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

REPORT

OF THE

DIRECTOR-GENERAL
OF PUBLIC HEALTH

FOR 1964

1965
(SECOND SESSION)

PARLIAMENT OF NEW SOUTH WALES

REPORT

OF THE

Director-General of Public Health

For 1964

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DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES

Office of the Director-General of Public Health
52 Bridge Street, Sydney

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(As at 31st December, 1964)

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DIVISIONS AND BRANCHES

The following Divisions are controlled by the Director-General of Public Health; Maternal and Baby Welfare; Tuberculosis; School Medical Service; Dental Services; Epidemiology; Occupational Health; Forensic Medicine; Government Analyst; Medical Officers of Health for the Metropolitan, Newcastle, South Coast, Western, North Western, North Coast and Broken Hill District; Institute of Clinical Pathology and Medical Research; Health Education; Pure Food, Health Inspection; Private Hospitals.

The following hospitals are controlled by the Director-General of Public Health: David Berry Hospital; Lidcombe and Newington State Hospitals and Homes; Strickland Convalescent Hospital, Vaucluse; Randwick Chest Hospital; Garrawarra Hospital, Waterfall.

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, as amended; Public Health Act, 1902; Pure Food Act, 1908; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937; Venereal Diseases Act, 1918-1963; Radioactive Substances Act, 1957; Fluoridation of Public Water Supplies Act, 1957; and the Clean Air Act, 1961.

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Report of the Director-General of Public Health

TO

The Honourable The Minister for Health

The Hon. A. H. JAGO, M.L.A.

Sir,

It is with pleasure that I present my Annual Report for the year ended 31st December, 1964.

During the year there has been a number of significant changes in the administration of Health Services, and these modifications have been possible because of the continued state of health of New South Wales, the traditional services for which are now well stabilised thus permitting consideration of incursions into sociological aspects of Public Health.

This trend is in consonance with world thought in developing western countries where the impact of infectious diseases and the control of the environment make lesser demands upon the resources and the administration of Health Departments.

I shall summarise the state of health of New South Wales, and projected programmes for health administration under specific headings for your convenience. This summary is elaborated in the individual sections of the Report.

ADMINISTRATION

In February, 1964 I relinquished my appointment as Director-General of State Psychiatric Services and reverted to my former full-time position of Director General of Public Health. Consequent on this change it was necessary for alterations to be made in the administrative structure of State Health Services. Under this changed position, the Director of State Health Services acts in all respects as my Deputy, and for administrative purposes we both assumed immediate responsibility for and control of independent areas of administration.

The Health Advisory Council is now well advanced on its next project, and is surveying the Scientific Services of the Department in conformity with its terms of reference of advising the Government on the present and future function of these Services, and any alterations in the administration of the Services which may be necessary to meet existing and projected demands.

Due to the increase in public health activities throughout the State, consideration is being given to the employment of Public Health Nurses in Health Districts. It is not intended that the Public Health Nurse will assume the functions of the existing nursing staff in the immediate future, but will supplement them in their activities. It is proposed that the Public Health Nurses will be field officers providing domiciliary services to the very young and the aged, the mentally ill and the mentally handicapped, as health educators and as an important communication link between the many groups and organisations engaged in public health work, and the Medical Officer of Health.

During the year a Health Educationist was appointed to the Department thus giving additional significance to the role of health education in public health programmes. Apart from him being actively engaged on his specialised work he is preparing a long-term programme of health education for implementation, as it is essential that the public in general should be given enlightenment and advice on health matters by every available means. Incorporated in the Library of the Department is an Health Education Section.

With the phenomenal growth and development in the field of food technology and in new drugs, pesticide chemicals, cosmetics, advertising, labelling, proprietary medicines and therapeutic appliances, it is considered desirable that controls be instituted in the interest of public health, and with this in view a draft Food, Drug and Cosmetic Act is being prepared by a Departmental Committee.

The progressive pollution of waters of this State is becoming a matter of national concern. Previously the State was fortunate in that its water supplies were relatively free from pollution, but this situation has changed dramatically with the increase in population and industrial potential of the State, water besides being one of the most critical factors of the State is the foundation of life for man and beast.

Realising the paramount importance of this matter the Government is giving consideration to either the preparation of legislation to amend the Public Health Act so as to include additional powers to control the pollution of waters, or the introduction of a Bill to provide adequate control of the problem by a separate statutory authority.

VITAL STATISTICS

The estimated population at the end of 1964 was 4,158,926. During the year the increase in population, by excess of births over deaths, was 41,031 and by migration 31,602, making a total increase for the year of 72,633. The total live births was 80,518 equivalent to 19·54 per 1,000 of the mean population. The number of still births registered was 1,003, equal to 12·30 per 1,000 total births (live and still). Deaths during the year numbered 39,487 equivalent to a rate of 9·58 per 1,000 of population. The number of infants under one year of age who died was 1,634, equal to 20·29 per 1,000 live births.

A comparison of the crude death rates in various age groups between New South Wales and Victoria in the essential period from 1921 to 1961 is included in this section of the Report. Of particular interest in this dissection is the role of accidents, and particularly motor accidents, in contributing to the crude death rate in New South Wales between the ages of 15 years and 24 years. Whereas earlier the decline of mortality with time was parallel for both males and females, in the last twenty years female mortality in this age group has continued to decline at a very satisfying rate, the male mortality has become steady and is now 2½ times the female rate. Vehicle accident rate is the major contributor to this differential between the sexes.

THE HEALTH DISTRICTS

The Metropolitan Health District

Having regard to the policy of decentralisation of certain departmental activities to Health Districts, the Public Service Board has agreed, in principle, to the establishment of an Health District in the western metropolitan area with headquarters at Parramatta. It is proposed that when the accommodation occupied by the staff of the Child Health Centre is transferred to a new building in the town, the building will be used as an Area Office for the Health District.

The functions of the Metropolitan Medical Officer of Health do not equate strictly with those of other Medical Officers of Health. In addition to supervision of health and food inspection activities in the metropolis, this officer carries out a large quantum of administration which is only remotely connected with the health of this area of the State.

The estimated population of the District at 30th June, 1964 was 2,434,340; this was an increase of 51,880 over the 1963 figure. Live births numbered 45,082 and deaths totalled 24,091. There were 9 maternal deaths and 844 deaths of under one year of age.

Communicable disease notifications totalled 3,812 with 171 deaths. Infective hepatitis accounted for 1,508 of these with nine deaths compared with 1,921 and 12 deaths in 1963. Six cases of diptheria with one death and seven cases of typhoid and paratyphoid with no deaths were notified during the year.

Unhealthy building land enquiries numbered 78,721 compared with 69,706 in 1963.

Work performed by the Health Inspectors included 836 inspections of shops and buildings; 11,164 septic tank applications; 11,693 inspections of septic tank sites; 1,051 inspections of noxious trade premises, and the investigation of 831 nuisances.

The Rural Health Districts

In all rural Health Districts there has been a gradual expansion of activities. Local Authorities are constantly seeking the advice and assistance of the Medical Officer of Health in the respective proclaimed areas on matters appertaining to the functions required of Councils under the Public Health Act and Ordinances under the Local Government Act.

With the exception of the Riverina Health District and the sparsely populated far north-western area the whole of the State is divided into Health Districts. It is anticipated that the Riverina Health District will be established towards the middle of 1965 with headquarters at Cootamundra.

Of special significance was the detailed health survey undertaken by the staff of the Medical Officer of Health, Western Health District, of the town of Walgett.

The object of the survey was:—

(i) Assess the level of general health of the children,

(ii) ascertain the health services available and their effectiveness,

(iii) assess the standard of environmental sanitation, and

(iv) make recommendations concerning any needs and defects found in the health services.

The recommendations made by the survey team were considered by a Departmental Committee and remedial action taken where necessary.

Two water supply authorities, Grafton City Council and Nambucca Shire Council, commenced fluoridation of their water supply during 1964, and six local authorities submitted plans and specifications for the approval of the Board of Health. Quite a number of rural authorities have accepted the principle of fluoridation and it is anticipated that a small proportion of these will take positive action at an early date.

Details of vital statistics and activities in Health Districts, other than the Metropolitan Health District, are included under the specific headings of the Report.

HEALTH INSPECTION

The Health Inspection Branch at Central Office provides routine services for the Metropolitan Medical Officer of Health. Each Medical Officer of Health in rural Health Districts has his own health inspection staff.

Because of the administrative supervision over the Health Inspection Branch by the Metropolitan Medical Officer of Health, and the decentralisation of health inspection activities to the rural Health Districts, from this year this Branch is now responsible only for inspections outside the gazetted Health Districts.

Owing to particular difficulties associated with the Koscuisko State Park, this Park, at the request of the Trustees, was excluded from the South Coast Health District, and the Health Inspection Branch is directly responsible for all inspections in this area. This action was necessary because of the development of the snowfields in the Park as a major recreational area, bringing to it numerous public health problems relating to sewage disposal, stream pollution, garbage disposal and the like which can best be dealt with by staff from Central Administration with direct contact with the Koscuisko State Park Trust.

PURE FOOD

In the metropolitan area 5,860 food and drug samples were examined resulting in 449 prosecutions and £5,419 in fines. Food seized and condemned as unfit for human consumption amounted to 17,619 head of poultry, 2,280 barrels and 862 tins.

A total of 158 prosecutions were instituted for general breaches of the Act with £1,533 in fines; while 16 prosecutions were instituted against owners of unclean premises with £345 in fines.

COMMUNICABLE DISEASES

The number of notifications of infectious disease increased by 300 during the year while deaths fell by 50. Increases occurred in six diseases, viz. scarlet fever, virus encephalitis, puerperal fever, infantile diarrhoea, ancylostomiasis and ascariasis. Increasing incidence and recognition of these diseases, stimulation of notifications, and a worm survey of the North Coast District accounted for the upward trend.

Venereal Disease

The Venereal Disease Act was amended in 1963 to provide for the closer supervision, and compulsory notification and treatment of sources of infection. The Act, as amended, and the Regulations thereunder became effective as from the 1st July, 1964.

The increase in venereal disease is still of concern to Public Health Authorities, both here and in other countries of the world, and the trend in New South Wales reflects a resurgence of these social diseases evident in other countries.

The increase in New South Wales continued in respect of gonorrhoea, while there was a satisfactory decrease in notifications of syphilis. Whether this decrease in syphilis will continue is a matter of some conjecture.

In 1964 gonorrhoea notifications were 3,937, an increase of 8·6 per cent over 1963. Notifications of syphilis in 1964 decreased almost 20 per cent, from 499 in 1963 to 399 in the current year.

Poliomyelitis

The incidence of poliomyelitis remains at a most satisfactory low level, and there were only two confirmed cases of this disease during 1964. This reflects the efficacy of the Salk Vaccination Campaign. During the year 583,298 doses of this vaccine were given.

Leprosy

There was an increase in the notification of leprosy during 1964, and five cases with one death were notified for this period. Of these five cases three were migrants, and all had almost certainly contracted the disease prior to its manifestation in New South Wales.

DIVISION OF TUBERCULOSIS

The Division of Tuberculosis and the Anti-Tuberculosis Association of New South Wales continued a vigorous case finding campaign for 1964, as a result of which 1,021,025 minature x-rays were taken in all areas of the State.

There was a slight increase in the notification of new cases of tuberculosis for 1964 (1,416) as compared with 1963 (1,389).

In the detailed report of the Division the incidence of tuberculosis and the death rate have been taken out in a semi-logarithmic graph. Although the death rate has decreased steeply, the incidence of new cases has not shown any significant decrease over the past five years. This comparatively stable rate over this quinquennium probably reflects the endemic level, and case finding will have to become more vigorous if this level is to be reduced.

As would be expected the incidence of new active cases of tuberculosis is higher in the age group 50 to 70 years with the predominance most marked in males.

The variation in age and sex incidence is represented graphically in the detailed text. The endemic level undoubtedly persists in the aged group of the community and particularly in the males, which group is most difficult to reach because of apathy and in many instances difficulty in persuasion of the significance of the disease in relation to its transfer by infection to other members of the community.

The total number of migrants notified during 1964 constituted 25·5 per cent of the total number of notifications. This figure is consistent with the proportion in previous years.

THE GOVERNMENT ANALYST

During 1964 a total of 27,129 samples were examined by the Branch compared with 28,503 in 1963. Of these, milk samples numbered 10,230. Additionally, 147 examinations were carried out for the Police Authorities, and 1,033 examinations were completed as a result of coronial enquiries.

The number of examinations as a result of coronial requests is an embarrassment to the Government Analyst because of his difficulties of staffing and physical facilities. As a consequence there is considerable delay in dealing with these references, so much so that at one stage the delay was causing inconvenience to the completion of the formalities of death and the settlement of estates. This to some extent was overcome by extensive use of overtime, but the problem will undoubtedly recur, and will not be satisfactorily resolved until the Government Analyst is located in the new laboratories at Lidcombe, and a higher staffing potential is achieved.

PRIVATE HOSPITALS

At the end of 1964 in New South Wales there were 178 Private Hospitals with 4,477 beds and 266 cots, while Rest Homes totalled 337 with 8,584 beds and 55 cots.

Of some concern in this aspect of the administration is the attitude of the Commonwealth Department of Health in determining the standards which it requires of private hospitals and rest homes for the payment of appropriate private hospital or rest home benefits under the National Health Act.

DIVISION OF FORENSIC MEDICINE

Autopsies carried out in 1964 numbered 2,337 and examination of criminal assault cases totalled 128. The medico-legal laboratory continued to provide pathological and biological services to assist in the investigation of crimes. Specimens submitted numbered 4,218 and tests performed totalled 6,907.

The Division has been seriously handicapped by the limitations of the City Morgue, and of qualified staff to handle the load imposed upon it. Discussions are at present proceeding for the re-location of the City Morgue and the establishment of adequate physical facilities to cover the whole complex of Forensic Medicine.

Due to the absence of candidates for positions after repeated advertisements in New South Wales and Australia attempts will be made to recruit qualified staff overseas.

HEALTH EDUCATION AND PUBLICITY

The appointment of an Health Educationist has already had comment, and this appointment became inevitable as it was apparent that with the expansion of the health services of this State, health education would have an increasingly important role to play in the public health programme.

The most important task undertaken by the Health Educationist was the study of current health education activities and needs within the Department. As a result of this survey a programme was submitted to the Public Service Board for the development of health education services.

The quarterly departmental magazine *Health in New South Wales*, which provides information of the Department's activities in addition to articles on general health subjects, has increased its circulation to the extent of some sixteen and a half thousand copies each issue.

Routine publicity activities continued with the distribution of posters, pamphlets and books to Local Authorities and Baby Health Centres totalling 928,000 and films screened and loaned to various organisations numbering 2,499.

The Department continued to take an active and vigorous part in National Health Week, and exhibits were displayed during this Week and also at the Royal Easter Show.

NUTRITION

During this year the Nutrition Section was attached to the Health Educationist for administrative oversight.

The most important activity of this Section was a dietary survey of school children at the age of 10 years in Sydney, which was completed and presented to the Minister for Health through the Health Education Advisory Council.

MATERNAL AND BABY WELFARE

Dr Grace Cuthbert Browne, Director, Division of Maternal and Baby Welfare, retired in December, 1964.

Dr Browne has been Director of the Division since 1st April, 1938, and it is in large measure due to her guidance and leadership that maternal and baby welfare services of the Department have become so widely recognised and accepted by the medical profession of the community.

This year was the golden jubilee of the establishment of the first Baby Health Centre at Alexandria. Since the establishment of this Centre in 1944 Baby Health Centres have extended throughout New South Wales until now there are 415 such Centres with a total attendance of 1,152,106.

During the year a campaign was commenced for the detection of errors of metabolism leading to mental deficiency in new born infants. This is carried out by a test of the urine of the infant to detect the condition known as phenylketonuria. Some 41,566 urine tests were carried out on babies, 4 of whom were found to be suffering from phenylketonuria.

A new service was instituted during 1964 towards training for child birth of expectant mothers, and especially those in their first pregnancy. This service has been very well received, and will be expanded in the future. In addition to the Training for Child Birth Programme, a Paediatric Consultant Service and a Consultant Anaesthetist Service were also instituted.

The Paediatric Consultant Service is designed to assist doctors in practice in emergency situations which threaten the lives of children under one year of age. The proposal for this service originated as the result of a survey into perinatal mortality, and is one of the measures adopted to reduce mortality in the first twenty-eight days of life.

The Consultant Anaesthetist Service is collaborative with the Consultant Obstetric Service for emergency situations in child birth.

The Special Committee investigating maternal deaths studied twenty-two maternal deaths during 1964. The same Committee considered standards of ante-natal care which might be adopted by medical practitioners as minimum requirements for supervision of pregnancy, towards ensuring a normal delivery.

The maternal death rate was 0·35 per 1,000 live births, which is slightly above that of 1963. This figure is not significant, and the rate for the past three years has remained relatively stable.

The infantile mortality rate under one year of age, per 1,000 live births, was 20·29, and this is slightly above the rate for 1963 of 19·90.

The increase between the two years is accounted for largely by an increase in the number of deaths of infants under seven days, which this year was 13·14 per 1,000 live births as contrasted with 12·74 in 1963.

The rate of deaths from criminal abortion per 1,000 live births was higher during 1964 at a figure of 0·06 as contrasted with 0·01 in 1963 and 0·04 in 1962.

SCHOOL MEDICAL SERVICE

During 1964 Medical Officers of the School Medical Service examined 260,148 school children.

Defects of a notifiable standard expressed as a percentage of pupils examined showed that vision (6·62 per cent), hearing (2·84 per cent), nose and throat (3·10 per cent) skin (2·28 per cent) and lungs (2·62 per cent) were the defects most noticeable. Excluding dental defects the total number of defects found was 52,249. The number of parent interviews carried out in 1964 was 21,206.

At the Child Health Centres 75,887 children were examined by medical officers, while the nurses examined 18,334. Parent interviews totalled 7,649 and 1,622 home visits were made. At consultations with parent and child 3,645 children were examined, most of whom showed physical, emotional or speech defects.

The following statistics of attendances are given for special clinics, viz—

Child Guidance Clinics	3,463
Speech Therapy Clinics	2,160 new cases
Speech Therapy Clinics	1,130 follow-ups.
Hearing Clinic	1,121 new cases
Hearing Clinic	1,337 reviews.
Asthma Clinic	210 new cases
Asthma Clinic	751 reviews.

DENTAL SERVICES

The decision of the Metropolitan Water Sewerage and Drainage Board to fluoridate Sydney's water supply followed by that of the Hunter District Water Board showed marked progress towards dental health of school children within the next decade. When these decisions have been implemented approximately 60 per cent of the population of New South Wales will be consuming fluoridated water.

In conjunction with the Department of Preventive Dentistry, University of Sydney, the staff of the Division specially surveyed 786 children in the Tamworth area. A concentrated survey was also made of 275 children in the Grafton-Lower Clarence area which showed a disturbing deterioration in dental health in children in early life. Fortunately, Grafton has already commenced fluoridation and these children will be re-examined in seven years time.

In 1964 new legislation was introduced to make optimum use of auxiliary dental personnel in the nature of the New Zealand type dental nurse. The new Act permits dental nurses "with prescribed training" employed in the Division to carry out "prescribed treatment" for school children.

The School Dental Service examined 116,127 school children, extracting 25,114 teeth, filling 70,344 and treating prophylactically 69,362 patients. Dentures supplied numbered 34 while 151 orthodontic appliances were fitted.

Officers of the Aerial Dental Service travelled 33,000 miles by air and 2,600 by road. A total of 2,096 patients were examined, 1,336 of these receiving treatment in 3,394 visits.

Institutional Dental Services were responsible for examining 19,016 patients, extracting 13,544 teeth, filling 8,533 and prophylactically treating 13,479 patients.

OCCUPATIONAL HEALTH

Amendments to the Radioactive Substances Act were instituted to provide that medical practitioners, dentists and veterinary surgeons—who were previously exempted from licensing—would now require to be licensed. As a result the number of licenses under the Act during the year was increased from 570 to 1,850.

As a result of the Clean Air Act there were many inspections of scheduled premises. Regulations under the Act are being drafted and the response of industry to the Act itself, and the assistance rendered by industry in the development of regulations, have been most gratifying.

During the year the Division was active in measurement of air pollution, and the stimulation of industry towards introducing measures to diminish air pollution. As a result of these activities there has been a considerable diminution in the content and total mass of air pollution in Sydney.

The routine functions of the Division included medical examination of 1,148 employees, scrutiny of 8,707 blood slides for lead poisoning, 1,329 factory visits, 733 inspections for radiation hazard and 2,573 inspections on air pollution.

INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

The post war years have witnessed a revolutionary change in the practice of medicine, which is now a science with a proliferation of a large number of highly specialised branches, not the least of which is clinical pathology. As a result medical practitioners are constantly requesting greater investigational facilities, and this is reflected in the Report of the Institute for 1964.

Specimens received and examinations completed included:—

Histopathology	10,600	specimens and 31,905 examinations.
Immunology	15	specimens.
Virology	3,486	specimens and 6,928 examinations.
Biochemistry	12,556	specimens and 29,572 examinations.
Bacteriology	14,502	specimens and 41,393 examinations.
Haematology	6,135	specimens and 22,059 examinations.
Venereal disease serology	102,982	examinations.
Exfoliative cytology	57,181	examinations.

The total of these figures amounts to 292,313 investigations completed in 1964, compared with 257,918 in 1963.

The increasing demand upon the Institute for diagnostic services, unless restrained, will inevitably have an impact on the teaching and research roles of the Institute.

The Institute bears the greater brunt of the Public Hospitals demands in many aspects of pathology, excluding the larger teaching hospitals.

The resources of the Institute are becoming strained to meet this increasing demand, and some alternative will need to be devised to relieve the Institute of at least portion of this burden if it is to fulfil the functions for which it was organised, and particularly the function of medical research.

Despite these difficulties the Institute maintained its teaching role in undergraduate and post-graduate medical education during the year, and research work was conducted in biochemistry, haematology, bacteriology, virology and exfoliative cytology.

The resources of the Institute could be more fully utilised in research, but this will not be practicable until its role as a service instrument has been more adequately defined.

During the year Dr M. Garner undertook a study tour on venereal serology, at the conclusion of which she established at the Institute a Reference Laboratory for Australasia for the final identification of the organism which causes syphilis.

Yours faithfully,

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

VITAL STATISTICS

Vital Statistics of New South Wales for the Year 1964

POPULATION

The estimated population at the end of 1964 was 4,158,926 comprising 2,088,806 males and 2,070,120 females. During the year the increase in population by excess of births over deaths was 41,031, by net migration 31,602, making a total increase of 72,633. In 1963 the corresponding figures were 46,839 and 22,819, making a total increase of 69,658.

The estimated mean population for 1964 was males 2,070,685, females 2,050,916, persons 4,121,601.

LIVE BIRTHS

The total number of live births in 1964 was 80,518 comprising 41,414 males and 39,104 females, being 105·9 males to 100 females.

The crude birth rate has declined a little over the last five years.

TABLE I—CRUDE BIRTH RATE, 1960-1964

Year	Live births per 1,000 mean population
1964	19·54
1963	20·75
1962	21·46
1961	22·07
1960	21·38

STILLBIRTHS

The number of stillbirths registered was 1,003 comprising 530 males and 473 females, or 1·23 per cent of all births, live and still. The corresponding proportion was 1·37 per cent in 1963 and 1·27 per cent in 1962.

DEATHS

There were 39,487 deaths, including 1,634 infant deaths for the year. This corresponded to a crude death rate of 9·58 per 1,000 mean population, and to an infantile mortality rate of 20·29 per 1,000 live births.

TABLE II—DEATHS, 1964

		Metropolis	Remainder of State	N.S.W.
Deaths (all ages)	Males	12,379	9,520	21,899
	Females	10,863	6,825	17,588
	Persons	23,242	16,245	39,487
Infant Deaths	Males	438	495	933
	Females	343	358	701
	Persons	781	853	1,634

Deaths by Cause

Deaths are here classified according to the seventh revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death (I.S.C.).

Lists of numbers of deaths with the corresponding rates are given in Table XI for all deaths, and in Table XII for infant deaths. The amount of detail given varies, in particular infectious diseases are given special prominence. All major subtotals are given, however. For certain important diseases and groups of diseases tables are also given to show the trend over the last five years.

Neoplasms have shown a rise of rate over the last two years. Most of these are malignant neoplasms. When malignant neoplasms of the lung are shown separately it is seen that in recent years there has been a consistent and rapid rise in both number of cases and rate in both sexes. In males in which the disease is much commoner it accounted for 830 out of 2,882 or 28·8 per cent of the total deaths certified as due to malignant disease.

TABLE III—DEATHS FROM NEOPLASMS, MALIGNANT AND OTHERWISE, 1960-1964
(I.S.C. Nos. 140-239)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	2,854	2,305	5,159	1,479	1,210	1,346
1961	2,866	2,465	5,331	1,454	1,268	1,362
1962	2,932	2,404	5,336	1,468	1,212	1,340
1963	3,101	2,609	5,710	1,524	1,294	1,410
1964	3,226	2,646	5,872	1,558	1,290	1,425

TABLE IV—DEATHS FROM MALIGNANT NEOPLASMS OF THE LUNG (INCLUDES TRACHEA AND PLEURA), 1960-1964 (I.S.C. Nos. 162, 163)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	572	84	656	296	44	177
1961	626	94	720	318	48	184
1962	675	87	762	338	44	191
1963	705	104	809	346	52	200
1964	830	122	952	401	59	231

Deaths from vascular lesions affecting the central nervous system have over recent years shown no significant change in rate.

TABLE V—DEATHS FROM VASCULAR LESIONS AFFECTING CENTRAL NERVOUS SYSTEM, 1960-1964
(I.S.C. Nos. 330-334)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	2,184	2,656	4,840	1,132	1,395	1,262
1961	2,100	2,703	4,803	1,065	1,390	1,227
1962	2,186	2,753	4,939	1,095	1,388	1,241
1963	2,155	2,908	5,063	1,059	1,442	1,250
1964	2,171	2,992	5,163	1,048	1,459	1,253

Deaths from arteriosclerotic and degenerative heart disease show steady if small increases in rates. In 1964 it accounted for 32·88 per cent of all deaths.

TABLE VI—DEATHS FROM ARTERIOSCLEROTIC AND DEGENERATIVE HEART DISEASE, 1960-1964
(I.S.C. Nos. 420-422)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	6,453	4,426	10,879	3,344	2,324	2,837
1961	6,626	4,401	11,027	3,361	2,261	2,816
1962	7,170	4,784	11,954	3,591	2,412	3,003
1963	7,321	4,927	12,248	3,598	2,444	3,023
1964	7,710	5,272	12,982	3,723	2,571	3,150

Pneumonia and bronchitis deaths show no consistent pattern, varying from one year to the next, but consistently rising and falling together.

The deaths from influenza (I.S.C. Nos. 480-483) do the same, there being 30 deaths in 1963 and 106 in 1964. It could well be that differences in prevalance of influenza and differences of season affect mortality from influenza, pneumonia, and bronchitis alike.

TABLE VII—DEATHS FROM PNEUMONIA, 1960-1964 (I.S.C. Nos. 490-493)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	747	537	1,284	387	282	335
1961	589	481	1,070	299	247	273
1962	641	561	1,202	321	283	302
1963	729	499	1,228	358	248	303
1964	828	653	1,481	400	318	359

TABLE VIII—DEATHS FROM BRONCHITIS, 1960-1964 (I.S.C. Nos. 500-502)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	452	107	559	234	56	146
1961	517	91	608	262	47	155
1962	664	140	804	333	71	202
1963	653	130	783	321	64	193
1964	762	138	900	368	67	218

Table XI gives the deaths from certain causes in early infancy (I.S.C. Nos. 760-776), but Table XII gives all deaths for infants (age 0). I.S.C. Nos. 760-776 account for 930 out of 1,634 deaths, pneumonia, congenital malformations and accidents accounting for another 558, leaving only 146 attributable to all other causes.

Accidents, posionings and violence accounted for 2,961 deaths, of which 1,039 were motor vehicle accidents. This is the first time there have been a thousand deaths in a year from this cause (Table IX). The worst feature of this mortality is the fact that a large proportion are under 25 years of age. All other accidents accounted for another 1,214.

TABLE IX—DEATHS FROM MOTOR VEHICLE ACCIDENTS, 1960-1964 (I.S.C. Nos. E810-E835)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	742	256	998	385	134	260
1961	703	205	908	357	105	232
1962	708	234	942	355	118	237
1963	693	221	914	341	110	226
1964	762	277	1,039	368	135	252

TABLE X—DEATHS FROM ALL OTHER ACCIDENTS, 1960-1964 (I.S.C. Nos. E800-E802, E840-E962)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1960	704	390	1,094	365	205	285
1961	738	364	1,102	374	187	281
1962	679	432	1,129	349	218	284
1963	664	361	1,025	326	179	253
1964	754	460	1,214	364	224	295

TABLE XI—CAUSES OF DEATH, NEW SOUTH WALES, 1964

I.S.C. Nos.	Cause of Death	Number of Deaths			Rate per Million of Mean Population		
		Males	Females	Persons	Males	Females	Persons
001-138	Infective and parasitic diseases	218	88	306	105	43	74
001-008	Tuberculosis of respiratory system	130	33	163	63	16	40
010	Tuberculosis of meninges and central nervous system	..	..	..	..	..	..
011-019	Tuberculosis, other forms	2	3	5	1	1	1
020-029	Syphilis and its sequelae	14	8	22	7	4	5
040-041	Typhoid and para-typhoid fever	..	..	..	..	..	..
045-048	Dysentery	2	1	3	1	0	1
050	Scarlet Fever	..	..	..	..	..	..
052	Erysipelas	1	1	2	0	0	0
055	Diphtheria	1	..	1	0	..	0
056	Whooping Cough	1	1	2	0	0	0
057	Meningococcal infections	9	3	12	4	1	3
061	Tetanus	4	1	5	2	0	1
080	Acute poliomyelitis	..	..	..	..	..	..
081	Late effects of acute poliomyelitis	1	1	2	0	0	0
082	Acute infectious encephalitis	5	3	8	2	1	2
083	Late effects of acute infectious encephalitis	..	..	..	..	..	..
085	Measles	1	1	2	0	0	0
092	Infectious hepatitis	12	5	17	6	2	4
Residue of 001-138	Other infective and parasitic diseases	35	27	62	17	13	15
140-239	Neoplasms	3,226	2,646	5,872	1,558	1,290	1,425
140-199	Malignant neoplasms	2,882	2,392	5,274	1,392	1,166	1,280
200-205	Neoplasms of lymphatic and haematopoietic tissue	312	212	524	151	103	127
210-239	Other neoplasms	32	42	74	15	20	18
240-289	Allergic, endocrine system, metabolic and nutritional diseases	397	481	878	192	235	213
260	Diabetes mellitis	208	325	533	100	158	129
280-286	Avitaminoses and nutritional deficiency states	18	11	29	9	5	7
Residue of 240-289	Other allergic, endocrine system, metabolic and nutritional diseases	171	145	316	83	71	77
290-299	Diseases of the Blood and Blood Forming Organs	61	74	135	29	36	33
300-326	Mental, Psychoneurotic and Personality Disorders	110	56	166	53	27	40
330-398	Diseases of the Nervous System and Sense Organs	2,365	3,181	5,546	1,142	1,551	1,345
330-334	Vascular lesions affecting central nervous system—						
331	Cerebral haemorrhage	873	1,190	2,063	422	580	501
332	Cerebral embolism and thrombosis	922	1,322	2,244	445	645	544
330, 333, 334	Other vascular lesions of C.N.S.	376	480	856	182	234	208
340	Meningitis, except meningococcal and tuberculous	18	13	31	9	6	8
343	Encephalitis, myelitis and encephalomyelitis (except acute infectious)	2	1	3	1	..	1
341-342, 344-398	Other diseases of the nervous system and sense organs	174	175	349	84	85	85
400-468	Diseases of the Circulatory System	9,591	7,291	16,882	4,632	3,555	4,096
400-416	Rheumatic fever and chronic rheumatic heart disease	127	161	288	61	79	70
420-422	Arteriosclerotic and degenerative heart disease	7,710	5,272	12,982	3,723	2,571	3,150
430-434	Other diseases of the heart	672	706	1,378	325	344	334
440-447	Hypertensive disease	424	572	996	205	279	242
450-456	Diseases of arteries	581	509	1,090	281	248	264
460-468	Diseases of veins and other diseases of circulatory system	77	71	148	37	35	36
470-527	Diseases of the Respiratory System	1,870	937	2,807	903	457	681
480-483	Influenza	55	51	106	27	25	26
490-493	Pneumonia	828	653	1,481	400	318	359
500-502	Bronchitis	762	138	900	368	67	218
470-475, 510-527	Other diseases of the respiratory system	225	95	320	109	46	78
530-587	Diseases of the Digestive System	609	503	1,112	294	245	270
540-545	Diseases of stomach and duodenum	176	89	265	85	43	64
550-553	Appendicitis	20	12	32	10	6	8
560-561	Hernia of the abdominal cavity	41	43	84	20	21	20
570	Intestinal obstruction without mention of Hernia	56	62	118	27	30	29
571	Gastro-enteritis and colitis except ulcerative, age four weeks and over	53	50	103	26	24	25
572	Chronic enteritis and ulcerative colitis	31	37	68	15	18	16
576-577	Peritonitis and peritoneal adhesions	4	3	7	2	1	2
581	Cirrhosis of liver	130	68	198	63	33	48
Residue of 530-587	Other diseases of digestive system	98	139	237	47	68	58
590-637	Diseases of the Genito-Urinary System	499	469	968	241	229	235
590-594	Nephritis and nephrosis	196	139	335	95	68	81
610-612	Diseases of the prostate	130	..	130	63	..	32
600-609, 613-637	Other diseases of the genito-urinary system	173	330	503	84	161	122
640-689	Deliveries and Complications of Pregnancy, Childbirth and Puerperium	..	28	28	..	14	7
640-649	Complications of Pregnancy	..	9	9	..	4	2
650-652	Abortion—						
650.2, 651.2, 652.2	Criminal	..	5	5	..	2	1
Residue of 650-652	Other	..	2	2	..	1	0
670-678	Complications of delivery	..	6	6	..	3	1
680-689	Complications of puerperium	..	6	6	..	3	1
690-716	Diseases of the Skin and Cellular Tissue	25	33	58	12	16	14
720-749	Diseases of the Bones and Organs of Movement	54	61	115	26	30	28
750-759	Congenital Malformations	256	201	457	124	98	111
760-776	Certain Diseases of Early Infancy	530	401	931	256	196	226
760-761	Injury at Birth	125	104	229	60	51	56
762	Post-natal asphyxia and atelectasis	77	55	132	37	27	32
776	Immaturity unqualified	199	150	349	96	73	85
763-775	Other diseases of early infancy	129	92	221	62	45	54
780-795	Symptoms, Senility and Ill-defined Conditions	106	159	265	51	78	64
794	Senility without mention of psychosis	72	134	206	35	65	50
780-793, 795	Other symptoms and ill-defined conditions	34	25	59	16	12	14
E800-E999	Accidents, Poisonings and Violence	1,982	979	2,961	957	477	718
E810-E835	Motor vehicle accidents	762	277	1,039	368	135	252
E800-E802 E840-E962	Other accidents	754	460	1,214	364	224	295
E963, E970-E979	Suicide and self inflicted injury	426	209	635	206	102	154
E964, E965, E980-E999.	Homicide and operations of war	40	33	73	20	16	18
001-E999	All Causes	21,899	17,588	39,487	10,576	8,576	9,580

.. No deaths in this category

0 Rate less than 0.5 per million

TABLE XII—CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1964

I. S. C. Nos.	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	4	..	4	·10	..	·05
080-081	Poliomyelitis	..	..	..	..	..	..
082-083	Infectious encephalitis	..	..	..	..	..	..
Residue of 001-138	Other infective and parasitic diseases	8	3	11	·19	·08	·14
340	Meningitis, except meningococcal and tuberculosis	4	4	8	·10	·10	·10
490-493	Pneumonia, age 4 weeks and over	73	60	133	1·76	1·53	1·65
500-502	Bronchitis	5	2	7	·12	·05	·09
571	Gastroenteritis and colitis, except ulcerative, age 4 weeks and over	16	10	26	·39	·26	·32
750-759	Congenital malformations	177	143	320	4·27	3·66	3·97
760, 761	Birth injury *W	53	47	100	1·28	1·20	1·24
	†I	72	57	129	1·74	1·46	1·60
762	Postnatal Asphyxia and atelectasis W	33	34	67	·80	·87	·83
	I	44	21	65	1·06	·54	·81
763	Pneumonia of newborn W	15	11	26	·36	·28	·32
	I	2	4	6	·05	·10	·07
764	Diarrhoea of newborn W	1	..	1	·02	..	·01
	I	..	..	..	..	..	..
765-773	Other diseases of early infancy W	45	30	75	1·09	·77	·93
	I	60	45	105	1·45	1·15	1·30
774	Immaturity with mention of any other subsidiary condition	5	2	7	·12	·05	·09
776	Immaturity, unqualified	199	150	349	4·81	3·84	4·33
Residue of 140-795	All other causes, except accidents, poisonings and violence	62	28	90	1·50	·72	1·12
E800-E999	Accidents, poisonings, and violence	55	50	105	1·33	1·28	1·30
	All causes	933	701	1,634	22·53	17·93	20·29

* Without mention of immaturity, 4th digit ·0-·4.

† With immaturity, 4th digit ·5-·9.

AGE SPECIFIC MORTALITY OVER THE LAST 40 YEARS, WITH COMPARISONS OUTSIDE NEW SOUTH WALES

Australia-wide censuses were held in June of 1921, 1933, 1947, 1954 and 1961. At these times the age distribution of the populations of the several States are known accurately. Deaths have been broken down by age and sex for three year periods centred on the census dates mentioned, and age specific mortality rates calculated for several age classes of the population. The trend of mortality for the last forty years can easily be followed in Table XIII. For comparison, rates for Victoria and Australia as a whole are shown as well as for New South Wales.

There is a consistent relation between male and female mortality rates at any given age, time and place, the male always having the higher rate.

Infant mortality has over the years shown a consistent fall. In 1920-22 Victoria had a slightly higher rate than New South Wales, but since 1946-48 New South Wales has had consistently higher infant mortality rates than Australia in general and Victoria in particular.

The same remarks are applicable to the childhood ages 1-14, with the big difference that the absolute value of the mortality rates is for this age group less than one twentieth of the corresponding infant rate.

In the 15-24 age group as before New South Wales starts with lower rates than Victoria, and for the latter half of the period under review has higher rates. A striking feature of mortality in this age group is the different behaviour of the sexes since the Second World War. Whereas earlier the decline of mortality with time was parallel for the two sexes, in the last twenty years female mortality has continued to decline at a very satisfying rate, but male mortality has become nearly steady and is now over two and a half times the female rate. If deaths from accidents are excluded, the sex difference in mortality is reduced to that found for other age groups. The rising motor vehicle accident rate is the major contributor here.

The 25-44 age group shows a satisfactory decline in mortality, but there is some levelling off in the decline for male rates in the last twenty years, but not as striking as for the 15-24 age group.

In the higher age groups there is much less decline in mortality, and the same pattern of inter-state differences is apparent, with New South Wales having slightly better mortality than Victoria or Australia forty years ago, with a decisive reversal of this for the last twenty years. There has been a moderate decline in mortality in the 45-64 year group, with only marginal improvement if at all for the 65 and over group.

The crude mortality rate (all ages) shows some decrease over the years, but analysis of age groups shows how blurred a picture this gives (Table XIII). The crude rate is always heavily weighted by the older age groups where most of the deaths occur, and is thus seriously affected by a change in age structure of the population.

TABLE XIII—DEATH RATES IN AGE GROUPS—3 YEARS AROUND EACH CENSUS, 1921-1962

Age Group in Years	Equivalent Annual Rate Per 1,000,000 of Population								
	New South Wales			Victoria			Australia		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
1920-1922									
Under 1	71,370	55,390	63,554	77,397	59,053	68,401	71,899	55,157	63,708
1–14	3,338	2,808	3,076	3,304	2,867	3,088	3,388	2,927	3,161
15–24	2,428	2,024	2,224	2,550	2,478	2,509	2,683	2,330	2,505
25–44	4,766	4,185	4,480	4,649	4,484	4,563	4,905	4,430	4,669
45–64	15,990	11,071	13,698	16,162	11,236	13,682	16,371	11,124	13,903
65 and over	76,045	64,035	70,367	82,982	70,958	76,599	77,472	66,117	71,947
All Ages	10,721	8,235	9,503	11,366	9,504	10,422	11,035	8,655	9,865
1932-1934									
Under 1	48,702	38,994	43,974	51,257	38,803	45,139	48,364	38,399	43,494
1–14	2,132	1,695	1,917	2,224	1,791	2,012	2,133	1,723	1,931
15–24	1,975	1,672	1,826	2,028	1,691	1,861	2,074	1,741	1,910
25–44	3,472	3,297	3,385	3,483	3,246	3,364	3,594	3,390	3,493
45–64	13,988	9,792	11,944	14,667	10,815	12,677	14,258	10,139	12,238
65 and over	70,665	56,927	63,881	69,300	57,897	63,247	69,690	57,228	63,456
All Ages	9,561	7,574	8,604	10,417	8,977	9,691	9,869	8,013	8,956
1946-1948									
Under 1	33,994	24,724	29,461	27,807	22,000	24,979	31,102	24,301	27,787
1–14	1,338	1,036	1,190	1,127	824	979	1,271	967	1,122
15–24	1,522	776	1,154	1,447	893	1,170	1,564	893	1,231
25–44	2,524	2,156	2,341	2,403	2,006	2,204	2,567	2,178	2,374
45–64	15,787	9,640	12,632	14,086	9,574	11,760	14,790	9,398	12,082
65 and over	77,093	59,480	67,644	79,025	63,979	70,580	77,066	60,531	68,183
All Ages	10,989	8,552	9,770	11,187	9,833	10,501	10,936	8,832	9,886
1953-1955									
Under 1	28,832	22,721	25,843	22,707	18,066	20,444	26,412	20,728	23,630
1–14	1,084	792	941	904	674	792	992	743	870
15–24	1,700	665	1,196	1,436	556	1,011	1,665	623	1,160
25–44	2,460	1,586	2,032	2,026	1,348	1,696	2,328	1,521	1,937
45–64	14,965	8,638	11,783	13,025	8,127	10,553	13,672	8,259	10,979
65 and over	75,567	55,351	64,431	76,298	59,212	66,532	74,715	56,252	64,552
All Ages	10,571	8,179	9,382	9,805	8,571	9,191	10,010	8,038	9,035
1960-1962									
Under 1	24,654	19,045	21,908	21,071	16,415	18,788	23,265	18,021	20,698
1–14	729	576	654	664	505	586	700	537	621
15–24	1,411	528	983	1,377	546	974	1,413	545	992
25–44	2,341	1,452	1,909	2,050	1,198	1,638	2,264	1,353	1,824
45–64	14,059	7,535	10,798	12,852	6,978	9,925	13,156	7,085	10,155
65 and over	77,385	54,662	64,318	74,814	53,896	62,575	74,780	53,128	62,421
All Ages	10,148	8,075	9,117	9,305	7,756	8,535	9,573	7,595	8,594

COMMUNICABLE DISEASES

Division of Epidemiology

Director: H. C. JOHNSTON, M.B., B.S., D.P.H.

Location: 93 Macquarie Street, Sydney

Function

The Division of Epidemiology has three functions:—

(1) The collation and dissection of the notifications of Infectious Diseases under the Public Health Act, 1902-1952, and the publication of a Monthly Bulletin of Infectious Diseases.

(2) The administration of the Venereal Diseases Act (1918-1963) and the conduct of the largest male Venereal Diseases Clinic in New South Wales.

(3) The conduct of the Hospitals Admission Depot, which arranges for routine admissions to State Hospitals, and emergency admissions to general hospitals on request from individual medical practitioners. This function ceased on the 17th August, 1964.

Staff

In addition to the Director, the Division is staffed by three Medical Officers attached to the Venereal Diseases Clinic, nine clinical attendants and ancillary clerical staff.

COMMUNICABLE DISEASES

The Public Health Act, 1902-1961, Section 28, provides that the Governor may by proclamation declare that any disease named therein is an infectious disease.

TABLE I—NOTIFIABLE INFECTIOUS DISEASES RECORDED IN NEW SOUTH WALES DURING THE YEARS 1963 AND 1964 UNDER THE PUBLIC HEALTH ACT, 1902-1961

Disease	Cases and Deaths Notified			
	1963		1964	
	Cases	Deaths	Cases	Deaths
Smallpox	..	..	..	..
Leprosy	5	..	5	1
Typhoid Fever	9	..	7	..
Paratyphoid Fever	6	..	6	..
Scarlet Fever	349	..	427	..
Diphtheria	39	4	9	1
Plague	..	..	..	..
Acute Anterior Poliomyelitis	3	..	2	..
Meningococcal Infection	44	9	60	12
Virus Encephalitis	47	14	88	8
Cholera	..	..	..	..
Typhus Fever	..	..	3	..
Yellow Fever	..	..	..	..
Puerperal Fever	48	3	78	6
Brucellosis	39	..	19	..
Tuberculosis	1,375	185	1,306	168
Infantile Diarrhoea	354	39	578	30
Rheumatic Fever	39	9	42	7
Chorea (rheumatic)	1	..	3	..
Ancylostomiasis	39	..	224	..
Dengue Fever	..	..	..	..
Ornothosis	2	..	1	..
Leptospirosis	13	..	14	..
Ascariasis	67	..	110	1
Infectious Hepatitis	2,832	17	2,723	17
Staphylococcal mastitis	3	..	..	..
Staphylococcal pneumonia	47	34	37	15
Staphylococcal diseases in infants under four weeks of age	679	1	570	..
Total	6,012	316	6,312	266
Population as at 30th June	4,048,598		4,116,706	

There was a marked increase in notifications in six diseases, viz. scarlet fever, virus encephalitis, puerperal fever, infantile diarrhoea, ancylostomiasis and ascariasis.

Scarlet Fever

There has been a persistent increase in the number of notifications of scarlet fever since 1962, and this probably reflects an increasing incidence and recognition of this disease.

Puerperal Fever and Infantile Diarrhoea

The increase in the notifications of these two diseases since 1963 is due in large measure to the stimulation of notifications from hospitals by the Director of the Division of Maternal and Baby Welfare, rather than to an increased incidence of these diseases.

Ascariasis and Ancylostomiasis

The increase in incidence of these two helminthic infections resulted from a survey of worm infestation among aborigines residing along the north coast of New South Wales. This survey was conducted by staff of the School of Public Health and Tropical Medicine of the University of Sydney on behalf of the Department.

Virus Encephalitis

Notifications of sporadic cases of virus encephalitis were responsible for the increase in 1964 as compared with 1963.

Leprosy

On 1st January, 1964 eleven persons remained under detention at the Lazaret, Prince Henry Hospital—6 males and 5 females.

The total number of persons admitted from 1883, when patients were first received (though the notifications of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900) to 31st December, 1964 is 249.

Lazaret—Prince Henry Hospital

Number in the Lazaret on 1st January, 1964 (6 males 5 females)—11.

Admitted to the Lazaret during the year—4.

Re-admitted during the year—1.

Died during the year—1.

Discharged—4.

Absconded from Lazaret and not traced—1.

Number remaining in Lazaret on 31st December, 1964—10.

Distributed under nationalities the following table shows the movements of patients during the year:—

TABLE II

	Admitted	Re-admitted	Discharged	Repat-riated	Died	Remaining in at 31st December, 1964
Whites of European descent—						
New South Wales	1	..	1	..	1	4
Maltese	2	1	2	..	..	2
Coloured patients—						
Aborizinal	..	..	1	..	..	1
Indian	..	..	..	..	..	1
Chinese	1	..	..	..	..	1
Borneo	..	..	..	..	..	1
Totals	4	1	4	..	1	10

Repatriation General Hospital

One patient was re-admitted and is still in the Hospital—a white Australian male.

Committed to Home Isolation

One white Australian female, a new case, was committed to home isolation and is still under treatment.

Two of the patients discharged were released to home isolation.

TABLE III—SUMMARY OF NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY HEALTH DISTRICTS, NEW SOUTH WALES—1964

Districts	Estimated Population 30th June, 1964	Acute Anterior Poliomyelitis		Ancylostomiasis		Ascariasis		Brucellosis		Dengue Fever		Diphtheria		Infectious Hepatitis		Infantile Diarrhoea	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,431,090	..	..	..	..	4	..	2	..	..	..	6	1	1,508	9	449	20
Newcastle Health District	489,410	..	..	13	..	45	..	5	..	..	..	2	..	233	4	57	3
South Coast Health District	311,060	..	..	..	..	..	..	1	..	..	..	..	..	253	..	8	..
North Coast Health District	153,640	..	..	211	..	60	1	3	..	..	..	..	..	57	1	3	3
Western Health District	274,380	..	..	..	..	..	..	4	..	..	..	..	..	321	2	40	4
North Western Health District	155,590	..	..	..	..	1	..	3	..	..	..	..	..	187	..	9	..
Broken Hill Health District	29,810	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Remainder of State	271,726	2	..	..	..	..	..	1	..	..	..	1	..	155	1	12	..
Residence outside of State	....	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Armed Forces	....	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Total New South Wales	4,116,706	2	Nil	224	Nil	110	1	19	Nil	Nil	Nil	9	1	2,723	17	578	30

Districts	Estimated Population 30th June, 1964	Leprosy		Leptospirosis		Meningococcal Infection		Ornithosis		Paratyphoid Fever		Puerperal Fever		Rheumatic Chorea		Rheumatic Fever	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,431,090	5	1	..	..	35	5	1	..	3	..	43	4	1	..	12	3
Newcastle Health District	489,410	..	..	2	..	8	2	..	..	..	..	2	2	1	..	12	1
South Coast Health District	311,060	..	..	..	..	4	2	..	..	2	..	7	..	..	..	4	..
North Coast Health District	153,640	..	..	12	..	2	..	..	..	..	..	5	..	1	..	5	2
Western Health District	274,380	..	..	..	..	7	1	..	..	1	..	7	..	..	..	7	1
North Western Health District	155,590	..	..	..	..	3	1	..	..	..	..	9	..	..	..	..	..
Broken Hill Health District	29,810	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Remainder of State	271,726	..	..	..	..	1	1	..	..	..	..	5	..	..	..	2	..
Residence outside of State	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Armed Forces	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total New South Wales	4,116,706	5	1	14	Nil	60	12	1	Nil	6	Nil	78	6	3	Nil	42	7

Districts	Estimated Population 30th June, 1964	Scarlet Fever		Staphylococcal Mastitis		Staphylococcal Pneumonia		Staph. diseases in Infants under 4 weeks of age		Tuberculosis		Typhoid Fever		Typhus Fever		Virus Encephalitis	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,431,090	252	..	..	..	19	13	523	..	871	111	4	..	1	..	73	4
Newcastle Health District	489,410	48	..	..	..	13	..	14	..	121	27	2	..	..	..	2	1
South Coast Health District	311,060	12	..	..	..	2	..	362	..	75	9	..	..	..	..	2	..
North Coast Health District	153,640	13	..	..	..	..	..	2	..	30	2	..	..	2	..	1	..
Western Health District	274,380	55	..	..	..	1	1	..	..	86	9	1	..	..	..	7	1
North Western Health District	155,590	7	..	..	..	1	..	..	..	43	5	..	..	..	..	2	1
Broken Hill Health District	29,810	..	..	..	..	..	..	1	..	8	1	..	..	..	..	..	..
Remainder of State	271,726	40	..	..	..	1	1	30	..	72	4	..	..	..	..	1	1
Residence outside of State	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Armed Forces	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total New South Wales	4,116,706	427	Nil	Nil	Nil	37	15	932	Nil	1,306	168	7	Nil	3	Nil	88	8

Conditionally Discharged

Two patients were conditionally discharged, one of whom went to Queensland and was taken off the State Register.

There are 16 living persons listed as Leprosy patients for N.S.W. as on 31st December, 1964.

Sufferers from leprosy, both inpatients and outpatients have available to them all the services of a general hospital including psychiatry, occupational therapy and all the specialities of medicine and surgery, including a consultant physician in tropical diseases.

The clinical material available at the Lazaret is used extensively for the training of students, resident medical officers and post-graduate students in the various aspects of diagnosis and treatment of this disease.

Distribution of Infectious Diseases

Further summary of cases and deaths of notifiable infectious diseases by Health Districts is supplied in Table 3.

Venereal Diseases

THE VENEREAL DISEASES ACT (1918-1963)

The Venereal Diseases Act was amended in 1963, and the Act as so amended and the regulations pertinent thereto became effective as from the 1st July, 1964 (Government Gazette No. 70 of 5th June, 1964). Subsequently the Department of Public Health circularised all medical practitioners informing them of the major amendments, which involved—

(i) A re-definition of veneral disease;

(ii) Alteration in the mechanism of notification;

(iii) Provision of notification of presumed sources of infection;

(iv) A grant of authority to the Commissioner of Venereal Diseases to require compulsory examination and where applicable treatment of any persons, when he is satisfied that there are reasonable grounds for believing that such persons are suffering from a venereal disease as defined. This authority was previously held by the Commissioner as an emergency power during World War II but lapsed subsequently. It was considered necessary to re-introduce this provision because of the rising incidence of venereal disease and evidence of an increase in the number of multiple sources of infection.

The Regulations were consequentially amended, among the most important of which were:—

Regulation 7 on notification now specifies the categories of Syphilis which should be stated, i.e.—

"primary: secondary: latent within the first year of infection: cardio-vascular: of central nervous system: all other late and latent: congenital."

Regulation 10 on the issue of certificates of cure has been re-written in the light of modern knowledge.

Regulation 15 prescribes the hospitals and other places for treatment under the Act as follows:—

(i) All hospitals receiving State Aid with which an arrangement has been entered into by the Minister.

(ii) All State Hospitals and Homes.

(iii) All Mental Hospitals.

(iv) The Venereal Diseases Clinic, 93 Macquarie Street, Sydney.

NOTIFICATION OF VENEREAL DISEASES

Gonorrhoea

The total number of cases (3,937) notified in 1964 was the highest annual total since 1946 and represented an increase of 8·6 per cent over that for 1963. The proportion of cases (82·8 per cent) notified from the Metropolitan Health District was slightly less than in 1963 (83·5 per cent). Private practitioners notified 25·5 per cent of the cases. The ratio of male to female cases has shown improvement over the decade; it was 9·4: 1 in 1954, 8·9 in 1959 and 5·3 in 1964.

