctor for administrative follow-up of patients at doctor's request.
- (ii) Where patient fails to attend it is the responsibility of the clinic to follow up and ensure that necessary action is taken.
- (iii) The clinic is entirely responsible for follow-up of all contacts of patients—as these may come from various doctors.

(*d*) Routine where patient treated by clinic.

- (i) The clinic is entirely responsible for carrying out of all procedures concerning cases and contacts.
- (ii) If patient so desires he should be referred back to his own doctor.
- (iii) Notes as to progress and treatment regarding patient will be furnished to medical practitioner of the patient's choice.
- (iv) Details of all new patients attending the clinic and reason for attending to be sent to individual doctors of patient's choice.

(D) FOR GENERAL INFORMATION

(*a*) At all times the clinic facilities are available for investigation of chest cases prior to notification.

(*b*) Investigation, X-ray, treatment, out-patient and contact follow-up is free for all patients, including domiciliary treatment *by the clinic*, where necessary.

(13) Psychiatric Division

During the year 1960 we were fortunate in obtaining Dr. John Adamson, formerly from the Anti-Tuberculosis Association, who has taken up the appointment with the tuberculosis section of the psychiatric division attached to the North Ryde Psychiatric Centre.

Implementation of a plan has occurred, which has formed the basis for the tuberculosis campaign being carried out in the hospitals which are treating mentally ill patients.

Tuberculosis surveys of all the State psychiatric hospitals are carried out by units of the State Health Department, with the exception of those in the Newcastle area, which are carried out by the Anti-Tuberculosis Association. The number of tuberculosis cases so found has not been small. The incidence being much higher than in the normal population.

All active tuberculosis cases are to be treated at Ryde Psychiatric Centre. Special steps are being taken to X-ray, skin test and vaccinate both staff and patients, and to ensure adequate follow-up with both and active and inactive cases.

The following figures show the number of patients in mental hospitals X-rayed during 1960:—

	Active	Inactive	Number X-rayed
Kenmore	1	20	1,233
Callan Park	11	22	1,679
Broughton Hall	2	3	241
Orange	..	9	1,673
Gladesville	7	..	1,574
Rydalmere	7	4	1,248
Parramatta	11	11	1,475
	39	69	9,123

(14) Migrants

Much has been said about migrants to this country as a source of tuberculosis. Perhaps the following comparative figures will speak for themselves. It may be stated that generally speaking people who have undergone a higher degree of tuberculinisation, particularly in their youth, must show a higher incidence of tuberculosis. There has not been any definite difficulty experienced by reason of migrants refusing treatment. The main difficulties have been associated with language problems and usually the provision of an interpreter has helped to overcome it. Attached are the figures of notifications of migrants for the years 1956 up to the present time. It is to be noted that during this period of five years the migrant percentage has been approximately 20 per cent. of the total notifications in the State of New South Wales. (See Table 9.)

Further steps must be taken to ensure that the problem of tuberculosis with respect to migrants is kept under control, and with this in view arrangements will be made with the Department of Immigration to discuss this matter at a later date.

(15) Rehabilitation

Many people require rehabilitation in addition to training for new or previous occupations. They exclude those who leave hospital against medical advice, the alcoholic, the mentally ill, the chronically ill patient, with other chronic illnesses, and the elderly patient. The aims of rehabilitation should be to assist in contacting sources of infection and to assist in rendering productive citizens again.

Rehabilitation requires team work, and mention is made of the excellent work done, not only in the various hospitals and clinics, but by the Commonwealth Social Services and the voluntary bodies, N.A.P.T.A. and C.T.B.L.

(16) Chemoprophylaxis

One of the new factors which arose from the national tuberculosis advisory meeting was that of chemoprophylaxis. This has provided quite a degree of discussion with the various physicians, and it is intended in the future that plans will be standardised in respect to the use of Isoniazid and any other drug, or Isoniazid alone, in certain preventive measures. There is a debatable point as to whether Isoniazid alone should be used or P.A.S. used in conjunction. Isoniazid can be easily supervised.

Conclusion

The above detailed report sets out an accurate survey of the present tuberculosis position in this State. It emphasies both recent developments and associated problems.

TABLE 1—CHEST X-RAY SURVEYS COMPLETED DURING 1960, BY STATISTICAL DIVISIONS, ETC.

Divisions	Number of Micro Film Examinations	Estimated Total Potential (Persons)	Coverage (per cent.)	Technical Faults		Probable Abnormalities Requiring Re-rays		Active Tuberculosis Diagnosed			Cases of Inactive Tuberculosis Diagnosed	Other Abnormalities Detected	Cases Still Under Investigation
								Previous Known Cases	New Cases				
				Number	Per 100 Micros	Number	Per 100 Micros		Number	Per 10,000 Micros			
Mass Community Surveys—													
Cumberland	87,295	165,930	52·6	803	0·92	1,960	2·24	1	32	3·66	403	566	..
South Coast	43,154	48,410	89·1	315	0·72	1,032	2·39	..	41	9·40	212	365	73
South Western Slopes	70,044	79,410	88·2	235	0·33	1,338	1·91	..	17	2·42	231	432	211
Southern Tablelands	25,108	25,300	99·2	47	0·18	535	2·13	..	9	3·58	103	167	81
Total	225,601	319,050	82·3	1,400	0·54	4,865	2·17	1	99	4·76	949	1,530	365
Chest X-ray Centre	29,957	..	..	90	0·3	808	2·72	4	36	12·01	306	309	65

TABLE 2—DEPARTMENT OF PUBLIC HEALTH—COMMUNITY WIDE X-RAY SURVEY

	First Round	Second Round	Third Round	Total
1. Year Ended 31st December, 1960—				
(a) Number of Micro Films				
(i) Metropolitan area	..	..	87,295	87,295
(ii) Country area	..	138,306	..	138,306
	..	138,306	87,295	225,601
(b) Estimated Population Aged 14 Years and Over in Areas Surveyed				
(i) Metropolitan area	..	..	165,930	165,930
(ii) Country area	..	152,130	..	152,130
	..	152,130	165,930	318,060
(c) Number of New Active Cases				
(i) Metropolitan area	..	..	32	32
(ii) Country area	..	67	..	67
	..	67	32	99
(d) Number of Cases Still Under Investigation				
(i) Metropolitan area	..	..	..	..
(ii) Country area	..	365	..	365
	..	365	..	365
2. Total Since Commencement of Campaign				
(i) Total number of micro films	593,508	646,901	350,783	1,591,192
(ii) Number of new active cases	249	241	90	580
(iii) Number of cases still under investigation	..	365	..	365

TABLE 3—EPIDEMIOLOGY SECTION

	Total: Year Ended June, 1959	Total: Year Ended June, 1960
Field Surveys—		
No. of schools visited	632	806
No. of pupils tested and read	149,936	156,198
No. of positive reactors	13,154+413 had B.C.G.	18,609+719 had B.C.G.
Vaccinated	..	24 (teacher notified)
Total No. of x-rays	40,026	57,524
No. of persons with active tuberculosis	22	31
No. of persons with inactive tuberculosis	238	412
No. of persons with lesions other than tuberculosis	197	308
Trainee Teachers—		
No. tested and read	1,347	1,802
No. of positive reactors	294+195 had B.C.G.	324+185 had B.C.G.
Australian positive reactor rate	21·8 per cent.	..
Commonwealth Scholars—		
No. tested and read	1,190	951
No. of positive reactors	297+189 had B.C.G.	383+ 45 had B.C.G.
Australian positive reactor rate	25·9 per cent.	41·83 per cent.
Aborigines—		
No. tested and read	1,971	1,022
No. of positive reactors	527+ 19 had B.C.G.	460+113 had B.C.G.
Vaccinated	1,134	440
Others (Contacts and Those at Risk)—		
No. tested and read	1,560	1,765
No. of positive reactors	410+327 had B.C.G.	483+156 had B.C.G.
Vaccinated	107	148
B.C.G. Conversions—		
Australian (white) tested and read	..	33
No. of positive reactors	..	31
Positive reactor rate	..	93·9 per cent.
Australian (aborigines) tested and read	..	106
No. of positive reactors	..	92
Positive reactor rate	..	86·79 per cent.

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TABLE 4—EPIDEMIOLOGY SECTION
(January to June, 1960)

	Tested and Read	Positive Reactors	Positive Reactor Rate
Australian Born 5–12 Years—Primary School Group			
			Per cent.
City	29,550	1,115	3·77
Country, North Coast—Tweed to Taree and Dungog ..	19,145	3,142	16·41
Australian Born 5–6 Years—School Entrants			
City	4,061	64	1·57
Country, North Coast—Tweed to Taree and Dungog ..	2,167	152	7·01
Australian Born 17–20 Years—School Leavers			
	1,809	396	21·88

Table 5—Tuberculosis Nurses—Report for the Year 1960

	January	February	March	April	May	June	July	August	September	October	November	December	Totals
No. of working days at clinic	67	72½	74½	52	62	66½	47	77¾	63½	66½	85½	62½	796½
No. of cases receiving Streptomycin	102	107	107	120	111	101	95	102	101	107	89	91	1,233
No. of visits to cases receiving Streptomycin	1,218	1,338	1,268	1,240	1,363	1,237	1,199	1,335	1,317	1,174	1,201	1,090	14,980
No. of visits for dressings	153	194	183	132	116	124	123	158	159	114	121	158	1,735
No. of visits made at request of this Division other than Streptomycin or dressings	657	908	907	757	723	992	1,078	1,162	953	946	1,029	904	11,016
No. of visits made at request of other doctors, clinics, etc. ..	115	98	151	112	120	125	109	112	144	142	142	78	1,448
Totals	2,143	2,538	2,509	2,241	2,322	2,478	2,509	2,767	2,573	2,376	2,493	2,200	29,149

TABLE 6

Application for T.B.A.	1955	1956	1957	1958	1959	1960
Action incomplete at end of previous year	Nil	20	28	40	19	39
New applications	1,175	1,023	824	643	661	688
Renewals	209	206	157	132	121	120
	1,384	1,249	1,009	815	801	847
Approvals	1,234	1,123	999	795	716	819
Refusals	73	53	52	36	11	17
Not proceeded with	15	3	Nil	4	Nil	Nil
Action incomplete	20	28	40	8	39	12
	1,342	1,207	1,091	843	766	848
Terminations	1,893	1,486	865	752	650	916
Cases in pay at end of year	1,878	1,503	1,119	815	908	756

TABLE 7—NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS DURING YEAR ENDED 31ST DECEMBER, 1960—NEW SOUTH WALES

	Stage of Disease												Total		
	Pulmonary								Extra Pulmonary		Death Certificate				
	Minimal		Moderately Advanced		Far Advanced		Pleural Effusion								
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	P.
SOURCE OF DISCOVERY															
Private practitioner	58	30	104	53	35	24	2	3	12	25	..	..	211	135	346
Chest clinic	46	31	74	28	12	2	1	..	1	1	..	..	134	62	196
Sanatorium	..	..	2	1	..	..	..	..	..	..	..	..	2	1	3
Hospital	54	29	80	32	37	5	2	2	16	19	..	..	189	87	276
Repatriation department	21	2	23	3	4	..	..	..	..	..	..	..	48	5	53
Contact follow-up	9	6	6	3	..	..	..	..	..	..	..	..	15	9	24
Mantoux testing	1	2	3	..	..	..	..	..	..	2	..	..	4	4	8
Mass x-ray survey—Health Department	59	32	63	23	6	3	..	..	..	..	..	..	128	58	186
Anti Tuberculosis Association	68	30	113	30	13	4	..	..	..	1	..	..	194	65	259
Other	18	..	28	6	9	2	1	..	..	1	..	..	56	9	65
Death certificate	..	..	..	..	..	..	..	..	..	..	87	30	87	30	117
Total	334	162	496	179	116	40	6	5	29	49	87	30	1,068	465	1,533
AGE-GROUP (YEARS)															
Under 1	..	..	..	1	..	..	..	..	1	..	1	1	2	2	4
1– 4	5	6	1	2	..	..	..	..	9	18	..	..	15	26	41
5– 9	5	3	2	2	..	1	..	..	4	4	..	..	11	10	21
10–14	3	4	..	..	1	..	..	..	3	1	..	1	7	6	13
15–19	6	7	4	7	2	..	..	1	3	1	..	..	15	16	31
20–24	16	12	18	9	3	..	2	..	1	6	..	..	40	27	67
25–29	19	17	26	16	4	4	..	..	..	3	..	..	49	40	89
30–34	33	16	25	17	4	5	1	..	2	3	4	1	69	42	111
35–39	36	29	35	22	8	6	1	3	1	3	4	4	85	67	152
40–44	33	21	48	17	12	3	1	..	2	2	3	1	99	44	143
45–49	37	10	46	19	14	6	1	..	..	1	4	1	102	37	139
50–54	40	10	68	12	10	5	..	..	..	2	8	6	126	35	161
55–59	29	8	55	11	19	..	..	..	..	1	10	..	113	20	133
60–64	21	6	47	8	11	3	..	..	1	..	18	3	98	20	118
65–69	25	6	43	15	15	2	..	..	..	2	10	1	93	26	119
70–74	12	5	41	11	8	4	..	1	1	1	10	5	72	27	99
75 and over	12	2	34	10	5	1	..	..	1	1	15	6	67	20	87
Not stated	2	..	3	..	..	..	..	..	..	..	..	..	5	..	5
All ages	334	162	496	179	116	40	6	5	29	49	87	30	1,068	465	1,533

TABLE 8

Form and/or Stage of Disease	1959		1960	
	Number	Percentage of Total	Number	Percentage of Total
Pulmonary—				
Minimal	346	29·68	496	32·35
Moderately advanced	540	46·31	675	44·04
Far advanced	147	12·60	156	10·17
Pleural effusion	..	..	11	0·72
Extra pulmonary	39	3·35	78	5·08
Death certificate	94	8·06	117	7·64
Total	1,166	100·00	1,533	100·00

TABLE 9—MIGRANTS

	1956			1957			1958			1959			1960		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
United Kingdom	107	35	142	126	35	161	86	28	114	82	22	104	106	27	133
Austria	2	3	5	3	1	4	1	2	3	..	2	2	..	..	..
Czechoslovakia	1	3	4	2	..	2	2	3	5	2	1	3	2	..	2
Germany	9	5	14	5	6	11	3	5	8	5	3	8	5	2	7
Greece	9	4	13	16	3	19	7	3	10	9	4	13	11	6	17
Hungary	7	3	10	3	1	4	12	5	17	8	1	9	9	3	12
Italy	23	5	28	8	5	13	8	8	16	7	3	10	20	12	32
Netherlands	4	3	7	3	2	5	1	1	2	3	1	4	8	2	10
Poland	11	5	16	11	2	13	3	3	6	6	2	8	8	6	14
Rumania	2	..	2	1	..	1	..	..	..	1	1	2	1	1	2
U.S.S.R.	11	6	17	8	3	11	10	3	13	10	6	16	11	5	16
Yugoslavia	7	1	8	11	2	13	5	3	8	8	1	9	9	5	14
Other European	14	4	18	18	9	27	13	10	23	10	3	13	17	5	22
Cyprus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malta	6	3	9	6	3	9	3	1	4	1	2	3	3	1	4
African	2	1	3	5	1	6	2	1	3	2	1	3	5	..	5
China	11	2	13	18	1	19	18	6	24	13	3	16	18	4	22
Japan	..	..	..	..	..	..	1	..	1	..	..	..	..	1	1
Other Asian	1	..	1	7	1	8	3	1	4	3	1	4	5	1	6
U.S.A.	..	..	..	2	1	3	1	..	1	1	..	1	2	..	2
Canada	..	..	..	1	..	1	1	..	1	3	..	3	1	1	2
Central/South America	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
New Zealand	17	7	24	10	4	14	6	2	8	3	2	5	9	3	12
Other	2	1	3	..	..	..	..	..	..	..	..	..	1	..	1
Total	246	92	338	264	80	344	186	85	271	178	59	237	251	85	336

	Total Notifications	Migrants	Migrant Percentage	Total Population	Percentage Migrant of Population
1956	1,690	338	20·0	3,553,432	·009
1957	1,609	344	21·4	3,622,906	·009
1958	1,399	271	19·4	3,689,175	·007
1959	1,166	237	20·3	3,756,375	·006
1960	1,533	336	21·9	3,828,315	·008

F. DIVISION OF OCCUPATIONAL HEALTH

ANNUAL REPORT, 1960

Staff

Director: Alan Bell, M.B., B.S., D.I.H.

Senior Medical Officers 2; Adviser, Industrial Nursing 1; Officer-in-Charge, Radiation Branch, H. M. Whaite, B.E.; Senior Scientific Officer, J. L. Sullivan, M.Sc., A.R.A.C.I.; Scientific Officers 7; Analyst-in-Training 1; Photographic Assistant 1; Laboratory Assistants 2; Laboratory Attendant 1; Clerical Staff 5.

During the year the numerical strength of the Division was increased by 3—namely 2 scientific officers and an analyst-in-training. The former will be concerned with matters relating to radiation and agricultural health.

It is hoped that in the near future it will be possible to appoint additional staff to investigate, more fully than has been possible up to date, problems relating to excessive heat in industry and the effectiveness of certain items of personal protective equipment.

During the year I attended the Seminar on Occupational Health held in Tokyo; this was sponsored jointly by the World Health Organisation and the International Labour Office. Arrangements had also been made for me to participate in the Thirteenth International Congress on Occupational Health in New York and subsequently visit, both in the States and Great Britain, certain authorities and research institutions engaged in activities similar to ours. Unfortunately, this overseas visit had to be temporarily postponed, as a result of being involved in a car accident immediately prior to departure.

Statistical Data

Data relating to the main activities of the Division is shown in Table 1.

Table 1

Type of Activity	1958	1959	1960
Number of patients examined	2,536	1,240	1,786
Blood slides examined for evidence of lead poisoning—			
(*a*) Slides sent by medical officers of factories where a lead process is carried out	4,436	4,944	5,135
(*b*) Slides of men examined at division	953	543	362
Totals	5,389	5,487	5,497
Inspections—			
Number of factories visited	786	1,205	955
Number of atmospheric pollution visits	166	501	248
Number of theatres and halls inspected	9	14	1

The problems most frequently investigated were: Atmospheric Pollution, 248; Radiation, 137; Human Factors Engineering, 116; Noise, 107; Dermatitis, 104; Lead, 87; Gases, 87; Industrial Nursing, 85.

As in previous years, the Division has had published a number of papers in professional journals. The more important of these were:—

(1) Radiation and the New South Wales Department of Public Health—A. Bell, *Medical Journal of Australia*, April 9, 1960, p. 568.

(2) Aldrin Poisoning: A Case Report—A. Bell, *Medical Journal of Australia*, October 29, 1960, p. 698.

(3) Radiological Hazards in Veterinary Practice—D. C. Trainor and W. E. Foskett, *Australian Veterinary Journal*, January, 1960, p. 8.

(4) Problems and Control of Air Pollution in the Australian Heavy Clay Industries, J. L. Sullivan—*Journal of the Institute of Fuel*, September, 1960, p. 436.

(5) Aspects of Air Pollution Measurement and Control, *Journal of Refrigeration, Air Conditioning and Heating*—J. L. Sullivan, September, 1960, p. 29.

(6) Clean Air in New South Wales. Proceedings of the Royal Australian Chemical Institute, J. L. Sullivan, December, 1960, p. 525.

(7) Air Pollution Measurement Methods in New South Wales and Significance of Results, *Health Officers' Journal*, J. L. Sullivan, March, 1960, p. 15.

(8) Fatal Gassing in an Acetylene Manufacturing Plant. A. T. Jones, *Archives of Environmental Health*, November, 1960, p. 417.

(9) Chlordane Poisoning following prolonged use for and control of a Private Home, G. Selby and A. T. Jones, *Medical Journal of Australia*, March 12, 1960, p. 417.

(10) Human Kinetics is New Aid in Manual Handling, N. J. C. Peres, *Australian Factory*, April, 1960, p. 18.

(11) Manual Handing without Strain, N. J. C. Peres, *Australian Factory*, October, 1960, p. 18.

In addition the following booklets were published:—

Agricultural Pesticides: A Synopsis of Toxicology and Treatment, D. C. Trainor.

Lead Poisoning: Notes on its Diagnosis and Treatment, D. C. Trainor.

Lectures

During the year lectures on the technical aspects of our activities were given to numerous societies and associations; in addition, by arrangement with the Department of Labour, fifteen lectures on occupational health were given to twenty-eight new factory inspectors.

Two officers of the Sydney Metropolitan Water, Sewerage and Drainage Board were trained by us in the techniques of carrying out dust counts.

Regulations of Interest to Industrial Hygienists

Although no new industrial medical regulations, coming under the above heading, have been gazetted during the year, the following have been discussed with the various parties concerned:—

1. METHLY BROMIDE

It is the intention of the Department to declare this substance a "dangerous substance" under Part VIIA of the New South Wales Public Health Act.

The major amendments will be:—

(*a*) to restrict its use to "approved personnel";

(*b*) to require all Halide lamps to be tested once per year;

(*c*) to require each fumigator to have an approved respirator and suitable protective clothing;

(*d*) to require rooms and vaults used for fumigation to be mechanically exhausted at the rate of 60 air changes per hour.

2. AIR POLLUTION

The progress made during the year towards a Clean Air Bill will be discussed later in this report.

3. INDUSTRIAL NOISE

The subject of possible legislation in respect to industrial noise has been further discussed by the Industrial Hygiene Committee of the National Health and Medical Research Council. This Committee considers "that the measurement of noise exposure in industry, and the performance of audiometric examination of employees would not cause interference with production or loss of time, wishes to recommend that those States which do not already possess the necessary powers, should introduce legislation to allow inspection of any industry with instruments to measure noise exposure, and when excessive noise exposure is present to allow of the audiometric examination of the exposed employees, as well as to require the provision of ear protective devices when necessary."

This recommendation is currently being considered in New South Wales.

Surveys and Investigations Concerning Occupational Diseases and Working Conditions

During the year members of the Division visited almost a thousand factories, to investigate specific industrial hazards and diseases. Whenever necessary, medical examinations and/or scientific tests were made to evaluate the effect of the environment on the health of the workers.

In this report, it is only possible to give but brief details of some of the more interesting investigations carried out. Full details of others will be found in the published articles, already referred to.

1. METALS

LEAD

Table 2 shows the results of blood slides examined for stipple cell counts.

Table 2

Industry	Number of Slides Submitted			Number of Slides with Stipple Cell Counts of					
				3,000–5,000			5,000 or more		
	1958	1959	1960	1958	1959	1960	1958	1959	1960
Battery works	3,649	1,988	2,269	83	99	80	41	38	64
Manufacture of lead compounds	550	476	525	18	57	30	12	6	16
Miscellaneous other users of lead	277	2,480	2,341	10	286	115	4	81	56
Totals	4,476	4,944	5,135	111	442	225	57	125	136

The total incidence of "counts" in excess of 3,000 per million red blood cells, for all the slides examined and reported upon by the Division, was 8 per cent.; this compares with 9 per cent. for 1959. Cases of lead poisoning have been seen in a wide range of industries. At the request of managements, we have performed atmospheric sampling to determine the safety of many processes—for example:—

(1) The manufacture of leaded steel.
(2) The oxy-acetylene flame cleaning of paint work.
(3) The manufacture of an enamel "frit."
(4) The assembly of car radiators.
(5) The manufacture of lead pigments.
(6) The casting of bronze.

Before leaving this subject, three other activities are worthy of mention, viz.:—

(*a*) *Abrasive Agents*

Subsequent to the gazetting of the Abrasive Blasting Regulations, prohibiting the use of abrasives containing free silica, we were requested to advise if the use of a crushed copper slag would be regarded as a satisfactory substitute. Tests showed that lead in air concentrations inside the blasting chamber around the worker was as high as 1·6 mg. c.m.; the lead concentration of the slag was 0·5 per cent. As it is also known that the lead content of this slag may vary considerably, the opinion was given that while its use did not constitute a free silica risk, the workers would require suitable protection against the associated lead hazard.

(*b*) *Lead in Technical Colleges*

Lead in air tests were carried out in the plumbing workshops of three large technical colleges. High results (up to 0·64 mg./cm.) were found on two occasions. A recommendation was made that all apprentices should be medically examined at least once a year—partly as a preventive measure and partly to impress upon these young workers the importance and need for regular medical examinations throughout their careers.

(c) Bulk Sampling Instruments

During the latter half of the year whenever a lead problem was investigated, three instruments were used simultaneously—namely the electrostatic precipitator, Soxhlet thimble and Greenburg-Smith impinger. At the time of writing, sufficient samples have not been colleted to enable us to calculate correlation figures.

ZINC

Using an M.S.A. electrostatic precipitator, breathing zone concentration of up to 130 milligrams of zinc per c.m. of air were obtained, while men were zinc spraying house window frames. Several operators had suffered from attacks of metal fume fever.

MERCURY

Tests were carried out to determine the degree of exposure to organic mercury resulting during the treatment of seed wheat with "Ceresan" 1·5 per cent. (methoxyethyl mercury chloride) dust and "Panogen" 1·5 per cent. (methyl mercury dicyan diamide) liquid. Operator breathing zone concentrations whilst feeding the grader hopper, removing and weighing bags of treated wheat were respectively 0·032 and 0·022 milligrams per c.m. of air for the first named compound; 0·077 and 0·09 for the second. We concluded that the process could be carried out without any undue health hazard.

VANADIUM

At a chemical factory, where sulphur dioxide is converted into sulphur trioxide, vanadium pentoxide is used as a catalyst. It is supplied in the form of pellets, which are screened through a sieve to remove the loose dust. The pellets are then taken up on a hoist and added to the other chemicals in the converter. The former have to be spread evenly and so it is necessary for one man to work inside the converter.

The men working on the screening process were accustomed to using care in handling of dangerous substances and wore masks. The six men who were engaged in putting the catylist into the converter were labourers of a contracting firm and three of them had had bleeding from the nose. One stated that he had worn a mask, but the other two had not. It seemed significant that those who wore masks, even though they were only of the gauze type, had no symptoms and those who had been careless in using protection had nose bleeding.

The concentration of vanadium, while screening was found to be 1·6 mg/M³, which is well above the maximum allowable concentration of 0·5 mg/M³.

Gauze masks, generally speaking, are not efficient against vanadium dust, but it is thought that in this case they may give some protection on account of the large particle size of the dust.

Other cases of poisoning occurred from the thermal cracking of residual oils. It is proposed to record full details of these cases in the industrial medical literature.

MANGANESE

Employees dressing manganese steel bucket castings, both by means of hand held and machine operated swing grinders, were intermittently exposed to atmospheric concentrations of 3·4 milligrams of manganese per c.m. of air. Medical examinations of those concerned did not reveal any evidence of ill health.

2. SOLVENTS

BENZOL

Breathing zone concentration of up to 200 ppm. of benzol were found in a factory during the manufacture of a paper masking tape adhesive. The workers concerned had blood changes strongly suggested of early poisoning.

Exposures while Filling Petrol Tanks at Garages

These tests were carried out subsequent to the publishing of an article in the *Medical Journal of Australia* describing several cases of benzol poisoning from the inhalation and swallowing of petrol.

Breathing zone determinations were made and the following results obtained:—

Table 3

Petrol Type	Concentration in Parts per Million		
	At Tank	One Foot From Tank	Five Feet From Tank
Standard with no visible indication of benzol additive..	180	Rather less than 16	No significant concentration
Standard with visible indication of benzol additive ..	300	72	No significant concentration

It is clear that the practice adopted by some service station attendants of "listening" to the petrol entering the tank is undesirable and may be potentially dangerous from the point of view of health.

During the year we have been carrying out tests to determine if the urinary inorganic/total sulphate ratio is a reliable indication of benzol absorption.

Perchlorethylene

Recently the use of perchlorethylene for dry cleaning purposes has become increasingly popular.

The use of the following types of machines were investigated:—

"Hot process" with 1 unit—
- Zanker
- Permac Bowe 60
- Aristomatic

"Cold process" with 2 units—
- Prosperity machine

In the former type of machine the entire operation, from the charging to the removal of the finished cleaned clothes, is carried out in one unit, and apart from the occasional removal of a lid for cleaning traps, the solvent and vapour are entirely enclosed.

The cold process differs in that the washing and extracting are carried out in one unit; the recovery and final drying in a second machine, the garments being transported on a trolley from one machine to the other in the middle of the process.

Air sampling for perchlorethylene showed that the breathing zone concentrations ranged from nil to 347 mg. per cubic metre. It would therefore appear that the normal operation of these machines is not associated with any health hazard.

Trichlorethylene

Three men operating a degreasing tank were affected due to breathing concentrations ranging from 490 ppm. to 750 ppm. of the solvent. These resulted from unsatisfactory manual handling methods; the installation of a mechanical withdrawl hoist operating at a controlled speed was recommended.

3. GASES, VAPOURS AND MISTS

Ozone

(*a*) In dairy factories, it is becoming increasingly popular to pack cheeses under ultraviolet lamps. Tests were carried out in one factory to see if there was any health hazard. While packing the men work within 2 to 3 feet of the lamps and were troubled by reflections from the stainless steel bench tops. Ozone concentrations were 0·06 ppm. in a room forced ventilated with cold air and at a temperature of 50° to 55°F.

None of the workers suffered any ill effects.

(*b*) In view of the increasing popularity of electrostatic spray painting, tests were carried out to see if there was any associated hazard from ozone. Three units were tested from this point of view and found to be satisfactory.

Formaldehyde

Concentration of 11 ppm. were found in the hold of a ship being loaded and which contained damaged fibre boxes containing paraformaldehyde.

Isocyanates

One man developed asthmatic attacks when spraying furniture with a commercial product containing this material. His exposure varied from 0·1 to 0·3 ppm. Recommendations were made for increasing the efficiency of the spray booth used.

Similar trouble was experienced in a large factory when scrap foam material was being cemented with a glue containing "Desmodur L" in ethyl acetate. Breathing zone exposures varied from 0·25 to 0·4 ppm.

Welding

Tests were carried out to determine fluoride concentrations envolved from three types of submerged arc fluxes. The welding was carried out on mild steel with a continuous feed electrode, the equipment being operated at 260 amps and 5·5 arc volts.

Soxhlet thimbles were used to collect solid fluorides and sampling for gaseous fluorides was carried out using 0·01 N. sodium hydroxide.

In two out of three tests neither solid nor gaseous fluorides were found; in a third test 0·66 of milligrams per c.m. of air was detected.

During the year several tests, mainly at the request of union representatives, were carried out under various conditions of welding using different electrodes.

In nearly all instances these investigations failed to reveal any potentially dangerous concentrations of fumes inside well maintained and properly fitting welding helmets. It is our considered opinion that provided the general ventilation and the personal protective equipment are satisfactory, rarely is there any potential health hazard during this process.

Unfortunately a commonsense attitude does not always prevail—for example, in one situation workers were required to weld approximately 700 feet inside a 4 ft. diameter pipe without any type of fume control or protection. Actions of this type do little more but sow the seed for industrial unrest.

Cyanide Case Hardening

A survey was carried out in eleven factories to determine whether there is any health hazard from either hydrogen cyanide, or alkali mist. The following results were obtained:—

1. Breathing zone cyanide concentrations in the vicinity of
   (*a*) the pot were all less than 1 p.p.m.;
   (*b*) at the water and oil quenches concentrations were mostly less than 1 p.p.m., but figures up to 7 p.p.m. were found.
2. The concentration of alkali mist was determined at the pot during removal and addition of work and while water quenching.
   Concentrations of (expressed as mg/NaOH per C.M.) as high as 28·8 were obtained Individual readings were 15·8, 8·5, 1·8, 3·9, 13·6, 5·1, 3·5, 7·8, 15·2, 11·0, 28·8, 0·4 and 0·8.
3. Thirty employees were medically examined and the following abnormalities found.
   6 men had inflammed throats.
   5 men had reddening of the nasal septum.
   3 men had ulceration of the septum.
   1 man had complete perforation of the septum.

Eighteen stated that the fumes frequently made them sneeze.

Recommendations were made to the Department of Labour concerning the need for adequate personal protective clothing and the necessity for enclosure of pots.

4. DUST

Dust problems referred to the Division for investigation fall into two broad categories—namely those in which the workers are exposed to nuisance dusts and those in which siliceous dusts are involved.

In our experience it is uncommon to find a modern factory where the latter type of exposure is present; such hazards are almost invariably well controlled by sound engineering principles at the time of construction of the factory.

Unfortunately, the position is not so satisfactory with regard to nuisance dusts. This is especially true of the older factories. In addition, there sometimes appears to be a lack of understanding, both on the part of the management and men, of the nature of dust diseases. In assessing a particular problem, many do not realise the need to consider the composition of the dust, particle sizes and concentrations. Unless these factors are known it is frequently not possible to determine whether or not a dust hazard is present.

Unfavourable industrial situations often arise where there is no need; for example we are repeatedly asked to carry out dust tests in departments where paper is mechanically cut or punched. On no occasions have we found high concentrations; moreover, even if we did, such an exposure, on the basis of the composition of the dust, could never be classed as anything other than a nuisance and should therefore be dealt with on commonsense lines.

During the year the following particular situations have been assessed and dust concentrations above the recommended limits found:—(*a*) in the coal reclaim conveyor section of a large boiler house; (*b*) while removing filter bags from a hot air cyclone in an asbestos crusing plant; (*c*) during demolishing a smelter; (*d*) while guniting and "mucking" inside an underground tunnel; (*e*) while excavating pier holes for major building projects currently being constructed in Sydney.