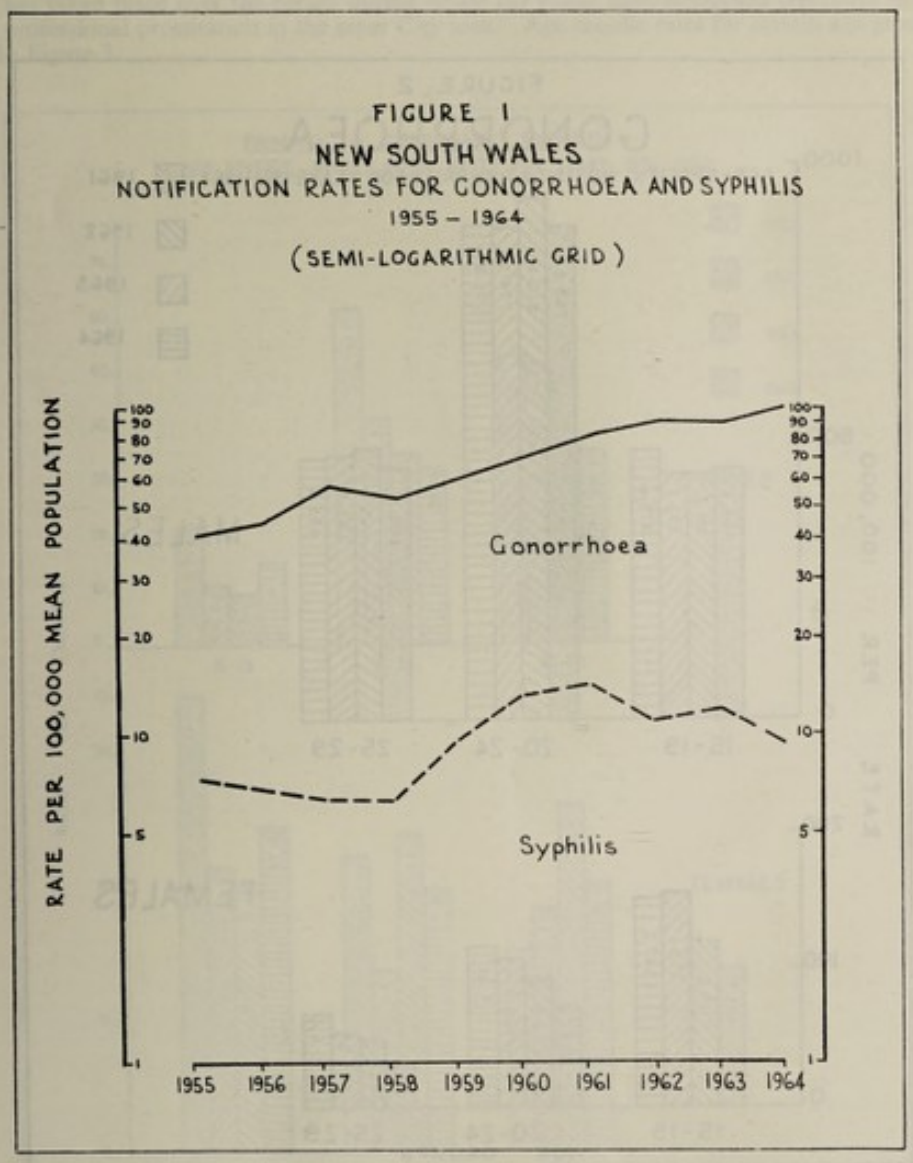
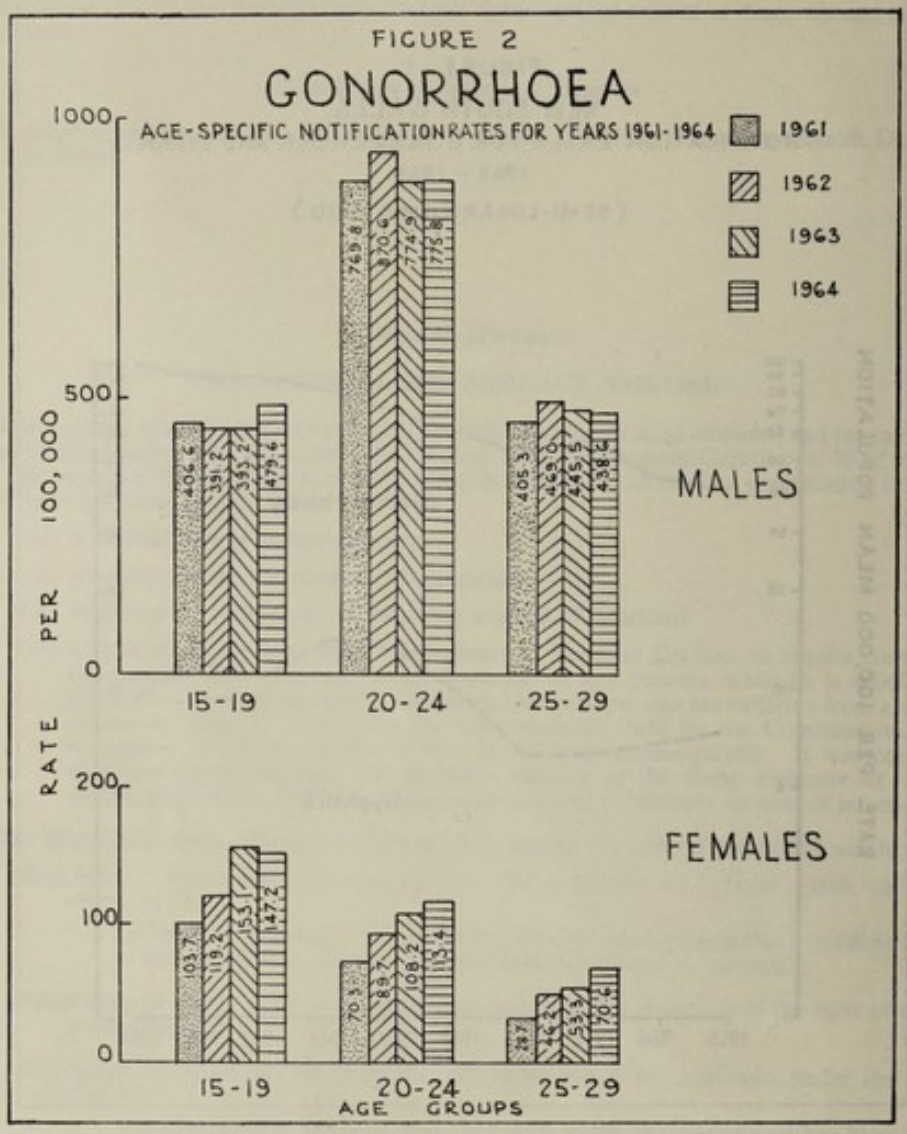


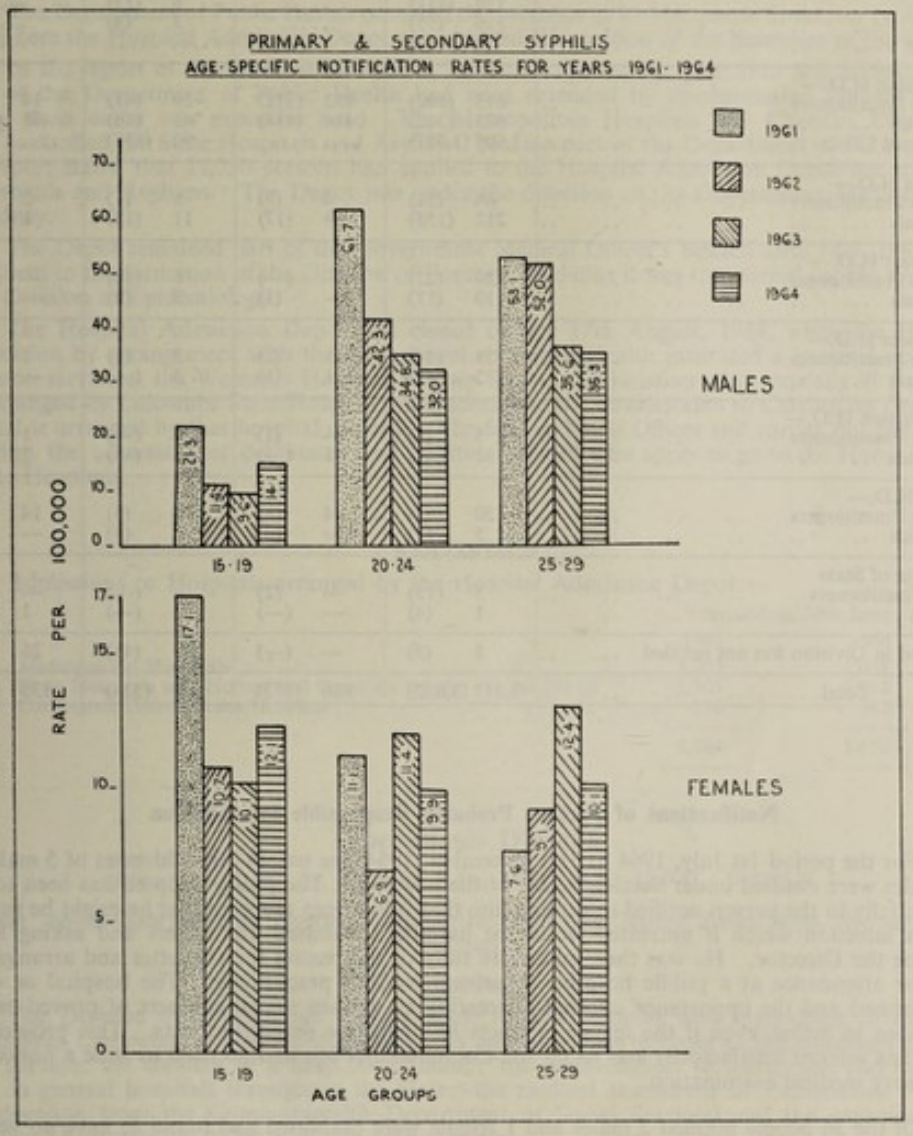
Figure 1 is a graph of the notification rates per 100,000 mean population, the actual rates for 1955 and 1964 were 40·1, 60·7 and 95·6 respectively. Over the last decade the notified incidence of gonorrhoea has risen almost every year since 1955. Age specific rates are shown in figure 2 where it will be seen that in females those aged 15-19 years for certain age groups have the highest rate: in fact 41 out of every 100 cases were in this age-group in 1964.

FIGURE 2


GONORRHOEA
AGE-SPECIFIC NOTIFICATION RATES FOR YEARS 1961-1964
1961
1962
1963
1964
RATE PER 100,000
1000
500
0
406.6
391.2
355.2
479.6
769.8
870.6
774.9
775.8
405.3
469.0
445.5
438.6
MALES
15-19
20-24
25-29
200
100
0
103.7
119.2
155.1
147.2
70.5
89.7
108.2
113.4
28.7
44.2
55.3
70.6
FEMALES
15-19
20-24
25-29
AGE GROUPS

Syphilis

Syphilis incidence declined continuously after the post-war peak year (1946) to the lowest annual total of 234 cases in 1958. Figure 1 shows its incidence rose sharply in 1959 and continued to rise until 1961 since when the trend has been downwards. The actual rates for 1955, 1959 and 1964 were 7·8, 10·04 and 9·7 respectively. With the increase in incidence there was a rise in the proportion of cases in an infectious stage, reaching the high percentage of 81·7 in 1960 compared with 38·9 per cent in 1955 and 70·2 per cent in 1964. The proportion of cases reported from the Metropolitan area was 96·6 per cent in 1962; it fell in 1963 and again in 1964 when it was 61·1 per cent. This decline has taken place over the period during which the police have intensified repressive measures against professional prostitution in the inner City area. Age specific rates for certain age groups are shown in Figure 3.



The Departmental Clinic

This clinic is for males only and in 1964 of all the reported cases in males for the whole State 48·5 per cent of the gonorrhoea cases and 34·1 per cent of the syphilis cases were treated in the clinic.

6,589 patients presented themselves at the clinic for examination and diagnosis during the year; of these 1,888 (28·7 per cent) were found to be suffering from notifiable venereal diseases.

The number of cases of non-gonococceal urethritis (which is not notifiable) treated in the clinic are shown for three years:—

No. of Cases	1962	1963	1964
(N.G.U.)	1,743	1,493	1,786

Notification and Source of Infection

The sources from which notifications of venereal diseases were received are as follows (figures for 1963 are shown in brackets).

TABLE 1

Source of Report	Gonorrhoea		Syphilis	
	Male	Female	Male	Female
Navy	159 (111)	....	6 (13)	....
Army	116 (95)	....	3 (4)	....
Air Force	4 (1)	....	....	....
Metropolitan H.D.—				
Private Practitioners	673 (592)	182 (112)	29 (41)	14 (14)
Hospitals	385 (342)	414 (418)	43 (46)	68 (112)
Divisional Clinic	1,605 (1,557)	....	90 (138)	....
Newcastle H.D.—				
Private Practitioners	46 (31)	4 (8)	5 (1)	2 (—)
Hospitals	212 (158)	9 (17)	11 (12)	1 (5)
South Coast H.D.—				
Private Practitioners	29 (22)	— (—)	5 (14)	— (1)
Hospitals	10 (17)	— (1)	3 (5)	— (1)
North Coast H.D.—				
Private Practitioners	25 (14)	11 (2)	3 (1)	1 (—)
Hospitals	5 (5)	1 (1)	3 (—)	— (—)
North Western H.D.—				
Private Practitioners	5 (6)	— (1)	6 (—)	1 (—)
Hospitals	1 (4)	1 (—)	4 (—)	7 (—)
Western H.D.—				
Private Practitioners	20 (62)	4 (8)	10 (5)	14 (4)
Hospitals	5 (7)	— (3)	6 (3)	— (7)
Remainder of State				
Private Practitioners	5 (15)	— (2)	— (—)	— (3)
Hospitals	1 (4)	— (—)	— (—)	1 (—)
Diagnosed in Division but not notified	5 (9)	— (—)	37 (41)	26 (28)
Total	3,311 (3,052)	626 (573)	264 (324)	135 (175)

Notifications of Persons Probably Responsible for Infection

For the period 1st July, 1964 to 31st December, 1964, the names and addresses of 5 males and 31 females were notified under Section 9 (2A) of the new Act. The policy adopted has been to write confidentially to the person notified informing him that it has been reported that he might be suffering from an infection which if untreated would be harmful to himself and others and asking him to telephone the Director. He was then told more fully of the reason for the letter and arrangements made for attendance at a public hospital or private medical practitioner. The hospital or doctor was informed and the importance stressed of treating all women sexual contacts of proved cases of gonorrhoea in males, even if the female contacts had negative diagnostic tests. This procedure in general has worked satisfactorily and so far the Commissioner has had no need to issue a notice for a compulsory medical examination.

Of the 36 people notified 2 males and 1 female were examined and found to have no venereal disease. Twenty-three women received treatment. One male and 4 females could not be treated and action in the cases of 1 male and 3 females had not been finalised by the end of the year.

Notification of Defaults and Prosecutions

The total of defaulters reported was 1,235 for the year compared with 1,075 in 1963. Of these 469 remained in default—37·9 per cent compared with 45·4 per cent in 1963. (Not 33·1 per cent as stated in last year's report).

Summonses for breach of Section 5 (failure to continue treatment) were issued against 617 persons compared with 642 in 1963.

Five males were arrested, and completed treatment after being placed on verbal recognisance.

Hospital Admission Depot

HISTORICAL NOTE

The Hospital Admission Depot was apparently instituted as a result of recommendations made by the New South Wales Commission on Public Charities which was appointed in 1873. In the fourth report of the Commission there is a reference to the Hospital Admission Depot showing the number of cases who had applied for medical relief during the years 1895 to 1899. In 1895 these numbered 6,071 males and 2,759 females.

The first annual report of the Board of Health (for the year 1897), stated that the Health Department consisted of two distinct branches, one directed by the Board of Health and the other by the Head of the Medical Department. The Ministers were respectively the Colonial Treasurer and the Chief Secretary, and in the report the Hospital Admission Depot is shown as being under the Chief Secretary.

The Department of Public Health occupied the premises at 93 Macquarie Street, on 1st October, 1897, where the Hospital Admission Depot was situated in a section of the basement of the building.

In the report of the Director General of Public Health for the year 1913 it is stated that the scope of the Department of Public Health had been extended by amalgamating kindred services placing them under one executive head. The Metropolitan Hospitals and Charities Department which controlled the State Hospitals and Asylums, became part of the Department of Public Health. This report stated that 11,750 persons had applied to the Hospital Admission Depot for admission to Hospitals and Asylums. The Depot was under the direction of the Government Medical Officer for Sydney.

The Depot remained part of the Government Medical Officer's Branch until July, 1963, when subsequent to the formation of the Division of Forensic Medicine it was transferred for the time being to the Division of Epidemiology.

The Hospital Admission Depot was closed on the 17th August, 1964, when the Hospitals Commission by arrangement with the Department of Public Health instituted a hospital emergency admission service at the Women's Hospital (Crown Street). Admission of chronically ill patients is now arranged by Lidcombe State Hospital; and admission of convalescents to Carrington Centennial Hospital is arranged by that hospital directly. The former Night Officer still carries out the duty of arranging the admission of debilitated and destitute persons who apply to go to the Home Sections of State Hospitals.

STATISTICS

Admissions to Hospitals arranged by the Hospital Admission Depot:—

	Year ending 30th June	
	1963	1964
Metropolitan Hospitals	1,703	2,058
State Hospitals and Homes and hospitals for the chronically ill	3,305	3,012
Carrington Convalescent Hospital	576	582
	5,584	5,652

Tuberculosis Division

Director: K. W. H. Harris, E.D., M.B., B.S., D.P.H., F.C.C.P.

Location: 86-88 George Street North (Headquarters) and 697 George Street West, Sydney (X-ray Clinic)

Function

The Division of Tuberculosis is responsible for the planning and supervision of the Anti-Tuberculosis Campaign in New South Wales. In addition it participates in the campaign by mass X-ray surveys; the conduct of a fixed X-ray clinic; the establishment of therapeutic and follow-up clinics in general hospitals throughout the State; the medical assessment of Tuberculosis Pensions (by delegation from the Commonwealth Department of Social Services) and the organisation of domiciliary treatment by its team of domiciliary nurses.

It shares the mass X-ray programme for the State with a voluntary organisation, The Anti-Tuberculosis Association of New South Wales, each being allotted a sector of the State. Epidemiological studies in school children by mantoux testing was previously one of its functions but these have now been transferred to the School Medical Service. Its epidemiological function is now restricted, and this in part only, to other groups at risk. It has no administrative control over the Randwick Chest Hospital which is the Departmental Chest Hospital.

The Division's activities are supported by the Commonwealth Government under a Commonwealth State Agreement in terms of the Tuberculosis Act, 1948, and powers of compulsion and other statutory authority for its campaign are contained in Division 3 of the Public Health Act, 1902-1952.

Staff

The Division has a staff of 90, excluding the Director and the Deputy Director, and including medical officers, nurses, radiographers, dark room attendants, X-ray technicians, X-ray operator-receptionists, drivers, clerical staff, etc.

NOTIFICATION OF TUBERCULOSIS

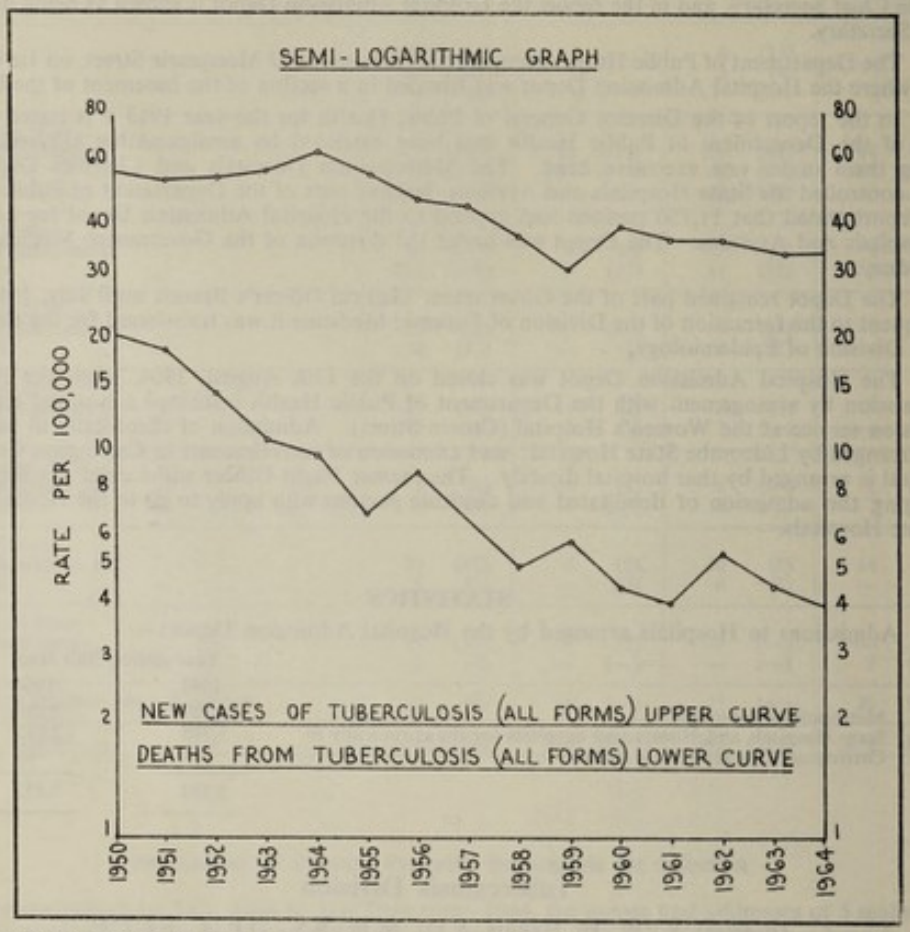
There was a slight increase in the notification of new cases of tuberculosis for 1964 (1,416) as compared with 1963 (1,389). Details by age, sex, type of tuberculosis, stage of disease and source of notification are set out in Tables I, II and III.

INCIDENCE OF TUBERCULOSIS

The rate per 100,000 of the population of new cases of tuberculosis was 33·89.

A comparison with similar rates since 1950 is given in Figure 1, which includes also the death rates over the same period. 1950 is the year when the State Campaign against tuberculosis commenced.

FIGURE 1



Although the death rate has decreased steeply, the incidence of new cases has not shown any significant decrease over the past five years. The highest rate was 62·88 per 100,000 in 1954; the lowest 30·99 per 100,000 in 1959, and the rate for 1964 was 33·89 per 100,000 as contrasted with the rate of 33·94 in 1963. The comparatively stable rate over the past 5 years probably reflects the endemic level, and the results of a vigorous case-finding programme despite an increasing population. The efficacy of this programme and the therapeutic and public health measures associated with it will probably be reflected in a decreasing incidence over the next five years.

Death Rate

The drop in the death rate from tuberculosis from 20 per 100,000 of the population in 1950 to 4·04 per 100,000 in 1964 has been more dramatic and consistent. This rate will drop appreciably in the next ten years, until the residuum of old chronic cases, most of whom are in the fifty years of age and above group, has disappeared.

The total number of deaths from tuberculosis in 1964 was:—

Pulmonary Tuberculosis	157
Pulmonary Tuberculosis associated with an occupational disease of the lung	3
Tuberculosis of an unspecified site	1
Tuberculosis of Genito Urinary system	1
Disseminated Tuberculosis	1
Tuberculosis of the lymphatic system	1
Tuberculosis of other organs	2
Pleural Tuberculosis	1
	167

Table I—Notifications of Tuberculosis for 1964 Showing Age, Sex and Form

Age Group	Males				Females				Persons				Total	Per cent
	Pulmonary Tuberculosis	Non Pulmonary Tuberculosis	Death Certificate	Reactivated Cases	Pulmonary	Non Pulmonary	Death Certificate	Reactivated Cases	Pulmonary	Non Pulmonary	Death Certificate	Reactivated Cases		
0– 4	7	5	0	0	3	9	0	0	10	14	0	0	24	1·7
5– 9	3	2	0	0	1	3	0	0	4	5	0	0	9	0·6
10–14	3	2	0	0	4	1	1	0	7	3	1	0	11	0·7
15–19	12	2	0	0	15	0	0	0	27	2	0	0	29	2·5
20–24	20	5	0	1	23	5	0	0	43	10	0	1	54	3·8
25–29	23	4	0	0	24	3	0	0	47	7	0	0	54	3·8
30–34	31	8	0	2	27	2	0	1	58	10	0	3	71	5·1
35–39	53	1	2	3	43	1	0	3	96	2	2	6	106	7·5
40–44	70	10	0	4	30	3	1	5	100	13	1	9	123	8·0
45–49	88	1	1	4	44	3	1	8	132	4	2	12	150	10·7
50–54	96	4	4	12	41	1	1	6	137	5	5	18	165	11·7
55–59	102	2	6	13	31	0	2	2	133	2	8	15	158	11·3
60–64	96	2	7	16	28	1	1	5	124	3	8	21	156	11·0
65–69	66	1	6	8	16	2	4	3	82	3	10	11	106	7·6
70–74	49	0	9	5	14	4	4	0	63	4	13	5	85	6·0
75–	59	1	15	9	20	0	6	2	79	1	21	11	112	7·8
Not Stated	1	0	0	1	1	0	0	0	2	0	0	1	3	0·2
Total	779	50	50	78	365	38	21	35	1,144	88	71	113	1,416	100
Percentage	55·0	3·5	3·5	5·5	25·8	2·7	1·5	2·5	80·8	6·2	5·0	8·0	100	

Table II—Comparison of Form and/or Stage of Disease for 1964 as Compared with Preceding Years

Form and/or Stage of Disease	1955		1956		1957		1958		1959		1960		1961		1962		1963		1964	
	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications	Cases	Percentage of total notifications
Primary	..	..	..	..	..	..	..	..	..	..	..	..	10	0·6	10	0·6	17	1·2	10	0·7
Minimal	617	32·32	562	33·02	437	26·50	418	29·88	346	29·68	496	32·35	493	33·9	552	37·8	380	27·7	346	24·7
Moderately Advanced	739	38·71	791	46·47	911	55·25	692	49·46	540	46·31	675	44·04	622	42·8	526	36·0	491	35·7	527	37·6
Advanced	221	11·58	156	9·17	144	8·73	134	9·58	147	12·60	156	10·17	132	9·1	117	8·0	99	7·2	157	11·2
Pleural Effusion	..	..	..	..	..	..	..	..	..	..	11	0·72	29	2·0	36	2·5	28	2·0	51	3·6
Extra Pulmonary	50	2·62	50	2·94	44	2·67	52	3·72	39	3·35	78	5·08	90	6·2	113	7·8	70	5·1	88	6·3
Death Certificate	147	7·70	118	6·93	113	6·85	102	7·29	94	8·06	117	7·64	79	5·4	106	7·3	74	5·4	71	5·05
Reactivated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	142	10·3	113	8·05
Quiescent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	67	4·9	35	2·5
Atypical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	0·5	4	·3
Not Stated	135	7·07	25	1·47	..	..	1	0·07	..	..	..	..	..	..	..	..	..	..	..	..
Total	1,909	100·00	1,702	100·00	1,649	100·00	1,399	100·00	1,166	100·00	1,533	100·00	1,460	100·00	1,455	100·00	1,375*	100·00	1,402*	100·00

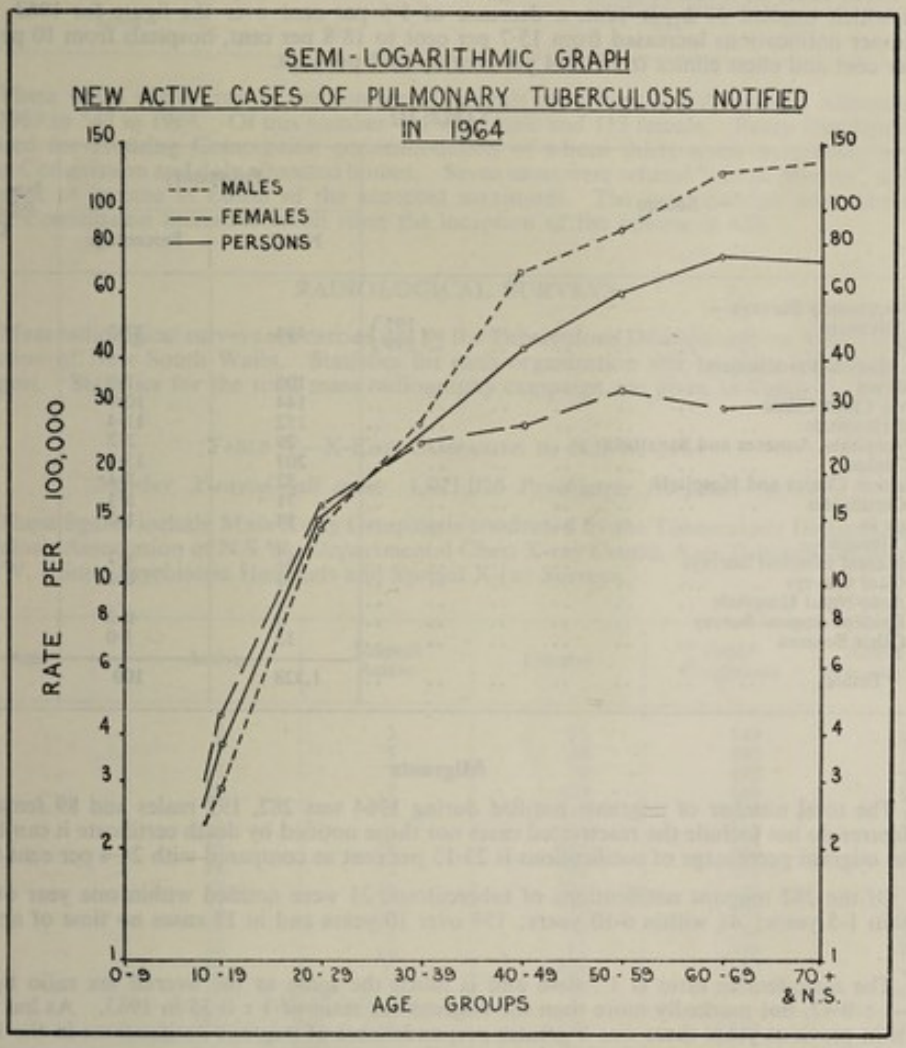
* This includes reactivated cases.

When this is compared with the total number of deaths recorded in 1963, a decrease is noted from 185 to 167. These cases include only those where tuberculosis was related to the cause of death. Cases where the patient died from other causes when the patient had a past history of tuberculosis have been excluded.

Age and Sex

As would be expected the incidence of new active cases of tuberculosis is highest in the group 50 to 70 years of age, with this predominance most marked in males (Figure 2 and Table I).

Figure 2



The sex ratios for tuberculosis, male/female has again slightly increased during 1964. These ratios since 1958, inclusive, are shown below:—

Year	Total Notifications	Total Males	Total Females	Ratio Male to Female
1958	1,399	959	440	1 : 0·46
1959	1,166	789	377	1 : 0·48
1960	1,533	1,068	465	1 : 0·45
1961	1,455	1,041	414	1 : 0·40
1962	1,460	1,040	420	1 : 0·40
1963	1,375	963	420	1 : 0·43
1964	1,402	951	451	1 : 0·47

Stage of Disease

As regards the stage of the disease as notified (Table II) the most significant reduction is in quiescent cases, and this could be related to greater efforts being made to find the organism. The reduction in re-activated cases could be related to more adequate use of chemo-therapeutic agents.

An increase in the numbers of moderately advanced, advanced pleural effusion and extra pulmonary cases has occurred. The explanation for the first two groups could be that the result of the emphasis being placed on the Aged and Invalid Pensioner group, where more advanced disease is found than in the younger groups, when their relative numbers in the community are considered. The continued rise in the extra pulmonary cases is undoubtedly related to immigration as many of these cases are migrants who were probably infected prior to their arrival in Australia.

Source of Discovery

From Table III it can be seen that the greatest source of discovery of cases was by mass miniature X-rays which totalled 37·2 per cent, a decrease of 5·5 per cent over the figure for 1963. Private practitioner notifications increased from 15·7 per cent to 18·8 per cent, hospitals from 10 per cent to 11·4 per cent and chest clinics from 13·4 per cent to 15·7 per cent.

TABLE III

Source	Pulmonary		No. of Non-Pulmonary Cases
	Number	Percentage	
Mass Community Surveys—			
T.B. Division .. 195	494	37·2	2
A.T.A. .. 299			
Private Medical Practitioners:			
(*a*) direct	106	7·9	32
(*b*) via Chest Clinic	144	10·9	8
General Hospitals	152	11·4	41
Chest Hospitals, Annexes and Sanatoria	29	2·2	..
Chest Clinics	207	15·7	3
Repatriation Clinics and Hospitals	32	2·4	..
Death Certificates	71	5·3	..
Transfers in	14	1·0	..
Special Groups:—			
(*a*) Mental Hospital Surveys	62	4·7	1
(*b*) Gaol Surveys	1	0·1	1
(*c*) Ante-Natal Hospitals	..	..	..
Epidemiological Survey	3	0·2	..
Other Sources	13	1·0	..
Totals	1,328	100	88

Migrants

The total number of migrants notified during 1964 was 282, 193 males and 89 females. As these figures do not include the reactivated cases nor those notified by death certificate it can be shown that the migrant percentage of notifications is 23·15 per cent as compared with 24·4 per cent for 1963.

Of the 282 migrant notifications of tuberculosis, 21 were notified within one year of arrival; 43 within 1-5 years; 41 within 6-10 years; 159 over 10 years and in 18 cases no time of arrival was stated.

The male/female ratio is 1 : 0·46 and is much the same as the overall sex ratio figures for 1964—1 : 0·47, but markedly more than the migrant sex ratio of 1 : 0·35 in 1963. As has been the pattern in previous years there was a greater preponderance of migrant notifications in the 15-29 age group inclusive when compared with the Australian born persons in the same age groups. It is interesting to note in the group which arrived in Australia within ten years that there are 63 males to 42 females, when in the over ten year group the male preponderance was far greater, that is 118 to 41.

Although the numbers of notifications from each country could be stated this is of little significance as the total numbers of migrants from each country is not known.

TUBERCULOSIS ALLOWANCE SECTION

Table IV shows the number of patients receiving Tuberculosis Allowances, and the length of time these persons have been in receipt of this Allowance.

TABLE IV—PERSONS RECEIVING TUBERCULOSIS ALLOWANCE

Location of Patients	Male	Female	Persons
Receiving treatment in institution	241	58	299
Receiving treatment outside Institution	193	55	248
Total	434	113	547

TABLE IV—PERSONS RECEIVING TUBERCULOSIS ALLOWANCE—*continued*

Period in Receipt of Allowance	Male	Female	Persons
Under 1 year	326	89	415
1–2 years	42	11	53
2–3 years	17	2	19
3–4 years	6	1	7
4–5 years	11	0	11
Over 5 years	32	10	42
Total	434	113	547

There was a slight drop in the number of patients receiving the Tuberculosis Allowance from 571 in 1963 to 547 in 1964. Of this number 434 were male and 113 female. Forty-four families were nominated for Housing Commission accommodation of whom thirty-seven were accepted by the Housing Commission and duly allocated homes. Seven cases were refused "out of priority" allocations on account of income in excess of the accepted maximum. The total number now allocated for Housing Commission accommodation since the inception of the scheme is 422.

RADIOLOGICAL SURVEYS

Mass radiological surveys are carried out by the Tuberculosis Division and the Anti-Tuberculosis Association of New South Wales. Statistics for each organisation will be given separately later in the Report. Statistics for the total mass radiography campaign are given in Table V.

TABLE V—X-RAY CAMPAIGNS IN N.S.W. 1964

Number X-rayed—all ages: 1,021,025 *Psychiatric Hospitals*—6,931

These figures include Mass X-ray Campaigns conducted by the Tuberculosis Division, the Anti-Tuberculosis Association of N.S.W., Departmental Chest X-ray Centre, Anti-Tuberculosis Association of N.S.W. Clinic, Psychiatric Hospitals and Special X-ray Surveys.

Age	Active	Suspect Active	Inactive	Other Conditions	Active from Previous Surveys
–14	2	3	15	149	0
15–19	7	5	46	480	5
20–24	17	7	78	455	9
25–29	20	7	150	449	9
30–34	27	5	247	507	9
35–39	30	9	383	707	15
40–44	29	18	555	980	21
45–49	46	17	586	1,055	22
50–54	33	23	725	1,465	34
55–59	34	17	710	1,506	29
60–65	47	13	717	1,548	29
65–69	28	12	12	1,369	18
70–75	17	8	466	1,129	12
75–	15	7	500	1,050	16
Totals	352	151	5,190	12,849	228

PSYCHIATRIC HOSPITALS SURVEYS

All Ages	20	2	73	169	8

There was a significant increase in the percentage of the eligible population which attended the surveys in both city and country areas. However, in those city areas in which compulsion was not implemented the results were very unsatisfactory. For instance, the attendance in the Shire of Sutherland was only 62·5 per cent as compared with the Electorate of Fairfield where the attendance after follow-up was almost complete.

The percentage attendances for 1964 (Table I) were 74·2 per cent for the metropolitan area and 88·7 per cent for the country areas, as compared with 68·2 per cent and 81·5 per cent respectively for similar areas in 1963. The increased overall percentage attendance demonstrated the value of the intense follow-up system directed towards thos ewho did not attend for X-ray as an instrument of compulsion.

Since the inception of the community wide miniature X-ray surveys in 1952, a total of more than eight million X-rays have been taken by this Division and the Anti-Tuberculosis Association of N.S.W. From these films about 5,300 cases of active tuberculosis have been discovered.

Special Groups

The yield of active cases in the under-20 age group is less than all other age groups. The need for X-raying people under the age of 21 has been considered and recommendations have been forwarded suggesting that this group should not be included in the compulsory scheme. Only Mantoux positive persons should be X-rayed under the age of 21.

TABLE VI—SUMMARY OF X-RAYS TAKEN BY TUBERCULOSIS DIVISION FOR YEAR ENDING 31ST DECEMBER 1964

	Number of Persons X-rayed	Estimated Percentage of Population of Proclaimed Area	Cases of Active Tuberculosis	Cases per 1,000 Films	Cases Under Investigation probably Tuberculosis	Other Cases Under Investigation for possible Tuberculosis	Cases of Inactive Tuberculosis	Other Abnormalities
Metropolitan Area	135,343	74·2	36	0·27	13	14	250	1,014
Country Area ..	245,991	88·7	72	0·29	38	216	665	2,147
Total Mass Miniature X-ray Surveys	381,334	79·6	108	0·28	51	230	915	3,161
Chest X-ray Centre	43,562	..	22	0·50	10	22	290	482
Special Surveys ..	9,275	..	2	0·22	1	..	15	39

TABLE VII—ABNORMALITIES OTHER THAN TUBERCULOSIS DISCOVERED IN X-RAY SURVEYS YEAR ENDED 31ST DECEMBER, 1964

	Country	Metropolitan	Chest Centre
Tumours:—			
Carcinoma proven	6	11	10
Radiological diagnosis only	29	9	9
Benign	6	4	2
Cysts:—			
Hydatid	10	..	..
Others	27	13	3
Substernal Goitre	58	11	3
Non-Specific Calcifications	42	34	3
Inflammatory:—			
Acute:—			
Pneumonia	89	66	47
Effusion	8	2	8
Abscess	2	..	1
Chronic:—			
Bronchiectasis and Bronchitis	494	271	144
Emphysema	146	77	46
Pleurisy	243	84	57
Non-Specific:—			
Sarcoid	5	2	2
Interstitial Fibrosis	14	10	..
Adenopathy	1	3	3
Industrial:—			
Silicosis	43	12	1
Others	4	..	1
Cardio Vascular Abnormalities	586	289	79
Physical Agencies:—			
Radiation Pneumonitis	19	7	2
Spontaneous Pneumothorax	..	1	6
Injuries and surgery	134	58	28
Diaphramatic Abnormalities	102	34	13
Abnormalities of Digestive System:—			
Mega Oesophagus	2	2	..
Agenesis of Lung	4	3	..
Bony Abnormalities	18	12	14
Toruloma	1	..	..
Vascular Abnormalities	..	2	..
Not Yet Diagnosed	216	14	22

During the year 70 mm units were installed in Manly District Hospital and Long Bay Gaol. A proposal has been forwarded recommending the installation of 70 mm units in twenty-one country and metropolitan hospitals.

All new Aged and Invalid Pensioners are forwarded a card requesting them to have a chest X-ray if they have not had one within the previous twelve months. Although there is no follow-up carried out the response appears to be heartening and doubtless is related to the increased number of cases found in this age group.

Radiological Surveys—Division of Tuberculosis

Statistics for this activity of the Division are set out in Tables VI and VII.

(A) MASS MINIATURE SURVEYS

The areas surveyed during 1964 were:—

(1) *Third Round Surveys:*

City of Bathurst.
City of Orange.
City of Goulburn.
City of Wagga Wagga.
City of Albury.

Municipality of Cowra.
Municipality of Forbes.
Municipality of Condobolin.
Municipality of Hay.
Municipality of Deniliquin.

Shire of Abercrombie.
Shire of Turon.
Shire of Hume.
Shire of Crookwell.
Shire of Mulwaree.
Shire of Oberon.
Shire of Canobolas.
Shire of Waugoola.
Shire of Jemalong.
Shire of Boree.
Shire of Coolamon.
Shire of Narrandera.
Shire of Wade.
Shire of Leeton.
Shire of Waradgery.
Shire of Carrathool.
Shire of Murrumbidgee.
Shire of Berrigan.
Shire of Holbrook.
Shire of Gunning.

(2) *Fourth Round Surveys:*

Electorate of Liverpool.
Electorate of Fairfield.
Electorate of Cronulla.
Electorate of Sutherland.
Municipality of Kiama.

(3) *Fifth Round Surveys:*

City of Greater Wollongong.
Municipality of Shellharbour.

The total number of X-ray films taken was 381,314 which was an increase of 34,838 over the previous year. The number of active cases discovered during these Surveys was 108 representing 0·28 cases per 1,000 films taken. Of those still being investigated there are 51 cases who have radiological appearances consistent with active tuberculosis.

A further 31 cases were notified from those persons still under investigation following films taken during 1963, bringing the total for that year to 140 with a case rate of 0·44 per 1,000.

(B) CHEST X-RAY CENTRE

The number of persons X-rayed at the Centre was 43,562, which was slightly lower than in 1963 but still very much higher than in previous years. Twenty-two (22) cases of active tuberculosis were discovered in these films and a further ten (10) will probably be notified following completion of investigations. A further six (6) cases were notified from persons X-rayed during 1963, bringing the total for that year to twenty-two (22).

(C) SPECIAL SURVEYS

A number of special surveys were conducted during the year including the University of Sydney and Army and R.A.A.F. installations. A number of Homes for the Aged and factories were also visited. The total number of X-rays taken was 9,275.

(D) PSYCHIATRIC HOSPITALS

Surveys were conducted at the Kenmore and Bloomfield Psychiatric Hospitals. The total number x-rayed was 2,916 including staff and the results included 14 cases of active tuberculosis, 50 of inactive disease and 37 other abnormalities were noted.

(E) PRISONS

A 70 mm unit was installed at the State Penitentiary and commenced operation in December. A total of 949 persons were X-rayed and 1 case of active tuberculosis has been discovered. Two members of the staff of the penitentiary have been trained in the operation of the unit by the Chest Centre staff.

Radiological Surveys—Anti-Tuberculosis Association of New South Wales

(A) MASS SURVEYS

Statistics of Mass Radiological Surveys conducted by the Anti-Tuberculosis Association of New South Wales are given in Table VIII.

TABLE VIII—MASS RADIOLOGICAL SURVEYS THE ANTI-TUBERCULOSIS ASSOCIATION OF N.S.W.

Total Number of X-rays	Active T.B.	Inactive T.B.	Suspect active T.B.	Other Conditions
Metropolitan Area— 223,925	61	1,795	16	2,357
Country Areas— 290,090	83	1,838	42	5,055

To the figures for active tuberculosis should be added 85 additional cases from surveys in 1963, the diagnoses of which were not confirmed until 1964.

(B) ANTI-TUBERCULOSIS ASSOCIATION CLINIC

The value of this Clinic is demonstrated by the number of active cases found where in 18,685 films taken the rate was 2·58 cases per 1,000 films. The number of referrals by medical practitioners may account for this.

(C) SPECIAL SURVEYS

On the other hand, although special surveys of industrial groups and people at risk should show a high yield, in 39,220 films taken by the Association only 10 active cases were discovered. This indicates a need for revision of this programme.

EPIDEMIOLOGICAL SURVEYS

An examination of the Mantoux Tests carried out for the Tuberculosis Division by the School Medical Service, amongst school children show that the Mantoux Conversion Rate for school children attending Second Year at High School is 9·5 per cent and rises to 14 per cent for those in Fourth Year (Table IX). This rise was expected and is indicative of the amount of disease present in the community generally and occurs at the age where the child has greater social contact in the community.

TABLE IX—EPIDEMIOLOGICAL MANTOUX SURVEYS—METROPOLITAN SCHOOLS

Group	Number Tested	Number Positive	Percentage Positive
			per cent
Second Year High School	25,342	2,402	9·5
Fourth Year High School	3,357	471	14
Total	28,699	2,873	10

Prophylatic chemotherapy was arranged for the young new positive reactors, and for those with large positive reactions, where considered necessary. Household contacts were referred to Clinics for chest X-rays.

VISITING NURSES

There has been a further decline in the number of visits made by the Domiciliary Nurses. This has enabled an extension of their work to other fields, e.g. extra duties with large film units, relief to Health Districts etc. Opportunity was also taken to utilise their services more fully by revising contact procedures, and follow-up of all patients from all Clinics who had failed to attend for supervision. This was a formidable task as some persons had not been seen since 1958.

HOSPITAL X-RAY PROGRAMMES

The returns from hospitals using 70 mm X-ray units for routine X-rays of in-patients and out-patients are incomplete because of the difficulties experienced in collating the data. It is expected that this will be overcome during 1965.

Of those returns obtained 5,692 persons were X-rayed resulting in 5 active cases being discovered with a further 4 suspect active, 175 inactive and 257 other conditions. There was one active case from the survey of previous years. These figures are, as expected, higher than in the general community.

DRUG RESISTANCE

Table X gives a summary of the returns from all institutions within New South Wales doing sensitivity testing to determine the resistance of acid fast bacilli to the three standard drugs, streptomycin, isoniazid and P.A.S.

TABLE X

Bacilli Resistant To—	Number of specimens tested	Number resistant	Percentage
Streptomycin	868	144	16·8
P.A.S.	868	139	15·8
Isoniazid	868	211	24·2
Any two drugs	868	79	9·1
All three drugs	868	86	10·1

It is not considered that this number of resistant organisms represents any great problem in this community as there are still other drugs available for treatment. However, it is essential that those persons excreting organisms resistant to two or more of the standard drugs should be under rigid supervision to reduce the danger of infection of other persons by these organisms. The Division takes all possible measures to ensure that this is done.

TUBERCULOSIS IN THE HEALTH DISTRICTS

Visits were made to all Health Districts during the year. Clinic record-keeping showed further improvement, but in certain cases attention needs to be given to the proper filing of records, the correct method of sending out appointments and the accurate return of clinic statistics.

Newcastle Health District

During this year the Anti-Tuberculosis Association of New South Wales carried out Mass Miniature Radiography Surveys over the greater part of the Health District. A total of 229,447 people were X-rayed, representing 89·4 per cent of the estimated population. From these films 50 cases were found to be active and 28 cases were still under investigation. A total of 1,379 inactive cases of tuberculosis were reported and 2,627 other non-tuberculosis abnormalities were detected.

Increased attendances were noted at most clinics in this area especially at Newcastle, Maitland, Cessnock, Kempsey, Wauchope and Port Macquarie. Plans are being considered to extend clinic activities especially in the North Western part of the Health District. New accommodation is required for the Gosford Chest Clinic.

North Coast Health District

There has been a general increase in the attendances at all the clinics throughout the district during the past year. Clinic facilities in this District are adequate, but there is a need for extension of consultant services. No X-ray surveys were conducted during 1964.

North Western Health District

During the year the Anti-Tuberculosis Association conducted X-ray surveys in five shires and three municipalities. The total number of X-rays done was 22,683 and this is approximately 80 per cent of the total eligible population of the area surveyed. A total of 20 cases of active tuberculosis, 132 inactive cases and 301 other abnormalities were found.

Further clinic facilities have been proposed for the District. These include the advancement of Narrabri, Moree and Gunnedah to full clinic status and sub-clinics to be established at Inverell, Glen Innes and Tenterfield.

The appointment of another Sister is necessary to enable the full programme of all these clinics to be carried out.

Western Health District

Mass Miniature X-ray Surveys were conducted by the Tuberculosis Division during the year in seven shires, three municipalities and the Cities of Bathurst and Orange.

A total of 50,906 chest X-rays were taken which represents 91 per cent of the estimated eligible population of the area surveyed. Nineteen (19) cases of tuberculosis were discovered and a further 4 are suspect active. A total of 112 cases of inactive tuberculosis and 495 other abnormalities were also found. Surveys were also carried out by the Anti-Tuberculosis Association in the northern part of the Health District, covering nine shires, 1 municipality and the City of Blue Mountains.

During these surveys a total of 38,010 X-rays were taken representing 74·4 of the estimated eligible population of the area surveyed. It should be noted that this region is sparsely populated, and hence it is not possible to provide complete X-ray facilities for all persons to attend. This accounts for difference in percentages attendances in the two surveys in this Health District.

Thirty-six active cases were notified by the Anti-Tuberculosis Association of N.S.W. as a result of its surveys, and 341 inactive cases and 456 other abnormalities were also found. A further four cases are suspect active but diagnosis as yet is not complete.

As a result of the survey of the clinic requirements in the Health District, recommendations have been made to establish sub-clinics at Mudgee and Forbes. Further facilities are required in the outlying towns of Cobar, Bourke, Brewarrina, Walgett, Coonamble and Coonabarabran.

South Coast Health District

Mass Miniature X-ray Surveys have been conducted by the Tuberculosis Division in the Cities of Goulburn and Greater Wollongong, two municipalities and three shires.

A total of 115,599 X-rays were done representing 86·2 per cent of the estimated eligible population. Thirty five cases of active tuberculosis have been notified and it is considered that a further 22 cases will be notified when investigations are completed. The number of inactive cases discovered was 299 and 1,158 other abnormalities were also found.

A start has now been made on the new Chest Block at Wollongong Hospital to include 20 beds for in-patients and adequate facilities for out-patients. At the end of the year the Queen Victoria Memorial Hospital at Picton was closed down for the treatment of tuberculosis patients. It will be converted for the use of geriatric and other patients.

This institution has played a prominent role in the hospital treatment of tuberculous patients since its inauguration in 1893. The Picton Lakes Village will still continue to function as in the past. Plans are being considered to improve the clinic facilities throughout the Health District, and these will include additional clinics at Bulli and Cooma and an out-patient clinic at the Queen Victoria Memorial Hospital at Picton.

TUBERCULOSIS IN THE MINING INDUSTRY

The following is the list of notifications of tuberculosis in the coal mining industries and the mines of Broken Hill.

Year	Joint Coal Board	Bureau of Medical Inspection
1956	5	.. } not available
1957	9	.. } not available
1958	8	.. } not available
1959	8	9
1960	2	4
1961	3	3
1962	3	5
1963	4	2
1964	7	2

At present the number of coal miners under compulsory withdrawal because of pulmonary tuberculosis is six. In accordance with the Joint Coal Board's scheme for ex-tuberculous patients these may return to selected work in the industry.

Mass Miniature X-ray Surveys conducted in recent years by this Division, especially in the Wollongong areas, have shown that there are a number of ex-miners found to be suffering from active tuberculosis as a complication of severe grades of silicosis. Investigations showed that there is no regular follow-up of ex-miners once they have left the industry although they can always attend the Joint Coal Board Medical Bureau if they need medical advice.

More men in this group may be expected to develop active tuberculosis and these will only be detected by regular X-ray and sputum examinations.

A conference was held in November at Wollongong between the officers of the Southern District Miners' Federation, representatives from the Joint Coal Board, Tuberculosis Division and the Medical Officer of Health. All parties agreed to the need for regular follow-up of these persons and to this end arrangements are being made for these ex-miners to be given the choice of attending either the Joint Coal Board Medical Bureau or the Wollongong Chest Clinic. The Chest Clinic will be responsible for seeing that this is implemented.

COMPULSORY SURVEYS

The policy of compulsion in mass miniature X-ray surveys was continued during 1964. As a result several prosecutions were undertaken for non-attendance in City Surveys, of which three were successful, one being fined and the other two awarded costs against them. Others are still pending. No prosecutions reached the Courts from Country Surveys. In some instances informations were laid but later withdrawn after the persons concerned attended for X-ray examination.

Analysis of compulsory surveys shows a marked increase in attendance. In one City area, for example, there was a 50 per cent increase in attendance as compared with a previous survey in 1961.

It is considered that the results of these surveys have justified the implementation of compulsion. The resultant publicity given, especially to the prosecutions, has resulted in a significant increase in attendances in other areas not compulsorily implemented. It is reflected in attendances at the Anti-Tuberculosis Association X-ray units as well as those of the Tuberculosis Division.

NATIONAL TUBERCULOSIS ADVISORY COUNCIL

A special meeting of the above Council was held on 3rd December, 1964.

Amongst other matters discussed were the following:—

Future technical developments which would reduce radiation doses during X-ray examinations.

The frequency of surveys in each community depending on the indicated incidence of new cases of active tuberculosis detected in the community. This has been the policy in New South Wales for at least five years.

The increase in minimum age of those included in a survey depending on the indicated incidence of new cases of active tuberculosis detected. Unless special circumstances related to the incidence and detection of the disease in a community demand the mass radiological examination of adolescents, no person of age less than 21 years should be included in a compulsory mass miniature X-ray survey. Recommendations to amend this section of the Public Health Act have been made.

The diagnostic procedures which do not involve mass radiological examination for any group of the population for which they are effective.

The exclusion of pregnant women from compulsory mass miniature X-ray surveys unless alternative diagnostic procedures are inconclusive or unavailable.

CONCLUSION

As in 1963, further progress has been made toward the goal of control of tuberculosis in New South Wales. Continued emphasis still needs to be placed on the migrant population, orientation of the general practitioner, and the problems related to past members of the mining industry who are suffering from silicosis.

This opportunity is taken to thank the Senior Officers of the Department of Public Health of New South Wales, the Commonwealth Health Department, and the staff of the Tuberculosis and extra-Departmental personnel and organisations for the assistance given and co-operation received.

Poliomyelitis

Medical Officer-in-Charge: R. W. D. MAXWELL, O.B.E., M.B., Ch.B., D.P.H., D.T.M. & H.

Location: 52 Bridge Street, Sydney

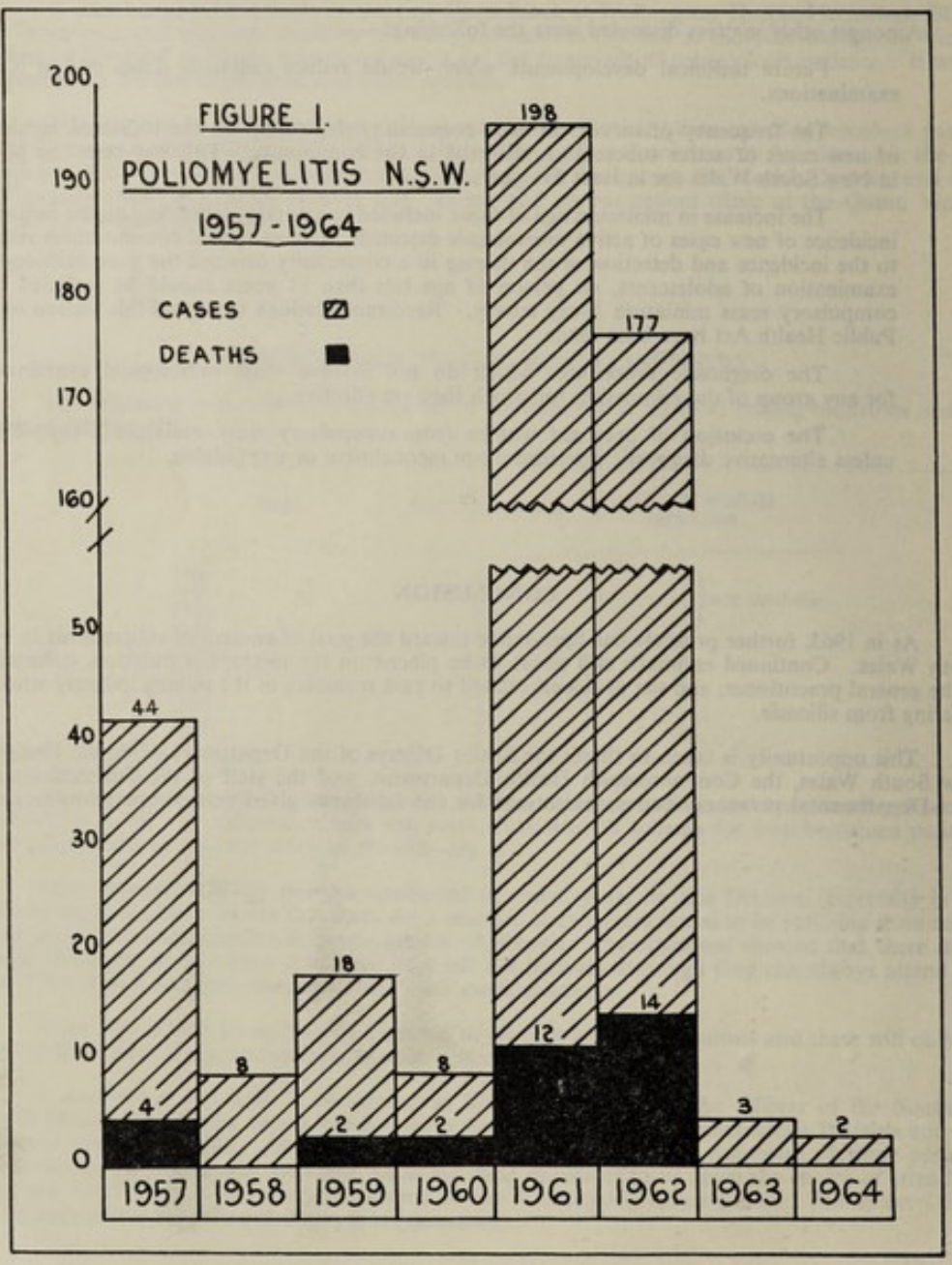
Function

This Section co-ordinates the distribution of Salk Vaccine to Local Authorities and Medical Practitioners of New South Wales for organised vaccination campaigns and individual patient vaccination dosage.

It conducts also a Vaccination Centre in the Metropolitan area of Sydney.

INCIDENCE

The years 1961 and 1962—during which an outbreak of poliomyelitis occurred in New South Wales—saw the first resurgence of the disease in this State to any major proportions since the dramatic fall in incidence which followed the commencement of the Poliomyelitis Vaccination Campaign in July 1956. In striking contrast, the two following years of 1963 and 1964 have been marked as the years of the lowest incidence of poliomyelitis in New South Wales ever yet recorded. During 1963, only three confirmed cases of the disease occurred throughout the State and this number was still further reduced to two cases only in 1964. Figure 1 demonstrates the cases and deaths in New South Wales since the commencement of the Poliomyelitis Vaccination Campaign.



As at the end of 1964, no death from poliomyelitis had occurred in New South Wales since July 1962, a period of some 2½ years.

The two cases of poliomyelitis confirmed in 1964 were both males, aged 18 months and 10 months. In each instance Type 2 poliomyelitis was isolated.

The isolation is of interest. On only one previous occasion, in December 1959, has the Type 2 poliovirus been isolated from a case of poliomyelitis in which the illness commenced in this State. In this case, however, the patient had returned to Sydney from Manila in the Philippines only a few days before the onset of the disease and it was almost certain that the virus had been imported. Both of these further Type 2 cases were said to have returned to New South Wales from a visit to Melbourne shortly before the illness commenced, so that it is possible that the infection was acquired in Victoria.

THE VACCINATION CAMPAIGN

The distribution of poliomyelitis vaccine to Local Authorities, private Medical Practitioners, and the departmental Immunisation Centre for 1964 as contrasted with 1963 is shown in Table 1.

TABLE I

	1963			1964		
	1st half year	2nd half year	Total	1st half year	2nd half year	Total
	Doses	Doses	Doses	Doses	Doses	Doses
Local Authorities and private Medical Practitioners	431,668	356,650	788,318	305,555	264,797	570,352
Departmental Immunisation Centre ..	14,545	8,080	22,625	8,063	4,883	12,946
Totals	446,213	364,730	810,943	313,618	269,680	583,298

The above figures are indicative of the progressive falling off of public interest in poliomyelitis vaccination over the two year period of virtual freedom from the disease which has followed the epidemic years of 1961 and 1962. A publicity campaign conducted by the Department in February 1964, urging the continued need for protection through vaccination, met with a disappointing response from the public as judged by only a small and brief increase in the demand for poliomyelitis vaccine from Councils and in attendances for vaccinatiion at the Immunisation Centre. The decreasing attendances at the Immunisation Centre during 1964 made it impracticable to continue the daily vaccination clinic, which had been instituted in early 1962 at the time of peak activity, and as from the end of May 1964 it became necessary to revert to a clinic once a week.

Ample supplies of poliomyelitis vaccine have been available throughout the year.

PUBLIC HEALTH SERVICES

Health Inspection Branch

Chief Health Inspector: Mr D. H. Way, F.I.H.S.

Location: 52 Bridge Street, Sydney

Function

Matters arising from the administration of the following Acts are investigated—

Public Health Act, 1902, as amended, and Regulations.

Noxious Trades Act, 1902, as amended, and Regulations.

Local Government Act, 1918, as amended, and Ordinances.

Fluoridation of Public Water Supplies Act, 1957, and Regulations.

The Chief Health Inspector is responsible for the general administration of the Branch and for inspection matters referred to Central Administration from the various Health Districts. Health Inspection work in the Metropolitan Health District is carried out by the officers of the Branch under the supervision of the two Senior Health Inspectors.

Staff

The staff comprises the Chief Health Inspector and his Deputy; two Senior Health Inspectors; 18 Health Inspectors (4 vacancies); 8 Cadet Health Inspectors (1 vacancy); 2 Surveyors (1 vacancy); 1 Tracer and clerical staff.

ACTIVITIES

The activities conducted for the Health Districts, including the Metropolitan Health District, are included in the Reports of the District Medical Officers of Health. Outside the Health Districts the Branch is responsible for inspections in the proposed Riverina Health District, and the Koscuisko State Park which has been excluded from the South Coast Health District. This action was taken because the development of the snowfields in the Park as a major recreational area brought with it numerous public health problems relating to sewage disposal, stream pollution, garbage disposal and the like which have been dealt with by staff from Central Administration.

The following figures reveal the inspections made and work carried out by the Branch outside the Metropolitan Area. These figures are supplementary to those included in the Reports of the Metropolitan Medical Officer of Health and other Medical Officers of Health:—

Institutions	2
Schools	1
Hotels	2
Slaughtering premises and abattoirs	11
Knackeries	2
Saleyards	1
Sanitary Depots—proposed sites	4
Sanitary Depots—existing	7
Approval for disposal of nightsoil in furrows	2
Scavenging Districts (proposed)	3
Septic tank applications—recommended for approval	705
Septic tank manufacturers design plans examined	73
Sewage treatment works inspected	5
Water supplies investigated—public	2
Nuisances (investigations)	5
Samples—Water (other than from swimming pools)	10
Noxious Trades premises	3

Unhealthy building land inspections	334
Unhealthy building land surveys	142
Areas gazetted and location	5
Areas revoked	5
Land enquiries	78,721
Land enquiries searches	553
Reports on unhealthy building land	509
Investigation—mass installation of septic tanks	7
Branch records—new registrations	10,807

NEW DEVELOPMENTS

There were several compact sewage treatment works installed during the year by groups other than Local Authorities. These so-called "package" sewage treatment works were generally of the "extended aeration" type and so far, have provided satisfactory effluents.

Considerable interest has been shown in the paper-sack method of garbage storage on premises and at the end of the year arrangements were being made for a supervised trial of this sytem.

UNHEALTHY BUILDING LAND

The work of this Section of the Branch was hampered by the transfer of Surveyor W. McLeod to the Housing Commission in April, 1964. The vacancy had not been filled at the end of December. Consequently, the remaining Surveyor, Mr K. Andrews, was hard-pressed to cope with the volume of work and in general was able to deal with work only of a more pressing nature. The number of solicitors' applications for certificates in regard to Section 55 notices increased to a record 78,721 compared to 69,706 for the previous year. A "methods survey" was made of this Section and alterations to procedure recommended.

CONFERENCES

Two conferences were held at Head Office with all Senior Health Inspectors in attendance. The subjects for discussion covered many topics ranging from the disposal of abattoir wastes to the technique of sanitary surveys. These meetings were of considerable value to the officers stationed in the Country Health Districts in keeping abreast of the various trends and changes taking place.

STAFF TRAINING

The very rapid staff turnover and influx of new appointees has accentuated the need for staff training on a wider scale. An intensive course in the public health aspects of swimming pool operation was attended by all Senior Health Inspectors, at which lectures and demonstrations were given by Officers of this Department and the Public Works Department.

Food Inspection Branch

Chief Food Inspector: Mr W. J. MADGWICK

Location: 52 Bridge Street, Sydney

Function

The Branch performs routine food inspections for the Metropolitan Medical Officer of Health for the Metropolitan Health District of Sydney, and is responsible to him for this aspect of its administration. It is primarily concerned with supervision of the sale of food and drugs with regard to composition, identity and labelling; the structure and condition of premises in which food is manufactured, prepared, stored and sold; inspection of food equipment, appliances and vehicles, and the implementation of the provisions of the Pure Food Act, 1908-1961.

Staff

The staff comprises the Chief Food Inspector and his Deputy; five (5) Senior Food Inspectors; seventeen (17) inspectors and clerical staff. The Senior Food Inspectors are located one each in the five Health Districts of the State external to the Metropolitan Health District.

FOOD SAMPLING

Details of food samples, fines and prosecutions are given in Table I.

TABLE I—FOOD AND DRUG SAMPLES

Samples	No. of Samples	No. of Warnings	No. of Prosecutions	Fines and Costs
				£ s. d.
Ales and Beer	39	..	..	..
Bread	99	..	3	22 0 0
Butter	35	1	9	100 0 0
Coffee	27	..	..	..
Condiments	16	1	..	..
Confectionery	22	..	..	..
Cordials and Soft Drinks	58	..	..	..
Cream and Cream Mixture	105	..	7	56 0 0
Drugs	34	..	..	..
Fats and Oils	52	..	21	217 0 0
Fish, canned, etc.	16	..	..	..
Flour	2	..	..	..
Fruit, preserved	20	7	..	..
General	81	..	1	16 0 0
Honey	2	..	..	..
Ice Cream and Ices	23	..	2	12 0 0
Jam	3	..	..	..
Margarine	2	..	..	..
Meat and Smallgoods	2,439	75	347	4,527 18 0
Meat (Malachite tested 5,716)	..	..	..	..
Meat pies	16	..	..	..
Microbiological	107	..	..	..
Milk	2,605	17	48	371 14 0
Spices	2	..	..	..
Spirits	32	..	10	87 0 0
Spirits (tested 4,021)	..	..	..	..
Sugar, icing	3	..	..	..
Tea	5	..	..	..
Vegetables, canned	6	..	..	..
Water	4	..	..	..
Wine	5	..	1	10 0 0
Total	5,860	101	449	£5,419 12 0

Special comment is offered in respect of food sampling of certain commodities, viz.—

Meat

In 1964 the Malachite Green Test was used for the first time as a field test by inspectors to determine the presence of preservative in minced meat. Of the 5,716 samples tested only 2,439 were subsequently purchased for further analysis as presumptive positives. The use of this test for preliminary screening has resulted in a considerable economic saving over the previous procedure of indiscriminate purchase.

Milk

The figures for 1964 show a considerable decrease in milk adulteration.

Butter

All prosecutions for adulterated butter were against sandwich shops for mixtures of butter and water or butter and foreign fats for sandwich spreads.

Spirits

The proportion of adulterated spirits from the samples "field" tested (4,021) was low, only 32 being subsequently purchased for further confirmation. Prosecutions were lodged in only 10 instances.

BACTERIOLOGICAL EXAMINATION OF FOODS

A total of 57 samples of food were submitted for bacteriological examination, which included 22 samples of desiccated coconut and 18 samples of meat. 50 samples of kangaroo meat sold in pets' meat shops were also submitted for bacteriological examination. This action followed a report in the October, 1964 issue of the *Australian Medical Journal* that salmonella had been found in considerable numbers of kangaroo meat samples examined in South Australia. Of the 50 samples of kangaroo meat submitted from pets' food shops in this State 33 have yielded salmonella organisms, and are awaiting identification.

Concurrent with the samples of kangaroo meat which were obtained, 18 samples of meat were submitted from butchers' shops and were examined for salmonella with negative results.

The 22 samples of desiccated coconut were submitted to determine whether they complied with the Regulation which requires that desiccated coconut must be free from pathogenic organisms. The samples were all found to be free of such organisms.

SEIZURES

Details of food and drugs seized and destroyed as unfit for human consumption are given in Table II.

TABLE II—PARTICULARS OF FOODS AND DRUGS SEIZED AS UNFIT FOR HUMAN CONSUMPTION AND DESTROYED DURING THE YEAR ENDING 31ST DECEMBER, 1964

Food	Tons	Cwts	Qtrs	lb	Other Amount
Cheese	7	1	..	2	2,264 barrels
Coconut, desiccated	..	..	3	6	..
Coffee beans	10	4	..	..	..
Condiments	2	5	..	..	20 barrels
Confectionery	..	13	2	..	..
Fish, canned	6	12	1	14	96 barrels 596 tins
Fish, frozen, dried, etc.	10	3	1	4	..
Flour	..	2	2	..	..
Fruit, dried	126	6	..	10	..
Groceries, assorted	1	8	1	21	266 tins
Margarine	..	2	2	..	..
Meat	..	1	..	..	..
Nuts	..	2	..	14	..
Olives	..	16	1	7	..
Prawns	..	14	2	..	..
Poultry	..	..	..	..	17,619 head
Sugar	..	3	1	18	..
Tea	..	1	..	8	..
Vegetables, preserved	5	7	3	..	..
Total	172	5	2	20	17,619 head poultry 2,280 barrels 862 tins

INSPECTION OF PREMISES USED FOR THE PREPARATION SALE AND STORAGE OF FOOD AND DRUGS

Number of Inspections—8,547.

Number of Warning Notices—213.

Number of prosecutions for unclean premises—16.

Amount of fines and costs—£345 10s. 0d.

PUBLIC RELATIONS

The Chief Food Inspector continued his weekly participation in Radio 2GB's Session "I'm on your Side" in which listeners' and food traders' problems are discussed. A great number of complaints concerning food matters are received through this Session, it being the reason for the exceptionally large numbers of complaints handled this year.

The Chief Food Inspector also contributed three articles to Health and Food Industry Journals, wrote one book review and addressed ten Health, Food, Industry and Service Organisations.

AMENDMENTS TO REGULATIONS

Amendments to Regulations were gazetted during the year in regard to the following matters—

Labelling; Preservatives; Vitamins and Minerals; Modifying agents; Irradiation of food; Malathion in Wheat; Cyclamate as artificial sweetener; Antibiotics in milk; Skim, Condensed and Reconstituted Milks; Flavoured Milk; Dairy Ice Mix; Talc in chocolate; Additives in pastry; Ethoxyquin in Apples; Marzipan and Related Products; Colouring matters in drugs; Artificial colours; Prohibited substances in food; Itinerant carriage of certain foods, and premises used jointly for preparation of food for sale and for domestic purposes.

COMMITTEES AND STAFF CONFERENCES

The Chief Food Inspector, as a member of the following Committees, attended meetings of each during the year:—

Food Standards Committee of the National Health and Medical Research Council.

Frozen Foods Sub-Committee.

N.S.W. Pure Food Advisory Committee.

N.S.W. Health Week Council.

Baking Trades Advisory Committee.

The Chief Food Inspector held two Staff Conferences with Senior Food Inspectors in Sydney.

GENERAL BREACHES OF THE PURE FOOD ACT

Particulars of general breaches of the Pure Food Act and Regulations undertaken by Officers of the Pure Food Branch and prosecutions arising from all activities of the Branch during 1964 are given below in Tables 3 and 4.

TABLE III—GENERAL BREACHES

Offence	Number of Prosecutions	Fines and Costs
		£ s. d.
Bags on dough	1	6 0 0
Smoking and using tobacco while handling food	82	644 0 0
Unlabelled oysters	1	6 0 0
Food, including bread, exposed to dust etc.	25	209 0 0
Bread returned to delivery vehicle	4	38 0 0
Unwrapped foods exposed on counters	7	86 0 0
Sale of meat from other than butchers' shops	2	16 0 0
Cockroach infested premises	15	274 8 0
Fly infested premises	1	21 0 0
Unclean utensils, appliances, etc.	6	86 0 0
Pets' meat sold in butcher's shop	5	61 0 0
Bread improperly wrapped	1	1 0 0
Uncleansed fish boxes	1	5 0 0
Fruit in street not stored 2 ft 6 in above ground	2	16 0 0
Foul odours in cool room	1	10 0 0
No methyl violet in waste beer	1	6 0 0
Saliva from mouth placed on meat	2	42 0 0
Unsuitable meat delivery vehicle	1	6 0 0
Total	158	£1,533 8 0

TABLE IV—SUMMARY OF PROSECUTIONS

Offences under the Pure Food Act and Regulations	Number of Prosecutions	Amount of Fines and Costs
		£ s. d.
Adulterated Milk	48	371 14 0
Adulterated Foods and Drugs	401	5,047 18 0
Unclean Premises	16	345 10 0
General Breaches	158	1,533 8 0
Other Acts—		
Local Government Act	9	199 10 0
Grand Total	632	7,498 0 0

Private Hospitals and Rest Homes

Medical Officer-in-Charge: R. Y. DUNLOP, M.D., B.Ch., D.P.H., D.T.M. & H.

Location: 52 Bridge Street, Sydney

Function

This Section supervises private hospitals and rest homes under the licensing provisions and standard prescribed by the Private Hospitals Act, 1908-1964. It is staffed by the Medical Officer-in-Charge and three Supervisory Nursing Sisters who participate in inspectorial duties and investigate complaints in the Metropolitan area.

INSPECTIONS

Each private hospital and rest home is inspected at least twice annually and, in some instances quarterly inspections are made where standards are suspect. Joint inspections by the Medical Officer and a Supervisory Nursing Sister are made where necessary and particularly if a licensee fails to comply with notices served upon him under the Act. A similar system of routine and joint inspections pertains in the Health Districts external to the Metropolitan area with the Medical Officer of Health and his staff.

The number of inspections carried out in 1964 as compared with 1963 (including complaints and joint inspections) is detailed in Table I for the Metropolitan area (similar statistics for Health Districts are included in the Reports of the Health Districts)

TABLE I—ROUTINE OUTDOOR DUTIES—METROPOLITAN AREA

	1963	1964
Routine inspections of private hospitals	226	246
Routine inspections of rest homes	498	635
Initial inspections of private hospitals and rest homes	47	39
Final inspections of private hospitals and rest homes	27	14
Joint inspections (Medical Officer and Supervisory Nursing Sister)	86	75
Special visits	90	62
Complaints investigated	32	26

SUPERVISION

Although supervision of private hospitals and rest homes is discreet between the Metropolitan area of Sydney and the Health Districts, supervisory processing is centralised in this Section prior to the preparation of schedules for submission to the Board of Health. Details of the supervisory duties for the whole of the State are included in Table II with comparative figures for 1963.

TABLE II—DETAILS OF SUPERVISORY DUTIES IN CONNECTION WITH SCHEDULES FOR THE BOARD OF HEALTH

Procedures	1963	1964
Plans scrutinized	208	185
Registration of Resident Managers	318	316
Licenses amended	115	122
Transfer of licenses	47	37
New licenses	46	31

STANDARDS

In 1962 Dr Dunlop graded every private hospital and rest home in the Metropolitan area according to the standard of appointments, equipment and patient care.

A rating was devised consisting of very good (xxx); good (xx); satisfies minimum requirements (x); and unsatisfactory (nil). Constant encouragement has been given to licensees of private hospitals and rest homes to improve their rating and the results of this programme are summarised in the comparison ratings from 1962-1964. (Table III).

TABLE III—STATISTICAL ANALYSIS OF STANDARDS IN PRIVATE HOSPITALS AND REST HOMES—METROPOLITAN AREA, 1962-1964

Rating	Private Hospitals						Rest Homes					
	1962	Per cent	1963	Per cent	1964	Per cent	1962	Per cent	1963	Per cent	1964	Per cent
Three stars	91	59·0	120	80	104	84·6	116	46·0	167	60·0	207	71·9
Two stars	46	30·0	25	16·6	16	13·0	99	39·3	95	34·2	72	25·0
One star	17	11·0	5	3·4	3	2·4	37	14·7	16	5·8	9	3·1
Nil	..	..	..	..	..	..	..	..	..	..	..	..
Total	154	100	150	100	123	100	252	100	278	100	288	100

During 1964 Medical Officers of Health were requested to grade their private hospitals and rest homes and the results of this grading are given in Table IV.

TABLE IV—STATISTICAL ANALYSIS OF STANDARDS IN PRIVATE HOSPITALS AND REST HOMES—HEALTH DISTRICTS, 1964

Rating	Private Hospitals		Rest Homes	
	1964	Per cent	1964	Per cent
Three stars	26	47·2	22	44·9
Two stars	24	43·6	19	38·7
One star	5	9·2	8	16·4
Nil	..	..	..	..
Total	55	100	49	100

ACCOMMODATION IN PRIVATE HOSPITALS AND REST HOMES

At the conclusion of 1964, on account of closures and conversions to rest homes, there were 27 fewer private hospitals in the State with a loss of 142 beds making the total number of beds and cots available at 4,477 and 266 respectively. On the other hand rest homes increased by 16 with the addition of 1,114 beds making the total number of beds and cots available at 8,584 and 55 respectively.

The number of beds available in private hospitals and rest homes is given in Table V below, in three year intervals from 1955, when the 1954 amendment to the Private Hospitals Act came into operation to include rest homes.

TABLE V—NUMBER OF BEDS AVAILABLE IN PRIVATE HOSPITALS AND REST HOMES IN THREE YEAR INTERVALS—1955-1965—NEW SOUTH WALES

Year	Private Hospitals		Rest Homes	
	Beds	Cots	Beds	Cots
1955	2,945	N.A.	3,213	N.A.
1958	3,465	N.A.	4,276	N.A.
1961	4,131	191	5,680	58
1964	4,477	266	8,584	55

(N. A.—Not Available)

From the above figures it will be observed that over the ten year period—1955-1964—private hospital beds have increased in New South Wales by 1,532, or 53 per cent; while rest home beds have increased by 5,371 or 167 per cent. Combining the totals of private hospital and rest home beds a figure of 13,061 is arrived at which figure amounts to one-third of all hospital beds available in the State including General, State and Psychiatric Hospitals.

The Commonwealth subsidy in rest home beds above at £1 per head per day amounts to over £3,000,000 per annum.

Health Education

Health Educationist: S. J. KRISTER, M.R.C.S., Eng., L.R.C.P., Lond., D.P.H., Lond., D.I.H., R.C.P. & S., Eng.

Location: 52 Bridge Street, Sydney

Function

A Health Educationist was appointed to the Department at the beginning of 1964 in order to assist the further development of the public education component of the work of Divisions, Branches and Health Districts. The role of specialist health education staff in the Department will be to speed the introduction of modern educational techniques in health teaching of the public; to help define communication barriers which militate against full acceptance and utilisation of public health programmes and to determine appropriate educational measures; to make studies of community attitudes to health and disease and to establish effective liaison with community organisations interested in health matters.

The most important task of the year was a study of current health education activities and needs within the Department. A paper proposing a phased development of health education services over a period of years, together with certain additional staff needs, has been submitted to the Public Service Board.

Consultative services were provided for Divisions, Branches and Health Districts in respect of health education elements of specific programmes which were under consideration in 1964.

Efforts were also made to strengthen relationships with the clinical branches of the medical profession in order to further their role in health education of the community. As part of this programme, a handbook of departmental services was prepared and distributed to all doctors in the State. A quarterly newsletter for medical practitioners was also introduced during the year and it has become the Department's regular means of communication with doctors in clinical practice. Both publications have been favourably received.

The Nutrition Section has been placed under the administration of the Health Educationist.

Special Studies

The following topics received special study during the year and papers outlining appropriate health education programmes were produced:—

(1) Smoking and youth education.

(2) Accidental poisoning of young children.

(3) Guidance for canteen committees responsible for food in schools.

(4) Social psychiatry (jointly with the Metropolitan Medical Officer of Health).

A paper was presented by invitation to a special planning committee of the Australian Medical Association, which was set up to consider National Health Services. The paper outlined the importance of health education instruction in the professional training of doctors and nurses in view of their important role in health education of the community. The special committee accepted these proposals for inclusion in its recommendations to the Federal Council of the Australian Medical Association.

The Health Educationist took part in the Inter-State Co-ordination Committee on Health Education meeting in Melbourne in March, 1964. Special consideration was given to the smoking pattern in adolescents at that meeting and proposals for educational programmes were formulated and later submitted by the States to the Federal Government.

Teaching

Lectures on health education were delivered to audiences throughout the Department as well as to medical undergraduates, nursing and lay organisations in various parts of the State.

A course in health and health educational aspects of swimming pool management was planned and given jointly with the Metropolitan Medical Officer of Health to swimming pool supervisors and Senior Health Inspectors.

Assistance in the planning of health education Courses was given to the N.S.W. College of Nurses and to the National Fitness Council with regard to the training of nurses and youth leaders.

NUTRITION SECTION

The Nutrition Section is responsible to the Health Educationist for nutritional advice to the lay public; the interpretation of nutritional research, and the dissemination generally in the health education programme of nutritional requirements in health and disease, food values and costs, cooking methods and the organisation of food services. The Section also participates in the Departmental Ante-natal Clinics; the Preparation for Motherhood Courses, and the Clinic for Overweight Children. The Officer-in-Charge is also the Executive Secretary of the State Nutrition Committee.

Activities

The activities of the Nutrition Section for the year were in large measure concerned with the dissemination of Health Education and nutritional advice through the medium of press articles, broadcasts, lectures and talks.

Radio-scripts are prepared weekly for circulation to approximately 40 radio stations and likewise weekly articles were distributed to some 300 country and suburban newspapers.

The lecture programme encompassed lectures to Nursing Assistants at the Lidcombe State Hospital as portion of the training course, to the Kindergarten and Sydney Day Nursery Training College students, to the Karitane Mothercraft Centre and Departmental Public Health Nurses Courses.

Additionally talks for the N.S.W. Agricultural Bureau were delivered at the Women's Sessions of Divisional Conventions, Field Days and schools at Bowraville, Utunga, Howlong, Boorowa, Muswellbrook and Wollongbar, and to members of various organisations including the Junior Red Cross, Parents' and Citizens' Associations, Mothers' Clubs, etc.

Publications and Surveys

The departmental publications on "Diabetic Diets" and "Ulcer Diets" were revised for reprinting.

A report on the dietary survey of school children at the age of ten years in Sydney was completed and presented to the Minister for Health. This report was published in the Commonwealth booklet *Food and Nutrition Notes and Reviews.*

Training

A special training programme was arranged for student dietitians from the Royal North Shore Hospital during their two weeks attachment to the Section.

Publicity Branch

Publicity Officer: Mr Arthur Gordon Keep

Location: 52 Bridge Street, Sydney

Function

The function of the Branch is to promote health education and public relations programmes, using all media, involving press, radio, television, films, posters, pamphlets and displays.

Staff:

In addition to the Publicity Officer the staff comprises One Assistant Publicity Officer, one clerk, one office assistant and one projectionist.

SUMMARY OF ACTIVITIES

The Branch's film library was used extensively by schools, teachers' colleges, and teaching hospitals, whilst much of the material issued such as posters and pamphlets was distributed to these locations for teaching purposes.

A heavy demand was again placed upon the Branch for all types of publicity material. Distribution was chiefly to local authorities, schools and Baby Health Centres. Following the extension of the health education programme in the Health Districts, there was an increase in distribution of material to Medical Officers of Health. Approximate distribution figures are as under:—

Posters		35,000
Pamphlets	688,000	
Books	205,000	
		893,000

A large quantity of booklets and leaflets were also sent direct to schools and Baby Health Centres by the Government Printer, including 80,000 *Our Babies* and 100,000 *Healthy Motherhood.*

Medical Record Cards, Polio (Adult) and Polio (Children) Cards distribution figures amounted to approximately 75,660, 27,750 and 76,310 respectively.

Three hundred and twelve 16 mm film screenings were carried out by the Branch to a total audience of 8,370. Film loans (16 mm) totalled 2,187. These were screened to an audience of 45,122.

Other details of the Branch's work during 1964 included:—

Press: Tuberculosis surveys and an Immunisation Campaign accounted for most of the paid advertising used this year. All metropolitan, suburban and country papers were supplied with two press articles weekly, and every opportunity was taken to provide the press with articles of a topical nature.

Radio: Paid announcements over commercial radio stations were used in connection with the Department's Immunisation Campaign. Two articles per week were sent to all radio stations for broadcasting and departmental staff frequently made broadcasts on general health subjects.

Television: Paid television was used to publicise the Department's Chest X-ray Surveys and also in respect of the Immunisation Campaign.

Special Publication "New Horizons in Health"

During the year a profusely illustrated brochure describing some of the more recent developments within the Health Department was produced by the N.S.W. Department of Public Health. A total of 10,000 copies of the publication was distributed.

HEALTH WEEK 1964

This Week is organised by this Branch, the Publicity Officer acting as Secretary. The theme of National Health Week 1964 was "Healthy Youth—A National Asset". Opportunity was taken during the campaign to stress health problems of particular importance to youth and emphasis was given to the dangers of smoking in adolescence.

Emphasis was also placed on the numerous health services provided for prevention of sickness and their fuller use encouraged. The need for continued observance of personal and communal hygiene was stressed. Two essay competitions were held in which primary and secondary school children were invited to compete. Health education material, notes for radio talks and newspaper articles were also distributed.

During Health Week 70,000 copies of a Health Week Newspaper were again published in the Metropolitan area and the Newcastle district, this again proved most successful.

100,000 copies of special Health Week pamphlet were again issued.

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.

A Departmental Exhibit was arranged at the Town Hall in November during Old People's Week, which was conducted by the Old People's Welfare Council.

ROYAL EASTER SHOW

For the second time the Department entered an exhibit in the above Show during the month of April, 1964. A feature of the Exhibition was the screening of special films with emphasis on the dangers of smoking, particularly in youth.

WARATAH SPRING FESTIVAL

For the second occasion the Health Department entered a float in the procession held in conjunction with the above festival. The float, featuring the theme "New Horizons in Health" was generally acknowledged as one of the most spectacular entered.

DEPARTMENTAL JOURNAL

The quarterly journal of the Department continued to be extremely popular, the circulation being increased to 16,000 per quarter.

Medical Examination Centre

Medical Officer-in-Charge: J. Orr, M.B., B.S.

Location: 86-88 George Street North, Sydney

Function

This Centre conducts medical examinations to determine fitness for employment in the various Government Departments with the exception of the Department of Government Transport and the New South Wales Police Force. Applicants for employment as Warders in the Prisons' Department are now also examined at this Centre. Applicants resident in country areas are examined by Medical Officers of Health or Government Medical Officers on request. All medical documents are processed at this Centre where fitness for employment and admission to the State Superannuation Fund are assessed. Assessment of medical fitness to continue in employment and examination of employees on sick leave is arranged at the request of the various Departments. Medical examinations, when required, are also carried out to determine fitness to enter Teachers' Colleges and the Centre is also responsible for medical assessment of fitness to continue the Teacher Training Course. The centre is staffed by the Medical Officer-in-Charge; three permanent medical officers; visiting consultants in psychiatry and cardiology, and ancillary nursing and clerical staff.

During the past year the medical category "fit for temporary employment" has been deleted in accordance with the Public Service Board's policy of giving permanent employment wherever possible.

MEDICAL EXAMINATIONS

Teachers and Teacher Trainees

The following examinations of Teachers' College students and applicants for employment as teachers have been carried out in this Centre:—

Full medical examinations of teachers' college entrants	2
Full medical examinations to determine medical fitness for permanent employment and admission to the State Superannuation Fund	1,394
Examinations of applicants for employment as temporary teachers	818
Review examinations of teachers' college applicants	391
Review examinations of outgoing teachers' college students	52
Special examinations including re-examination and suitability for overseas exchange	28
Sick leave cases	225
Psychiatric examinations	495
	3,405

Included in the number of full examinations for permanent employment are the full examinations of 573 outgoing students from Teachers' Colleges.

During the year 23 teachers were retired on medical grounds; 9 of these retirements were for psychiatric reasons and 14 were for general medical reasons. These have been included in the figures for psychiatric examinations and sick leave cases in the previous table.

The following medical conditions are responsible for the retirement of these teachers:—

	M.	F.	Total
Cardio Vascular disease	5	2	7
Mental illness	3	6	9
Disease of the Central Nervous System	1	0	1
Kidney disease	0	1	1
Malignant disease	1	0	1
Arthritis	2	1	3
Respiratory disease	1	0	1
	13	10	23

Of the 23 teachers retired 3 were between the ages 20-30 years; 2 between the ages 30-40 years; 2 between the ages 40-50 years; 14 between the ages 50-60 years and 2 between the ages 60-65 years.

The results of the following medical examinations were also assessed at this Centre:—

Students for entry to Teachers' College	3,545
Students graduating from Teachers' College	2,351
	5,896

In addition to the above this Centre arranged for the following examinations of teachers to be carried out in country areas and the results were assessed at this Centre:—

Full examinations for permanent appointment and admission to the State Superannuation Fund	283
Applicants for employment as temporary teachers	491
Sick leave cases	102
	876

Of the 3,545 medical examinations assessed to determine medical fitness for entry to Teachers' Colleges 52 candidates were rejected.

The causes for rejection were:—

	M.	F.	Total
Asthma	4	6	10
Hearing defects	5	5	10
Visual defects	2	5	7
Epilepsy	3	1	4
Orthopaedic conditions	2	2	4
Obesity	1	2	3
Nervous conditions	1	1	2
Migraine	1	1	2
Diabetes Mellitus	0	2	2
Speech defects	2	0	2
Hodgkins Disease	1	0	1
Bronchiectasis	0	1	1
Cardiac conditions	0	1	1
Poor nutrition	0	1	1
Kidney conditions	0	1	1
Skin conditions	0	1	1
	22	30	52

Public Service and Allied Services

In addition this Centre carried out medical examinations for employment in the Public Service and the following Allied Services:—

The Ambulance Transport Service Trainees.
The Board of Fire Commissioners.
The Civil Defence Organisation.
The Grain Elevators Board.
The Hunter District Water Board.
The Main Roads Board.
The Maritime Services Board.
The Meat Industry Board.
The New South Wales Milk Board.
The Public Service Association.
The Rural Bank of New South Wales.
The State Dockyard, Newcastle.
The State Planning Authority.
The Sydney Grammar School.
The United Dental Hospital.
The University of New England.
The University of New South Wales.
The University of Sydney.
The Water Conservation and Irrigation Commission.
The Western Lands Commission.

The examinations of applicants for employment in the Public Service and Allied Services carried out at this Centre during 1964 were as follows:—

Full medical examinations for permanent appointment and admission to the State Superannuation Fund	3,774
Examinations for fitness to continue in the Service	234
Psychiatric examinations	203
Examination of employees of the Maritime Services Board for full sick leave privileges	158
Special examinations	47
Re-examinations	168
Examinations to determine fitness for employment as firemen	95
	4,679

In addition this Centre arranged for the following examinations for employment in the Public Service and Allied Services to be carried out in country areas and the results were assessed at the Centre:—

Full examinations for permanent appointment and admission to the State Superannuation Fund	1,214
Examinations for fitness to continue in the Service	42
	1,256

During 1964 the examination of 1,546 Repatriation Pensioners for transport concessions was carried out at the request of the Transport Department, and 481 members of the general public were vaccinated against smallpox.

Applicants for employment by the Electricity Commission of New South Wales and the Metropolitan Water, Sewerage and Drainage Board are examined by their own medical officers, but the documents are referred to this Centre for assessment of medical fitness. During the period 13th July, 1964 to 31st December, 1964, 537 of these assessments were carried out.

PREVENTIVE MEDICINE

Division of Maternal and Baby Welfare

Director: GRACE J. BROWNE, M.B.E., M.B., Ch.M., F.R.C.O.G.

Location: 19 O'Connell Street, Sydney

Function

The function of the Division of Maternal and Baby Welfare is to provide public health and preventive medicine services for mothers and young children so that the maximum standard of health, physical, emotional and mental, can be established in the families of the community.

Staff

One Deputy Director, one Senior Medical Officer (Administrative) one Senior Medical Officer (Paediatrics), four Medical Officers, three Nurse Inspectors, eight clerical staff. At the 31st December, 1964, in the Baby Health Centres there were 236 full-time Sisters employed, 41 part-time Sisters, and five Sisters in training under bond.

SUMMARY OF ACTIVITIES

There are many factors which influenced the progress and activities of the Division during 1964. The growth and development of the State as a whole; the rapid expansion and transfer of the young population to the outer suburbs of the metropolitan area of Sydney and other cities; the continued influx of migrants; but above all, our growing awareness of the need for changes in attitudes on the part of the community towards family life and the difficulties which beset the parents of to-day in the rearing of healthy normal children.

The Baby Health Centre service has been extended with the opening of a number of new centres and the ancillary services have expanded accordingly. There have been a number of new projects started, two of which bear emphasis. A urine testing survey was started in March, 1964, and is to be a continuing screening test for 6 weeks old babies. Basically it was designed to detect children suffering from phenylketonuria, but the actual method used will detect all abnormal proteins and sugars in the urine. Children of all age groups attending Baby Health Centres are included at present but ultimately it will be restricted to babies at 6 weeks of age. More details of this survey are given later in this report.

The second project is the introduction of Training for Childbirth programmes in the larger pre-natal clinics. This was begun as a pilot study because it was known that the mothers who attended the departmental pre-natal clinics were not given an opportunity to attend classes unless they went to the hospital where they booked for confinement.

As the basic idea of the pre-natal clinics was to make pre-natal care more readily available, it was unrealistic to expect the mothers to make special trips to the hospital. The pilot study was immediately successful and this service became part of departmental policy, and the work is gradually being extended to include all pre-natal clinics.

Two other new free services were also implemented during 1964; a Paediatric Consultant Service and a Consultant Anaesthetist Service; these services are complementary to the free Obstetric Consultant Service.

At all times the Division has received full co-operation from other agencies concerned with the care of the mother and her child. These agencies include State Departments, hospitals, Local Government Authorities, the Country Women's Association, the Red Cross Blood Transfusion Service, the Mental Health Association of N.S.W., the Kindergarten Union of N.S.W. (Inc.), and the Sydney Day Nursery Schools Association (Inc.). The officers of the Division would like to express their appreciation and gratitude to these organisations and their personnel for the excellent team work which has been established.

MATERNAL WELFARE

Pregnancy is a normal physiological process in a healthy woman and the complications which tend to occur during the latter part of the pregnancy are mainly preventible.

The loss of a mother's life in pregnancy or childbirth is always a tragedy, and it is for this reason that so much emphasis is placed on the care of the expectant mother. Continued care and observation during pregnancy not only ensures a live healthy mother, but also has a marked effect on the survival of the baby.

In 1964 there were 28 maternal deaths for 80,518 live births and when these figures are related to the mean population, the maternal death rate was ·35 compared to ·50 in 1961.

A comparison of maternal death rates over the last 30 years (see Table V) shows a great achievement in the saving of lives of mothers.

Many factors have contributed to the dramatic fall. The most important of these are prenatal care, improved obstetrics and the education of the mother herself.

In New South Wales to-day, the two single causes of death with the highest incidence are pre-eclamptic toxaemia and delivery complicated by haemorrhage. It is generally accepted that to eliminate the death rate in these two groups, the provision of meticulous pre-natal care is a "must" for every expectant mother.

SPECIAL MEDICAL COMMITTEE INVESTIGATING MATERNAL MORTALITY

Eight meetings of the above Committee were held during the year and a total of 55 deaths associated with pregnancy and childbirth were studied. Twenty-two of these deaths occurred during 1964 and of these 5 were classified as non-maternal. The remainder of the deaths studied occurred from 1961-1963 and all required further information.

The Committee assessed each case history from the view of preventibility, standard of obstetric care, facilities available and whether the general practitioner or practising consultant could be assisted with additional service in or out of hospital.

Recommendations were also formulated by the Committee concerning Pyelo-nephritis in Pregnancy; the Control of Puerperal Infection with Antibiotics, and the administration of Oxytocic drugs. The latest recommendations concerning the above topics are to be included in the 1965 reprint edition of the booklet *Obstetric Practice in New South Wales.*

Investigations were also carried out concerning the standard of Ante-natal Care and as a result recommendations were forwarded for consideration by the National Health and Medical Research Council.

The Publications Sub-Committee prepared statements from the case histories 1957-1960 concerning Deaths Associated with Toxaemia of Pregnancy; Deaths following Abortion; Deaths from Ectopic Gestation; Deaths associated with Renal Disease; Deaths due to Pulmonary Embolism and Deaths due to Sepsis during Childbirth and the Puerperium.

A statement on Maternal Deaths associated with Complicated Delivery excluding Haemorrhage was published in the *Medical Journal of Australia* on 17th November, 1964.

The time and effort given by members of the Maternal Mortality Committee and the Sub-Committee are appreciated and the consistent lowering of the maternal death rate is no doubt due in part to their work.

FREE CONSULTANT SERVICE DURING PREGNANCY AND DELIVERY

It is appreciated that the practice of obstetrics may be complicated by an emergency which makes it difficult for practising physicians to handle without the assistance of an experienced consultant.

Until the establishment of the Free Obstetric Consultant Service, the decision to call in a consultant was often influenced by the ability of the patient to pay for this service, a practice which often resulted in a single or dual tragedy.

This service now permits the general practitioner with a complicated case to seek specialist assistance, and the costs involved including consultation fees and transport, are met by the Department of Public Health.

The Free Consultant Service is used largely by country practitioners and apart from the saving of a possible maternal death, it has also contributed to the salvaging of a foetal life.

In 1964 there were 27 free consultations arranged.

FREE ANAESTHETIC CONSULTANT PANEL

The keyword in obstetrics is team-work, and if the team is to produce a successful result it must function as an efficient unit during an obstetrical emergency. The work of the consultant obstetrician, despite his skill, can be seriously hampered by an inexperienced anaesthetist and the need to include a specialist anaesthetist in the team dealing with surgical obstetrics and resuscitation was further highlighted when an analysis was made of the maternal deaths which resulted from anaesthetic complications. In 1964 a free Anaesthetic Consultant Service was introduced which enabled the consultant obstetrician to select a consultant anaesthetist to accompany him during the management of an obstetrical emergency. The Service is complementary to the Obstetric Consultant Service and the costs involved for the services of the anaesthetist are reimbursed by the Department.

Since the implementation of the service, only one claim has been paid, from Adelong.

SERVICES TO MOTHERS AND BABIES SUFFERING FROM Rh INCOMPATIBILITY

The early recognition of the Rh incompatibility together with the correct decision concerning the time and place where treatment can most successfully be carried out is of utmost importance in the salvaging of the life of an affected baby of a Rh negative mother. For this reason arrangements have been made with the Red Cross Blood Transfusion Service to provide all medical practitioners living outside the metropolitan area with a free haematological service for those mothers who cannot afford the additional expense. In addition, the Department, since 1961 has provided a service whereby financial assistance is available for the transport of mothers and their babies who are considered to be a risk from Rh incompatibility to a large centre where an exchange transfusion can be carried out. The incidence of Rh incompatibility is not high in the State and as the babies who require this service all come from country districts the expenses involved are reasonable when compared with the advantage gained by the saving of a life.

During 1964 five babies were transferred to Sydney from Temora (two), Young, Port Macquarie and Bourke.

PRENATAL CLINICS

The need for adequate prenatal care cannot be over emphasised, and yet the problem of the late booking especially in the grand multipara still exists. The Division has for 25 years endeavoured to improve the care of the pregnant woman by establishing prenatal clinics in Baby Health Centres where public hospital patients can obtain adequate care, free of cost and within a close distance of their domicile.

The Division conducts 15 prenatal clinics in the State of New South Wales. Twelve of these are held in Baby Health Centres in the metropolitan area, and three more are held in Newcastle. At least two more clinics are being planned for the new building estates arising on the periphery of Sydney. These clinics are run to facilitate the routine prenatal care of public hospital patients booked for confinement in the big obstetric hospitals and who live at distances from the city out-patients departments. As it is widely acknowledged that regular medical supervision of mothers can eliminate many of the complications of childbirth, these clinics undoubtedly contribute to the reduction of maternal and perinatal mortality rates throughout the State.

The clinics follow similar lines to the parent hospital out-patients. Routine examinations are carried out by medical officers, a dietitian gives advice on nutrition, and mothercraft trained sisters are always available for consultation on any other aspect of child care. An appointment system exists and works well, and mothers are spared the long journey, the fatigue, and the expense of travelling to the city. These clinics are free.

Three specialist obstetric clinics have been established with the co-operation of two of Sydney's teaching hospitals. Consultant obstetricians attend weekly at three of the larger centres where patients can "book in". Full initial assessment of the patient is carried out and pathological specimens sent back to the hospital. Blood counts, grouping, Kline, cervical smear, vaginal swabbings and chest X-ray are performed on every patient. The advantages of this service are numerous—it has been found that individual attendance rates are high in the peripheral clinic, and many mothers who would ordinarily receive little or no antenatal care attend regularly at the local clinics; many of the complications of pregnancy are being discovered early, and the teaching hospitals benefit from the influx of new patients. There is an added advantage to the Department in having specialist obstetricians attached to the clinic as they are able to assist in "in-service" training of the medical officers working in the Division so their knowledge of prenatal care is kept up to date with modern standards.

The three clinics in Newcastle are conducted by the specialist obstetrician from the Royal Newcastle Hospital. There is no maternal and child health officer skilled in prenatal care attached to the Medical Officer of Health in Newcastle, therefore there are no departmental officers beyond the nurses in these clinics. At present this is the only alternative but in the future this may be rectified.

PREPARATION FOR MOTHERHOOD CLASSES

Prenatal Education

1. The prenatal clinics run by the Division of Maternal and Baby Welfare are situated mainly on the periphery of the metropolitan area.

Mothers attending for routine prenatal supervision in departmental clinics live too far from the obstetric centres where they are booked for confinement, to take advantage of the educational facilities provided by these hospitals.

2. The National Health and Medical Research Council recommended in a report to the Committee on Maternal and Child Health, that in addition to the normal medical prenatal care, there should be continuous preparation for motherhood and fatherhood during the prenatal period carried out by the attending practitioner with the assistance of the community services now available.

History—Pilot Study

In order to provide comprehensive care for all expectant mothers attending these clinics it was decided that the Division should explore the possibility of introducing lecture demonstrations into some of the larger prenatal clinics. Permission to conduct a pilot study was given in April, 1964.

Details of Course

1. Each course consisted of 8 weekly lecture demonstrations conducted on the morning of the prenatal medical clinic.

2. Groups consisted of 12-16 mothers, mainly primigravidae. The majority were public hospital patients attending for medical examination. One or two requests from general practitioners were received. Each case was reviewed, and if a vacancy remained in the class permission was given to individual patients to attend on condition that they provided written consent from their obstetrician.

3. Patients attended the doctor first for medical check-up, assembled for light refreshment (tea and a biscuit), followed by a lecture demonstration lasting from one to one and a half hours. The atmosphere was informal and patients encouraged to ask questions and discuss problems during or after the lectures.

Topics Discussed

1. Diet in pregnancy .. .. Departmental Dietitian.
2. General Hygiene in pregnancy .. .. Clinic doctor (Divisional medical officer).
3. Physiotherapy—4 sessions .. .. .. Physiotherapist (with specialised obstetric training).
   - Session 1. Breathing and relaxation techniques (provision of exercise schedule).
   - Session 2. First stage of labour.
   - Session 3. Second stage of labour.
   - Session 4. Rehearsal for labour (including use of the trilene inhaler).
4. Mothercraft—
   - (a) Bathing the baby
   - (b) Cot making
   - (c) Demonstration of layette

   .. .. Baby Health Centre Sister.
5. Description of normal labour
   Labour ward routine
   Anatomy and physiology of labour
   Demonstration of birth atlas

   .. Consultant Obstetrician.
6. Infant feeding—
   Care of the Newborn baby .. .. .. Divisional Paediatrician.
7. Group Discussion .. .. Supervised by trained group leader from the Mental Health Association of New South Wales.

Appropriate films were shown.

Staff Involved

Departmental staff .. ..
1. Paediatrician.
2. Divisional Medical Officer.
3. Baby Health Centre Sister.
4. Dietitian.

Extra-departmental staff .. .. ..
1. Consultant Obstetrician.
2. Physiotherapist.
3. Group Leader.

Costs Involved

	£	s.	d.
1. Initial equipment at Centre including provision of physiotherapy mats, pillows, covers, etc.	52	0	0
2. Cost of running individual course of 8 lecture-demonstrations	20	0	0
Consultant Obstetrician	4	4	0
Physiotherapist (4 sessions)	12	8	0
Group leader	4	0	0

In October, 1964, permission was granted to provide classes as an integral part of clinic service as the need arises.

LIAISON BETWEEN THE DIVISION OF MATERNAL AND BABY WELFARE AND THE OBSTETRIC HOSPITALS AND DISTRICT HOSPITALS WITH OBSTETRIC UNITS

Confinement and Immediate Postnatal Care

The medical officers of the Division of Maternal and Baby Welfare have no contact with the mother during her confinement.

After her last visit to the prenatal clinic she is next seen by an officer of the department when the Baby Health Centre sister visits her in hospital and informs her of the services provided in the Baby Health Centres, and the location of the centre closest to her home.

Mothers who have had a difficult confinement or whose babies present some problems in management, premature babies and multiple births are reported to the division by many of the hospitals when they are discharged. Arrangements are then made by head office for a home visit to be paid within a few days so that the mother may have the benefit of the Baby Health Centre sister's advice and support when she most needs it. Regular home visits are paid as necessary until the mother and baby can come to the clinic.

INITIAL PLANNING OF OBSTETRIC UNIT DESIGN AND FACILITIES

At present the division has no influence on the designing of obstetric wards and nurseries and the facilities provided in these units.

Experience has shown that the advice of the division in the preliminary stage of hospital planning would be of great benefit and would avoid costly alterations at a later date.

It is essential that adequate provision is made in nurseries for the efficient handling and observation of the premature baby, the baby at risk following a difficult confinement, and the barrier nursing of the baby who is exposed to or who has developed infection, as well as the normal healthy baby.

The equipment of the nursery and facilities for bathing, handling and transport of the baby, and storage of linen etc., need to be standardised so that when a new unit is planned the most efficient use may be made of the space and equipment provided.

SPECIAL SERVICES ASSOCIATED WITH INFECTION IN OBSTETRIC HOSPITALS AND UNITS

Through the compulsory notification of staphylococcal infection in babies and puerperal infection in mothers, the department is constantly aware of the picture of infection in any obstetric unit.

When an outbreak of infection occurs, the hospital concerned frequently calls upon the division for advice in tracing the source of the infection and implementing measures for its control.

When a request for advice is received, a visit to the hospital is made by a divisional medical officer who studies lay-out of wards and nurseries and the medical and nursing routines observed. A report is then sent to the hospital authorities suggesting any improvements to hospital buildings, furnishings and nursing routines which are considered necessary for the efficient control of the infection.

Cases of Tetanus Neonatorum are notified and investigated in the same way.

FREE PAEDIATRIC CONSULTANT SERVICE

One of the most important recommendations made by the Paediatric Advisory Committee on the completion of the 1958 Infant Mortality Survey was that a Paediatric Consultant Scheme similar to the Obstetric Consultant Scheme should be set up for the benefit of families outside the metropolitan area. In June, 1964, this service was implemented. The Consultant Panel consists of 41 Paediatricians and includes the Paediatricians attached to the Institute of Child Health, University of Sydney and the Paediatric Unit, The University of New South Wales. A brochure detailing the new service and listing the Paediatric Consultants has been distributed to all medical practitioners in New South Wales.

The scheme is limited to babies under one year of age whose parents in the opinion of the general practitioner are unable to afford the additional cost of consultation and/or transport to an appropriate medical centre where treatment can be carried out. The introduction of this free Paediatric Consultant Service will ensure that no baby requiring special paediatric consultant attention will be denied the benefit of treatment through lack of family means, and it is anticipated that it will also assist in resolving many serious difficulties confronting general practitioners in country areas, and will prove effective in reducing the number of infant deaths under one year. Since the implementation of the Scheme, 7 claims have been paid:—

Blackheath, Warilla, Glen Innes (2), Coonabarabran, Goulburn, The Rock.

BLOOD TRANSFUSION SERVICES

Mobile Service

In co-operation with the Red Cross Blood Transfusion Service, five metropolitan obstetric hospitals provide a mobile service which operates on a 24-hour basis at the request of a medical practitioner in charge of an obstetric case. During the year only one claim was made on this service.

A similar unit is also based at the Royal Newcastle Hospital and this serves the obstetric hospitals within 100 miles.

Regional Blood Banks and Donor Panels

The Regional Blood Banks throughout the State have increased to seventeen and are located at Albury, Armidale, Broken Hill, Canberra, Dubbo, Goulburn, Grafton, Griffith, Katoomba, Kempsey, Lismore, Maitland, Orange, Tamworth, Taree, Wagga Wagga, Wollongong and Newcastle. Blood is collected at these depots and despatched to the district hospitals. Donor Panels have also been established in areas where the district hospital has provision for an obstetric unit.

It is planned to include the up to date information concerning the location of Blood Banks, Donor Panels and bleeding centres in the 1965 reprint edition of the booklet *Obstetric Practice in New South Wales*. This life saving service is greatly appreciated and has only been made possible by the co-operation of the Women's Hospital, Crown Street, The Royal Hospital for Women, King George V Hospital, Royal North Shore Hospital and the Royal Newcastle Hospital.

SURVEYS

Infant Mortality and Perinatal Mortality Surveys

INFANT MORTALITY SURVEY 1958

In 1958 and 1959 a retrospective Survey was undertaken by the Division to investigate all the deaths of children under 1 year of age which were registered during 1958.

The objectives in the planning of the 1958 survey were:—

(1) To discover how many of the deaths were preventible.

(2) To survey the primary avoidable factors in the deaths considered preventible to discover if these factors could be reduced by an improvement in facilities for treatment, hospital practice, education of medical students etc., or other circumstances related to the findings.

(3) To ascertain the problems likely to be involved in a continuing study of infant mortality.

Two Committees, an Advisory Committee and a Working Committee assisted with the 1958 survey and the Bureau of Census and Statistics co-operated by designing the questionnaire, code list and in the coding of the required data. The members of the Advisory Committee studied each individual case history and throughout the survey 1,676 case histories were assessed.

As a result of the findings of the 1958 survey, the Advisory Committee made a number of recommendations aimed at overcoming the primary avoidable factors disclosed. One of the recommendations was the setting up of a Paediatric Consultant Panel, which as stated earlier was implemented in June, 1964, and action is being taken to implement the remainder as soon as possible.

PERINATAL MORTALITY SURVEY 1962

The information obtained and the problems which were revealed by the 1958 Infant Mortality Survey resulted in a Perinatal Mortality Survey being undertaken during 1962 to investigate all foetal deaths and deaths of infants under 28 days (neonatal) occurring in New South Wales in 1962.

One of the principal objectives in the planning of the survey was to assess accurately the cause of death. As it was also planned to include foetal deaths in the 1962 survey, two basic brief questionnaires of different format and colour were designed; one for neonatal deaths and one for foetal deaths.

A special questionnaire was also planned to cover the follow-up of certain causes of death revealed in the 1958 survey. It was regretted that this special investigation planned for the study of Toxaemia, Antepartum Haemorrhage, Prematurity and Congenital Malformations could not be implemented.

The other objectives were:—

(1) To continue the investigation into the reasons why the infant mortality rate in New South Wales is higher than in some of the other states in Australia.

(2) To encourage the keeping of better records and a more careful assessment of the underlying causes of death in the completion of the Death Certificate.

(3) To study the services and facilities needed for premature babies.

Difficulties have always been experienced in elucidating statistical comparisons of infant and perinatal mortality rates between the states of Australia and between Australia and other countries. For this reason all causes of death in the 1962 Survey were coded to the Perinatal Mortality Classification which was devised by the Bureau of Census and Statistics as a possible replacement for Section XIV, XV and Y of the Manual of International Classification of Diseases, Injuries and Deaths, and also designed for the joint tabulation of foetal deaths and deaths of live born children aged less than 28 completed days.

The foetal and neonatal deaths continued to be notified until March, 1963, and the assessment of the questionnaires was not finalised until November—December, 1963. During the survey 2,472 cases were notified and in 291 cases no replies were obtained. The 1962 Perinatal Mortality Survey has now progressed to the stage where the tabulations are being studied by the members of the Perinatal Advisory Committee, recommendations are being formulated and reports are being prepared on various topics.

Perinatal Mortality Survey 1963

In 1963 a further Perinatal Mortality Survey was undertaken to investigate all foetal and neonatal deaths registered in New South Wales during that year. The experience with the 1962 survey showed that the resources available were insufficient to handle a detailed survey and it was decided to restrict the 1963 survey to include the basic data which it was considered would be required on the proposed compulsory perinatal death certificate which was under consideration by the Federal and State Authorities as a replacement of the present death certificate and stillbirth notification. The questionnaire consisted of a single abbreviated sheet and could be used to record both stillbirths and neonatal deaths.

All work pertaining to the 1963 Perinatal Survey was carried out by the Bureau of Census and Statistics with the exception of contact regarding outstanding or incomplete forms. The tabulations setting out the results have been prepared by the Bureau of Census and Statistics but still have to be evaluated.

Value of 1962 and 1963 Perinatal Mortality Surveys

Both the 1962 and 1963 surveys have already been of value in assisting in:—

(1) the pre-testing of the Perinatal Classification designed by the Bureau of Census and Statistics.

(2) the pre-testing of the format of the compulsory death certificate now in use in the Australian Capital Territory and recommended for adoption throughout Australia.

(3) the compilation of many of the recommendations on the classification of causes of death submitted by Australia for discussion to the Eighth Revision of the International Classification of Diseases.

A statement has been prepared by the Bureau of Census and Statistics concerning the statistical aspect of the 1962 and 1963 surveys and this statement indicates that the following can be attributed to these surveys:—

(1) A submission by Australia of a proposed classification of causes of perinatal deaths plus an abridged list of 100 causes.

These proposals were favourably received at the second meeting of the World Health Organisation Sub-Committee on the Classification of Diseases and the first draft of the Eighth Revision of the International Classification of Diseases incorporates most of these proposals.

(2) It is also interesting to note that the form of question on causes of perinatal deaths and to a large extent the form of the perinatal death certificate which has been recommended by the National Health and Medical Research Council for uniform adoption throughout Australia, has been submitted to the World Health Organisation for consideration that it be recommended for International use in reporting the causes of perinatal deaths.

PERINATAL MORTALITY SURVEY 1964

During 1964 a further perinatal survey was undertaken. The survey is being conducted on lines similar to the 1963 survey and the questionnaire used is basically the same. The returns of questionnaires for the 1964 survey are still incomplete. Every endeavour is being made to have these completed as soon as possible and it is anticipated that the tabulated results will be available by mid 1965.