5. PESTICIDES

A thirty-page booklet called *Agricultural Pesticides: A Synopsis of Toxicology and Treatment*, was produced and widely distributed to the medical profession, orchardists and other members of the general public known to use substantial quanties of pesticides. When this was distributed, a copy of the New South Wales Department of Agriculture *List of Pest Destroyers* was also included, thereby enabling those concerned to determine the active ingredient of any pesticide suspected of having caused poisoning.

Dr. Trainer's booklet has repeatedly been the subject of praise and on many occasions has been helpful to general practitioners.

As stated earlier in this report, two published articles of the Division described cases of poisoning—namely from Chlordane and Aldrin. During the year six cases of poisoning by one of the organic phosphate group were seen.

An increasing insect tolerance to the chlorinated hydrocarbons has resulted in a swing to the use of the organic phosphates. In order to overcome this insect tolerance it has been suggested in some quarters that an alternation of the type of pesticide from year to year might be advisable. If this plan were adopted we may expect, in the near future, poisoning by the organic phosphates to be replaced by symtoms due to chlorinated hydrocarbons.

Of the six cases of poisoning seen, five can be ascribed to gross carelessness in the use of the pesticide in question.

Two of the patients seen were professional sprayers and although they knew the precautions necessary, one of them had allowed himself to be covered with the spray.

Another patient was a grazier, who had been handling sheep which had been sprayed with Diazinon nearly three months previously. His symptoms were typical of organic phosphate poisoning. In this case it seemed that the substance had been absorbed through the skin. If the history is accurate it seems that Diazinon can remain active in the wool of sheep for a long period.

The remaining three cases occurred in amateur gardeners who had used organic phosphate preparations in a reckless manner and without any attempt at self-protection. They either did not know the need, or had not bothered to wear any protective clothing whatever.

Choline esterase estimations were done in all cases. In three, the results were within normal limits, in the others the findings were somewhat below normal. As patients generally come to this Division some time after the acute symptoms have subsided, really low choline esterase levels could not be expected. However, in all cases seen, the symptoms were characteristic so that no doubt existed as to the diagnosis of organic phosphate poisoning.

The symptoms as recounted by one of the amateur gardeners, a man of above average intelligence, indicated that he had been poisoned annually by Folidol 50 for three successive years without recognising cause and effect.

From the above patients and from other sources, information has come to this Division indicating that episodes of poisoning are not uncommon amongst those who use the organic phosphate pesticides, so that the cases which come under medical scrutiny are probably only a proportion of those which actually occur.

Two of the members of this Division who visited the Murrumbidgee Irrigation Area and observed spraying methods were appalled by the ignorance and carelessness of those using toxic sprays.

Some medical research is going forward at the present time to ascertain whether psychiatric disturbances may result from acute poisoning with the organic phosphates. There is as yet no proof of this, but some cases have occurred which suggest that investigation of such a co-relation would be worth while.

During the year 62 cholin esterase estimations were carried out; these were mainly done at the request of general practitioners.

Phosphine

The use of "Phostoxin" tablets for the purpose of fumigating grain is increasing. During the year further tests were carried out to determine employee exposures at various stages of the process. Our findings were:—

Table 4

Details of Test	Phosphine in Air Concentration Parts per Million
Adding tablets to run of wheat	Nil detected
Adding tablets to run of wheat	Nil detected
Adding tablets to run of wheat	Nil detected
General atmosphere on top of bins	Nil detected
General atmosphere on top of bins	Nil detected
General atmosphere on top of bins	Nil detected
General atmosphere on top of bins	Nil detected
At the automatic scale where treated wheat from storage bins weighed and discharged into shipping bins	3·5
At the shipping bin floor level below the automatic scale. Dusty when load from scale discharged	4·0
At top level of storage bin half empty as charge from here fed to scale	4·5
At base of storage bins discharging onto belt conveyors. Very dusty and strong smell phosphine. No respiratory protection worn by operator	10·0
Passage way between the two tiers of two conveyor belts leading from the shipping bins to A tower. Test in open section nearest shipping bins. Odour of phosphine	11·0
As 2 above, but in enclosed section leading up to A tower. Strong odour of phosphine noticeable	15·0
On top of storage bins two weeks after second treatment of wheat with phostoxin tablets. Strong odour of phosphine	11·5
Repeat test as above	11·0
At base of storage bins 11–12 wheat being conveyed to elevator to weighing. Strong odour of phosphine	9·0
On shipping ramp adjacent to shipping bin	3·0

Thirty-four men engaged on the above work were medically affected. It is proposed to record full details of this episode in the medical literature when further developmental work has been done on methods of estimations phosphine.

6. INDUSTRIAL DERMATITIS

During the year 130 cases of occupational dermatitis have been reported to the Division; 85 of these were investigated inside the factories concerned.

An unusual case was one of frostbite which occurred in a man who placed plastic-coated ice blocks in a portable car ice-chest used for carrying poliomyelitis vaccine.

Oil frequently causes industrial dermatitis. During the year we have seen several factories where this disease is an important socio-medical problem. Whilst it is true that it is not always easy to suggest ways and means of preventing or reducing the incidence of this disease, it is also true that in many instances those concerned aggravate the position by their negative attitude towards certain well known and proven principles of prevention. During the latter half of the year, work was started in producing an illustrated pamphlet about oil dermatitis. When finalised it is hoped that its contents will enable some of its readers to approach this problem more logically and rationally than is frequently the case at the moment.

7. OCCUPATIONAL HEALTH SERVICES

This is the second year in which this Division has included an Advisory Nursing Service in its activities. It has been a difficult year, in that the introduction of any new worthwhile procedure produces caution, opposition and criticism, just as surely as it promotes enthusiasm, progress and a higher standard of achievement.

The basic standards and wide scope of Occupational Health Services were defined at the I.L.O. Conference at Geneva in 1958; it is an unfortunate fact that, in New South Wales some managements are not prepared to encourage the factory doctor and/or nurse to undertake activities other than those which can be classed as "medical." Sometimes the entire emphasis is on treatment and preventive activities are entirely neglected. The function of an occupational health service within a factory is to promote health and to foresee situations which might adversely affect the well-being of the employees.

The medical centre within a factory should be an alert, active dynamic force; it should not be regarded as "just another amenity."

In order that the specialised training and knowledge of the doctor and occupational health sisters be used to the maximum degree, it is important that they should both be fully acquainted with all aspects of the industry in which they are working. On joining the factory, management should ensure that individual manufacturing processes are fully explained to them; management should ensure that the medical department is kept informed of any proposed new process and the doctor's or nurse's view sought if there is any associated potential health hazard.

During the year, Miss Roach, Adviser, Industrial Nursing, visited 42 factories and interviewed 56 sisters. I regard these activities as being of the utmost importance; such visits enable the Division to gain an insight into the current scope of industrial nursing—not only its strong points, benefits and values, but also its weaknesses and difficulties. During these visits we encourage nurses to increase their industrial knowledge and to this end have, during the year, held four separate one-day practical refresher courses. On each occasion approximately 100 nurses attended. It is an unfortunate fact that it was not possible for the College of Nursing to carry out its proposed full-time post graduate course on industrial nursing. One of the reasons for this was that while many nurses wished to undertake this specialised study, few received the necessary support from their management or their industrial medical officer.

Work was commenced on a proposed booklet describing the aims, functions and design of industrial medical centres. Our advice on the design and planning of new industrial medical centres has been sought on eight occasions.

Up to date, because of pressure of other commitments it has not been possible to extend our activities to the realm of first aid as practised by first aid attendants. It is considered that much useful work could be carried out in this sphere, as such personnel are often required to carry out their activities under comparatively poor conditions and often using poor equipment.

8. HUMAN FACTORS RESEARCH

In my last annual report I briefly discussed the Division's new activities in the field of ergonomics. A great part of our energies this year has been devoted to (*a*) visiting factories to see to what extent factory management and engineers consider the comfort and convenience of the operator when designing machines and factory processes. All too frequently no consideration is given to the anatomical, physiological or psychological limitations of the human operator; (*b*) a great deal of research, initiated and stimulated by the discovery during the last world war that many of the complex machines could not be used to optimum advantage because of human limitations, has been carried out especially in the United Kingdom and the United States of America. The application of this new knowledge in local industry is still unfortunately almost unknown.

For this reason, a number of articles were written by Mr. N. J. C. Peres; by their publication we hope to "awaken" industry to this aspect of environmental health. In addition, 16 lectures have been given to senior management.

During the financial year 1957–1958 there were a total of 81,843 male compensable accidents in New South Wales; approximately 31 per cent. of these were caused by the incorrect handling of objects and in many cases "injury" (i.e., strains, sprains, herniae, intervertebral discs, lesions, tenosynovitis, etc.) could have been prevented by either the installation of mechanical handling devices and/or a knowledge by those concerned of the fundamental principles of lifting, pushing and pulling, etc. Realising the truth in the latter, Imperial Chemical Industries, in 1951, at their factory in Ardeer, Scotland, introduced a comprehensive scheme whereby workers were trained in the Kinetic principles of work. When this scheme was first started, 40 per cent. of absenteeism could be attributed to "strains" and "sprains." As a result of proper training, that figure had been reduced within the first five years to 0·15 per cent. and 10,000 workers and 600 foremen had been fully instructed in human kinetics.

During this year, over 125 industrial investigations have been made, and it has already become evident that many strains, sprains and herniae are the result of poor postures involving cramped, unnatural or unstable body positions during work. Many more have been caused by incorrect methods of pulling, pushing and lifting or incorrectly placed machinery controls, excessive vibration, ineffective instrument dials, prolonged muscular tension and cumulative effects of repetitive work.

While a great deal can, and should, be done at management level, as a result of our experience, Mr. Peres and I feel that there is also need for practical instruction at the worker level. Accordingly, we suggest that consideration should be given to the appointment to the Division of a demonstrator in kinetic lifting.

During the year particular attention was paid to the industrial causes of tenosynovitis; this disease is extremely common and in many instances it is possible to remove the main causative factors by engineering modifications of the process or machine. It is Mr. Peres' intention to publish the results of these activities next year.

We have been greatly helped in this work by the help and friendly guidance given by Professor N. W. G. Macintosh and Dr. J. W. Perrott of the Department of Anatomy, University of Sydney.

9. NOISE

With the obtaining of additional equipment, it has been possible to further extend our activities in this field. These activities fall into the following two broad categories—namely:—

(*a*) Excessive Noise Inside Factories

Twenty-five industrial situations have been investigated; these cover a very wide range of industries and processes—for example, the wood working industry, milk treatment stations, noise from compressors, waste heat boilers, grinding, brake presses, pneumatic rivetting, etc. In a number of cases monitoring hearing tests have been carried out to check suspected impairment of hearing.

(*b*) Alleged Excessive Noise in Residential Areas from Nearby Industries

Because of the lack of recommended standards, assessing this type of problem is not easy. When carrying out such investigations we take into account the residential area levels recommended by (*a*) the Chicago Zoning Ordinance; (*b*) the American Public Health Association Committee on the Hygiene of Housing; and (*c*) the Housing Commission of the League of Nations.

The latter authority recommends that noise within dwellings should not normally exceed the following figures:—

Study and sleep: 30 decibels
Other rooms: 50 decibels

These figures are the same as those established by the Committee on the Hygiene of Housing of the American Public Health Association in the *Basic Principles of Healthful Housing*.

In order to achieve the above standards within the dwelling the following noise standards for housing sites are presented:—

	Grade of Attainment		
Average Sound Level should be	Minimum	Standard	Optimum
50 per cent. of the time, less than	60	45	40
90 per cent. of the time, less than	70	60	50

The three grades of attainment are defined as follows:—

Minimum—The minimum livable conditions below which occupants risk impairment of privacy, comfort, health and sleep owing to noise; to be tolerated only as a lower limit enforced by cost limitations.

Standard—The recommended minimum conditions for normal living a justifiable standard for all new construction.

Optimum—The desirable condition of living with the greatest possible freedom from noise disturbance attainable by prudent expenditure; a level above which additional control is a luxury.

The Chicago Zoning Ordinance sets out levels which should not be exceeded in each octave band.

Background levels taken away from the effects of the factory or while away from the effects of the factory or while the factory is not working are also taken into consideration.

My colleague, Mr. Weston, has carried out seventeen residential noise investigations.

It is gratifying to record that in both of these comparatively new activities of the Division, management is almost invariably willing to take effective measures to reduce the amount of noise by adopting recommended engineering modifications.

10. VENTILATION

Several managements requested us to test the efficiency of various types of local exhaust systems installed to remove potentially toxic gases and dusts. This is a pleasing trend and one which we are endeavouring to encourage. We also received several requests for advice concerning the need, allegedly for reasons of health, for the air conditioning of offices. In all instances, though fully appreciating the advantages and desirability of air conditioning, we were not able to support the particular views and arguments advanced.

Ventilation of Theatres and Public Halls

With the falling off of cinema attendances, which has occurred since the advent of television, requests to report upon the ventilation of theatres and public halls have been considerably reduced. During the year only one was received from the Chief Secretary's Department. In this instance ventilation of the main threatre was satisfactory; this was not so in either the biograph box or rewind room.

Miscellaneous Activities

RESPIRATORS

Tests were carried out to determine the effectiveness of a "Thermalair" respirator designed to protect the wearer when breathing air at a high temperature.

The facepiece is of the normal soft rubber type, the fundamental difference being that both inspired and expired air pass through the heat exchange filter.

The filter itself consists of closely packed fine wire mesh held together by an insulating holder of hard polyurethane foam. The apparent mode of operation is that heat is taken from the inspired air by the packed wire, and is taken from the wire again by the expired air. Insulation around the outside of the unit prevents the filter becoming heated by the surrounding air.

To test the effectiveness of the filter, it was placed in an oven, the temperature of which varied from 350 to 375 and back to 350°F. during the test. The opening in front of the furnace was blanked off to prevent cool air entering the furnace and filter when inspiration took place. By means of a snugly fitting rubber bung a short glass T-piece was held at the rear of the filter. The first of the three openings was at the immediate rear of the heat exchange packing of the filter, the second contained a tightly packed theremometer and the third was connected to a length of rubber tubing. The thermometer was about 1½ inches behind the filter, in a similar position to a wearer's nose. With this arrangement, breathing was carried out, fairly heavily, through the rubber tube for slightly longer than 30 minutes. The temperature of air after it had passed through the filter was taken at 5 minutes intervals for 30 minutes, then a further three readings at 1 minute intervals.

During the man test it was noticed that when the air was inspired through the filter the mercury level in the thermometer was raised slightly more than a half degree Fahrenheit. When air was expired again the temperature dropped by a half degree Fahrenheit. Thus the temperature of the inspired air gradually increased. The results of the test were as follows:—

Furnace temperature=350°F.—375°F.—350°F.

Room temperature at start=89·5°F.
(Also filter temperature)

Air temperature after passing through filter and breathed immediately after commencing test:

			= 89·5°F.
After	5	minutes	= 94·0°F.
,,	10	,,	= 97·7°F.
,,	15	,,	=100·5°F.
,,	20	,,	=103·6°F.
,,	25	,,	=105·0°F.
,,	30	,,	=112·0°F.
,,	31	,,	=114·0°F.
,,	32	,,	=115·0°F.
,,	33	,,	=116·2°F.

The test was stopped after 33 minutes.

It was apparent from the test that this filter effectively combats high temperatures and allows the breathing of air at a reasonable temperature for at least a half hour.

EFFICIENCY TESTS OF AN AUSTRALIAN MADE ORGANIC VAPOUR RESPIRATOR

Several locally manufactured cartridges were tested, and compared with a well-known overseas brand. For the purposes of the test the vapour used was toluene; obtained by bubbling air through the liquid contained in a Greenburg-Smith impinger apparatus. Airflow through the cartridges varied between 10,000 and 13,500 cubic centimetres per minute, depending apparently on the resistance of the cartridge. This flow was about half the normal breathing rate. Part of this air by-passed the impinger, so as not to obtain too great a concentration in the chamber; the inlet concentration of toluene averaged 500 parts per million. As the inlet concentration was reasonably high, one cartridge, was tested until breakdown, to see how long protection may be obtained at such concentration, and at the prevailing airflow.

Results of the tests carried out were as follows:—

Table 5

Respirator Cartridge	Air Flow Cubic Centimetres Per Minute	Toluene Concentration Parts/Million of Air	
		Before Cartridge	After Cartridge
Well-known overseas brand ..	9,500	500	8
Locally manufactured	10,000	550	8
Breakdown list	10,000	320	30 minutes 30 p.p.m. 60 minutes 120 p.p.m. 90 minutes—broken down

DETECTOR TUBES

During the last two or three years comparatively inexpensive and easily operated gas detector kits have become very popular in industry. From our limited experience, it is clear that some of the "tubes" recommended for use to detect the presence of certain toxic chemicals, do not give very accurate results. Therefore, in some instances safety officers could be seriously mislead in their appraisal of certain potentially toxic situations.

It is our intention, in the near future, to carry out full and controlled tests on certain of the available tubes in order to determine their effectiveness.

This has already been done for the "carbon monoxide" tubes, with the following results:—

(1) Siebe Gorman P.S. Carbon Monoxide Detector=370 parts/million
Drager Multigas Detector—CO tube =380 ,, ,,
Kittagawa tube =300 ,, ,,

(2) Siebe Gorman =165 ,, ,,
Drager =160 ,, ,,
Kittagawa =150 ,, ,,

(3) Siebe Gorman = 65 ,, ,,
Drager = 60 ,, ,,
Kittagawa = 50 ,, ,,

To check the effect of temperature, tests were carried out on gas at approximately 150° Centigrade using the Siebe Gorman instrument. The tubes became hot during sampling. At this temperature the following results were obtained:—

(1) Cold gas=365 ppm. Hot gas=760 ppm.
(2) Cold gas=150 ppm. Hot gas=260 ppm.

RECONDITIONING OF GLOVES

A New South Wales firm cleans industrial gloves and clothes at a comparatively cheap price. Because an industrial union expressed certain doubts as to the effectiveness of the procedure arrangements were made to determine the residual oil content of two pairs of reconditioned knitted cotton gloves.

Representative samples, when continuously extracted in a Soxhlet apparatus with carbon tetrachloride, yielded 17·0 per cent. of oil-grease mixture.

A similar type glove, soiled to the same degree, was stated to be washed with a non-ionic detergent with the addition of a small amount of carboxy methyl cellulose, followed by treatment with a quaternary ammonium compound acting as a bactericide. A representative sample of the cleaned glove when extracted as before, yielded 5·4 per cent. oil-grease mixture.

Both cleaned gloves gave an oil smear when rubbed on a glass surface.

Radiation

The Radiation Branch, established in 1959 to administer the Radioactive Substances Act, 1957, and its regulations, was brought up to strength by the appointment of a third scientific officer, it now consists of these three persons (including the officer-in-charge), a clerk, typist and photographic assistant.

NATURE OF WORK

The Branch's work consists of:—

(*a*) investigations of health hazards associated with the use of radioisotopes and x-ray machines, with a view to licencing the users, or their immediate supervisors;

(*b*) investigations of x-ray departments, etc., on a routine basis, in order to advise concerning radiation-dosage reduction;

(*c*) investigation of suspected or alleged radiation hazards;

(*d*) monitoring of person's radiation dosages, by means of film-badges, and investigation of circumstances causing high dosages; and

(*e*) administration of the Act and Regulations.

For these purposes, a total of 137 visits were made. These were distributed as follows:—

Table 6

Category	Number of Man Visits
Medical practitioners	21
Hospitals (excluding laboratories)	34
Research laboratories	23
Industries	33
Dentists	1
Veterinary surgeons	0
Chiropractors	8
Miscellaneous	17
Total	137

LICENSING

Many of these visits were concerned with the licensing of persons under the Act, and during the year the total licences issued rose from 147 to 325.

Table 7

Category	Total Licences at 31st December, 1960	No. of Licences Issued during 1960		Investigations Proceeding	Rejected Applications
		Immediately	After Investigation		
Medical	176	69	13	1	4
Hospital	35	12	2	0	0
Research	22	4	12	2	0
Industrial	74	0	48	5	1
Chiropractic	18	0	18	5	1
Total	325	85	93	13	6

It is worth mentioning that medical practitioners, dentists and veterinary surgeons using x-rays for diagnostic purposes do not have to be licensed, and therefore the medical and hospital categories shown above apply only to the use of radioisotopes, or of x-rays for fluoroscopic or therapeutic purposes.

The rejected applications came from four ear, nose and throat specialists wishing to use radon in nasopharyngal applicators, a country store wishing to use a pedoscope (foot fluoroscope) for shoe-fitting, and a chiropractor whom the Radiological Advisory Council did not consider adequately qualified.

AMENDMENTS TO REGULATIONS

During late 1959 and 1960, on the recommendation of the Radiological Advisory Council, three sets of amendments to the Regulations were gazetted. Briefly their purpose was:—

(*a*) to eliminate natural background and radiation received in the course of medical treatment from the calculation of a person's total dosage;

(*b*) to permit the transport of greater strengths of radioisotopes (e.g., radiographic sources) in the one container than hitherto;

(*c*) to simplify the requirements regarding the maximum permitted dosage rates on, or at a fixed distance from, the surface of a package intended for transport;

(*d*) to make provision for application for renewal of licences.

These amendments have had no significant effect on our work.

LIAISON WITH THE COMMONWEALTH X-RAY AND RADIUM LABORATORY, AND WITH THE AUSTRALIAN ATOMIC ENERGY COMMISSION'S RESEARCH ESTABLISHMENT

The Branch has continued a close liaison with these two Commonwealth organisations. The former is the body controlling the import of radioactive substances under the Customs (Prohibited Imports) Regulations; at Lucas Heights, the latter began to produce a range of radioisotopes for use in industry, medicine and research. Both bodies have instituted a system whereby we are notified when potential users receive radioisotopes. Such information is of great value in ensuring that this Branch has a complete knowledge of the distribution of radioisotopes throughout the State, and that the users are licensed.

TRACER STUDIES

Most of these were carried out by the Isotopes Section of the A.A.E.C. Research Establishment, and involved the use of radioisotopes manufactured in the Lucas Heights reactor. They included the following:—

(*a*) 3 millicuries of iodine-131 was used to determine the time of mixing of cleansing powder in a batch mixer at a soap factory.

(*b*) 3 millicuries of iodine-131 was used to measure the rate of flow in the various pipes of an oil-circulating heating system used to dry the printing on packages.

(*c*) 12 millicuries of krypton-85 was used to determine the rate of flow of acetylene at a polyethylene plant.

(*d*) the movement of silt on the bed of the Hunter River was traced using 100 millicuries of barium-140 in approximate equilibrium with lanthanum-140. A subsequent test for the same purpose in Newcastle Harbour used 10 curies of gold-198.

(*e*) 100 millicuries of gold-198 was used to determine the rate of mixing and dilution of effluent from a sulphuric-acid plant with the waters of a creek adjacent.

(*f*) the tracing of leakage in underground air mains at a state government enterprise was carried out by filling the relevant sections with a total of 300 millicuries of sodium-24 in water, and determining its points of emergence on the surface.

(*g*) In order to determine the rate of dispersion of a solid (e.g., silver iodide) into the air for rain making, about 100 millicuries of copper-64, in the form of finely-divided oxide, was released 1,500 feet above the ocean, and its course and dispersion traced by scintillation probe.

(*h*) A study to determine the rate of flow of the Murrumbidgee River above Gundagai by a "total count" method, was successfully carried out using 10 millicuries of gold-198.

In all these tests, satisfactory safety arrangements were made by the Isotopes Section. For the ultimate disposal of the wastes, use was made of natural decay and environmental dilution. In some factories, it was necessary to hold the material until its concentration had fallen below the equivalent of drinking water tolerance.

A technique similar to (*f*) above is the use of radon to determine leaks in the outer sheathing of P.M.G. cables. In country districts, it is customary to keep the main cables pressurised with air, in order to exclude water should a leak develop. If it does, about 50 millicuries of radon is fed into the cable and its course traced by means of a Geiger-Muller counter. The point of emergence of the gas, and therefore the point of leakage, can be determined to within a few inches. Two to three days are allowed to elapse before digging, in order to allow dispersion of the gas. On one such occasion, soil was sampled whilst the gas was emerging, but showed no residual activity when tested in the laboratory a few hours later.

THICKNESS AND LEVEL GAUGES

At the end of the year, 18 firms possessed a total of about 42 gauges for determining thicknesses, weights per unit area, or levels. Generally strontium-90 or thallium-204, both beta-emitters, are used for the former two purposes. Source strengths range from 5 to 675 millicuries, but with the exception of those used to measure sheet-steel thicknesses, all are under 50 millicuries. The level gauges are actuated by gamma radiation, either from radium-226 or cobalt-60, and their source strengths do not exceed 10 millicuries.

In all cases, dosage rates to operating personnel are low, and furthermore, the equipment is in charge of a licensee, who is a responsible officer of the firm. Film-badging, where considered necessary, is confined only to maintenance staff, who might in the course of their employment work adjacent to the source, or be engaged in its temporary removal from the gauge. This Branch insists that source holders be labelled with the radiation symbol, and that unauthorised removal of sources from the equipment be virtually impossible.

INDUSTRIAL RADIOGRAPHY

This is the industrial field in which high radiation dosages are likely to occur. About fifteen organisations are engaged in this work, and they employ approximately 40 radiographers. Both x-ray units and radioisotopes are used. The former may operate at up to 400 KVp, though voltages about 170–230 KVp are more common. Iridium-192 in strengths up to 7½ curies, and caesium-137 in strengths up to 5 curies, usually comprise the latter. Rarely, Cobalt-60 (up to 1 curie) is used.

Two of the above organisations are engaged on contract radiography and the continuity of their work is conducive to high dosages. This is particularly so when, for convenience, radioisotopes are used instead of x-ray units; indeed dosage rates may be four or more times as high with the former as with the latter. During the year three persons, all members of the one firm, received cumulative dosages exceeding the 5,000 millirem permitted under the regulations. Steps being taken to reduce future exposure include:—

(i) Use of x-ray units where practicable, instead of radioisotopes.

(ii) The design and use of remote-handling gear, sufficiently light for transport, but adequate to shield the iridium and caesium sources in common use.

"Swipe tests" were carried out on the majority of the twenty caesium sources in use, in order to detect the possibility of leakage from the capsule. None was detected. It is hoped to carry out these tests at six-monthly intervals.

REDUCTION OF DOSAGE IN INDUSTRIAL X-RADIOGRAPHY

The use of diaphragms and cones to limit scatter radiation, though common in hospitals, is virtually unknown in industrial radiography. At one aircraft factory, radiographs of aircraft wings are taken with the portable x-ray unit on the ground, and the beam directed upwards. Scatter radiation dosages, particularly when radiographing near the wingtips, used to reach about 30 milliroentgens per hour in nearby occupied areas. The use of suitable lead diaphragms to limit the beam to the area of the plate, resulted in reduction of these dosages to as little as 1 milliroentgen per hour, virtually allowing full-time occupancy to non-radiation workers employed in the vicinity.

MEDICAL RADIOGRAPHY

Periodic visits to hospitals, radiologists, physicians, dentists and other medical users of x-rays and isotopes have been continued throughout the year, to advise on methods of reducing radiation dosage to staff and patients to desirable levels.

Such advice has taken into account measurements of leakage, scatter and direct radiation, examination of filtration collimation and working methods, and shielding of working places and adjacent occupied areas.

A noticeable trend has been the increase in use of light beam diaphragms, lead rubber protective drapes, and adequate additional aluminium filtration, all of which contribute to reduction in radiation levels.

Nevertheless, unsatisfactory installations, and unsafe practices are still encountered.

In one recent instance owing to a faulty fluorescent screen and absence of any additional filtration, the table top dosage during screening operations was measured as 26 Rem per minute, which compares with the accepted limit of 10 Rem per minute.

Such instances emphasise the need for the radiologist in charge of x-ray establishments to control and be conversant with the techniques and practises which are used in the x-ray departments during his absence.

RADIATION FROM WRIST WATCHES

On 18th December, 1959, there appeared a statement in the Sydney press that the U.S. Atomic Energy Commission had recently reported that there were available, in America, a number of watches, made by the Rolex Company, in which the luminous paint was activated by strontium-90. It was alleged that this radioisotope was present in excessive strength.

Samples of the suspected watch, the "G.M.T. Master" were made available by a local firm, and were examined by this Branch. The watch proper is surrounded by a rotatable bezel, by which Greenwich Mean Time can be set adjacent to the local zone time. It was found that this rim contained most of the activity, and possibly supplied 90 per cent. of the radiation dosage to the wrist. This latter was estimated by measurement to be about 150 rem per year if worn continuously. By calculation, and by film-badging, much higher dosages were found, and it was considered that continuous wearing of one of these watches would ultimately lead to erythema of the wrist. However, the gonadal dosages would be negligible, due to the shielding effect of the clothing.

About the same time, the Swiss Rolex Company offered to replace the rim of any such watch submitted to its agents with one of much lesser activity. This would be done free of cost. During the year, we saw two such watches (apart from those originally submitted for test), and in each case advised the owner to contact the local agents, or the Rolex Company direct. Other watches were tested at the same time, but none showed activities approaching those of the "G.M.T. Masters."

TESTING OF LUMINOUS OBJECTS

During the year, a number of luminous objects, such as toys, books, clothing, religious emblems and plastic light switches, were submitted for test by members of the public. In no case was any significant radioactivity detected.

The advice commonly given, which has been embodied in a circular, is to place the suspected object in a light-tight container (e.g., a drawer) one night, and to examine it in complete darkness the next night. If there is appreciable residual glow, the object should be submitted to us for test. In practice, the article is found to be "dead" after a few hours in complete darkness.

FILM BADGE SERVICE

During the year, this phase of our work has expanded from approximately 130 subscribers in 18 organisations, using 150 films per month, to over 1,000 subscribers in 157 organisations, using nearly 800 films per month. The distribution of the organisations is as follows:—

18 industrial firms or departments.

46 hospital departments.

16 private medical practices.

71 dental surgeries

6 scientific organisations or departments.

It will be seen, therefore, that the film-badge coverage of radiation workers in New South Wales is by no means complete, particularly in regard to private medical practitioners. It is hoped during 1961 to improve the position and institute a scheme whereby the period of exposure before changing badges may range up to three months, depending on the fraction of the permissible dosage usually received.

At present, industrial users wear their films for periods varying from one week to three months, according to the industry, medical users for one month and dentists for three. DF11 dental film is used because of its ready availability, but when our film requirements become stabilised, we intend changing to one or more of the recognised personnel-monitoring films.

Air Pollution

CLEAN AIR BILL

The most significant development in air pollution matters during 1960, was the presentation to Parliament on the 6th April, of a draft Clean Air Bill. Broadly, the Bill follows the recommendations of the special committee of industrial, university and Government representatives appointed by Cabinet in 1955, "to examine the nature, causes and effects of air pollution and the efficacy of present preventative measures; to consider what further preventative measures are practicable; and to make recommendations". After evidence had been presented that air pollution problems existed and that these could easily become more serious unless action was taken, the Committee recommended the introduction of new legislation and other control measures.

In the form presented to Parliament the draft of the Clean Air Bill followed the recommendations very closely, although a new provision for the establishment of an Air Pollution Advisory Committee was included. The Committee is to consist of representatives of Government departments, universities, industrial and labour organisations, with the Director-General of Health or his nominee as chairman and its function will be to advise the Minister on matters concerning regulations and the administration of the Clean Air Act.

The Bill states that the Committee shall have the power to make recommendations to the Minister and alternatively that the Minister can refer to it, matters concerning implementation of the legislation. Generally, the Committee's functions are to be related to certain industries which are to be licensed, including the relevant public utilities. These may be amended at any future time.

The scheduled industries, included in the original draft Bill were as follows:—

Any premises—

(*a*) being used for
brick, tile, pipe and pottery works,
cement works,
chemical manufacturing works of any kind, including works in which plastics and insecticides are manufactured,
coal gas works,
metallurgical works reclaiming metal from scrap,
metallurgical works smelting or converting ores into metal or any kind,
oil refineries,

(*b*) or on which there are
coke ovens,
furnaces used for the melting of non-ferrous metals for casting purposes or furnaces and cupolas used for the melting of alloys of iron or steel,
boilers consuming more than one ton of solid fuel per hour.

Administration of control of pollution from sources other than the scheduled industries is proposed to remain primarily the responsibility of city, municipal or shire councils. Where necessary the central departmental organisation or the Air Pollution Advisory Committee would assist by providing scientific advice and/or investigational facilities. The local authorities referred to will not be concerned with the scheduled industries.

Owing to the complexity of the problem of air pollution control and the wide public interest which has been expressed in the subject, the Clean Air Bill was left open for general comment during 1960, but it is expected to pass through the final Parliamentary stages in the early part of 1961. During 1960, many persons commented on the Bill, including those representing industrial establishments and so far opinion has been almost unanimously favourable towards the proposals.

NEW EQUIPMENT

In recognition of the need for the provision of adequate scientific facilities to accompany the introduction of the Clean Air Act, the Department received a substantial allocation for new apparatus during the 1959–1960 financial year. Most of the new items were received during the early part of 1960.

The major single item received was a double beam recording infra-red spectrophotometer which will enormously facilitate the identification and analysis of atmospheric constituents, especially those of a chemical nature. Accompanying the spectrophotometer, the Department also received a dual 40-metre path length gas cell, in which impurities in atmospheric samples can be directly examined. The Department also obtained vapour phase chromatographic equipment, which apart from its own individual applications, will serve as a valuable complement to the infra-red apparatus. It is intended that vapour phase chromatograph will be used for the separation of complex mixtures and that, if necessary, the individual components will be examined for characteristic infra-red spectra. Other valuable items of equipment received included automatic gas analysis apparatus and meteorological instruments, particularly for the recording of wind direction and velocity.

MONITORING STATIONS

The results of the routine monitoring stations for 1960 are shown in Tables 8, 9, 10, and 11. As in other recent years the demand for measurements of this type has increased and the number of stations at which measurements were made in 1960 was the greatest of any year so far. In addition to the testing stations shown in the tables, which include only those of general significance, a considerable number of testing points also were operated in the vicinity of specific sources of pollution. The number of testing points which are of a semi-permanent nature, in this category has also increased markedly in recent years.

Broadly, the general picture obtained from the New South Wales' measurements indicates a general similarity with United States cities of comparable size. Compared to Great Britain, smoke and sulphur dioxide concentrations found in New South Wales' cities are very low, but as reported previously, deposited matter generally is as high and frequently higher than average British cities. The comparatively low smoke density could be partly attributed to smaller domestic production in this country and partly to the more favourable atmospheric conditions, especially during the winter months. These would also tend to favour the dispersion of gases such as sulphur dioxide and this is probably the main reason for the lower concentrations recorded in New South Wales' cities. An additional though probably not so important factor is the generally lower sulphur content of New South Wales' coals compared to those available in Great Britain, and certain other parts of the world. For example, in Christchurch, New Zealand, a city much smaller than Sydney, the combination of severe low level inversions during the winter months, and comparatively high sulphur content coals, tends to produce a much higher level of sulphur dioxide than is normally recorded here.

On the other hand, in Great Britain progress has probably been more rapid in recent years towards the control of industrial sources of pollution. These are predominantly responsible for grit emission and hence dust-fall within Sydney, Newcastle and Port Kembla is, on the whole, greater than most of the comparable cities in England. There has been a tendency towards a lower deposited rate in the cities of Sydney amounting to approximately 25 per cent. reduction between the beginning of 1954 and the end of 1960, but it would be impracticable here to attempt to discuss the reasons for these trends. Therefore this and many of the other detailed aspects of the air pollution observations are to be included in a complete report dealing with the survey to the end of 1960. This is currently in preparation and should be available within the near future.

Table 8—Mean Deposit Gauge Results, 1960

Tons per Square Mile per Month

Location of Gauge	Water Insoluble Solids	Combustible Matter	Ash	Water Soluble Matter
(*a*) City of Sydney—				
City, Martin Place	21·5	5·7	15·8	6·4
City, Town Hall	19·7	5·3	14·4	6·5
City, George Street North	13·5	3·8	9·7	6·4
City, Central Railway	17·6	4·8	12·8	5·5
City, Art Gallery	13·9	3·7	10·2	6·6
Potts Point	20·3	5·6	14·7	7·4
Pyrmont	44·6	11·2	33·4	7·8
Ultimo	16·3	4·5	11·8	6·3
Redfern	12·0	3·7	8·3	6·6
Darlington	13·8	4·1	9·7	5·6
Paddington	12·5	3·5	9·0	4·3
Darling Point	9·2	2·9	6·3	5·2
Rosebery	11·3	3·7	7·6	5·1
Alexandria	46·7	11·8	34·9	8·1
Mascot, Coward Street	12·8	3·4	9·4	5·3
Mascot, King Street	15·6	3·5	12·1	6·3
Botany, Aylesbury Street	15·1	3·7	11·4	6·3
Botany, Bourke Street	8·9	2·6	6·3	5·9
Eastlakes	10·9	3·1	7·8	5·4
Maroubra Junction	20·5	5·5	15·0	4·1
Matraville, Baird Avenue	41·6	8·6	32·8	5·2
Matraville, Carnegie Circuit	40·3	10·5	29·8	6·7
Matraville, Jersey Road	20·8	5·5	15·3	3·8
Leichhardt	11·6	4·1	7·5	4·9
Annandale	13·3	3·6	9·7	5·1
Rozelle, Quirk Street	18·1	5·8	12·3	6·6
Rozelle, Terry Street	52·0	24·4	27·6	7·8
Rozelle, Clubb Street	22·7	9·0	13·7	4·7
Rozelle, Callan Park	12·4	5·1	7·3	4·4
Balmain, Birchgrove Road	12·7	4·6	8·1	4·9
Balmain, High Street	15·4	6·3	9·1	4·0
Fivedock	8·9	3·2	5·7	6·3
Drummoyne, Cary Street	14·9	5·3	9·6	5·3
Drummoyne, Regatta Street	11·9	3·5	8·4	4·4
Cabarita	17·0	8·8	8·2	6·5
Mortlake	11·6	5·4	6·2	3·8
Concord	7·7	2·5	5·2	3·4
Rhodes	16·1	5·7	10·4	5·9
Sydenham, Prince's Highway	27·8	5·7	22·1	6·8
Sydenham, Unwin's Bridge Road	11·9	3·5	8·4	3·8
Silverwater	13·7	4·0	9·7	7·2
Auburn, Stubb Street	17·4	3·8	13·6	3·8
Auburn, Asquith Street	22·2	5·8	16·4	4·4
Auburn, 237 Parramatta Road	13·2	3·3	9·9	4·4
Lidcombe	12·8	2·7	10·1	3·1
Bankstown	8·4	2·5	5·9	2·6
Greenacre	9·6	2·7	6·9	2·7
Panania	6·1	2·2	3·9	2·8
Chester Hill	8·1	2·0	6·1	3·0
Cremorne	12·9	5·8	7·1	5·5
Cammeray	8·9	2·5	6·4	2·4
Crows Nest	9·1	2·7	6·4	4·5
Gordon	6·3	2·2	4·1	3·0
Hornsby	5·1	2·0	3·1	3·5
Strathfield, Newton Road	7·2	2·2	5·0	1·4
Strathfield, Palmer Avenue	8·4	2·6	5·8	1·6
(*b*) City of Parramatta—				
1 Buller Street	32·5	7·9	24·6	2·7
5 Buller Street	27·9	6·6	21·3	2·5
48 Buller Street	12·1	2·1	10·0	1·5
Grose Street	7·6	2·5	5·1	2·5
136 Victoria Road	9·2	2·0	7·2	2·6
Epping	14·0	3·8	10·2	4·7
Guildford, 57 Macarthur Street	18·3	2·8	15·5	2·7
Guildford, 23 Macarthur Street	11·0	2·5	8·5	2·2
Guildford, Woodstock Street	16·7	3·9	12·8	3·6

Location of Gauge	Water Insoluble Solids	Combustible Matter	Ash	Water Soluble Matter
(*c*) City of Newcastle—				
City, East	33·1	14·0	19·1	28·6
City, Town Hall	13·7	6·3	7·4	24·7
Mayfield, Church Street	21·9	8·9	13·0	16·5
Mayfield, Carrington Street	31·5	11·2	20·3	17·7
Mayfield, Ingall Street	32·0	10·3	21·7	19·3
Mayfield, Walsh Street	27·3	9·7	17·6	13·5
Tighes Hill	78·3	17·9	60·4	20·8
Stockton	26·3	11·8	14·5	20·6
Broadmeadow	14·4	5·3	9·1	13·6
Kotara, Gregory Parade	13·0	6·8	6·2	8·4
Kotara, Woodlands Avenue	14·5	7·3	7·2	14·0
Waratah	13·0	4·8	8·2	12·5
(*d*) City of Wollongong—				
City	16·9	5·3	11·6	7·8
Port Kembla, Wentworth Street	27·1	6·0	21·1	11·6
Port Kembla, Jubilee Street	32·4	7·3	25·1	7·9
Port Kembla, Military Road	40·3	8·8	31·5	12·6
Warrawong, Taurus Avenue	35·4	9·8	25·6	6·7
Warrawong, 149 Flagstaff Road	55·0	20·8	34·2	6·0
Warrawong, 217 Flagstaff Road	19·3	5·3	14·0	4·7
Lake Heights, Northcliffe Drive	24·6	8·3	16·3	5·6
Cringila, Monteith Road	40·7	13·8	26·9	5·9
Cringila, Sheffield Street	35·9	8·0	27·9	4·3
Primbee, Korrongulla Crescent	22·0	6·5	15·5	4·6

Table 9—Smoke Density Measurements in New South Wales—1960

Location	Result	Smoke Concentration—COHS/1,000 Linear Feet											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
(*a*) City of Sydney—													
City, Town Hall	M.	0·6	0·9	1·1	1·2	1·4	1·6	1·5	1·8	0·7	0·6	0·5	0·8
	H.D.	1·9	2·0	3·0	2·3	4·3	2·4	4·0	4·0	2·0	1·0	0·8	2·0
City, George Street North	M.	0·7	0·7	0·8	0·9	0·8	1·4	1·7	1·5	1·2	1·0	1·0	0·9
	H.D.	1·3	1·5	1·5	2·4	2·0	2·4	4·6	2·3	1·9	1·5	2·4	2·0
Paddington	M.	0·5	0·5	0·7	1·0	1·4	1·6	1·8	1·8	1·2	0·7	0·5	0·6
	H.D.	2·0	1·6	2·1	2·6	2·5	3·3	4·1	3·2	3·0	1·8	1·0	1·6
Balmain	M.	0·6	0·9	0·9	0·9	1·0	1·0	1·1	1·1	0·9	0·8	0·6	0·7
	H.D.	1·5	1·4	1·3	1·8	2·6	1·6	2·5	2·0	1·9	1·4	1·2	1·3
Annandale	M.	0·8	1·0	1·5	1·3	1·5	1·4	1·7	1·6	1·3	0·9	0·8	0·7
	H.D.	1·9	1·7	2·3	2·3	4·4	3·2	3·6	2·8	2·7	1·9	1·7	1·8
Redfern	M.	0·7	0·9	1·2	1·2	1·6	2·1	2·1	1·8	1·6	1·3	0·8	0·8
	H.D.	1·5	1·5	2·4	2·5	5·6	3·1	3·4	2·7	2·6	2·7	1·8	1·7
Mascot	M.	..	..	1·1	1·3	1·6	1·6	2·2	1·8	1·6	0·9	0·8	0·5
	H.D.	..	..	2·6	2·8	3·6	3·5	3·9	3·8	2·7	2·8	1·6	1·5
North Sydney	M.	0·7	0·8	0·6	0·9	1·0	0·9	1·1	0·9	0·9	0·6	0·5	0·8
	H.D.	1·3	1·3	1·2	1·5	4·4	2·0	2·8	1·9	1·5	1·1	1·3	1·3
Matraville	M.	0·6	0·6	0·8	1·2	1·2	1·0	1·6	1·2	1·1	0·7	0·6	0·5
	H.D.	2·0	2·4	3·0	4·0	5·3	2·4	3·8	2·8	2·9	1·8	2·1	2·2
(*b*) City of Newcastle—													
City, East	M.	0·4	0·8	2·6	1·7	1·3	1·2	1·4	2·0	2·0	1·4	1·0	0·6
	H.D.	3·6	1·9	2·7	2·7	3·6	5·0	3·3	5·5	5·0	4·6	2·5	1·9
City, City Hall	M.	1·7	1·3	1·1	3·4	2·5	2·2	2·9	3·5	2·7	2·2	1·6	1·3
	H.D.	4·6	3·3	3·7	4·3	5·3	5·1	7·8	5·1	5·1	6·0	3·7	3·9
Mayfield East	M.	2·2	1·8	2·8	2·1	1·9	1·8	2·3	2·1	1·7	1·6	2·2	2·2
	H.D.	4·9	5·5	4·1	4·0	6·2	3·5	5·2	4·9	3·8	4·6	4·2	7·0
(*c*) Cessnock—													
Cessnock	M.	0·5	0·5	0·7	1·3	0·8	1·5	1·3	1·6	1·3	0·8	..	..
	H.D.	1·1	0·8	1·6	2·3	1·0	4·0	2·4	2·7	2·3	1·7	..	..
(*d*) City of Wollongong—													
Port Kembla	M.	0·5	0·4	0·5	0·6	1·0	0·5	0·9	0·7	0·9	0·9	0·8	0·4
Military Road	H.D.	1·6	1·2	3·8	1·2	4·2	3·2	2·4	2·6	2·9	3·3	3·7	2·3
Port Kembla	M.	0·3	0·3	0·2	0·5	0·9	0·4	0·6	0·5	0·5	0·7	0·6	0·7
Third Avenue	H.D.	1·1	1·1	1·9	1·2	2·8	1·3	1·8	1·3	2·2	2·0	1·9	3·2
Port Kembla	M.	0·4	0·3	0·2	0·7	0·6	0·4	0·7	0·5	0·6	0·5	0·6	0·4
Crn. Cowper and Parkes Streets	H.D.	2·1	0·8	2·0	1·6	2·1	1·9	1·7	1·5	2·3	1·4	1·5	1·6
Port Kembla	M.	0·8	0·6	0·4	1·1	0·8	0·6	0·7	0·6	0·8	0·8	1·1	..
Jubilee Street	H.D.	2·3	1·9	4·3	3·0	4·1	3·6	2·2	2·7	3·5	2·2	2·7	..
Port Kembla	M.	0·4	0·3	0·1	0·4	0·5	0·4	0·9	0·6	0·6	0·7	0·9	..
Teroscoa Lane	H.D.	1·2	1·3	1·2	1·3	1·4	2·0	2·7	2·3	2·6	2·3	2·9	..
Port Kembla	M.	0·1	0·1	0·2	0·4	0·7	0·4	0·4	0·8	0·4	0·3	0·4	0·5
Somme Street	H.D.	0·6	0·4	0·7	1·2	2·8	1·7	1·5	1·9	1·6	1·1	1·0	2·5
Warrawong—													
Cnr. Flagstaff and Lake Heights Roads	M.	0·3	0·2	0·2	0·2	0·3	0·4	0·3	0·3	0·3	0·2	0·3	0·4
	H.D.	1·1	0·6	0·8	0·6	0·7	1·1	1·1	1·6	1·8	0·7	0·8	1·1
Primbee	M.	0·2	0·2	0·2	0·2	0·3	0·2	0·4	0·3	0·2	0·2	0·2	0·5
James Avenue	H.D.	0·6	0·5	1·3	0·6	1·2	0·5	1·7	0·9	1·2	0·6	0·5	2·6
Lake Heights	M.	0·3	0·2	0·1	..	0·3	0·2	0·3	0·3	0·3	0·2	0·4	0·3
Lake Heights Road	H.D.	3·2	0·7	1·3	..	1·2	0·6	1·3	1·2	1·0	1·0	1·0	0·7

M.—Mean
H.D.—Highest Day

Table 10—*Sulphur Dioxide Concentration in New South Wales*—1960

Location	Result	Sulphur Dioxide Parts per Hundred Million											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
(a) City of Sydney—													
City, Town Hall	M.	1·2	0·9	0·7	1·3	2·1	2·6	1·9	2·5	1·6	1·0	0·8	0·7
	H.D.	4·1	2·2	2·8	3·7	9·6	4·6	4·3	4·6	4·6	3·2	4·2	2·0
City, George Street North..	M.	5·6	5·0	4·9	5·3	5·1	6·4	3·8	3·6	2·1	2·2	2·5	1·9
	H.D.	12·0	9·7	7·6	9·5	10·0	11·6	5·8	4·6	3·8	3·8	4·6	3·0
Paddington	M.	2·3	2·1	2·5	3·4	2·7	3·1	3·4	3·5	2·9	2·5	2·9	2·8
	H.D.	4·4	4·0	4·0	7·3	4·7	5·7	5·8	5·4	8·0	4·4	4·8	5·6
Balmain	M.	1·2	1·3	1·4	1·3	1·4	2·1	1·7	2·2	1·8	..	..	..
	H.D.	2·0	2·7	4·2	2·2	2·7	3·1	2·8	5·4	3·2	..	..	..
Annandale	M.	0·7	0·8	1·1	1·1	1·1	1·3	1·4	1·7	1·3	0·6	0·8	0·9
	H.D.	1·7	1·4	1·7	1·8	2·5	3·2	2·7	3·0	1·9	1·1	1·5	1·7
Redfern	M.	4·5	3·8	3·9	3·8	3·3	2·9	2·9	3·7	4·1	8·1	11·9	9·9
	H.D.	11·2	6·2	8·1	6·2	5·0	4·6	3·7	5·3	6·6	18·6	20·0	32·1
Mascot	M.	..	..	0·9	1·1	1·1	1·3	1·6	1·7	1·4	1·0	1·0	0·7
	H.D.	..	..	2·1	1·5	2·3	3·0	2·7	3·2	4·8	3·6	1·6	1·2
North Sydney	M.	1·2	1·2	0·7	1·0	1·4	1·2	1·3	1·3	1·1	0·8	0·7	0·7
	H.D.	1·8	2·6	1·8	1·9	2·9	2·0	2·8	2·4	1·8	1·2	1·1	1·1
Matraville	M.	2·4	1·9	1·6	2·0	2·3	2·6	2·3	2·2	2·0	2·0	1·6	1·5
	H.D.	14·2	4·2	3·4	3·7	4·6	4·2	4·2	2·9	3·6	5·0	3·4	3·5
(b) City of Newcastle—													
City, East	M.	3·7	1·8	0·7	1·5	2·4	1·8	2·1	2·6	1·8	1·2	1·4	1·1
	H.D.	9·0	4·0	3·6	2·5	5·1	3·7	5·3	4·1	6·7	2·8	2·6	2·0
City, City Hall	M.	0·9	1·9	..	1·7	0·9	1·3	1·5	2·2	1·5	1·2	1·9	1·0
	H.D.	5·1	3·5	..	4·1	2·5	3·8	6·1	4·1	3·8	3·2	4·7	2·2
Mayfield, East	M.	2·9	1·4	1·1	0·9	0·2	0·7	1·5	1·5	0·8	1·1	1·4	1·0
	H.D.	6·2	2·6	2·0	1·7	1·2	2·2	2·2	4·7	2·5	1·9	2·3	4·8
(c) City of Wollongong—													
Port Kembla	M.	5·6	4·0	2·6	2·3	2·3	0·9	3·1	1·7	1·7	2·4	2·2	..
Military Road	H.D.	24·6	19·5	17·0	8·7	14·2	7·0	12·6	10·8	7·6	20·0	8·8	..
Port Kembla	M.	2·2	2·2	1·6	2·0	3·3	0·8	2·3	0·4	1·0	1·3	1·7	..
Third Avenue	H.D.	7·7	5·9	8·7	4·5	18·0	5·0	10·5	6·9	6·3	4·8	4·4	..
Port Kembla	M.	8·7	6·2	2·4	2·5	1·2	0·8	1·2	2·4	2·1	1·6	4·0	..
Cnr. Cowper and Parkes Streets	H.D.	59·8	40·9	14·2	10·7	6·3	10·4	4·2	15·6	17·8	3·8	18·2	..
Port Kembla	M.	1·5	1·4	1·7	1·5	1·2	0·5	0·7	0·6	1·2	0·9	1·7	..
Jubilee Street	H.D.	6·2	5·5	5·9	3·0	3·1	1·4	3·6	2·2	7·1	2·8	4·1	..
Port Kembla	M.	2·3	2·0	1·6	5·2	8·1	2·4	8·8	2·5	5·3	4·1	3·8	..
Terascoa Lane	H.D.	8·6	4·8	6·9	14·4	33·0	15·4	29·2	8·1	28·8	21·4	11·3	..
Port Kembla	M.	1·3	0·7	0·4	1·6	2·1	0·5	1·7	0·7	1·1	0·3	0·6	..
Somme Street	H.D.	15·5	4·9	1·9	5·5	8·9	4·6	7·0	4·8	9·0	2·5	3·7	..
Warrawong	M.	0·2	0·2	0·3	0·5	0·2	0·2	0·2	0·1	0·2	0·2	0·2	..
Cnr. Flagstaff and Lake Heights Roads ..	H.D.	1·1	0·8	1·5	2·0	0·5	0·4	0·6	0·6	0·7	0·5	0·8	..
Primbee	M.	1·3	0·7	0·3	0·3	0·3	0·2	0·2	0·2	0·1	0·2	0·5	..
James Avenue	H.D.	6·6	3·2	1·3	1·1	1·3	1·5	1·5	1·2	0·2	0·6	3·2	..
Lake Heights	M.	0·5	0·4	0·5	0·4	0·2	0·2	0·2	0·1	0·1	0·1	0·3	..
Lake Heights Road.. ..	H.D.	2·0	1·3	1·7	1·4	1·4	1·1	0·5	0·8	0·6	0·3	0·9	..
													..

M. = Mean
H.D. = Highest Day

Table 11—*Oxidant Concentrations in Sydney during* 1960
As Ozone, Parts per Hundred Million

Month	City, Town Hall		City, George Street North	
	Mean	Highest Daily	Mean	Highest Daily
January	0·8	3·0	3·4	6·7
February	2·0	5·4	3·0	5·9
March	1·7	4·6	2·6	6·5
April	2·7	5·5	4·2	16·0
May	3·3	5·9	2·2	4·4
June	3·6	8·9	3·9	10·3
July	3·8	7·4	3·2	6·8
August	3·8	6·4	3·3	5·7
September	2·1	4·8	4·3	8·8
October	3·0	5·2	3·9	9·2
November	2·9	6·1	3·3	6·3
December	2·5	6·8	3·8	7·3

SPECIFIC PROBLEMS

Port Kembla Survey

The survey of the Port Kembla area was reported on in considerable detail in the 1958 Annual Report and although the work has continued in the form then described, little new information of significance can be reported. Results obtained from the daily recording stations during 1960 were similar to those observed in the 1958 and 1959 reports, but one point of interest was the occurrence of the highest peak concentration of sulphur dioxide ever recorded on the automatic sampling apparatus. This took place during February, 1960, when the peak concentration of 13·5 parts per million was observed. For the half hour period in which the peak occurred, the mean concentration was 3·6 parts per million. Few other comparable readings have been recorded in any other overseas' survey.

During January, 970 people, out of an approximate total of 1,200, living in East Port Kembla, were medically examined to determine whether or not their health was being adversely affected by atmospheric sulphur dioxide.

The problem was approached in the following way:—

(1) A detailed medical questionnaire was asked to ascertain the incidence of chronic bronchitis.

(2) A dental examination was performed to determine the periodontal index.

(3) The timed vital capacity of each person was ascertained on a Collins' spirometer. This test was repeated on 160 people during August; the purpose was to see if there was any seasonal variation in the results.

(4) Each person was asked to provide any sputum produced during the first hour of rising the next morning after their medical examination. This was graded according to appearance and volume.

(5) Detailed smoking and occupational histories were taken.

Dust Fall in the Vicinity of Cement Manufacturing Works

New South Wales has five cement works, all of which are situated in separate parts of the State and are substantially separate from other closely settled areas. The average clinker production at each of the works is of the order of 200,000 tons per year and until the comparatively recent past, dust control has been either non-existent or limited to relatively inefficient methods. Even now, no works in the State has sufficiently effective dust control equipment, and in general, all are responsible for numerous complaints concerning dust-fall. During 1960, dust-fall observations were conducted in the vicinity of three of the works and results of 100 to 200 tons per square mile occurred in some months near all of them. An example of the dust-fall near a typical plant during 1960 is contained in Table 12.

Brick and Other Ceramic Plants

Investigation of the smoke and soot problem arising from this industry in Sydney and various other parts of the State of New South Wales has continued to be a major divisional activity. In the 1959 Annual Report a description of a new method of firing brick kilns was described and in 1960 a more complete account of the method, prepared by Mr. J. L. Sullivan of this Division and Mr. R. P. Murphy of the Joint Coal Board, was published in the journal of the Institute of Fuel, London. Numerous practical demonstrations of the application of the new technique were given during the year, in one case as far afield as Wagga Wagga in the Riverina District.

Table 12—*Deposited Matter in Vicinity of Dry Process Cement Plant*
Tons per Square Mile per Month—1960

Month	Station 1 0·5 Mile W.	Station 2 0·5 Mile N.N.E.	Station 3 1 Mile N.E.	Station 4 0·5 Mile N.W.
January	118·5	48·7	24·6	..
February	91·8	72·7	46·0	43·4
March	92·9	28·5	17·0	37·0
April	17·5	20·1	6·6	12·8
May	285·5	219·0	27·0	126·3
June	64·7	82·7	54·7	49·4
July	61·8	80·6	27·8	51·7
August	31·6	30·5	22·9	18·5
September	95·1	60·2	36·3	40·7
October	97·6	68·3	46·6	71·9
November	132·5	79·1	..	68·3
December	86·7	61·2	31·6	39·7

In many cases application of the technique, known as split-firing, has enabled works to reduce smoke emission to a satisfactory level. However, an attendant problem of soot emission still awaits a satisfactory solution and work towards this end has been continued by the Division of Occupational Health as well as certain other organisations. In one case, in which a stoneware pipe had caused numerous soot-fall complaints, a very great improvement was achieved by the use of coke for the early stages of firing of each kiln. By this means, soot production during the early part of firing, including the steaming and pre-heating stages was entirely eliminated, and, by the application of the split-firing technique to the later parts of the firing cycle, the problem was reduced satisfactorily.

It is certain that a very worthwhile improvement in the smoke and soot emission problems from brick kilns could be achieved by partial application of coke firing, but its general acceptance as a fuel is unlikely at the present stage in view of the additional cost involved. Another line of action which has been conducted during 1960, chiefly by a department of the University of New South Wales and the Australian Coal Association Research Limited, which appears to offer some promise as a method of removing soot from brick kiln gases is the use of dynamic centrifugal dust separating apparatus.

This was originally suggested by Sullivan and Murphy, who pointed out that, although smoke itself could not be removed by such methods, the appreciable size and weight of soot agglomerates made it possible for them to be separated dynamically. Results obtained so far indicate the definite possibility that soot emission can be controlled in this way, but further full scale developmental work is necessary.

Street Level Investigations

During 1960, a limited study to measure the concentration of several street level contaminants was made by the Division. In the series, tests were carried out on certain days, during the maximum traffic density period between 8.00 a.m. and 9.30 a.m. The positions surveyed were those likely to be most affected, and included George, Pitt and Castlereagh Streets, which are also subject to the confining influences of large buildings.

The results of these measurements are summarised in Table 13. Though the tests were of somewhat limited value, as conditions in streets tend to produce rapid fluctuations in concentration of the contaminants, the results would probably be indicative of the worst conditions likely to occur. In general, results are similar to those reported in several overseas cities, which were based on measurements conducted by comparable techniques. From the health aspect, the Sydney street level concentrations are of little significance. The standards for aldehydes and nitrogen dioxide normally adopted as the desirable maxima for industrial workers are in both cases 5 parts per million while for carbon monoxide the accepted maximum for continuous exposure is 50 parts per million. Though these criteria would not be acceptable for urban pollution, normally it can be accepted that the concentration of the two former contaminants observed do not remotely approach those likely to have effects on health. Carbon monoxide transiently exceeded the concentration recommended for continuous exposure, but even for persons continually situated in city streets, the average concentration would be no more than a few parts per million.

Table 13—*Results of Tests for Various Contaminants in Streets of Sydney*

Date	Location	Vehicles per Hour	Contaminant Concentrations p.p.m.			Smoke Cohs/1,000
			HO_2	CO	CHO*	
8.9.60	George Street	1,140	0·003	5	0·10	2·9
10.9.60	Pitt Street	990	0·004	65	0·11	7·8
15.9.60	Pitt Street	1,000	0·003	15	0·21	3·5
17.9.60	Castlereagh Street ..	1,040	0·001	25	0·12	3·9
22.9.60	Castlereagh Street ..	950	..	5	0·07	4·2
24.9.60	Pitt Street	750	0·001	15–50	0·20	6·2
29.9.60	Pitt Street	1,100	..	12–45	0·09	3·4

* Aldehyde expressed as formaldehyde

Measurement of Polycyclic Hydrocarbons

Samples were collected in the atmosphere of Sydney during 1960, and analysed quantitatively for polycyclic aromatic hydrocarbons. These compounds, of which 3, 4-benzpyrene is the most significant, have received considerable attention elsewhere in recent years because of the carcinogenic potency which they have been shown to possess. No previous tests of a similar nature have been made in New South Wales, but the Department is fortunate that a research fellow of the University of New South Wales, located at the laboratories of the Division of Occupational Health, will be working on an extensive research programme dealing with these compounds.

The techniques adopted in the analysis of the Sydney samples followed those used in several overseas cities in recent years. Large volume samples of air were filtered through fibre glass pads to collect particulate material with which the polycyclic hydrocarbons are associated and then the latter were extracted by means of acetone. The polycyclic compounds were then separated on chromatographic columns containing activated alumina. After separation the individual fractions were spectrophotometrically analysed in the ultraviolet region and, from the work so far, benzpyrene, pyrene, fluoroanthene and coronene have been identified. In Table 14 the results of the quantitative measurements are shown in comparison to those obtained in certain other parts of the world.

There is no definite proof of the importance of polycyclic compounds in the production of lung cancer, but it has been convincingly demonstrated that certain members are potent carcinogens. The levels found in Sydney are not substantially different from those recorded in other parts of the world, and consequently, it is an aspect of air pollution investigation which will require further attention. It has been estimated that the quantity of 3, 4-benzpyrene which may be inhaled and retained in the lungs during a lifetime from urban pollution would represent a dose many thousands of times greater than that capable of producing cancer in mice by subcutaneous introduction.

Table 14—*Concentrations of Certain Polycyclic Hydrocarbons in an Air Pollution Sample Collected in Sydney*

English and Los Angeles Results Included as Comparison

Location	Microgrammes per 100 Cubic Metres			
	Benzpyrene	Pyrene	Fluoranthene	Benzperylene
Sydney*	2·4	1·5	1·0	..
Liverpool, U.K. (71)–				
Princes Road†	6·8	5·0	6·7	16·6
Mersey Tunnel air inlet‡	2·2	1·4	1·7	5·5
Los Angeles (69)	3·0	1·1	..	1·2

* Smoke density at time of sample—295 ug/m³
† Smoke density at time of sample—620 ug/m³
‡ Smoke density at time of sample—410 ug/m³

G. SCHOOL MEDICAL SERVICE

ANNUAL REPORT, 1960

Director: Dr. E. S. A. Meyers.

Deputy Director: Dr. N. S. Solomons.

During 1960 further progress was made with the expansion of the School Medical Service. The sixteen new positions for school medical officers and twelve positions for school nurses were filled during the year, and the establishment was further increased by six school medical officers and six nurses, two of each for metropolitan duties and four for country duty, and it is hoped that these positions will be filled early in 1961.

An in-service training course was conducted throughout the year, on "Mental Health in Childhood," for approximately half the school medical officers doing metropolitan duties, and in 1961 it is proposed to repeat the course for the remainder, and also to invite general practitioners to attend through the auspices of the Post-Graduate Committee in Medicine.

A course in public health nursing, consisting of 86 lectures, field excursions, demonstrations and discussions, was also instituted for 18 nurses of this and other divisions of the Department of Public Health, and after an examination, certificates were awarded and presented to the successful candidates at the Annual Christmas Party. This course is also to be repeated in 1961 for another group of nurses.

Dr. W. Wyatt was appointed to fill the position of Senior Psychiatrist in January, and has taken over the overall supervision of all child guidance clinics. Dr. Wyatt was classified as senior specialist by the Public Service Board in November.

In May, Dr. Kirton was appointed as psychiatrist in charge of Newcastle Child Guidance Clinic, which commenced functioning a few weeks later, and in November Dr. Kirton was classified as junior specialist by the Public Service Board.

The accommodation for a child health centre in Newcastle is expected to be available early in 1961, but during 1960 three permanent school medical officers were appointed to Newcastle and an extra nurse, making three nurses. This staff should form at least a nucleus for the child health centre when it does come into being.

Medical Inspection of School Children

In spite of an increase in staff, again the medical inspection of school children in the metropolitan area, Newcastle and Wollongong was not completed in 1960, although many more schools were visited than in 1959.

The procedure adopted in the schools visited was the same as in 1959, namely, children were fully examined at entrance (kindergarten or first grade), reviewed with particular reference to hearing and vision whilst in fourth grade, and again fully examined whilst in first year (or equivalent class) and in fourth year during secondary school. Many children were presented by teachers and school nurses for examination in other classes, and the condition of other children was reviewed, following notation to that effect by the medical officers who had seen the children the previous year.

During 1960 medical officers of this service examined 178,818 children, of whom 102,772 were fully examined and 76,046 were reviewed, 18,621 of the latter group being in 4th grade (Table 1).

Table 1

	1955	1956	1957	1958	1959	1960
School population	657,567	687,178	715,002	743,726	763,071	790,458
Number of pupils fully examined and reviewed ..	161,581	162,945	130,495	152,620	135,513	178,818
Number of pupils fully examined	95,338	86,666	69,688	83,312	73,734	102,772
Number of pupils reviewed in 4th grade	22,813	26,993	18,855	20,089	14,080	18,621
Other reviews	43,430	49,286	41,952	49,219	47,699	57,425
Number of pupils fully examined and number reviewed in 4th grade, expressed as percentage of school population	17·97	16·54	12·38	12·90	11·51	15·36

Table 2 shows in detail the number of children who were fully examined or whose cases were reviewed, in the metropolitan area, country and the whole of the State, in primary and secondary schools for the years 1958, 1959 and 1960.

Table 3 shows the number of pupils who were fully examined or whose cases were reviewed and the school population in the metropolitan area, remainder of the State, and New South Wales, for the year 1960.

Excluding dental defects, defects of notifiable standard were found in 27·3 per cent. of the children fully examined, compared with 26·9 per cent. in 1959. The most important defects found are shown in Table 4. Of the 28,074 defects recorded (this total does not include dental defects), it was found necessary to notify 60·5 per cent. of them to parents or guardians, in order that further investigation and/or treatment could be effected.