BABY HEALTH CENTRES

The year 1964 marked the Golden Jubilee of the establishment of the first Baby Health Centre at Alexandria. A new Centre was established in conjunction with the Council of the City of Sydney and dedicated to Misses Pike and Williams two of the original Sisters who contributed so much in the early years to the welfare of mothers and babies.

At the end of 1964 there were 415 Baby Health Centres operating in New South Wales. During that year 7 additional new centres were established and 8 were transferred to new premises as shown hereunder. The building and equipment in each case was subject to 75 per cent subsidy by the Department of Public Health.

Additional Centres in New Premises—

16th June, 1964	Albion Park.
26th August, 1964	Mona Vale.
3rd August, 1964	Berkeley.
24th September, 1964	Marayong.
14th October, 1964	Wallerawang.
17th December, 1964	Condell Park.
11th December, 1964	Bulahdelah.

Replacement Centres in New Premises—

16th July, 1964	Dungog.
7th August, 1964	Alexandria.
31st August, 1964	Condobolin.
30th September, 1964	Hornsby.
26th October, 1964	Lismore.
29th October, 1964	Kogarah.
11th December, 1964	Stroud.
17th December, 1964	Oberon.

In addition to the above, 6 centres were also established at the following Migrant Hostels or Aboriginal Stations.

Centres established in Migrant Hostels or Aboriginal Settlements—

26th February, 1964	East Hills Migrant Hostel.
20th July, 1964	Bunnerong Migrant Hostel.
17th August, 1964	Matraville Migrant Hostel.
31st July, 1964	Green Hills Aboriginal Settlement.
10th August, 1964	Cabramatta Migrant Hostel.
4th September, 1964	Cabbage Tree Island Aboriginal Settlement.

In the case of the Migrant Hostels, suitable premises and furnishings were made available free of charge by the Commonwealth Hostels Limited, and essential equipment was provided by the Department

At the Aboriginal Stations a suitable room was made available by the Aborigines Welfare Board.

The Baby Health Centre at Cargo was re-opened after being closed for some years. The one at Scheyville Migrant Hostel was closed down when the Migrant Camp disbanded.

Funds for subsidising new Baby Health Centres and equipment are made available each year from Loan Vote funds and are allocated to those Centres most urgently required. Consideration must be given to the many applications received for new buildings and a priority list is maintained.

The Loan Vote allocation for Baby Health Centres for the financial year ending 30th June, 1964 was £63,165. Additional funds became available early in 1964, the total expenditure for 1963-64 was £70,607. The allocation for the 1964-65 financial year was £76,500 and after allowance was made for the 22 buildings already under construction, this amount provided for an additional 6 new or replacement Baby Health Centres to be built as follows:—

Green Valley, McMahon's Point, Sorlie, Pyrmont, Lismore South, South Tamworth.

It is proposed to extend Baby Health Centre services to additional Migrant Hostels as required. Negotiations are also in hand for the establishment of a Baby Health Centre at Holsworthy Army Camp in conjunction with the Department of the Army.

At the end of 1964 there were 136 applications for subsidies on new or replacement Baby Health Centres. Most of these are regarded as warranted within 5 years and a total of 36 are considered an immediate necessity.

As in recent years the greatest need for a Baby Health Centre service was found to be in the rapidly developing outer metropolitan areas and in country towns showing a sudden rapid increase of young population. New housing commission projects in the Liverpool and Blacktown Shires warrant urgent provision of Baby Health Centres, and additional centres were found necessary in the Hornsby and Sutherland and Warringah Shires.

NURSING SERVICES

The Baby Health Centre service developed from a home visiting service established in 1904 for the education of mothers in mothercraft. Four general trained nurses were employed to visit the homes of mothers of new born babies, living in the more congested areas, to talk to them about the feeding and management of their babies. The work of the nurses proved successful and expanded and in 1914 a Baby Health Centre was opened at Alexandria, a congested inner city suburb, to supplement the visiting service. The centre was staffed by two nurses who continued to advise mothers and to educate them in hygiene, infant feeding and general nutrition. More centres were established in the industrial areas around Sydney and in Newcastle and Broken Hill and the home visiting was absorbed into the Baby Health Centre service.

The growth and development of the service has continued and is now available, free of charge, to mothers, irrespective of social or economic status, throughout most of the state. The Baby Health Centre service is a nursing service to advise and encourage mothers in the care of their babies and themselves. It has developed from basic education in hygiene and infant feeding to embrace all aspects of infant care.

Nursing Staff

The nurses employed are required to be general trained and currently registered with the Nurses Registration Board and to hold a mothercraft nursing certificate. The majority of the nurses are also midwifery trained. Ten nurses have completed, and five are participating in, the Departmental in-service training in Public Health nursing.

Nursing administration and supervision is maintained by a Nurse Inspector and Deputy Nurse Inspector attached to head office and five Assistant Nurse Inspectors, one attached to each decentralised health district. The approved staff is 277. Full time and part-time officers are employed. The nurses frequently work in a centre alone, as it is only in the large regional areas, with an extensive housing development where two sister centres are required.

Much of the work is carried out within the Baby Health Centre and mothers are encouraged to attend and seek advice and guidance. The baby's growth and development are watched and its inter-relationship in the family group. Weight, length and head circumference are measured at regular intervals and recorded. Development is observed and when there is undue delay in attaining milestones the baby is referred for medical advice.

The Baby Health Centre Sister endeavours to establish a friendly relationship with each mother attending her centre and she gives continuing advice and support in all aspects of infant care. When any deviation from normal, either physical, emotional or mental is apparent, the mother is advised to see her own doctor or is advised where to seek advice if she does not attend a private doctor. Referral in these cases is often to Paediatric Referral or Well Baby clinics.

The sisters work towards establishing the physical, mental and social welfare of the mothers and babies, and when necessary enlist the aid of social service agencies such as: Child Welfare Department, Church Organisations, Housekeeper Emergency Service.

Home Visiting

Home visiting is still an important part of the Baby Health Centre Service and staff is made available to home visit on a priority basis. The priorities run as follows:—

(1) Premature babies and multiple births.

(2) Babies discharged from hospital with feeding difficulty.

(3) Babies with apparent handicaps, physical, mental or socio-economic.

(4) Mothers with family and other problems who are in need of help.

(5) All patients referred by hospitals and medical practitioners or Child Welfare Department Officers.

(6) Mothers with social problems who are in need of guidance and supervision.

(7) A home visit is made when a mother reports management and feeding problems which the sister considers may be due to environment factors.

(8) Routine visiting to newborn babies on notification of registration, if the mother has not attended and subsequent visiting to mothers who have not re-attended to ascertain the mother's need for assistance.

Hospital Visiting

All obstetric hospitals and maternity units in districts where Baby Health Centres are established are visited by the sister. This enables an early contact to be made with the mother and for her to be told of the Baby Health Centre services available.

The hospital nursing staff is invited and encouraged to inform the visiting sister when a mother who needs help is being discharged. In this way it is possible to provide help and support for the mother when she most needs it.

MEDICAL CLINICS

The Division of Maternal and Baby Welfare is limited to one paediatrically trained medical officer, but in spite of this much valuable work has been done and more importantly an excellent method of screening children for defects in physical and emotional development has been devised and proven effective. The Paediatric clinics have been re-organised for more efficient functioning and wider coverage of the metropolitan infant population has been achieved.

There are now two types of Paediatric clinics, the Well Baby clinic and the Paediatric Referral clinic which serve two distinct purposes. The Well Baby clinics are screening clinics conducted by the divisional medical officer. Their main purpose is the examination of all infants referred to them by Baby Health Centre sisters. Each case is examined for any physical or emotional problem. All divisional medical officers are alerted to the great importance of assessing the child as a whole and as a member of the family and its emotional inter-relations, so that by talking to mother and child, and father whenever possible, they can pick at an early date any potentially harmful situation in the family. They will usually correct the simple cases, and refer those beyond their scope to the Paediatric Referral clinic or other suitably selected agencies.

The Paediatric Referral clinics are consultant status. Referrals to these clinics come not only from the Well Baby clinics, but also from general practitioners, as well as special cases from the Baby Health Centre sisters. The type of case which the sister will refer direct will be concerned with feeding or thriving problems or difficult management problems in the young baby.

The divisional paediatric section has many other responsibilities apart from the conduct and supervision of the divisional paediatric clinics. It assists in the paediatrics teaching of 5th year medical students of the University of Sydney. Case material is selected for students to interview in Baby Health Centres and discussion groups are held with these students on paediatric topics.

The medical officer co-operates in the Division's programme for Preparation for Parenthood by delivering lectures on baby care, infant feeding and management and assisting in pertinent discussions which form an integral part of this course.

The paediatric section is responsible for up-to-date knowledge on all aspects of paediatrics particularly as this relates to the newborn, the baby and the young child. The medical officer is also responsible for instructing nurses by personal discussion, lecture and discussion method on the recent advances and attitudes in paediatric care. Above all on this officer devolves the task of ensuring that the nurses of this division have a broad and responsible attitude to the mothers and babies of the community, are aware of the family as a unit and the many sociological and other problems which exist. This is essential so that the ghost of the old system of didactic feeding methods and blind following of the written dogma can be laid forever.

Well Baby Clinics

The medical officers of the Division conduct Well Baby clinics in selected centrally situated Baby Health Centres throughout the metropolitan area. The purpose of these clinics is twofold; it affords the sister an opportunity of referring any baby about whom she is concerned re progress, suspected defects, etc. for an initial assessment or affords the parent the service of having their baby medically assessed. Medical assessment of the well baby is of vital importance in detecting certain defects, i.e., difficulty in hearing, speech defects etc., which can markedly affect a child's total health and later progress.

The extension of this type of clinic is considered essential not only in the city of Sydney but also in Newcastle, Wollongong and other large towns. There is the advantage of medical backing for the Baby Health Centre sister and further gives a second line of screening of well babies.

SURVEY OF INBORN ERRORS OF METABOLISM

In March, 1964, a urine testing survey for "Inborn Errors of Metabolism" was started in New South Wales. The survey was designed to show conditions not recognisable in young infants, but which should be treated from the earliest possible age, chief among these conditions were Phenylketonuria and Galactosaemia. The survey was so designed that all abnormal substances in the urine could be detected, though often the significance is not known, as with various amino acidurias.

The testing was implemented by the Division and the examination and analysis of the urine is carried out at the North Ryde Neuropathological Laboratories.

In the first instance all children under 5 years are being tested but after the first sweep, only children of 6 weeks of age will be done. This gives an estimated annual number of tests at approximately 80,000.

Up to 30th December, 1964, 41,566 tests were carried out. Four cases of Phenylketonuria and two of Galactosaemia were detected. These cases are under the treatment of their practitioner and the Phenylketonurias are followed by the Professorial Paediatric Unit at Royal Alexandra Hospital for Children. Cases of other aminoaciduria have been detected in what appeared to be perfectly normal children but these cases are being supervised by the Paediatric Units of both the University of New South Wales and the University of Sydney.

There have been a large number showing albuminuria but a spot check of twenty cases showed quantitatively that the degree of albuminuria was not significant. A survey is planned to investigate these cases to determine a method of discrimination.

Method of Testing

The testing is simple. A special filter paper and instructions are handed by the clinic sister to the mother and she places the filter paper in the folds of the baby's napkin so that it can be saturated with urine. The paper is then dried on a flat surface away from sunlight or heat and then posted to the North Ryde Laboratories.

At the laboratories the urine is tested by using the Ferric Chloride test for Phenylpyruric acid, Aniline Phthalate for the sugar and a reversed albustix test for albumin.

All doubtfuls as well as positives are submitted to chromotography.

IMMUNISATION

As a result of an outbreak of Diphtheria in 1963, every effort was made by the division to reinforce and intensify a campaign for immunisation throughout the Baby Health Centres. Investigations were also carried out to ascertain if any cases in the outbreak had ever attended a Baby Health Centre and the results showed that of the 28 cases (none of which had received any immunisation) only one had ever attended, and the attendance was infrequent.

Approximately 80 per cent of all babies born attend a Baby Health Centre and in order to ascertain the immunisation status of these children a survey was conducted towards the latter end of 1963 at ten Baby Health Centres (selected at random) in the metropolitan area and two in the Newcastle Health District.

The results showed that 80·2 per cent of the babies attending between the ages of three months and one year were fully immunised or in the process of being immunised with triple antigen, and of the above group 69·6 per cent had commenced immunisation with poliomyelitis vaccine.

The full immunisation of all babies is the vital concern of all workers in the field of public health, and the Baby Health Centre Sister is in a unique position to reinforce at the opportune time, the need for immunisation and to advise and encourage the mother to have it out in accordance with the recommended schedules.

Immunisation of Babies and Children at the Sand Hills Aboriginal Settlement

In 1963 as the result of a report concerning the lack of immunisation amongst the children at at Sand Hills Aboriginal Settlement, arrangements were made by the Department of Public Health to carry out an immunisation programme. The local medical practitioners at Narrandera co-operated with the department and participated in the scheme.

In May, 1964, the first immunisation clinic was held and by the end of the year three clinics had been conducted. The response was gratifying and it is anticipated that further clinics will be conducted on a regular basis.

THE PRE-SCHOOL CHILD—KINDERGARTENS AND DAY NURSERIES

The Division of Maternal and Baby Welfare has for many years provided a health service to the children under school age who attend Pre-school centres conducted by the Sydney Day Nursery and Nursery Schools Association (Inc.), the Kindergarten Union of New South Wales Incorporated and local Government Authorities.

The health service makes provision for an initial examination of each child who enrols during the year and review examinations are conducted more frequently if they are considered warranted.

The number of pre-school examinations carried out by the Division in 1964 were as follows:—

Day Nurseries—	
1st examination	578
Review	303
Kindergartens—	
1st examination	1,093
Review	281
Total	2,255

A total of 138 visits were made by the medical officers to the 32 kindergartens and 13 day nurseries in the metropolitan health district, and during the visits 326 parent interviews were conducted.

The pre-school examinations are carried out in quite an informal manner, the mother is invited to be present, and the familiar atmosphere of the kindergarten or day nursery provides an atmosphere where the child can be introduced to a "visit" to the doctor, which is not in any way associated with discomfort.

This approach gains the confidence and co-operation of both the mother and child and affords the medical officer the opportunity to discuss a wide range of topics which may directly or indirectly affect the total well being of the child.

If abnormalities are detected either physical or emotional the child is referred to the appropriate authority, and periodically, a review examination is conducted.

DIVISIONAL PUBLICATIONS

The following booklets are prepared for publication by the Division: *Our Babies, Healthy Motherhood, Infection of the Newly Born and Care of the Premature Baby*, and *Obstetric Practice in New South Wales.*

In 1963, 80,000 copies of the new edition of *Our Babies* were distributed and towards the end of 1963 and 1964 further reprints of the booklet were necessary to meet the demand. The reprint afforded the Division the opportunity of amending the section on dental health to include the latest recommendation on fluoride intake and fluoridation of water supplies.

In 1963 the booklet *Healthy Motherhood* was revised and although 80,000 copies were printed, the demand was so great, that a further reprint of 100,000 copies was necessary in 1964. The booklet has a wide distribution and is used by expectant mothers, obstetric hospitals, general practitioners and specialist obstetricians.

Through the co-operation of the Commonwealth Migrant Information Service, the three basic diets for expectant mothers in *Healthy Motherhood* have been translated and roneod into 19 different languages. These are available to obstetric hospitals, general practitioners and are widely used at the prenatal clinics.

It has been the intention of the division to completely revise the booklet *Infection of the Newly Born and Care of the Premature Baby* and to divide it into two separate publications elaborating on the material. To date this has not been possible and in 1964 a limited number of copies were reprinted with minor alterations and additions. A new section was included on the use of bacteriostatistics in incubators and the section on the management of infection was amended to include the latest information. It is anticipated that during 1965, it will be possible to completely revise this booklet and produce two separate publications as previously planned.

In 1964 sections of the booklet *Obstetric Practice in New South Wales* were revised, and a limited number of copies were reprinted. The alterations and additions included a revised list of obstetric consultants, advice concerning the paediatric consultants; current information regarding the location of regional blood banks and donor panels; and a section on the management of pyelonephritis and anaesthetic emergencies in obstetrics. This booklet is only issued to medical practitioners and obstetric hospitals and it places special emphasis on the complications of pregnancy e.g., haemorrhage etc. The management and prevention of these complications must be constantly stressed, particularly in New South Wales, as many doctors practice in areas remote from a major obstetric hospital. Only a limited number of the reprint were ordered as it is anticipated that the booklet will undergo extensive revision during 1965.

TABLE I—BABY HEALTH CENTRES

A. Number of Established Baby Health Centres

Health District	1963	1964
Metropolitan	141	147
Newcastle	58	60
South Coast	49	51
Western	45	49
North Coast	25	26
North Western	18	18
Riverina	60	60
Broken Hill	4	4
Unincorporated*	2	nil
Total	402	415

* Now included in the Health District from which they are conducted.

TABLE II

B. Attendances at Baby Health Centres

The individual and total attendances at Baby Health Centres situated within the Health Districts during 1964, compared with those for 1963 were:—

Health District	Individual Attendances		Total Attendances	
	1963	1964	1963	1964
Metropolitan	76,374	81,290	697,910	714,509
Newcastle	12,238	12,789	105,080	105,331
South Coast	10,543	11,075	89,563	95,748
Western	8,856	9,099	77,414	78,034
North Coast	4,473	4,556	40,173	38,547
North Western	4,723	4,878	36,729	38,530
Riverina	7,766	8,798	69,837	69,388
Broken Hill	1,427	1,239	13,407	12,019
Unincorporated*	166	nil	1,544	nil
Total	126,506	133,724	1,131,657	1,152,106

* Now included in Health District from which they are conducted.

TABLE III—ATTENDANCES AT PRENATAL CLINICS—1964

Clinic	Primiparae		Multiparae		Post Natal	Total Visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Metropolitan Health District—							
Blacktown	67	447	214	1,278	7	2,012	52
Campsie	18	103	28	280	..	429	53
Dee Why	40	244	80	770	5	1,139	52
Granville	16	106	71	526	..	719	53
Hornsby	3	15	10	91	..	117	49
Hurstville	25	166	55	407	..	653	52
Liverpool	61	293	267	1,655	..	2,387	52
Manly	61	392	101	658	2	1,212	46
Mascot	28	160	39	269	..	494	50
Narrabeen	18	156	48	373	1	595	32
Parramatta	87	588	264	1,540	..	2,479	99
Seven Hills	12	102	64	452	..	632	50
Totals	436	2,772	1,241	8,298	15	12,868	640
Newcastle Health District—							
Belmont	47	396	118	863	120	1,544	42
Cardiff	13	89	29	502	70	701	49
Charlestown	30	156	78	644	76	984	51
Totals	90	641	225	2,009	266	3,229	142
Grand Totals	526	3,413	1,466	10,307	281	16,097	782

VITAL STATISTICS

Birth Statistics

The number of live births registered in New South Wales during 1964 was 80,518, a decrease of 3,547, compared with the previous year. The rate of 19·54 per 1,000 of mean population was the lowest since 1942.

Stillbirths registered decreased from 1,165 in 1963 to 1,003 in 1964. Both the number of stillbirths and the rate of 12·3 per 1,000 total births were the lowest ever recorded.

TABLE V—SUMMARY OF LIVE BIRTHS AND MATERNAL, FOETAL AND INFANT DEATHS—NEW SOUTH WALES 1935-1964

Year	Live Births	Maternal Deaths	Deaths Under 1 Year of Age	Deaths Under 28 Days of Age	Stillbirths (a)	Perinatal Deaths (b)
			Number			
1935	44,676	282	1,762	1,240	1,419 (f)	2,785 (f)
1940	49,382	209	1,927	1,263	1,342	2,605
1945	61,662	139	1,889	1,344	1,540	2,884
1950	71,592	80	1,936	1,345	1,406	2,751
1955	74,407	55	1,850	1,288	1,243	2,531
1960	81,983	56	1,735	1,250	1,261	2,511
1961	86,392	43	1,800	1,284	1,306	2,590
1962	85,439	29	1,825	1,321	1,099	2,420
1963	84,065	27	1,673	1,185	1,165	2,350
1964	80,518	28	1,634	1,152	1,003	2,155
			Rate			
	(c)	(d)	(d)	(d)	(e)	(e)
1935	16·89	6·31	39·44	27·76	29·80 (f)	58·49 (f)
1940	17·78	4·23	39·02	25·58	26·46	51·36
1945	21·14	2·25	30·63	21·80	24·37	45·63
1950	22·24	1·12	27·04	18·79	19·26	37·69
1955	21·30	0·74	24·86	17·31	16·43	33·46
1960	21·38	0·68	21·16	15·25	15·15	30·16
1961	22·07	0·50	20·84	14·86	14·89	29·53
1962	21·46	0·34	21·36	15·46	12·70	27·96
1963	20·75	0·32	19·90	14·10	13·67	27·57
1964	19·54	0·35	20·29	14·31	12·30	26·43

(a) A stillborn child is defined as "any child of seven months gestation or over not born alive and includes any child not born alive which measures at least fourteen inches, but does not include any child which has actually breathed."

(b) Stillbirths plus deaths under 28 days of life.

(c) Number per 1,000 of mean population.

(d) Number per 1,000 live births.

(e) Number per 1,000 total births (live and still).

(f) Compulsory registration of stillbirths commenced in New South Wales in 1935. Figures shown are for year 1936, the first full year for which figures are available.

MATERNAL MORTALITY

Information relating to maternal mortality is shown in Tables V, VI, VII.

During 1964 the number of deaths from maternal causes (excluding criminal abortion) in New South Wales was 28 which represents a mortality rate of ·35 women per 1,000 live births.

In 1964, five women died in New South Wales from criminal abortion compared with nine in 1961.

TABLE VI—TOTAL MATERNAL DEATHS AND DEATHS FROM CRIMINAL ABORTION, NEW SOUTH WALES 1940-1964

Year	Total Maternal Deaths (including Criminal Abortion)		Deatns from Criminal Abortion	
	Number	Rate per 1,000 Live Births	Number	Rate per 1,000 Live Births
SYDNEY METROPOLITAN AREA				
1940	81	4·06	22	1·10
1950	24	·81	6	·20
1960	21	·51	7	·17
1961	21	·48	5	·11
1962	15	·34	3	·07
1963	10	·23	1	·02
1964	9	·21	4	·09
REMAINDER OF STATE				
1940	128	4·35	12	·41
1950	56	1·33	4	·09
1960	35	·85	5	·12
1961	22	·52	4	·09
1962	14	·33	....	....
1963	17	·42	....	....
1964	19	·50	1	·03
NEW SOUTH WALES				
1940	209	4·23	34	·11
1950	80	1·12	10	·14
1960	56	·68	12	·14
1961	43	·50	9	·11
1962	29	·34	3	·04
1963	27	·32	1	·01
1964	28	·35	5	·06

Table VII shows a comparison of the causes of maternal deaths for the years 1960-1964.

TABLE VII—DEATHS DUE TO MATERNAL CAUSES NEW SOUTH WALES NUMBER AND RATE 1960-1964

Causes of Death	1960	1961	1962	1963	1964
NUMBER (a)					
Toxaemia of Pregnancy	9	4	4	2	7
Ectopic Pregnancy	3	1	3	1	1
Placenta Praevia and other Haemorrhages of pregnancy	..	3	..	1	..
Other Complications of pregnancy	5	4	2	4	1
Abortion (excluding criminal)	4	3	4	2	2
Delivery complicated by Haemorrhage	8	4	2	1	3
Delivery with other specified Complications	5	5	5	7	3
Puerperal Urinary Infection without other Sepsis	..	..	1	..	..
Sepsis of Childbirth and the Puerperium	..	2	2	..	..
Puerperal Phlebitis and Thrombosis	1	1	..	2	2
Puerperal Pulmonary embolism	6	2	3	3	2
Other and unspecified complications of the Puerperium	3	5	..	3	2
Total excluding Criminal Abortion	44	34	26	26	23
Criminal Abortion	12	9	3	1	5
Total	56	43	29	27	28

(a) Classified according to the Seventh Revision (1955) of the International Classification of Diseases.

TABLE VII—*continued*

Causes of Death	1960	1961	1962	1963	1964
RATE (b)					
Toxaemia of Pregnancy	·11	·05	·05	·02	·09
Ectopic Pregnancy	·04	·01	·04	·01	·01
Placenta Praevia and other Haemorrhages of pregnancy	..	·03	..	·01	..
Other Complications of pregnancy	·06	·05	·02	·05	·01
Abortion excluding criminal	·05	·03	·05	·02	·02
Delivery complicated by Haemorrhage	·10	·05	·02	·01	·04
Delivery with other specified complications	·06	·06	·06	·08	·04
Puerperal Urinary Infection without other Sepsis	..	..	·01	..	..
Sepsis of Childbirth and the Puerperium	..	·02	·02	..	..
Puerperal Phlebitis and Thrombosis	·01	·01	..	·02	·02
Puerperal Pulmonary Embolism	·07	·02	·04	·04	·02
Other and Unspecified Complications of the Puerperium	·04	·06	..	·04	·02
Total excluding Criminal Abortion	·54	·39	·30	·31	·29
Criminal Abortion	·14	·11	·04	·01	·06
Total	·68	·50	·34	·32	·35

(b) Number of deaths per 1,000 live births.

INFANT MORTALITY

The figures for infant mortality from 1935 to 1964 are shown dissected by age groups in Table VIII.

Nearly three-quarters of the deaths under one year of age occur in the first 28 days of life and the majority of these occur within 7 days of birth. At these ages the causes of death are mainly attributed to antenatal factors and are similar to the causes of stillbirths. The number and mortality rate from stillbirths and neonatal deaths (deaths under 28 days) combined (perinatal deaths) are shown in Table V.

TABLE VIII—INFANT MORTALITY IN AGE GROUPS NEW SOUTH WALES 1935-1964

Year	Under one week	1 week and under 1 month	1 month and under 1 year	Total under one year
NUMBER OF DEATHS				
1935	1,027	213	522	1,762
1940	1,043	220	664	1,927
1945	1,127	217	545	1,889
1950	1,157	188	591	1,936
1955	1,118	170	562	1,850
1960	1,109	141	485	1,735
1961	1,135	149	516	1,800
1962	1,160	161	504	1,825
1963	1,071	114	488	1,673
1964	1,058	94	482	1,634
RATE PER 1,000 LIVE BIRTHS				
1935	22·99	4·77	11·68	39·44
1940	21·12	4·46	13·44	39·02
1945	18·28	3·52	8·83	30·63
1950	16·16	2·63	8·25	27·04
1955	15·03	2·28	7·55	24·86
1960	13·53	1·72	5·91	21·16
1961	13·14	1·72	5·98	20·84
1962	13·58	1·88	5·90	21·36
1963	12·74	1·36	5·81	19·90
1964	13·14	1·17	5·99	20·29

Infant mortality during 1963 and 1964 from causes assigned to the major groups of diseases in the International Classification are set out in Table IX.

Infant mortality during the years 1963 and 1964 from causes assigned to the major groups of diseases in the International Classification are set out in Table IX. The table compares the rates in the Metropolis and the remainder of the State.

TABLE IX—CAUSES OF DEATH WITH RATES OF CHILDREN UNDER ONE YEAR OF AGE, NEW SOUTH WALES—1963-1964

Cause of Death*	Sydney Metropolis Area		Remainder of State		New South Wales			
	Rate†		Rate†		Rate†		Number	
	1963	1964	1963	1964	1963	1964	1963	1964
Infective and parasitic diseases	·32	·12	·32	·26	·32	·19	27	15
Neoplasms	·14	·17	·07	·05	·11	·11	9	9
Allergic endocrine system, metabolic & nutritional diseases	·05	·09	·07	·21	·06	·15	5	12
Diseases of the blood and blood forming organs	·02	·02	·02	·03	·02	·02	2	2
Mental psychoneurotic and personality disorders	·02	·09	·07	·08	·05	·09	4	7
Diseases of the nervous system and sense organs	·35	·21	·25	·13	·30	·17	25	14
Diseases of the circulatory system	·05	·05	·07	·08	·06	·06	5	5
Diseases of the respiratory system	1·71	1·35	1·96	2·40	1·83	1·85	154	149
Diseases of the digestive system	·55	·66	·71	·86	·63	·76	53	61
Diseases of the genito-urinary system	·02	·05	·05	·16	·04	·10	3	8
Diseases of the skin and cellular tissue	·02	..	..	·03	·01	·01	1	1
Diseases of the bones and organs of movement	·02	·02	·02	·05	·02	·04	2	3
Congenital malformations	3·93	4·15	3·75	3·78	3·84	3·97	323	320
Certain diseases of early infancy	10·19	10·32	13·27	12·91	11·68	11·55	982	930
Symptoms and ill-defined conditions	·05	·17	·12	·03	·08	·10	7	8
Accidents, poisoning and violence	·74	1·04	·96	1·20	·84	1·12	71	90
Total, All Causes	18·18	18·52	21·73	22·24	19·90	20·29	1,673	1,634

* Classified according to Seventh Revision (1955) of the International Classification of Diseases.

† Number of deaths per 1,000 live births.

School Medical Service

Director: N. S. SOLOMONS, M.B., Ch.M.

Location: 86-88 George Street North, Sydney

Function

The School Medical Service is concerned with the attainment and maintenance of the health of children up to school leaving age, and also with the health attitudes of all persons and organisations concerned with the welfare of children. The Service also acts as the official advisor, in all health matters, to the Department of Education and, in particular instances, to the Department of Child Welfare and Social Welfare. The Service is concerned with all aspects of health, including physical, mental and social, and is particularly concerned with the child who is not performing educationally at what should be its average potential for its age. The Service plays a major role in health education of the community.

Staff

Deputy Director—W. S. Hemphill, M.B., B.S., D.C.H. 1 Senior Psychiatrist; 7 Psychiatrists; 4 Trainee Psychiatrists; 3 part-time Psychiatrists; 10 part-time Ear, Nose and Throat Specialists; 1 part-time Ophthalmologist; 7 Senior Medical Officers; 7 Teachers' College Medical Officers; 3 part-time Teachers' College Medical Officers; 38 School Medical Officers; 1 part-time Medical Officer; 1 Senior Psychologist; 16 Psychologists; 2 Trainee Psychologists; 1 Senior Social Worker; 15 Social Workers; 4 Trainee Social Workers; 1 Senior Speech Therapist; 18 Speech Therapists; 1 part-time Speech Therapist; 12 Trainee Speech Therapists; 1 Senior Nurse; 76 Nurses; 23 Clerical Officers; 1 Switchboard Operator.

The establishment was increased during the year by three senior medical officers, a psychiatrist, three medical officers, fourteen nurses, two speech therapists and five clerical officers; and in addition three part-time ear, nose and throat specialists and one part-time speech therapist were appointed. However, the positions for medical officers and nurses were only created towards the end of the year and had not been filled by 31st December. Again a large number of schools were not visited, namely, 245 in the County of Cumberland alone.

POLICY ALTERATIONS

Conferences were held during the year regarding the procedure carried out in schools and a new procedure has been adopted. There will be only one full routine medical examination in the schools visited by permanent medical officers, that is, at kindergarten level or first or second grade whichever is the grade at which the pupil commences school. From then on all children will be reviewed by a nurse for vision, hearing, skin and hair, in fourth grade in primary school and second and fourth forms in secondary school. The medical officers will concentrate their efforts and activities

on the children needing attention, that is, children who are found in the school situation to be not working at what could be expected to be their normal potential. These children will be referred as a result of teacher-medical officer and teacher-nurse conferences, as well as by application from parents, medical practitioners and other people interested in the welfare of children. The medical officer will only visit secondary schools for the period necessary to carry out any examinations of children referred in this manner.

In schools visited by sessional doctors working under the "Shire" scheme, the doctor will fully examine any children in second form who do not have a medical history card.

This change of procedure is to bring the School Medical Service in New South Wales more into line with the accepted practice in other advanced countries overseas, and should result in a wider coverage of the service.

The special medical examination of atypical children and special cases referred to the Service, both at Head Office and in the various Child Health Centres, continued to increase considerably during the year.

The building for the Child Health Centre at Yagoona is expected to be completed in time to commence operations at the beginning of the school year in 1965, and the Child Health Centre at Ryde should be completed fairly soon after this. It is hoped also to commence the Child Health Centre to give service to the Eastern Suburbs area in part of the premises at present occupied by the Child Guidance Centre at Brisbane Street, Sydney, at the beginning of the next school year.

The course in Public Health Nursing was again given during the year and twenty-four nurses from the Department and one from an outside body graduated.

A further alteration in the medical requirements for applicants for teachers' College scholarships was agreed to by the Public Service Board and is to be commenced for students entering college in 1965. All students offered a scholarship will be required to fill in a questionnaire and if the questions are answered in the negative students will only need to undergo a screening, immediately following entrance to college, of vision and hearing and urine, and undergo chest X-ray, to determine their suitability to undertake the course of teacher training. All outgoing students from colleges will receive a full medical examination to determine their suitability for entrance to the Public Service and the State Superannuation Fund.

Senior officers of the Division again took part in conferences and addresses to local medical associations and groups of specialist practitioners. Talks on television and radio, press articles, lectures, and talks to groups of teachers, inspectors, counsellors and parents were also undertaken. In fact, all medical officers and a large number of nurses took part in various Health Education activities throughout the year.

Several conferences have taken place between the Director General of Public Health, the Director of Maternal and Baby Welfare and the Director of the School Medical Service regarding the amalgamation of the two divisions into a Bureau, and it is hoped that this will become an accomplished fact early in 1965.

MEDICAL INSPECTION OF SCHOOL CHILDREN

Although during 1964 a larger number of school children were medically examined than in 1963, the medical staff was still unable to attend a large number of schools in the metropolitan area, Newcastle and Wollongong.

The alteration in procedure foreshadowed in the report for 1963 took place and the full examination of second year high school pupils was eliminated and a review examination by nurses substituted. Medical officers only visited high schools for the purpose of fully examining children known to have defects and those referred for special purposes by teachers, head masters, counsellors, parents and other agencies interested in the children's welfare. Consequently the number of reviews was increased and the number of full examinations were approximately 5,000 short of those conducted in 1963.

During the year medical officers actually examined 260,148 children, of whom 140,629 were fully examined and 119,519 were reviewed. Of the reviews 40,913 were in fourth grade and fourth year (Table I).

TABLE I

	1962	1963	1964
School population	830,483	837,589	849,996
Number of pupils fully examined and reviewed	276,385	221,503	260,148
Number of pupils fully examined	162,898	145,173	140,629
Number of pupils reviewed in 4th Grade and 4th Year	39,963	33,605	40,913
Other reviews	73,524	42,725	78,606
Number of pupils fully examined and number reviewed in 4th Grade and 4th Year, expressed as percentage of school children	24·43	21·34	21·38

Table II shows in detail the number of children who were fully examined or whose cases were reviewed in primary and secondary schools for the years 1962, 1963 and 1964, in the metropolitan area, country and the whole of the State.

TABLE II—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, 1962, 1963, 1964

	Metropolitan Area			Remainder of State			New South Wales		
	1962	1963	1964	1962	1963	1964	1962	1963	1964
Primary—									
Full Examination—									
Kindergarten and Grade 1	36,813	26,747	30,139	27,162	23,519	28,347	63,975	50,266	58,486
Others	20,057	11,541	12,247	37,549	25,790	24,748	57,606	37,331	36,995
Total: Full Examinations	56,870	38,288	42,386	64,711	49,309	53,095	121,581	87,597	95,481
Reviews	58,131	27,677	45,840	23,800	24,113	31,352	81,931	51,790	77,192
Grand Total	115,001	65,965	88,226	88,511	73,422	84,447	203,512	139,387	172,673
Secondary—									
Full Examination—									
Year 1	654	506	472	4,146	2,697	2,121	4,800	3,203	2,593
Year 4	8,468	1,512	8 228	2,635	1,368	1,431	11,103	2,880	9,659
Others	14,208	32,905	26,395	11,206	18,588	6,501	25,414	51,493	32,896
Total: Full Examinations	23,330	34,923	35,095	17,987	22,653	10,053	41,317	57,576	45,148
Reviews	21,024	16,454	21 295	10,532	8,086	21,032	31,556	24,540	42,327
Grand Total	44,354	51,377	56,390	28,519	30,739	31,085	72,873	82,116	87,475
Total Full Examinations	80,200	73,211	77,481	82,698	71,962	63,148	162,898	145,173	140,629
Total Reviews	79,155	44,131	67,135	34,332	32,199	52,384	113,487	76,330	119,519
Grand Total	159,355	117,342	144,616	117,030	104,161	115,532	276,385	221,503	260,148

Table III shows the number of pupils who were fully examined or reviewed and the school population in the metropolitan area, remainder of the State, and in New South Wales, for the year 1964.

TABLE III—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, AND SCHOOL POPULATION, IN THE METROPOLITAN AREA, COUNTRY AND NEW SOUTH WALES, 1964

	Metropolitan Area		Country		Total	
Primary Schools—		Percentage		Percentage		Percentage
Population	314,303	....	278,625	....	592,928	....
No. of Full Examinations	42,386	13·49	53,095	19·06	95,481	16·10
No. of Reviews	45,840	14·58	31,352	11·25	77,192	13·02
Secondary Schools—						
Population	147,709	....	109,359	....	257 068	....
No. of Full Examinations	35,095	23·76	10,053	9·19	45,148	17·56
No. of Reviews	21,295	14·42	21,032	19·23	42 327	16·47
Total—						
Population	462,012	....	387,984	....	849,996	....
No. of Full Examinations	77,481	16·77	63,148	16·28	140,629	16·54
No. of Reviews	67,135	14·53	52,384	13·50	119,519	14·06

Excluding dental defects, the number of defects of notifiable standard found in children fully examined was 52,249, and it was found necessary to notify 37·09 per cent of these to parents or guardians, in order that further investigation and/or treatment could be instituted. The most important defects are shown in Table IV.

TABLE IV—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PUPILS FULLY EXAMINED, 1964, AND EXPRESSED AS A PERCENTAGE

	Primary		Secondary		All Pupils	
No. Examined	Boys	Girls	Boys	Girls	Boys	Girls
	49,426	46,055	25,067	20,081	74,493	66,136
Defects—						
Vision	4·63	5·09	8·41	10·10	5·90	6·62
Squint	0·93	1·09	0·58	0·45	0·81	0·90
Hearing	3·53	3·27	2·43	1·84	3·16	2·84
Nose and throat	4·05	3·83	1·30	1·42	3·13	3·10
Skin	2·23	2·06	2·21	2·78	2·23	2·28
Thyroid	0.06	0·15	0·16	0·89	0·09	0·37
Heart—circulation	0·57	0·55	0·60	0·73	0·58	0·61
Lungs	3·95	3·14	1·55	1·42	3·14	2·62
Asthma	2·68	1·79	2·49	1·78	2·61	1·79
Development—Hernia	2·12	0·44	0·48	0·08	1·57	0·33
Orthopaedic	1·66	1·36	1·22	1·52	1·51	1·41
Nervous system	0·32	0·30	0·30	0·18	0·31	0·26
Psychological	1·38	0·86	0·37	0·50	1·04	0·75

The number of parent interviews carried out by medical officers in 1964 was 21,206, as compared with 21,460 in 1963. The percentage of parents interviewed to the number of children fully examined during 1964 was 15·07, compared to 15·48 in 1963.

As part of the "follow-up" programme of the Division, school nurses in the metropolitan area carried out 609 visits to schools to obtain first results—i.e. to determine from children whether they had visited doctors, and so on. As a result, school nurses made 6,831 home visits to determine whether children had actually received treatment advised during school medical inspections, and, if not, to explain the case to the parents and endeavour to persuade them to act on the school medical officer's advice.

In addition to this, school nurses were involved in the follow-up of 5,363 special cases, which included all kinds of problems and atypical children. Many of these cases required more than one home or school visit and frequently involved consultations with other disciplines within the Service regarding the case, and in some cases the nurse was actively involved in counselling and home management.

During the year, medical officers of the Service examined 2,619 boys admitted to the Child Welfare Shelters at Albion Street and Yasmar, Haberfield.

In 1964, visits were paid to nursery schools by medical officers of this Service, the details of which are given in a later section of this report. Similarly, the medical examination of children at special schools is dealt with separately.

CHILD HEALTH CENTRE, BEXLEY

Dr R. Ellam, M.B., Ch.B

The total population of the 73 schools covered by the Child Health Centre, Bexley, was approximately 41,555 in 1964. This total comprised the 31,646 children attending departmental schools in the area and 9,909 children attending private and parochial schools. The ratio of boys to girls was roughly equal; there were 21,034 boys and 20,521 girls.

A routine medical inspection was carried out in all the schools with the exception of one parochial school which, owing to an acute shortage of accommodation, was omitted from the programme at the principal's request. A total of 19,774 children were medically examined in the schools. Full examinations were carried out on 6,886 children and review or partial examinations on a further 12,888 children. During the school medical inspections the nurses examined or interviewed 16,325 children. Parents were interviewed at the school by the medical officers on 1,324 occasions.

A tuberculosis skin survey, in which 3,317 pupils were Mantoux tested, was conducted on 2nd and 4th form students in 13 high schools by the Centre staff. Of these students 202 gave a positive reaction, 75 presenting a positive induration of 15 mm or over.

In the follow-up of notified defects the nurses made 106 visits to the schools, where 1,809 children were interviewed, in addition to 886 home visits.

The survey to determine parental response to the notification of defects and the effectiveness of the follow-up system was continued this year. A total of 1,243 children with notifiable defects from 55 schools were assessed. It was found that in 79·81 per cent of these children the parents initiated appropriate action within a reasonable period of time. In 15·12 per cent of the cases no action had been taken by the parents after several months, whilst in 5·07 per cent of the cases medical attention was deemed unnecessary owing to spontaneous resolution of the defect.

At the Centre the appointment system for consultation for parent and child with the medical officers was used on 1,230 occasions during 1964. This total included 706 new cases and 524 review consultations. Of the new referrals, the ratio of Departmental school to private and parochial school children was directly proportional to their respective populations, but the ratio of boys to girls was roughly 2 to 1.

The new cases included children from the following age groups:—

	B.	G.	Total
Pre-school children	36	17	53
Infant school children	210	87	297
Primary school children	164	78	242
High school students	70	44	114
Total	480	226	706

The referring agencies of new cases were:—

Centre staff	287
Parents	230
Teaching staff	80
Other medical practitioners	54
Division of Guidance and Adjustment	30
Baby Health Centres	7
Catholic Family Welfare Bureau	5
Department of Child Welfare	3
Vocational Guidance Bureau	1
Others	9
	706

An analysis of the reasons for referral of the 706 new cases is given hereunder:—

	No. of Cases	*Percentage Total Referrals*
Physical defects	107	15·3
Emotional problems	342	48·4
Mental retardation	35	5·0
Specific learning disabilities	21	3·0
Speech defects	177	25·1
Suitability for teacher training	6	0·8
Routine medical examinations	10	1·4
Doubtful, including N.E.	7	1·0

Mental health problems again accounted for the majority of the new referrals. The training of the Centre medical officers in the mental health aspect of the work has continued this year. A weekly "New Intake Conference" provided the opportunity for the medical officers to seek the advice of the Child Guidance staff on all current cases presenting mental health problems. In addition, a weekly conference was held for the whole Centre staff at which a case was presented for teaching purposes, by the Child Guidance staff. Towards the end of the year a social worker commenced a training programme for the nurses.

A total of 133 cases were transferred to Child Guidance by the medical officers.

As a result of the discontinuance of the "warning" letters regarding the suitability of fourth and fifth year students for teachers' college during the year, fewer pupils were examined at the Centre in regard to this matter than previously. The number of warning letters sent out in 1964 was 14. Six children were subsequently examined at the Centre, whilst definite opinions were given to a further six parents in regard to vision and hearing defects after presentation of the requisite oculists' and aurists' certificates.

The Hearing Clinic working one day per week and supplemented by a total of eight extra half-day sessions during the year has been adequate in dealing with the number of children referred with suspected hearing defects. A total of 683 cases were seen, which included 433 new cases and 250 review examinations. Other information concerning the work of the clinic is given hereunder:—

	Total Number	Hearing Normal	Deafness Due to Remediable Defects	Severe Chronic Deafness	Treatment Recommended or Receiving Treatment	Hearing Aid Recommended
New Cases—						
Boys	270	197	60	6	48	..
Girls	163	121	35	2	29	..
Total	433	318	95	8	77	..
Review Cases—						
Boys	149	103	28	15	24	2
Girls	101	78	14	6	12	1
Total	250	181	42	21	36	3
Grand Total	683	499	137	29	113	3

The number of speech therapists attached to the Centre was increased from two to three in May. The speech therapists have continued to carry a full case load but the waiting list was considerably reduced by the end of the year.

The close liaison with other Government Departments and with various institutions and individuals, such as the Department of Child Welfare, Department of Education officers, local hospitals and local medical practitioners, has been maintained.

CHILD HEALTH CENTRE, CHATSWOOD

G. J. Cousins, M.B., Ch.M., D.C.H.

The Child Health Centre at Chatswood was handed over to the School Medical Service on 6th January, 1964, and after a short period of preparation was opened for patients on 19th February. Medical officers and nurses commenced duty in the schools of the area on 28th January.

During the year, medical inspections have been completed in 94 of the 107 schools of the area. The 13 schools not covered, with a school population of 4,850, will be medically inspected in first term, 1965.

Full examinations were done by medical officers in the schools on 8,351 children and review or partial examinations on 13,035 children. Parents were interviewed at school by the medical officers on 1,553 occasions.

Notifiable defects ascertained during school medical inspections have been followed up regularly by the nurse responsible for the particular school. A total of 2,019 children were interviewed and/or examined in the schools by the nurses, during follow-up procedures. Home visits were made on 713 occasions and parent co-operation was usually obtained. For example, figures are available for an unselected group of children with notifiable defects in 48 schools where follow-up statistics have been completed. Of 773 such defects, 638 (or 82·5 per cent) had been treated within three months of the medical inspection, a satisfactory result. Only 77 children (or 10 per cent) had not received attention for the defect, and in a small group of 18 (or in 2·3 per cent) the condition had settled down without treatment.

The appointment system for medical officer consultation for parent and child was used on 617 occasions. A total of 465 new cases and 152 review cases were seen. Failed appointments were not common and reasonable explanations, with a request for a further appointment, usually followed. The total number of failed to attend appointments was 26 (or 4·2 per cent of the total bookings).

The sources of referral for the 465 new cases were:—

Parent applications	170
School Principals	66
Centre staff (medical officers, nurses, speech therapists)	61
Paediatricians and general practitioners	52
Warning letters re suitability for teachers' college	40
School Counsellors	39
Division of Guidance and Adjustment	21
Medical officers of the Division of Maternal and Baby Welfare	9
Department of Child Welfare	4
Hospitals	3
Total	465

Parent applications for interviews were often initiated by officers of the School Medical Service or the Department of Education.

Letters or reports are sent to all referring agencies and additionally the family doctor is contacted either by telephone or letter following parental consent.

The reasons for referral of the 465 new cases are of interest. As expected, the majority of cases can be classified broadly as mental health problems, including intellectual retardation, learning difficulties, emotional disturbance and minor behaviour difficulties for assessment and parent guidance. An analysis of the reasons for attendance gives the following information:—

Mental health problems	317 or 68·2 per cent
Physical defects	98 or 21·1 per cent
Cases of doubtful or mixed origin	50 or 10·7 per cent

Of the 465 new cases seen, 338 (or 72·7 per cent) were from departmental schools, 77 (or 16·4 per cent) from private schools and 50 (or 10·7 per cent) were pre-school children.

During the first term, letters were sent to the parents of 222 high school pupils in regard to health matters which could affect the students' medical suitability for entrance to a teachers' college. As a result, 40 children were examined at the Centre and the parents suitably advised. In addition, 50 oculists' and two aurists' certificates were assessed and replies sent to parents.

A Child Guidance team has commenced working in the Centre, with one psychologist and one psychiatric social worker, working part-time in the earlier months, but now on a full-time basis. In addition, consultant psychiatrist help has been available on an average of one and one-half days per week. Two hundred and thirty seven cases have been referred during the approximate nine months of the Centre's activity. The child guidance staff have commenced investigation of 174 cases, leaving 63 cases on the waiting list. With the present staff this is equivalent to a period of four months. The parents in this area are aware of the need for help in mental health matters and are prepared to give real co-operation. It is hoped to satisfy their needs by expansion in the child guidance field. Some useful help has been given this year and will be continued in the future, by medical officer counselling and advisory service, often in consultation with child guidance staff, for minor disturbances and as supportive therapy for families awaiting child guidance appointments.

The Willoughby Speech Therapy Clinic transferred to the Centre in January and the speech therapists have taken their place in the team approach to many of the problems presented to the Centre. There are two full-time speech therapists and, in addition, a valuable contribution has been made by part-time help from the Senior Speech Therapist.

The Hearing Clinic, which opened on 25th March, has been well attended and appears to have stabilised on two half-day sessions per week. A total of 353 children have attended and 36 (or 9·2 per cent of the number booked) failed to keep their appointments. As in other sections of Centre work, whenever parents are willing, letters or reports are sent to general practitioners, with copies of audiogram in many cases.

Details of the work of the Hearing Clinic are as follows:—

	B.	G.	Total
New cases with normal hearing	32	35	67
Reviews with normal hearing	43	34	77
New cases recommended for, or under treatment ..	30	27	57
Reviews recommended for, or under treatment	24	24	48
New cases with remediable defects	39	49	88
Reviews with remediable defects	27	27	54
New cases recommended for O.D. classes	1	2	3
Reviews recommended for O.D. classes	1	0	1
New cases examined in O.D. classes	1	0	1
Chronic deafness	25	12	37
Hearing aid recommended	1	1	2
Wearing hearing aid	1	1	2

The Centre staff has appreciated the co-operation of the Department of Education through its Division of Guidance and Adjustment, district guidance officer, school counsellors and school principals. These officers and the general practitioners of the area have been most helpful in supplying information and reports, essential to the investigation of many problem cases.

CHILD HEALTH CENTRE, FOREST LODGE

C. D. Chalmers, M.B., B.S.

The Centre continued to function satisfactorily during 1964. Due to loss of time through illness (medical officers 76½ days, sisters 46 days) routine medical examinations were not completed in nine of the schools in this area. However, in each of these schools the principals were interviewed, and all children causing concern were seen.

Full examinations were carried out on 5,996 children, review examinations on 10,532 children, and 1,934 parents were interviewed by the school medical officer. In addition, nine groups of Little Brothers were examined by the Centre medical officers.

In following up notified defects the sisters interviewed 2,358 children and made 1,194 home visits. It was found that 77·5 per cent of the children had commenced treatment, 49·7 per cent within three months of notification, 18·6 per cent had not been treated, and 3·9 per cent had resolved without medical attention.

Consultations by the medical officers in the Centre for children with their parents numbered 683. Of these, 473 were first appointments and 207 reviews. Of the new cases, 63·7 per cent were primarily emotional problems, 14·5 per cent primarily educational and 3·8 per cent physical. The remaining 18 per cent had problems of mixed or doubtful origin.

Sixty-nine per cent were referred by parents or school medical officers after interview with the parent, 20 per cent were referred by the school principal or counsellor, or the Division of Guidance and Adjustment, Department of Education, 2·7 per cent by the Department of Child Welfare, 2·7 per cent by other social service agencies and, 5·6 per cent by other doctors. Of the new cases, 69·4 per cent were attending departmental schools, 19·2 per cent parochial schools and 2·9 per cent private schools; 8·5 per cent were pre-school children.

Letters were sent to parents of 137 senior high school students with defects which could debar them from acceptance on medical grounds for teachers' college training. Twenty-nine of these were assessed at the Centre and the parents advised regarding their suitability; 21 oculists' and aurists' certificates were also similarly assessed.

The seven nursery schools in the area were visited by the Centre medical officers on 24 occasions. Two hundred and eighty-three children were examined and 133 parents interviewed. One nursery school was closed during the year because of demolition of the buildings in the area.

The Speech Therapy Clinic continued to carry a full case load. All children seen by the speech therapists have a full medical assessment and Child Guidance consultation if indicated. Details of the work of the clinic are given in a separate report.

In the Hearing Clinic, a third session each week was required until September to reduce the waiting list. Details of the work done are as follows:—

	Total Number	Hearing Normal	Deafness due to Remediable Defect	Severe Chronic Deafness	Treatment Recommended or Receiving Treatment	Hearing Aid Recommended
New Cases—						
Boys	156	47	84	9	63	2
Girls	113	35	69	3	50	1
Total ..	269	82	153	12	113	3
Reviews—						
Boys	250	97	99	22	32	..
Girls	160	60	77	10	30	..
Total ..	410	157	176	32	62	..
Grand Total	679	239	329	44	175	3

The Dietitian from the Department of Public Health continued her work at the Centre, seeing 15 new cases and 60 reviews. Only nine patients failed to keep appointments, compared with 37 in 1963.

Two hundred and fifty-nine new cases were seen by the Child Guidance team. With the exception of a few children referred from other clinics these cases were given full paediatric examination and assessed for suitability for referral before being seen by the Child Guidance team. Follow-up visits were made to the schools in the cases of children seen at the Centre by school medical officers and Child Guidance, and also regarding children under treatment at the Royal Alexandra Hospital for Children and by practising paediatricians.

The children attending Bridge Road School for emotionally disturbed children received paediatric assessment and regular supervision of their general health. On returning to normal school explanation and advice regarding management was given to the teachers. This was particularly appreciated in the Convent schools which the school counsellors do not visit.

Medical officers attended three Baby Health Centres regularly during the year to examine pre-school children. As in past years, the majority of children seen were those causing their parents concern and the number of apparently well children brought along for routine examination was small.

Seventy-eight sessions were attended, compared to 89 in 1963, and there were seven per cent fewer children seen. One hundred and sixty-three (63 per cent) of the children seen were assessed as having significant morbidity, 99 (34·5 per cent) had physical defects of a notifiable standard, but of these 43 (25 per cent) were already receiving treatment. Sixty-four (seven per cent) children had mental health problems. Of these, 27 (4 per cent) were considered sufficiently disturbed to warrant further assessment at the Child Health Centre.

MATERNAL AND BABY WELFARE CLINIC ATTENDANCES BY MEDICAL OFFICERS

	Glebe	Newtown	Dulwich Hill	Totals for all Clinics
New cases seen	16	57	185	258
Review cases	8	23	27	58
Total cases seen	24	80	212	316
No. of Sessions	10	30	38	78
No. of cases which failed to attend	11	33	38	82
Morbidity— New cases — Physical	6(37·5%)	27(47·3%)	66(35·6%)	99(34·5%)
Mental Health	6(37·5%)	22(38·6%)	36(19·0%)	64(24·7%)
Total	12(75%)	49(85·9%)	102(54·6%)	163(59·2%)

The In-Service Training Course for Public Health Nurses was again held at the Centre during 1964.

Groups of student social workers, trainee counsellors, vocational guidance trainees, senior psychology students, teachers' college students and D.P.H. students have attended for talks on the functions and working of a Child Health Centre. In addition, medical officers, nurses, educationists, and workers in the ancillary medical services from Brisbane, Canberra, Adelaide, New Zealand, The Philippines, Thailand, Copenhagen, and America have visited the Centre during the year.

The staff also co-operated in a research project undertaken by the University of New South Wales. Talks have been given to Principals' Meetings, Parents and Citizens' Associations and Mothers' Groups, throughout the year.

Weekly discussion groups were held within the Centre during the greater part of the year. Liaison has been maintained with the Department of Education, Department of Child Welfare, social service agencies, as well as the hospitals and various medical practitioners in the area.

CHILD WELFARE CENTRE, PARRAMATTA

P. M. O'FLYNN, M.B., B.S., D.P.H.

During the year two medical officers conducted pre-school clinics at Granville and Auburn Baby Health Centres on a half-day per week basis each; 242 new cases and 55 review cases were seen. The review examinations were carried out because of speech or emotional problems.

During school medical inspections 6,792 children were fully examined and 11,124 were reviewed. The medical officers interviewed 2,705 parents at the schools and 1,132 teacher interviews were carried out.

School sisters made 909 home visits and followed up 492 children with notifiable defects; of these, 88·8 per cent had been treated within three months of notification. This figure reflects the very good parent co-operation which has always been apparent in this area and is an increase of 10 per cent on the 1963 figures, when 78·5 per cent of notifiable defects had been treated within three months.

During the year, in response to 82 warning letters, 46 fourth and fifth form pupils were medically examined for their suitability for teacher training college scholarships and 20 other candidates submitted oculists' certificates and 3 aurists' certificates.

Vision screening was attempted for 30 pre-school children referred by ophthalmic surgeons when consulting room tests had been unsatisfactory.