The parents of 16·9 per cent. of the children fully examined were notified that the oral condition of their children needed urgent attention or was detrimental to their health. The comparable figure for 1959 was 15·9 per cent.

Again there was a large increase in the number of parent interviews. During 1960 the number of parents interviewed by the medical officers was 10,449, compared with 6,969 in 1959. The percentage of parents interviewed to the number of children fully examined in 1960 was 10·17, compared with 9·5 per cent. in 1959.

At the Forest Lodge Child Health Centre "warning letters" are sent to parents of children in 2nd, 3rd, 4th and 5th years, and in the rest of the State they are sent to parents of children in 4th and 5th years. These letters indicate to the parents defects which have been found and which might debar acceptance as trainee teachers. The total number of these letters sent in 1960 was 783, compared with 906 in 1959. At the same time the parents were informed that the Service would be prepared to give a definite opinion on the suitability of the children, if desired. Many parents again availed themselves of this offer, and 134 children were examined, 101 at head office and 33 at Forest Lodge Child Health Centre.

During the year visits were paid to nursery schools by medical officers of this Service, the details of which are given in a later part of this Report. Similarly, the medical examination of children at special schools is dealt with separately.

CHILD HEALTH CENTRE, FOREST LODGE

The child health centre continued to function satisfactorily during the year. Two factors have made it possible for a higher standard screening examination to be given at the centre. Firstly, the examinations carried out in 1958 and 1959 brought to light many chronic conditions which are now having suitable treatment and consequently require only short reviews; and secondly, the population of the area is not expanding. More time can now be given to current health problems in the individual child and to the preventive aspect of both physical and mental health, thus giving a much more positive health approach.

Owing to the above two factors it will be noticed that some figures are lower than the corresponding figures for 1959. However, the number of appointments at the centre—the majority of which were for mental health problems—has increased.

The programme of medical inspections in the 94 schools of the area was completed, 23,353 children being examined in the schools, of which 9,542 were full examinations and 13,811 were reviews. Parents attended the schools for interview with the medical officer and discussion of the health problems of their children on 2,484 occasions.

The six nursery schools in the area were visited regularly by one of the medical officers on sixty-one occasions. During these visits 415 children were examined, the actual number of examinations being 895, the number of defects notified 211, and 309 parent interviews were conducted. Efforts to reach the pre-school children in any numbers have been unsuccessful, except in the case of the children attending these nursery schools.

Follow-up work has been carried out regularly by the nurses at the centre, and has resulted in satisfactory attention to a large proportion of notified health defects within a reasonable time. Three hundred and seven school visits were made and 5,159 children seen by the nurses. Additionally, they made 2,217 home visits. The nurses referred 249 children to the centre for examination by medical officers.

Consultations with parent and child and the medical officer were held at the centre on 740 occasions; 380 new cases were investigated and review consultations were carried out on 360 occasions. Included in these figures are 33 high school pupils examined in regard to their suitability for teacher training at a later date.

The analysis of the reasons for examination of the 380 new cases at the centre is as follows:—

	Per cent.
Mental health—emotional disturbances, maladjustments, personality and behaviour problems, backwardness, etc.	239 (62·9)
Suspected physical defects	112 (29·5)
Defects of doubtful or mixed origin (physical and mental)	29 (7·6)
Total	380

Of the 380 new cases seen at the centre, 313 were referred from departmental schools, and 67 from non-departmental schools.

In Feburary, a second speech therapist was appointed to the centre, and as a result, the waiting list has been considerably reduced. Close co-operation is maintained between the speech therapists and the medical staff and the child guidance clinic, resulting in better attention to the children's overall needs. A total of 257 children were referred to the speech therapists, and at the end of the year 46 were awaiting interview.

A hearing clinic was established at the centre in March, and has functioned on one day a week under the direction of a visiting ear, nose and throat specialist. Again, close co-operation is maintained between this clinic and the staff of the centre. Since its establishment a total of 280 children have been seen at the clinic. The cases usually are referred by medical officers of the centre following routine medical inspection of the schools. Other referrals are received from school medical officers, nurses, child guidance clinics and, in some cases, by direct approach by parents. The total number of children who were invited to attend the clinic was 410, and the number who attended was 212, and 68 reviews.

A part-time child guidance clinic has been functioning at the centre in a satisfactory manner under the direction of the senior psychiatrist. A large number of disturbed children have been dealt with by the medical officers of the centre with the assistance of case conferences and informal discussions with the visiting staff of the child guidance clinic.

An inservice training course on child psychiatry was conducted by the senior psychiatrist at the Centre throughout the year for medical officers of this service, consisting of lectures and conferences twice weekly. Another inservice training course in public health nursing was similarly conducted at the Centre for nurses of this service, and other divisions of the Department.

Various talks and lectures, including films, were given to parents of children on health education and allied subjects, and also to students, medical post-graduates and under-graduates, including D.P.H. students, in addition to trainee school counsellors and trainee teachers. The training of new medical officers and nurses for this service is carried out at the Centre.

The close liaison has been maintained with various bodies and individuals, such as the Royal Alexandra Hospital for Children, Prince Alfred Hospital, the Education Department, the Child Welfare Department and local general practitioners, and an exchange of reports with this service takes place, in regard to individual cases.

Medical officers of the Centre have addressed parents and citizens' associations and mothers' clubs during the year, both in the schools and at the Centre, 20 such addresses being given, many of them at night.

SCHEME FOR MEDICAL EXAMINATION OF SCHOOL CHILDREN CONDUCTED BY LOCAL MEDICAL PRACTITIONERS FOR SHIRE AND MUNICIPAL COUNCILS

This scheme has been extended considerably during the year, and the number of visits paid to various areas by members of the staff of the School Medical Service, and Medical Officers of Health within their own areas, amounted to 46. During 1960, the scheme commenced to operate in 19 shires and municipalities, there were 36 local medical practitioners taking part, and the number of schools visited was 209, with a total enrolment of 20,999. In addition, within the areas of 26 other councils, the scheme was still under consideration and it is hoped that in 29 other council areas the scheme will commence during 1961.

In seven areas the scheme was declined by the council, and in the majority of these cases this was because it was not possible to arrange for the co-operation of the local medical practitioners.

Under this scheme, the doctors carrying out medical examinations of school children in shire or municipal areas are paid by the council, according to a fixed scale of fees, and the council is reimbursed by the Department for the amount involved.

MEDICAL INSPECTION OF SPECIAL SCHOOLS

During the year visits were continued to departmental schools and to homes and schools conducted by voluntary organisations for intellectually retarded children. The aim of these visits was to provide a full medical examination for these children, so that any physical defect or emotional maladjustment which was interfering with their full participation in school activities could be ascertained. Of the number of children examined approximately 14·3 per cent. were suffering from a notifiable defect. These children were referred for medical advice, investigation or treatment to their own general practitioners, public hospitals, or specialised clinics. A surprisingly low number of these children showed marked behaviour problems. Those who did were referred to the child guidance clinics of this service, or admitted to North Ryde Psychiatric Centre.

Parents in general were anxious to discuss their problems and appreciative of the interest taken by the service in the well-being of their children.

The number of children attending schools conducted by voluntary organisations increased rapidly during the year, with the result that new centres are being established and existing schools have expanded or are planning to expand during the next year. Despite this expansion, many children of school age are being denied entry into schools because of long waiting lists and too few schools. Three new schools were added to the visiting list this year.

More and more interest is being shown in the intellectually retarded child and the emphasis this year has been on the provision of hostels and protected workshops for the post-school child.

The Division of Guidance and Adjustment has been most helpful in arranging psychological testing for children in non-departmental schools, with the result that many of these children are now attending departmental schools or departmental classes in their own schools. We in turn have provided the Division with medical reports on those children whom the Division has referred for medical examination.

A recent survey was conducted by the Department of Education to ascertain those children in normal schools whose visual defect was such as to be the main factor in lack of school progress. Some of these children have been admitted to the School for the Blind, Wahroonga, and others are under supervision at normal schools by the special counsellor for the blind and deaf children.

The following schools conducted by the Department of Education were visited: School for the Blind, Wahroonga; Glenfield Park Public School; Hassall Street Public School, Parramatta; Albert Road Public School, Strathfield; Cromehurst Public School, Lindfield; Loftus Street Public School, Arncliffe.

Schools and homes conducted by voluntary organisations visited were: Crowle Home, Ryde; Eurella House, Burwood; Sunnyfield Centre, Manly Vale; St. George District branch of the Subnormal Children's Association, Kogarah; Sydenham-Bankstown branch of the Subnormal Children's Association, Campsie; Sutherland Shire Handicapped Children's Centre, Sutherland; Windgap School, Coogee; Greenacres School, Wollongong; Thorndale Subnormal School, Penrith; Cooinda Subnormal Children's Centre, Canley Vale.

A school conducted by a church organisation visited was Mater Dei Special School, Narellan.

Information concerning the activities of this service in the special schools and homes during the year 1960 is given hereunder:—

School	No. of Visits	No. of Exams		No. of Defects Notified	Parents Interviewed
		Full	Review		
Blind School, Wahroonga	9	66	32	10	..
Glenfield Park	10	32	190	14	..
Hassall Street	10	64	75	22	6
Albert Road	9	36	27	14	..
Cromehurst	5	8	14	2	2
Loftus Street	5	7	32	5	1
Crowle Home	11	35	53	13	8
Eurella House	6	11	18	5	11
Sunnyfield Centre	4	24	17	3	3
St. George	5	14	17	6	15
Sydenham-Bankstown	8	34	16	12	22
Sutherland	3	20	5	2	9
Windgap	9	37	19	10	35
Greenacres	4	14	6	6	6
Mater Dei	5	52	9	15	..
Thorndale	7	32	11	8	33
Cooinda	3	22	2	4	2

NURSERY SCHOOLS

Children were examined in fourteen nursery schools during 1960, six of which were in the Forest Lodge Child Health Centre area. These schools were visited once each month, and altogether 115 visits were made to the 14 schools. The number of children examined at nursery schools totalled 746, and the number of medical examinations carried out on these children was 1,816.

In addition, the medical officers interviewed the parents of all children on their admission to the school, and any other parents they felt it necessary to interview throughout the year, in order to obtain a history and discuss any defects found. The total number of these interviews was 524.

The following table shows the defects of notifiable standard found in the children examined and the percentage:—

Defects	Boys 373 Examined		Girls 373 Examined	
	No.	Percentage	No.	Percentage
Vision	3	0·80	3	0·80
Squint	14	3·75	18	4·29
Hearing	6	1·60	5	1·34
Nose and throat	27	7·24	20	5·36
Skin	21	5·63	23	6·17
Heart	2	0·54	1	0·27
Lungs	23	6·17	15	4·02
Asthma	16	4·29	3	0·80
Development—Hernia, including undescended testis	20	5·36	6	1·60
Orthopaedic	69	18·77	61	16·33
Nervous system	3	0·80	3	0·80
Maladjustment and behaviour problems	34	9·12	30	8·04

School Sanitation

Following each visit to a departmental school, a report is submitted by the medical officer concerning its sanitation. Of the 525 schools visited throughout the State during 1960, the accommodation for pupils was considered to be satisfactory in 96·19 per cent. The sanitation (including toilet, drinking and ablution facilities) was found to be unsatisfactory in 20·19 per cent. of the schools visited, and the reports revealed that the buildings and grounds were in an unsatisfactory state in 20·57 per cent.

Compared with previous years, a great improvement has been noted in the accommodation for pupils, and the sanitation and state of the buildings and grounds in departmental schools is being maintained.

Following receipt of reports from medical officers of this service, the Department of Education is notified immediately of the conditions found.

Child Guidance Clinics

In January, a senior psychiatrist was appointed to take charge of all child guidance clinics within the service.

This year, already noteworthy as "Mental Health Year," has been of unusual interest in the history of the child guidance clinics. Perhaps the most significant event, though in itself relatively small, was the extension of the work into the recently established Child Health Centre, Forest Lodge. This could prove to be the beginning of a more enlightened approach to the problems of child health and a progressive step towards better measures of treatment and prevention in the field of mental health.

The present concept of health as a positive state of wellbeing, physically, mentally and socially has found practical application in a growing association between paediatrics and child psychiatry. The child is now studied as one living organism whose bodily health cannot be considered apart from his mental health and social adjustment. This is, indeed, the basis of the teaching which is given to students attending the clinics and to our own staff who undertake inservice training. Evidence of this principle is seen at the Child Health Centre, where the work of the school medical officers is becoming integrated with that of the child guidance clinics.

A training course in "Mental Health in Childhood" conducted during the year at the centre with a group of school medical officers, further stimulated this association, and by the end of the year a pattern of team work was beginning to emerge, encouraging all staff to participate in case conferences, and indicating the possible direction of important developments in the future.

The building of a new and much larger clinic at Brisbane Street and the establishment of a new clinic at Newcastle were other events of particular interest during the year. When completed early in 1961, the new Brisbane Street centre will accommodate four psychiatric teams and will become the main centre of teaching and training.

During the year, 2,911 new cases were seen, compared with 2,813 during 1959. Of the new cases, 1,198 were boys examined at the Yasmar Child Guidance Clinic. There are still large waiting lists at all clinics, although it is hoped to reduce these when the new premises at Brisbane Street have been fully staffed.

The clinic staffs took part in the course in public health nursing conducted for nurses of this service and other divisions of the Department. The staffs of the clinics have also been actively engaged on full training programmes covering diploma of psychological medicine students, fellows in psychiatry, medical students, social workers and social studies students, school counsellors, and others.

Several talks were also given by members of the clinics to mothers' clubs, mainly in the Forest Lodge Child Health Centre area. These talks dealt mainly with the emotional difficulties of pre-school children, and they stimulated active discussion and showed that many mothers were aware of their difficulties and attended in order to seek advice about their problems.

Again, in spite of attempts at Yasmar to institute therapeutic work, only a small number of children were able to be brought into treatment, due to the very heavy diagnostic load carried there.

Details of the work carried out at the child guidance clinics are shown in Table 5. The following diagnostic categories (adapted from the recommendations of Dr. Kenneth Cameron) have been used in this report. The categories are based on the manifest clinical picture after diagnostic investigation and are expressed in terms of (A) Development and Maturation; (B) Reaction and Adaptation to Environment; (C) Individual Symptomatology. It should be noted that the categories are not mutually exclusive.

(A) *Development and Maturation—*

- A1 Effects of physical disability, ill-health, deformity.
- A2 Retarded intellectural development. Mental defect.
- A3 Retarded emotional development.
- A4 Personality variant.

(B) *Reaction and Adaptation to Environment—*

- B1 Habit disorder.
  Primary: Eating, sleeping, elimination.
  Secondary: Gratification (thumb-sucking, masturbation, day-dreaming).
- B2 Motor symptomatology
  Tics, hyperactivity, functional paresis, etc.
  Speech disorders.
- B3 Disturbed personal relationships
  Aggression, submission, jealousy.
  Attention-seeking, temper tantrums, etc.
- B4 Disturbance of social conduct
  Withdrawn, asocial behaviour.
  Anti-social, truancy, delinquency, etc.
- B5 Disturbance of education and/or work
  Educational backwardness.
  Learning inhibition and disability.

(C) *Individual Symptomatology—*

- C1 Neurotic Syndrome
  Anxiety, hysteria, obsessive-compulsive, etc.
- C2 Psychosomatic Syndrome
  Asthma, eczema, gastro-intestinal disorders, etc.
- C3 Organic Syndrome
  Brain damage. Organic nervous disease.
  Epilepsies, etc.
- C4 Psychotic syndrome
  Schizophrenia, depression, autism.

(D) *No Psychiatric Disorder*

Speech Therapy

At the beginning of the year there were 14 speech therapy clinics operating in the metropolitan area, and the clinic at Cooma and Canberra also was functioning. In September, a clinic was commenced in Wollongong at the Smith Street Public School and two Sydney therapists each spent one day a week there, and they have a heavy case load and waiting list. In November, the clinic at Cooma and Canberra was closed, owing to the resignation of the therapist.

A second speech therapist was appointed to Forest Lodge clinic during the year, and therapy was also continued at Glenfield Park Public School and the School for the Blind, Wahroonga, on one day a week each.

In November, the senior speech therapist resigned and the position has not yet been filled.

Five graduate speech therapists entered the Service during the year, one having completed her departmental traineeship.

The number of cases treated during the year was 1,087, compared with 953 in 1959. The waiting list at the end of the year totalled 1,016, and unfortunately in some areas there is a long delay before even an initial interview can be given. It has been found necessary to continue with a selective scheme of treatment, but the therapists make every effort to meet the needs of acute cases. Many requests continue to be received for investigation of speech defects from country areas, and these patients are given priority appointments as parents frequently wish to attend during school vacation.

Close liaison was maintained with the medical profession and other professional workers in the fields of education and social welfare, and the child guidance clinics. Staff meetings and case discussions were held, as in previous years, and created interest amongst the therapists and opportunity for the exchange of ideas.

Statistics relating to the work of speech therapy clinics during 1960 are set out in Tables 6 and 6A.

Hearing Clinic

The hearing clinic was conducted throughout the year on a full-time basis, ten sessions being held weekly, attended by five ear, nose and throat specialists.

Children were referred to the clinic by school medical officers, child guidance clinics, speech therapists, the Division of Guidance and Adjustment, Department of Education, ear, nose and throat specialists, doctors in general practice, parents and school principals.

The total number invited to attend the clinic was 4,339, this number being made up of 2,400 new cases and 1,939 reviews. A total of 1,462 new cases were examined, and 1,386 children were reviewed. Detailed information concerning these cases is contained in Table 7.

The clinic is a diagnostic one and no treatment is undertaken. Children with treatable deafness are referred to their local doctor or an out-patients' department of a public hospital for consultation with an ear, nose and throat specialist. Children who would benefit from the use of a hearing aid are referred to the Commonwealth Acoustic Laboratories, which supply these aids to school children free of charge.

Children with severe deafness requiring special education are referred to the Division of Guidance and Adjustment for placement in classes for deaf children. These children are reviewed after enrolment by one of the ear, nose and throat specialists attached to the clinic. A liaison officer between the school medical service and the Department of Education may be interviewed one day each week regarding educational problems connected with deafness.

Asthma Clinic

The asthma clinic continued to function full time for the year. The total number of appointments for initial consultation (that is, new patients) from January to December was 235, of which number 196 appointments were kept and consultations held. Of these, the number of children who subsequently undertook treatment was 95.

The total number of appointments made for consultation with patients already under treatment was 1,209, of which number 1,075 appointments were kept.

During the year, following an article describing the clinic's treatment and results obtained, which appeared in a women's magazine, there were many enquiries from parents of asthmatic children from all States and also from New Zealand. As the clinic was unable to give any worthwhile assistance to these children, owing to the distance they lived from Sydney, the parents were referred back to their own family doctor.

Progress was maintained on a survey, commenced in 1958, of all children who began treatment in the years 1951 to 1955 inclusive. A school nurse visited the homes of these patients to obtain questionnaires from parents or relatives, and it is hoped that the survey will be completed in 1961.

In addition to the ordinary routine work of the clinic, the general survey of results of treatment which was begun in 1954 was continued during the year and completed for those children beginning treatment in 1958. Surveys of children who commenced treatment in 1959 and 1960 was begun, but could not be fully completed, as each survey is based on a two-year period of results. The figures for the completed survey of children who commenced treatment in 1958 are given hereunder, and the results again compare favourably with those obtained in previous years.

The total number of patients who commenced treatment in 1958 was 82. Of this number, 19 gave the treatment up within three months. Of the remaining 63, 45 have been followed up for a period of two years or more, this time being taken as our standard period for review, with the following results:—

		Per cent.	
Excellent	28	62·22	73·33
Very much improved	5	11·11	
Much improved	9	20·00	
Improved	3	6·67	
No improvement	Nil	—	
	45	100	

Infectious Diseases, Other Illnesses and Accidents

During 1960, 27,353 cases of injury and 157,969 cases of illness, other than infectious disease, were reported amongst pupils attending departmental schools, necessitating respectively an average absence from school of 1·4 and 1·1 weeks. In 1959 the figures were 26,959 cases of injury and 165,526 cases of illness. Table 8 shows the number of pupils in departmental schools who suffered from the common infectious diseases for each year from 1951 to 1960, and the average absence from school for each disease during 1960.

During 1960, 3,145 children were notified as suffering from impetigo, requiring an average absence of 1·67 weeks; from ringworm, 3,349, requiring an average absence of 2·1 weeks; scabies, 75, requiring an average absence of 2·27 weeks; and pediculosis capitis, 1,270, requiring an average absence of 1·63 weeks.

It is interesting to note that all these figures show a slight decline in comparison with the corresponding figures for 1959.

The number of children who were absent from school as contacts of infectious diseases during 1960 totalled 6,076, compared with 6,101 in 1959.

No serious epidemics of infectious disease occurred in any departmental school during the year.

Control of Tuberculosis in Schools

Close liaison was again maintained with the Division of Tuberculosis in regard to tuberculosis occurring in school children and teachers. Each case is notified from one to the other Division, is followed up and supervised by this Division, and the necessary action for control of the disease is carried out by the Division of Tuberculosis.

During 1960 there were 13 such cases amongst school children, and 3 cases amongst teachers and students, compared with 7 cases in school children in 1959 and 4 cases amongst teachers in the same year.

During the year, 34 teachers (39 in 1959) who had a history of having suffered with tuberculosis were reviewed, and an opinion given to the Department of Education regarding their fitness to continue teaching.

In compliance with the campaign for the control of tuberculosis, 24 teachers (36 in 1959) who had suffered from acute respiratory conditions, such as pneumonia or pleurisy, were X-rayed and an opinion expressed as regards their fitness to continue teaching.

Medical Examination of Teachers and Teachers' College Entrants

The School Medical Service continued to carry out the general administrative medical work of the teaching service of the Department of Education during 1960. The procedure for the medical examination of applicants for teachers' college scholarships was similar to that of 1958 and 1959, whereby arrangements were made for each applicant to be examined by his own family doctor, and the medical examination record card forwarded under confidential cover to this service. It was found necessary to review many of these cases by medical examination at head office, in order to finally assess their medical fitness.

Teachers in the service were referred for examination, as in the past, for various reasons, such as questions of sick leave or retirement, determination of fitness for appointment to the permanent staff, transfer from temporary or casual staff to permanent staff, and so on. Where indicated, psychiatric examinations of students and teachers were carried out.

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The number of examinations carried out was:—

	1957	1958	1959	1960	
Teachers' college entrants	3,775*	675*	2*	6*	By school medical service
	..	4,462*	5,824*	5,862*	By private medical practitioners
Applicants for employment	607	740	805	839	
Sick leave, transfer to permanent staff, special examinations, retirements, etc.	985	796	840	920	
Psychiatric examinations	175	128	233	285	
	5,542	6,801	7,704	7,912	

* These figures cover the twelve months period from 1st March of the year indicated

In addition, the following examinations were carried out:—

Teachers' college entrants reviewed at head office	609
Applicants for overseas exchange	2
Medical re-assessment of graduates from teachers' colleges	108
	719

Arrangements were made for chest X-ray only in the case of 86 applicants for employment.

The causes of sick leave in the 371 cases examined were as follows:—

	Male	Female	Total
Diseases of the cardio-vascular system	20	15	35
Diseases of the respiratory system:			
Tuberculosis	4	1	5
History of tuberculosis	19	24	43
Other (bronchitis, asthma)	9	10	19
Control of tuberculosis	9	6	15
Gastro-intestinal disease	8	5	13
Malignant disease	2	5	7
Gynaecological disease	..	9	9
Disease of genito-urinary system	1	2	3
Diabetes mellitus	1	1	2
Skin disease	..	1	1
Rheumatism and disease of bone	3	5	8
Ear, nose and throat conditions	3	2	5
Eye conditions	..	1	1
Anaemia and general health	1	2	3
Acute infectious disease	5	..	5
Thyroid conditions	..	1	1
Accidents	5	8	13
Disease of central nervous system	6	5	11
Mental disease:			
Psychosis	10	17	27
Psychoneurosis	47	70	117
Other	..	1	1
Orthopaedic	3	2	5
Hepatitis	1	6	7
Abdominal operations	2	3	5
Hernia (operative)	3	..	3
Mononucleosis	2	..	2
Varicose veins	1	1	2
Alcoholism	2	..	2
Lupus erythematosis	..	1	1
Total	167	204	371

During the year the retirement of 14 teachers was recommended, for the following reasons:—

	Male	Female	Total
Diseases of cardio-vascular system	1	1	2
Injuries	1	1	2
Mental disease:			
Psychoneurosis	1	..	1
Psychosis	3	1	4
Disease of central nervous system	1	1	2
Pulmonary tuberculosis	1	..	1
Eye disease	..	2	2
Total	8	6	14

Of the 5,868 candidates examined to determine fitness for entrance to a teachers' college, 105 (1·79 per cent.) failed to pass the medical examination. This percentage of rejections compares with 2·6 per cent. for the previous year. The causes of rejection were:—

	Male	Female	Total
Myopia	2	4	6
Other visual defects	1	..	1
Impairment of hearing	11	3	14
Other ear, nose and throat conditions (mainly perforated eardrum)	3	7	10
Overweight	2	8	10
Migraine and frequent headaches	3	7	10
Asthma	10	5	15
Orthopaedic conditions	1	1	2
Gastro-intestinal conditions	..	1	1
Organic heart disease	1	4	5
History of "nervous breakdown"	..	1	1
Lung condition	..	4	4
Epilepsy	2	5	7
Skin conditions	..	6	6
Nervous condition	3	4	7
Immaturity	1	1	2
Speech defect	..	1	1
Blood dyscrasia	..	1	1
Other	1	1	2
Total	41	64	105

In addition to the examinations carried out at head office, arrangements were made for the medical examination of applicants for casual or temporary employment in the country, by Government medical officers. The number of such examinations was 494, compared with 551 in 1959.

At the end of the year, 1,852 graduates from the various teachers' colleges were assessed medically, to determine their fitness for permanent appointment. The comparable figure for 1959 was 1,653.

Medical Examination of Special Groups of Children

Children were examined at head office at the request of teachers or parents because of special health problems, and at the request of the Department of Education, for example, as to fitness for admission to special schools or classes. Children were also examined at the request of the Child Welfare Department, the Aborigines Welfare Board, the Far West Children's Health Scheme. Many of the children showed mental retardation, and advice was given to parents and the appropriate department or authority concerning their care and schooling. The number of examinations carried out during the year was 668 (766 in 1959).

Teachers' Colleges

During 1960, 9 medical officers were attached to teachers' training colleges, 6 full-time and 3 part-time.

In the final year of their training course all students were given a detailed course of lectures in school health and first aid, with set assignments. This included discussion periods and the use of visual aids, such as films, charts and models. In some colleges demonstration lessons were conducted and additional lectures were given to first year groups on child development and elementary physiology. All students were required to pass examinations on these subjects.

In February, college medical officers conducted a week's seminar at Alexander Mackie Teachers' College, at which the subject of health education was discussed at length. In April, the medical officers attended a three-day conference of lecturers from all colleges to discuss the Wyndham Report and its implications in college curricula.

All students on scholarship were kept under medical supervision throughout their course. Students absent on account of sick leave were referred to the medical officers and those with injuries were examined and referred, if necessary, to the nearest hospital or their own doctor. Any defects found at the time of the students' entrance medical examination were checked from time to time. Students who became ill at college, and those with personal, home or study problems which had a medical bearing, were interviewed.

All entrants had Mantoux tests carried out by the Tuberculosis Division of the Department. Those who showed positive reactions were referred for chest X-ray. No cases of active tuberculosis were discovered.

In the second half of 1960, 1,852 outgoing students were medically examined for permanent appointment to the teaching service.

The numbers of students and information concerning the attendance of medical officers at the various colleges are given hereunder:—

College	Enrolment	Medical Officers
Sydney	2,658	1 full time 3 part time
North Newtown annex	156	1 part time
Balmain	262	1 part time
Orange Grove annex	88	1 part time
Alexander Mackie	360	1 full time
Armidale	391 37 external students	1 full time
Bathurst	350	1 part time
Wagga	426	1 part time
Newcastle	726	1 part time

In March, a two-year course in health education was instituted in Alexander Mackie College, and the subject given full status, equal, for example, to the course in education, for examination requirements. This includes the programming of demonstration lessons, intensive assignment work and practice teaching projects. The course is integrated with those of natural science, social studies and physical education. In November-December, a full practice teaching programme was organised and successfully carried out.

It is hoped that a similar two-year course in health education will soon be implemented in other colleges.

National Fitness Camps

Two nurses from the school medical service continue to be attached for duty at Point Wolstoncroft and Broken Bay Fitness Camps. These nurses supervise the health of the children attending the camp, attend to all cases of accident or sickness, give talks on hygiene and general health matters to the children, and assist in the general overall supervision of the sanitation and hygiene of the camp itself. A report on all these matters is forwarded to the Director of this service at the end of each camp.

Co-operation with Child Welfare Department and Outside Bodies

During the year the examination of special groups of children was carried out for the Child Welfare Department—Little Brothers and Fairbridge Scheme—Far West Children's Health Scheme, and Aborigines Welfare Board. In addition, this service is able to assist the Child Welfare Department in expressing opinions on the medical fitness of persons for child adoption, in certain cases.

Staff

Establishment: 54 medical officers, 6 psychiatrists, 3 part-time ear, nose and throat surgeons, 11 psychologists, 50 nurses, 11 social workers, 17 speech therapists, 6 trainee speech therapists, 20 clerical officers, 1 switchboard operator.

During the year, 4 medical officers, 4 nurses, 1 psychologist, 2 speech therapists and 11 clerical officers resigned, 1 nurse was seconded to the Commonwealth Government for work in Malaya, 2 social workers transferred to other departments, and 1 speech therapist retired (Section 63, ill-health).

The following appointments were made: 17 medical officers, 3 psychologists, 8 nurses, 5 speech therapists, 6 speech therapy trainees, 11 clerical officers.

New positions created during the year: 6 medical officers, 4 psychologists, 6 nurses, 2 social workers, 5 speech therapists, 5 clerical officers.

At the end of 1960, vacancies existed for: 3 medical officers, 5 nurses, 2 psychologists, 2 social workers, 4 speech therapists, 5 clerical officers.

Conclusion

My thanks are due to all members of the school medical service for their co-operation and assistance in carrying on the activities of the service during the year.