At the Centre 1,115 appointments were kept with the medical officers. Of these, 614 were new cases for intake interview and 501 were reviews. An analysis of these new cases showed that 427 were boys and 187 girls; 438 attended public schools, 112 attended private schools, 8 attended special schools and 56 were pre-school children. Referring agencies were as follows:—

Specialists, general practitioners, hospitals	186 cases
Personal application	127 cases
School medical officers	83 cases
Department of Education (Western Area)	73 cases
Headmasters and Infants' Mistresses	71 cases
Social agencies, C.W.D., Police, etc.	32 cases
School counsellors	25 cases
Baby Health Centres	17 cases
	614 cases

Disposal of new cases was as follows:—

Referred for review by medical officers	385 cases
Referred to Child Guidance	137 cases
One interview only	92 cases
	614 cases

In the case of the 92 children where one interview only was undertaken at the Centre by the medical officers referral to speech therapists or the Department of Education for further necessary action was effected in many cases. Of the 385 cases referred for review appointments a percentage were later channelled for psychiatric assessment by the Child Guidance team following investigations such as electroencephalograms or psychological testing.

During the year, 444 new cases were referred to Child Guidance. Referring agencies were as follows:—

Specialists, medical practitioners, hospitals	157 cases
Department of Education (including headmasters)	108 cases
School medical officers	72 cases
Personal application	72 cases
Speech therapists	11 cases
Baby Health Centres	8 cases
Social agencies	6 cases
Department of Child Welfare	4 cases
Independent schools	3 cases
Police	3 cases
	444 cases

As well as the 444 new cases 225 cases were continued from 1963, making a total of 669 cases dealt with during 1964. During the year 438 cases were closed and 203 cases, currently in treatment, are to be continued into 1965. The waiting list for treatment programmes is 28 cases.

As regards age groups of new cases seen there tends to be a bi-modal distribution with peaks at 6 years of age and 14 years of age.

Boys outnumbered girls by 2·44 : 1·00.

During the year, 319 new cases (198 boys and 121 girls) and 615 reviews (351 boys and 264 girls) were examined at the Hearing Clinic, making a total of 934.

Details of the cases seen at the Hearing Clinic are as follows:—

	B.	G.	Total
New cases with normal hearing	51	36	87
Review cases with normal hearing	136	103	239
New cases recommended or under treatment	49	36	85
Review cases recommended or under treatment	26	30	56
New cases remedial E.N.T.	55	45	100
Review cases remedial E.N.T.	50	34	84
Cases recommended to Deaf School	1	..	1
New and review cases recommended O.D. class	6	4	10
Chronic deafness	146	103	249
New and review cases recommended for or wearing hearing aid	11	12	23
	531	403	934

During the year 333 initial interviews and 617 reviews were carried out at the speech therapy clinic, 67 current cases being discharged. The total number of individual attendances was 2,408 cases. Among current cases seen during the year the commonest problem was dyslalia, followed by secondary stammer and by aphasia.

CHILD HEALTH CENTRE, NEWCASTLE

The report on this Centre will be found in the Annual Report of the Medical Officer of Health, Newcastle Health District.

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SCHEME FOR MEDICAL EXAMINATION OF SCHOOL CHILDREN CONDUCTED BY LOCAL MEDICAL PRACTITIONERS FOR SHIRE AND MUNICIPAL COUNCILS

The country council scheme proceeded satisfactorily during 1964 and by the end of the year it had been established in 112 country shires and municipalities (100 in 1963).

In 14 areas (21 in 1963) the Local Government Authorities declined or deferred acceptance of the scheme, but it was still under consideration in 11 municipal and shire districts (13 in 1963).

During the past year children in 727 schools were examined (603 in 1963); 43,557 children were fully examined (43,678 in 1963); 21,894 children were reviewed (14,990 in 1963); and 2,119 parents were interviewed by the doctors (1,845 in 1963).

The medical practitioners who make the examination and the nurses who assist them are paid by the councils or shires according to a fixed scale of fees and reimbursement is made to them by the Department of Public Health.

SPECIAL FOLLOW-UP VISITS TO SCHOOLS BY MEDICAL OFFICERS

During the year special visits to the schools were continued, in order to acquaint and advise teachers of the medical problems which may be affecting a child's progress or behaviour at school.

Cases had been referred by paediatricians, general practitioners, hospital clinics, child guidance clinics, from the school medical officers who regularly assess atypical children and from the teaching staffs themselves. A number of parents personally sought advice and assistance for their children in the school situation.

As noted before, the children involved are those suffering from the effects of epilepsy, organic brain damage, with or without some intellectual handicap, speech defects and emotional problems.

Interviews were held concerning 10 boys and 2 girls and these cases will be reviewed early in 1965.

The progress of a further 34 boys and 11 girls was reviewed in a second interview with their teachers, when it seemed that satisfactory results were being obtained in all except 4 cases. These latter are still having investigation and/or treatment at their respective clinics and will be further reviewed early in the new school year.

The scheme of special follow-up visits remains a most satisfactory one for assisting teachers and parents in their management of these children. It is of value, too, in medical education, for the evaluation of progress in the various conditions seen in this group.

Teachers continue to give excellent co-operation and to show appreciation of the service. Results, in general, point to the progressive success of this scheme.

MEDICAL EXAMINATIONS IN SPECIAL SCHOOLS

During 1964 regular visits were paid to departmental schools and to schools and homes conducted by welfare and voluntary organisations which provide for the education and training of children with physical and/or intellectual handicaps. Full medical examinations were carried out on children who were being considered by the Department of Education for admission to special schools, to assess their suitability for admission. Full medical examinations were also carried out where time permitted, on those children who had not been fully examined for a period of two or more years. Review examinations were carried out routinely and also on children referred for specific reasons by parents or teachers.

Visits were paid to some schools with the speech therapist, and problems discussed with the teaching staff. Medical Officers in Charge of Child Health Centres, who in 1965 will be examining children in special schools in their areas, were introduced to the teaching staff and pupils, and special visits were made with the medical officer who will be examining children in special schools not covered by Child Health Centre areas.

The Ascertainment Committee met during the year at the School for the Blind, School for the Deaf, Farrar School for the Deaf, and the special units for partially-seeing children, to evaluate the medical and educational progress and needs of the children in attendance.

The total number of children examined was 1,129, and of these 14·7 per cent had notifiable defects. These children were referred for advice and treatment to general practitioners, special clinics and hospitals.

The Division of Guidance and Adjustment, Department of Education, continued to play a most helpful role in the determination of the educational placement of children with special handicaps.

The following schools conducted by the Department of Education were visited:—Glenfield Park Public School, Glenfield; Hassall Street Public School, Parramatta; Albert Road Public School, Strathfield; Cromhurst Public School, Lindfield; Loftus Street Public School, Arncliffe; Woniora Road Public School, Hurstville; School for the Deaf, North Rocks; School for the Blind, North Rocks; Farrar School for the Deaf, Croydon Park; units for partially-seeing children at Tempe Public School; Lidcombe Public School; Asquith Public School; Kingsgrove North High School; and Northmead High School.

The following schools or homes conducted by voluntary organisations were visited:—Crowle Home, Ryde; Eurella House, Burwood; Southhaven Kogarah; Sydenham-Bankstown Branch of the Subnormal Children's Welfare Association, Campsie; Bankstown Handicapped Children's Centre, Revesby; Sutherland Handicapped Children's Centre, Sutherland; Windgap, Coogee; Greenacres, Wollongong; Cooinda, Canley Vale; Thorndale, Werrington; Sunnyhurst, Penshurst; Dunrossil, Merrylands.

The following schools conducted by church organisations were visited:—Mater Dei Special School, Narellan; St Lucy's School for the Blind, Wahroonga; St Edmund's School for Blind Boys, Wahroonga.

The following homes conducted by the Department of Child Welfare were visited:—Brush Farm, Eastwood; May Villa, Dundas.

Information concerning the activities of this Service in special schools and homes during the year 1964 is given hereunder:—

School	No. of Visits	No. of Full exams	No. of Review exams	No. of Notifiable Defects	No. of Parent Interviews
Glenfield Park P.S.	8	..	248	17	..
Hassall Street P.S.	7	35	50	12	4
Albert Road P.S.	2	..	24	9	3
Cromehurst P.S.	4	..	19	6	1
Loftus Street P.S.	2	..	12	1	1
Woniora Road P.S.	4	31	17	10	2
Brush Farm	3	22	15	10	..
May Villa	2	10	15	4	..
Crowle Home	7	25	35	8	16
Eurella House	3	9	18	2	11
Southhaven	1	6	..	1	4
Sydenham-Bankstown Branch S.F.W.A.	4	14	15	6	16
Sutherland Handicapped Children's Centre	4	16	16	5	15
Windgap	5	9	48	9	19
Greenacres	2	13	2	4	14
Cooinda	2	18	1	5	..
Thorndale	5	26	9	7	25
Sunnyhurst	2	8	6	3	6
Dunrossil	5	21	16	7	21
Bankstown Handicapped Children's Centre	2	13	1	3	3
Mater Dei Special School	2	15	16	6	..
St. Edmund's School	1	7	2	1	..
St. Lucy's School	1	4	8	..	..
School for the Blind	2	..	22	3	1
School for the Deaf	5	32	39	13	..
Units for partially seeing children at—					
(1) Tempe P.S.	3	1	29	1	1
(2) Lidcombe P.S.	2	..	35	4	..
(3) Asquith P.S.	2	..	28	2	..
(4) Kingsgrove North H.S.	1	..	13	..	..
(5) Northmead H.S.	1	9	..	1	..
Farrar School for the Deaf	2	6	20	6	..
Total	96	350	779	166	163

Total number of medical examinations—1,129

Total number of notifiable defects —166

Percentage of notified cases —14.7

NURSERY SCHOOLS

During 1964, the children in 13 nursery schools in the metropolitan area were examined. Two schools originally visited were closed. Children examined in nursery schools in country Health Districts will be reported on by the Medical Officer of Health for the District in his Annual Report.

In the metropolitan area a total of 53 visits were made to the schools, during which 918 medical examinations were carried out on 624 children, and 387 parents were interviewed.

Defects of notifiable standard found were as follows:—

Defects	Boys 342 Examined		Girls 383 Examined	
	No.	Percentage	No.	Percentage
Vision	3	0·88	2	0.71
Squint	19	5·55	12	4·25
Hearing	14	4·09	5	1·77
Nose and throat	25	7·31	20	7·09
Skin	14	4·09	10	3·55
Heart	2	0·58	1	0·35
Lungs	18	5·26	9	3·19
Asthma	19	5·55	18	6·38
Development—hernia	18	5·26	10	3·55
Orthopaedic	93	26·61	64	22·62
Nervous system	4	1·17	6	2·13
Maladjustment and behaviour problems	76	22·22	40	14·18

MEDICAL EXAMINATION OF CHILDREN AT SPECIAL HOMES

The children at "Dalwood" Health Home, Seaforth, were seen for medical examination once each school term. There were 18 full medical examinations and 23 review examinations carried out. In addition, a number of parent interviews and discussions with the nursing staff were held, and school visits made, regarding the children's problems.

Visits were made to the Child Welfare Home "Myee" at Bexley and "Corelli" at Marrickville during the latter part of the year. Full medical examinations were made for 44 children at "Myee" and 16 children at "Corelli".

SCHOOL SANITATION

School sanitation in country areas has been decentralised to the Medical Officers of Health in their areas, and the statistics for each of these areas should appear in their individual Annual Reports.

The number of departmental schools visited by medical officers in the metropolitan area and the small amount of the country directly administered from Head Office amounted to 569. Accommodation for pupils was considered unsatisfactory in 6·33 per cent (36 schools); sanitation was found to be unsatisfactory in 14·76 per cent (84 schools); buildings and grounds were unsatisfactory in 18·10 per cent (103 schools); and accommodation for medical officers was considered unsatisfactory in 6·68 per cent (38 schools).

On receipt of the reports from medical officers, the Department of Education is notified of the conditions found, and requested to take steps to remedy any unsatisfactory findings.

CHILD GUIDANCE CLINICS

In 1964 the Child Guidance Clinics continued to maintain a full establishment of psychiatrists, psychologists and social workers. In the latter part of the year a new position for one psychiatrist was created, but has not yet been filled. Continued secondment of psychiatrists from the Division of State Psychiatric Services on a sessional basis provided valuable service to the Parramatta Child Health Centre (four half days' sessions per week) and to the Chatswood Child Health Centre (one half days' per week). In addition a total of 4½ days per week of consultant psychiatrist time was provided by visiting psychiatrists at Parramatta, Brisbane Street and Chatswood centres.

Full-time psychiatrists controlled guidance teams at Forest Lodge, Bexley, Yasmar, Camperdown, Newcastle and Brisbane Street (two teams). The team located at the Forest Lodge Child Health Centre continued its close association with the Bridge Road School which caters for emotionally disturbed children who are able to attend on a daily basis. During 1964 four graduates in medicine were employed as trainees in psychiatry and one graduate was seconded to the Service as a Fellow in Psychiatry.

It should be noted that Table V indicates that Chatswood Child Health Centre opened in early 1964 and that there are only new cases and closed cases recorded—no follow up cases from previous years were seen.

The figures for Camperdown show that at the end of 1964 the clinic was closed and cases under treatment were transferred to appropriate clinics under the continuing scheme of decentralisation. The close proximity of the Camperdown clinic to Forest Lodge Child Health Centre determined the transfer of the personnel of the Camperdown clinic to other centres.

TABLE V—STATISTICS RELATING TO WORK OF CHILD GUIDANCE CLINICS, 1964

	Brisbane Street	Parramatta	Newcastle	Forest Lodge	Chatswood	Camper-down	Bexley	Yasmar
New Cases in 1964	1,067	440	482	259	174	335	130	677
Continued from 1963	881	225	169	158	..	109	51	..
Old Cases referred	26	..	30	25	..	..	7	..
Total Case Load for 1964	1,974	665	681	442	174	444	188	677
Closed in 1964	724	438	367	294	32	435	146	..
Attending and Continuing in 1965	343	203	118	96	142	..	19	..

Referring Agencies	Brisbane Street	Parramatta	Newcastle	Forest Lodge	Chatswood	Camper-down	Bexley	Yasmar
Personal Application (parent)	314	72	72	49	45	136	9	..
Children's Court or Police	217	3	33	0	0	111	5	677
Department of Child Welfare	17	3	16	8	2	4	0	..
Department of Education	116	109	73	39	38	30	4	..
Social Agencies	85	14	71	13	11	22	7	..
Private Practitioners	71	158	110	10	22	16	10	..
School Medical Service	238	73	101	155	47	13	90	..
Speech Therapist	9	12	6	10	9	3	5	..
	1,067	444	482	284	174	335	130	677

The in-service training course in Mental Health in Childhood was not conducted during 1964 because of the weight of other commitments on the staff psychiatrists. However, six lectures and one seminar were conducted as part of the diploma course which the Service offers to Public Health nurses newly enlisted during the previous year.

The dominant source of referral of children for Child Guidance continued to be the parent. However, the referrals by School Medical Service personnel increased in both percentage and total number and it is felt that this reflects the increasing ability of the medical officers and nurses to identify emotional and behaviour problems in pre-school and school children.

The length of the waiting lists varies with each clinic from several weeks to over a year. No significance can be attached to the waiting list length in regard to the epidemiology of mental illness because of the varying factors of staff shortages, movement of staff, length of time since a particular decentralised clinic was established, etc. An effort is made to limit the responsibility of each Child Guidance Team to a population of about 45,000 school children, but local factors influencing each team prevent realistic evaluation of the local rate of demand for psychiatric help and variations in guidance team size have been necessary.

Diagnostic categories have not been provided as a table during 1964 because of the difficulty of charting the differing diagnoses predominating in various clinics. The diagnoses reached by a guidance team in a Child Health Centre do not occur with any frequency in a clinic such as Yasmar, where all referrals are from the Children's Court. The provision of satisfactory diagnostic groupings has been under review during 1964 and a suitable classification of cases is still awaited.

During 1964 there were 3,463 new referrals of children who accepted appointments to be evaluated by Child Guidance Teams working either in a Child Guidance Clinic or in a Child Health Centre. This figure identifies those children who were interviewed at least once by a psychiatrist in charge of a guidance team, but it gives no indication of the number of children with either an emotional, a social, a developmental or an educational problem which has been until recently regarded as the province of a child guidance team. The total number of children who have received the benefit of consultation from a guidance team member (psychiatrist, psychologist, social worker) whilst under investigation or supervision of a school medical officer, public health nurse or speech therapist in a Child Health Centre or other Clinic has not been tabulated.

TABLE VI—STATISTICS RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1964

	Newcastle		Parramatta		Bexley			Forest Lodge			P/ton B/Str	Water-loo	Chatswood			Darling-ton	Bty. Pt.	Wollongong		Glenfield	Watt St.	Total
	No. 1	No. 2	No. 1	No. 2	No. 1	No. 2	No. 3	No. 1	No. 2	No. 3			No. 1	No. 2	No. 3			No. 1	No. 2			
Under treatment 1-1-64	30	36	15	18	30	0	0	19	12	0	38	16	0	23	7	24	25	29	0	12	6	340
No. of first interviews	138	99	156	177	93	149	148	27	45	73	89	28	229	176	61	65	99	78	80	..	4	2,014
Admitted or re-admitted to treatment—current	48	41	30	42	24	63	39	16	29	56	46	13	60	47	5	27	32	38	29	3	2	690
Admitted for follow-up only	58	67	84	62	26	106	103	42	27	50	92	62	71	46	3	87	78	39	25	..	2	1,130
Under treatment 31-12-1964	26	18	16	22	17	20	24	..	18	26	21	..	29	21	..	..	24	21	21	12	6	342
Total cases treated 1964	136	144	129	122	80	169	142	77	68	106	176	91	131	116	15	138	135	106	54	15	10	2,160
No. of reviews	187	224	307	310	134	279	123	50	37	70	107	121	75	177	34	122	133	88	13	..	7	2,598
Total No. of attendances 1964	1,368	1,502	1,218	1,190	1,189	1,354	787	595	563	1,284	1,586	924	1,379	1,089	418	744	1,287	1,258	380	288	216	20,619
Failed or unable to continue treatment	14	..	3	3	6	3	..	3	6	9	16	5	4	3	..	3	4	15	1	..	1	99
Transferred to other clinics	..	2	3	2	3	9	3	25	7	1	3	14	2	5	8	20	..	..	..	..	..	107
Discharged under observation, relieved—current	38	57	23	33	28	31	12	7	10	20	44	10	25	41	4	28	29	31	7	3	1	482
Discharged follow-up	29	63	142	94	41	126	20	42	4	3	37	62	18	76	..	87	41	88	8	..	2	983
Awaiting first interview P.A.	16	5	15	..	59	..	..	7	..	..	17	..	63	..	..	..	8	22	..	..	..	212
Awaiting urgent treatment 31-12-64	32	30	65	..	15	..	..	..	1	..	3	..	3	..	..	..	23	8	..	..	..	180

TABLE VIA—ADDITIONAL INFORMATION RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1964

Classification of speech defects seen during 1964:—

Disorders of Voice—	
Aphonia	..
Dysphonia	24
Nasality:—	
Hyponasality	6
Hypernasality	24
Cleft Palate	54
Disorders of Articulation—	
Dyslalia	912
Sigmatism	155
Structural Articulatory Defects	5
Hearing Loss	51
Dysarthria	34
Disorders of Language—	
Alalia	37
Dyslalia associated with language problems	233
Aphasia	52
Dysphasia	12
Disorders of Fluency—	
Primary Stammering	158
Secondary Stammering	329
Cluttering	1
Stammering and Dyslalia	73
	2,160
Referrals for further investigation:—	
Child Guidance Clinic	199
Hearing Clinic	74
Division of Guidance and Adjustment, Department of Education	57
Psychologist	39

BRIDGE ROAD SCHOOL

Nineteen pupils were enrolled at the school on the recommendation of the Child Guidance Clinic. There were additionally 4 pupils who continued from 1963. Fourteen pupils were transferred back to their own schools during the year, leaving 9 to return to Bridge Road School in 1965.

Of the 14 children who left the school during the year, 9 are regarded as having improved to some degree, on clinical grounds. As has been previous practice the more precise evaluation of the results achieved with these children will be made by the Senior Psychologist of the Service.

The weekly conference with the teachers and school counsellor has continued.

Approximately 20 per cent of clinic time is given to the treatment of the Bridge Road School children and their parents.

SPEECH THERAPY

In January, 1964, there were 12 full-time clinics, two part-time and one special clinic operating.

Services have been extended with the opening of the Child Health Centre at Chatswood, provision has been made for the staffing of Yagoona and Ryde, and further staffing at Parramatta and Bexley.

Five trainees commenced departmental traineeship, and six completed traineeships, entering into service at the end of the year.

During 1964, 2,160 cases were treated, as compared to 1,759 the previous year, initial interviews being 2,014. Follow-up admissions increased from 868 in 1963 to 1,130. Review interviews increased accordingly by 1,121. Existing waiting lists for current treatment is 180, and for interview 212.

With the further growth of Child Health Centres and closing of individual clinics, therapy services have been greatly assisted by team orientation, as is evident from the year's report. When required, opportunity for intensive therapy was made available to country and special referral cases. County surveys were conducted at Broken Hill, Tamworth and Cootamundra.

Regular staff meetings have continued and personal contact made by the Senior Speech Therapist with all clinics.

Statistics relating to the work of the speech therapists during 1964 are set out in Tables VI and VIA.

MEDICAL ASSESSMENT OF CHILDREN WITH SPEECH DEFECTS

During the year, dual interviews by a school medical officer and speech therapists were continued regularly at each of the speech clinics. A total of 110 visits were made for the full evaluation of 383 children, 290 boys and 93 girls (an increase of seven on those seen in 1963). Additionally, a number of cases, seen previously, were reviewed.

The children were referred to the clinics by paediatricians, general practitioners, dentists, school medical officers and teaching staffs. A considerable number came as a result of personal application by the parents. There was an increase in the number of younger school children and of pre-school children. As a result, there was more contact between the speech clinic staffs and the pre-school kindergarten authorities, whose co-operation was excellent. School teachers were kept informed of the number of children attending for therapy and they were advised on the management of the speech defect in the school situation.

TABLE VII—FIGURES RELATING TO WORK OF HEARING CLINIC, HEAD OFFICE, 1964

	Total number	Hearing normal	Deafness due to remediable conditions	Chronic deafness	Treatment recommended or receiving treatment	Wearing Hearing Aid	Hearing Aid recommended	Recommended for O.D. Class	Recommended for North Rocks or Farrar
New Cases—									
B.	691	222	306	67	328	27	3	22	13
G.	430	127	206	44	219	21	7	18	11
Total.. ..	1,121	349	512	111	547	48	10	40	24
Reviews—									
B.	825	262	288	123	323	17	7	3	1
G.	512	141	170	105	209	20	8	3	1
Total.. ..	1,337	403	458	228	532	37	15	6	2

Routinely, counselling and advice were offered to the parents at the initial, dual interview, which in many cases, seemed to be the only interview indicated.

Nine children were referred to the Division of Guidance and Adjustment for psychometric testing and advice concerning learning problems, and others will be referred later after a period of observation in the clinics. It was noted that a number of children had already been assessed at the Education Clinic before attending for speech therapy.

As there seemed to be considerable emotional involvement in their cases, 12 children were referred to child guidance clinics where dual therapy was recommended in a few instances.

Previously undetected hearing defects were noted in four cases, three being referred to the Commonwealth Acoustic Laboratory for evaluation and one to the hearing clinic for advice.

An increasing number of children were referred for neurological investigation.

Of the 383 children presenting with speech problems, 184 were found to have dyslalia; 68 were stammerers; 56 had dual speech defects; 17 showed retarded speech development with intellectual handicap in a few cases; 6 children were diagnosed as having central communication disorders and a further 5 showed dysphasic elements with their dyslalia; 5 had hyperrhinophoria and 4 had speech defects consequent to cleft palates; one child had dysphonia and one had dysarthria. The speech of 2 of the children was considered to be within normal limits and 1 child's problem was that of language rather than speech.

Of the total group, 26 children are to be seen again for further evaluation after a period of observation. One hundred and forty children were accepted for regular therapy and a further 195 will be seen by the speech therapists at intervals, on a follow-up basis. In 28 cases, where the defect was considered to be minor, it was left to the parents to contact the clinics again later if they felt it was necessary.

In general, results of the scheme of dual assessment appear to be very satisfactory. Indeed, with an increasing number of difficult and complicated cases presenting, the scheme seems even more necessary than previously. Although more time is being spent in the evaluation and management of these cases, the yield is pleasing.

HEARING CLINIC

The Hearing Clinic at the Head Office of the School Medical Service continued throughout the year, nine sessions being held weekly until August, when it was reduced to seven and later, in May, to six sessions weekly. Five ear, nose and throat specialists attended all the year, one specialist being on leave from April until the end of the year.

Children were referred to the Clinic by paediatricians, school medical officers, speech therapists, the Division of Guidance and Adjustment, Department of Education, Aborigines' Welfare Board, Child Welfare Department, out-patient departments of public hospitals, doctors in general practice, parents and school principals and teachers.

A total of 1,121 cases were examined—691 boys and 430 girls. The number of cases reviewed was 1,337—825 boys and 512 girls. Detailed information of these cases is contained in Table VII.

As the Clinic is a diagnostic one and no treatment is carried out, children with treatable deafness are referred to their local doctor or an out-patient department of a public hospital for consultation with an ear, nose and throat specialist.

Children with hearing defects, who would benefit from the use of a hearing aid, are referred to the Commonwealth Acoustic Laboratory. These are supplied free of charge to school children.

Children with severe deafness requiring special education are referred to the Division of Guidance and Adjustment for placement in classes for deaf children. The Councellor for the Deaf, an officer of the Department of Education, is in attendance one day weekly for consideration of educational problems associated with deafness.

ASTHMA CLINIC

The Asthma Clinic continued to function during the year, the treatment being continued along the lines given in my Annual Report for 1963. The total number of appointments for consultation with children already under treatment was 905, of which number 751 appointments were kept.

In addition to the ordinary routine work of the clinic, the general survey of results of treatment which was begun in 1954 was continued and completed for those children who undertook treatment in 1962. Surveys of those children who began treatment in 1963 and 1964 were begun but could not be completed fully as each survey is based on a two-year period of review. An additional survey, commenced in 1958, of children who undertook treatment in the years 1951 to 1958 was continued and is now nearing completion.

It was again noted that, as in 1963, an increasing number of children were recommended to the clinic by teachers who had noted the improvement in health of pupils who had returned to school following treatment by the clinic. In addition, more children were enrolled on the recommendation of either parents or relatives of children who were already under treatment.

The total number of appointments for initial consultation (that is, new patients) from 3rd February to 31st December was 210, of which number 180 appointments were kept and consultations held. Of these, the number of children who subsequently undertook treatment was 50.

The results obtained in the survey of 75 children who commenced treatment in 1962 is as follows:—46 children remained under treatment for a period of two years or more, 19 gave it up within a period of three months to two years, and ten gave it up within three months.

Results obtained in 46 children who remained under treatment for two years or more:—

	No. of Cases	Percentage	
Excellent	18	39·13	67·39
Very much improved	13	28·26	
Much improved	10	21·74	
Improved	5	10·87	
No improvement	Nil	..	
	46	100	

Results obtained in 19 children who remained under treatment for periods of from three months to two years:—

	No. of Cases	Percentage
Excellent	(None classified as such as not under treatment for the full period of two years.)	
Very much improved	7	36·84
Much improved	Nil	..
Improved	12	63·16
No improvement	Nil	..
	19	100

Results obtained in 10 children who gave treatment up within three months:—

	No. of Cases	Percentage
Excellent Very much improved Much improved	(None classified as such owing to such short time under treatment.)	
Improved	7	70
No improvement	3	30
	10	100

TABLE VIII—NUMBER OF CASES OF COMMON INFECTIOUS DISEASES IN DEPARTMENTAL SCHOOLS, 1955-1964

	Measles	German Measles	Whooping Cough	Scarlet Fever	Diph-theria	Sore Throat	Chicken Pox	Mumps	Influenza	Acute Conjunc-tivitis	Acute Rheumatism and Chorea	Polio-myelitis	Meningo-coccal Meningitis	Hepatitis
														*
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
1961	31,203	6,230	1,560	323	14	53,068	15,405	20,882	104,570	3,185	603	35	54	1,481
1962	14,396	6,485	382	317	10	57,847	25,625	16,825	128,559	2,535	604	51	46	640
1963	33,572	7,084	528	459	28	64,256	23,077	16,597	106,657	2,977	597	11	54	581
1964	13,160	38,436	1,319	552	2	70,156	22,603	18,669	172,974	3,922	576	5	67	395
Average absence in days 1964 ..	8·67	6·37	15·29	11·22	27·00	4·72	10·10	9·53	4·83	4·52	17·50	33·00	20.81	19·44

* Figures not available prior to 1960.

INFECTIOUS DISEASES, OTHER ILLNESSES AND ACCIDENTS

During 1964, 34,199 cases of injury and 304,735 cases of illness, other than infectious disease, were reported amongst school pupils attending departmental schools, necessitating respectively an average absence from school of 5·83 days and 9·54 days. The figures for 1963 were 37,233 cases of injury and 266,541 cases of illness.

Table VIII shows the number of pupils in departmental schools who suffered from the common infectious diseases in each year from 1955 to 1964 and the average absence from school for each disease during 1964. The figures show a decline in measles, diphtheria, poliomyelitis and hepatitis compared with 1963. There was no variation in chicken pox and rheumatism, but an increase was shown in German measles, whooping cough, scarlet fever, sore throat, mumps, influenza, acute conjunctivitis and meningococcal meningitis.

During 1964, 3,798 children were notified as suffering from impetigo, with an average absence of 6·85 days; from ringworms, 3,292, average absence 8·62 days; scabies, 107, average absence 6·58 days; and pediculosis capitis, 1,518, average absence 8·10 days. There was little variation in all these figures compared with 1963.

The number of children absent from school as contacts of infectious diseases during 1964 totalled 4,180, compared with 5,374 in 1963.

No serious epidemic of infectious disease occurred during 1964 in departmental schools, although a mild epidemic of German measles did take place.

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 to, followed up and supervised by this Division, while the necessary action for control of the disease is carried out conjointly by the School Medical Service and the Tuberculosis Division.

During 1964, there were 11 cases of tuberculosis notified amongst school children (nine pulmonary and two extra-pulmonary). Two cases of tuberculosis occurred in teachers and one case in a university student. The comparative figures for 1963 were 15 cases in school children and one teacher.

Second and fourth form students in secondary schools were routinely given tuberculin skin tests (Mantoux), as were the pupils in schools where a case of tuberculosis occurred, and various other at risk people, where indicated, such as servicemen and civilians proceeding overseas, medical, dental and agricultural undergruaduates, and relatives of active cases. The total number tested in 1964 was 42,368, and the details are shown hereunder. All positive reactors were referred to a chest clinic for chest x-ray, and massive reactors (greater than 15 mm induration) were referred for the advisability of undergoing chemoprophylaxis.

	County of Cumberland	South Coast Health District	Newcastle	Barraba	Wagga Wagga	Manilla	Walgett	86 George Street
No. of schools visited	245 (incl. 4 TTC)	4	4 (incl. 1 TTC)	2	1 (TTC)	1	4	..
No. of — ve reactors	35,028	535	818	28	103	19	375	659 (all age groups)
No. of + ve reactors	3,970	88	85	4	20	1	103	532
No. of + ve reactors greater than 15 mm	1,365	0	27	0	3	0	24	224
Total No. tested and read	38,998	623	903	32	123	20	478	1,191 (all age groups)

MEDICAL EXAMINATION OF SPECIAL GROUPS OF CHILDREN

Special medical examinations were arranged at Head Office for children referred for investigation and/or advice by medical practitioners, teachers and parents, because of special health problems; by the Department of Education, including children for examination as to their fitness for admission to special schools or classes, and also for advice regarding the educational problems of children with handicaps, either physical, mental or intellectual. The examinations were carried out by medical officers experienced in paediatrics and the diagnosis and evaluation of these special problems.

Similar examinations are carried out in each of the Child Health Centres, the details of which appear in the individual sections of this report.

Children were also examined at the request of the Department of Child Welfare, Dalwood Homes, the Aborigines' Welfare Board, and the Far West Children's Health Scheme. With the exception of the last two referring agencies, all children were accompanied by parents, who were also interviewed and given advice regarding their children's management and schooling. In all cases, a full report was forwarded to the referring agency.

The total number of medical examinations of special groups of children carried out during the year was 4,629, 984 at Head Office, of which 820 were new cases (965 total in 1963); 683 at Child Health Centre, Forest Lodge, of which 473 were new cases (419 in 1963); 1,115 at Child Health Centre, Parramatta, of which 614 were new cases (741 in 1963); 1,230 at Child Health Centre, Bexley, of which 706 were new cases (720 in 1963); and 617 at Child Health Centre, Chatswood, of which 465 were new cases (not in operation in 1963). The total number of new cases seen during the year was 3,178.

All children admitted to the Stewart House Preventorium were given a full paediatric assessment by trained medical officers of the Service. The number examined during 1964 was 1,160 (580 boys and 580 girls).

Immigrant children sponsored by the Little Brother and Fairbridge Farm Schemes were medically examined at the Immigration Centre immediately on arrival in New South Wales, on behalf of the Department of Child Welfare.

In addition, this Service is able to assist the Department of Child Welfare in expressing opinions on the medical fitness of persons wishing to adopt children.

TEACHERS' COLLEGES

During the year 1964, ten medical officers were seconded to teachers' colleges in New South Wales; three were part-time and seven full-time. Wagga Wagga was without a medical officer until May, and Newcastle from July until December; the latter appointment is now full-time instead of part-time.

All students attended a course of lectures and were required to pass an examination in Health and Health Education based on the syllabus prepared in 1963, the most competent student in each college being awarded a prize. Visual aids in the form of films, filmstrips, slides, charts, posters and models were used in lectures, and pamphlets published by the Department of Public Health were issued to students. Visiting lecturers were also invited to address students on special topics in some of the colleges.

Medical officers arranged and attended demonstration lessons on Health Education and visited schools during the practice teaching periods.

There was a further increase in the number of students undertaking four year courses at Sydney, Alexander Mackie and Newcastle Teachers' Colleges.

All students on scholarships were under medical supervision and a large number of them were interviewed during their first term at college. Students who were returning from sick leave were required to visit the medical officer, and sick or injured students were also seen, and if necessary, referred to their own doctor or to hospital.

Special interviews were arranged for students with family, personal or study problems, and in a number of cases specialist advice was sought for them by their college medical officer.

All students were Mantoux tested on admission, positive reactors were X-rayed, and recent conversions who had a reaction over 14 mm were referred to chest clinics for supervision.

In the second half of 1964 a total of 2,351 students were medically examined and X-rayed before being appointed to the teaching service (2,599 in 1963). Considerable assistance in carrying out these examinations was given to the Sydney colleges by the Medical Examination Centre.

The number of students enrolled in the various colleges, the number of outgoing students examined, and the attendance of medical officers at the various colleges are as follows:—

College	Enrolment	Outgoing Students Examined	Medical Officers
Sydney	3,420 (959 College, 1,893 Undergrads)	907	3 full-time.
North Newtown	568 College		
Balmain / Orange Grove	316 (256 College, 60 Undergrads)	139	1 full-time.
Alexander Mackie	570	200	1 full-time.
Armidale	806 (509 College, 297 Undergrads)	264	1 full-time.
Bathurst	354	183	1 part-time.
Newcastle	985 (655 College, 330 Undergrads)	360	1 full-time.
Wagga Wagga	377	177	1 part-time.
Wollongong	293	121	1 part-time.

NATIONAL FITNESS CAMPS

Three nurses from the School Medical Service continue to be attached for duty at National Fitness Camps. The camps are at Point Wolstoncroft, Broken Bay and Myuna Bay. 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 the Division at the end of each camp.

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.

Division of Dental Services

Director: Mr W. B. Haymet, B.D.S.

Location: 86-88 George Street North, Sydney

Function

The Division of Dental Services provides dental therapy for school children in the educational system of New South Wales; for patients in Psychiatric and State Hospitals controlled by the Department of Public Health and for inmates of Prisons and Child Welfare Institutions. The Division supplies also an advisory service to the Aborigines' Welfare Board, and to the Child Welfare Department in respect of State wards in the care of foster parents.

To provide these services the Division of Dental Services works from a number of fixed and static locations, and in addition it possesses a fleet of 18 mobile clinics and organises a Flying Dental Service in co-operation with the Royal Flying Doctor Service for the far-west of New South Wales.

The Division of Dental Services, in addition to the Director, has a staff of forty-two full-time Dental Officers, four part-time Dental Officers, thirty Dental Assistants and ancillary clerical staff.

FLUORIDATION OF WATER SUPPLIES

The decision of the Metropolitan Water, Sewerage and Drainage Board early in the year to fluoridate Sydney's water supply, followed by that of the Hunter District Water Board, showed marked progress towards dental health of school children within the next decade.

When these decisions are implemented approximately 60 per cent of the population of the State of New South Wales will be consuming fluoridated water.

As in 1963, the staff of the Division assisted in a special annual survey of children in the Tamworth area in conjunction with the Department of Preventive Dentistry, University of Sydney, 786 children being examined by the School Dental Officer in the area. In November, a concentrated survey was also made of all six-year old children in the Grafton-Lower Clarence area by Messrs B. J. Page and N. T. Wright, School Dental Officers. The survey of 275 children showed a disturbing deterioration in dental health in children early in life, as under:—

(a) 96·4 per cent of children exhibited a history of decay.
(b) 95·0 per cent revealed evidence of untreated dental caries.
(c) 35·4 per cent of six-year old molars were already decayed in the first year of their eruption.
(d) One permanent (1·01) and 8 deciduous (8·37) teeth were carious per mouth.
(e) 1·6 deciduous molars were missing per mouth.
(f) 280 permanent and 2,303 deciduous teeth had suffered from the ravage of dental disease.
(g) 62 per cent of children showed some form of malocclusion.
(h) Only 20 per cent had received conservative attention, the bulk of treatment being extractions, and these extractions were aggravating the alarm incidence of malocclusion.
(i) 21 per cent of teeth were either hypoplastic or hypocalcified.
(j) 31 per cent of children had never been to a dentist although they required considerable treatment.
(k) Children showed an almost complete lack of satisfactory tooth brushing habits.
(l) Parents showed a lack of interest or understanding of the use of fluoride tablets.

Fortunately Grafton has already commenced fluoridation, and a different situation is expected when a similar aged group of children in the area will be examined in seven years' time.

LEGISLATION ON AUXILIARY DENTAL PERSONNEL

The year 1964 was of considerable importance to the development of dental services to school children in New South Wales because of new legislation introduced to make optimum use of auxiliary dental personnel in the nature of New Zealand type dental nurses.

The amendments to the Dentists Act have their origin in a committee which was established early in 1963 to investigate the possibility of using dental nurses to provide simple types of dental treatment to school children. The Committee was under the chairmanship of the Director of State Health Services, and consisted of members of Sydney University Dental School staff, the Superintendent of the United Dental Hospital of Sydney, the President of the Australian Dental Association and senior representatives of the Health and Education Departments.

Following the Report of this Committee a Bill was introduced in Parliament in March 1964 to amend the Dentists Act, 1934-57. Subsequently the Bill was referred to a Select Committee of the Legislative Council. The Director of Dental Services of the N.S.W. Health Department, the President of the Dental Board, the Dean of the Faculty of Dentistry and the then President of the Australian Dental Association gave evidence before the Committee. The Bill was finally accepted and the amending Act passed all stages on 30th April, 1964, and was proclaimed on the 1st September, 1964.

The new Act permits dental nurses "with prescribed training" employed in the Division of Dental Services to carry out "prescribed treatment" for school children. The prescribed training has been accepted by the Dental Board as being that given to dental nurses who have graduated from any of the three accepted training schools in New Zealand.

The prescribed forms of treatment are listed below for classification:—

(i) prophylaxis of deciduous and permanent teeth, including necessary radiography;

(ii) the application to teeth, both deciduous and permanent, of fluoride or other similar prophylactic solutions;

(iii) the treatment of periodontal conditions not involving surgical techniques requiring incisions;

(iv) supra-periosteal injections of local anaesthetics not involving regional or intro-osseous anaesthesia;

(v) the extraction of deciduous or permanent teeth not involving surgical techniques requiring incisions;

(vi) the restoration of deciduous or permanent teeth by the use of the following filling materials:—

- (a) zinc oxide and eugenol;
- (b) zinc or copper phosphate cement;
- (c) silicate cement;
- (d) silver or copper alloy amalgam;
- (e) self-curing resin.

(vii) dental radiography.

The new regulations under the Dentists Act, as amended, specify that (iii) to (vi) be carried out only after examination of the patient by a dentist, and that the actual treatment be provided only if a dentist is available within a reasonable period to render advice and assistance if required.

GENERAL ACTIVITIES

School Dental Service

The School Dental Service has been disturbed by a shortage of dentists for many years, and 1964 illustrated this further. The establishment was actually increased by two Dental Officers and two Dental Assistants early in the year. However, at no time was there a full complement of Dental Officers, and the position deteriorated particularly towards the end of the year, partly because of resignations and partly the serious illnesses of two Dental Officers. Nevertheless the number of school children contacted was the greatest in the history of the Service, and the statistics generally indicated an improved output of work on the previous year. (See Table I.)

Four new mobile dental clinics were completed including two containing two surgeries each. This brought the total number of mobile clinics to eighteen. Unfortunately the staffing difficulties prevented the maximum use of all the mobile clinics during the year. The fixed dental clinics at Naremburn, Hurstville, Parramatta, Wollongong and Newcastle operated continuously throughout the year including school vacations. The clinics have proved very popular and waiting lists of many months exist at most of them.

Aerial Dental Service

The dental service to outback areas of New South Wales was continued successfully throughout the year. Dental Officers travelled 33,000 miles by air and 2,600 by road. A total of 35 schools and 13 homesteads, mission stations, etc. were visited, each visit being of one or more days duration.

A total of 2,096 patients were examined 1,336 of these receiving treatment in 3,394 visits. There were 1,959 teeth extracted, and 2,801 fillings, and 2,837 other treatments were provided.

Institution Dental Service

The Dental Service to Government Institutions was continued without interruption. Additional new clinics were completed in two of the Child Welfare Department's Homes. This institutional therapeutic service extends to psychiatric hospitals, State hospitals and homes, penal establishments, and homes conducted by the Child Welfare Department.

A statistical analysis of the details of the Dental Service extended by the Division of Dental Services is set out in Table I.

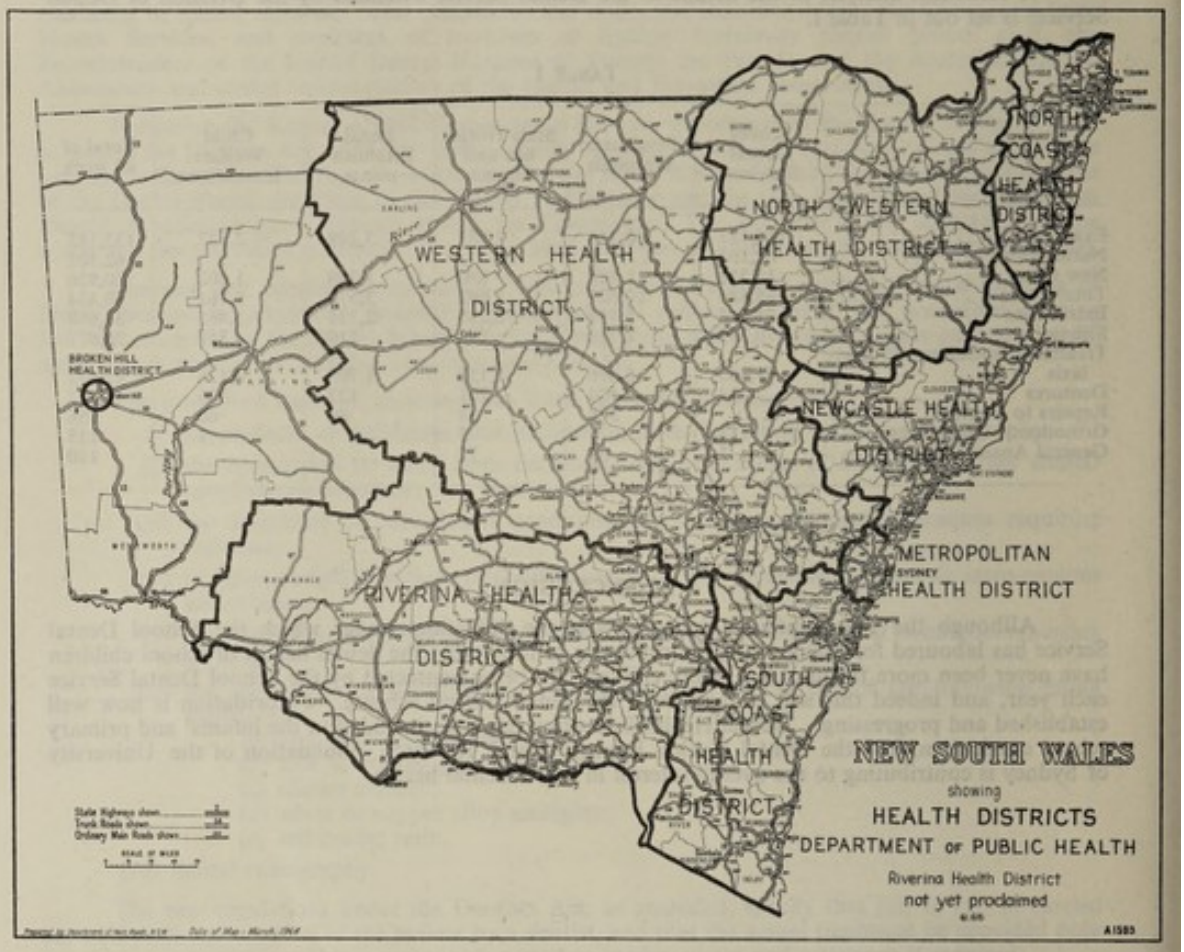
TABLE I

	School Dental Services	Psychiatric Hospitals	State Hospitals and Homes	Penal Establishments	Child Welfare Institutions	Total of all work
Examined	116,127	10,343	2,587	3,249	2,837	135,143
Notifications	62,102	....	....	....	....	62,102
New Cases	15,358	1,888	680	1,398	1,602	20,926
Total Cases	65,884	10,527	2,692	3,570	6,761	89,434
Extractions	25,114	5,439	2,285	2,355	3,465	38,658
Fillings	70,344	2,718	450	510	4,855	78,877
Treatment including Prophylaxis	69,362	5,496	2,152	1,705	4,126	82,841
Dentures	34	524	201	127	336	1,222
Repairs to Denture	....	378	38	80	60	556
Orthodontic Appliances	151	....	3	....	1	155
General Anaesthetics	5	33	72	....	....	110

CONCLUSION

Although the year continued to emphasise the difficulties under which the School Dental Service has laboured for many years, the prospects of improving the dental health of school children have never been more favourable. More children are being contacted by the School Dental Service each year, and indeed this will increase with the dental nurses' scheme. Fluoridation is now well established and progressing. Dental Health Education has been included in the infants' and primary school curriculum, and the Dental Health Education and Research Foundation of the University of Sydney is contributing to the overall interest in better dental health.

HEALTH DISTRICTS



Metropolitan Health District

Metropolitan Medical Officer of Health: A. DOUGLAS, LL.B., M.B., Ch.B., D.P.H., D.T.M. & H.

Location: 52 Bridge Street, Sydney

Staff

The staff of the Metropolitan Health District is supplied from the Food and Health Inspection Branches, the administrative supervision of which rests with the Metropolitan Medical Officer of Health, although in some aspect both the Chief Health Inspector and the Chief Food Inspector have advisory responsibilities to the Director of State Health Services and the Director General of Public Health, and some direct service responsibilities in areas outside proclaimed Health Districts.

GENERAL

The District covers an area of 985,142 acres and comprises thirty-five municipalities, including the Cities of Sydney, Parramatta, Liverpool and Penrith; four shires (Hornsby, Warringah, Sutherland and Baulkham Hills), and the Harbour of Port Jackson.

The Metropolitan Health District differs from other Health Districts in its intimate relationship to Central Administration. Within the Metropolitan Health District the Chief Health Inspector and the Deputy Chief Food Inspector are responsible to the Metropolitan Medical Officer of Health for all work carried out in the Metropolitan Area.

VITAL STATISTICS

The population of the District at 30th June, 1964 was 2,434,340 an increase of 51,880 over the figures for 1963.

There were 45,082 live births equal to a rate of 18·50 per 1,000 of mean population.

Deaths numbered 24,091, equal to a rate of 9·88 per 1,000 of mean population.

The four main causes of death were Diseases of the Heart (9,272), Malignant Neoplasm (3,643), Vascular Lesions affecting the Central Nervous System (3,193) and Accidents, Poisoning and Violence (1,618).

Note: The figures relating to causes of death are for the statistical Sydney Metropolitan Area—cause of death figures are not available for the Metropolitan Health District.

Maternal deaths number 9, equal to a rate of 0·20 per 1,000 live births.

Deaths under one year of age totalled 844, equivalent to a rate of 18·72 per 1,000 live births.

The population of the City of Sydney again declined. It decreased during the year from 168,800 at 30th June, 1963, to 167,800 at 30th June, 1964, a fall of 1,000. The density decreased from 23·57 to 23·43 persons per acre. Of the thirty-nine Local Government areas in the District the population increased in thirty and decreased in six. The decreases were slight, except in the City of Sydney (1,000) and the Municipalities of Marrickville and North Sydney, where the populations declined by 300 and 600 respectively. The largest increases in the population occurred in Liverpool (4,580), Blacktown (4,440), Warringah (6,500) and Sutherland (5,700).

The highest density of population was recorded in the Municipality of Waverley where the figure was 29·37 per acre.

TABLE I—COMMUNICABLE DISEASE NOTIFICATIONS WITH DEATHS, 1963-64

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Acute Anterior Poliomyelitis	2	..	..	..
Ancylostomiasis	2	..	..	..
Ascariasis	3	..	4	..
Brucellosis	8	..	2	..
Rheumatic Chorea	1	..	1	..
Dengue Fever	..	..	..	..
Diphtheria	27	2	6	1
Infectious Hepatitis	1,921	12	1,508	9
Infantile Diarrhoea	244	18	449	20
Leptospirosis	1	..	..	..
Meningococcal Infection	26	7	35	5
Ornithosis	2	..	1	..
Paratyphoid Fever	5	..	3	..
Typhoid Fever	6	..	4	..
Puerperal Fever	22	1	43	4
Rheumatic Fever	1	..	12	3
Scarlet Fever	234	..	252	..
Typhus Fever	..	..	1	..
Tuberculosis	836	116	871	111
Virus Encephalitis	33	8	73	4
Staphylococcal Mastitis	1	..	..	..
Staphylococcal Pneumonia	24	20	19	13
Staphylococcal Infection in Infants under 4 weeks of age	472	..	523	..
Leprosy	..	..	5	1
Total	3,871	184	3,812	171

COMMUNICABLE DISEASES

Diphtheria

There was one death and six cases during the year. All cases were investigated by medical officers on the staff of Central Administration. Homes and the schools were visited and all contacts, including the children in the class of the child concerned, had their throats swabbed, and the swabs were sent to the Institute of Clinical Pathology for examination. Any close contacts were excluded from school until throat swabs were shown to be negative. Arrangements were made for a dose of antitoxin or prophylactic antibiotics to be given. Steps were taken to arrange with local hospitals and councils that as far as possible all non-immune children should be immunised.

A Schick test survey was carried out when the schools reopened after Christmas 1963. The results were published in the Medical Journal of Australia of 26th December, 1964 (by Dr A. Douglas, Dr T. J. Woolard and Dr J. R. F. Boger).

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Infectious Hepatitis

Notifications of infectious hepatitis again decreased to 1,508 cases in 1964, following the low figure of 1,921 in 1963. There were 9 deaths.

TABLE II—CASES AND DEATHS—INFECTIOUS HEPATITIS, 1959-1964

Year	Cases	Deaths
1959	1,040	12
1960	2,123	8
1961	2,424	14
1962	1,697	12
1963	1,921	12
1964	1,508	9

Typhoid and Paratyphoid Fever

Four cases of typhoid fever were notified during the year. The first was an Asian student who had recently returned from Singapore.

The second notification was of a pre-school child in an immigrant family. Two members of the household gave a history of typhoid in Italy (Naples) 10-15 years ago. The child's grandmother proved to be the carrier. She was admitted to hospital for treatment with Chloramphenicol and ampicillin, and then discharged home under surveillance, being required to submit stool samples at fixed intervals. In February, 1965, the stools became positive.

The third was a taxi driver. A carrier was not detected for this case. His father-in-law, wife, child and nine food handlers at a restaurant at which the patient was in the habit of eating were interviewed, and three consecutive stool specimens examined at the Institute of Clinical Pathology and Medical Research with negative results. The water from a tank which the patient had drunk was sampled, but no S. typhi were detected by the Government Analyst. The only lead which was not followed up was that the patient had been fishing where the Bondi sewer outfall discharges into the sea.

The fourth was a University student whose father and step-grandmother were of European origin. The student's step-grandmother, the family's principal food handler, proved to be the carrier. She was admitted to hospital for treatment, but Chloramphenicol and ampicillin failed in this case. As she also had gallstones a cholecystectomy was performed with an apparently successful result. She is under surveillance by physicians at the hospital.

Three cases of paratyphoid fever were notified. In one family group of four immigrants, one of the four had a paratyphoida infection. She and two of the other three in this family came to Australia on the "Roma" over eighteen months previously, and during this voyage an epidemic of paratyphi A occurred. All the adults in this group were examined, but six stool specimens from each one gave negative results.

The Department was notified that a carrier had moved from Victoria to New South Wales. Investigation by a medical officer of the staff of Central Administration showed that she had had a cholecystectomy and was no longer a carrier.

The Queensland Health Department notified this Department that an English lady who had just arrived from Singapore via Brisbane was suffering with typhoid fever diagnosed as a result of laboratory investigations performed in Brisbane. She was treated in a private hospital and no secondary cases occurred in Sydney.

Other Salmonellae Infections

There was a minor epidemic of S. typhi murium at a Home for babies. It was very overcrowded and when visited at least two of the cots contained two children.

There was a major epidemic of Shigella fleurer at another children's Home. This Home was closed for several months whilst under investigation. The staff and the children were examined, and a special arrangement was made with the laboratory at the Institute of Clinical Pathology and Medical Research to examine fifty stools a week from the Home.

Typhus Fever

A case of murine typhus was notified in July 1964. The patient was a storeman-loader at a flour mill and had been in a Sydney hospital. An Assistant Medical Officer of Health and a Senior Health Inspector inspected the patient's home and place of employment. There was no evidence of rat infestation at the home, nor a significant degree of infestation at the mills.

Ornithosis

One case was followed up. The patient had already arranged for the canary and two budgerigars, thought to be responsible, to be destroyed.

Leprosy

Some forty patients, who have been discharged from the Lazaret, are under surveillance by the Board of Health. They are medically examined at 52 Bridge Street, Sydney, where smears are taken and sent to the Institute of Clinical Pathology and Medical Research at Lidcombe. Further details on the occurrence of this disease are included in the Report of the Division of Epidemiology.

ENVIRONMENTAL SANITATION

General

In the Metropolitan Health District, the Health Inspection work is now carried out by a staff of Health Inspectors controlled by two Senior Health Inspectors each responsible for a section of the District under the general supervision of the Chief Health Inspector. Extensive surveys were carried out in two of the larger Local Government areas, Hornsby Shire and Bankstown Municipality, to ascertain the general conditions of environmental sanitation.

A major problem in some few Local Council areas is the attitude of Council in permitting the discharge of household waste water to the street water table or to common lines leading to water-courses. This practice has given rise to many complaints of nuisance and in view of the fact that this waste contains large numbers of faecal coli it also constitutes a health hazard. Recommendations were made for an amendment to the Local Government Ordinance to prevent the direct discharge of such polluted drainage.

The satisfactory disposal of garbage from the built up areas is becoming increasingly difficult because garbage has to be hauled considerable distances to a suitable site. However, the use of this waste material for reclamation of disused brickpits, or low lying and swampy land has achieved excellent results in converting eyesores or danger spots into useful playing fields or open space. Such reclamation projects, however, must be carefully controlled in order to minimise any nuisance which may be caused whilst the work is in progress.

Considerable fly infestation occurred during the early summer months and it would appear that the main cause was an invasion of the settled areas by bush flies. This indicated, however, the need for constant vigilance in regard to fly control measures.

Unhealthy Building Land Section

TABLE III

Work of Unhealthy Building Land Section	1963	1964
Interviews with Architects re sewerage, drainage plans	207	125
Unhealthy Building Land—Inspections	189	334
Unhealthy Building Land—Surveys	232	142
Areas Gazetted and Location	6	5
Areas Revoked	3	5
Land Enquiries	69,706	78,721
Land Enquiries—Searches	744	553
Reports on Unhealthy Building Land	approx. 430	509

The primary function of this Section is administration of Sections 54 and 55 of the Public Health Act. Throughout New South Wales there are various areas of land ranging in size from several to hundreds of allotments which because they are low-lying and poorly drained or are sites of old garbage or sanitary depots are considered unsuitable for building purposes.