TABLE 2—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, 1958, 1959, 1960

	Metropolitan Area			Remainder of State			New South Wales		
	1958	1959	1960	1958	1959	1960	1958	1959	1960
Primary									
Full examination									
Kindergarten and Grade I	30,425	22,320	29,226	5,882	4,151	6,372	36,307	26,471	35,598
Others	10,782	10,118	11,261	1,817	2,711	7,062	12,599	12,829	18,323
Total:									
Full examinations	41,207	32,438	40,487	7,699	6,862	13,434	48,906	39,300	53,921
Reviews	44,953	40,378	52,781	7,513	3,720	3,991	52,466	44,098	56,772
Grand Total	86,160	72,816	93,268	15,212	10,582	17,425	101,372	83,398	110,693
Secondary									
Full examination									
Year 1	22,346	20,031	25,594	5,139	5,894	9,186	27,485	25,925	34,780
Year 4	3,934	4,126	5,281	1,043	1,304	1,748	4,977	5,430	7,029
Others	1,731	1,710	5,071	213	1,369	1,971	1,944	3,079	7,042
Total:									
Full examinations	28,011	25,867	35,946	6,395	8,567	12,905	34,406	34,434	48,851
Reviews	14,473	15,435	15,807	2,369	2,246	3,467	16,842	17,681	19,274
Grand Total	42,484	41,302	51,753	8,764	10,813	16,372	51,248	52,115	68,125
Total full examinations	69,218	58,305	76,433	14,094	15,429	26,339	83,312	73,734	102,772
Total reviews	59,426	55,813	68,588	9,882	5,966	7,458	69,308	61,779	76,046
Grand Total	128,644	114,118	145,021	23,976	21,395	33,797	152,620	135,513	178,818

TABLE 3—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, AND SCHOOL POPULATION, IN METROPOLITAN AREA, COUNTRY AND NEW SOUTH WALES, 1960

	Metropolitan Area		Country		Total	
		Percentage		Percentage		Percentage
Primary Schools						
Population	300,270		271,877		572,147	
No. of full examinations	40,487	(13·48)	13,434	(4·94)	53,921	(9·42)
No. of reviews	52,781	(17·58)	3,991	(1·47)	56,772	(9·92)
Secondary Schools						
Population	125,864		92,447		218,311	
No. of full examinations	35,946	(28·56)	12,905	(13·96)	48,851	(22·38)
No. of reviews	15,807	(12·56)	3,467	(3·75)	19,274	(8·83)
Total						
Population	426,134		364,324		790,458	
No. of full examinations	76,433	(17·94)	26,339	(7·23)	102,772	(13·00)
No. of reviews	68,588	(16·10)	7,458	(2·05)	76,046	(9·62)

TABLE 4—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PUPILS FULLY EXAMINED, 1960, AND EXPRESSED AS A PERCENTAGE

	Primary		Secondary		All Pupils	
	Boys	Girls	Boys	Girls	Boys	Girls
No. examined	27,559	26,362	25,812	23,039	53,371	49,401
Defects						
Vision	3·4	3·7	3·8	3·5	3·6	3·7
Squint	·8	·9	·5	·7	·7	·8
Hearing	3·9	3·5	2·2	2·1	3·0	2·9
Nose and throat	1·7	1·8	·6	·6	1·1	1·2
Skin	1·5	1·3	1·4	2·3	1·4	1·8
Thyroid	·04	·1	·1	·6	·1	·3
Heart—Circulation	·5	·5	·4	·8	·4	·6
Lungs	2·9	2·8	·9	1·0	2·0	1·9
Asthma	3·6	2·0	3·4	2·0	3·5	2·0
Development—Hernia	·5	·2	·2	·1	·4	·2
Orthopaedic	2·0	1·8	1·6	2·4	1·8	2·1
Nervous system	·3	·3	·3	·3	·3	·3

TABLE 5—CASES SEEN BY CHILD GUIDANCE CLINICS, 1960

	Clinic No. 1	Clinic No. 2	Clinic No. 3		Clinic No. 4	Clinic No. 5	Newcastle Clinic
No. of new cases	523	382	Referred by court ..	803	356	311	141
			Committed to an institution .. (statutory examination)	395*			
Sex—							
Male	353	203		1,198	155	205	83
Female	170	179		—	201	106	58
Total number of interviews ..	3,610	3,891		—	2,961	1,865	762
Ages—							
0– 5 years	29	17	*	—	27	19	15
6–11 years	224	196	33	139	149	155	45
12–15 years	179	155	362	541	143	117	53
Over 15 years	91	14		123	37	20	28
Sources of referral—							
Personal application ..	209	104			94	113	13
Children's courts	117	90			103	86	21
Child Welfare Department ..	14	3			2	51	33
Education Department ..	45	66			49	25	14
Hospitals, society agencies ..	56	18			12	11	10
Medical practitioners ..	37	18			13	10	32
School medical officers ..	22	60			58	12	18
Speech therapists	23	23			25	3	..
Classification							
A1	11	38	..	..	35	6	6
A2	31	23	..	35	35	42	15
A3	44	138	..	301	77	30	4
A4	25	183	..	..	..	18	4
B1	163	56	..	..	39	84	9
B2	65	64	..	..	39	42	7
B3	298	120	..	85	175	174	16
B4	164	87	395	66	140	102	21
B5	147	55	..	..	22	78	11
C1	130	274	..	48	63	108	17
C2	24	32	..	..	14	18	4
C3	12	58	..	24	7	12	6
C4	10	16	..	56	3	12	1+?1
D	2	2	..	188	..	18	1

* Intelligence testing only carried out by psychologist

Table 6—Statistics Relating to the Work of Speech Therapy Clinics, 1960

	Camperdown		Forest Lodge		Darlington	Rockdale		Paddington	Waterloo	Cooma North	Canberra	Parramatta	Beauty Point	Willoughby	Glenfield Park	Blind School, Wahroonga	Wollongong	Total
	No. 1	No. 2	No. 1	No. 2		No. 1	No. 2											
No. of first interviews	66	44	93	85	20	33	92	66	38	19	44	108	15	115	..	..	47	885
Admitted or re-admitted to treatment	65	60	62	67	28	20	42	49	34	13	33	104	15	98	..	6	6	702
Under treatment, 1st January, 1960	20	23	34	..	32	29	37	29	34	12	17	29	40	30	12	9	..	387
Total cases treated, 1960	85	83	96	67	60	49	79	78	64	25	50	133	55	128	12	15	8	1,087
No. of reviews	41	22	49	11	35	8	15	35	..	..	..	..	5	33	..	3	3	260
Total No. of attendances	1,216	794	1,504	1,246	688	611	1,177	1,518	1,043	375	944	2,099	452	1,694	248	336	96	16,041
Failed to continue treatment	4	7	10	6	11	6	9	12	12	2	3	19	2	7	..	..	..	110
Treatment deferred	..	..	..	..	..	10	9	..	..	..	..	..	..	..	..	..	..	19
Transferred to other clinics	8	17	3	2	13	8	1	2	2	..	..	..	5	..	..	..	..	61
Discharged under observation	32	15	40	11	11	9	5	31	9	4	6	19	8	50	..	..	1	251
Discharged relieved	5	15	8	8	11	16	30	4	26	4	15	50	8	31	..	..	2	233
Cases attending, 31st December, 1960	35	32	35	39	15	..	24	31	23	..	..	42	..	25	12	15	6	334
Cases awaiting first interview, 31st December, 1960	49	49	46	46	57	..	100	30	110	..	..	229	..	75	..	..	225	1,016

TABLE 6A—ADDITIONAL INFORMATION RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1960

Classification of speech defects seen during the year:—	
Dyslalia	465
Stammering	282
Dyslalia and stammering	43
Sigmatism	55
Cluttering	6
Vocal disorders, including hyperrhinophonia, cleft palate, etc.	44
Speech defect due to brain damage	43
Speech defect associated with hearing loss	42
Classifications not available—clinics closed	107
	1,087
Referrals for further investigation:—	
Child guidance clinic	77
Hearing clinic	39
Division of Guidance and Adjustment, Department of Education	18
Psychologist, school medical service	18

TABLE 7—FIGURES RELATING TO WORK OF HEARING CLINIC, 1960

	Total Number	Hearing Normal	Deafness due to Remediable Conditions	Chronic Deafness	Examined in O.D. Classes	Hearing Aid Recommended	Recommended for O.D. Classes	Recommended for Darlington School for the Deaf
New Cases—								
B	812	226	366	53	..	10	17	7
G	650	215	295	38	..	6	15	5
Total	1,462	441	661	91	..	16	32	12
Reviews								
B	774	228	332	52	84	13	1	..
G	612	198	254	52	59	4	2	..
Total	1,386	426	586	104	143	17	3	..

TABLE 8—NUMBER OF CASES OF COMMON INFECTIOUS DISEASES IN DEPARTMENTAL SCHOOLS, 1951–1960

	Measles	German Measles	Whooping Cough	Scarlet Fever	Diphtheria	Sore Throat	Chicken Pox	Mumps	Influenza	Acute Conjunct-ivitis	Acute Rheu-tism and Chorea	Polio-myelitis	Meningo-coccal Meningitis	Hepatitis
1951	9,835	3,641	2,812	444	527	19,521	18,968	23,547	95,328	4,132	952	636	106	*
1952	29,578	7,143	2,772	529	154	21,016	10,974	9,319	87,390	1,318	804	449	59	..
1953	8,748	2,193	2,946	516	237	23,551	23,383	6,838	20,828	1,041	1,065	219	61	..
1954	36,080	6,345	1,210	477	144	27,482	12,577	24,480	98,665	946	1,007	190	54	..
1955	7,229	3,765	2,184	411	63	30,953	22,733	14,623	93,334	1,543	1,090	83	63	..
1956	30,202	5,547	3,132	478	34	29,790	15,513	9,052	79,595	2,119	1,095	120	47	..
1957	8,484	4,234	1,270	450	31	35,571	19,518	14,616	211,793	2,043	945	34	44	..
1958	22,389	6,059	1,036	658	29	40,016	18,090	32,207	82,632	2,849	925	35	65	..
1959	31,513	6,492	1,696	514	7	46,668	17,163	15,110	178,918	3,512	746	23	50	..
1960 ..	13,823	12,023	1,902	465	8	53,383	29,778	10,514	112,426	5,293	801	7	45	1,458
Average absence in weeks, 1960 ..	2·37	1·70	4·02	3·19	4·37	1·03	2·23	2·27	0·97	1·01	4·20	12·57	5·16	4·29

* Figures not available prior to 1960.

H. DIVISION OF DENTAL SERVICES

ANNUAL REPORT, 1960

During 1960 the Division received the benefits of recommendations made to the Public Service Board by a committee appointed to investigate the expansion of the school dental service.

The establishment was increased by 8 dental officers and 12 dental assistants. The additional dental officers and 8 of the 12 dental assistants commenced a system of dental examination of school children in September. Parents are now advised of dental defects present by means of a marked examination chart. Advice regarding oral hygiene is also embodied in the notification.

Funds were supplied for the purchase of an additional 7 mobile dental clinics for use in country areas. All have been received, and are at present being put into service. Nine mobile units will therefore, be operating early in the 1961 school year.

Finance was also made available for the erection of 5 fixed clinics, each of two surgeries, to be erected in school grounds. Formal approval has been given by the Department of Education for the clinics to be erected in the following school grounds:—

Adamstown Public School
Hurstville Public School
Naremburn Public School
Parramatta Central School
Wollongong Public School

Working drawings are being prepared and tenders will be called early in 1961.

Establishment

The revised establishment of the Division is as under:—

36 dental officers, including director and senior supervisory dentist
23 dental assistants
1 clerical officer
4 part-time private practitioners
(Part-time private practitioners attend country institutions on a sessional or fee for service basis.)

Activities

There are two fields of activity:—

(1) A limited dental service to New South Wales school children consisting of both an advisory service and free treatment to restricted age groups.

(2) The provision of a comprehensive dental service to patients of all ages in the following Government institutions:—

Health Department: 13 mental hospitals, 3 State hospitals and homes, 1 chest hospital.
Prisons Department: 9 H.M. gaols and training centres.
Child Welfare Department: 23 homes and training schools.

Policy—School Dental Service

The policy now is to carry out the following as far as the staff position permits:—

(1) To examine primary school children of all ages, notifying parents of dental defects present, and exhorting them to have the treatment carried out as a private arrangement by means of local dental practitioners.

(2) To offer and carry out free treatment to school children, 6, 7, 8 years in the metropolitan area, where parents give written consent.

(3) To offer and carry out free treatment to school children, 6, 7, 8, 9 years in country areas by means of mobile dental clinics, where parents give written consent.

(4) To offer and carry out free treatment to school children of all ages in remote rural areas by means of mobile dental clinics, where parents give written consent.

(5) To carry out free emergency treatment for school children of all ages, where parents give written consent.

School dental officers also lecture to classes on dental health and distribute suitable literature. Lectures are also given at the teachers' colleges.

Policy—Institution Dental Service

The policy in Government institutions provides for a complete dental service of regular examinations, extractions, fillings, prophylaxis and the supply of dentures, including repairs, and x-rays. Procedures under general anaesthetics are also undertaken where required.

General

The benefit of obtaining additional staff strength was lessened by resignations of 6 dental officers during the year. These were gradually replaced, plus an additional 4 dental officers. Only 4 vacancies for country dental officers remained at the end of the year. It is hoped to fill these early in 1961.

The greatest difficulty has been experienced in obtaining sufficient country staff. A recommendation has been made to institute traineeships in dentistry commencing in 1961. This could assure a regular supply of country staff for the mobile clinics in the future.

The total practical work carried out in the school dental service was less than the previous year, because of the constant changes in the staff pattern. Vacancies remained unfilled for too great a period to permit the best output of work.

The number of examinations and therefore the number of children actually contacted, increased considerably as a result of the new system of notification of defects only which commenced in September.

Children from 230 schools were treated. One hundred and thirty-seven additional schools were visited for purposes of examination and notification only. See Appendices A, B, C and D.

The total work carried out in the school dental service was:—

Examinations	49,812
Notified	19,594
Treated	13,720
Visits	45,778
Extractions	21,136
Fillings	49,072
Other treatments	53,434
Dentures	—
Denture repairs	—

Clinics were not able to visit the undermentioned schools because of unsatisfactory accommodation: Belrose, Bradfield Park, Collaroy Plateau, Forestville, Homebush, Lindfield East, Miranda North, North Sydney, Pyrmont, Roseville.

The following schools declined treatment:—

Metropolitan:—

St. Brigid's Convent, Coogee.

Country:—

Balfour, Bithramere, Brunkerville, Duri, Fell Timber, Moor Creek, Shooter's Hill, Wolumla, Wolumla South.

The school dental service examined 23,698 primary school children in connection with the new notification system. Of these, 19,594 were notified. Thus it can be appreciated that 82·7 per cent. of primary school children are in need of dental treatment.

Clinical officers examined 26,114 school children of the ages, 6, 7, 8, 9, of whom 22,185 were included in a dental health survey. 93·32 per cent. showed evidence of dental caries experience, and 76·56 per cent. were offered free treatment which was definitely required. This discloses a slight increase in caries experience in the particular age group over 1959, which was 92·4 per cent.

The usual advisory service was maintained for child welfare department wards, and officers of the Division reported on the dental condition of the aborigine children at the Annual Summer Camp at La Perouse in January.

Use was also made of posters, pamphlets, television and radio for dental health education purposes.

Mr. C. S. White, Senior Supervisory Dentists, resumed duty on the 26th April, 1960, after twelve months' leave without pay. Mr. White has submitted a report on the dental services in the United Kingdom. His conclusions are contained in the final section of this report with relevant discussion.

Institution Dental Service

The programme of improving facilities for dental treatment in Government hospitals and homes was continued during the year.

CHILD WELFARE DEPARTMENT

A new dental clinic was completed in the hospital block at the new institution for delinquent boys at Windsor.

During school vacations, school dental officers examined and treated children in the smaller homes as previously.

Dental work achieved for the year was:—

Examinations	2,880
Treated	2,048
Visits	6,590
Extractions	3,960
Fillings	4,934
Other treatments	4,462
Dentures	270
Denture repairs	100

MENTAL HOSPITALS

The usual regular dental service was maintained in the mental hospitals.

Bloomfield—An additional part-time female dental officer was appointed to attend to the female patients. The rates of payment for sessions were also increased to make the appointment more attractive.

North Ryde Psychiatric Centre—A new surgery was completed in the tuberculosis ward. A well-designed clinic is also approaching completion in the administration block for general use.

Peat and Milson Islands—Much progress in treatment of the children was made by regular dental anaesthetics, 76 of these being given during the year.

Watt Street, Newcastle—The dental clinic has been completely remodelled during the year. High speed drilling equipment has also been received at this hospital.

Callan Park, Parramatta, Gladesville—High-speed drilling machines were supplied to these hospitals.

Dental work achieved for the year was:—

Examinations	9,756
Treated	2,498
Visits	9,752
Extractions	7,671
Fillings	1,690
Other treatments	4,759
Dentures	366
Denture repairs	380
General anaesthetics	83

STATE HOSPITALS AND HOMES

Regular visits were continued to Lidcombe, Newington and Garrawarra during 1960. The dental equipment at Garrawarra was transferred to an excellent clinic in the minor surgery block.

Dental work achieved for the year was:—

Examinations	990
Treated	491
Visits	1,542
Extractions	1,041
Fillings	117
Other treatments	1,378
Dentures	144
Denture repairs	49
General anaesthetics	13

RANDWICK CHEST HOSPITAL

Visits were continued on the basis of one half day per week to the Randwick Chest Hospital.

Dental work achieved for the year was:—

Examinations	107
Treated	99
Visits	393
Extractions	150
Fillings	89
Other treatments	292
Dentures	16
Denture repairs	9
General anaesthetics	2

PENAL ESTABLISHMENTS

The penal establishments at Long Bay, Emu Plains, Parramatta, Cooma, Berrima, Goulburn, Bathurst, East Maitland and Goulburn received regular visits from dental officers during the year.

Dental work achieved was:—

Examinations	3,298
Treated	1,423
Visits	3,882
Extractions	3,052
Fillings	979
Other treatments	1,574
Dentures	170
Denture repairs	84

AERIAL DENTAL SERVICE

In May, 1960, a dental service to children living in areas west of the Darling River was commenced in conjunction with the Royal Flying Doctor Service of Australia (New South Wales Section), treatment to be carried out during school vacations.

Mr. R. J. Byrnes, school dental officer, and an assistant have visited 17 far western towns and stations, travelling some 4,500 miles in 31 days. Portable equipment, including high-speed drill, was carried in the Drover aircraft, and clinics established either in country hospitals or at suitable homesteads.

Treatment was concentrated on school children, although it was found necessary to provide some treatment, mainly of an emergency nature, for adults.

The service has been well received. Investigations are now proceeding to consider the establishment of a permanent service based at Broken Hill.

Clinics were established at the following centres: Tibooburra, Radium Hill, Menindee, Arrabury, Innamincka, Nepabunna, Moloorina, Frome Downs, Wertaloona, Wilcannia, Wanaaring, Talyealye, Hungerford, White Cliffs, Bootra, Moorabbie, Manara Mine.

998 patients were examined. There were 426 extractions, 470 fillings and 422 other treatments.

Total Dental Work by Division, 1960

The total dental work achieved by the Division for 1960 compared favourably with previous years. The number of examinations was greater, because of the additional officers appointed for examination and notification purposes in the school dental service.

Examinations	67,841
Treated	20,659
Visits	68,353
Extractions	37,436
Fillings	57,351
Other treatments	66,351
Dentures	966
Denture repairs	622
General anaesthetics	98

Special Investigations Carried Out at Port Kembla

In January and February special investigations were carried out at Port Kembla on adults in relation to dental conditions of residents of areas in which the sulphur dioxide content of the air was abnormally high. Control groups were also included. Particular attention was paid to the condition of the gingivae. The accepted scientific classification of the gingival tissues was used (Russel's Index). The results are at present being processed at the Government Statistician's office, and will be included in the special report of the Director of Occupational Health.

Comments

Hereunder are recommendations based on the report presented by Mr. C. S. White, Senior Supervisory Dentist, on the dental services in the United Kingdom and New Zealand in 1959–1960:—

(1) A complete age group examination of the school population to determine dental fitness or otherwise.

(2) A vigorous campaign to educate parents as well as children upon diet and oral hygiene.

(3) The establishment of fixed clinics with full equipment where the population density warrants.

(4) The increased use of mobile dental clinics for scattered population areas.

(5) At least one central clinic, adequately equipped, where children could be referred for orthodontic treatment (initial treatment and fabrication of appliances at least).

In this regard I would stress that speech therapy clinics cannot hope to achieve maximum success if the dental arches are unfavourably shaped and disposed. Simple initial treatment as soon as malocclusion is detected will save enormous amounts of time and effort later.

(6) The earliest possible implementation of fluoridation of potable water supplies. The longer the delay, the greater the effort to catch up with restorative and reparative work.

It would appear that most of the conclusions contained in the report are being attempted at the present time in connection with the expansion of the school dental service, and in the proposed distribution of information regarding fluoridation of public water supplies.

The Australian Dental Association is also pressing for a national dental health scheme at the Commonwealth level, and it is hoped, if this is achieved, that it does not adversely affect the State school dental services, as has happened to the county school services in the United Kingdom.

The problem of the acquisition of sufficient dental officers for country duties will probably be solved with the institution of the traineeship scheme. It is essential that fully qualified dental officers should be in control of mobile clinics where older age group children are being treated.

If, however, the acquisition of sufficient personnel for the staffing of fixed clinics in high density areas becomes a real problem, consideration will have to be given to the establishment of a dental hygienists' scheme similar to that in New Zealand.

Comparative Statistical Return

ALL SERVICES

	1959	1960
Examined	47,666	67,841
Treated	21,816	20,659
Visits	74,143	68,353
Extractions	37,517	37,436
Fillings	63,476	57,351
Other treatments and prophylaxis	79,542	66,351
Dentures	1,005	996
Denture repairs	507	622
General anaesthetics	46	98

MENTAL HOSPITALS

Examined	10,005	9,756
Treated	2,359	2,498
Visits	9,031	9,752
Extractions	6,928	7,671
Fillings	1,416	1,690
Other treatments	4,688	4,759
Dentures	405	366
Denture repairs	282	380
General anaesthetics	27	83

STATE HOSPITALS AND HOMES CHEST HOSPITAL

Examined	982	1,097
Treated	477	590
Visits	1,528	1,935
Extractions	844	1,191
Fillings	156	206
Other treatments	1,251	1,670
Dentures	137	160
Denture repairs	69	58

H.M. GAOLS

Examined	3,246	3,298
Treated	1,376	1,423
Visits	3,851	3,882
Extractions	3,203	3,052
Fillings	974	979
Other treatments	1,443	1,574
Dentures	160	170
Denture repairs	81	84

SCHOOL DENTAL SERVICE

Examined	—	23,698
Notified	—	19,594
Examined	30,635	26,114
Treated	15,653	13,720
Visits	53,183	45,778
Extractions	22,873	21,136
Fillings	55,978	49,072
Other treatments	67,398	53,434

ROYAL FLYING (DENTAL) DOCTOR SERVICE

Examined	—	998
Treated	—	380
Visits	—	416
Extractions	—	426
Fillings	—	470
Other treatments	—	422

CHILD WELFARE DEPARTMENT

Examined	2,798	2,880
Treated	1,951	2,048
Visits	6,550	6,590
Extractions	3,669	3,960
Fillings	4,952	4,934
Other treatments	4,762	4,462
Dentures	277	270
Denture repairs	75	100

In addition, 665 adults were examined in connection with the Port Kembla survey.

Appendix A

TREATED—METROPOLITAN

Asquith and Convent
Auburn
Auburn Seventh Day Adventist
Auburn West and Convent
Auburn North
Austral
Badgery's Creek
Belmore South
Baulkham Hills and Convent
Birrong
Bringelly
Burwood
Caringbah and Convent
Castlecove
Chatswood
Coogee
Coogee South
Cowan
Fort Street
French's Forest
Glenfield Park
Gray's Point
Guildford and Convent
Gymea Bay and Convent
Homebush West and Convent
Hornsby
Hoxton Park
Kemp's Creek
Kensington
Kirrawee
Lakemba and Convent
Lindfield and Convent
Liverpool and Convent
Manly Vale
Miranda
Mosman and Convent
Miller's Point Convent
Mount Lewis
Naremburn and Convent
Narrabeen and Convent
Narrabeen North
Northbridge and Convent
Northmead
North Rocks
Oxford Falls
Parramatta and Convent
Parramatta East
Parramatta North Convent
Parramatta West
Plunkett Street
Putney
Pymble
Ramsgate
Randwick and Convents
Rossmore
Sans Souci
St. Peters
Terrey Hills
Turramurra
Turramurra North
Ultimo and Convent
Waverley Convent
Westmead
Yowie Bay

Appendix B

TREATED—COUNTRY

Adamstown and Convent
Adelong and Convent
Albion Park
Albion Park Rail
Angeldale
Armidale and Convent
Armidale West
Attunga
Austinmer
Batlow and Convent
Bega and Convent
Bega West
Bemboka
Ben Venue
Bermagui
Birriwa
Black Springs
Boambee
Bulingary
Bulli Convent
Burrapine
Bonville
Brogo
Candelo and Convent
Castlereagh Upper
Castlereagh Lower
Cobargo and Convent
Cobbora and Convent
Coff's Harbour and Convent
Cooerwull
Corrimal and Convent
Corrimal East
Cranebrook
Crossmaglen
Cudal
Daisy Bank
Dumaresq
Dunedoo and Convent
Eden and Convent
Edith
Fern Bay
Garden Suburb
Garfield
Garthowen
Hallsville
Hazelgrove
Heddon Greta
Jellat Jellat
Jingellic
Kameruka
Karangi
Kelly's Plains
Kiah
Kingswood
Kororo
Kotara
Kotara South
Kunama
Kurri Kurri and Convent
Leadville
Lochiel
Luddenham
Martin's Gully
Mayfield East and Convent
Mayfield West and Convent
Macksville and Convent
Meadow Flat
Medlow
Melrose
Mendooran
Merimbula
Merrygoen
Muirbank
Mulbring
Murrah
Neilrex
Nethercote
Newee Creek
Oberon and Convent
Orange
Orara Upper
Orchard Hills
Pambula and Convent
Pelaw Main
Penrith
Penrith South
Quaama
Regentville
Rockvale
Rydal
Sawtell
Shepardstown
Silverdale
Sodwalls
Somerton
Stanford Merthyr
Stockton and Convent
Tamworth and Convents
Tamworth and Convents (West)
Tanja
Tantawanglo
Tarana
Tathra
Taylor's Arm
Tewinga
Thumb Creek
Tilbuster
Timbumburi
Tintinhull
Toogong
Towamba
Tumbarumba and Convent
Wallaga Lake Abor.
Wallerawang
Wandella
Warragamba Dam
Warrell Creek
Westdale
Wickham
Wyndham
Yarranbella
Zig Zag and Convent

Appendix C

EXAMINED—METROPOLITAN

Avalon
Ashfield and Convents
Annandale and Convent
Annandale North
Balmain and Convents
Bellevue Hill
Birchgrove
Blackfriars
Bondi and Convent
Bondi Beach and Convents
Bronte
Brookvale
Camperdown and Convent
Carlingford
Croydon Park
Crystal Street
Dee Why Convent
Double Bay
Ermington
Forest Lodge and Convents
Ermington West
Glebe
Lewisham Convent
Meadowbank
Melrose Park
Mona Vale
Narrabeen
Narrabeen North
Narraweena
Newport
Nicholson Street
Petersham
Rose Bay and Convent
Smith Street
Stanmore and Convent
Summer Hill
Waverley
Vaucluse

Appendix D

EXAMINED—COUNTRY

Aldavilla
Austral Eden
Bellbrook
Bellimbopinni
Bellingen and Convent
Bellwood Abor.
Belmore River
Belmore River Upper
Blackman's Point
Bostobrick
Bowraville and Convent
Brierfield
Broken Hill
Burnt Bridge Abor.
Carcolla
Clybucca
Coff's Harbour and Convent
Collombatti
Comara
Crescent Head
Dondingalong
Dorrigo and Convent
Dorrigo North
Eungai
Eungai Rail
Euroka
Fernmount
Five Day Creek
Frederickton
Gladstone
Glennifer
Greenhill
Gumscrub
Hatch, The
Hack's Ferry
Hibbard
Hyde's Creek
Jerseyville
Kempsey East
Kempsey South
Kempsey West and Convent
Ketelghay
Kinchela Abor.
Kinchela Creek
Kinchela Lower
Kundabung
Leigh
Lower Creek
Macksville and Convent
Megan
Millbank
Missabotti
Missabotti Upper
Mungay Creek
Nambucca Heads
Nulla Nulla
Nulla Creek Abor.
Port Macquarie and Convent
Rainbow Reach
Raleigh
Repton
Rolland's Plain
Rolland's Plain Upper
Sawtell
Sherwood
Smithtown and Convent
South West Rocks
Tarkeeth
Telegraph Point
Turner's Flat
Urunga and Convent
Valery
Valla
Viewmont
Warbro
Willawarrin
Yarrahappini

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I. PHYSICALLY HANDICAPPED PERSONS

CONSULTATIVE COUNCIL FOR THE PHYSICALLY HANDICAPPED

ANNUAL REPORT, 1960

Membership

The Consultative Council for the Physically Handicapped continued under the chairmanship of Mr. J. R. Danks, State Supervisor, Engineering Trades Courses, Department of Technical Education, with a membership comprising the Director-General of Public Health, the ex-Director of School Medical Services, three orthopaedic surgeons, two physicians, one physiotherapist (co-opted), one occupational therapist (co-opted and member of the staff).

The only changes in personnel were:—

(*a*) replacement of the chairman of the Hospitals Commission of New South Wales and the ex-Medical Superintendent of Prince Henry Hospital by the appointment of Dr. J. C. Fulton, Chief Executive Officer and Medical Superintendent, Royal Alexandra Hospital for Children, as representative of hospitals; and

(*b*) the appointment of Dr. J. Allsop to fill the vacancy left by the death of Dr. W. P. MacCallum.

Staff

The staff personnel remained unchanged with one medical officer and secretary, one occupational therapist and one shorthand-writer and typist.

Meetings

Eleven meetings were held during the year. General matters pertaining to the physically handicapped were discussed. New applications were considered and progress reports on those already being helped were reviewed.

Activities

Close co-operation was maintained between the Consultative Council and other organisations caring for the physically handicapped, especially the Department of Social Welfare, the Department of Social Services, the Employment Division of the Department of Labour and National Service, the New South Wales Society for Crippled Children, the Far West Children's Health Scheme, the Civilian Maimed and Limbless Association and the Multiple Sclerosis Society.

The Council of Social Service was a ready source of information and through the central index system rendered valuable advice as to any known assistance applicants to the Consultative Council had received, or were receiving, from other bodies.

The lessened number of notifications of poliomyelitis considerably decreased the call on the metropolitan diagnostic service arranged by the Hospitals Commission. No request was received for the Council to arrange a visit by a consultant orthopaedic surgeon to a country hospital.

Domiciliary Care

As the Council's efforts towards assisting with rehabilitation of the homebound disabled person became more widely known requests for help and guidance became more numerous. The assistance asked was for varying reasons and for varying periods, but in all instances the results proved beneficial to both patient and family. In some cases the entire picture changed quite dramatically.

The types of cases assisted included patients suffering from the after-effects of poliomyelitis (20), cerebral haemorrhage or thrombosis (17), rheumatism (13), multiple sclerosis (9), fractures (7), amputations (6), polyneuritis (2), polyarteritis nodosa (1), muscular dystrophy (1), disseminated myeloencephalitis (1), motor-neurone disease (1), epilepsy (1), cerebral tumour (1), spinal thrombosis (1), cerebral palsy (1), Perthe's disease (1), Parkinson's disease (1) and Friedrich's ataxia (1)—eighty-five in all.

Physiotherapy fees were paid for sixty-four persons, twenty-eight of whom were also visited by the occupational therapist. These twenty-eight and fifteen others who came under the care of the occupational therapist, were given not only craft therapy, but practical guidance in readjustment of their pattern of daily living. Consequently the effects of their disabilities were minimised. Of the remaining six rehabilitees one was assisted with fees for pianoforte lessons, one with fares to a treatment centre and four with employment problems. (See Appendix Table 1.)

These figures can of course only give a sectional picture of the part played by the Council's interest in the individual lives of the persons concerned—something that can never be tabulated. The development of the domiciliary rehabilitation service in so short a time and with limited equipment and facilities has indicated not only the value of such a service but the urgent need for visionary planning.

Age Groups

Inevitably with the Council's widening scope for rendering assistance the percentage of applications on behalf of those in the older age-groups increased, the proportion in the 60 years and over groups changing from 11 per cent. of the total in June, 1959, to 48 per cent. in December, 1960. (See Appendix Table 2.)

Grant

The widened functions and resultant increased number of requests for help brought a proportionate increase in expenditure, mainly in the form of payment of fees for domiciliary physiotherapy. During the latter part of the period under review expenditure totalled more than 75 per cent. of the amount allotted for the financial year 1960–1961 (£2,000), and through the Accountant, Department of Public Health, an approach was made to the Treasury requesting supplementation of the grant.

Possible future additional expense was indicated by advice from the Australian Physiotherapists' Association that, owing to a general increase in fees, referrals by this Council as from 1st October, 1960, would be charged as private patients. The Council requested a re-consideration of this decision, but at the time of compiling this report no reply had been received.

Equipment

To the Council's equipment were added a folding wheelchair and two walking-frames. The frames were made through the kindness of members of the Department of Technical Education and were generously donated to the Council by the chairman.

Telecasts and Broadcasts

A telecast interview on the work of the council over ABN, Channel 2, and broadcasts over Station 2FC and 2CH were given by the medical officer. Each session brought a number of inquiries and applications for help.

Representations

The occupational therapist continued as the Council's representative on the Rehabilitation Co-ordinating Committee of New South Wales, and the Standing Committee on Employment Problems of the Physically Handicapped.

The Medical Officer continued as representative at meetings of the Central Council of Women's Auxiliaries Assisting the New South Wales Society for Crippled Children. She also attended the annual conference of the Far West Children's Health Scheme, the annual meeting of the Council for Social Service of New South Wales, a seminar arranged by the Commonwealth Rehabilitation Services, and one by the New South Wales Association for Mental Health.

Acknowledgements

The Medical Officer and Secretary desires to gratefully acknowledge the ever-ready help and advice given by the Chairman and members of the Council, and the valuable assistance rendered at all times by the staff.

Appendix

TABLE 1

	1959	1960
Physically handicapped persons given domiciliary care ..	56	85
Expenditure therefor	£1,388 0 2	£2,217 8 9
Home visits by the occupational therapist	891	818
Poliomyelitis patients assisted at Far West Home, Manly ..	19	20
Expenditure therefor	£113 1 4	£122 10 8

TABLE 2

	As at 30th June, 1959	As at 30th June, 1960	As at 31st December, 1960
Under 10 years	3	3	2
10–19 years	7	12	8
20–29 years	3	4	4
30–39 years	4	8	11
40–49 years	3	3	4
50–59 years	4	6	3
60–69 years	2	9	14
70–79 years	1	3	10
80 years and over	..	1	2
	27	49	58

SECTION II
MEDICAL OFFICERS OF HEALTH

METROPOLITAN HEALTH DISTRICT—ANNUAL REPORT, 1960

Metropolitan Medical Officer of Health: Dr. J. J. Donnellan, M.B., Ch.M., D.P.H.

Staff: Two Health Inspectors.

The district comprises thirty municipalities, including the cities of Sydney and Parramatta, two shires—Hornsby and Warringah, and the harbour of Port Jackson, with an area of 458,552 acres.

At 31st December, 1960, the mean population of the Metropolitan Health District was 1,943,960, an increase of 29,446 over the figure for 1959.

The population of the city of Sydney again decreased during the year, from 182,640 in 1959 to 181,000 in 1960, being a difference of 1,640. The density decreased also from 25·50 to 25·28 persons per acre.

Of the thirty-two local government areas in the district the population increased in fifteen, decreased in twelve and remained stationary in five. The decreases were slight, except in the city of Sydney and the Municipality of Marrickville, where the population declined by 1,640 and 580 respectively. The largest increases in the population occurred in Warringah Shire 5,800, Bankstown 5,600, Fairfield 5,090, Parramatta 4,990, Ku-ring-gai 3,030 and Ryde 2,070.

The highest density of population was recorded in the Municipality of Waverley, where the figure was 29·36 per acre.

Vital Statistics

TABLE 1—LIVE BIRTHS AND DEATHS WITH RATES—1959 AND 1960

Category	1959	Rate*	1960	Rate*
Live births	35,872	18·71	35,873	18·45
Deaths	19,904	10·40	19,643	10·10
Males	(10,649)	..	(10,523)	..
Females	(9,255)	..	(9,120)	..

* Per 1,000 mean population

TABLE II—INFANT AND MATERNAL MORTALITY WITH RATES—1959 AND 1960

Category	1959	Rate*	1960	Rate*
Infant mortality	769	21·47	723	20·15
Maternal mortality	22	0·61	20	0·56

* Per 1,000 live births

The above figures show a fall in all categories, but of particular significance is the decrease in infant and maternal mortality in 1960.

SELECTED CAUSES OF DEATH

TABLE III—SELECTED CAUSES OF DEATH, 1960, WITH COMPARATIVE FIGURES FOR 1959

Cause of Death	1959	Rate*	1960	Rate*
Diseases of the Heart	8,002	3,892	8,101	3,859
Malignant neoplasms	3,099	1,507	3,177	1,513
Vascular lesions affecting the central nervous system	2,974	1,446	3,011	1,434
Violence	1,235	601	1,329	633
Pneumonia	807	392	680	324
General arteriosclerosis	283	138	310	148
Bronchitis	280	136	330	157
Nephritis and nephrosis	242	118	209	100
Diabetes mellitus	233	113	267	127
Hypertension without mention of heart disease	193	94	216	103
Ulcer of stomach and duodenum	160	78	155	74
Senility	159	77	113	54
Tuberculosis	148	72	105	50
Infections of kidney	126	61	154	73
Cirrhosis of liver	123	60	124	59
Influenza	61	30	16	7
Gastro-enteritis and colitis, except ulcerative and diarrhoea of new-born	38	18	67	32
Alcoholism	33	16	21	10
Arthiritis and rheumatism, except rheumatic fever	32	16	41	20
Syphilis and its sequelae	23	11	20	9

* Rate per million of mean population

TABLE IV—PUERPERAL DEATHS WITH RATES—1959 AND 1960

Cause of Death	1959	Rate*	1960	Rate*
Abortion—				
Criminal	5	0·12	7	0·17
Other	2	0·05	..	..
Complications of pregnancy	10	0·26	8	0·19
Complications of delivery	4	0·10	4	0·10
Complications of puerperium	3	0·07	2	0·05
Total puerperal causes	24	0·60	21	0·56

* Rate per 1,000 live births

The figures above in Tables III and IV are for the Statistical Metropolitan Area, which had a mean population of 2,098,490, or 155,360 more than the Metropolitan Health District.

The main causes of death were diseases of the heart, malignant neoplasms and vascular lesions of the central nervous system, and in each instance there has been an increase in the number of deaths in 1960, although the rate, per million of the mean population, has fallen in the first and last of these causes.

There were 1,329 deaths from violence during the year, and of this total, 232 were due to suicide; 37 were due to homicide; 1,059 were due to accidents; and one was due to operations of war.

INFECTIOUS DISEASES

There are now twenty-six diseases notifiable under the Public Health Act and below, set out in Table V, is the list of diseases notified during 1960.

TABLE V—INFECTIOUS DISEASES WITH DEATHS, 1960, WITH COMPARATIVE FIGURES FOR 1959

Disease	1959		1960	
	Cases	Deaths	Cases	Deaths
Acute anterior poliomyelitis	16	2	5	2
Ancylostomiasis	..	..	..	..
Ascariasis	27	..	8	..
Brucellosis	1	..	..	..
Rheumatic chorea	..	..	3	2
Diphtheria	2	..	1	..
Infectious hepatitis	1,134	6	2,123	8
Infantile diarrhoea	113	7	144	17
Leptospirosis	..	..	..	..
Meningococcal infection	37	7	24	7
Ornithosis	1	..	1	..
Paratyphoid fever	8	..	1	..
Typhoid fever	1	..	5	..
Puerperal fever	6	..	19	5
Rheumatic fever	19	..	19	5
Scarlet fever	194	..	208	..
Typhus fever	2	..	..	..
Tuberculosis	758	145	933	99
Virus encephalitis	9	..	5	1
Staphylococcal mastitis	13	..	2	..
Staphylococcal pneumonia	52	18	32	21
Staphylococcal infection in infants under four weeks of age	84	3	79	6

There were 3,612 diseases notified under the Public Health Act, and of these 173 died. The most prevalent disease notified was infectious hepatitis, 2,123. This is almost twice the number of cases notified the previous year. Fortunately, the number of deaths from this disease was only eight, which is two greater than in 1959.

There were 933 cases of tuberculosis notified, with 99 deaths compared with the previous year, 758 cases notified with 145 deaths.

Scarlet fever notifications still remain high, 208 as compared with 194 the previous year, but fortunately this disease still remains mild as there were no deaths in either year.

As regards staphylococcal diseases notifiable, there were 32 cases of pneumonia, with 21 deaths, this being the highest mortality rate of all the infectious diseases. This compared with 52 cases and 18 deaths the previous year.

There were 144 cases of infantile diarrhoea, with 17 deaths, which was an increase of 31 cases and 10 deaths over 1959.

Meningococcal infection accounted for 24 cases, with 7 deaths. In 1959 there were 37 cases. with the same number of deaths, i.e., seven.

The decrease in the number of cases and deaths from notifiable infectious diseases in recent years has been very gratifying, particularly in the case of diphtheria, with only one case and no death. The above figures show that there is no room for complacency on this, as there is still room for considerable improvement.

Environmental Sanitation

The work of advising and supervising the work of the local authorities in the field of environmental sanitation has continued during the year, and the appointment of an additional health inspector to the staff of the Medical Officer of Health has considerably facilitated this work. The results are obvious in the better maintenance of garbage and nightsoil sanitary depots, and in the more prompt attention given to complaints in this field.

Complaints are still received in relation to the pollution of surf beaches, and further investigation of the problem showed that most of the pollution was coming from the Long Bay and Malabar outfall. It is pleasing to note that the Metropolitan Water, Sewerage and Drainage Board is constructing treatment works at Malabar, which it is hoped will result in considerable alleviation of this nuisance and perhaps its complete abatement.

The sullage water disposal problem is still a big one in non-sewered areas, but the Metropolitan Water, Sewerage and Drainage Board has extended its sewerage in some areas, and this has relieved the position somewhat, but with the extension of the metropolitan area a continuance of such problems is expected. However, the Metropolitan Water, Sewerage and Drainage Board in its annual report states that for the forthcoming year it intends to increase its expenditure in sewerage by 33 per cent.

Pollution problems, both atmospheric and in relation to effluent disposal from factories, are constantly arising and result in numerous complaints, which have to be attended to and which, in many cases, are difficult of solution. They occupy a great deal of the time of the officers of this Branch.

Investigations and reports are made for other Government departments when required.

During the year a great number of inquries from doctors, nurses and members of the public were received and were promptly attended to.

Health education is also a function of the Branch and, during the year, this has been carried on through newspapers, radio and television. In addition, the Medical Officer of Health acts as chairman of the Health Week Executive, which is responsible for a good deal of health education not only during "Health Week," but throughout the year.

During the year the Medical Officer of Health served on the following committees: Pure Food Advisory Committee, Building Advisory Committee, New South Wales Film Council, Immunisation Committee, and others from time to time. He also acted as tutor in environmental sanitation to students attending the course for the Diploma in Public Health and in Tropical Medicine at Sydney University.

HUNTER RIVER HEALTH DISTRICT—ANNUAL REPORT, 1960

Staff

During the year, because of the incipient decentralisation programme, there was a considerable increase in the staff of the Hunter Health District.

In May a psychiatrist assumed duties in charge of the Newcastle Child Guidance Clinic, assisted by a receptionist. Three part-time psychologists from the University were also employed.

As a result of the School Medical Services of the district coming under the Medical Officer of Health, two additional school medical officers were appointed, and assumed duty in November, 1960.

At the end of the year the full-time staff of the Hunter District consisted of: 1 medical officer of health, 1 psychiatrist, Child Guidance Clinic, 3 school medical officers, 1 senior health inspector, 1 senior food inspector, 2 school nurses, 3 tuberculosis nurses, 1 office assistant, 1 receptionist (Child Guidance Clinic).

Occasional relieving staff included 1 school medical officer, 1 school nurse, 1 tuberculosis nurse and 1 office assistant.

Vital Statistics

The estimated population at 30th June, 1960, was 311,260. Live births numbered 6,714 and there were 114 stillbirths. Deaths of children under one year of age totalled 170.

Deaths from all causes numbered 2,990.

Infectious Diseases

The marked increase in the incidence of infectious hepatitis (see table) is in keeping with the figures for the rest of the State. As mentioned on page 169, "Special Investigations," the incidence was particularly high in Lake Macquarie Shire, but investigation revealed no special epidemiological pattern in relation to environmental conditions.

No explanation can be offered for the marked rise in notifications of rheumatic fever.

Disease	1958	1959	1960
Infectious hepatitis	171	191	561
Staphylococcal pneumonia	..	9	6
Scarlet fever	98	22	23
Infantile diarrhoea	12	6	25
Encephalitis poliomyelitis	1	1	1
Typhoid fever	5	0	0
Puerperal pyrexia	0	1	10
Meningococcal infection	4	8	2
Diphtheria	14	6	..
Brucellosis	0	1	..
Ornithosis	1	0	1
Ancylostomiasis/ascariasis	1	0	9
Rheumatic fever	1	0	8

Functions and Responsibilities

In addition to the existing functions and responsibilities two new duties were imposed on the Medical Officer of Health:—

(1) The establishment of the Newcastle Child Guidance Clinic.

(2) The decentralisation of the School Medical Service in the Hunter River Health District to the supervision of the Medical Officer of Health.

These are discussed later in the text.

Routine Work

Routine duties continued as usual, but one or two aspects of the routine work received a considerable amount of attention.

One of these aspects was the problem of sewerage and the disposal of nightsoil. It has been evident for some time that with the rapid population increase in Newcastle, this problem was becoming acute. The main sewerage outfall is on Burwood Beach and with the increased volume of sewage and because of certain ocean currents, Merewether Beach and its baths, become polluted from time to time; also local authorities, because of the increasing difficulty in finding nightsoil disposal areas, wish to dump nightsoil into the sewer. This is not desirable with the present outfall.

The foreshore of Burwood Beach and some 300 acres of adjoining land are held by the Hunter District Water Board as a "buffer area," which would be most valuable building land.

A meeting, therefore, was arranged with representatives of all parties concerned to discuss a proposal that the sewer outfall be carried some two miles to Dudley headland, the cost of this project to be partly defrayed by subdivision of part of the "buffer area." This proposal which would go a long way to solving Newcastle's sewerage and nightsoil problems, has not yet been approved.

Much attention was also paid to pollution of natural watercourses, particularly in Lake Macquarie Shire and the mining areas of Cessnock and Kearsley, by sewage and industrial wastes.

Routine supervision of garbage disposal was maintained throughout the year. The indiscriminate roadside dumping of garbage and rubbish and the smoke nuisance from burning of garbage was a problem which necessitated inspections, interviews and discussions.

Under the Pure Food Act, routine inspection of premises and sampling was continued. The fact that the number of prosecutions necessary was considerably fewer than previously is perhaps indicative of an improvement in food hygiene standards.

In March, supervision of the food and drink arrangements at the various annual agricultural shows in the district received special attention. Over a number of years a minimum standard has been formulated for these shows and other public events in this district, based on the requirements of Regulation 77 of the Pure Food Act. The insistence, by this department and council's inspectors of these requirements has improved selling conditions of food, drinks and confectionery very considerably. This is evidence by the fact that many of the less reputable traders will no longer attend the shows in the Hunter Health District.

Notices were served on 146 hotels in connection with the new glass-washing regulations. Although the re-inspection of these premises has not yet been completed, a considerable number of establishments have complied with the regulations.

A large volume of work in connection with the installation of septic tanks and closets and unhealthy building land was carried out by the senior health inspector.

Developments During the Year

The most important development which occurred during the year was the decentralisation of the school medical service; as from the 8th August this service in the Hunter Health District came under the supervision of the medical officer of health.

With the appointment of two additional school medical officers in November, continuity of school medical examinations was ensured, in Newcastle and the surrounding areas, including Maitland and Cessnock.

The implementation of the council's scheme for school medical examinations involved considerable travelling by the medical officer of health to discuss arrangements with councils and local general practitioners. By the end of the year twenty-nine places had been visited in this connection. Invariably councils were sympathetic and keen to participate, and although it was not always easy to obtain doctors who were able, or willing to take part, it is felt that in due course, and with persistent effort there is no reason why the scheme should not be a success.

In April discussions were held covering the establishment of the Newcastle Child Guidance Clinic; on the 9th May the psychiatrist in charge assumed duties and by the end of May the clinic was functioning. A receptionist took up duties with the clinic later in the year, but the establishment of one social worker had not been filled by 31st December.

Between 10th May and 31st December, a total of 143 cases was dealt with, and of these, 63 cases were closed by the end of the year. The sources of referral were varied:—

Personal application (parents, etc.)	13
Children's courts	21
Child Welfare Department	33
Education Department	14
Hospitals, social agencies, etc.	10
Medical practitioners	32
School medical officers and nurses	18
Speech therapists	0

That during so short an initial period this service has been consulted by such a wide variety of authorities so frequently is evidence that the Newcastle Child Guidance Clinic has certainly got off to a good start, and augurs well for its future.

Special Investigations

In February a laboratory test was carried out at Watt Street Psychiatric Hospital on 14 inmates treated for intestinal worms by administration of "Telmid" (dithiananine). Results indicated that this treatment was successful in respect of *strongyloides* and *trichocephalis*, but comparatively ineffective against *hymenolepis nana*. It is hoped to investigate further the value of Telmid in conjunction with the follow-up of the periodic treatment of aborigines with Piperozine.

An investigation of the high incidence of infective hepatitis in Lake Macquarie Shire was carried out in August. Owing to the very widespread nature of the cases, no common source of infection was located, and no particular difference in sewered or unsewered areas could be demonstrated.

During October, the Medical Officer of Health visited Armidale, following an epidemic among children at the local Aboriginal camp known as "The Dump." A doctor and a laboratory assistant from the Institute of Clinical Pathology also attended and carried out pathological and bacteriological tests. The exact nature of the illness was not discovered, but it was believed to have been of intestinal origin.

Difficulties Experienced During the Year

The main difficulties experienced during 1960 were connected with shortage of clerical staff, aggravated by the increased office work brought about by the decentralisation of the school medical service, the establishment of the Child Guidance Clinic, and the impending move to the new premises in the Shortland Building.

The additional duties thereby imposed upon the one office assistant included:—

(1) Arranging programmes for school medical examinations.
(2) Checking expense accounts, issuing stamps and stores to S.M.S. personnel.
(3) Keeping records of these examinations.
(4) Correspondence with councils in connection with the country schemes for school medical examinations.
(5) Attending to petty cash expenditure for the S.M.S. and the Child Guidance Clinic.
(6) Dealing with a large volume of correspondence and requisitions in connection with the move to the new premises.

The elimination of these difficulties will only be achieved when the proposed additional clerical staff establishment comes into being.

SOUTH COAST HEALTH DISTRICT—ANNUAL REPORT, 1960

Medical Officer of Health: Dr. A. J. Geoffrey, M.B., Ch.M., D.P.H., D.T.M. and H. to 23rd January, 1960.

Medical Officer of Health: Dr. A. Douglas, LL.B., M.B., D.P.H., D.T.M.T.H.

Establishment: One senior health inspector, one health inspector and clerical staff.

Vital Statistics

The estimated population at 30th June, 1960, was 316,930. Live births numbered 8,194 and there were 113 stillbirths. Deaths of children under one year of age totalled 149.

Deaths from all causes numbered 2,088.

In line with the stated policy of decentralisation, Mr. K. Bagnall from head office, Sydney, was appointed to this office as health inspector on 7th November, 1960, with responsibility for Sutherland Shire and the municipalities of Camden and Campbelltown.

I took up my duties as medical officer of health, South Coast Health District on 23rd October, 1960, the district having been without a medical officer of health since June, 1960.

Notification was received from head office that Mr. R. Green of the Pure Food Branch, will be attached to this district early in 1961.

Routine Work

(1) Infectious Diseases—

	1959		1960	
	Deaths	Notified Cases	Deaths	Notified Cases
(*a*) Brucellosis	..	1	..	..
(*b*) Virus encephalitis	..	2	2	1
(*c*) Diphtheria	..	..	..	1
(*d*) Staphylococcal pneumonia	1	8	5	6
(*e*) Infantile diarrhoea	3	8	2	11
(*f*) Meningococcal infection	..	3	3	4
(*g*) Rheumatic fever	..	4	1	7
(*h*) Staphylococcal diseases in infants under 4 weeks	1	29	1	15
(*i*) Scarlet fever	..	28	..	40
(*j*) Infectious hepatitis	1	231	2	398

(2) Medical Examinations—1959, 92; 1960, 109.

Of recent months examinations have numbered three to four each week and take up one complete half day.

(3) Vaccination Certificates—Three hundred and fourteen were stamped during the year. A suggested amended procedure was sent to the Secretary, Board of Health.

(4) Inspections and Investigations	1959	1960
Inspections of septic tank sites	2,732	3,417
Applications for septic tanks	2,439	3,143
Inspections of existing septic tanks	24	14
Inspections of noxious trades premises	79	55
Applications for noxious trades licences	63	30
Inspections of pig keeping premises	33	8
Inspections of slaughter yards	26	21
Inspections of sanitary depots	77	37
Inspections of unhealthy building land	0	1
Inspections of camping areas	13	22
Inspections of proposed abattoirs	0	1
Inspections of proposed scavenging district	0	1
Inspections of proposed extension to sanitary depots	3	3
Inspections of second-hand dealers' premises	0	3
Inspections of food shops	20	2
Investigation of underground water sources	4	1
Investigation of complaints	128	99
Testing of bores for septic tank effluent	0	2
Applications for septic closets	622	567

Inspections of septic tanks continue to take up over 90 per cent. of our total staff working hours in this district, with a consequent tendency shown in the 1959 and 1960 figures for supervision of other health matters to fall off because of lack of time and in spite of both inspectors working at the extreme of their capability.

Developments

(1) Analysis of figures of notified cases of hepatitis showed that the pre-school child and the over 65 age group give rise to relatively few cases.

Assuming there are equal numbers of boys and girls at school the ratio of cases from 1958–1960 among girls as compared with boys in age group 5–16 was 19 : 11.

In the 17–64 age group on the other hand for the same period the ratio of cases for females to males was reversed to 13 : 17. There may therefore be some ground for believing females tend to become cases at an earlier age than males.

(2) Local Authority Liaison—I consider it important to keep in close touch with local authority inspectors so that there is constant and efficient two-way communication. Towards this end a one-day chief health inspectors' conference was held at the end of the year and another is planned for April, when the main subject on the agenda will be food handling and pure food administration.

(3) Decentralisation of School Medical Service—Some progress has been made in this field. Figures for the school population of this area have been obtained from the Department of Education and used as a basis for estimating how many doctors and nurses are needed to run the school medical service in this district efficiently.

The shire system, too, has been successfully discussed with twelve local authorities and groups of medical practitioners. Every attempt should be made to employ a non-practising retired or female doctor to operate the shire system rather than a number of practising doctors. Administratively, ethically and from the point of view of consistency in records the former is the better arrangement.

Special Investigations

An investigation was made into office accommodation for this district office now and when it reaches full establishment. A number of propositions were submitted together with minimum space requirements for the proposed increase in staff. A decision on these proposals has not yet been made.

Difficulties

The main difficulties which prevent widening of the functions of this office are lack of staff, both clerical and field and lack of office space. Both of these are under consideration by higher authority at the moment.

The other difficulty already mentioned is the large proportion of total man-hours given by all staff members of this office to inspection and clerical processing of septic tanks. The only solution to this problem is to give full responsibility for this to local authorities and to selectively supervise through local knowledge of the particular local authority and the particular council inspector in charge of the area. At present we are doing work that the local authority should properly do and so we are less able to devote time to other important spheres of health work.

Although the appointment of an additional inspector removed the very heavy load on the senior inspector, the number of tanks per inspector is still over 1,700 per year, i.e., double the 1957 figure. In this district it is not expected this figure will be any lower for at least several years.

Tables referring to staff and accommodation requirements have been sent to the Director-General, as the need for this evidence arose.

MITCHELL HEALTH DISTRICT—ANNUAL REPORT, 1960

Medical Officer of Health: Dr. E. C. Wallace.

Establishment: One senior health inspector and clerical staff.

Vital Statistics

The estimated population at 30th June, 1960, was 139,250. Live births numbered 3,326 and there were 55 stillbirths. Deaths of children under one year of age totalled 82.

Deaths from all causes numbered 1,397.

Infectious Diseases

	1960	1959
Infectious hepatitis	375	377
Staphylococcal mastitis	4	—
Staphylococcal pneumonia	4	—
Scarlet fever	30	54
Rheumatic fever	2	9
Meningococcal infection	4	2
Poliomyelitis	—	2
Infantile diarrhoea	4	—
Virus encephalitis	1	1
Staphylococcal pneumonia in infants under 4 weeks	1	2
Typhoid fever	—	1
Brucellosis	—	1

Comment

The incidence of various notifiable infectious diseases has not altered considerably. Worthy of comment are four meningococcal meningitis cases. Two of these were at Orange; both were babies under one year old. Rheumatic fever notifications were few; two cases in 1960, as against nine in 1959. There was no typhoid or brucellosis.

Local Authorities

All local authorities in the district employ health inspector(s) with the exception of Turon and Abercrombie Shires. Turon Council have approved of such a position for its shire, and the position was advertised early in the year. However, the inspector appointed resigned after some two or three months of duty. He has not been replaced.

Councils have co-operated reasonably well in health work, although health activities are not a particularly strong point with any of them. Community health services lag. Some active work done by this office in the Blue Mountains area for the care of old people has fallen flat through lack of council interest. Requests to councils to forward regular samples of their water supplies has not had any favourable response.

Two conferences of health inspectors were held during the year, one in March at Orange and one in June at Katoomba. Subjects for the March conference included mass septic tank installations in rural townships, and swimming pool hygiene; subjects for the June conference were the school medical services, community health services and pipes used in drainage.

Subnormal Children

Local organisations to assist subnormal children were formed at Cowra and at Blayney during the year with the help of the medical officer of health. A special day school was opened at Cowra. The arrangements at Blayney are as yet indefinite, the alternatives are to provide a day school for about six children or to transport them to Glenray School, Bathurst.

Unsatisfactory State of Sewerage Treatment Works

At Orange a newly-elected alderman (a doctor) became very active in trying to raise public health standards. He sought advice from this office to persuade his council to improve the deplorable condition of the overloaded sewerage treatment works at Orange. These works pollute the Summer Hill Creek.

At Bathurst during a survey the medical officer of health found extensive breeding of house flies in the insufficiently treated sewage sludge. A warning was given to the public.

Mental Health and Recovery Groups

The medical officer of Health followed up patients discharged from Bloomfield Mental Hospital in the townships of Molong, Wellington, Cowra, Orange and Bathurst, with a view to ascertaining their progress. It was found that many of the patients had made only a partial recovery. It was clear that they needed assistance in their rehabilitation.

The medical officer of health investigated the work of some small recovery groups in Sydney and Lithgow and later in the year formed similar groups at Orange and Bathurst. Groups meet weekly. Attendance varies from 6 to 20, and consists of ex-patients, "nervous" cases, relatives and occasional observers. There have been remarkable improvements in those who attend. Members

of the clergy are most interested in the movement and help by referring cases. These groups are a good means of studying mental illness in the community setting. It is hoped that as well as helping with rehabilitation, the groups will help in preventing breakdowns.

There is no formal organisation or any rigid procedure followed. The members come together in a spirit of friendship and honesty for mutual help. The secretary nominates a chairman each meeting night. The chairman tells about his own breakdown, and what he found helpful on the way back to recovery. He calls on others to speak of their experience. From these talks problems emerge for discussion such as "getting out of a depression," "how to get back an interest in life," "overcoming lack of confidence," "how to deal with loneliness, bad temper, feelings of resentment" and so on.

What comes out of these meetings is most informative, and gives the clues to many community mental health problems.

Children's Medical Research Foundation

Because of the importance of the subject, the medical officer of health assisted a local committee at Bathurst to raise funds. A public meeting was arranged before the collection date. Professor Lorimer Dods, Director of Child Health, spoke to a big audience in which was included most of the local doctors.

Health Education

This took many forms during the year. Use was made of the country press throughout the district, the radio, talks to public meetings and to special groups of people, and the use of films. The subjects covered included mental health, aboriginal welfare, subnormal children, water supplies, stream pollution, immunisation, children's diseases, anti-fly measures, swimming-pool hygiene.

Bathurst Water-Supply

Supply to Bathurst comes from two main sources, the Wimburndale Dam (protected catchment, direct pipe-line, no filtration or chlorination) and from the Macquarie River (highly polluted catchment, water drawn direct from river and from a well alongside it, no filtration, but chlorination).

The Wimburndale water is of good quality. That from the river is often discoloured with suspended matter. One alderman has vigorously taken up the fight for a filtration plant in order to ensure a clean supply, but it seems that preference will be given to spending available loan moneys on a civic hall, not a good water-supply.

There is no doubt that in the interest of public health, the water-supply should take preference There is always an element of risk. The chlorination given may not be effective when it is most needed, for example, after heavy rains washing pollution in. And it is likely to break down. Council have been very lax. Council was requested to send regular samples for testing, but not a single sample has been sent.

Anti-staphylococcal Survey

In association with the Medical Officer of Health, the Director of Maternal and Baby Welfare arranged for members of her staff to visit hospitals in the district to discuss details of recording staphylococcal infections. During the year a visit was made to the Dubbo Base Hospital to investigate the problem more specifically. A baby had died of staphylococcal peritonitis and a mother had developed peritonitis. Another baby had been born with a pustular rash. Swabbings of the lesions grew staphylococci. Control measures were not as strict as they should have been. One doctor for example, had opened a wound abscess in the obstetric block. It was urged that an anti-staphylococcal committee be set up, with someone to give it leadership, for example, the medical superintendent, or an honorary medical officer.

Pure Food Work

This was done by inspectors from head office, Sydney.

Swimming Pools

Mr. R. McDonough, Senior Health Inspector, has supervised swimming pool hygiene. The majority of health inspectors, engineers, and pool operators have no proper knowledge of breakpoint chlorination and how to achieve and maintain it. There have been complaints of cloudiness in the water, sore eyes, discolouration of the hair and so on from various towns. Mr. McDonough has traced the causes and has instructed pool operators, engineers and health inspectors on how to keep their pool waters in a proper physical and chemical state. Local authorities now look to this office for assistance on how to conduct their swimming pools.

Fly Investigation, Dubbo

Although Dubbo is situated outside the district, reports of extensive infestation there warranted a concentrated effort by this department to do something about it. A team, consisting of Council's Health Inspector, the Senior Health Inspector of this office, and a government entomologist made inspections at strategic points in Dubbo. Extensive fly breeding was found, especially at the meat works and the sewerage treatment works, and methods were worked out to control it.

School Medical Services

Following the announcement of the Minister's scheme for extending school medical services (by which local authorities may employ local doctors at government expense) the Medical Officer of Health made calls over a wide area, both within and outside the district, in order to explain the scheme in detail. Without exception all the local authorities interviewed were very interested in the scheme and willing to do whatever was necessary to get it going. Not so, most of the doctors. Medical practitioners in the bigger centres pointed out they were far too busy to spare any time for school medical examinations. They did not like the idea of seeing and giving advice to each others' patients in the capacity of a doctor working for the government. Many expressed the opinion that this was the beginning of nationalisation of the profession and something to be strongly resisted. In the smaller towns, however, especially where the doctors did not work in opposition, it was possible to arrange for doctors to examine school children on a half-day-a-week basis. Occasionally, a doctor retired from active practice offered his services, or a married woman doctor with family responsibilities becoming progressively less, saw her way clear to help out. Taken on the whole, the scheme has not made very much headway in this district.

Alcoholism

A public meeting was held at Bathurst in November to publicise the problem of alcoholism. This was done in association with the Foundation for the Treatment and Research of Alcoholism. Its director, Mr. O. S. Williams, addressed an audience of 150. The film *To Your Health* was shown. And following that a meeting of Alcoholics Annonymous was held.

Most of those who attended were in fact members of Alcoholics Annonymous. Some came from a great distance. Only a few local people attended—two doctors, three clergymen, a police sergeant and four or five others, this in spite of the fact that the Medical Officer of Health and Senior Health Inspector had paid personal visits to numerous organisations and publicised the meeting in the local press.

RICHMOND-TWEED HEALTH DISTRICT—ANNUAL REPORT, 1960

Medical Officer of Health: Dr. H. R. Dugdale.

Establishment: One Health Inspector and Clerical Staff.

Vital Statistics

The estimated population at 30th June, 1960, was 124,840. Live births numbered 2,840 and there were 34 stillbirths. Deaths of children under one year of age totalled 56.

Deaths from all causes numbered 1,022.

Infectious Diseases

(*a*) Ancylostomiasis—32 cases were notified from the Lismore Base Hospital, all aboriginees, 19 from Reserves.

(*b*) Ascariasis—16 cases occurred, all but one were aboriginals and 17 were treated at the Lismore Base Hospital. Three of the cases had a double infection. Taking the two diseases together, the average stay per patient in hospital was 35 days. One child suffering from ancylostomiasis spent 96 days in hospital. In addition five aboriginal children were admitted and treated for whip-worm, with an average in-patient stay of twelve days.

(*c*) Infectious Hepatitis—56 cases were notified in the area, 32 being from Tweed Shire and five just over the boundary in Byron Shire. Only one case occurred during the months of July, August and September in Kyogle Shire. Twenty-two cases were notified between October and the end of the year, 14 being in Tweed Shire.

(*d*) Leptospirosis—12 cases were notified, eleven from Byron Shire, of which ten came from one practice. All but one were males and the only common factor among them appeared to be employment on farms.

(*e*) Diphtheria—The first case since 1956, according to the office register, was notified in November in a man of 22 living in a hostel in Lismore. He was admitted to hospital, where clinical and bacteriological findings were negative. The throat cleared up speedily on antibiotics.

(*f*) Notification of Infectious Disease—The following are the numbers of cases notified in the area:—

Disease	1960	1959
Acute anterior poliomyelitis	—	3
Ancylostomiasis	32	9
Ascariasis	16	27
Infectious hepatitis	56	74
Infantile diarrhoea	—	4
Leptospirosis	12	6
Meningococcal infection	2	1
Puerperal fever	8	3
Rheumatic fever	2	10
Scarlet fever	3	15
Tuberculosis	41	17
Virus encephalitis	1	3
Staphylococcal mastitis	1	1
Staphylococcal disease in infants under four weeks of age	11	6
Brucellosis	1	—
Diphtheria	1	—

2. Fly Nuisance, Northern Co-operative Meat Factory, Casino

In the early 1950s, a great deal of trouble was experienced with fly infestation at these premises. This was overcome when the company purchased some sixty acres of land about half a mile from the factory to which the effluent was pumped. In 1958, however, the Tomki Shire Council notified the department of local complaint of excessive number of flies. Inspection showed that the company had already taken remedial action by spraying the area with a solution of diazanon in water and there were no complaints that summer.

Early in 1960 the farmer on adjacent land threatened legal proceedings against the company because of the flies which abounded on his premises.

The disposal paddock was found to be a vast breeding ground for flies despite a two-man team which daily turned back the surface of the ground with a hoe and sprayed the revealed larvae with an oily solution of diazanon recommended by the manufacturers. Rat harbourages and many rats were seen. As a result of a report to the department, Mr. G. Eldershaw spent two days going over the plant and disposal area and interviewing neighbouring farmers. Apart from enlargement of the "save all" at the factory, Mr. Eldershaw recommended a settling tank at the disposal paddock, the provision of more contour drains and a return to the water solution of diazanon. Since at this time the manager left for a tour of American meat works it was agreed to defer structural alterations until his return with information as to American methods of dealing with the problem.

However, more contour drains were provided, a fresh area of the paddock was brought into use and water solution of diazanon was used again for spraying.

The complaining farmer is now treating with the company for the use of some of the effluent on his own ground. The area is now much cleaner, flies though still present are no longer a nuisance and no further complaints have been received.

3. Sewage Disposal

With Mr. Hulton, engineer of the Public Works Department, a suitable site for a treatment works was found at Mullumbimby. A meeting was later held with officials of the Gold Coast and Tweed Shire Council's, together with Public Works Department engineers from Queensland in an attempt to work out a joint disposal scheme for Tweed Heads and Coolangatta, the effluent to be run into Cobaki Broadwater.

It became apparent at the meeting that the engineers merely wanted agreement in principle for effluent disposal and that apart from planning, no work was likely for at least fifteen years. No agreement was reached and Tweed Shire has since made representation in regard to the rapid housing development on the New South Wales side of the Border and the urgent need for a sewerage scheme. Since this plan was first mooted in 1945 and a reticulated water-supply will be available shortly a priority of two years has been awarded.

4. Water Supplies

During the drought in the latter part of the year, road haulage of water has been necessary in parts of Tweed Heads, Kingscliff, Maclean and Goonellabah. Over the Christmas holidays water was not available for long periods during the day at East Ballina.

Mains are being laid along the Pacific Highway between Murwillumbah and Tweed Heads and water is already available at Condong and Tumbulgum. The Nymboida supply agreed for Maclean however seems unlikely to materialise for some time.

A duplicate service reservoir has been constructed at Lismore Heights and mains are being laid for the Goonellabah reticulation, which should be completed about Easter, 1961.

The Ballina Council considers that excessive use of water in the town itself, despite efforts to restrict it, so reduced pressure, that it would not gravitate to East Ballina. It is to consider partial duplication of the main and booster station.