After investigating these sites and recommending remedial measures the Board of Health recommends to the Minister that such land should not be built upon until the measures specified are first carried out.

On the Minister's approval being given the notice prohibiting building on the land is gazetted and only revoked on completion of the required work. This ensures that inferior land is not built on to the detriment of the health of the occupiers of the building.

The number of solicitors' applications for certificates in regard to Section 55 notices increased to a record 78,721 compared to 69,706 for the previous year. A "methods survey" of this Section was made and alterations to procedure recommended. However, some of the changes cannot be implemented until additional staff is available.

Conferences

Two Conferences were held at Head Office for Senior Health Inspectors. Discussion covered many topics ranging from the disposal of abattoir wastes to the technique of sanitary surveys. These meetings were of considerable value to the officers stationed in the Country Health Districts, in keeping abreast of the various trends and changes taking place.

Staff Training

Rapid staff turnover and influx of new appointees has accentuated the need for staff training on a wider scale. An intensive course in the public health aspects of swimming pool operation was attended by all Senior Health Inspectors, at which lectures and demonstrations were given by Officers of this Department and the Public Works Department.

New Developments

There were several compact sewage treatment works installed during the year by agencies other than Local Authorities. These so-called "package" sewage treatment works are usually of the "extended aeration" type and so far, have given satisfactory effluents.

Considerable interest has been shown in a paper-sack garbage container and at the end of the year arrangements were being made for a supervised trial of this system.

Apart from the work carried out in the Metropolitan Health District, inspections were made of the Kosciusko State Park. The development of the snowfields in the Park as a major recreational area brings with it numerous public health problems relating to sewage disposal, stream pollution, garbage disposal, which are dealt with by staff from Central Administration.

Special Investigations

Fiji Thimet (*Phorate*)

An extensive investigation was carried out in November and December, 1964, by a medical officer and an officer of the Pure Food Branch (Mr James). A number of people in Fiji were reported as suffering from organo-phosphorus poisoning thought to be contained in "sharps". There was no evidence that any "sharps" exported from New South Wales had been contaminated with organo-phosphorus compound while in course of manufacture or transit in New South Wales or to Fiji.

TABLE IV—WORK PERFORMED BY FOOD INSPECTORS IN METROPOLITAN AREA

	1963	1964
Adulteration of Food and Drugs—		
Samples Taken—		
Milk	2,887	2,605
Meat and Smallgoods	3,214	2,439
Other	792	816
Total Samples	6,893	5,860
Warning Letters	117	101
Prosecutions	636	449
Meat Samples field tested (malachite green)	..	5,716
Food and Drugs Seized as Unfit—		
Fruit (dried)	..	126 tons
Fish	4 tons	16 tons
Coffee Beans	..	10 tons
Nuts	9 tons	..
Cheese	..	7 tons
Other	16 tons	13 tons
Total	29 tons	172 tons
Poultry	12,516 head	17,619 head
Inspections—		
Total premises inspected	8,881	8,448
Unclean Premises—		
Warning Letters	252	213
Prosecutions, mainly—		
Insects, exposure food, smoking on premises	23	16
Other Breaches	203	158
Complaints	..	1,441
Inspections of State Department Institutions	..	44

TABLE V—WORK PERFORMED BY HEALTH INSPECTORS IN METROPOLITAN AREA

	1963	1964
Sanitary Surveys	..	2
Shops and Buildings Inspected	22	836
Hospitals, Institutions, Schools	18	226
Hotels, Public Halls and Theatres	8	133
Swimming Pools	1	44
Slaughtering Premises and Abattoirs	6	29
Pet Food Shops and Knackeries	25	61
Flock and Beddings—		
(a) Inspection of Premises	29	38
(b) Samples collected	6	11
Camps, Showgrounds and Cemeteries Inspected	26	21
Saleyards	..	4
Sanitary Depots—		
(a) Proposed	33	54
(b) Existing	202	290
Approval for Disposal of Nightsoil in furrows	..	3
Septic Tank Applications Dealt With—		
Approval .. 6,087 9,925		
Refusal .. 1,071 1,239	8,158	11,164
Testing of Bores for Disposal of Septic Tank Effluent	8	11
Septic Tank Sites Inspected	10,701	11,693
Septic Tank Installations Inspected	158	342
Septic Tank Manufacturers Design Plans examined	..	73
Sewage Treatment Works Inspected	8	55
Water Supplies Inspected—		
(a) Public	..	8
(b) Private	..	20
Infectious Diseases Investigations	10	4
Specimens Collected (Faeces, Blood, Urine)	80	—
Nuisance Investigations	419	831
Samples—		
Water	448	793
Effluent	215	77
Sludge, dust, sawdust, soil	..	7
Trade Wastes	..	5
Inspection of Dairies	..	5
Assisting Councils, Licensing Court, Land Court	..	2
Inspection of Noxious Trades Premises	756	1,051
Rivers and Beach Pollution	14	66
Legal Proceedings for Department	6	24
Appeals successful for Department	1	2
Fines	£135	£222
Costs	£14	£28
Personal and telephone complaints of nuisance received	..	790

Newcastle Health District

Medical Officer of Health: H. R. DUGDALE, M.B., Ch.B., D.P.H.

Location: Government Insurance Office Building, 2 Market Street, Newcastle

The Newcastle Health District comprises nine Municipalities, of which the City of Greater Newcastle is by far the largest, and fourteen Shires. It extends from the Hawkesbury River in the south to the northern boundary of the Macleay Shire, where it joins the North Coast Health District. The Western and North Western Health Districts form the inland boundary.

Staff

In addition to the Medical Officer of health the staff consists of a Deputy Medical Officer of Health, 1 Psychiatrist, 1 Psychologist, 1 Social Worker, 2 Speech Therapists, 2 School Medical Officers, 1 part-time Ear, Nose and Throat Specialist, 6 School Nurses, 1 Senior Health Inspector, 2 Health Inspectors, 1 Senior Food Inspector, 1 Food Inspector, 1 Assistant Nurse Inspector, 5 Tuberculosis Nurses, 1 Chief Clerk, 3 Office Assistants.

VITAL STATISTICS

Population

To 30th June, 1963, 483,400—To 30th June, 1964, 489,410.

Births

Live Births—

1963—5,094 M. 4,930 F. = 10,024. Rate per 1,000 of population, 20·74.
1964—4,797 M. 4,596 F. = 9,393. Rate per 1,000 of population, 19·19.

Still Births—

1963—144. Rate per 1,000 of population, 0·30.
1964—121. Rate per 1,000 of population, 0·25.

Percent of all births—Live and Still—

1963—1·42.
1964—1·27.

Deaths

1963—2,778 M. 1,948 F. = 4,726. Rate per 1,000 of population, 9·78.
1964—3,094 M. 2,252 F. = 5,346. Rate per 1,000 of population, 10·92.

Infantile Mortality

Year	Deaths under 1 year of age	Rate per 1,000 live births	Deaths within 1 week of birth	Percentage	Rate per 1,000 live births	Deaths within 1 month of birth	Percentage	Rate per 1,000 live births
1963 ..	220	21·95	161	73·18	16·06	173	78·64	17·26
1964 ..	229	24·38	153	66·81	16·29	173	75·55	18·42

ENVIRONMENTAL SANITATION

Sanitary Surveys

Because of Staff shortage it has not been possible to arrange any Surveys.

Camping Areas

Many of the Camping and Recreation Areas in the District are poorly maintained with primitive sanitation and few or no amenities. Lack of money and vandalism are the usual reasons advanced by Councils for their indifference to the needs of holiday makers. However, it would seem that the Public is beginning to discriminate against grounds with poor facilities and at least one Local Authority is seriously concerned at the fall in revenue.

Noxious Trades

The general standard of Noxious Trade premises improved considerably during the year. The Act was extended to the Shire of Merriwa and it is hoped will shortly include Scone so that the whole of the Health District will then be covered.

Fluoridation of Water Supplies

Following the decision of the Government the Hunter District Water Board decided to make provision for fluoridation of the Board's Water Supply.

An investigation was made with the Public Works Department into a proposal to fluoridate the water supply to the town of Gloucester.

Septic Tanks

	1963	1964
Applications approved	1,898	2,015
Applications not approved	59	48

The main reasons for disapproval were ground water used for domestic purposes and unsuitable disposal areas.

An off shore disposal scheme for chlorinated effluent collected by tanker in the Gosford Shire proved successful. It also eliminated a long standing nuisance on an adjacent beach.

Scavenging Areas and Depots

Regular inspection of Nightsoil and Garbage Depots was maintained and checks made on Nightsoil Scavenging Districts.

Complaints

150 Complaints mainly about environmental sanitation were either dealt with directly or referred to the Local Authority with subsequent follow up.

Infectious Diseases

TABLE I—COMMUNICABLE DISEASES WITH DEATHS, 1963-1964

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Ancylostomiasis	20	..	13	..
Ascariasis	45	..	45	..
Brucellosis	..	..	5	..
Chorea (Rheumatic)	..	..	1	..
Dengue Fever	..	..	..	..
Diphtheria	11	1	2	..
Hepatitis (Infectious)	158	2	233	4
Infantile Diarrhoea	25	1	57	3
Leptospirosis	7	..	2	..
Meningococcal Infection	6	1	8	2
Ornithosis	..	..	..	..
Paratyphoid	..	..	..	..
Puerperal Fever	..	..	2	2
Rheumatic Fever	10	1	12	1
Scarlet Fever	33	..	48	..
Tuberculosis	69	32	121	27
Typhoid Fever	1	..	2	..
Virus Encephalitis	..	..	2	1
Cholera, Leprosy, Smallpox and Yellow Fever	..	..	..	..
Staphylococcal Mastitis	2	..	..	..
Staphylococcal Pneumonia	11	3	13	..
Staphylococcal Diseases in infants under 4 weeks of age	19	..	14	..
Total	417	39	580	40

Infectious Hepatitis

There were 233 cases of Infectious Hepatitis during the year, many of these coming from the Port Stephens Shire area. A detailed investigation was undertaken of the epidemic in this area and recommendations made regarding the improvement of hygiene among school children and the use of gamma globulin.

SCHOOL MEDICAL SERVICE

General

The Child Health Centre during the past year has extended its services into outlying Districts. Assessment teams consisting of Medical Officer, Nursing Sister, Psychologist and Speech Therapist, have worked from Baby Health Centres in the school holidays. 104 new cases were seen at Taree, Forster, Wingham, Muswellbrook, Singleton, Raymond Terrace, Maitland, Kurri Kurri and Cessnock. In follow-up visits 5 and 8 months later 19 new cases and 47 old cases were seen.

At the Child Health Centre in Newcastle 873 new cases attended; of these 297 attended the Hearing Clinic. Speech Therapy and Child Guidance figures appear elsewhere. Problems relating to physical and mental health were supervised at the Child Health Centre. 99 cases were reviewed.

SCHOOL MEDICAL INSPECTION

DEPARTMENTAL SCHEME

Medical inspection of schools was completed in 177 of a possible 233 schools, by the 3 permanent School Medical Officers and 2 doctors working under the "Shires" scheme but assisted by Newcastle School Medical Service Sisters with some overlap in the areas covered. Mantoux testing was carried out at 3 High Schools.

Shire Scheme

Medical inspections were carried out in ten Shires and Municipalities during the year. All Councils, except one, in this Health District, are now participating in the Scheme despite difficulties in engaging Medical Practitioners to carry out the examinations.

Table II

Year	Schools	Full Examinations	Reviews	Parent Interviews
Departmental Scheme—				
1963	144	16,913	6,060	1,444
1964	177	7,642	11,861	987
Shire Scheme—				
1963	97	12,858	1,737	717
1964	201	11,561	6,231	775

Child Guidance Clinic

Lectures and discussions on preventive work were held with the Staff of the Baby Health Centres, with mutual increase in understanding of problems.

Retarded and post psychotic adolescents attended the Occupational Therapy Department of Royal Newcastle Hospital before being transferred to the sheltered workshops. Patients were also referred to the Psychiatric Rehabilitation Centre.

All educational problems were dealt with at the Educational Guidance Clinic.

The Psychiatric Admission Centre has co-operated fully and suitable cases have been sent to Broughton Hall and some to the Ryde Children's Unit.

The Church Welfare Departments have been most co-operative in helping with cases. Also the Department of Labour and Industry, and local Industrialists have helped in finding employment for older patients.

The Clinic is used fairly frequently in a purely consultative fashion by local Doctors, by the Sheltered Workshops, Church Homes and Marriage Guidance Counsellors, and to a considerable extent by the Child Welfare Department.

Open case discussions were held weekly with school Medical Officers, when available, and with members of Royal Newcastle Hospital Staff.

Six sessions with School Counsellor Trainees and Third Year Distinction Arts students were held and management discussions with the Staff of St Elizabeth's Home, Singleton, and Montie Pio, Maitland on 3 occasions. A lecture to parents on youth problems was given at the Y.W.C.A., also discussions with parent groups of two Schools in the District.

The Social Worker took part in a Careers Advisory Council in Apprenticeship week. She also participated in the Women's Graduate Advisory sessions for High School girls.

Table III

Case Load	1963	1964
New cases referred	331	482
Cases from previous year	89	169
Old cases reopened	89	30
Total case load	509	681
Cases closed	228	367
Cases attending and continuing to next year	169	118
Waiting list (new cases referred but not seen)	112	196
Results of treatment (Closed Cases only)	**1963**	**1964**
Diagnostic only: treatment not required or not offered	124	145
Treatment offered but declined	20	38
Treatment given but results unsatisfactory	25	33
Treatment given, symptomatic improvement	56	125
Treatment satisfactory, good readjustment	3	26
	228	367

Speech Therapy Clinics

TABLE IV

	1963	1964
Number of attendances	1,450	2,870
Hearing Clinic—		
No. of Clinics held	52	48
No. of children examined	573	500

PRIVATE HOSPITALS ACT

One Private Hospital and three Rest Homes were newly licensed. There are now eighteen Private Hospitals with 268 beds and 15 cots, and twenty-one Rest Homes with 380 beds in the Newcastle Health District.

A "star" classification scheme similar to one devised for Sydney using the same criteria has been used with the following result:—

Stars	0	1	2	3
Private Hospitals	1	2	12	3
Rest Homes	2	5	6	8

TABLE V

	1963	1964
Private Hospitals inspected	40	68
Rest Homes inspected	52	82
Proposed sites Rest Homes or Private Hospitals	9	19

MATERNAL AND BABY WELFARE

The Deputy Medical Officer of Health has been invited to serve on the Central Northern Medical Association's Committee considering Perinatal Mortality. It is hoped that this may bring about the extension of the home visiting scheme for premature babies already in operation at Royal Newcastle Hospital and such other facilities as the Department has to offer.

Three new Baby Health Centres have been opened and a Sister now attends at a Well Baby Clinic at the Royal Newcastle Hospital.

TABLE VI

Attendance at Baby Health Centres

Year	Total	Hospital Visits	Home Visits	Individual Attendances
1963	105,264	757	1,368	12,205
1964	105,634	824	1,684	12,789

Attendances at Prenatal Clinics

1963	3,764
1964	3,231

Premature Babies and Feeding Difficulties

1963	No. notified 49	No. of home visits	124
1964	No. notified 53	No. of home visits	125

Assistant Nurse Inspector

	1963	1964
Baby Health Centres inspected	88	111
Sites for proposed Baby Health Centres	8	5
Interviews with Committees	6	15

TUBERCULOSIS CONTROL

Chest Clinics

There are seven Clinics in the Area and patients are also seen at Maitland Hospital. It has been proposed that a Clinic be established at Muswellbrook to serve the area between Maitland and Tamworth.

A mass minature radiography survey was conducted by the Anti-Tuberculosis Association of the north western area of the Health District and Newcastle Urban area during the latter half of the year. This considerably increased the work load of the relevant Chest Clinics and the Sisters.

The three Sisters, who work in Newcastle and surrounding District, maintain a close liaison with Royal Newcastle Hospital Chest Clinic and carry out a programme of domiciliary visiting under the direct supervision of the Physician in charge of the Clinic.

TABLE VII

Attendances	1963	1964
Clinic Sessions	493	505
Total Attendances	9,082	10,843
Home Visits	3,615	3,903

PURE FOOD ADMINISTRATION

With the appointment of an additional Food Inspector a quicker follow up of Notices has been achieved and more opportunity found for instruction. It has also helped in handling the many enquiries not only from Food Manufacturing and Packing Companies but also from Shopkeepers, the Public and Local Government Authorities.

Dressed Poultry

About 100,000 birds weekly are processed in Newcastle alone and a detailed inspection programme was therefore begun. Few premises were of the required standard and most were bad but capable of considerable improvement. The necessary work was discussed on the site and since it was obvious that with attention to hygiene, losses were less and sales likely to be greater, willing co-operation was obtained.

Others were in such a condition and the owners so indifferent that they had to be eliminated

Oestrogen tablets were being used in two establishments and in another birds were soaked in water containing preservative, thus increasing their weight by about 10 per cent. These practices have ceased.

Wild Pigs

Feral pork flesh containing sparganum was seen in a butcher's shop. Six carcases were seized and destroyed. Local Abattoirs and the trader were informed and the trade has now ceased.

Meat Inspection

With the exception of Merriwa, Muswellbrook and Hastings Shire meat inspection is now carried out in the whole of the Newcastle Health District. An Agreement under Section 27 of the Cattle Slaughtering and Diseased Animals and Meat Act was signed between Taree and Wingham Municipalities and Manning Shire Council to declare the Manning Co-operative Meat Society Abattoir at Wingham to be the Central Abattoir for the area.

TABLE VIII

	1963	1964
Food Samples	185	1,089
Inspections	1,327	2,083
Notices	414	377
Complaints	67	105
Food seized and destroyed	10,017 lb	15,553 lb
Prosecutions	52	68
Fines and Costs	£596	£674

South Coast Health District

Medical Officer of Health: EDGAR CHARLES MORELAND WALLACE, M.B., B.S., D.P.H.

Location: A.M.P. Building, 96 Keira Street, Wollongong

Staff

In addition to the Medical Officer of Health the staff comprises a Deputy Medical Officer of Health, 2 School Medical Officers, 1 Senior Pure Food Inspector, 2 School Nurses, 1 Senior Health Inspector, 2 Health Inspectors, 3 Tuberculosis Sisters, 1 Assistant Nurse Inspector, 1 Speech Therapist, 1 Clerk, 4 Office Assistants.

The additional positions for one Food Inspector and one Health Inspector have not yet been filled.

VITAL STATISTICS

Population

The population of the district at 30th June, 1964, was estimated at 312,460.

Live Births

There were 6,769 live births equal to a rate of 21·66 per 1,000 of population. Of these 3,507 were males and 3,262 females.

Deaths

Deaths numbered 2,431 equivalent to a rate of 7·78 per 1,000 of population. Of these 1,429 were males and 1,002 females.

Infantile Mortality

Deaths under one year of age numbered 145 equivalent to a rate of 21·42 per 1,000 live births.

Of the total number of deaths of infants under one year of age 92 or 63·45 per cent occurred within one week of birth and 98 or 67·59 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 13·59 and 14.48 respectively.

Still Births

There were 92 still births equal to a rate of 0·29 per 1,000 of population and representing 1·34 per cent of all births (live and still).

TABLE I—COMMUNICABLE DISEASES

Notifications of Communicable Diseases and Deaths—South Coast Health District—1963-1964

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Virus Encephalitis	2	..	2	..
Diptheria	1	..	..	..
Infantile Diarrhoea	13	1	8	..
Staphylococcal pneumonia	1	1	2	..
Staphylococcal infection (in Infants under 4 weeks)	126	1	362	..
Scarlet fever	..	..	12	..
Rheumatic fever	5	1	4	..
Puerperal infection	6	1	7	..
Meningococcal infection	3	..	4	2
Infectious Hepatitis	239	1	253	..
Brucellosis	..	..	1	..
Paratyphoid Fever	..	..	2	..
Tuberculosis	143	12	75	9
Total	539	18	732	11

Staphylococcal Infection

There has been a marked increase in notifications of staphylococcal diseases occurring in infants under the age of four weeks.

ENVIRONMENTAL HYGIENE

During the second quarter of 1964 a sanitary survey of the Shire of Yarrowlumla was carried out. Conditions generally were found to be unsatisfactory. The Medical Officer of Health, accompanied by a Health Inspector, addressed the full Council regarding remedial measures necessary, and considerable improvements in this Shire are anticipated.

Due to staff changes and the fact that a vacancy has existed on the Health Inspection staff for sixteen months again it has not been possible to maintain the schedule of annual inspections of the thirteen Government Institutions within this District.

An extensive survey of the main oyster growing areas on the South Coast was carried out in an attempt to ascertain whether pollution of the waters and oysters was occurring. This survey involved the equivalent time of one Health Inspector for 3½ months, and approximately 600 samples were submitted for analysis.

Three towns located in the Shires of Monaro and Mulwaree were surveyed for proposed mass septic tank installation schemes. As a result over 200 applications to install tanks under this scheme have been recommended for approval.

Surveys were also made of camping and caravan parks along the coast. Lack of proper sanitary facilities rendered numerous sites unsatisfactory. Appropriate recommendations were sent to the respective Councils for their attention.

A survey of general sanitation problems and in particular, waste disposal was carried out in the Kosciusko State Park Trust area and recommendations forwarded requiring remedial action. The Kosciusko State Park Trust area was removed from the South Coast Health District during the year, the area now being administered by Head Office.

One-day conferences of Health Inspectors employed by Local Authorities were held at Cooma in February and Albion Park in July. These were well attended and provided useful means of discussing health problems.

TABLE II—ROUTINE INSPECTIONS AND INVESTIGATIONS, 1964

	1963	1964
Noxious Trades Act	139	147
Premises (Public Health Act)	81	15
Water Supplies (Sewage and river pollution)	46	744
Inspection of septic tank sites—new	1,696	1,915
Inspection of septic tank sites—existing	188	262
Number of septic tank applications received	1,778	1,911
Inspection of sanitary depots—proposed sites	18	7
Inspection of sanitary depots—existing	108	141
Investigations of complaints	94	115
Inspection of public amenities—camping areas, parks, reserves and conveniences, swimming pools	289	418
Inspection of yard areas, closets, etc.	87	515

PURE FOOD ADMINISTRATION

The expansion of existing areas and rapid development of new suburbs particularly in the northern section of this district has increased the amount of supervision necessary in connection with the Pure Food Act. The number of licensed food premises in the City of Greater Wollongong only increased by 246 in 1964 as compared with 1963.

Quantities of diseased meat continue to be found exposed for sale in butchers' shops or held for use in hotels, etc., in areas of the district where no meat inspection is carried out or available. An attempt has been made to encourage self-inspection by butchers and others handling meat. Many of these persons usually say "when anything like that is found it is sold as or used for dogs food". These persons are completely unaware of the serious significance of this, particularly in relation to hydatid diseased meat.

TABLE III—PURE FOOD WORK IN SOUTH COAST HEALTH DISTRICT, 1964

	1964
Milk Samples—	
Number of samples taken	46
Number below standard	5
Warnings issued	2
Prosecutions undertaken	3
Food and Drug Samples—	
Number of samples taken	303
Number below standard	77
Warnings issued	19
Prosecutions undertaken	77

TABLE III—*continued*

Seizures of foodstuff—	
Quantity	345 lb.
Premises—	
Number of inspections	801
Notices, warnings issued	42
Prosecutions undertaken	4
General breaches—	
Prosecutions undertaken	15
General—	1964
Complaints Investigated	33
Government Institutions inspected	6
Interviews, advisings to local authorities and public	143
Total prosecutions undertaken	96

TUBERCULOSIS

The Mobile X-Ray Survey was conducted in the Wollongong, Shellharbour and Kiama area in the latter part of 1964 and up to 30th December, 1964, 16 new cases of Active Pulmonary Tuberculosis had been notified on referral from the survey. Total number X-rayed at this survey was 98,980, an excellent response. There will be a follow-up of those in the State Electoral District of Wollondilly, Sub-division of Oak Flats and Dapto, who failed to attend.

TABLE IV—SUMMARY OF WORK CARRIED OUT AT CLINICS DURING 1964

	Wollongong	Shoalhaven	Goulburn	Moruya	Batemans Bay	Bega
Total Attendances	8,263	565	1,108	131	25	379
Proven Pulmonary T.B.	452	46	84	9	2	31
Proven Extra-Pulmonary T.B. ..	34	1	1	3	1	1
Inactive T.B. (all forms)	778	86	205	32	2	52
Newly Notified Cases	46	..	13	..	..	2
Contacts	2,711	295	357	53	11	263
Others	2,075	26	206	38	8	24
Number of X-rays	4,283	351	765	126	16	319
Bacteriological Investigations ..	2,116	..	118	23	4	36
Other Services	746	21	325	36	6	77
Cases Notified by Clinic	51	..	25	..	..	5
Visits	647	6	221	..	..	8

SCHOOL MEDICAL SERVICE

The School Medical Service staff increased by one during the year by the appointment of a second speech therapist. This appointment reduced the waiting list at the clinic considerably, and the new procedure by which appointments are made direct to the clinic proved to be most satisfactory.

The hearing clinic is still held twice monthly and the waiting list has been so reduced that a child may now be seen one month after making an appointment.

Dr J. K. A. Hawker attended the Child Guidance Clinic at Bexley for four weeks to study counselling procedures. The knowledge gained in the counselling of parents of maladjusted and problem children will be invaluable in this district.

The Shire Scheme continued satisfactorily through the year, although some of the more isolated areas of the district were not adequately covered due to a difficulty in obtaining doctors.

Preparations were made towards the end of the year for the introduction of new procedures in 1965.

The following tables summarise the year's work.

TABLE V

Schools Examined	Full Examinations	Reviews	Parent Interviews	Defects			
				Speech	Eyes	Ears	Others
Departmental Service—							
1963—							
60.. ..	7,418	3,652	806	84	512	209	521
1964—							
56.. ..	5,873	7,559	956	..	658	311	602
Council Scheme—							
1963—							
122 ..	7,071	4,870	250	27	501	236	700
1964—							
157 ..	8,215	5,926	495	8	659	250	1,077

TABLE VI

Speech Therapy Clinic

	1963	1964
First Interviews	74	158
Review Interviews	77	100
Admitted or readmitted to treatment	42	68
Admitted to follow up treatment	37	64
Discharged	24	54
Failed to continue treatment	15	..
Follow up cases discharged	53	96
Visits to school by Therapist	9	..
Individual attendances at Clinic	1,192	1,638
Number awaiting first interview	115	22
Cases seen	N/A	161
Cases attending current at beginning of year (January)	N/A	29

MATERNAL AND BABY WELFARE

Two new Baby Health Centres were opened during the year at Albion Park and Berkeley respectively.

Routine inspections were carried out at four (4) Baby Health Centres and fifteen (15) Maternity Units.

The attendances at the various centres, and visits made are as follows:—

TABLE VII

No. of Centres	Total Attendance at Centres	Individual Attendances at Centres	Hospital Visits	Home Visits (Hrs)
1963— 51 ..	79,634	10,543	472	1,664
1964— 53 ..	95,744	11,428	527	1,334

PRIVATE HOSPITALS

One new Hospital was opened during the year at Coorinyah. The Hospital at Cotterwood was closed.

Routine inspections of private hospitals and Rest Homes numbered 18.

MEDICAL EXAMINATIONS

TABLE VII

Year	Number Examined
1963 ..	155
1964 ..	172

OCCUPATIONAL HEALTH

During the year from time to time, occupational health problems came to the notice of this Office. Most of these were from the Stevedoring Authority, Port Kembla, concerned about various health risks to waterside workers.

Mr B. Greenfield, an Officer of the Air Pollution Control Branch, Division of Occupational Health, was appointed as Field Officer to the Wollongong-Port Kembla area. Although not directly attached to this Office, a good liaison exists between Mr Greenfield and our officers.

SOCIAL HEALTH

Care of the Aged

This office is frequently contacted by people who have a sick and elderly relative whom they want admitted to a hospital or rest home. This is not easy as there are not enough beds available. However, local communities are beginning to realise their responsibilities to the old folk and there are projects under way in several areas to provide services for the aged, including provision of homes. Dr Sidney Sax, Director of Geriatrics, accompanied by the Medical Officer of Health, have conferred with local bodies to assist and guide their efforts.

Intellectually Handicapped

Many requests continue to come to this Office for advice and guidance for intellectually handicapped people. Such requests might come directly from the parents of a handicapped person, or a medical practitioner, or a clergyman, or some organisation.

The problems encountered in this field are very varied indeed. Every case is an individual one with its own peculiar difficulties. In spite of lack of sufficient facilities for diagnosis and accommodation in this area, this Office has been able to give considerable assistance with the problem.

The Mentally Ill, the Maladjusted and Alcoholics

Many enquiries and calls for assistance come to this Office for help with the mentally ill and maladjusted, and alcoholics, and from many quarters—e.g., teachers, counsellors, clergymen, doctors, police, child welfare officers, organisations, relatives or the person himself.

Advice is given by this Office on the sources of help available. As there is no psychiatric centre at Wollongong, departmental or otherwise, many of these cases have to be referred to Sydney.

Criminal Offenders

The Medical Officer of Health was vice-President of the Wollongong Civil Rehabilitation Committee during the year. Many of the cases coming before the Committee are maladjusted, retarded or mentally ill, or socially immature people in need of psychiatric assistance. Some cases have been referred to the Medical Officer of Health for assistance and guidance, and he in turn has made use of the facilities offered at Fraser House, North Ryde, and other establishments with most encouraging results.

Miscellaneous

Besides the class of case mentioned above, many other problems of a social nature continue to be referred to this Office and from a wide variety of agencies.

HEALTH EDUCATION

Many members of the staff were active during the year in health education. These include the Medical Officer of Health, a School Medical Officer, the Senior Pure Food Inspector, the Senior Health Inspector and his assistant, the Speech Therapist and Baby Health Centre Sisters. A wide variety of health subjects was covered.

The forms of education were mostly as follows—radio talks (approximately 140); talks to gatherings of people (15); and information submitted to the Press and radio on topical subjects.

STAFF TRAINING

Dr England and Dr Stewart, of the Division of Maternal and Baby Welfare, visited Wollongong to address the regular monthly meeting of Baby Health Centre sisters on recent advances in Health Centre Work in Sydney. Throughout the year various other subjects were presented at these meetings by appropriate speakers. They included a lecture on skin diseases in infants, by Dr Howard Coates, teeth development and fluoridation by Mr W. Haymet, Director of Dental Services, and on subnormality by the Medical Officer of Health.

The Senior Health Inspector of this Office attended a weeks Departmental Training course in Swimming Pool supervision in October.

Dr J. K. Hawker, School Medical Officer, attended a months training in psychiatric counselling at the Bexley Child Health Centre.

Western Health District

Medical Officer of Health: T. F. RENNIE, M.B., Ch.B., D.P.H.

Location: Webbs Chambers, George Street, Bathurst

Staff

In addition to the Medical Officer of Health the staff consists of a Deputy Medical Officer of Health, 1 Senior Health Inspector, 1 Senior Food Inspector, 2 Health Inspectors, 1 Food Inspector, 1 Assistant Nurse Inspector and 3 Clerical Officers. (Dr B. M. Nolan was transferred to the post of Deputy Medical Officer of Health, South Coast Health District on 8th June, 1964. Position in Western Health District now vacant.)

Decentralisation

During the year the following functions were delegated to the Medical Officer of Health:—

(1) The administration of the Venereal Diseases Act, 1918, as amended, and Regulations.

(2) The initiation and carrying out of prosecutions under the Pure Food Act and Noxious Trades Act.

(3) The Medical Officer of Health, Bathurst Advance account, was opened and has enabled speedier payment of certain accounts to be made.

VITAL STATISTICS

Population

The population of the District at 30th June, 1964 was estimated at 276,690.

Live Births

There were 6,279 live births equivalent to a rate of 22·69 per 1,000 of population. Of these 3,293 were males and 2,986 females.

Deaths

Deaths numbered 2,630 equivalent to a rate of 9·51 per 1,000 of population. Of these 1,567 were males and 1,063 females.

Infantile Mortality

Deaths under one year of age numbered 149 equivalent to a rate of 23·73 per 1,000 live births. Of the total number of deaths of infants under one year of age, 81 or 54·36 per cent occurred within one week of birth and 94 or 63·10 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 12·90 and 14·97 respectively.

Still Births

There were 94 still births, equal to a rate of 0·34 per 1,000 of population and representing 1·47 per cent of all births (live and still).

ENVIRONMENTAL HYGIENE

Inspections of Aborigine Stations and Reserves continue. It is pleasing to note that recommendations by this Department made in reports to the Aborigines' Welfare Board concerning the improvement of living standards are being put into effect. Although living conditions amongst Aborigines in the Western Health District are still very far from satisfactory some progress is being made.

Sanitary Surveys of the Shire of Coonamble, and the Municipality of Peak Hill were carried out. A sanitary survey of the town of Walgett was also carried out as part of a comprehensive survey of the Health of Walgett.

Serious flooding of the Cities of Bathurst and Lithgow caused temporary problems in environmental hygiene which were overcome. The floods revealed a lack of co-ordination between Civil Defence authorities and Public Health authorities which could be critical in the event of a major civil disaster when the early alerting of Public Health authorities could prove vital to the safety of the community.

A conference on the medical aspects of Civil Defence was held at Bathurst in October, 1964. The conference was addressed by the Director, State Health Services.

The appointment of a Regional Controller of Civil Defence has still not been made and Civil Defence–Public Health activities are still not co-ordinated.

FLUORIDATION OF PUBLIC WATER SUPPLIES

Fluoridation established:—Orange (2 plants); Condobolin.

Joint inspections carried out:—Nyngan; Parkes; Cowra; Mudgee; Coonabarabran; Dubbo; Oberon.

Enquiries made:—Cobar.

ABATTOIR WASTES

There has been great interest shown by the various abattoir authorities in the area in the disposal of abattoir wastes by spray irrigation. It is probable that this effective and profitable method of disposal will become standard in the area.

TABLE I—ENVIRONMENTAL HYGIENE INSPECTIONS, 1963-1964

Inspections Carried out	1963	1964
Septic tanks and closets	1,259	1,191
Sewerage Treatment Works	31	28
Garbage and Sanitary Depots	188	168
Noxious Trades	200	187
Abattoirs	9	11
Complaints and Nuisances	75	42
Water Supplies	57	31
Swimming Pools	57	57
Food Premises	12	..
Inspection of Premises, Halls and Hotels	56	13
Aborigine Stations and Institutions	42	11
Infectious Disease Investigations	1	1
Miscellaneous Activities	75	81

COMMUNICABLE DISEASES

TABLE II—NOTIFIED COMMUNICABLE DISEASES AND DEATHS, 1963-1964

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Poliomyelitis	1	..	..	..
Brucellosis	1	..	4	..
Hepatitis (Infectious)	188	..	321	2
Infantile Diarrhoea	33	10	40	4
Paratyphoid Fever	1	..	1	..
Puerperal Infection	6	1	7	..
Rheumatic Fever	1	1	7	1
Scarlet Fever	48	..	55	..
Tuberculosis	49	9	86	9
Virus Encephalitis	3	1	7	1
Staphylococcal Pneumonia	3	3	1	1
Staphylococcal Disease in Infants under 4 weeks of age	..	..	..	..
Meningococcal Meningitis	3	1	7	1
Total	337	26	536	19

There was a considerable rise in the number of notifications of Infectious Hepatitis. This can mainly be accounted for by outbreaks in the Binnaway district, Dubbo and Bourke. The number of cases of Tuberculosis notified has also risen.

A pilot survey was carried out by the Medical Officer of Health and Dr J. Roberts, Bathurst, in the Brewarrina Aborigine Station School and Goodooga Public School to try to discover the presence of trachoma in children in the area. One acute case was found in a 4 year old boy and several children showed signs of past infection. This survey will be followed up.

SCHOOL MEDICAL SERVICE

TABLE III—SCHOOL MEDICAL EXAMINATIONS, 1963-1964

Category	Full Examination	Review	Parent Interviews	Total number of children examined
Full Time—				
1963 ..	..	..	..	..
1964 ..	196	179	..	375
Shires—				
1963 ..	4,037	1,450	231	5,487
1964 ..	9,756	2,440	139	12,196

Twenty Local Authorities have taken part in the School Medical Service in 1964. There has been a considerable increase in the numbers of children examined. The latest amendment to the method of examination will mean that less children will be examined by doctors in the future but that examinations will be more selective.

Dubbo still remains the only one of the larger Local Authorities in the Western Health District still without a School Medical Service.

PURE FOOD ADMINISTRATION

TABLE IV—PURE FOOD INSPECTIONS, SEIZURES, PROSECUTIONS AND FINES, 1963-1964

Category of Work Carried Out	1963	1964
Inspections and complaints	1,497	1,416
Hotels (liquor)	58	42
Samples	387	342
Notices served	172	84
Seizures	2	1
Prosecutions—		
Pure Food Inspectors	81	53
Council Officers	6	..
Fines and Costs—		
Pure Food Inspectors	£471	£590 6s.
Council Officers	£66 10s.	..

Figures for 1964 for 6 months only.

As from 1st July, 1964, food statistics recorded on new report form. Statistics for July to December as follows:—

Milk Samples—

No. of milk samples taken for analysis	106
No. of samples below standard	29
No. of warnings issued	1
No. of prosecutions	35
Amount of fines and costs	£207 15s.

Food and Drugs (other than milk)—

No. of samples taken for analysis	235
No. of samples below standard	34
No. of warnings issued	10
No. of prosecutions	39
Amount of fines and costs	£284

Seizures—

Quantity of food and drugs unfit for human consumption seized and destroyed	1,105 lb

Premises—

No. of inspections of premises (food and drugs)	1,813
No. of notices issued	372
No. of prosecutions for unclean premises	6
Amount of fines and costs	£78

General Breaches of the Act and Regulations—

No. of prosecutions	55
Amount of fines and costs	£309 15s.

Other matters—

Liquor examined (bottles)	719
Meat examined	540
Inspections of Departmental Hospitals	1
Inspections of Child Welfare Institutions and Prisons	7
Complaints and enquiries	175
Prosecutions recommended	115

The volume of work done in Pure Food inspections has more than doubled. This is mainly because of the appointment of an additional Food Inspector in December, 1963.

Inspections by the Food Inspector were carried out during the sanitary survey of Coonamble Shire in order to supplement the work of the Health Inspectors. By combining sanitary surveys with surveys of food and food handling in a district a more accurate estimation can be made of the work, in health, of the local authority.

A survey of food and food handling was also carried out in the town of Walgett in conjunction with a comprehensive survey of the health of the town.

Attention has been paid in the Western Health District to public health problems associated with country shows, especially problems in food handling. A programme of inspection of shows, race meetings, etc., has been carried out. Advice has been given to Show Committees and others on how facilities can be improved. Where gross breaches of the Pure Food Act, by professional stall-holders, have been observed, prosecutions have been undertaken.

TUBERCULOSIS CONTROL

The district was visited in July, 1964, by the Commonwealth Director of Tuberculosis, Dr Tremayne and the State Director of Tuberculosis, Dr Harris. Accompanied by the Medical Officer of Health they inspected Chest Units and Clinics in the district.

Compulsory Chest X-ray campaigns were conducted in Forbes and Cowra. Follow up visits to these campaigns and compulsory campaigns in Mudgee and Lithgow late in 1963 were carried out. One prosecution was undertaken in Mudgee for failure to have a Chest X-ray but before the case could be settled the defendant complied with the order.

TABLE V—TUBERCULOSIS CONTROL WORK, 1963

Category of work carried out	Number
New cases discovered	18
Total number of patients	3,123
Total number of attendances	5,725
Number of visits	2,077
Mantoux Tests	551
B.C.G.	80

Because of the introduction of new report forms in January, 1964, comparison cannot be given with these figures.

TUBERCULOSIS CONTROL FIGURES FOR 1964

1. Attendances—	
Proven Pul. T.B.	521
Proven Extra Pul. T.B.	38
Inactive T.B. (all forms)	1,079
Newly notified T.B. cases	39
Contacts	1,970
Others	1,404
Total attendances	5,051
2. Total Attendances—	
(a) Tuberculosis	1,520
(b) Non-tuberculosis	1,723
3. Total No. of Bact. Investigations	782
4. Other Services	428
5. No. of cases notified by Clinic	18
6. Visits	1,303

MATERNAL AND BABY WELFARE

TABLE VI—ATTENDANCES AT BABY HEALTH CENTRES, HOSPITALS AND HOME VISITS, 1963-1964

Category	1963	1964
Attendances at Centres	77,483	78,034
Hospital visits	1,064	1,066
Home visits	600	667

The Assistant Nurse Inspector carried out the following visits:—

Public Hospitals (Obstetric Units) 22

A conference of Baby Health Centre Sisters and Tuberculosis Sisters was held at the District Hospital, Bathurst, in November, 1964. This was the first conference of its kind held in the Western Health District. The Conference was addressed by the Director of the Division of Maternal and Baby Welfare, Dr Grace Browne and by the Medical Officer of Health, Western Health District.

It is intended to hold such conferences twice yearly.

PRIVATE HOSPITALS AND REST HOMES

TABLE VII—INSPECTIONS UNDER THE PRIVATE HOSPITALS ACT

Inspections	1963	1964
Private Hospitals	11	32
Rest Homes	5	28

Work in this field is increasing and is sufficient to engage the greater part of the time of the Assistant Nurse Inspector.

MISCELLANEOUS

TABLE VIII—MEDICAL EXAMINATIONS

Type of Examination	1963	1964
Permanent appointment	16	20
Teachers—casual	5	5
Ex-servicemen	3	1
Fitness for duty	1	4

TABLE IX—TRAVELLING

Departmental vehicles (2)	34,446 miles
Officers private cars (8)	46,735 miles
Total	81,181 miles

Health Survey, Walgett

A comprehensive survey of all health services in the town of Walgett was carried out between 30th September, 1964 and 30th October, 1964. The survey was carried out under the direction of the Medical Officer of Health, Western Health District. Those participating included:—

Dr J. Whitfeld, Deputy Medical Officer of Health, North Western Health District.

2 Medical Officers—School Medical Service.

1 Assistant Nurse Inspector—Maternal and Baby Welfare.

2 Sisters—School Medical Service.

1 Health Inspector—Western Health District.

1 Food Inspector—Western Health District.

The main task of the survey was to assess the status of child health in the community, but as many aspects of health as could be covered in the time allocated were studied. These included environmental health, Aborigine health, Tuberculosis and Infectious Disease, Infant Mortality and Health Services, etc., etc.

A report was submitted to the Director State Health Services.

North Coast Health District

Medical Officer of Health: I. K. Hay, M.B., Ch.B., D.P.H., D.T.M. & H.

Location: 188 Molesworth Street, Lismore

The North Coast Health District comprises the following Local Authority areas:—

Municipalities: Ballina, Casino, City of Grafton, City of Lismore, Mullumbimby.

Shires: Bellingen, Byron, Coff's Harbour, Copmanhurst, Gundurimba, Kyogle, Maclean, Nambucca, Nymboida, Terania, Tintenbar, Tomki, Tweed, Ulmarra, Woodburn.

Staff

In addition to the Medical Officer of Health the staff consists of a Deputy Medical Officer of Health, 2 School Medical Officers, 2 School Nurses, 2 Tuberculosis Nurses, 1 Senior Health Inspector, 2 Health Inspectors, 1 Senior Food Inspector, 1 Food Inspector, 1 Assistant Nurse Inspector, 3 Clerical Officers.

VITAL STATISTICS

Population

The population of the district as at 30th June, 1964, was estimated at 153,640.

Live Births

There were 3,037 live births in the district, equivalent to a rate of 19·77 per 1,000 of population. Of these 1,555 were males and 1,482 females.

Deaths

Deaths numbered 1,330, equivalent to a rate of 8·66 per 1,000 of population. Of these 773 were males and 557 females.

Infantile Mortality

Deaths under one year of age numbered 51, equivalent to a rate of 16.79 per 1,000 live births.

Of the total number of deaths of infants under one year of age 35 or 68·63 per cent occurred within one week of birth, and 37 or 72·55 per cent within the first month. The corresponding rates per 1,000 live births for the two age groups were 11·52 and 12·18 respectively.

Still Births

There were 49 still births in the district equal to a rate of 0·32 per 1,000 of the population and representing 1·59 per cent of all births (live and still).

ENVIRONMENTAL HYGIENE

The increase in the work covered during the year, a 14 per cent increase, was largely the direct result of the appointment of an additional Health Inspector on 12th October, 1964.

Apart from routine work the Senior Health Inspector co-operated with other branches of the Department and with other Departments in various special investigations and surveys; including a Worm Infestation survey among Aborigines and in schools, in co-operation with the School of Public Health and Tropical Medicine, University of Sydney, the Aborigines' Welfare Board, and the Department of Education; a survey on the effects of Organic Phosphates on employees of the Board of Tick Control in co-operation with officers of the Division of Occupational Health; inspection of Fluoridation plants with officers of the Government Analyst's Branch; other investigations in connection with occupational health, including the Clean Air Act, and the collection of samples in connection with the oyster industry. Joint inspections with officers of the Department of Public Works were carried out in relation to sewage treatment works, septic tanks at schools and other projects, including water supplies. Advice was given to local authorities on proposed water supplies, sewage disposal, reclamation of swamp land and on many other aspects of environmental sanitation.

TABLE I—INSPECTION WORK CARRIED OUT IN 1964, WITH COMPARATIVE FIGURES FOR 1963

Inspection	1963	1964
Septic tanks (proposed and existing)	528	906
Noxious Trades	44	273
Sanitary Depots	70	42
Business Premises	41	37
Water Supplies and Samples	532	120
Sewage Treatment Works	13	12
Camping Reserves	16	23
Aboriginal Reserves	4	4
Scavenging Districts	2	3
Complaints	15	39
Food Premises, Factories and shops	10	15
Other Inspections	113	107
Total	1,388	1,581

Installations of Septic Tanks

The large increase in the number of applications received for the installation of septic tanks was largely due to the extension of existing water supplies, particularly the Lower Clarence supply scheme.

Considerable attention was also paid to the inspection of existing septic tanks, several of which were found to be creating a nuisance because of unsatisfactory disposal of effluent, or faulty construction. Most owners co-operated in abating the nuisance following a verbal warning, but in some cases Councils were requested to take legal action.

Water Supplies

The decrease in the figures in respect of Water Supplies and Samples was due to the restrictions imposed by the Government Analyst on the number of samples submitted, the completion of the intensive survey of the Rocky Creek water supply and the welcome increase in activity on the part of local authorities in this field.

Following the completion of the first stage of the lower Clarence water supply, to include the township of Ulmarra, in September, 1963, work continued during 1964 to provide a reticulated supply to Yamba, Harwood Island and Chatsworth Island. This supply is filtered, chlorinated and fluoridated.

In August, 1964, a full treatment plant for the Tweed Shire Council water supply was officially opened by the Minister for Public Works. Provision was made in the building for the installation of fluoridation equipment at a later date.

The Rocky Creek water supply which provides reticulated water to some 30,000 people in Lismore City, Woodburn Shire and Byron Shire, and which was the subject of an intensive investigation during 1962-63, remained untreated, in spite of recommendations by this Department.

Complaints were received from Byron Bay water consumers about the unpleasant taste and dirtiness of the water there. On investigation this was shown to be mainly due to the fact that the town reservoir had not been cleaned out for some eight years. Responsibility for this was handed over to Council's Health Inspector.

There was considerable activity in respect of the fluoridation of water supplies during the year.

In the face of strong opposition from a vociferous section of the community, Grafton City Council began fluoridation of the lower Clarence water supply on 20th May, 1964. One week later the plant was blown up and it was not until 29th October, 1964, that repairs were effected and fluoridation recommenced, this time without serious incident. The introduction of fluoride to the Grafton water was preceded in October, 1964, by a dental survey of six year old children in Gratton and the Lower Clarence region. This survey was carried out by Dental Officers of the Department of Public Health, and revealed, inter alia, that 95·0 per cent of children showed evidence of untreated dental caries, and 62 per cent of children showed some form of malocclusion.

On 12th December, 1964, Lismore City Council held a referendum on fluoridation. Some 25 per cent of those entitled to vote at this voluntary poll did so, and the proposal to fluoridate was defeated by a narrow majority. Thereafter Council resolved to consider the free supply of fluoride tablets.

Coff's Harbour Shire Council and Casino Municipal Council both rejected fluoridation, but the Council in Casino inaugurated a scheme to supply fluoride tablets at cost to those who wished them.

As previously stated Tweed Shire Council made provision in its new water treatment plant for the installation of fluoridation equipment, and Mullumbimby Municipal Council resolved to adopt the measure and began to prepare plans. Fluoridation commenced in Nambucca Shire on 15th December, 1964.

Sewage Treatment

Inspections of existing sewage treatment works were carried out at Casino, Coff's Harbour, Grafton and Lismore. The Mullumbimby sewerage scheme was completed by the Department of Public Works, but the Mullumbimby Municipal Council declined to take over, owing to the excessive infiltration of water.

Worm Infestation Survey

Early in the year the Health Inspectors were involved in a considerable amount of work in connection with this survey, which is reported later in the text. They organised the collection of some 595 stool specimens from Aboriginal stations and reserves, and from Primary Schools in the Lismore District.

Oyster Farming

On the instructions of the Director of State Health Services samples of water from oyster leases and batches of oysters were taken and submitted to the Government Analyst for bacteriological examination. A total of 190 water samples and 6 batches of oysters were forwarded from Tweed Heads, Brunswick Heads, Ballina, Evans Head, Clarence River, and Wooli.

Clean Air Act

At the request of Casino Municipal Council an investigation was carried out in respect of air pollution in the township of Casino by an officer of the Division of Occupational Health in co-operation with the Senior Health Inspector. Recommendations were made, which the companies concerned agreed to carry out. It was not considered necessary, therefore, to recommend that Casino be proclaimed under the Act.

Noxious Trades

Increased attention was paid during the year to this aspect of environmental hygiene in an endeavour to raise the standard of Noxious Trade premises. This resulted in improvements to many premises and to associated abattoirs.

Health Inspectors' Conference

The Annual Conference of Councils' Health Inspectors and Officers of the North Coast Health District was held in Coff's Harbour on the 16th and 17th April. The conference was opened by the President of the Shire of Coff's Harbour, and guest speakers addressed the meeting on "Meat Inspection" and "Health Education and the Health Inspector". Subjects discussed included Minimum Standards for Food Premises, Mechanical Ventilation for Food Premises, Hygiene for Food Handlers, administration of the new regulations under the Dairies Supervision Act, and "Buildings and the Ordinance". It was arranged to hold the 1965 conference in Murwillumbah.

COMMUNICABLE DISEASES

TABLE II—DISEASES NOTIFIED UNDER THE PUBLIC HEALTH ACT, 1902-1952

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths.
Acute Anterior Poliomyelitis	..	..	..	..
Ancylostomiasis	16	..	211	..
Ascariasis	15	..	60	1
Brucellosis	1	..	3	..
Dengue Fever	..	..	..	..
Diptheria	..	..	..	..
Infectious Hepatitis	24	1	57	1
Infantile Diarrhoea	9	2	3	3
Leptospirosis	5	..	12	..
Meningococcal Infection	2	..	2	..
Puerperal Fever	5	..	5	2
Rheumatic Fever	1	1	5	2
Rheumatic Chorea	..	..	1	..
Scarlet Fever	..	..	13	..
Tuberculosis	41	6	30	2
Typhus Fever	..	..	2	..
Virus Encephalitis	4	2	1	..
Staphylococcal Pneumonia	1	1	..	..
Staphylococcal Mastitis	..	..	..	..
Staphylococcal Diseases in Infants under 4 weeks of age	4	..	2	..
Total	128	13	407	11

Ancylostomiasis and Ascariasis

The enormous increase in the numbers notified of these infestations, endemic amongst our Aboriginal population on the North Coast, is entirely due to the worm infestation survey carried out early in the year. The figures probably represent rather less than one-third of the number of cases existing in the District.

Infectious Hepatitis

This disease appears to be on the increase again. Cases were sporadic and no local epidemic occurred anywhere.

Venereal Diseases

Amendments to the Venereal Diseases Act and Regulations became effective on 1st July, 1964. The major change, as far as this Health District was concerned, was the provision for greatly improved contact tracing and surveillance of cases. That this change is appreciated by medical practitioners is reflected in the considerable increase in notifications during the latter half of the year in which 34 of the total of 45 cases for the year were notified. There were 41 cases of Gonorrhoea and four of Syphilis, compared with 22 cases of Gonorrhoea and one of Syphilis in 1963.

In regard to the 34 cases reported subsequently to July 1st, the source of infection was reported to this office in 19 instances and of these 18 were seen by a doctor, 16 were treated and 14 were notified as suffering from a Venereal Disease. It was possible to locate and bring under treatment the source of infection of these 14 cases in six instances.

SCHOOL MEDICAL SERVICE

In spite of difficulties created by staff changes the work proceeded according to schedule.

Because of the retirement of the School Medical Officer in the Southern area, a re-allocation of work was necessary, which brought Byron Shire, Kyogle Shire and the Municipality of Mullumbimby, previously covered by the Country Councils' Scheme, under the Departmental programme.

Only Tweed Shire schools remained under the Country Councils' Scheme, and the two Departmental Medical Officers and Nurses had to take on a considerable additional amount of work and travelling.

The defect rate in the Central area was 17·9 per cent compared with 22·7 per cent in 1963. No significance is attached to this decrease in notifiable defects, except that the proportion of review examinations to full examinations was considerably higher this year.

Just before the end of the year information was received that the School Medical Officer covering the Southern area was to be transferred to the Newcastle Health District. Simultaneously the School Nurse in the same area resigned.

TABLE III—ROUTINE SCHOOL MEDICAL EXAMINATION, 1964

Data	Central Area	Southern Area	Northern Area	Total (All Areas)
School Population	12,934	14,197	10,196	37,327
Schools Examined	96	122	52	270
Full Examinations	1,547	2,873	218	4,638
Review Examinations	5,016	5,506	2,153	12,675
Total Pupils Examined	6,563	8,379	2,371	17,313
Defects Notified	1,178	N.A.	N.A.	..
Defects as per cent and of No. Examined	17·9	N.A.	N.A.	..

The pre-school clinics started at Lismore, Casino and Murwillumbah in 1963 functioned satisfactorily throughout the year, with full attendances. A further two pre-school clinics, held fortnightly, were started in Grafton and Coff's Harbour in February, 1964.

TABLE IV—PRE-SCHOOL CLINICS, 1964

Data	Lismore	Casino	Murwillumbah	Grafton	Coff's Harbour	Total
No. Clinics held	21	11	11	10	13	66
No. children examined	194	101	85	82	131	593
No. defects found	139	89	81	56	71	436

Of 593 children examined only 4 had not been immunised, excluding those who were too young, against Poliomyelitis, and only 2 children had not received any other immunisations.

Sanitary improvements, including septic tank installations, were effected at a number of schools. Lighting, ventilation, and heating remain most unsatisfactory at many schools, particularly the small rural schools.

Full co-operation was received from the Education Department, teachers, local authorities, medical practitioners and all others concerned.

TUBERCULOSIS CONTROL

The Director of Tuberculosis made an extended visit to the Health District in August, during which all Clinics and Sub-clinics excepting those at Ballina and Maclean were visited. Discussions with hospital personnel resulted in several recommendations being made, chiefly relating to the provision of safety equipment in X-ray departments. These recommendations were implemented. The X-rays and clinic books of patients and contacts were reviewed by the Director, at Murwillumbah, Grafton and Coff's Harbour and appropriate action was taken in the few instances where anomalies were discovered.

An acute problem arising from the necessity to store large numbers of chest films at the Lismore Clinic was resolved by the provision of steel shelving, which should be adequate to meet requirements for several years.

The policy of the B.C.G. vaccination of new-born Aboriginal babies was implemented following the appointment of additional Approved Vaccinators at strategic points throughout the District.

Action was initiated to re-organise the medical staffing of the Lismore and Grafton Clinics on a paid sessional basis, with the object of bringing these clinics into conformity with the position in the remainder of the State.

TABLE V—ATTENDANCES AT CHEST CLINICS

Northern Area

	Lismore	Casino	M'Bah	Kyogle	Total
1963	1,562	566	655	359	3,142
1964	1,734	529	1,242	318	3,823
1964 as percentage of 1963 ..	111	95	190	88	121

Southern Area

	Grafton	Coff's Harbour	Maclean	Macksville	Total
1963	943	265	143	63*	1,414
1964	708	304	207	380	1,599
1964 as percentage of 1963 ..	76	115	145	..	113

* Last quarter only.

As reflected in Table V the work carried out at the Chest Clinics showed a moderate overall increase on that of the previous year. The work-load imposed upon the Tuberculosis Sister-in-charge of the Northern Area continued to be excessive. Although it was mitigated to some degree by the provision of increased clerical assistance from the District office it was still such that home-visiting and follow-up of recalcitrant contacts could not receive all the attention warranted.