5. Cubawee Aboriginal Reserve

Reports were made to the Aboriginal Welfare Board and the Gundurimba Shire Council on conditions at the Reserve. These are unchanged from previous reports, except that another house has been erected there. St. Andrew Parochial Church Council requested the Lismore City Council to call a public meeting to discuss means of helping the residents of Cubawee. The Council however preferred to send a representative to a meeting called by the church council and as far as is known, nothing further was done.

6. Dry Rubbish Dump for Tweed Heads

As a result of the resumption of Greenbank Island it became necessary for the Tweed Shire Council to obtain a new site for a dump. This was complicated by the existence of the tick gates and the refusal of the Tick Board to allow any, other than the council's contractor, to carry refuse through the gates.

The Council therefore proposed to use an area of mangrove mud flats on the north side of Terranora Creek with the ultimate intention of reclaiming the site for recreational purposes. No objections were raised by the Department of Lands and since the Council agreed to the requests of the Health Department with regard to fencing, the provision of a river wall, the type of refuse, its tipping, covering and the prevention of rat harbourage, no difficulties were anticipated.

Since the Council had experienced trouble with indiscrimate tipping by householder and shopkeepers from Queensland at Greenbank Island and had been forced to instal a caretaker, it was also agreed that he should be given accommodation at the gate to the new site.

7. Court Proceedings

Three cases have necessitated the Senior Health Inspector, with delays and adjournments, spending seven days in court, largely because the other side was not ready to proceed.

In one case which was dismissed, the magistrate saw fit to criticise the Department by saying "It has been my experience in cases where prosecutions are taken up by departments, particularly in defended cases, that they expect their officers not versed in any way in law to carry out prosecutions" (*Richmond River Express*, July 22nd, 1960).

The case involved the sanitary contractor to Kyogle and Tenterfield Shires, who was found by the health inspector to be carrying pans which had neither been washed nor steamed, at the Tambulum Aboriginal Settlement.

This was not denied in court, since it was shown that the boiler provided was unserviceable. However, legal argument developed as to the relationship between the two councils, the contractor and as to which depot was in use. The contractor has since resigned.

While the services of the Crown law officers are available, such a case, apparently straightforward, seems scarcely to warrant his intervention. It might perhaps be considered that the services of a local lawyer should be retained for court cases, so as to stop any purely legal loopholes and also in the hope of expediting hearings.

In the cases so far experienced, it would seem that the opposing solicitor understandably makes little or no effort to get his client into court and it is left to the Senior Health Inspector to cajole the magistrate clerk.

Another case concerned a property unfit for habitation at Yamba over which the local health inspector desired help. When eventually the case was reached the magistrate adjourned it for the owner and the council to reach agreement. Meanwhile the property still stands.

The third case was a flagrant breach of Clause 10 and 30 (1) of Local Government Ordinance 44 by the Maclean Shire contractor. The council proceeded against him at the request of this office and the Chief Health Inspector and Health Inspector for Maclean appeared in court. The contractor pleaded guilty and was fined £50 on each count.

8. School Medical Service

Inspections commenced in Grafton and Lismore after the May vacation, but from the 8th August were based in this office. The scheme has been well received by parents and teachers.

Practitioners in the Grafton and Coff's Harbour area appear to have welcomed the service, largely I think because they have not been called upon to make a decision and their routine has been undisturbed and also because Dr. Mulhearn is liked and respected in the district.

The Lismore doctors with whom are included those from Casino, Mullumbimby, Ballina and Brunswick Heads have largely adopted a "dog in the manger" attitude, though a few agree that the service is desirable and surprise has been expressed at the number of children found to require ophthalmic treatment.

Several unsatisfactory meetings have been held with them, wrecked at the outset by their insistence on a *per capita* fee. Latterly the B.M.A. view has prevailed, but nevertheless the scheme is described inimically as "cut price" and one is left with the feeling that if they do agree to implement it the service too is likely to be "cut price."

Meetings were held at Kyogle and Tenterfield to inaugurate a scheme and at the latter town reasonable agreement was reached though none of the practitioners wants the extra work.

At Kyogle with only three doctors, a busy hospital and a large area, it was considered that none of the men could afford the time, but they would gladly accept a full-time medical officer. No re-action has been received from the Tweed area as yet, though it is likely to be influenced by the Lismore attitude.

The only practitioner at Nimbin was willing to do the schools there and in Terania Shire.

9. Septic Tanks

Difficulty is often experienced in the Tweed area by builders and plumbers trying to introduce Queensland practices south of the Border. These people have been susceptible to argument until the end of this year, when a man began building at Tweed Heads before plans had been submitted to the council and then installed a septic tank before approval had been given. His intention, undoubtedly, was to utilise a storm drain running under the building to dispose of the sullage water from the flats and possibly also the effluent from the septic tank.

It is anticipated that a prosecution will take place.

10. General Inspections and Investigations

	1960	1959
Septic tank sites	480	414
Treatment works	2	10
Sanitary depots	40	22
Camping grounds	9	19
Swimming baths	3	5
Water samples	34	9
Noxious trades	69	60
Food premises	43	27
Chest clinic	56	6
Maternity unit	22	10
Medical examination	46	34
Abbatoirs	1	1
Sub-divisions	1	11
Complaints	16	20
Hotels	10	6
Fly nuisance	1	—
Proposed refuse tip	1	—
Proposed school milk supply	1	—
Court cases	3	—
Proposed U.B. land areas	1	4
Proposed garbage depot	1	—
Proposed scavenging area	4	—
Water supply dam and catchment area	1	—
Aboriginal reserve	2	7
Rubbish depot	1	—
Existing septic tanks	8	19
Prosecution	1	—
Lecture to nurses	2	14
Aboriginal settlement	3	7
Bedding premises	7	4
Guest houses	2	—
Sewerage treatment works site	2	8
Unsightly and dilapidated building	1	—

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BROKEN HILL HEALTH DISTRICT—ANNUAL REPORT, 1960

Medical Officer of Health: Dr. J. T. Cullen.

Establishment: One Radiographer and Clerical Staff.

Local Authorities

The Broken Hill Health District is confined to the County of Yancowinna. The county is within the shire of central Darling, which lies mainly to the west of the Darling River. The county covers an area of 16,000 square miles, with the Municipality of Broken Hill at the centre of the county.

The South Australian border forms the western boundary. The Broken Hill Health District is a centre of metal mining and pastoral industries.

Vital Statistics, 1960

Population—The population of the district at 30th June, 1960, was estimated at 33,210.

Live Births—There were 927 live births to mothers resident in the district, equivalent to a rate of 28·3 per 1,000 of population. Of these, 448 were males and 479 females.

Deaths—Deaths of residents numbered 286, equivalent to a rate of 8·22 per 1,000 of population. Of these, 168 were males and 118 females.

Infantile Mortality—Deaths under one year of age numbered 37, equivalent to a rate of 39·8 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 30 or 81·3 per cent., occurred within one week of birth and 31 or 83·29 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 31·16 and 32·33 respectively.

Still Births—There were 20 still births to mothers resident in the district, equal to a rate of 0·60 per 1,000 of population and representing 2·15 per cent. of all births (live and still).

International Code Number	Cause of Death	Number of Deaths		
		Males	Females	Persons
490	Diseases of the respiratory system—Lobar pneumonia	1	..	1
491	Bronchopneumonia	1	1	2
571	Gastro-enteritis and colitis, except ulcerative, age four weeks and over	1	..	1
587	Diseases of pancreas	..	..	..
	Diseases of the genito-urinary system	1	..	1
750	Monstrosity	2	2	4
752	Congenital hydrocephalus	1	2	3
754	Congenital malformations of circulatory system	..	1	1
759	Other and unspecified congenital malformations not elsewhere classified	1	..	1
917	Accident caused by hot substance, corrosive liquid and steam	1	..	1
7605	With immaturity	..	1	1
7610	Without mention of immaturity	2	1	3
7620	Without mention of immaturity	..	1	1
7700	Without mention of immaturity	..	2	2
7730	Ill-defined diseases peculiar to early infancy, without mention of immaturity	3	2	5
7769	Immaturity, unqualified	5	5	10

Infectious Diseases

Disease	1956	1957	1958	1959	1960
Typhoid and paratyphoid	..	..	..	..	..
Scarlet fever	..	..	..	..	..
Diphtheria	3	..	..	..	..
Meningococcal meningitis	..	..	..	..	1
Poliomyelitis	3	..	..	..	..
Infectious hepatitis	2	2	19	38	89
Bacillary dysentery	4	1	..	..	..
Influenzal meningitis	..	..	..	..	..
Infantile diarrhoea	1	..	..	..	..
Staphylococcal pneumonia	..	1	..	..	1
Staphylococcal disease in infants under four weeks	..	1	..	..	5
Meningococcal septicaemia	..	1	..	..	..
Gastro-enteritis	..	..	1	..	..

Miscellaneous Matters

Particulars	Period 1960
Examinations and interviews as medical officer of health	80
Post mortem examinations at the request of the coroner	44
Attendances at court and giving evidence in police cases	50
Examinations of arrested persons or prisoners	20
Visits to gaol for examination of prisoners	15
Examinations and reports on police constables re fitness for duty	20
Governmental examinations (Public Service Board, Railway Department, Education Department, etc.	79
Examinations of new patients at anti-tuberculosis clinic	38
Total number of attendances of anti-tuberculosis clinic	250

Infectious hepatitis remains as the major notifiable disease.

The incidence has risen sharply since 1956, and the cases notified were more than double those for 1959.

No case of poliomyelitis has been notified since the mass inoculation by Salk vaccine.

SECTION III

STATE HOSPITALS AND HOMES

LIDCOMBE STATE HOSPITAL AND HOME—ANNUAL REPORT, 1960

Honorary Visiting Staff: The following posts are catered for by honorary staff visiting this hospital:—

Honorary Consulting Chest Physician: 1.
Honorary Surgeons: 3.
Honorary Consulting Urological Surgeons: 1.
Honorary Ophthalmic Surgeons: 2.
Honorary Dermatologists: 2.
Honorary Orthopaedic Surgeons: 2.
Honorary Ear, Nose and Throat Surgeons: 2.
Honorary Neuro-surgeon: 1.
Honorary Clinic Neurologists: 2.
Radiologist: 1.
Dentist: 1.

Staff—Administrative:

Medical Superintendent: G. S. Procopis, M.B., M.R.A.C.P.
Deputy Medical Superintendent: G. C. Hughes, M.B., B.S.
Senior Medical Officers: 3 (including 1 receiving Senior Medical Officer's rate of salary, but occupying position as Medical Officer).
Psychiatrist: 1.
Medical Officers: 5.
Matron: 1.
Manager: 1.
Assistant Manager: 1.

Other Staff details are as follows:

Nurses: 68.
Other Female Staff: 34.
Attendants: 236.
Other Male Staff: 101.

Number of beds available as at 31st December, 1960: Hospital 877, Home 854. Total: 1,731.

Daily average number of patients and inmates resident:

1951—1,162	1956—1,347
1952—1,160	1957—1,374
1953—1,171	1958—1,475
1954—1,216	1959—1,484
1955—1,297	1960—1,446

Admissions, Discharges and Deaths:

	Hospital Section	Home Section	Total
In institution, 1st January, 1960	737	705	1,442
Admissions	1,254	1,901	3,155
Transfers	580	526	1,106
Total treated	2,571	3,132	5,703
Discharges	694	1,917	2,611
Deaths	582	11	593
Transfers	525	581	1,106
	770	623	1,393

Daily average: 1,446

Casual relief: 259 indigent persons were provided with sleeping accommodation for one (1) night and 578 were supplied with a meal.

X-ray: 5,322 cases were examined in the x-ray department, including examination of staff as prescribed by the award made by Judge Kinsela.

Operations: 377 major (abdominal and bone) operations, and 60 eye operations were performed.

Electrocardiograms: 653 electrocardiograms were taken and reported on.

Laundry: 1,799,876 articles were laundered.

Farm: Sales amounted to £3,825 16s. 1d.

The following works were carried out under the direction of the Public Works Department:—

(1) Installation of the PAX telephone system was completed during the year.

(2) Erection of a new church and recreation hall was commenced.

(3) Three new residences, commenced during 1959, were completed during 1960 and all services connected.

(4) The erection of fencing, in connection with the New Guinea pig hutments completed last year, was finalised.

(5) A public address system was installed at the new dining halls.

(6) The replacement of wall and floor tiling at the pan and bathrooms and main kitchen block was affected.

(7) The yard bathroom was extended to provide additional storage space.

(8) The remedying of defects in construction of ward chimneys was completed and Kosi Stoves installed in Wards 4 to 20.

(9) The installation of additional Kosi Stoves in the dining rooms and Wards 4, 5, 6, 7, 16, 17, 18, and 19 was not commenced, although this work was requested as a matter of urgency.

(10) The flyproofing of Ward 21 was completed as also was the renewal of wire gauze in the balconies of Nurses' Homes No. 1, 2, and 3. The renewal of wire gauze to windows and doors in these homes is awaiting completion.

Minor repairs and renovations were continued by the Building, Construction and Maintenance Branch of the Public Works Department in various locations throughout the hospital.

General maintenance was carried out by hospital artisans and outdoor staff under the direction of the manager. The acquisition of a new Massey-Ferguson tractor, with Najon cutter, added considerably in the beautification of the grounds.

Dr. B. S. Stephen took up duty as psychiatrist on 4th January, 1960, and the positions of additional medical secretary and secretary to the Almoner were also filled during the year.

Dr. B. E. Sharkey returned to duty, following twelve months leave of absence at the Royal North Shore Hospital, where he successfully passed his final examination for the F.F.A.R.A.C.S.

Mr. S. A. Bingham, Assistant Manager, successfully completed a course of hospital administration at the University of New South Wales and was placed second in the year.

Although not commenced during 1960, at the time of writing the work of converting Dormitory 35 to an alcoholic rehabilitation ward is now well in hand.

STRICKLAND HOUSE—VAUCLUSE—ANNUAL REPORT, 1960

(*a*) Staff: Matron 1, Visiting Emergency Medical Officer 1, Clerical Officer 1, Trained Nurses 4, Assistant Nurses 3, Female Domestic Staff 7, Day Attendants 2, Night Attendants 1.

(*b*) Brief Statement of Functions and Responsibilities—This hospital, operated as a convalescent hospital, as in previous years, from 1st January, 1960, to 29th August, 1960. Thereafter it was converted to Strickland House, to accommodate home section patients only, transferred mainly from Newington State Hospital and Home and occasionally admitted from Board of Health Admission Department, 93 Macqurie Street. This section, Strickland House, Vaucluse, was approved as a benevolent home under Section 18 of the Social Services Act, with effect from 10th March, 1961.

Inmate workers remained in this category, as in previous years, during the whole of the year under review, they will, in the following year as from 10th March, 1961, be regarded as inmates on exactly the status as the women inmates. It may be mentioned here that the important change in their status is in the fact that whereas in the past they collected individually and retained the whole of their pensions, they will, from 10th March, 1961, receive, after deduction for maintenance at Strickland House, the institutional rate of £1 15s. per week. This, of course, refers to those inmate workers who are pensioners, the others who are not pensioners will also be required to pay maintenance at Strickland House at the rate of £3 5s. per week, depending, of course, in their ability to pay, determined by a means test.

(*c*) Description of Routine Work carried out during the Year—Normal routine nursing was carried out during the first eight months of the year for the care and rehabilitation of convalescent patients, including the ministration of drugs, dressings, injections, etc., as prescribed by the patients' doctors.

Four hundred and twenty convalescent patients were admitted during the first eight months of the year and 75 home section inmates, mostly from Newington State Hospital and Home, during the latter four months of the year, representing 32·8 daily average convalescent patients during the first eight months of the year and 37 daily average home section inmates during the last four months of the year.

(*d*) Comments on any Interesting Developments—Calls for no special comment.

(*e*) Special Investigations undertaken—Calls for no special comment.

(*f*) Comments on Difficulties Experienced—The necessity for a pedestrian path from the hospital gate to the main entrance of the hospital, was mentioned in the last annual report sent from this hospital. This work has not yet been undertaken, other than this no other matters call for comment.

(*g*) Statistical Appendix dealing mainly with Population Figures—Tables of comparative population, etc., are attached.

Convalescent hospital section for period 1st January, 1960, to 29th August, 1961, on which date the convalescent section closed down:—

	1959			1960		
	Patients	Inmate Workers	Total	Patients	Inmate Workers	Total
Admitted	762	56	818	420	52	472
Discharged	749	56	805	470	55	525
Daily average	43	19·8	62·8	32·8	18·4	51·2
No. of bed-days	15,716	7,224	22,940	8,983	6,735	15,718

Daily Average Population:—

	1959	1960
Patients	43	32·8
Inmate workers	19·8	18·4
Staff female	15	15
Staff Male	4	4
Total..	81·8	70·2

Home section for period from 30th August, 1960, to 31st December, 1960:—

	1959	1960		
		Patients	Inmate Workers	Total
Admitted	..	75	..	75
Discharged	..	17	..	17
Daily average	..	37	..	37
No. of bed-days	..	4,588	..	4,588

Daily Average Population:—

Inmates home section 37.

Inmate workers shown above in Convalescent Section for complete year 1960.

Staff, female, shown above in Convalescent Section for complete year 1960.

Staff, male, shown above in Convalescent Section for complete year 1960.

NEWINGTON STATE HOSPITAL AND HOME—ANNUAL REPORT, 1960

Honorary Medical Staff—

Neurologists—vacant.

Ophthalmic Surgeon—vacant.

Authorised Staff—

Medical Superintendent, J. McManamey, M.B., B.S., Syd.; Deputy Medical Superintendent, Lottie Sharfstein, M.B., Ch.M., Syd.; Medical Officer, Maire Henley, M.B., B.Ch., Ireland; Manager, R. G. McIntosh; Matron, Miss Hoare; Nurses 70; Dispenser 1; Senior Clerk 1; Junior Male Clerk 1; Female Office Assistants 2; Storekeeper 1; Female Office Assistant in Store 1.

Dentists visits the institution fortnightly.

Male Staff 34; other Female Staff 24.

Admissions and Discharges—		
Inmates in institution, 1st January, 1960	399	
Admissions during year	560	
	—	959
Discharges during year	599 (*a*)	
Deaths during year	44	
	—	643
Remaining in institution, 31st December, 1960		316
Average daily number resident		381·1
Hospital Division Statistics—		
Beds available	232 (*b*)	
In hospital at 1st January, 1960	220	
Admissions during year	99	
Discharges during year	46	
Deaths during year	43	
Remaining in hospital at 31st December, 1960	221	

(*a*) "Discharges 599" includes 60 inmates to Strickland House, Vaucluse.

(*b*) "Beds Available 232" does not include: 10 beds in Ward D—Ward closed, unfit for occupation; 27 beds in Ward E—Ward closed, unfit for occupation; 50 beds in Ward H—Ward closed, partly renovated, but not to be re-opened owing to proposed closing of hospital; 2 beds in Ward J2—Two (2) verandah beds removed to make way for doorway to "Athena" bath.

RANDWICK CHEST HOSPITAL—ANNUAL REPORT, 1960

The following are the statistics summarising activities of this hospital during the twelve months ending 31st December, 1960:—

Indoor Patients

	Male	Female	Total
Patients under treatment on 31st December, 1959	117	32	149
Admitted during 1960	225	77	302
	342	109	451

	Male	Female	Total
Died during 1960	48	6	54
Discharged during 1960	183	59	242
Total died and discharged during 1960	231	65	296
Remaining in hospital on 31st December, 1960	111	44	155

Daily average number of resident patients	151
Average residence of discharged patients in days	84
Number of individuals who received outdoor treatment	1,434
Total number of visits by out-patients	2,476

Inmate Workers

In the institution on 31st December, 1959	11
Admitted during 1960	3
	14
Discharged during 1960	3
Remaining in the institution on 31st December, 1960	11
General daily average number, including workers	162

Autopsies

There were 54 deaths during the year and 28 autopsies were performed.

X-ray Department

X-ray examinations	3,985
Barium meal examinations	100
Screenings	94
Films used	6,427
Dental films used	107
Tomograms	177
Portables	272

Pathological Laboratory

Specimens submitted for examination	6,869

Operations Performed

Major Thoracic:—	
Pneumonectomy	1
Lobectomy	17
Segmental wedge and cone	13
Thoracotomy	7
Thoracoplasty	1
Decortication	2
Rib resection	3
Oesophagectomy	1
Minor Thoracic:—	
Bronchoscopy	53
Bronchial biopsy	26
Oesophagoscopy	15
Tracheotomy	1
Intercostal drainage	21
Thoracoscopy	3
Drainage of empyema	1
Major general	11
Minor general	42
Orthopaedic	3
Major urological	1
Minor urological	7
Neurological	1
Oto-rhino-laryngeal	9
Opthalmological	1
Dental	2
Blood transfusions	77

Surgical Ward

Admissions:—

	Male	Female	Total
Thoracic	45	12	57
General	23	12	35
Total	68	24	92

Average duration of stay: Thoracic, 12 days; General, 8½ days.

The undermentioned schedule illustrates the fluctuations in the number of patients in residence since the peak year of 1954:—

Daily Average Number of Patients—	
1954	287
1955	260
1956	240
1957	202
1958	204
1959	158*
1960	151

* In-patient numbers were restricted towards the end of 1958 to 150

Standard Establishment

Visiting Specialist Staff:—	
Oto-rhine-laryngologist	1
Urologist	1
Consultant thoracic surgeons	2
Dermatologist	1
Orthopaedic surgeon	1
Consultant general surgeons	2
Consultant physicians	1
Radiologist	1
Opthalmologist	1
Refractionist	1
Psychiatrist	1
Neuro-surgeon	1
Consultative panel	3
Anaesthetists	2*
	19

* The hospital can call on the services of departmental anaesthetists when necessary.

Resident Medical Staff:—	
Medical superintendent	1
Deputy medical superintendent	1
Surgical registrar	1
Medical officers	5
	8

Nursing Staff:—	
Matron	1
Sub-matron	1
Home sister	1
Sisters, theatre, and nurses (female)	104
Attendants (male)	25
	132

Clerical Staff:—	
Secretary	1
Clerk (male)	1
Shorthand-typiste	1
Office assistants	2
Record clerk (female)	1
	6

Medical Auxiliary Staff:—	
Almoner	1
Occupational therapists	2
Radiographer	2
Radiographer in training	1
Dispenser	1
Dispensary assistant	1
Microbiologists	2 *
Laboratory assistant	1 *
Laboratory attendant	1 *
	13

* Establishment of these positions authorised in 1960. Previously microbiologists were seconded from Microbiological Laboratory, 93 Macquarie Street.

Domestic Staff:—	
Wardmaids and housemaids	50
Kitchenmaids	3
Kitchenmaid-cook	1
Cooks	6
Seamstress	1
Head waitress	1
Cleaner (female)	1
Kitchenmen	3
	66

Miscellaneous:—	
Outdoor supervisor	1
Catering officer	1
Storemen	2
Carpenter	1
Engineer	1
Painter	1
Firemen	3
Maintenance of grounds, outdoor staff, flower gardener, etc.	6
Male cleaners	8
	24
Visiting clergymen	4
Librarian	1
Total	273

Staff Shortages

Nursing	27
Domestic	10
Medical auxiliary	4
Medical officers	1
Miscellaneous	2
Total	44

Narrative

Notification of cases of tuberculosis in New South Wales has shown a pronounced upward trend in the last year.

Notifications of All Forms of Tuberculosis:—			
1957	1,649	1959	1,166
1958	1,410	1960	1,533
Notifications of Extra-pulmonary Tuberculosis:—			
1957	44	1959	39
1958	52	1960	78
Cases First Diagnosed on Death Certificate:—			
1957	113	1959	49
1958	113	1960	117

It is disturbing that notifications are at their highest since 1957–1958, and more disturbing is the fact that 117 cases were not diagnosed during life. How many other cases are not diagnosed during life or after death?

In-Patients—Middle-aged to elderly males constituted the great proportion of new cases admitted to Randwick and many cases were advanced. Some were so ill on admission that death ensured within hours or days. With increase in notifications there has been a demand for beds which has been reflected in permission granted to the hospital to increase bed capacity from 150 to 160.

Out-Patients—Out-patient numbers have increased, the majority of patients on discharge electing to attend the hospital for their after-care.

Nursing Examinations—The second post-graduate course in tuberculosis and other chest diseases was commenced in the latter part of the year.

On the 9th September, 1960, the successful candidates of the first course were presented with their certificates by Dr. K. W. H. Harris, Director of Tuberculosis, who represented the Central Administration.

Surgical Block—Surgical results were excellent over the year. Extensions to the surgical block have been approved and should be effected during 1961.

X-ray Department—All units of equipment were fully utilized, and a 70 mm. static mirror-camera unit is to be installed, which will serve the rapidly expanding eastern suburbs.

A water-temperature control unit has almost been completed and the x-ray department is to be air-conditioned.

It is considered that extra staffing will be necessary to enable this department to efficiently cope with the increased volume of work anticipated.

Microbiological Laboratory—The authorised establishment is two microbiologists, a laboratory assistant and a laboratory attendant. Over the past year the staff has consisted of one microbiologist and one laboratory attendant; this department has been seriously handicapped and even essential services have been difficult to maintain.

Ward 29—This ward has been renovated to provide a stage with lighting, a spacious hall with stacking seats, physiology laboratory, out-patient and staff clinics, a Vinyl-tiled waiting room with adequate seating and two fans. The Chest Hospital Ladies' Committee has generously donated a tropical fish tank for the diversion of those in the waiting room. Annexes have been provided for physio-therapy, occupational therapy, rehabilitation, a records room, which includes storage for out-patient x-rays, and an office for the almoner.

Ward 28—The eastern end of this ward has been renovated to afford changing facilities for living-out nursing staff subsequent to the transfer of the Catherine Hayes' Nursing Home to the Prince Henry Hospital. Lounge and locker room, showers and toilets, and a kitchenette have been provided. Suitable setees are needed to furnish the lounge and a stove and refrigerator are required for the kitchenette.

The central section of this ward is to accommodate two billiard tables for the patients; a further section constitutes the linen store-room.

As there are no toilet facilities at the hospital for out-patients and visitors, it has been recommended that the western end of Ward 28 be converted into a waiting room with toilet facilities for visitors and out-patients.

Other Wards—The day-rooms and annexes of Wards 20, 21, 23, 24, 25, 26, and 27 are being provided with neon lighting and lino-tiles.

Ward 22 is to be taken over by the Prince Henry Hospital for a radio-isotopes laboratory. The patients will be transferred to Ward 25, the kitchen of which has been remodelled by local artisan labour.

All wards are being equipped with new three-channel wireless.

Social Activities—The Staff Social Club, Patients' Club and Ladies' Committee have all held various successful functions—dances, concerts, competitions, barbeques, games nights, etc.

There is an active branch of the Citizens' Tuberculosis League, the accent being on rehabilitation.

Medical Staff

Extra-mural Activities—During the year the hospital lost the valuable services of Dr. N. P. Protopopoff, due to his retirement.

Our medical personnel have acted in an advisory capacity to the North Ryde Psychiatric Centre, the x-ray department has performed tomography for the Centre, and cases have been accepted for investigation and surgery when necessary.

The staff also visited Lidcombe State Hospital to advise on thoracic cases, some of whom were transferred for investigation and surgery. The surgical registrar attended Lidcombe in his capacity as a general surgeon.

Regular tri-weekly visits have been made for several years to the Haymarket branch of the Tuberculosis Division, to assist in the monitoring of miniature x-rays.

An additional service has been the attendance of one of our medical staff one half-day per week to receive and examine cases transferred from Newington to Strickland Hospital. Randwick has also undertaken to reserve some beds for cases from Strickland in the event of medical or surgical emergency. Calls during day and night impose considerable strain on medical staffing, especially when officers are on recreation or sick leave, as the vacancy created by the resignation of Dr. McReddie two years ago has not been filled.

In conclusion, although staff vacancies still exist, progress continues to be made and advances effected. The appointment of a new gardener has resulted in great improvement in the state of the grounds which, in years to come, should offer some beauty owing to the planting of flowering shrubs on what was once a rather desolate landscape.

GARRAWARRA HOSPITAL—WATERFALL—ANNUAL REPORT, 1960

Last year's annual report, I think, has adequately described the working conditions at this hospital. With regard to types of patients, their sex distribution and ages, the source of admissions, nursing care and medical treatment and some of the ancillary services, these have remained fundamentally unchanged.

It is with pleasure that this year I am in the position to report that since 8th August, 1960, a fully trained and experienced physiotherapist, Mrs. C. Phillips, has been tending to our patients on a part-time basis. Mrs. Phillip's work has contributed considerably to the improvement which we notice in our patients after hospitalisation and also added to their contentment.

Another ancillary service which is available at this hospital now, is in connection with occupation (diversional) therapy. Mrs. M. J. Nicholas, took up duty here on 28th November, 1960, on a part-time basis. She is not a fully trained person, but very experienced and enthusiastic about her work and has managed under difficult working conditions to transform our hospital into a busy hive of diversional activities. More and more patients are "caught" in her dragnet and I am confident that very soon only a few patients, the hard core who are incapable of doing anything at all, will stay outside her family circle.

In my opinion two additional services would be of great importance to our patients, viz., a speech therapist and a chiropodist, both on a part-time basis.

In connection with a speech therapist, I wish to refer you to my submission of 27th October, 1960. This submission sets out, I believe, adequately, the reasons why I think such a person ought to be appointed to this hospital and also the period when her services ought to be available to us.

With reference to a chiropodist, I wish to say that unfortunately, there is no such position, as yet, on the establishment of Garrawarra Hospital, though, of course, it would be, in this type of hospital, of inestimable value.

Corns (many of them inter-digital), calluses, tylosities, bunions (some of them inflamed), hypertrophic nail formations that cannot be cut and/or trimmed by the nursing staff, even with the help of clippers and often, just tired old feet in need of expert massage and attention, and many other conditions which I need not enumerate, are only too prevalent amongst our patients.

These conditions considerably restrict them in their mobility and to their detriment, condemn them to a chair life, and I propose to make a submission as soon as a suitable applicant will become available.

Two additional wards are almost ready for the reception of some of the Newington patients, who are ear-marked for transfer to Garrawarra Hospital, Waterfall. The provision of adequate staff—medical and nursing—remains to be settled to enable us to go ahead with our plans.

Dr. D. J. Law, medical officer, commenced a period of study leave to undertake the Diploma of Public Health Course on 11th March, 1960. Dr. S. Sax commenced duty here as senior medical officer on 7th March, 1960.

Practically all of the laboratory work for this hospital is still being carried out at the institute at Lidcombe and the difficulties set out in my last year's report in this regard still obtain.

Lidcombe State Hospital, the out-patients' departments of St. George and Sutherland Hospitals, and the x-ray and radium departments of Sydney and Royal Prince Alfred Hospitals have continued to be of great help throughout the year and our relationships with these hospitals remain cordial.

All in all, it has been quite a successful year, and I think we have given more than adequate service to our patients and to the community.

(*a*) Number of Beds Available	As at 31st December, 1959	As at 31st December, 1960
Male patients	64	62
Female patients	52	52
Male workers	89	89

(*b*)	Male Patients	Female Patients	Workers
Remaining in hospital, 31st December, 1959	58	52	77
Admitted during 1960	76	19	368
Total treated during 1960	134	71	445
Discharged during 1960	56	11	375
Died during 1960	17	8	—
Remaining in hospital, 31st December, 1960	61	52	70
Average daily number resident	58·9	51·1	73·7

DAVID BERRY HOSPITAL—ANNUAL REPORT, 1960

The number of in-patients treated at this hospital during 1960 showed a considerable increase upon the total for 1959, however there was a decline in the number of out-patients treated. Comparative figures for the two years show a decrease in the number of births and an increase in the number of deaths. Also there were fewer operations performed and fewer people x-rayed during 1960.

The comparative figures for the two years are as follows:—

	1960	1959
No. of in-patients	554	496
No. of out-patients	163	218
No. of births	16	18
No. of deaths	22	18
No. of operations performed	187	209
No. of persons x-rayed	560	640
Average daily resident	12·68	15·08

LEPER LAZARET—ANNUAL REPORT, 1960

On the 1st January, 1960, seven persons remained under detention at the Lazaret.

No deaths occurred during 1960.

The total number of persons admitted since 1883, when patients were first received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900), is 241. Distributed under nationalities, the following table shows movements of patients during the year:—

	Admitted	Re-admitted	Discharged	Repatriated	Died	Remaining in at 31st December, 1959
Whites of European descent—						
New South Wales	1	..	1*	..	..	3
Malta	..	..	1	..	..	1
Cyprus	..	..	..	..	..	1
Coloured patients—						
New South Wales	..	..	..	..	..	1
Indian	1	..	..	..	..	1
Totals	2	..	2	..	..	7

* Discharged to Concord Hospital

In Lazaret on 1st January (4 males, 3 females)	7
Admitted during the year	2
Died during the year	–
Discharged	2
Repatriated	–
Readmitted	–
Remaining in Lazaret on 31st December, 1960 (3 males, 4 females)	7

Every opportunity has been offered to members of the medical profession to visit the lazaret for the purpose of seeing such patients as were formerly under their care, or for study of the disease.

The following statements show the expenditure for the year, and the sources from which it has been defrayed:—

Statement showing the Working Expenses of the Lazarets (for Men and Women) at Little Bay for the year 1960

	£	s.	d.
Salaries	6,048	15	4
Provisions	2,170	6	1
Tobacco and comforts	116	2	8
Clothing, etc.	428	1	10
Fuel and light	570	13	10
Drugs, dressings, etc.	84	13	5
Miscellaneous	1,059	7	11
	£10,478	1	1

Deduct amounts received in respect of maintenance, including contributions by the Commonwealth under the hospital benefits agreement, £1,758 17s., nett cost £8,719 4s. 7d. Average number of patients resident, 6·9, being equal to an average of £1,263 13s. 1d. (on nett cost) per inmate per annum in 1960.

Table 1—*Summary of Expenditure—Randwick Chest Hospital, Strickland Convalescent Hospital, Garrawarra Hospital, State Hospitals and Homes, Lidcombe, Newington and David Berry Hospital for the Twelve Months ended* 30*th June*, 1960

Head of Expenditure	Randwick	Strickland	Garrawarra	Lidcombe	Newington	David Berry	Total
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and payments in the nature of salaries	190,886 2 6	15,317 8 1	107,434 10 10	442,650 12 1	118,256 13 7	22,163 0 8	896,708 7 9
Provision	36,162 18 6	9,422 19 10	29,033 2 6	124,361 7 6	38,753 14 10	3,146 18 7	240,881 1 9
Drugs, surgical appliances, dressings, etc.	10,767 7 6	36 4 8	2,042 7 8	24,700 18 7	3,746 17 0	1,123 16 5	42,417 11 10
Fuel, electricity and water	7,198 17 0	2,160 2 5	9,326 9 6	31,517 17 1	8,748 10 1	498 15 6	59,450 11 7
Domestic utilities, including laundry expenses, household linen, clothing, furniture, etc.	4,557 19 1	942 0 6	11,624 17 8	41,275 3 5	11,327 18 1	27 4 1	69,755 2 10
General establishment	12,182 6 10	1,615 10 3	8,730 5 11	28,326 8 0	7,685 15 7	2,696 11 7	61,236 18 2
Renewal and renovations to buildings and plant	8,284 3 7	2,017 3 8	5,429 8 9	21,337 15 11	38,223 19 1	2,138 17 0	77,431 8 0
Gross maintenance expenditure	270,039 15 0	31,511 9 5	173,621 2 10	714,170 2 7	226,743 8 3	31,795 3 10	1,447,881 1 11
Collections for sales, maintenance and payments by Commonwealth Government	2,492 10 8	11,369 6 11	40,756 4 6	199,780 8 11	57,211 6 5	11,944 18 3	323,554 15 8
Nett maintenance cost to State	£267,547 4 4	£20,142 2 6	£132,864 18 4	£514,389 13 8	£169,532 1 10	£19,850 5 7	£1,124,326 6 3
Average daily population	150	59	183	1,465	399	14	2,270
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Average annual cost per patient on gross maintenance expenditure ..	1,800 5 4	534 1 10	948 15 0	487 9 9	568 5 7	2,271 1 9	637 16 8
Average weekly cost per patient on gross maintenance cost to State ..	34 8 8	10 4 3	18 2 11	9 6 6	10 17 5	43 8 9	12 4 0
Average annual cost per patient on nett maintenance cost to State ..	1,783 12 11	341 7 10	725 0 9	351 2 5	424 17 10	1,417 17 6	495 6 0
Average weekly cost per patient on nett maintenance expenditure ..	34 2 3	6 10 7	13 17 9	6 14 4	8 2 6	27 2 4	9 9 5
Capital expenditure not included in maintenance	£2,845 18 4	..	£20,606 0 0	£87,735 18 2	£19,789 14 4	..	£130,977 10 10

SECTION IV

PATHOLOGICAL LABORATORIES

DIVISION OF PATHOLOGICAL LABORATORIES—ANNUAL REPORT, 1960

Following the transfer during 1959 of large sections of its work to the newly-completed Institute of Clinical Pathology and Medical Research at Lidcombe and also the incorporation of the various "satellite" laboratories into the hospitals which they served, this division began the year with a substantial reduction in the numbers of its staff and in the scope of its activities. In pursuance of instructions concerned with the complete closure of the laboratories during 1960, arrangements were made whereby all clinical laboratory functions were transferred to the above institute towards the middle of the year. A little later the sections remaining were transferred (together with their staffs) to other divisions of the department as follows:—

(1) Medico-Legal Microbiology and Pathology to the Government Medical Officer's Division.

(2) Public Health Microbiology to the Government Analyst's Division.

(3) Venereal Serology to the Division of Social Hygiene.

Figures shown in the attached table for the most part cover irregular periods, making it difficult to establish an effective comparison with those of the previous year. In a few cases—notably water bacteriology, medico-legal work and venereal serology—they are sufficient to indicate a definite continuation of the increasing volume of work performed in recent years.

With completion of the foregoing transfers the unit of the Department of Health known as the Pathological Laboratories, was closed down, and this present report will therefore be the last annual report to be submitted from this division.

January to June

Food poisoning (others)	1
Gonorrhoea (smear and urine)	527
Leprosy	2
Tuberculosis (culture and G.P.I.)	13
Antibiotic sensitivity	192
Human bacteriology unclassified	39
Food bacteriology	98
Water bacteriology	608
Drugs, etc., sterility	45
Chemical closet contents	2
Disinfectants (Rideal Walker)	200
Miscellaneous bacteriology	21
Medico-legal examinations	3,112
Quantitative Wassermann	504
Syphilis Wassermann	12,169
Syphilis Kahn	18,975
Reiter protein C.F.T.	3,046
Syphilis Meinicke clarification test	4,360
Gonorrhoea G.C.F.T.	692
Hydatid, C.F.T.	29
V.D.R.L.	12,169
Total	56,804

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH—ANNUAL REPORT, 1960

Introduction

In the annual report for the year ending December 31st, 1959, the building, equipping, staffing and organisation of the Institute of Clinical Pathology and Medical Research were described in some detail and the interested reader is referred to this for information on these topics. The present report will be concerned mainly with a description of the way in which the Institute has, over the past year, progressed towards carrying out its functions, which broadly may be defined as:—

(1) The provision of a clinical pathology diagnostic service.

(2) The training of medical technologists, and of medical graduates as specialist pathologists.

(3) Research.

(1) Clinical Pathology

The year under review has been one of consolidation as far as the routine clinical pathology examinations are concerned. At the same time there has been a steady increase in the volume of work carried out and a broadening of the range of investigations offered, in accordance with the policy of making available any test of proved usefulness for which there is a demand.

(*a*) Pathological Anatomy and Histology

The demand for histological examinations of specimens removed surgically has continued at a high level and during the year 5,025 specimens were received, from which 8,677 slides were prepared. Despite the fact that as yet no facilities for cyto-diagnosis have been established, 244 specimens (312 slides) were received for this examination during the year. Most of these were submitted after the announcement that the department intended to provide an exfoliative cytology diagnostic service in the near future (see below), which is some illustration of the interest that this project has evoked.

In addition there has, during the year, been a sharp increase in the number of autopsies carried out. These totalled 184, and from the tissues removed at post-mortem, 1,538 sections were cut for histological examination. This autopsy work constitutes a most important aspect of the post-graduate training programme and it is hoped that the coming year will see a further increase in the autopsy rate at the Lidcombe State Hospital to meet this need.

The Histopathology Department has made considerable progress in the accumulation of a reference collection of slides for teaching purposes, approximately 1,500 having been added during the year, while 112 specimens have been mounted in the museum of pathological anatomy.

(*b*) Biochemistry

The demand for biochemical examinations has continued to increase and during the year 5,569 specimens were received and on these 10,835 analyses were performed. The main burden of the work is still concerned with blood urea estimations and liver function tests. The conspicuous upward trend in the latter is probably largely attributable to the recent epidemic of infectious hepatitis. Other investigations for which there have been a noticeable increase in demand include serum electrolytes, electrophoresis, and the less common investigations such as catchecholamines, steroids and such serum enzymes as amylase, glutamic oxalacetic and pyruvic transaminases.

The Biochemistry Department has carried out a great deal of developmental work aimed at meeting the demand for a variety of examinations not hitherto generally available in New South Wales, among these being serum iron and latent iron binding capacity, starch gel and continuous paper electrophoresis of serum, urinary amino acid excretion, urinary steroids, etc.

(*c*) Bacteriology

The Bacteriology Department has continued to be the busiest section of the Institute. During the year 10,138 specimens were received and on these 38,419 tests were carried out. As before, the great bulk of the work consists of antibiotic sensitivity tests and examinations of specimens for *M. tuberculosis*. The isolation and identification of pathogenic fungi has continued to prove a very popular service and there has also been a great increase in the demand for drug sensitivity tests on *M. tuberculosis*. There is, however, no slackening in the demand for other investigations and during the year the range of work undertaken has been expanded to include the serological identification of salmonellae and pathogenic strains of *Escherichia coli*, the Lancefield group of β-haemolytic streptococci, the Rose-Waaler reaction for rheumatoid arthritis, the determination of C-reactive protein and the estimation of anti-streptolysin 0 titres. Arrangements have been made for the training of staff in the bacteriophage typing of *Staphylococcus aureus* and it is planned to make this investigation available in the coming year.

Apart from this work the Bacteriology Department has supplied culture media to various other departmental laboratories and also guinea pig complement for venereal disease serology.

(*d*) Virology

The medical practitioners of New South Wales have been quick to avail themselves of the facilities now available for virological investigations and over 600 specimens were received for examination during the year. It has in fact been necessary to restrain the demand to some extent because the available staff were fully extended. However, another microbiologist has been appointed and is due to start work early in 1961 and it will then be possible to accept many more specimens. Most of the work has been concerned with the respiratory and entero viruses, and it is hoped that in the coming year studies relating to infectious hepatitis and the newly-discovered common cold viruses will be undertaken.

(*e*) Haematology

During the year the Haematology Department received 3,718 specimens and on these 5,466 examinations were carried out. As in the previous year most of the routine haematological investigations are done for the Lidcombe and Newington State Hospitals, because there is as yet no really satisfactory method of preventing the deterioration of blood cells while specimens are in transit through the post. This is a problem which is currently being investigated in the Haematology Depart-

ment, and it is hoped that in time a suitable preservative for specimens will be found so that even though they may spend several days in transit to the laboratory they will still be in a satisfactory condition for examination.

Hitherto there have been no facilities in New South Wales for Vitamin B_{12} estimations on blood serum from patients suspected of suffering from pernicious anaemia, and it has been necessary to send specimens to Western Australia when this investigation was required. During the year Dr. Arnold has been undertaking microbiological assays of Vitamin B_{12} at the institute. This service has proved most valuable, and many of the major teaching hospitals avail themselves of it.

The determination of folic acid levels in blood serum would also be of great value in the management of patients with megaloblastic anaemias, and although the technical difficulties in establishing the microbiological assay of this important haematinic factor are formidable, work on the problem is proceeding and the results to date encourage the hope that it might be possible to make this investigation available in the coming year.

(2) Teaching

(*a*) Training of Medical Graduates as Pathologists

Towards the end of 1959 application was made to the University of Sydney for recognition of the institute as an approved centre for the training of post-graduate candidates for the Diploma in Clinical Pathology. Early in 1960 Professor F. R. Magarey and Dr. K. Viner-Smith of the Department of Pathology carried out an inspection of the facilities available here, and following upon their favourable report the University Council accorded full recognition to the institute. As a result of this, representations were made to the Public Service Board, who agreed to the establishment of registrar-ships at the institute, which would be open to medical graduates wishing to specialise in clinical pathology. The tenure of these training appointments is three years, and it was envisaged that three registrars be appointed in the first year, two in the second and one in the third. It is expected that the registrars, on completion of their three years of training, will sit the examination for the Diploma in Clinical Pathology at the University of Sydney, and thereafter seek positions as fully trained and qualified specialist pathologists outside the Public Service. It is hoped that in this way the institute will be able to make a material contribution towards overcoming the serious shortage of specialist pathologists in New South Wales. Continuity of the training programme will be maintained by appointing new registrars to replace those who have completed their specialist course and passed out of the institute.

In June applications were invited for the first three registrar-ships, and there was a very favourable response. The first appointee, Dr. P. A. Harden, joined the staff in September and he was followed in November by Dr. J. C. Booth, while a third registrar, Dr. K. L. Withers, is due to start work early in the new year. Towards the end of the year two further registrars were appointed to start work early in 1961, and it is proposed to seek another to start in 1962.

During the tenure of their appointments, the registrars are rotated through each of the specialised departments. One year is spent in learning pathological anatomy and histology, and six months each in biochemistry, haematology and bacteriology, leaving a further six months to be spent in general revision. During this time the registrars get practical experience in all technical procedures by actual performance under supervision of the routine work at the laboratory bench. Theoretical training is provided by informal tuition and by attendance at and participation in the regular weekly staff seminars and scientific meetings, and in addition by attending the part-time lecture-demonstration course provided by the University of Sydney. During his training period each registrar is in turn, "on call" for night and weekend duties at the Lidcombe State Hospital for a period of six months so that experience can be gained in emergency pathology.

(*b*) Training of Laboratory Assistants and Microbiologists

The staff establishment provides for five laboratory assistants and seven laboratory assistants-in-training, the purpose of these appointments being to meet future needs for qualified technical staff in the department's laboratories by providing in-service training in all branches of medical laboratory technology. Trainees fall into two categories: (*a*) those whose aim it is to be microbiologists—these attend the part-time course at the University of New South Wales leading to the Degree of B.Sc. in Applied Biology; (*b*) those who wish to qualify as laboratory assistants—these attend the biology certificate course at Sydney Technical College.

Both groups gain their practical training by rotation through the various departments of the institute, where they work under the supervision of qualified staff, and each trainee thus spends two periods of six months in bacteriology, biochemistry, histopathology and haematology. Thereafter they are allocated to one or other of the departments for an indefinite period. In addition to this practical tuition, a series of systematic lectures is provided for the laboratory assistants-in-training.

(*c*) Staff Meetings

An important feature of the educational side of the work at the institute is the programme of weekly staff seminars, which are jointly sponsored by the institute and the Lidcombe State Hospital. These are held each Monday at 3.30 p.m. in the Lecture Theatre. Approximately 36 such meetings

are held per year, spread over three terms in each of which 12 seminars take place, and there is a recess of approximately one month between terms. In order to provide a varied programme these meetings are organised to take several different forms—for some, a member of the senior staff of the institute will deliver a paper lasting about an hour; for others, one of the medical officers from the hospital will deliver a lecture of similar duration. Other meetings take the form of a symposium in which several speakers deliver short papers on different aspects of a selected topic; while at others again, a guest speaker is invited to present a paper on a subject on which he is an authority.

The meetings are open to the medical profession as a whole and are advertised in the *Medical Journal of Australia* and in the B.M.A. *Monthly Bulletin*. Despite what must for many be an inconvenient hour, and the distance from town, quite a number of visitors have attended.

All members of the scientific staff are encouraged to attend and the senior staff, registrars and microbiologists are expected to take turns at presenting papers. Apart from the fact that these seminars provide a common ground on which the staffs of the institute and the Lidcombe State Hospital can meet, much valuable clinical, pathological and scientific information is disseminated. One of the most important aspects, however, is the opportunity these seminars afford for members of the staff to gain practical experience in lecturing before a critical audience.

The programme of weekly seminars held during 1960 is attached. (Appendix A.)

(3) Research

The past year has seen the beginning of research activities at the institute. As yet, no attempt has been made to develop an integrated research programme on one or other aspect of geriatric pathology, because the staff situation has militated against this. However, it is expected that in the coming year with the appointment of a research associate, this will be rectified. Meanwhile, there has been considerable activity in the various departments, mainly in the nature of surveys and in technical developments. A list of research projects being undertaken during 1960 is attached. (Appendix B.)

(4) General

(*a*) Administration

Reference was made in the annual report for 1959 to the difficulties encountered in dealing with the large amount of clerical work involved in the administration of this institute. These difficulties persisted th ough the first half of this year, but latterly the position has improved as the staff situation became stabilised. The fact that an additional office assistant was appointed during the year also contributed to the better functioning of the clerical side of the work, as did the experience which all the office staff have now acquired.

(*b*) Staff

During the year the staff situation has greatly improved. At the senior level, Dr. B. Arnold joined the staff as haematologist in March, and Dr. I. J. Hunter, senior histopathologist, took up dutes in April. Towards the end of the year the first two registrars began their course of post-graduate training in clinical pathology, whilst a third has been appointed and will start work early in the new year. These registrars assist materially with the work, as during their period of training they gain practical experience by carrying out all types of routine tests.

During the year difficulties were experienced in finding suitably qualified microbiologists, with the result that the Departments of Bacteriology, Haematology and Virology were seriously understaffed. However, at the end of the 1960 academic year sufficient new graduates were recruited to fill all the vacancies, and these should be joining the staff early in the new year.

Throughout the year requests were received from various other departmental laboratories for this institute to provide relief when one or other of their staff was absent on leave or because of illness. This is a most unsatisfactory arrangement, because of the fact that each microbiologist is allocated certain specialised work in addition to normal routine duties, so that if he has to be released, work is disrupted and great disorganisation ensues. It is to be hoped that this problem can be overcome by persuading the directors concerned that the general interest is best served by their sending specimens here for examination rather than by staff being transferred from this institute to carry out temporary relieving duties.

(5) Ancillary Services

(*a*) Photography

Mr. Hill has combined the duties of photographer and senior histological technician and during the year has done a considerable amount of photographic work, which has played an important part in the teaching function of the institute. Much clinical photography, both colour and monochrome, has been done for the Lidcombe State Hospital, whilst the demand for photomicrographs has grown

steadily. The facilities for photocopying have proved a great boon and have been particularly useful for making copies of articles in journals which are not available for the library. In addition, a start has been made on the time lapse cinematography of living cells in tissue cultures infected with viruses, and it is proposed to extend this work considerably in the coming year.

(*b*) Workshop

The demands on the workshop have been heavy throughout the year, both for maintenance of existing equipment and construction of new apparatus. While the quality of the work done has been of the highest order, the number of jobs completed has been disappointing, so that a considerable backlog exists.

A system of priorities has been instituted, but this of course means that many jobs which in themselves may be quite minor, have to be deferred for a long time. This is a matter for concern, because these delays, particularly in relation to research activities, very quickly undermine enthusiasm. The workshop difficulties are to some extent attributable to inadequate accommodation, and provision has been made for a more spacious workshop in the basement of the new wing, which is to be built in 1961.

(*c*) Animal House

This year has seen the establishment of the animal house, with colonies of rabbits, guinea pigs and mice, all of which have been extensively used. The heaviest demand has been for guinea pigs, particularly in connection with the bacteriological work on tuberculosis, and as a source of complement for seriological tests. The large mouse colony has been built up for use in virus identification, and rabbits are bred and maintained mainly for preparation of diagnostic sera. Provision has been made for toads and it is proposed to undertake assays of chorionic gonadotropins with them early in the new year.

(*d*) Library

The library, which is an essential facility in an institute of this sort, has been steadily built up during the year and is extensively used by all members of the professional staff. The existing accommodation is already inadequate and steps have been taken to rectify this in the new wing, due to be built in 1961.

(6) Projected Development

In reviewing the work at present being done in the various departments, mention has been made of several investigations currently in hand aimed at the development and introduction of tests which we are not yet in a position to undertake, but which it is proposed to make available in the coming year. However, the major development which is due to take place in 1961 is the inauguration of an Exfoliative Cytology Diagnostic Service, which will be concerned with the laboratory aspects of the State-wide campaign for the early detection of female genital cancer. This will be the first major undertaking of its kind in Australia and one of the largest in the world, and this institute is proud to have been chosen as the central reference laboratory for this work.

Although the establishment of a new Department of Exfoliative Cytology will entail a major reorganisation of the existing facilities, this will greatly benefit all departments, because the building extensions to be provided will allow a re-allocation of laboratory accommodation and consequently a more rational organisation of the routine work.

(7) Conclusions

This has been a year of consolidation, acceleration of activities in all departments, and of a general expansion of the range of work undertaken. It is a pleasure to pay tribute to all members of the staff. They have settled down and developed into a well-knit team and it is to their enthusiasm that the results achieved this year are attributable. That it has been possible to encourage and maintain this enthusiasm is due in no small measure to the co-operation and support which we have enjoyed from the central administration of the New South Wales Department of Public Health, and other Government departments, notably the Public Service Board, the Department of Public Works, and the Government Stores Department. A happy relationship exists with the Lidcombe State Hospital and also with the many hospitals and medical practitioners served by the institute, and so long as this can be maintained all members of the staff should continue to find the work congenial and rewarding, secure in the knowledge that they are providing a useful service to the community.

Finally, it is worthy of mention that during the year many distinguished guests from New South Wales, interstate and abroad have visited the institute, and all have expressed admiration for the enterprise and foresight of those who saw fit to establish this Institute of Clinical Pathology and Medical Research.

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Appendix A

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Weekly Seminars Held During 1960

(In Conjunction with the Lidcombe State Hospital and Home)

Date, Subject and Speaker

23/5/60—"Neuromuscular Junction" (Dr. R. B. Holland, Lidcombe State Hospital).

30/5/60—"The Approach to Medical Research" (Dr. H. Kramer, Institute of Clinical Pathology).

6/6/60—"Hypertension" (Dr. G. E. Kellerman, Lidcombe State Hospital).

20/6/60—"Techniques in Virology" (Mr. A. M. Murphy, Institute of Clinical Pathology).

27/6/60—"Electrotherapy in Psychiatry" (Dr. B. S. Stephen, Lidcombe State Hospital).

4/7/60—"The Macrocytic Anaemias" (Dr. B. Arnold, Institute of Clinical Pathology).

11/7/60—"Therapeutic and Diagnostic Applications of Nerve Blocking Techniques" (Dr. T. L. O'Connell, Lidcombe State Hospital).

18/7/60—"Skin Cancers" (Dr. V. St. E. D'Abrera, Institute of Clinical Pathology).

25/7/60—"Dermatological Case Presentation" (Dr. F. Ofner, Lidcombe State Hospital).

8/8/60—"Bacteriology of Food Poisoning" (Dr. D. Hansman, Institute of Clinical Pathology).

15/8/60—"Renal Disease" (Dr. N. F. R. Fink, Lidcombe State Hospital).

22/8/60—"Skeletal Muscle" (Dr. I. J. Hunter, Institute of Clinical Pathology).

29/8/60—"Vertigo" (Dr. G. C. Hughes, Lidcombe State Hospital).

5/9/60—Enzymes in Biochemistry" (Dr. R. N. Beale, Institute of Clinical Pathology).

12/9/60—"Medical Applications of Polarography" (Professor B. Z. Breyer, Associate Professor of Agricultural Chemistry, University of Sydney).

19/9/60—"Calcium and Phosphorus Metabolism" (Dr. S. G. Mallarky, Institute of Clinical Pathology).

26/9/60—"Recent Advances in Antibiotics" (Dr. W. Hobart, Lidcombe State Hospital).

17/10/60—"Fundamentals of Neuropathology" (Dr. Brian Turner, Neuropathologist, North Ryde Psychiatric Centre).

24/10/60—"Deaths Under Anaesthesia" (Dr. R. Holland, Lidcombe State Hospital).

31/10/60—"Symposium on the Control of Anticoagulant Therapy" (Dr. B. Arnold, Mr. H. Lawson-Smith, Institute of Clinical Pathology; Dr. G. C. Hughes, Lidcombe State Hospital).

7/11/60—"Rheumatoid Arthritis" (Dr. G. Kellerman, Lidcombe State Hospital).

14/11/60—"Recent Technical Innovations in Biochemistry" (Dr. R. N. Beale, and Messrs. D. Croft, J. Bostrom and R. Taylor, Institute of Clinical Pathology).

21/11/60—"Chemotherapy in Modern Psychiatry" (Dr. B. S. Stephen, Lidcombe State Hospital).

28/11/60—"General Practitioner-Hospital Relationships" (Dr. Keith Mallett, General Practitioner, Rosebery).

5/12/60—"Microcinematography of Living Cells" (Dr. H. Kramer, Institute of Clinical Pathology).

12/12/60—"Symposium on Chemotherapy of Tuberculosis" (Dr. W. Tellesson, Randwick Chest Hospital; Dr. D. Hansman and Mr. B. O'Connor, Institute of Clinical Pathology).

Appendix B

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Research Projects, 1960

Project	Principal Workers
Virology Department	
1. Survey of viruses associated with gastro-enteritis in children	Mr. A. M. Murphy Mr. N. Martin
2. Acute respiratory virus infections in Sydney (in collaboration with the Research Committee, College of General Practitioners, New South Wales Faculty)	Mr. A. M. Murphy Mr. N. Martin
3. Time lapse cinematographic studies of cells in tissue culture infected with viruses	Dr. H. Kramer Mr. A. M. Murphy Mr. R. G. Hill
Bacteriology Department	
1. Neonatal staphylococcal infections (in collaboration with Drs. Grace Cuthbert Browne and Maureen Grattan-Smith, Division of Maternal and Baby Welfare, Department of Public Health)	Dr. D. Hansman Miss A. M. Vickery
2. Bacteriological control of clinical trial of 1314 TH Trescatyl (in collaboration with the Division of Tuberculosis, Department of Public Health)	Dr. D. Hansman Mr. B. F. O'Connor
Haematology Department	
1. Serum vitamin B_{12} levels in various chronic illnesses	Dr. B. J. Arnold Mr. H. Lawson-Smith
2. Attempt to develop microbiological assay methods for estimating folic acid levels in serum	Dr. B. J. Arnold
3. Attempts to develop improved methods for preserving blood specimens for haematological investigations	Dr. B. J. Arnold Mr. H. Lawson-Smith
Biochemistry Department	
1. Development and refinement of methods for:—	
†*(*a*) the determination of serum iron and latent iron binding capacity	Dr. R. N. Beale Mr. J. O. Bostrom Mr. R. F. Taylor
*(*b*) the determination of total cholesterol in serum	Dr. R. N. Beale Mr. D. Croft
(*c*) the photochemical determination of low chloride ion concentrations	Dr. R. N. Beale Mr. D. Croft
*(*d*) estimation of catechol amines in urine	Dr. R. N. Beale Mr. D. Croft
†*(*e*) the direct colorimetric determination of urea	Dr. R. N. Beale Mr. D. Croft
2. Adaptation for clinical biochemical purposes of:—	
(*a*) techniques of starch gel and continuous electrophoresis	Dr. R. N. Beale Mr. J. O. Bostrom
(*b*) chromographic analysis of amino acids and hormones	Dr. R. N. Beale Mr. R. F. Taylor
3. Attempts to develop liver function tests based on:—	Dr. R. N. Beale
(*a*) arginase activity in blood	
(*b*) acetylation of sulphonamides in vivo	
4. Evaluation of D-xylose loading test as a guide to mal-adsorption	Dr. R. N. Beale Mr. J. O. Bostrom Mr. R. F. Taylor
5. Ultracentrifugal fractionation of I^{131} labelled serum lipids in patients with coronary occlusion (in collaboration with Drs. G. V. Hall and E. P. George, St. Vincent's Hospital, Darlinghurst)	Mr. D. Croft

* Completed † In press

Appendix C

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Publications by Staff Members, 1960

Dr. R. N. Beale and Mr. D. Croft:—

"A Sensitive Method for the Colorimetric Determination of Urea." *Journal of Clinical Pathology.* (In Press.)

Dr. R. N. Beale and Messrs. J. O. Bostrom and R. F. Taylor:—

"Rapid Incremental Methods for the Determination of Serum Iron and Latent Iron Binding Capacity." *Journal of Clinical Pathology.* (In Press.)

Dr. R. N. Beale and Messrs. J. O. Bostrom and R. F. Taylor:—

*"Improved Methods for the Direct Determination of Serum Iron and Latent Iron Binding Capacity."

Dr. R. N. Beale and Mr. D. Croft:—

*"The Fluorimetric Determination of Catecholamines in Urine."

Dr. R. N. Beale and Mr. D. Croft:—

*"The Determination of Total Cholesterol in Serum by Persulphuric Acid Oxidation."

Mr. A. M. Murphy (with Dr. A. Chancellor, Merrylands, New South Wales):—

"Herpe's Simplex of the Fingers." *The Medical Journal of Australia.* (In Press.)

†Dr. B. J. Arnold (with Dr. W. R. Pitney, Department of Haematology, Royal Perth Hospital, Perth, Western Australia):—

"Plasma Therapy in Haemophilia." *The Medical Journal of Australia*, October 22nd, 1960.

* These papers are in course of preparation.
† Work done before joining the staff of the institute.

Appendix D

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Addresses to Learned Societies by Staff Members, 1960

Dr. H. Kramer:—

"New Perspectives in Virology." Read before the Western Suburbs' Medical Association, November, 1960.

"Clinical Virology." Read before Sutherland Medical Society, August, 1960.

"Cinematographic Studies on Cells in Tissue Culture." Read before Australian Microbiological Society, New South Wales Branch, October, 1960.

Dr. D. Hansman:—

"Bacterial Food Poisoning." Read before Australian Microbiological Society, New South Wales Branch, October, 1960.

Dr. B. J. Arnold:—

"Microbiological Assay of Haematinic Factor." Read before Australian Microbiological Society, New South Wales Branch, October, 1960.

Dr. R. N. Beale:—

"Methods for Determining Serum Iron and Iron-Binding Capacity." Read before Clinical Science Group, Sydney, November, 1960.

Mr. A. M. Murphy:—

"Viruses and Infantile Diarrhoea." Read before Australian Microbiological Society, New South Wales Branch, October, 1960.

"Laboratory Diagnosis of Virus Diseases." Read before Australian Society for Education in Techniques, October, 1960.

Mr. J. O. Bostrom:—

"A Rapid Method for Determining Iron in Serum" (with demonstration). Read before Clinical Science Group, Sydney, November, 1960.

Mr. R. F. Taylor:—

"A Method for the Direct Determination of the Latent Iron-Binding Capacity of Serum" (with demonstration). Read before Clinical Science Group, Sydney, November, 1960.

Appendix E

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

STATISTICAL SUMMARY OF EXAMINATIONS COMPLETED DURING 1960*

Histopathology

Number of specimens:			
Biopsy	5,025		
Exfoliative cytology	224		
Post-mortems	184		
		5,433	
Examinations completed:			
Paraffin sections		10,215	
Frozen sections		45	
Exfoliative cytology smears		312	
			10,572

Biochemistry

Number of specimens		5,569	
Examinations completed:			
C.S.F. for colloidal mastic reaction		889	
total protein, globulin		226	
chlorides		111	
glucose		82	
miscellaneous tests		—	
Blood for glucose		155	
glucose tolerance		61	
urea		1,410	
uric acid		261	
creatinine		—	
cholesterol		323	
total protein, and albumin/globulin ratio		441	
bromides		95	
Serum for calcium		132	
sodium		148	
potassium		161	
phosphorus		84	
chlorides		132	
amylase		55	
sodium para-amino salicylate		48	
acid phosphatase		273	
electrophoresis		172	
thymol turbidity		1,518	
zinc sulphate flocculation		1,518	
alkaline phosphatase		931	
bilirubin and ven den Bergh reaction		768	
cephalin cholesterol flocculation test		2	
Urine for glucose		—	
albumin		—	
general		146	
17-keto-steroids		111	
Faeces for fat analysis		142	
occult blood		258	
Test meal specimens		9	
Calculi		39	
Miscellaneous chemical examination		134	
			10,835
Carried forward			21,407

Appendix E—*continued*

STATISTICAL SUMMARY OF EXAMINATIONS COMPLETED DURING 1960*—*continued*

Brought forward		21,407

Bacteriology and Serology

Number of specimens	10,138	
Examinations completed:		
Widal reaction	88	
Weil-Felix reaction	76	
Brucella agglutination	183	
Paul-Bunnell reaction	132	
Rose-Waaler agglutination	105	
C. diphtheriae cultures	788	
Haemolytic streptococci	201	
Vincent's angina	6	
Fungi	230	
Dysentery	1	
Salmonella	498	
Food poisoning (other than salmonella)	323	
Gonococcal examinations	2,008	
Leprosy	79	
Sputum smears	2,082	
Cultures for M. tuberculosis	4,378	
Tetanus	7	
Vaccines prepared	68	
Cerebrospinal fluid cultures	2	
Cerebrospinal fluid cell counts	95	
Antibiotic sensitivity	20,774	
Drug sensitivity—M. tuberculosis	1,032	
Urine—chemical examination	1,290	
Urine—microscopic examination	1,290	
Culture for staphylococcus aureus	840	
Mantoux tests	98	
Faeces for parasitology	77	
Ecto parasites	1	
Blood cultures	21	
Trichomonas	1	
Dark-ground examinations for syphilis	1	
Miscellaneous bacteriology	440	
Milk for M. tuberculosis	116	
Milk for B. abortus	116	
Guinea pig inoculation for M. tuberculosis	255	
Wassermann reaction	266	
Kahn test	224	
V.D.R.L. test	227	
		38,419

Virology

Number of specimens	689	
Examinations completed:—		
Specimens for poliovirus	37	
Other viruses	558	
		595

Haematology

Number of specimens	3,718	
Examinations completed:—		
Blood film examination	1,069	
Full and differential blood counts	327	
Bone marrow examinations	21	
Blood group and Rh type	380	
Prothrombin estimations	215	
Clotting time	12	
Haemoglobin estimations	2,745	
Mantoux tests	—	
Cerebro spinal fluid cell count	46	
Blood sedimentation rate	496	
Paul-Bunnell reaction	62	
Vitamin B_{12} assays	90	
Miscellaneous	3	
		5,466
Total Number of Investigations Completed		65,887

Appendix E—*continued*

STATISTICAL SUMMARY OF EXAMINATIONS COMPLETED DURING 1960*—*continued*

Photography

Monochrome	521
Colour	295
Photostats	460
Slides for projection	200

*Figures for 1959 are not available for comparison, as the Institute was not established until July of that year.