MATERNAL AND BABY WELFARE

The activities of this Division, in the North Coast Health District, were decentralised at the end of 1963, and during the first few months of 1964 the newly appointed Assistant Nurse Inspector familiarised herself with the District and Baby Health Centres, and the local authorities and Country Women's Association branches concerned.

In accordance with Departmental policy the Phenylketonuria survey was started and functioned smoothly, with the interested co-operation of mothers, throughout the year.

A survey of facilities for and standards of ante-natal and post-natal care of Aboriginal mothers, and of the neo-natal histories of their babies was commenced. The retrospective survey, of babies born between July 1963 and June 1964, was almost complete by the end of the year. Of 87 births investigated, 38 mothers (43·7 per cent) had received no ante-natal care, and only 27 mothers (31·0 per cent) had been examined on more than two occasions. The survey was carried out by the Assistant Nurse Inspector with the assistance of the lady Welfare Officer of the Aborigines' Welfare Board. Thereafter births were, and will continue to be, investigated as they occur.

The first North Coast Health District weekend Conference of Baby Health Centre Sisters was held at the Nurses' Regional Training School, Lismore, in June. The Conference was opened by the Director of Maternal and Baby Welfare and subjects discussed included the Emotional Needs of Children, Fluoridation, The Pre-school Child, and Infectious Diseases of Childhood.

A fortnightly clinic at Cabbage Tree Island Aboriginal Station was started on 4th September, conducted by the Sister from the Mullumbimby circuit. This clinic operated successfully with good attendances for the rest of the year.

A series of weekly five minute broadcasts on the health and care of mothers, babies and young children was begun in July. The talks were transmitted by the radio stations at Lismore and Murwillumbah, the Deputy Medical Officer of Health featuring with the Baby Health Centre Sister in each town. Listeners were invited to send in questions relating to any aspect of the subject matter. Enquiries were answered individually by post, and, where permission had been obtained, incorporated in the broadcasts. These programmes proved to be of benefit particularly to mothers in isolated areas, unable to attend regularly at a Baby Health Centre.

A new Baby Health Centre was opened at Lismore on 6th November, 1964, by the Minister for Health, to replace the former Centre which was located on the site of the proposed new City Hall. Funds were also made available for the erection of a new Centre at South Lismore, and the construction of this was on the way to completion by the end of the year.

Although funds were made available for the construction of a new Centre at Coff's Harbour to replace the present unsatisfactory accommodation, this project failed to materialise during the 1963-64 financial year because of unfortunate local delays.

Regular inspections of Maternity Units throughout the District were carried out. The standard of care in these units was found to be generally good, although the buildings themselves were in some cases inadequate.

PRIVATE HOSPITALS AND REST HOMES

By regular and more frequent inspections than had been possible prior to decentralisation, the licensees have been made aware of the standards required. Many recommendations in regard to improvements have been made and implemented with a resultant increase in the quality of accommodation and services provided.

Alterations and extensions to two Rest Homes were approved and carried out. Although some enquiries regarding the conditions attached to the establishment of Rest Homes were received and discussed with the applicants, in no instance did the applicant decide to proceed.

PURE FOOD ADMINISTRATION

The policy of education of food traders towards a better code of hygiene practice began to give results in that all food factories and many food shops proposing to carry out renovations or alterations requested advice and assistance from this office. A significant example of this was seen in the construction of a large supermarket in Lismore, during the planning and building stages of which the Senior Food Inspector was consulted on all relevant matters.

Several local authority Health Inspectors took an active part in Pure Food Administration throughout the year and the interest of most of these officers in this branch of environmental hygiene continued to increase.

TABLE VI—INSPECTIONS, NOTICES, SAMPLES INVESTIGATED AND PROSECUTIONS, 1964, WITH COMPARATIVE FIGURES FOR 1963

Work carried out	1963	1964
Premises inspected	529	586
Warning notices issued	57	88
Samples purchased	205	236
Prosecutions completed	23	24
Food placed under seizure in lbs	8,000	1,280

The 586 premises inspected included food manufacturing premises and retail food-premises, butchers' shops, fishmongers' shops, groceries (both wholesale and retail), pharmacies, cafes and hotels, bulk stores and general food stores and establishments. Inspection of catering facilities at many of the local Agricultural Shows were also carried out and recommendations made.

Warnings, issued in the form of Notices requesting compliance with regulations, were mainly in respect of such matters as: premises insufficiently clean; structural alterations to premises; keeping premises free from rodents and other vermin; exposure of food on counters and floors; entry of dogs and other animals into food premises; carriage of food in unprotected vehicles; packing of kerosene in food containers; receiving second-hand clothing in food premises; labelling of food; and absence of methyl-violet in drip-trays.

The 1,280 lb of food placed under seizure, and subsequently destroyed by the owners upon request included such items as carcase meats, canned goods, packaged goods, bottled cordials and soft drinks and liquor.

Offences for which traders were prosecuted included adulteration of sausages, sausage meat, and mince meat; adulteration of milk, and unclean premises. Once again the emphasis was on education.

ABORIGINES' WELFARE

The Worm Infestation Survey started in September, 1963, was completed in March, 1964. This survey was carried out by officers of the School of Public Health and Tropical Medicine, University of Sydney, in co-operation with the North Coast Health District, the Aborigines' Welfare Board, and the Commonwealth Health Laboratory, Lismore. Temporary laboratory accommodation was provided by the Lismore Base Hosital.

The purpose of the survey was to determine the present status of infestation with hookworm, *Ascaris*, and other intestinal parasites, in North Coast Aborigines, with a view to assessment and review of current control measures.

Stool specimens were collected from Aborigines of all age groups at Cabbage Tree Island and Tabulam Stations, Cubawee (Lismore), Box Ridge (Coraki), and Baryulgil Reserves, and from Aborigines living in the general community in and around various towns in the same area. Specimens were collected from some 350 people. Concurrently specimens were examined from 1,432 children attending 31 Primary Schools in and around Lismore.

The survey will be the subject of a special report, but several features of interest emerged from the investigation. The incidence of infestation with *Ascaris* had been reduced over the last 10 years from 45·5 per cent to about 11 per cent, following the institution of the policy of the regular chemo-prophylactic issue of piperazine adipate tablets to Aboriginal children. The infestation rate for hookworm remained as high as ever at 60 per cent.

The most common parasite found was the non-pathogenic whipworm (*Trichuris trichuria*) present in about 85 per cent of stools examined. Other pathogenic parasites found included *Strongyl loides stercoralis*, *Giardia intestinalis*, and *Endamoeba histolytica* in a significant number of cases.

The survey of school children covered pupils in both all-white and mixed white and Aboriginal schools, and the findings indicated that transmission of these parasites was not maintained in the schools. A total of 88 cases of infestation with the threadworm (*Enterobius vermicularis*) was found. All these infestations occurred in white children.

Following completion of the survey chemo-prophylaxis with bephenium hydroxynapthoate (Alcopar) was instituted, but this drug proved unsuitable for mass control, although apparently effective against hookworm, whipworm and *Ascaris*.

Towards the end of the year a special committee was set up, with representatives from the School of Public Health and Tropical Medicine, and the Department of Pharmacology, University of Sydney, the Aborigines' Welfare Board, and the North Coast Health District, to consider the problems of control and treatment. This ad hoc committee held its first meeting in December, 1964.

The fortnightly Maternal and Baby Welfare clinic started at Cabbage Tree Island in September was well attended throughout the year. The ante-natal survey of Aboriginal mothers has already been described.

Immunisation against Diptheria, Whooping Cough, Tetanus, and Poliomyelitis has always been a problem amongst Aborigines. In 1964 the North Coast Health District instituted a programme whereby at least in the Stations all immunisations would be brought up to date and maintained. Unfortunately it was found impractical to include those living on reserves, settlements or in the general community.

HEALTH EDUCATION AND PUBLICITY

The weekly radio broadcasts which were commenced in July have been referred to in the section on Maternal and Baby Welfare.

The District office was visited regularly by representatives of the local press and numerous comments on local occurrences affecting the public health were made. Several addresses on a variety of subjects were given to interested organisations.

The departmental immunisation campaign was supported by several spot announcements on radio and by a telecast. "Holiday Safety" was again the subject of a telecast.

MISCELLANEOUS

Poliomyelitis Vaccine Supply

The scheme to maintain a supply of Poliomyelitis vaccine at the district health office, for the use of medical practitioners, and, on occasion, local authorities, continued to operate.

During the year 8,738 single doses were distributed on request.

Lectures to Nurses

Officers of the North Coast Health District continued to give the course of lectures on Personal and Communal Hygiene for first-year trainee nurses attending the Nurses Regional Training School in Lismore. The Medical Officer of Health and the Deputy Medical Officer of Health also gave lectures on Social Aspects of Disease, Psychology, Tuberculosis, Venereal Diseases, and other special lectures for the "trial" Nurses' Registration Board Examination.

Civil Defence

Following the Civil Defence Medical and Health Symposium held at Newport in May, 1964, the Medical Officer of Health was appointed Regional Medical and Health Officer, Richmond-Tweed Region, Civil Defence Organisation. Staff for the Regional Medical and Health Service was recruited, and most of these who had not already done so, attended a basic training course in Lismore. On the request of the Director, Medical and Health Service, N.S.W. Civil Defence Organisation, a Medical Plan for the region was prepared, submitted, and approved in principle. Courses in First-Aid and Home Nursing for Nurses' Auxiliaries were run at Casino and Kyogle and further training was planned.

North Western Health District

Medical Officer of Health: J. HENSON, B.A., M.B., Ch.B., D.P.H., D.T.M. & H.

Location: Marius Street, Tamworth

There have been no changes in the boundaries or number of Local Authorities, consisting of nine municipalities and twenty-one shires. Councils are becoming increasingly aware of the need to establish Health Departments and expand their health services. The only Councils which have decided not to appoint Health Inspectors of their own are the Dumaresq, Nundle and Liverpool Plains Shire Councils. Councils are also developing a better sense of proportion and priorities as far as public health is concerned.

Further development and expansion of health services now depend on the acquisition of more health inspectorial and tuberculosis staff. Additional office space was obtained to accommodate the School Medical Service.

A suggestion that air travel could possibly overcome some of the transport problems in this extensive region was tentatively approved.

Staff

In addition to the Medical Officer of Health the staff consists of a Deputy Medical Officer of Health, 1 School Medical Officer (resigned 21st December, 1964), 1 Senior Health Inspector, 1 Senior Food Inspector, 1 Health Inspector, 1 Assistant Nurse Inspector, 1 Tuberculosis Sister, 1 School Sister, 3 Clerical Officers.

VITAL STATISTICS

(The figures in parentheses are for 1963)

Population

The estimated population of the District at 30th June, 1964, was 155,590 (154·480).

Live Births

There were 3,486 (3,644) live births in this District, equivalent to a rate of 22·41 (23·59) per 1,000 population. Of these 1,806 (1,881) were males and 1,680 (1,763) females.

Deaths

Deaths numbered 1,349 (1,233) equivalent to a rate of 8·67 (7·98) per 1,000 population. Of these 777 (739) were males and 572 (494) females.

Infantile Mortality

Deaths under one year of age numbered 82 (73), equivalent to a rate of 23·52 (20·03) per 1,000 live births. Of the total number of deaths of infants under one year of age 54 (47) or 65·85 (64·38) per cent occurred within one week of birth; and 56 (50) or 68·29 (68·49) per cent within one month. The corresponding rates per 1,000 live births for the two age groups were 15·49 (12·90) and 16·06 (13·72) respectively.

Still Births

There were 43 (56) still births in the District, equal to a rate of 0·28 (0·36) per 1,000 of the population, and representing 1·22 (1·51) per cent of all births (live and still).

The number of births in this District has assumed a downward tendency during recent years.

TABLE I—ENVIRONMENTAL HYGIENE INSPECTIONS

Abattoirs, saleyards and poultry-farms	38
Aboriginal Stations and Reserves	3
Complaints investigated	31
Dairies inspected	7
Dwellings and shops	39
Hotels	13
Noxious trades	109
Public institutions	19
Public amenities	19
River pollution	10
Samples submitted for analysis	23
Sanitary depots	75
Sanitary surveys	7
Sewage treatment works	35
Septic tanks	357
Water supplies	20
Miscellaneous	246

The sanitary surveys carried out in the Liverpool Plains Shire Council's area indicate that they need a health inspector of their own.

Councils are giving more attention to septic tank requirements; mass septic tank installations are being proposed in some of the smaller towns. It is pleasing to note that the pan lavatories in many schools are being replaced by water-borne septic tank systems.

With the erection of regional abattoirs and the extension of existing ones, many of the smaller unhygienic slaughtering yards are being closed down. A safer meat supply is being ensured.

Public water supplies are still inadequate in most centres and are often unpalatable due to tastes, odours and turbidity, especially over the summer months. It is not generally recognized that an adequate, safe and clean water supply is a basic necessity and should receive financial priority.

Councils are now taking a keener interest in the proper disposal of refuse such as garbage depots. However, a suggestion to Councils to institute two garbage collections per week met with a poor response. Sanitary arrangements at Shows are being steadily improved.

The final effluents from many sewage disposal works are usually discharged directly into rivers and creeks. This has given rise to concern for the safety of such waters where used without treatment for human, domestic, gardening and stock-watering purposes. Councils have been advised to test effluents more frequently and to chlorinate effluents where necessary. Regional abattoirs, with one exception, are going in for the full treatment of abattoir wastes in ponds and lagoons. Results have so far been encouraging.

The public is becoming better acquainted with the possible harmful effects of insecticides when carelessly used. Six persons took ill at Wee Waa during crop dusting activities. The Division of Occupational Health and the Department of Civil Aviation are investigating.

Visits were made to certain towns during the January floods and advice was given on environmental and food hygiene problems.

PURE FOOD ADMINISTRATION

Table II—Food Inspections

Food premises inspected	981
notices issued	60
Samples taken—meat and smallgoods	189
milk and cream	206
spirits tested	433
spirits analysed	1
other	17
Seizures—foodstuffs	8,145 lb
Prosecutions	28
Fines	£238
Costs	£32
Inspection of Government institutions	2

Hygiene in foodshops, the handling of foods and the storage of foodstuffs leave much to be desired. Greater reliance is being placed on more frequent visiting and health education. A greater measure of uniformity in the food laws of the different States is indicated.

PERSONAL HEALTH SERVICES

Table III—Communicable Diseases

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Ascariasis	3	..	1	..
Brucellosis	1	..	3	..
Infective Hepatitis	67	..	187	..
Infantile Diarrhoea	10	5	9	..
Meningococcal Infection	1	..	3	1
Puerperal Fever	..	..	9	..
Scarlet Fever	..	..	7	..
Staphylococcal Pneumonia	2	2	1	..
Tuberculosis	41	4	43	5
Virus Encephalitis	4	2	2	1
Total	129	13	265	7

It is gratifying to note that no cases of poliomyelitis were notified. There was a disconcerting rise in the number of infectious hepatitis cases notified. Poor personal hygiene was the most common factor found on investigation.

Table IV—Attendances at Tuberculosis Clinics

New cases of pulmonary tuberculosis	70
All proven cases of pulmonary tuberculosis	188
Inactive cases	342
Contacts	2,940
Home visits	130
Other	1,581

The number of clinics and subclinics in the Health District is six.

There was a rise in the number of venereal disease cases detected but it was limited to a few centres only. A small outbreak of Q fever occurred at a meat-works in the Tenterfield Shire. An upper respiratory infection resembling para-influenza was widespread throught the District during the winter months. It also affected a great number of school teachers and disrupted school services in some areas.

SCHOOL MEDICAL SERVICES

TABLE V—EXAMINATIONS

Type	Number of Schools	Examinations	Reviews	Parent Interviews
Full-time service	74	3,062	4,551	349
Shire Scheme	48	3,093	1,070	33
Totals	122	6,155	5,621	382

The Department's full-time scheme now operates in fourteen local authority areas; and the Shire scheme in eight. It is proposed to extend the full-time scheme to the remaining eight areas during 1965. Arrangements are also being made to appoint a speech therapist.

MATERNAL AND BABY WELFARE

The eighteen Baby Health Centres are served by nine Sisters. These Centres have all been routinely inspected by the Assistant Nurse Inspector. The total attendances were 38,530 by 4,878 babies. This is a slight rise over the attendances in 1963.

Applications for the erection of Centres in South Tamworth, Gunnedah, Premer and Bingara are receiving Departmental consideration. Proposals for the establishment of Centres at Moree, Mungindi and Warialda are being examined.

PRIVATE HOSPITALS AND REST HOMES

There are four Private Hospitals with 38 beds, and three Rest Homes with 47 beds in this Health District at present. These have all been routinely inspected and were generally found to be satisfactory.

VACCINATION MEASURES

A total number of 12,457 doses of poliomyelitis vaccine were distributed during the year, mainly to local doctors. It was difficult to assess the immunisation status of the children as so many of them are vaccinated by private doctors.

The number of doctors approved as B.C.G. vaccinators rose to 20 and they vaccinated 436 persons, including newborn aboriginal babies, during the year.

DENTAL SERVICES

Dental services have not yet been decentralised. The City of Tamworth commenced fluoridation of its water supplies in November, 1963. It is working well. Associated dental surveys are being carried out annually by the School of Preventive Dentistry, University of Sydney.

Two other towns (Manilla and Walcha) have now also decided to add fluoride to their water supplies. Fluoride tablets are being distributed in at least six other towns; but with limited response, except in Warialda.

MEDICAL EXAMINATION OF CANDIDATES FOR THE PUBLIC SERVICE

Thirty-five candidates were examined for the Public Service.

HEALTH EDUCATION AND PUBLIC RELATIONS

The number of articles published and radio talks and addresses given on topical health matters was well over thirty.

Visits were made to almost every Council in the District to discuss local health problems and needs. Health education materials and films were exhibited at six local agricultural shows. Numerous press notices were released.

Conferences for Health Inspectors were held in Gunnedah and Tenterfield; the latter was attended by the Health Educationist (Dr J. Krister). The first Conference of Baby Health Centre Sisters in this Health District was held in Tamworth and was also attended by the Deputy Director of Maternal and Baby Welfare and Dr Angel-Lord, the Consultant Paediatrician.

A refresher course for Government Medical Officers, other doctors, Detectives and Senior Nursing Sisters was given in Tamworth by the Director of Forensic Medicine, Dr J. Laing.

The Department has assisted in the formation of a few new voluntary organisations concerned with health, such as the Aged People's Welfare Committee, the Speech and Hearing Defects Group and others.

PUBLICATIONS

Q fever among Abattoir Workers in New South Wales by Dr J. Henson in the Health and Building journal.

It is proposed to embark on the establishment of Geriatric, Mental Hygiene and Speech Therapy services during the coming year. The Department has now been fully organised and is running on an even keel.

Broken Hill Health District

Medical Officer of Health: J. T. CULLEN, M.B., B.S.

Location: Bureau of Medical Inspection, Department of Labour and Industry, Bromide Street, Broken Hill.

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.

Staff

In addition to the Medical Officer of Health the staff consists of 1 Radiographer and 2 Clerical Officers.

VITAL STATISTICS

Population

The population of the district at 30th June, 1964, was estimated at 29,810.

Live Births

There were 644 live births to mothers resident in the district.

Deaths

Deaths of residents numbered 251.

Infant Mortality

Deaths under one year of age numbered 17. Of the total number of deaths of infants under one year of age 15 occurred within one week of birth.

Still Births

There were five still births to mothers resident in the district.

COMMUNICABLE DISEASES

Disease	1963		1964	
	Cases	Deaths	Cases	Deaths
Infantile Diarrhoea	1	1	..	..
Infectious Hepatitis	9	..	3	..
Scarlet Fever	..	..	..	..
Tuberculosis	11	1	8	1
Staphylococcal Diseases in Infants under 4 weeks	..	..	1	..
Total	21	2	12	1

A typhoid carrier was notified by the Director General of Public Health, South Australia, and the patient underwent nephrectomy and subsequent examination of all his intimate contacts was made and proved negative. The patient has returned to Broken Hill. Further examinations have been made and have been found negative.

SCHOOL MEDICAL SERVICE

	1964
Schools visited	10
Children examined	1,363

WATER SUPPLY

Bacteriological examination of the water supply has been carried out throughout the year. Examinations are made at the local laboratory and are compared with examination from Sydney. Tests have proved satisfactory.

INDUSTRIAL MEDICINE

Increase in the number of examinations for the Mining Industry occurred during the year. Audiogram tests were performed in addition to the physical and X-ray examination. Routine haematological examination of those applying for periodical examinations have been performed. No evidence of lead intoxication has been found.

HEALTH EDUCATION

In addition to press releases and radio talks a series of movie films have been shown to representative groups such as Rotary, St John Ambulance Brigade, nurses and doctors. Topics such as Preventive Medicine, First Aid, and Asepsis have been shown. These have been well received. Before the film is shown an outline is given and questions are answered after. The reception given to the films has been encouraging.

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SCIENTIFIC SERVICES

Government Analyst's Branch

Government Analyst: Mr E. S. Ogg, B.Sc. (Hons.), A.R.A.C.I.

Location: 93 Macquarie Street, Sydney

Function

The Government Analyst's Branch provides the greater proportion of analytical services for the Department of Public Health, and particularly in regard to foodstuffs for conformity with requirements of the Pure Food Act, water supplies to determine purity or pollution, and the determination of toxicological substances in human specimens submitted from the coronial system of the State. Additionally, it tests chemical specifications for items under contract for the Government Stores Department, and it provides a public health bacteriological service for foodstuffs and waters in association with the chemical analyses of these substances.

The Government Analyst is also a senior adviser to the Director General of Public Health on food and poison standards, and is a member of several committees investigating these standards. He represents the Department also on other Committees where an expert in analytical procedures, and in the interpretation of chemical standards, is required.

Staff

The establishment provides in addition to the Government Analyst for 21 Analysts, 3 Microbiologists, 3 Laboratory Assistants, 9 Laboratory Assistants-in-Training, 7 Laboratory Attendants, 1 Laboratory Cleaner and 4 Office Assistants.

The staff position showed an improvement this year, though never at full strength. The loss of a Senior Analyst and of 2 trained Analysts during the year, together with 3 Laboratory Assistants-in-Training, seriously weakened the Branch. Though these officers have been to some extent replaced it will be some considerable time before the replacements can adequately take the place of those who have resigned. Two further resignations of senior staff are anticipated in the early part of 1965.

The semi-professional staff met with almost 100 per cent success in University and Technical College part-time studies. The full-time professional trainees were not so successful.

Equipment

Valuable additions to the equipment of the Branch received during the year were an Aerograph 200 Gas Chromatograph, a Shimadzu Recording Ultraviolet Spectrophotometer, a Fiske Semi-automatic Freezing-point Apparatus for milk analysis, a B.O.D. cabinet and a Dissolved Oxygen Analyser for water analysis, a Sterioscopic Zoom Microscope, and an Autoanalyser provided with accessories for water analysis. Several of these instruments have already proved their value in the work of the Branch.

TABLE I—MILK SAMPLES AND ADULTERATION

District of Collection	Number of Milk Samples Collected	Deficient in Milk Fat				Containing Added Water				Total Adulterations			
		No.		Per cent		No.		Per cent		No.		Per cent	
		A	B	A	B	A	B	A	B	A	B	A	B
Metropolitan Area—													
1964..	3,658	24	33	0·66	0·90	33	50	0·90	1·37	57	83	1·56	2·27
1963..	4,009	21		0·52		32		0·80		51		1·27	
1962..	3,322	10		0·30		48		1·45		52		1·56	
Country Districts—													
1964..	980	54	64	5·50	6·51	47	63	4·80	6·44	101	127	10·30	12·94
1963..	695	44		5·35		31		4·45		67		9·64	
1962..	733	13		1·78		21		2·88		33		4·50	
Milk Board—													
1964..	5,592	29	56	0·52	1·0	67	90	1·20	1·61	96	146	1·72	2·61
1963..	6,414	31		0·48		51		0·79		77		1·20	
1962..	6,234	37		0·59		75		1·20		108		1·76	
Total—													
1964..	10,230	107	153	1·05	1·50	147	203	1·44	1·99	254	356	2·49	3·49
1963..	11,118	96		0·86		114		1·02		195		1·76	
1962..	10,348	60		0·58		144		1·39		193		1·85	

Column A represents cases in which legal proceedings were recommended.

Column B represents all adulterated samples.

In future reports results under column B only will be reported.

SUMMARY OF ACTIVITIES

The work carried out during the year is tabulated hereunder, together with the comparable figures for 1963.

TABLE II

Authority	Samples Examined			
	1963		1964	
Pure Food Act—				
Milk	11,102		10,230	
Meat	4,194		4,164	
Smallgoods	103		180	
Other Foods	1,073		1,184	
Drugs, etc.	35		114	
		16,507		15,872
Institutions (Hospitals, Homes, etc.)	398		286	
Government Stores Department	377		670	
Police Authorities	144	cases	147	cases
Coronial enquiries	1,029	cases	1,033	cases
Division of Occupational Health	224		142	
Miscellaneous Authorities—				
Water Samples	738		906	
Sewage Samples	240		470	
Other Examinations	229		224	
Bacteriological Examinations—				
Food	228		338	
Water	6,228		6,873	
Miscellaneous	2,161		1,548	

Milk

The number of milk samples examined this year showed a decrease of approximately 8 per cent compared with the number examined during 1963. However, the number of adulterated samples was considerably in excess of the number in previous years. There was a 44 per cent increase in the percentage of samples deficient in milk fat, and a 60 per cent increase in the percentage of samples containing added water. The increase was greater in samples from country areas than in samples from city areas.

Particulars of samples and adulterations are shown in Table I, together with 1962 and 1963 figures for comparison purposes.

Milk Products

Of 354 samples of cream examined, five contained foreign fat and three were deficient in fat content.

A survey was carried out on butters, mainly those used in sandwich-making. Of 38 samples analysed five contained excess water, four contained foreign fat and two contained vegetable fat only.

Three out of 16 samples of ice cream examined were deficient in fat content.

Milk powders were examined for solubility or dispersibility in regard to claims such as "Dissolves Instantly", "Better than Instant", "Instantly Instant". But little variation was noticeable between the various products.

There were a number of complaints with regard to foreign matter in bottles of milk and cream. In all 24 bottles were submitted for examination.

Miscellaneous samples examined included ice cream mixes, thick milk shakes, flavoured ices, margarines and milk powders containing additives.

Meat Products

The total amount of meat samples examined was much the same as in previous years. Samples from the Metropolitan area decreased by 25 per cent, whilst those from Country areas rose from 864 samples in 1963 to 1,593 samples in 1964.

The continued use by Inspectors of the malachite green test for the presence of sulphur dioxide, mentioned in last year's report, continues to bring results. Of 279 samples submitted for laboratory examination last year from metropolitan areas, just under 90 per cent proved positive, whereas in 1962 of 2,172 samples submitted 15 per cent were positive. The figures from Country areas were not so striking, only 50 per cent approximately being positive. This suggests that less use of the field test is being made in Country areas.

There was a slight decrease in the percentage of sausage and sausage meat samples adulterated, both as regards excessive amounts of preservative and excess fat content (5 per cent and 7·5 per cent respectively).

179 samples of meat were examined in connection with supplies to Government Institutions under Government Stores Contract. 48.6 per cent of these contained fat in excess of that laid down in the Contract Schedule. In addition 24 samples of sausages were deficient in meat content and three contained an excessive amount of starch. These figures suggest almost a complete disregard for the Contract Schedule by the Suppliers.

Of 180 samples of smallgoods examined, one contained excess preservative and 15 contained excess starch.

A survey was carried out on a number of meat pies. Considerable variation was found in the meat content, and it was found that attractiveness and popularity with the public bore no relationship to meat content. It is evident the preference in pies depends more on quality of meat, quantity of gravy, and quality and type of pastry than on actual meat content.

Miscellaneous work included the determination of the presence of colouring matter and ascorbic acid in various meat products. The dyestuff carmoisine and paprika were found in minced meat and the dyestuff rhodamine B, a non-permitted dyestuff, was present in three sausage samples. A powder obtained from a butcher's shop was found to contain ascorbic acid.

Other Foods

The work of this section was seriously hampered by shortage of staff, at times reduced to only two Analysts. Submission of samples from both Metropolitan and Country areas had to be restricted.

735 samples were examined during the year, considerably less than in previous years. A considerable number of these were for the identification of foreign matter in foods, the public being encouraged to submit these specimens as a result of the appearance of the Chief Food Inspector on a weekly radio session.

Instant Coffee

A survey of Instant Coffees on sale was carried out. Some samples of an imported brand were found to contain from 1·1 per cent to 2 per cent of insoluble matter, consisting of fine coffee grounds. This is a contravention of the Regulation covering Instant Coffee. The label on the package stated inter alia: "It is the nearest thing to coffee freshly brewed in a percolator—even to the pure coffee grounds you may find in your cup".

Tomato Sauce

Of 12 tomato sauces examined seven contained mould in excess of that allowed under the Pure Food Act Regulations, indicating the use of rotten tomatoes in their manufacture.

Edible Oils

Of two samples of olive oil examined, one was found to be adulterated with a highly unsaturated oil.

A number of samples of arachis oil were found to be adulterated with rape oil. Information received from the Customs Department was to the effect that rape oil was not classified as an edible oil, but was used mainly as a lubricant and so received a preferential rate of duty. They had noticed that the quantity of rape oil coming into the country had increased many fold, and that it was of a highly refined nature.

Low-Calorie Beer

A sample of alleged low-calorie beer was examined. In this beer fermentation had been carried much further than in normal beer, resulting in a low carbohydrate content but a correspondingly high alcohol content (9·4 per cent P.S.). On the label a calorific value of 0·06 calories per gram was claimed, but this figure took no cognisance of the calories contributed by the alcohol. Including these calories, the calorific content was much the same as for normal beer.

Pickled Onions

Though N.S.W. Regulations permit the use of saccharin in pickled onions, it has been claimed that there is no need for its use. A survey was carried out of the brands available on the market and it was found that 6 out of 11 brands contained no saccharin.

Dried Fruits

Four samples of dried fruit were found to contain from 0·7 to 1·1 per cent of paraffin, the maximum amount allowable being 20 grains per lb (0·28 per cent).

Prepared Icing

A new product on the market is sold as "Soft Icing", "Prepared Icing", "Plastic Icing", etc. It is intended as a ready made icing to be used on cakes, etc., and contains up to 12 per cent water. It was claimed that it contravened the Regulation for Icing Mixture which requires at least 99 per cent of sucrose. It is quite obvious, however, that this is a different product from icing mixture, which is intended to provide for a free-running icing sugar.

Prohibited Colouring

Four samples of fairy floss obtained from country show grounds were found to contain Rhodamine B, an artificial colouring matter not permitted by the Pure Food Regulations.

Food Poisoning

Four children from one family became ill after eating some home-made cakes. It was found that the essence of vanilla used in the cakes was not essence of vanilla, but a preparation of parathion. Fortunately all the children recovered.

Ice Cream Cones

Information was received that artificial sweetening agents were being used in the manufacture of ice cream cones. All except one brand examined were found to be unsweetened, and this one contained sucrose.

Figs

A large consignment of Turkish figs, both loose and in packets, which had been delayed for some time in the tropics were found to be infested in varying degrees with tyroglyphid mites. It has been stated that such mites can cause intestinal upsets.

Walnuts

Fifty cases of walnut meats which had been in store for twelve months were examined. The examination revealed extensive damage from insects, and the presence of insect webbing and excreta suggested an insect infestation which had been arrested by fumigation.

Foreign Matter

A sample of canned grape fruit examined was found to contain a quantity of pith-like particles of a particularly bitter nature. These were found to consist of fine crystals. Although unidentified it is considered that they might be allied to Naringin, a naturally occurring glucoside.

FOOD BACTERIOLOGY

338 samples of food and drugs were examined during the year. Of these 230 were for sanitary quality, 44 for the presence of spoilage organisms, 14 for sterility, 22 in connection with food poisoning and 28 with regard to disinfectant evaluation.

Cocoanut

Twenty-one samples of cocoanut in retail sale were examined. Tests for salmonella were negative in all cases, E. coli did not exceed 25 micro-organisms per gram and only one sample gave a standard plate count above 100,000 colonies per gram.

Oysters

(*a*) *Ultraviolet Purification*

The investigation commenced towards the end of last year into the purification of contaminated oysters in tanks containing water purified by ultraviolet light was continued.

Oysters were examined before and after treatment in a purification plant, constructed to the design given by "International Council for the Exploration of the Sea, CM 1959, Shellfish Committee No. 41". In this plant sea water is treated with ultraviolet light, aerated and then circulated through concrete tanks containing the oysters. Treatment in this plant for 48 hours resulted in a satisfactory reduction in micro-organisms in the shellfish. Oysters affected by worm or damaged by unsatisfactory handling did not purify themselves.

(b) Sanitary Survey

(*i*) *Oysters*— 114 batches of oysters were examined from the growing areas of N.S.W. with regard to sanitary quality. Nearly all areas showed the presence of the indicator organism E. coli, at one time or another during the investigation.

A breakdown of results is as follows:—

Most probable number (M.P.N.) of E. coli per 100 ml	Percentage of samples
78 or less	80 per cent
$> 78 < 230$	9 per cent
230 or over	11 per cent

Shellfish from two areas of heavy pollution showed M.P.N. of 16,000 and 14,000 E. coli per 100 ml.

Salmonellae were not cultured from any sample.

(ii) *Oyster-growing Waters*— At the same time an investigation of the oyster-growing estuary systems along the coast of N.S.W. was carried out. Despite the examination of 1,810 samples of water the results did not in many cases provide evidence of faecal contamination where sanitary surveys had indicated the existence of pollution. This supported the previously expressed view that bacteriological examination of waters provides only supplementary rather than complete information.

Kangaroo Meat

An investigation was commenced into the condition of kangaroo meat used for pets' food. From 19 out of 28 samples salmonellae were cultured. Multiple serotypes were recovered on four occasions.

Serotypes identified were S. adelaide 7, S. san diego 4, S. saint-paul 3, S. typhimurium 2, S. give 2, S. newport, S. wandsbek and S. bukayu.

Butchers' Meat

Similar examinations of 23 samples of butchers' meat proved negative.

DRUGS

There was a large increase in the number of drug samples analysed for the Government Stores Department this year, the figures being 368 against 263 for the previous year. These figures are not fully indicative of the work done as they refer to batches, the number in any particular batch ranging from 1 to 20.

Finger Print Powder

Samples of mixture of mercury with chalk were examined to determine why the imported article was so much more satisfactory than the local product for use as a finger print powder. It was found that this depended on the extremely fine state of subdivision of the imported article rather than on its chemical composition.

Hair Spray

Following upon a Queensland report of an accident resulting from an exploding tin of hair lacquer spray, a survey of all aerosol hair sprays on the market, totalling 92 samples, was carried out. However, faulty packs were confined to one batch of one particular brand. Though it was not possible to positively point out the cause of this fault, it was most probably caused by hydrolysis of the halogenated hydrocarbon gas used as propellant by an abnormally high water content in the hair spray formulation. This caused the development of hydrochloric acid which attacked the metal of the can and so weakened it.

Anti-smoking Preparations

Ten anti-smoking preparations were examined. Of these five were labelled to contain 2 mg of lobeline sulphate per tablet. Only one of these contained anything approaching this amount (i.e., 1·85 mg). The other four contained from 0·36 to 0·62 mg per tablet. One preparation stated to contain benzocaine and silver contained neither, but contained other ingredients including methyl salicylate, caffeine and vitamin B1 not stated on the label.

One preparation contained quinidine and the remainder relied on a mixture of essential oils in their claims to aid breaking of the smoking habit.

Miscellaneous

An alleged arthritis cure appeared to be made from an infusion of lantana leaves. A preparation which caused the death of a number of cats contained sodium nitrite and sodium nitrate. Only one drug sample taken under the Pure Food Act did not conform to the requirements of the British Pharmacopoeia. This was a sample of acetylsalicylic acid containing excess salicylic acid. A sample of children's toothpaste alleged to contain dangerous amounts of lead derived from the metal tube container, on examination was found to be satisfactory.

Criminal Investigations

Specimens were examined in connection with 29 cases. 19 involved drugs of addiction and 5 were connected with charges of procuring abortions. An aerosol "Prowler Repellant", coloured a deep red, was alleged to contain capsicum. It did not. Some ampoules submitted contained the hallucinogen L.S.D. (lysergic acid diethylamide). A bottle labelled "Vicks Cough Syrup" was found to contain a concentrated solution of nicotine sulphate. It caused serious illness to a young boy.

A number of samples of a red-coloured "Pep Drink" were examined. This preparation was being sold around certain milk bars and was found to contain potassium bromide, ammonium carbonate, phenazone, amphetamine, caffeine, capsicum extract and a little strychnine, a combination of somewhat opposing forces.

Pharmacy Board, etc.

Seven samples were received from the Pharmacy Board and six from various hospitals and medical practitioners.

WATER, SEWAGE, ETC.

A very marked increase in water awareness was evident throughout the State during 1964. There was a 10 per cent increase in bacteriological samples submitted for examination during the year and a 43 per cent increase in chemical samples. Sewage samples examined were practically double the number analysed in the previous year. The staff available was completely occupied and it was necessary to ask the Health Districts and Local Government authorities to restrict submission of samples to those that were absolutely necessary.

Sewage Pollution

Work was carried out in the laboratory on a new indication of the presence of sewage. This involved the detection and estimation of anionic detergent which these days is present in practically all sewage. A field version of the method is at present under study in one of the Health Districts. It is anticipated that the test will be of considerable value in evaluating the contamination of underground water by septic tank systems.

Algal Growth

Severe consumer complaints were received of tastes and odours occurring in a large country water supply system employing filtered and chlorinated water. The dam and other parts of the system were found to be infested with a large growth of a blue green algae (Nastoc). Complaints ceased when algae-free water from another large dam was utilised.

Illness Due to Polluted Water

Illness directly attributable to polluted water was recorded when 17 out of 21 individuals who drank from a small creek in a popular recreational area developed gastroenteritis, vomiting and other allied symptoms. The water at the time of the outbreak was not tested, but samples taken seven days later when the pollution appeared to have increased, showed an E. coli count of 690,000 per 100 ml. A strong sewage odour pervaded the area at that time. A blown manhole from a blocked sewer line nearby was the case of the pollution.

FLUORIDATION OF WATERS

A separate Fluoridation Section was formed in the laboratory in July of this year. The purpose of the Section was to control generally the fluoridation of waters in N.S.W., to establish a laboratory check on the efficiency of testing at the various fluoridation plants, to lend active assistance and advice when fluoridation at a supply was first installed, and to act as a source of advice and as trouble shooter when a plant encountered difficulties in operation.

In pursuit of this policy the laboratory provides analytical assistance in the first week of operation of a plant, carries out regular checks on the fluoride content of the reticulated water, checks the log sheets from the various plants, arranges visitations to the plants when help is needed.

During the year two further plants at Grafton and at Bowraville in the Nambucca Shire were put into operation, bringing the population served by fluoridation to 102,000. This figure includes those resident in Queanbeyan which is served by the Canberra plant in the Federal Capital Territory.

Approval was given for plants at Bega, Forbes, Griffith, Hay, Nyngan and Parkes and work is in progress at these centres. When these plants are operating approximately 155,000 people in N.S.W. will be receiving fluoridated water.

Fifteen plants were visited during the year in connection with fluoridation proposals. In addition an officer of the Branch visited Canberra when the plant for that City was under consideration.

Two fluoridation schools for fluoridation plant operators were held during the year. 28 candidates completed the course bringing the total number of persons trained to operate fluoridation plants to 81.

In all 171 samples of water were analysed in the laboratory for fluoride content.

TOXICOLOGY

During the year analyses of human viscera and related exhibits were carried out in connection with 574 cases submitted by City and Country Coroners and the Police Department. Two cases were in connection with exhumations, one of which was carried out in Adelaide in connection with the death of a person in N.S.W. Only 17 per cent of cases produced negative results.

Once again the barbiturate drugs were found in by far the largest proportion of cases, even greater than in the previous year. They accounted for approximately 66 per cent of the cases examined, 40 per cent of all cases examined contained pentobarbitone, 13 per cent amylobarbitone and 7 per cent quinalbarbitone.

Strychnine accounted for 11 cases, nine from the use of strychnine itself, and two children's deaths from tablets of quinine, strychnine and ergot. No deaths directly attributable to strychnine occurred during 1963.

Only one case of organic phosphorus poisoning occurred as compared with eight the previous year.

The routine use of the infra-red spectrophotometer for the identification of drugs has increased the certainty of identification, and has also enabled the resolution of some difficult admixtures.

Considerable attention has also been given to the use of thinlayer chromotography in the identification of alkaloids and allied drugs and it is anticipated that in the near future this technique will be used routinely.

This section suffered a severe loss in the resignation during the year of its leader, Mr V. C. Mahoney. His resignation deprived the laboratory of much valuable and perhaps irreplaceable experience.

Details of the drugs and poisons found are included in Table III.

TABLE III—FORENSIC CHEMISTRY FROM CORONIAL ENQUIRIES

No poison	107		
Alcohol	163	On specimens submitted with viscera.	
No alcohol	190		
Arsenic	9		
Barbiturates			
Amylobarbitone	78	Chloroquine	1
Barbitone	1	Cresols	2
Butabarbitone	4	Cyanides	5
Butobarbitone	8	Dinox	1
Methylphenobarbitone	3	Dieldrin	1
Pentobarbitone	152	Fluorides	1
Quinalbarbitone	41	Gluthethimide	1
Carbrital	70	Imipramine	1
Unclassified	5	Lead	1
		Paraldehyde	5
Bromides	13	Phenacetin	6
Bromvaletone	5	Phenytoin	1
Carbromal	8	Phenothiazine	1
Cardiac Glycosides	1	Q.E.S.	2
Chloral hydrate	12	Rogor	1
Carbon monoxide (on blood specimens submitted with viscera)	3	Strychnine	9

BIOCHEMICAL LABORATORY

Blood Alcohol

A total of 966 examinations for alcohol was made during the year. This was two less than the previous year, and included 406 determinations on specimens associated with visceral exhibits.

A method was developed during the year using the gas chromatograph to give a rapid sorting test for the presence of alcohol. This afforded an extremely sensitive method of detecting trace amounts of alcohol and samples found to be negative in this way do not need to be quantitatively analysed by the Kozelka and Hine method (with a resultant saving of time).

Blood Cholinesterase

Cholinesterase activity determinations were made as a routine measure on all blood specimens associated with visceral exhibits. A total of 378 such determinations was made, with two specimens having zero activity: both had a history of pesticide poisoning.

Blood (Miscellaneous)

During the year 47 specimens of blood were examined in connection with carbon monoxide poisoning, and 18 in connection with suspected drowning.

Trace Elements

A total of 863 determinations of trace elements was made in 1964, an increase of 87 over the previous year. The distribution was as follows, with the figures for 1963 and 1962 respectively in brackets:—

Lead	394 (410, 558)
Arsenic	195 (174, 184)
Mercury	75 (65, 46)
Thallium	51 (19, 37)
Other elements	148 (108, 36)

Biochemical

Hospitals and medical practitioners submitted 154 biochemical specimens for examination for drugs, an increase of 65 over the previous year.

CRIMINAL INVESTIGATION

147 investigations were carried out at the request of the Police Department. 29 of these covered exhibits of drugs in connection with charges of carnal knowledge, abortion, poisoning, drugs in possession, 23 included specimens of duco, paint and glass in connection with charges of manslaughter, occasioning bodily harm, safe robbery, break, enter and steal, driving under the influence, and hit-run, and 20 involved specimens of clothing in connection with charges of indecent assault, buggery, manslaughter, hit-run accidents.

GOVERNMENT STORES DEPARTMENT

Apart from drugs, 123 other articles were examined for the Government Stores Department in connection with tenders and purchasing.

MISCELLANEOUS BACTERIOLOGICAL EXAMINATION

The following miscellaneous bacteriological examinations outside the normal work of the Branch were carried out in 1964:—

Prostatic smears for gonorrhoea	965
Cultures for gonorrhoea and sensitivity	107
Rats for plague	805

Division of Forensic Medicine

Director: JOHN LAING, M.B., B.S., M.C.P.A.

Location: 102 George Street North, Sydney

Function

The Division of Forensic Medicine provides the forensic post mortem service for the Coroner of the City of Sydney. It maintains an advisory service in forensic medicine and pathology for the Government Medical Officers who service the Coroners of the State. It assists the police in the investigation of serious crime including homicide, manslaughter, suicide, rape, carnal knowledge, etc.

Staff

There are three medical officers, including the Director, in the medico-legal section, and one medical officer and one microbiologist plus ancillary laboratory staff in the medico-legal laboratory. The clerical staff comprises one office assistant and one part-time office assistant.

SUMMARY OF ACTIVITIES

Following an internal survey of methods at the City Morgue, changes in the types of forms' in the filing of records, and the use of tape recorders and copying machine were introduced. The system became fully operational in January, 1964, and is proving satisfactory. It is a flexible system and has led to increased efficiency and the saving of time and also money in as much that the previous expensive and cumbersome Morgue Registers are no longer in use, and the Medical staff have been freed from many unnecessary clerical procedures.

A similar survey of laboratory procedures has been undertaken. Various steps such as the standardisation and re-use of specimen bottles and the granting of approval for the use of duty free alcohol are leading to further economy in expenditure.

The aspect of public relations has not been neglected. Throughout the year the Division has taken part in lectures to hospital staffs, universities, and other professional groups. Refresher courses for country practitioners were conducted at Tamworth in February, 1964 and at Lismore in August, 1964, with the assistance of the Medical Officers of Health, and further courses are planned. The training of postgraduate students continues at the City Morgue and staff from the Teaching Hospitals continue to attend autopsies of special interest to them. These activities are causing an increased awareness of the facilities of the Division and a recognition of its consultant status.

During the year three aircraft accidents were investigated for the Department of Civil Aviation, resulting in the performance of three autopsies at various country centres.

Five other country centres were visited to assist in the elucidation of obscure deaths including the performance of an exhumation at Adelaide, South Australia. This latter is believed to be one of the first examples of inter-State Medico-Legal co-operation, pursued to a successful conclusion.

For the first time, the use of post mortem X-rays has been introduced, thus assisting greatly in the discovery and location of foreign bodies, the ageing of skeletal remains and the like. While the Division is awaiting delivery of its own equipment, these X-ray facilities are being provided by arrangement with the Radiologist from the North Ryde Psychiatric Centre.

The development plans for the Rocks area in which the City Morgue is situated indicate the necessity to re-locate the Morgue in the near future. Consequently, inspection of proposed alternative sites is being undertaken and consideration is being given to the planning of the new building.

MEDICO-LEGAL SECTION

This Section performs autopsies upon all bodies coming under the jurisdiction of the City Coroner. It works in close co-operation with Metropolitan Police Force and is available to visit scenes of crimes when requested. It undertakes postgraduate training and demonstrations in forensic matters to interested medical practitioners. The Section undertakes the medical investigation of all aircraft fatalities in New South Wales on behalf of the Department of Civil Aviation, visiting the scene of the accident wherever it may be and performing the requisite autopsies. It gives advice and assistance to Country Coroners and Medical Practitioners throughout the State. The Section also undertakes the examination of cases of criminal assault for the Police Department. The Medical staff is required to give evidence in various courts in connection with this work.

The above services are available day and night all the year round, and week-ends and Public Holidays, the Medical Officers being rostered for such duties accordingly.

Table I gives a comparison of activities for the year 1963 and 1964. The number of autopsies show the same gradual increase that has been experienced over the years. The number of Criminal Assault cases examined has dropped which may in part reflect the hardening of the Courts' attitude to this type of offence.

TABLE I

	Year ending 31st December, 1963	Year ending 31st December, 1964
Autopsies for City and Country Coroners (including week-ends)	2,237	2,337
Examination of Criminal Assault Cases	182	128

MEDICO-LEGAL LABORATORY

The Laboratory continues to provide pathological and biological services to assist in the investigation of crimes and in the determination of causes of death in cases for various Coroners. The work included histopathology, the grouping of blood and secretions, the investigation of blood stains and seminal stains and the examination of hairs and fibres. These services are available for both metropolitan and country cases.

A detailed analysis of the specimens submitted and the number of examinations performed are given in Table II.

TABLE II

	Specimens Submitted		Tests Performed	
	1963	1964	1963	1964
Whole blood for grouping	91	46	304	175
Garments, weapons, etc. for grouping of blood stains and determination of origin of blood	339	288	908	606
Vaginal smears for spermatozoa	98	75	101	74
Garments, etc. for the detection of seminal stains	291	387	386	447
Specimens of hair	139	77	1,177	605
Post mortem tissues for histopathological examination ..	2,730	3,345	5,002	5,000
	3,688	4,218	7,878	6,907

The drop in Police assault cases shown in Table I is, to some extent, reflected in Table II, but the amount of histopathological work required has shown a considerable rise which is still due to the increasing demand by organisations, such as teaching hospitals, and committees with special interests, for more histopathological detail than has been available in the past.

There is also an increasing awareness by country practitioners of the availability of the services.

Division of Occupational Health

Director: Dr ALAN BELL, M.B., B.S., D.I.H.

Location: 86-88 George Street North, Sydney

Function

The Division comprises an Occupational Health Section and two Branches—namely Radiation and Air Pollution Control.

The first provides an advisory and investigational service to Management and Unions, to certain Government and Semi-Government Departments and to medical practitioners, etc. on the diagnosis and prevention of occupational diseases, on medical services in industry, in-plant toxicology and evaluation of working conditions, agricultural health, industrial and residential noise, the evaluation of personal protective equipment and ergonomics. A close liaison is maintained with the N.S.W. Department of Labour and Industry from which a substantial proportion of the above activities originates. The staff of this Section includes two Senior Medical Officers and the Scientific staff is supervised by a Senior Scientific Officer, Mr A. T. Jones, B.Sc.

The Radiation Branch, Officer-in-Charge Mr H. M. Whaite, B.E., in addition to advising on the safe use of irradiating apparatus and radioactive isotopes, administers the New South Wales Radioactive Substances Act, 1959, and Regulations.

The comparatively recently formed Air Pollution Control Branch, under the immediate supervision of the Principal Air Pollution Control Engineer, Dr J. L. Sullivan, Ph.D., M.Sc., F.S.T.C., A.M.I., Chem. E., A.R.A.C.I., has the responsibility of administering the 1961 Clean Air Act and associated Regulations. In addition its professional staff investigate the cause, nature and extent of all forms of pollution and advises industry on control measures. In Radiation and Air Pollution the respective Branches receive the assistance and guidance of Advisory Committees established under the respective Acts.

Staff

The authorised strength of the Division is now 62, compared to 57 in 1963. The staffing of the Air Pollution Control Branch is now virtually completed. A Scientific Officer has been appointed to the Radiation Branch to undertake laboratory investigations. Mr A. T. Jones, Senior Scientific Officer, Occupational Health, was awarded a 3 month World Health Organisation Fellowship to visit American and Canadian organisations comparable to the Division. He subsequently attended the London 4th World Congress on the Prevention of Occupational Accident and Diseases.

GENERAL REVIEW

At the end of the year tenders were called for the Division's air conditioned Laboratories and Offices to be constructed at Lidcombe.

The year has been busy and fruitful, from the points of view of answering enquiries, continuing existing activities and further development. Several interesting occupational poisonings have been seen and toxicological investigations carried out. Sometimes substances, the toxicity of which is well understood, such as lead, are involved. On other occasions the emphasis is on comparatively new processes, techniques and materials; for example high breathing ozone concentrations were associated with the use of an optical projection profile grinding machine.

Subsequent to the receipt of additional instrumentation, the Division is now able to evaluate certain items of personal protective equipment, in particular different types of respirators and safety helmets. This new activity has been welcomed by industry and manufacturers.

In view of the increasing use of Agricultural Pesticides, the Division has carried out varied field investigations to advise on their safe usage. The developing cotton growing areas have been visited. Further consideration has been given to control legislation for anti-cholinesterase pesticides.

There is evidence to show that industry is becoming more interested in ergonomics and increasingly realises the relationship between this subject and health. During the year the Division has investigated several aspects of this speciality including problems of visual perception.

Because of amendments to the Radioactive Substances Act whereby the previous exemptions from licensing granted to medical practitioners, dentists and veterinary surgeons, using irradiating apparatus for radiographic purposes only, were withdrawn the number of licenses issued increased from 570 in 1963 to 1,815 in 1964. The Division's mass postal survey of almost 800 dental X-ray units was finalised. The use of radioactive isotopes is steadily increasing.

With respect to air pollution control there was much administrative activity, including the gazettal of the Regulations of the Clean Air Act, 1961, in February and the proclamation of the areas to which Division I, Part III, of the Act applies. Following the introduction of the licensing provisions the major emphasis on field work has been the inspection of scheduled premises. The response of industry has been very gratifying and it is known that many millions of pounds of control equipment has either been installed or been ordered. Many stack tests have been carried out to evaluate emissions.

Representation on Committees

During the year the Department was represented on the following new Committees:—

1. Standards Association of Australia—
   (a) Committee SF/21: Human Factors (Dr A. Bell, Chairman).
   (b) Protection of Buildings against subterranean Termite attack by the use of chemical barriers (Mr G. Simpson).
2. Interdepartmental Committee on Occupational Safety and Occupational Health (Dr A. Bell).
3. Air Pollution Advisory Committee—
   Clay Products Sub-Committee (Dr J. L. Sullivan and Mr P. Murphy).
   Publicity and Educational Sub-Committee (Dr J. L. Sullivan).
4. Interdepartmental Committee on Pesticide residues in Food (Dr A. Bell).

STATISTICAL DATA

Type of Activity	1962	1963	1964
1. Medical—			
Number of employees examined	1,046	1,124	1,148
Blood slides examined for evidence of lead poisoning—			
(*a*) Slides made by medical officers working in factories where a lead process is carried out and examined either by a private pathologist or by the Division	7,042	8,256	8,222
(*b*) Slides of men examined at the Division	460	451	349
Number of other pathological tests carried out by the Divisions	3,877	4,128	3,075
2. Scientific—			
Number of " Occupational Health " visits	1,580	1,203	1,329
Number of " Radiation " visits	210	425	733
Number of " Air Pollution " visits	430	566	2,573
Number of Theatres and Halls inspected	6	4	9

Educational Activities

(a) *Articles Published*

Twenty-two articles have been published, including:—

(1) 'A Comparison of Polycyclic Aromatic Hydrocarbon Emission from Diesel and Petrol Powered Vehicles in Partially Segregated Traffic Lanes'. *British J. of Ind. Med.*, April 1964.

(2) 'The N.S.W. Clean Air Act and Regulations'. Dr J. L. Sullivan Proceedings of the Institute of Fuel Symposium, Melbourne, April 1964.

(3) 'Current Ergonomic Studies in N.S.W.' *Factory and Plant*, April 1964. Mr R. McLellan.

(4) 'Tractor Noise can Effect Your Hearing'. *Agricultural Gazette of N.S.W.*, May 1964, Mr H. R. Weston.

(5) 'N.S.W. Radioactive Substances Act and the Radiographer'. *Australian Radiographers, Journal.* June 1964, Mr A. R. Smith.

(6) 'Methane Di-isocyanate: A Respiratory Hazard.' *Archives of Environmental Health*, June 1964. Dr E. O. Longley.

(7) 'Work Place Design for Visual Perception'. *Proceedings of the* 1964 *N.S.W. Industrial Safety Convention*, July 1964. Mr J. G. Allen.

(8) 'Environmental and Clinical Aspects of Bulk Wheat Fumigation with Aluminium Phosphide'. *American Industrial Hygiene Assoc. Journal*, July/August, 1964. Mr A. T. Jones, Mr R. C. Jones and Dr E. O. Longley.

(9) 'Noise': Occupational Hazards, Hearing Conservation and Annoyance.' Mr H. R. Weston. *Proceedings of Noise Symposium, Institution of Mechanical Engineers*, August 1964.

(10) 'Why is it Difficult to prove that Air Pollution Affects Health'. *Mechanical Engineering Journal*, October 1964. Dr A. Bell. (Paper delivered at Air Pollution Engineering Symposium.)

(11) 'The New South Wales Clean Air Act and Regulations'. *Mechanical Engineering Journal*, October 1964. Dr J. L. Sullivan. (Paper delivered at Air Pollution Engineering Symposium.)

(12) 'Modern Pesticides'. *Proceedings of the* 39*th Annual Conference of Agricultural Bureaux.* Dr D. C. Trainor.

(b) *Departmental and Divisional Publications*

1. "A Guide to Respiratory Protection" by J. Hughes.

2. "Group Lifting: Lift the Right Way—Its Safer". By S. Himbury.

3. "Poisoning by Organic Phosphate Compounds and Methods of Cholinesterase Testing". By Dr D. C. Trainor and Mr G. R. Simpson.

4. "Sweating and Dehydration in Industry". By Mr R. McLellan.

5. "The Design of Circular Dials". By Mr J. G. Allen.

(c) *Lectures and Addresses*

270 lectures, covering all aspects of the Division's activities, were given.

Acts and Regulations

Revision of Regulations for Fumigation with Dangerous Substances

This has been completed; the main proposed alterations being:—

(a) to include the fumigation of bowling greens, greenhouses, seed beds and golf courses. The previous exceptions relating to agriculture and horticulture will be removed.

(b) the technique known as "spot fumigation" to be included.

(c) stricter medical examination of fumigators.

(d) better storage and transport facilities.

Luminous Radioactive Substances Regulations

A revision of the original Regulations was carried out in order to make certain requirements comparable to the Radioactive Substances Act; the revised regulations, administered by the Department of Labour and Industry, were gazetted in September.

Schedule of Recommended Maximum Concentrations of Atmospheric Contaminants for Occupational Exposures

The values, recommended by the American Conference of Governmental Industrial Hygienists, are accepted by the Departments of Health and Labour and are used in the assessment of inplant conditions.

OCCUPATIONAL HEALTH ACTIVITIES

Mr A. T. Jones, Senior Scientific Officer was granted a World Health Organisation Fellowship to study occupational health, in America and Canada.

At the State level the organisation and range of work were similar to that of the Division; however, in some instances referred problems were not as diverse as in New South Wales. Availability of equipment and staff were such that, apart from servicing activities, wider studies of field and laboratory problems, could be undertaken by small teams; these were considerably assisted by the employment of comparatively large numbers of junior laboratory personnel to assist the professional staff.

Fundamental research and training is, in the main, the responsibility of the United States Public Health Service and the Canadian equivalent. Through grants, research is also carried out by Environmental Health Units at Universities and by State Divisions of Occupational Health. Thus, toxicological, instrumental, analytical and field problems are thoroughly covered on a wide front. In addition, long range field studies of particular industries are made on an epidemiological basis, occasionally with International participation.

Many large Universities, through their own environmental health units, provide advisory and monitoring services covering the wide range of scientific activities undertaken on the Campus.

Whilst in general the Division's industrial servicing activities were of as high a standard, and in some instances more advanced, as the organisations visited, there are a number of ways in which its activities could be extended in the future. These include long range investigations, toxicological investigations, modification of existing laboratory instruments to perform a wider range of detection, application of instruments to an increased range of atmospheric samples and more intensive study of particular facets of investigations.

(a) Clinical Poisonings, Toxicological Investigations and Inplant Assessments

The following shows the variety of work undertaken:—

Aldehydes

With some humidcribs, after a period of occupation, a pungent odour occurred and respiratory distress was experienced by the babies. By infra red spectrophotometric examination the offending substance was finally identified as an aldehyde. It seemed that there was an association between the use of propylene glycol and the presence of the contaminant.

Cadmium

In retrospect the death of a man was investigated who had been silver soldering tubing in a large stainless steel milk vat. He became ill with a respiratory infection and died within a few days. An assistant was also affected but to a lesser degree. Initially it seemed that in the confined space there may have been fluoride fumes from the flux. However, it was subsequently discovered that the solder used contained a high percentage of cadmium. The more likely explanation is that this man died of an acute respiratory condition brought on by inhaling cadmium and nitrous fumes.

Carbon Monoxide

In addition to several industrial situations we have exposures to attendants working in the Drive-in-Bottle Departments of Hotels.

Carbon Tetrachloride

Breathing zone concentrations, in excess of 300 ppm, were detected during the waxing of rifle butts.

Chrome

A survey was carried out to determine the effectiveness of surface reducing agents in electroplating. With those tanks known to be properly treated it was rare to obtain breathing zone concentrations in excess of 0·02 mg/cm of chromic acid mist. Nevertheless, it is the Division's contention that their use should be as an adjunct to local exhaust ventilation, not a substitute; the routine addition of such compounds may be neglected. During the year the Division saw four cases of nasal ulceration; in one instance the surface tension reducing agent was ineffective because of the comparative high tank temperature.

Dermatitis

Dermatitis for some of the epoxy resins is still an important problem. During the year we were requested by Managements to visit 23 factories; almost all were experiencing staff difficulties from their use. It is surprising to find some factories where large quantities are used with almost complete disregard of recognised safety precautions. For example, in one large establishment mixing was carried out without any control of fumes; several employees manipulated resin with their bare hands, excess being removed by means of a grossly contaminated cloth; there were no washing facilities within reasonable distance; some employees worked wearing shorts only, and finally, as one would expect, good housekeeping was non existent. The Division's leaflet *Dermatitis caused by Epoxy Resins* comprehensively discusses the safe use of these materials.

Dust

Dust problems continue to be important. One reason is undoubtedly the large number of new buildings being erected in the Metropolitan area. Accordingly the Division has increased the number of inspections. Unless adequate dust control measures are taken, various operations, such as excavations and tunnel work, frequently result in high siliceous dust exposures. Sometimes those involved suspect this, yet do nothing to remove the hazard. Many New Australians, especially from Europe, are not aware of the potential dangers to health. Where dust control by engineering methods is not possible, medical safety should be ensured by regular chest X-Rays.

As in other years we have trained employees from several large industries in dust counting techniques; the Division encourages organisations to carry out their own routine dust monitoring programme.

Mr A. T. Jones, a member of the Joint Coal Board's Standing Committee on Dust and Ventilation Research Control, has participated in a number of Joint investigations, resulting in publication of two bulletins entitled "Water Sprays" and "The Effect of Ventilation on Airborne Dust Concentrations in New South Wales Coalmines".

In addition to evaluating varied siliceous dust exposure, investigations involving exposure to other dusts included the use of mica as a drying agent and surface coating on bituminous coated paper and aluminium used as damp course materials; the manufacture of pharmaceutical tablets where several employees, being exposed to concentrations exceeding 5 millig/cm of air, complained of upper respiratory symptoms and the bagging of superphosphate in a fertilizer works. In the latter as there was no appropriate dust standard, working conditions were evaluated by determining the free sulphuric acid content of the dust.

Hydrochloric Acid

An employee suffered severe respiratory symptoms when P.V.C. powder was accidentally put into a hot moulder.

Hydrogen Sulphide

When repairing cool rooms, several workers developed headaches, sore eyes and nausea whilst using, cutting or sawing a rubber—sulphur insulating material; during its manufacture hydrogen sulphide is formed and trapped in its pores.

Isocyanates

Exposures to methylene bis-diisocyanates resulting from the application of rigid polyurethane foam in a coalmine during the spray sealing of stowed dead ends, were determined. Breathing zone concentrations resulting from 7 minutes spraying were less than 0·08 ppm 5 feet behind the operator and nil at 15 feet and beyond. Tests both here and in the United States indicate that at certain underground sites, an exposure hazard may be present due to the predominance of larger particles over vapour and particles of the size that can be inhaled.

Lead

Despite the fact that most people in industry are aware that numerous lead compounds are potentially toxic, it is surprising how often one encounters unsatisfactory work situations.

Industry	Number of Slides Submitted			Number of Slides with Stipple Cell Counts of					
				3,000-5,000			5,000 or more		
	1962	1963	1964	1962	1963	1964	1962	1963	1964
Battery Works	2,184	2,483	1,989	111	145	102	69	35	31
Manufacture of lead compounds	3,061	3,582	4,172	475	399	253	199	200	65
Miscellaneous other users of lead	1,797	2,191	2,056	175	106	125	69	27	58
Totals	7,042	8,256	8,222	761	650	480	337	262	154

It is unfortunate that some factories issue tablets of calcium disodium versenate as a routine and prophylactic measure, instead of removing high concentrations of atmospheric lead at source by engineering control methods. It is sometimes stated that their administration is without medical risk; this is not necessarily so.

Manganese

Breathing zone concentrations in excess of 16 mg/cm of air were detected in the vicinity of hoppers above machines making black bricks. Several of the operators had respiratory symptoms.

Mercury

The Division's survey of mercury exposures from a jewellery casting process, involving the use of a 50 per cent mercury cadium alloy, has been finalised and it is hoped that it will be published in 1965.

A potential hazard was detected in the manufacture of fluorescent light tubes. In the final phase mercury is stored in elevated heated containers over a revolving machine to which is attached, for a short period, an open light tube. Mercury is injected into the tube which is then sealed and removed. Breathing zone concentration of 0·7 milligrams/cm were detected.

Methyl Bromide

An acute poisoning resulted when an employee was readjusting the cap system of the top of an extinguisher and the upper portion of the syphon tube broke thus allowing Methyl Bromide, under 65 lb pressure, to be released onto his face, chest and stomach. A full account will be published.

Nitroglycerine

Early in the year a request was received to investigate a complaint of headaches amongst a small group of men working in magazines where gelignite is stored. They also load and unload the lighters which take explosives to and from the magazines. This investigation was accorded some importance as there have been recent medical reports of sudden deaths amongst explosive workers, often mostly young men, following a few days away from exposure. Attempts are being made to correlate the clinical findings with environmental conditions. The Division is anxious to hear from others who are investigating problems of a similar nature.

Perchlorethylene

This solvent is now used in many automatic dry cleaning systems in shops and operated by the public on a "pay as you use" basis. 120-130 ppm were detected in the control rooms, to which the public does not have access, during the addition and filtration of the solvent.

Petrol

One man was seen with symptoms characteristic of petrol inhalation; he regularly cleaned large petrol tanks without any form of respiratory protection.

Sulphur Dioxide

Concentrations up to 15 ppm from the setting of burners, using diesel fuel oil of metal fonts in a foundry, resulted in respiratory complaints. The problem was overcome by the use of a low sulphur content fuel oil.

Toluol

Several persons were overcome, in varying degree, by fumes at a Dockyard whilst spraying inside the confined space of a dry ballast tank with a rust inhibitor. Some fainted, some became stuporised and others developed symptoms such as uncontrollable laughter and became bellicose. On analysis the inhibitor was found to contain at least 80 per cent of toluol. Unfortunately, it was not possible to determine breathing zone estimations. This episode illustrates the need to be aware of the nature of the compound one is using and to take precautions.

Vanadium

Two cases of upper respiratory tract irritation resulted from exposure to vanadian from the cleaning of boilers in a Metropolitan Hospital.

Waterfront

At the request of the Australian Stevedoring Authority, we have visited various ships to advise on several short term toxicology problems.

Welding

Because of repeated enquiries as to potential health hazards, from the fumes of different rods, the Division has carried out tests on many under standardised conditions in a demonstration welding bay at a Technical College. Conditions simulated "fair to average" conditions in a partly enclosed or separated welding bay in a factory area. 35 different rods have been tested; the results are available on request.

We have also determined breathing zone concentrations when welding and flame cutting surfaces previously coated with a metallic Zinc-epoxy resin catalyst preparation. The following behind the welder's helmet breathing zone concentrations were obtained.

Details	Total fume mg/m³	Zinc Oxide mg/m³	Epichlorhydrin	Epoxy Resin
Compound A—				
Welding on primed plate	94	10·2	Not detected	Detected.
Similar welding but on subtreated plate	31	0·8	..	..
Flame cutting	80	14·1	Not detected	Detected.
Compound B—				
Welding on primed plate	0·6	0·04	Not detected	Not detected.
Direct fume	145	Not sought	Not sought	Detected.

Certain workers, such as welders, may be exposed to breakdown products whilst welding and flame cutting; it is unfortunate that to date little information is available as to the toxicity, or otherwise, of breakdown products, the Division is anxious to hear from other scientific organisations who may have faced such problems and carried out investigations.

(b) Agricultural Health

Lectures were given at some Agricultural High Schools and Colleges on the toxicity of Agricultural Chemicals, to various Agricultural Bureaux and to Associations of Junior Farmers. A close liaison exists with the N.S.W. Department of Agriculture.

The Pesticides Sub-Committee of the Occupational Health Committee, National Health and Medical Research Council, has had further meetings to draw up "model legislation" for the control of anti-cholinesterase compounds.

Cholinesterase Estimations

567 tests were carried out; of these 14 gave results up to 40 per cent and 47 between 41 per cent and 70 per cent. Tests were carried out on factory employees packing D.D.V.P.; on rural workers engaged in aerial spraying or applying organic phosphate insecticides by ground rig for the control of pests on cotton crops; on tomato growers and market gardeners using Phosdrin and Parathion.

Exposure to Organic Phosphate Insecticides by Employees of the Board of Tick Control

Surrounding Lismore there are approximately 1,200 cattle dips in which such insecticides are used. We medically questionnaired 143 employees, out of 400 at risk. The preponderance of cholinesterase activity lay between 85 and 105 per cent; the lowest reading found, 68 per cent, occurred in a man who mustered cattle and dipped them without using any form of personal protective equipment. No evidence of systematic poisoning was detected.

Cotton Growing

Visits have been made to a cotton growing area using large quantities of organic phosphate insecticides, including by aerial spraying. Such matters as the use of human markers, night flying and the accidental contamination of sections of the town were discussed. Six cases of poisoning occurred amongst those preparing insecticidal solutions, marking and piloting aircraft. It would appear that the size of the crop in N.S.W. may substantially increase. It is hoped that all will give more attention, than hitherto, to the well known toxicological aspects of many of the sprays used.

Poisonings

It is not easy to obtain precise information as to the number of poisonings. It is surprising that many people continue to ignore the recommended safety precautions—especially with respect to the use of personal protective equipment. For example some tomato growers boom spraying Phosdrin and Parathion worked in bare feet. Another person required hospitalisation when, whilst packing Phosdrin, he suffered extensive contamination when a bottle accidentally broke. Another seriously ill man was a market gardener using a Knapsack spray in a high wind; despite advice to the contrary, on discharge from hospital, he resumed spraying with Parathion and suffered further illness. Four days after the first poisoning his plasma and R.B.C. cholinesterase levels were 0·38 and 0·19 units respectively; 12 days later, that is after the second spraying, the figures were 0·60 and 0·16 respectively. In another episode husband and wife were affected; both were horticulturalists and used Parathion to treat orchids. Cases have been seen presenting somewhat unusual clinical features, probably caused by Phosdrin, and Diazinon.

Formulation of Pesticides

Thirty factories were visited to inspect manufacturing processes. Defects, mainly handling toxic organic phosphate pesticides without an adequate local exhaust system, were found. Four have instituted regular cholinesterase tests. Cases of poisoning occurred whilst formulating Azinphos Methyl; details will be published later.

Assessment of Dermal Exposure of Spray Operators using certain Pesticides

The method used was to pin filter papers, to the men's clothing during spraying; after several hours they were removed and analysed. Most tests were carried out using airblast units in orchards with up to three times concentration of either organic phosphate or carbamate compounds. The results, calculated as ug per 100 square cms/hour, varied from 40 to 6,000 for the carbamate material and from 60 to 2,000 for the other compounds. The airblast units gave higher results than hand sprays. It can be calculated that an operator using the recommended clothing would receive a deposit of 9,100 ug per hour, equivalent to 1·64 per cent LD_{50} per hour day. With the hands and forearms exposed, this rises to 5·3 per cent; when wearing shorts the exposure, 16 per cent per day. If the operator wore no shirt the LD_{50} would be reached in 10 hours. Because the dermal LD_{50} was rated at 2,000 mg/kg, the results for the carbamate material were not as serious, though higher.

Hydrogen Cyanide

Several nursery cyanide fumigation chambers, used to fumigate seedlings for the control of plant diseases, were inspected; none had an adequate local exhaust ventilation system.

(c) Occupational Health Nursing Advisory Service

This year has been busy for Miss E. G. Roach, Adviser—Occupational Health Nursing. Considerable time has been spent in advising Management and her colleagues on the many and varied facets and aspects of Occupational Health Nursing. In addition to interviews at the Division, forty-four visits were made to factories and 49 Sisters interviewed in their Medical Centres, including twenty-two initiations into Occupational Health work.

Very successful full day Refresher Sessions were held at four-monthly intervals. Sisters were addressed by eminent speakers and overseas visitors, including a Victorian colleague recently returned from the XIV International Madrid Congress of Occupational Health. These Sessions draw a large attendance of both Sisters and Management; the notes on lectures are subsequently circularised within each organisation. This fosters sound public relations, to the advantage of all sections of the Division.

Lectures have been given to various organisations and associations. Miss Roach was invited to Brisbane to outline Occupational Health Nursing to the 2nd Biennial Convention of the Royal Australian Nursing Federation, and her paper subsequently was printed in the January 1965 issue of the *Australasian Nurses Journal*.

The coverage given is restricted by the working capacity of one person. Whilst much time has been spent on public relations, planning new industrial medical centres, encouraging Management and Sisters to consider the benefit of postgraduate training in this work, and assisting in the planning and revision of the curriculum of the N.S.W. College of Nursing, there are many angles and facets of the total subject as yet untouched, aspects which would directly and indirectly be of benefit to the industrial community. Expansion can only be achieved by the appointment of appropriate additional staff.

(d) Noise

Many lectures have been given including those to the Post Certificate Course at the Sydney Technical College, and to two two-day courses to the Hunter Valley and Bathurst groups of the Institute of Health Surveyors.

Interest in industrial noise continues to develop. Upon request, advice concerning the selection of noise measuring instrumentation and the training of staff in its use is given. The Division continues to stress the importance of engineering control of noise at source and only to consider the use of ear defenders, when the former is not practical.

During the year, 95 separate industrial and residential investigations were carried out.

An analysis of the former showed varying degrees of hearing risks as indicated below:—

Amount of Excess Noise Exposure (Decibels)	Number of Situations
1—2	3
3—4	6
5—9	9
10—14	10
15—20	8
20—30	4
Over 30	1
No hazard indicated	19

This table must be interpreted with care—for instance one of the "excess noise exposure", 20-30 dbs, represents several hundred men and of the situations investigations, potential hazards exist in a substantial proportion.

Inplant Noise

The following shows the variety of investigations undertaken: Noise from linotype and stereo planing machines; from a linnishing machine in an asbestos products works; from rivetting in the construction of double decker carriages; in engineering press shops; from the operation of a tape slitting machine; from the use of shot blast helmets in foundries; from the operation of various types of compressors; from scrap cutting machines in a factory producing plastic fabrics; from a homogeniser in an ice cream factory; from the use of ultrasonic cleaning units and from brick moulding machines. The use of a muffler on a drill, used in underground mines, resulted in a reduction of 'excess noise exposure' from 27 db to 20 db. A comparison of wet sandblasting against pneumatic descaling of ships showed a reduction of 9 db in E.N.E.

Following complaints a visit was made to a machine shop. Investigation detected low frequency cyclic sounds from a nearby air compressor; owing to a low frequency component with pure tone characteristics, standing waves occurred in the shop. Although not a hazard to hearing, it was particularly irritating at nodal points.

A survey was carried out on certain types of road transport noise, especially in relation to the exposure of drivers of heavy long distance haulage, and annoyance to other road users and nearby residents. In the cabins of some semi-trailers, the overall sound pressure level ranged from 90 db to 110 db, predominantly low frequency; in many cases, "excessive noise exposures" were detected and these increased with the power of the vehicle. More substantial cabin insulation is required. Observations indicated that community problems arise at or near depots where idling, revving and acceleration takes place.

Residential Noise

The Division has continued to evaluate many situations and to advise accordingly. Some people are keen to have standards for noise at community boundaries. While these would be useful if they could be applied and used simply, unfortunately the evaluation of annoyance is often complex. The Division frequently uses, as a guide, the "Noise Ratings" suggested by the International Organisation for Standardisation to determine the validity of complaints, for forecasting whether complaints are likely, and for planning action to eliminate dissatisfaction before new industries are established.

(e) Evaluation of Personal Protective Equipment and other Devices

The installation of a refrigerated variable syringe feed unit to produce standard concentrations of gases in air and a methylene blue particulate cloud apparatus has enabled certain additional tests to be made on respirator canisters, cartridges and dust filters. The Joint Coal Board, generously donated apparatus to test safety helmets.

The Division is systematically evaluating the reliability of equipment used in industry with the present emphasis on respirators. A survey of the available canister respirators used in fumigation procedures has been completed and recommendations made on the approval of suitable types. Our findings, along with those for other types, are summarised in the following table.

Description	No. of Items Tested	No. of Makers or Types	No. of Makes Types Conforming to Aust. Standard Z18-1963	No. of Types	
				With Board of Health Approval	Approved by N.S.W. Chief Inspector of Factories
For use in Fumigation Procedures					
Full face Respiratory Face-pieces ..	9	9	6	5	..
Methyl Bromide Canisters	15	6	5	3	..
Hydrogen Cyanide Canisters	48	9	7	4	..
Other Respirators					
Half-face Dust Respirators	25	15	7	..	6
Dust filters	150	18	15	..	6
Airline Respirator	2	2	2	..	6
Chemical Cartridge Respirator	2	2	Nil	..	Nil
Self contained Breathing Apparatus ..	1	1	Nil	..	1

The policy of evaluating and testing of equipment is commencing to pay dividends, both in the increasing number of enquiries and in an improvement in the quality of the goods, especially those of local manufacture. This in turn is leading to more emphasis being placed on facelift of respirators to improve this aspect of wearer safety. Preliminary surveys have indicated that as few as 50 per cent of persons may be fitted correctly by any one size or make of respirator.

During the year the Interdepartmental Committee (Labour and Health) on personal protective equipment had further meetings to consider the possible need for Regulations to require protective equipment for personnel handling certain chemicals.

Skin Cleaners

The Division is examining industrial skin cleaners to try to determine whether there is a dermatological hazard due to excess alkalinity or defatting associated with their frequent use.

Detector Tubes

Further tests have been carried out on commercially available kits used to assess the concentration of toxic gases in the atmosphere. 27 types used for measuring 10 toxic gases have been examined; only 10 gave results within about 25 per cent of the true assessment indicating that caution should be exercised in the use of detector tubes in industry.

(f) Ergonomics

The Division attended the first Australian Ergonomics Research Conference at which it was resolved to form an Australian Ergonomics Society.

Work Physiology

Instrumentation has been obtained to determine the energy requirements of different types of physical work and so advise on such matters as machine design.

Evaluation of Self-contained Mine Rescue Breathing Apparatus

Investigations have been started to determine how long different types of self-contained breathing apparatus can be worn underground under conditions of extreme temperature and humidity, such as when fighting fires.

Aerobic Capacity and Physiological Fitness of Australian Men

Three hundred men were subjected to a sub-maximal bicycle ergometer test. Tentative conclusions are that within an age group there were no significant fitness differences between the three work classifications and that in the case of light manual and heavy manual workers, the decreases in fitness in passing from one age group to the next older group were highly significant.

Problems of Visual Perception

It is apparent from field visits that the number and diversity of such problems are large.

(a) *Design of Circular Dials.* From a detailed survey of twenty factories the Division concluded that their general design standard is poor, from the visual viewpoint. The emphasis is frequently placed on technical and economic considerations, little thought being given to the operator. A 16-page leaflet, "Design of Circular Dials", was published in July; this is essentially a check-list containing 48 design factors.

(b) *Other Visual Problems.* The assembly of electric light lamps, valves and electronic equipment for radio, T.V., telephones, etc., often requires a high level of visual acuity. In the factories visited, lighting, viewing, distances and employees' vision were often inadequate. Static inspection tasks of present numerous problems. The inspection of moving products, such as of cloth, carpets and bottles, poses special difficulties.

Tenosynovitis

The incidence is high and involves many factories on certain repetition piece work. One establishment estimates that during a period of 12 months, 2,000 work days were lost.

Many cases could be prevented if more attention were paid to fundamental documented facts relating to the man/machine relationship. In some factories ergonomic job analysis have been carried out and recommendations made. Not all machine modifications are expensive; an investigation was made into the cause of repeated muscle strain from using large moulding machines. It was found that the female workers had a 30lb strain on each arm whilst operating the rubber mould closing and operating levers; this was reduced to 10, by the addition of a spring operating between the halves of the mould.

Thermal Comfort and Exposures to High Temperatures

The survey to determine optimum comfort conditions in light engineering works, air conditioned and non air conditioned offices has been finalised. Almost 10,000 votes have been collected and are currently being statistically analysed. In the last report reference was made to a survey to determine sweating and dehydration of industrial workers. The complete findings are available on request to the Director.

Human Kinetics

Information was requested from firms, as to the effect of training courses given by the Division. Many had followed them up by the introduction of their own programmes, others had produced manuals and film strips. The format of our courses now differs from earlier ones because more time is given to the study of work situations to eliminate potential strain situations. 135 courses, of varying durations and to almost 4,000 employees, were given.

Somatotyping

A survey was commenced to see if certain body types are particularly prone to muscular strain.

Safety Survey

A survey of 20 State Hospitals was carried out to determine what type of occupational accidents and diseases were occurring; consideration is being given to the appointment of a Departmental Safety Officer.

RADIATION BRANCH

Licensing Under the Radioactive Substances Act

The following table details applications recommended by the Radiological Advisory Council.

Category	Radioisotope or X-ray	Licenses as at 31st December, 1963	Licenses as at 31st December, 1964	Approx. Percentage Increase
Medical	X	160	302	89
	R	77	85	10
Hospital	X	10	109	990
	R	22	24	9
Dental	X	0	897	..
Veterinary	X	1	33	3,200
	R	2	2	0
Chiroptactic	X	28	33	18
Scientific and Research	X	24	36	50
	R	106	120	13
Industrial	X	25	38	52
	R	90	108	20
Commercial	R	25	28	12
Total	X and R	570	1,815	219

The Radiological Advisory Council refused to recommend the issue of a license to eleven persons, ten of them medical practitioners and one a veterinary surgeon. In nine cases, the applicant was deemed to lack the necessary qualifications; in the remaining two, refusal was based on inadequacies of their equipment.

Field Inspections

In addition to inspections in the Metropolitan area, and the adjacent cities of Newcastle, Wollongong, most country towns have been visited and installations assessed. 733 inspections, including 536 of irradiating apparatus, have been carried out.

124 (24 per cent) of the X-ray plants had one or more defects, most of which have since been remedied. The major fault was inadequate filtration of the useful beam, which occurred in 45 per cent of cases (84 out of 185 defects). 43 (8 per cent) of these plants either lacked a satisfactory shield for the operator or possessed a defective one.

Mass Postal Survey of Dental X-ray Units in N.S.W.

A survey of 791 dental X-ray machines was completed, using a Postal Pack Technique. Certain criteria were laid down as prerequisites to the issue of a license. The postal technique was designed to determine quickly whether individual machines complied or not. By controlled processing of the specially assembled pack, it was possible to assess compliance with the following safety factors: size of primary beam; quality of primary beam; scatter and leakage radiation. Of the 791 units surveyed, only 318 fully complied with the above criteria; most of the defects have now been corrected.

Beach Sands Survey

A survey of the beach sands mining industry was started to investigate internal and external body health hazards associated with the production of monazite, a radioactive, thorium-bearing mineral occurring in the heavy sands. In three plants visited, it has been found that the airborne radioactive dust concentrations were within acceptable levels, and that the work programme can be arranged so that no worker will receive more than 50 per cent of the maximum permissible radiation dose of 5,000 millirems per year.

Radiation Incidents During Year

None of the three incidents caused high dosages to persons. The first resulted from the transport of an 8-millicurie cobalt-60 level gauge in an unlocked container. In the second, three school-boys found several phials of luminous paint on a rubbish dump. Due to their presence of mind in recognizing a potential hazard, the radiation dosages received were not significant.

By the Branch's Film Badge Service, an employee was assessed at having received approximately 5 R from industrial radiography. The stainless steel capsule used in an air operated remote handling unit came apart allowing the inner aluminium alloy capsule, containing a 4-curie iridium-192 source, to drop out into the cable used to transport the source to and from the exposing position. It appears that a small piece of an aluminium pin was the cause of the obstruction; this had sheared off, allowing the end retaining cap to vibrate out.

Film Badge Service

A special personnel-monitoring film has now satisfactorily replaced the dental film previously used. There is, however, some indication of adherence of the film to its wrappings when worn under humid conditions. The assessment does not appear to be affected.

The following table shows the distribution of the films amongst various occupational categories.

FILM-BADGE DISTRIBUTION AMONGST OCCUPATIONAL CATEGORIES

Category	No. of Organisations		No. of Individuals	
	1963	1964	1963	1964
Medical	100	123	Not recorded	321
Hospital	151	161	Not recorded	761
Dental	155	307	Not recorded	831
Veterinary	2	15	Not recorded	41
Chiropractic	19	20	Not recorded	27
Scientific and Research	20	28	Not recorded	99
Industrial	40	45	Not recorded	251
Total	487	699	2,200	2,331

Industrial radiographers continue to be the group whose film badge, in general, results require the closest scrutiny. This year, however, only one person in 74 received a cumulative dosage over 5,000 millirems, compared with six persons out of 68 in 1963.

Field Tracer Tests

During the year, two important studies were carried out by the Australian Atomic Energy Commission's Industrial Research Group. In each, the Branch participated in preliminary discussions, and officers were present during "seeding".

The first consisted of tracing the movement of gold—198 labelled sand at seven points on the floor of Botany Bay. The second consisted of five tests to trace the movement of copper—64 labelled silt along the Steelworks Channel of Newcastle Harbour. Both these studies, which were completed successfully, were concerned with future development of port facilities.

Other tests carried out, either by the Industrial Research Group, or by Unisearch Ltd, included:—

(a) The use of krypton-85 to determine gas leakage in a heat exchanger at a petrochemical factory;

(b) The use of krypton-85 to check engine exhaust gas leakage into the cabin of a passenger aircraft;

(c) The use of gold-198 to check leakage from underground petrol tanks into telephone cable conduits;

(d) The use of sodium-24 to determine the flow and recirculation of water at a paper mill; and,

(e) The use of sodium-24 to locate the point of leakage from underground fuel tanks into a nearby creek.

AIR POLLUTION CONTROL BRANCH

As stated elsewhere the Department's administrative role in the control of air pollution reached a very much more advanced stage during 1964. Fortunately the response by the industrial community so far generally shows a high sense of responsibility and the Department has been given the degree of co-operation which it hoped to receive. Already many emissions have been controlled and by the end of the year many other factories were either designing or fabricating the necessary control equipment. Consequently it is probable that many of the aims of the Clean Air Act will be achieved without litigation.

Regulations

Comprehensive regulations were introduced relating to the Air Pollution Advisory Committee, licensing procedures and fees, maximum limits of emission of air impurities for scheduled premises and the methods of carrying out emission tests. The establishment of maximum limits provides industry with a clear definition of the requirements of air pollution control.

Air Pollution Advisory Committee

The Air Pollution Advisory Committee continued to carry out a sterling task and, as Chairman, I am deeply grateful for the work and valuable assistance of the members. It is a source of no little wonder to me that such busy men of high responsibility are prepared to spend so much time assisting the Department to launch and carry out its programme.

After the first of March, its major consideration was to deal with the applications for licenses from scheduled premises. The Committee also had the responsibility of making recommendations on new or altered scheduled premises; the Act requires the site to be approved. This aspect will increase greatly in importance in future years.

The publicity subcommittee undertook the preparation of material to inform the community of the purposes and operation of the Clean Air Act and Regulations and had several meetings.

Clean Air Conference 1965

It was decided that a second Clean Air Conference would be held in August 1965 at the University of N.S.W. The first, held in 1962, was such an outstanding success that there was general agreement that another would serve a valuable purpose and would give an opportunity to review progress and allow interchange of experiences.

Scheduled Premises

A dissection of the number of the various classes of scheduled premises is as follows:—

Cement Works	5
Ceramic Works (brick, pipe, pottery, glass, etc.)	99
Chemical Works Class I and II	93
Coke Works	5
Ferrous and non-ferrous Works	225
Gas Works	14
Grinding and Milling Works	85
Oil Refineries	4
Primary Metallurgical Works	7
Scrap Metal Recovery Works	21
Works containing boilers etc. consuming one ton or more of fuel per hour not included in the foregoing	15
Railways Department Workshop	19
Government Transport Department Workshops	

Cement Works

Cement manufacture in New South Wales is carried out by the wet slurry process at some factories and by the alternative dry process at others. The present day combined production capacity of the five scheduled premises is approaching 2 million tons of cement annually.

The dust emitted from a kiln is extremely fine, the particle size being such that highly efficient dust collection equipment is necessary to reduce the stack emissions to acceptable levels. Electrostatic precipitators have proved very successful, particularly on wet process kilns collection efficiencies exceeding 99 per cent can be achieved. On dry process kilns operating troubles were experienced with electrostatic precipitators.

Prior to 1963 dust collection equipment installed on cement kilns in New South Wales was either non-existent or consisted of simple mechanical type arresters only. Most of these older kilns are still operating and stack emissions of several grains per cubic foot of gas are not uncommon. Many of these factories are relatively remote from densely populated areas.

Mills, clinker, coolers and silos etc. are normally fitted with adequate dust collection equipment as an essential part of the process. There is, however, considerable room for improvement in the control of ground level pick-up of dust from open storage areas at most works and the Branch's engineers are endeavouring to educate works personnel as to the importance of proper housekeeping.

Ceramic Works

Because of their comparatively large number, complaints exceed in number those for any other category. These works are often situated either in or near to residential areas and the emissions of smoke, soot or salt fume often cause problems. Many were originally remote from habitation but expanding residential development has eliminated the separation which prevented problems from occurring.

Work has been carried out at various plants to develop methods of smoke and soot control for intermittent kilns; mechanical firing of oil or coal provides a solution. Underfeed stokers have been installed on 25 kilns at 10 works, while oil firing has been installed on 36 kilns at 8 works.

The use of continuous kilns for firing heavy clay ware is increasing and this in the long term will provide a complete solution to emissions. Hand fired Hoffman type continuous kilns are being progressively equipped with mechanical means of firing. Although these kilns do not produce serious smoke problems the installation of mechanical firing has virtually eliminated emissions altogether.

Another problem associated with the hand fixing of intermittent kilns is the emission of soot and in an attempt to solve this problem experiments were carried out with low volatile coal and coke; coal containing approximately 20 per cent volatile matter is now being used by two refractory manufacturers with the virtual solution of a severe soot and smoke problem.

Another air pollution problem from ceramic kilns is the hydrochloric acid emission from the salt glazing of stoneware pipes and roofing tiles. While salt glazing continues, high stacks appear to be the only practicable control method: a more satisfactory solution would result if it were possible to use an alternative process.

Chemical Works

One hundred and thirty-two tests, involving 35 compounds, were conducted at 59 chemical works or at industries emitting materials of a chemical nature (i.e. not inert particulates).

Sulphuric acid plants received considerable attention; several emissions above the limits were detected. In addition it has also been found that most of the stacks on sulphuric acid plants in N.S.W. are too low to effect adequate dispersion, even though the emissions complied with the Regulations.

Because of the greatly increased demand for superphosphate in Australia, two new sulphuric acid, larger than any formerly in use in N.S.W. began construction during 1964. A new works manufacturing ammonia, nitric acid, urea and ammonium nitrate started to operate in the Sydney area during the year and initially caused some pollution problems. A number of nearby residents complained of ammonia gas odours; the problem was quickly remedied.

Other problems encountered were mainly caused by escaping acid gases such as hydrogen chloride and hydrogen fluoride. Control action was taken and considerable improvement resulted.

Cokeworks

Most of the metallurgical coke used in N.S.W. is manufactured in two steelworks, scheduled as primary metallurgical works. The four cokeworks scheduled as such cater for other outlets, mainly the foundry industry. Almost all of this coke is manufactured on the south coast in the Wollongong area in bee-hive type ovens.

Residents in the vicinity of one works have for several years complained of the fall-out of dust and white ash, attributed to the open air coke quenching operation. However, during 1964 the company erected a new quenching tower fitted with an inertial wet collector which, judging by the quantity of material arrested, proved quite effective.

Ferrous and Non-Ferrous Works

Most are relatively small foundries. A large proportion consists of ferrous foundries producing grey iron castings using conventional cold blast cupolas, resulting in frequent complaints of grit and dust fall. There is no doubt that many emissions were quite heavy. During 1964 many installed simple cone and spray arresters made to the design recommended by the British Cast Iron Research Association, accepted as the "best practicable means" of control.

Emissions from steel furnaces, such as the electric arc type, hot blast cupolas as well as from most non-ferrous furnaces, create difficult control problems. As in virtually every case where tests have been made, the emissions have been found to be above the Regulation limit of 0·1 grain per cubic foot, it has been necessary for managements to initiate the introduction of remedial measures.

Gasworks

The major problems concerning gasworks have been solid particle emissions from boilers. In one case, where constant complaints had been received, emissions exceeded the limit. The works closed down. The problem of wind blown dust from stock piles of coal and coke will be very difficult to solve.

Grinding and Milling Works

Considerable progress has been made in dust control; in general the problems can be reduced to negligible proportions. To a large extent effective control usually depends upon proper maintenance and operation of equipment.

One problem resulted from the odours originating from coffee roasting, so scheduled because of coffee grinding. The company installed catalytic after-burning equipment which destroyed the odour. Complaints then ceased. Chemical evaluation of the equipment indicated that it was effective when operated at a temperature of 700°F.

Oil Refineries

There are three oil refineries in the Sydney area; all have been the subject for complaints mainly in connection with smoke from flares, odours and dust fall. In two cases there have been numerous occasions when smoke, sometimes extremely heavy, has been discharged for extended periods. The characteristic unpleasant odour has also been noticeable on many occasions and justifiable complaints are received from the residents of refinery areas. Confirmation of dust-fall, mainly catalyst dust, has also been obtained by the Department.

Primary Metallurgical Works

(i) *Steelworks*

There are two steelworks in N.S.W., one located at Newcastle, the other at Port Kembla. Both are integrated works producing coke, pig-iron, steel and steel shapes such as plate, sheet and various rolled forms. Production of ferro-silicon is also carried out at Newcastle; tin-plate at Port Kembla.

In the past at each works the obvious major air pollution sources have been the coke oven batteries, steam raising plants, and the open hearth furnaces. Smaller sources have been the sinter plants, electric arc furnaces and steam locomotives.

Emissions from sinter plants have also been controlled apparently to a degree which meets the requirements of the Regulations although tests are still to be done. During 1964 bag filtration equipment was also installed on electric arc furnaces at Port Kembla but because of some early difficulties it had not begun to operate effectively by the end of the year. The use of diesel locomotives to replace steam has improved the overall problem.

However, with the approach to the introduction of Regulations under the Clean Air Act the company began to consider more closely the various pollution sources. With the major exception of the coke oven batteries, it now appears that all sources exceeding the limits will be progressively controlled within 3 years.

(ii) *Non-ferrous Metallurgical Works*

One of the most interesting developments during the year was the start of the erection of the stack of 667 feet total height at the works of the Electrolytic Refining and Smelting Co. of Australia. This stack, erected to disperse sulphur dioxide which formerly caused problems in the town, should be in use by June 1965. It is the tallest stack in the southern hemisphere and one of the world's tallest.

Scrap Metal Recovery Works

While most works are small, there are a few recovering relatively large amounts of various non-ferrous metals. All scrap iron and steel reclaimed in N.S.W. is used as scrap in foundries and steelworks. Whilst some of the recovery plants have installed suitable control equipment, usually of the bag-filtration type, most had not given the matter attention prior to the date on which the Regulations took effect. Numerous tests were conducted on stacks and most found to be emitting particulates of various kinds exceeding the limits.

Boilers and Furnaces

Most of the works operating boilers and furnaces consuming more than one ton of fuel per hour are scheduled for other reasons.

The N.S.W. Electricity Commission has conducted many tests over the past years and has investigated various methods of reducing dust emissions. The latest power station to be commissioned, situated at Vales Point, meets the standards laid down in the Regulations; few other stations can do so. Consequently the Commission has conducted extensive investigations in order to try and improve the performance of control equipment and has obtained some promising results.

Department of Government Transport

The application of the Act to the Department of Government Transport is limited to workshop premises. These contain only minor fuel burning equipment apart from diesel omnibuses. Emissions from Departmental vehicles, operated on roadways, are regulated by the Road Traffic Act.

Department of Railways

The operation of steam railway locomotives has for a long time presented a difficult pollution problem. It is now apparent that the use of expanded electricity services and diesel locomotives promises to remove the more troublesome aspects. The question of controlling the remaining steam locomotives has received attention; by arrangement an investigating team representing the Department of Railways and Public Health has been established. This group will study the technical ways and means for minimising emissions from diesel as well as steam locomotives.

Smoke emissions from railway workshops are frequently excessive; the group will also consider the best means of solving these problems. Some progress has already been achieved by replacing old furnaces and boilers with new equipment but some time appears to be necessary for complete conversion. Therefore, temporary control measures are also being considered.

Non-scheduled Premises

Many of the visits made by engineers of the Branch resulted from complaints made by householders, usually through local councils, of pollution from such premises. The majority related to smoke, soot and fly-ash emissions from fuel burning equipment. In most cases engineers were able to suggest means to reduce emissions by relatively minor plant additions or changes in procedure. For example it is often possible to reduce smoke emissions from boilers to negligible proportions by the use of a simple steam operated secondary air injector costing about £20. Several firms installed these to a design provided by the Department, with very satisfactory results.

Monitoring Stations

In the central section of Sydney a downward trend in dust-fall has been noted in previous reports. This has been calculated from the average of ten stations located within two miles of the General Post Office and which have been in continuous operation since 1954.

The highest average annual dust-fall recorded since that year was in 1955, namely approximately 25 tons per square mile per month. In subsequent years the figure gradually dropped to slightly more than 15 in 1962. In the two succeeding years the rate has remained virtually the same.

In Newcastle the dust-fall rate, though less than a few years ago, showed no significant change in 1964 compared to 1963. On the other hand rates rose by substantial amounts in several of the industrial suburbs of Wollongong. It is not possible to predict that any improvement in this position will occur in 1965 but providing the steelworks' programme operates to schedule a substantial reduction should be noticeable during 1966.

Interstate Meeting of Air Pollution, Melbourne

The second of these meetings, which it is hoped will become an annual event, took place from 22nd-24th April. Officers from South Australia, Tasmania and Western Australia attended in addition to those from Victoria and N.S.W. Seven papers were read, including two by the officers from the N.S.W. Air Pollution Control Branch.

The Institute of Clinical Pathology and Medical Research

Director: Dr H. KRAMER, M.B., Ch.B., M.C.P.A.

Location: Joseph Street, Lidcombe

Established in 1959, the Institute of Clinical Pathology and Medical Research provides a comprehensive Clinical Pathology service for the whole of the State of New South Wales, available free of charge to all Public and State hospitals and to medical practitioners attending patients unable to afford the fees of a private pathologist. Specimens for investigations not otherwise available in the State are accepted without financial restriction, while the Exfoliative Cytology, Venereal Disease Serology and Virology departments also provides a free service which is generally available. The Institute also undertakes the training of medical technologists and doctors wishing to specialize in Clinical Pathology and, in addition, carries out medical research in the various specialized branches of laboratory medicine.

As in the past, the various activities of the Institute will be considered under the following headings:—

A. Clinical Pathology service.

B. Training of Pathologists and Medical Technologists.

C. Research.

A. CLINICAL PATHOLOGY SERVICE

The post-war years have witnessed revolutionary changes in the practice of medicine. Previously, medical practice was largely an art, with doctors relying on a careful history of symptoms and examination of the patient to elicit physical signs of disease as a guide to diagnosis. Treatment was largely empirical with the gross reactions of the patient the only guide. Laboratory medicine was concerned mainly with bacterial diseases, simple haematology and biochemistry, while the practice of diagnostic histopathology was confined to a few of the major institutions. Today the emphasis has entirely altered. Medicine has become a science with a proliferation of a large number of highly specialized branches. In an ever-growing number of cases the clinical findings serve now only as a guide to the laboratory investigations which the clinician demands. Diagnosis depends not only on positive laboratory findings: differential diagnosis demands a great variety of negative findings as well as an aid to the exclusion of other possible considerations, whilst in many instances the selection and control of treatment is also under laboratory guidance. Whereas in the past much of this type of medicine was regarded as the perogative of the major teaching hospitals, in recent years its practice has widened progressively so that today even the smaller hospitals and general practitioners are constantly clamouring for greater investigational facilities.

Far from being deplorable, this attitude should be encouraged within reason as it must lead to a progressive improvement in the quality of medical care. These are not the only sources of pressure for more laboratory investigations. Patients are becoming increasingly aware of the need for proper investigation of their ailments as the mass media of communication popularise medical and scientific topics. The trend to more and more laboratory investigations is bound to continue as the population increases and as the practice of medicine improves; at the same time, new types of tests, many of which are highly complex, are continually being developed and integrated into clinical practice.

It is in this context that the activities of the Institute of Clinical Pathology and Medical Research must be viewed. The range of investigations it undertakes is very broad, embracing as it does virtually every test of proved usefulness for which there is a demand. In its short history of little more than five years the Institute has come to occupy a key position, with virtually every hospital in the State dependent to a lesser or greater degree on the service it provides. Many of the smaller country hospitals have either very limited or no laboratory facilities at all and are entirely dependent on the Institute. The larger base or district hospitals usually have laboratories staffed by a medical technologist with, in most cases, no specialist pathologist in attendance although some have a visiting pathologist, while a small proportion enjoy the services of a full-time pathologist. In any event, the range of work which they undertake is limited and what they cannot do is referred to the Institute.

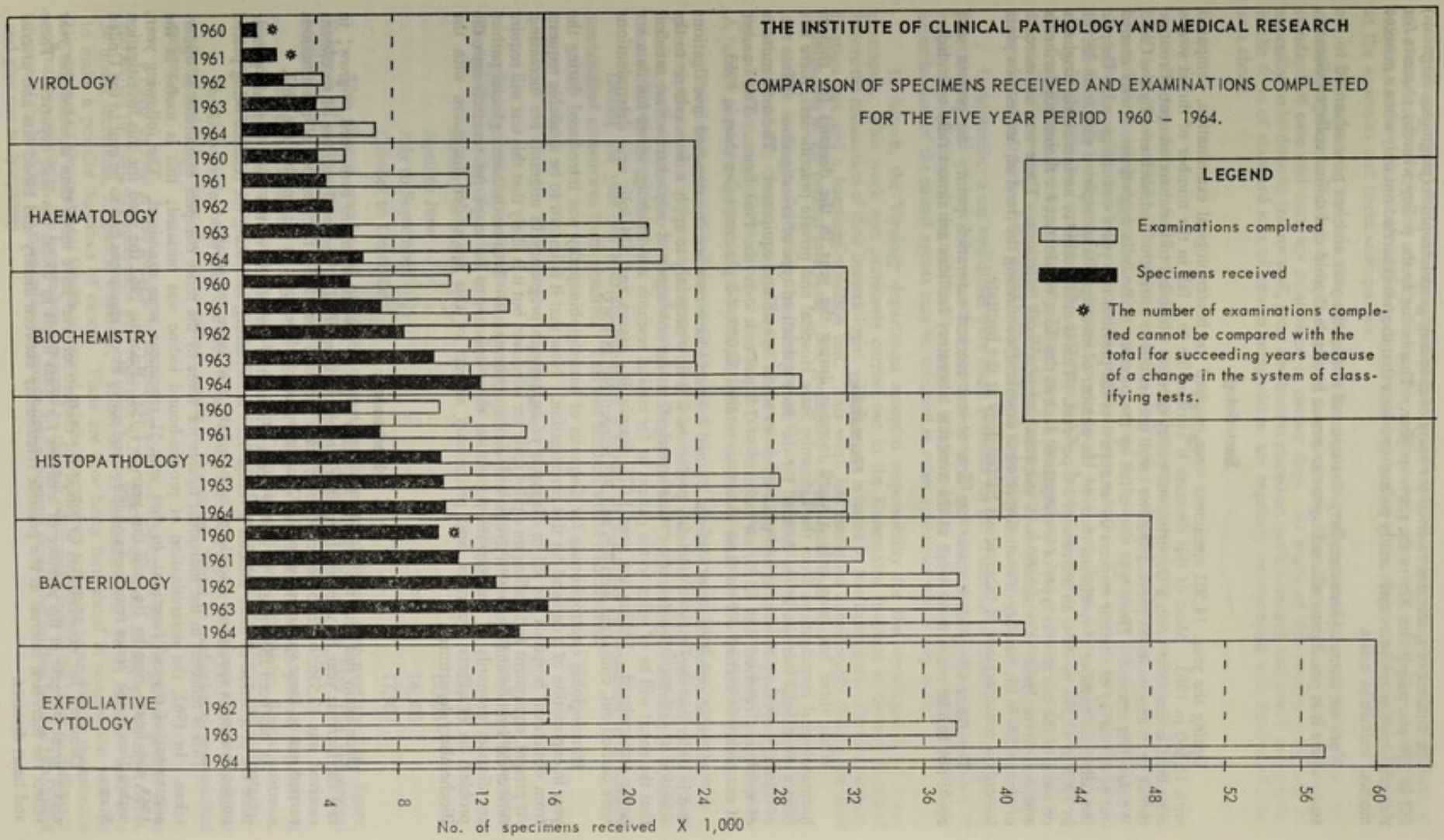
References to the Institute thus emanate from a variety of sources. State, Public and Mental hospitals and doctors in private practice provide most of the work but it is not practicable to dissect the proportions received from these different sources which, in any event, vary from department to department. For example, the overwhelming majority of Exfoliative Cytology specimens come from private practitioners; a very high proportion of the V.D. Serology is referred from Psychiatric hospitals or V.D. clinics; the Lidcombe State Hospital provides about one-half of the Haematology, whilst most of the Histopathology comes from country base or metropolitan district hospitals. A high proportion of the more specialized investigations derive from major teaching hospitals, the larger metropolitan district hospitals or from private pathologists, i.e. they are requested by specialists, either in private practice or on the honorary staff of hospitals. The increasing number of specimens referred from country centres is a matter for some satisfaction as one of the major reasons commonly advanced for the reluctance of practitioners to settle in country districts is that they are unable to have their patients properly investigated and so cannot practise high quality medicine. There can be little doubt that the facilities for investigation offered by this Institute, coupled with the availability of rapid transport, are making a substantial contribution towards removing this objection to country practice, with obvious benefit to medical care throughout the State.

The growth in the amount of work carried out in the five years, 1960 to 1964 (inclusive) is illustrated on the accompanying graph. In all departments other than Exfoliative Cytology, the number of examinations undertaken greatly exceeds the number of specimens received, because most specimens are accompanied by requests for a variety of tests, while in the case of Histopathology, sections from several parts of the specimen have to be examined. The mere numerical growth over the years, spectacular as it is, gives little real indication of the actual increase in the work load because in the first year or two the great majority of investigations were of a routine nature, of the sort performed in any good hospital laboratory. Today, every department of the Institute offers a variety of investigations which, because of their difficulty or complexity, are done by few if any hospital laboratories. Where any particular hospital does undertake some of these more sophisticated procedures they are of course available only to its own patients, whereas the Institute makes them available to all. To quote a few examples: in addition to their routine work, the Biochemistry department undertakes estimations of protein-bound iodine, catecholamines, urinary steroids and serum iron and latent iron-binding capacity; the Bacteriology department carries out salmonella identification, the serotyping of pneumococci and haemolytic streptococci, the bacteriophage typing of staphlococci, anti-streptolysin 'O' titre, C-reactive protein and Rose-Waaler tests; the Haematology department undertakes microbiological assays of vitamin B_{12} and folic acid, the investigation of obscure blood coagulation defects and haemoglobinopathies, and in addition a variety of diagnostic procedures requiring the use of radioactive isotopes. It is hardly necessary to detail the unique service provided by the Virology, V.D. Serology and Exfoliative Cytology departments.

Pathological Anatomy and Histology

The past year has seen a further increase in the number of specimens submitted for histological examination. The total number of specimens amounted to 10,600, of which 10,242 were removed surgically and referred for microscopic diagnosis, the remainder being autopsy material, bone marrow specimens, etc. Post-mortem examinations for the Lidcombe State Hospital numbered 276, while a further 13 autopsies were performed for the Canterbury District Memorial Hospital during the temporary absence of their pathologist. Altogether, specimens from 145 autopsies were referred by various hospitals to the Institute for microscopic examination. No less than 27,381 paraffin sections were examined and reported upon from the surgical material while a further 4,061 came from autopsies. The total number of examinations completed was 31,905, an increase of 12·6 per cent over the figure for 1963. At this level, the Histopathology department must rank as one of the busiest, if not the busiest, in Australia, and it is a matter for no little satisfaction that virtually all this work was accomplished by staff who have received all their training in histopathology at this Institute.

During the year the accumulation of museum specimens for teaching purposes has proceeded satisfactorily but it is regrettable that pressure of work has retarded progress in building up the reference library of histological sections.


THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
COMPARISON OF SPECIMENS RECEIVED AND EXAMINATIONS COMPLETED
FOR THE FIVE YEAR PERIOD 1960 – 1964.
LEGEND
Examinations completed
Specimens received
* The number of examinations completed cannot be compared with the total for succeeding years because of a change in the system of classifying tests.
VIROLOGY
HAEMATOLOGY
BIOCHEMISTRY
HISTOPATHOLOGY
BACTERIOLOGY
EXFOLIATIVE CYTOLOGY
1960
1961
1962
1963
1964
4
8
12
16
20
24
28
32
36
40
44
48
52
56
60
No. of specimens received X 1,000

The number of specimens received for assay of chorionic gonadotrophins (pregnancy diagnosis) fell to 278 compared with 379 in the previous year. This is due to the policy whereby requests for this examination are now more strictly policed to ensure that the test is carried out only when a genuine medical indication exists.

Work on immuno-histochemistry was initiated during the year and has now advanced to the stage where it is possible to offer a diagnostic service in certain thyroid and diffuse collagen diseases.

Bacteriology

During the year, 14,502 specimens were received for bacteriological examination, compared with 15,860 in 1963. Most of this decrease is attributable to a fall in the number of throat swabs examined, consequent upon a Departmental policy decision which led to the abandonment of routine throat swab examinations previously done on all admissions to institutions administered by the Child Welfare Department. There was also a fall in the number of Brucella agglutination tests carried out as the survey of abattoir workers undertaken over the previous two years was completed. Despite the fall in the number of specimens received, the number of investigations completed rose from 38,121 in 1963 to 41,393 in 1964, an increase of 8·6 per cent. This is attributable to an increasing emphasis on some of the less routine types of investigation, such as the Rose Waaler test for rheumatoid arthritis and anti-streptolysin 'O' estimations in suspected streptococcal infections. There was an increase of almost 500 in the number of sputum specimens examined, confirming the trend of the past few years towards a concentration of tuberculosis bacteriology at the Institute.

The Bacteriology department has now almost reached saturation point; the present staff could not handle much more work as the available laboratory facilities are almost fully extended.

Haematology

While there has been only a small increase during the year in the demand for routine haematological investigations from the Lidcombe State Hospital and private practitioners, there has been a substantial increase in the demand for the more specialised type of investigation. These are, of course, more time-consuming and place a heavier strain on staff and equipment. The total number of specimens received was 6,135, an increase of 7·8 per cent over the 1963 figure. The number of examinations carried out on these specimens totalled 22,059, 4·2 per cent more than in 1963.

Microbiological assays of vitamin B_{12} and folic acid have now become standard investigations and in order that they may be efficiently performed it is now necessary to apply stricter criteria to the selection of patients. Specimens for these investigations are now accepted only where we are satisfied that the result will be of value to the patient or for clinical research and teaching, where full data are being accumulated. During the year 1,073 vitamin B_{12} assays and 524 folic acid determinations were carried out, compared with 836 and 398 respectively, in 1963.

Haemoglobin electrophoresis for diagnosis of haemoglobinopathy was introduced during the year in expectation of a demand for this investigation. Now that it is known to be available requests from obstetrical hospitals for aid in diagnosis of anaemia in pregnancy in migrants are increasing. At present, equipment and staffing on a pilot scale are adequate, but it is likely that this test will require further elaboration and equipment to deal with increasing demands. Because the haemoglobinopathies are diseases primarily of the migrant population there appears to be scope for research into the problem as it affects Australia, and preliminary aspects of this are under discussion with the Biochemistry department.

Biochemistry

Once again this year the demand for many types of investigation has continued to grow; in fact the increase year by year has been approximately exponential. The total number of specimens received was 12,556, or 25·5 per cent more than the total for 1963; the number of examinations carried out on these specimens was 29,572, an increase of 24 per cent in the number for 1963.

As has been the pattern in earlier years, the overall complexity of the work is again greater since the proportion of more difficult investigations is increasing, indicating the reliance being placed on the Institute's specialized knowledge by hospitals, both large and small.

This is reflected in the individual figures for some of the more complex examinations undertaken. In 1962, the determination of protein-bound iodine was initiated; this is useful in the assessment of thyroid function; in that year 51 specimens were examined. The following year, 1963, the figure rose to 216, and this year to 1,754. Prior to 1962 the need for this investigation within New South Wales remained unfulfilled and many blood specimens had to be sent to the United States.

Demands for examinations of blood for cholesterol level have more than doubled this year and a great increase in the number of analyses for total lipids in blood has also occurred. These reflect the increased interest in the possible relationship between dietary and blood fats and arterial and heart diseases.

Investigations of the urinary output of catecholamines and various classes of steroid hormones have continued to increase steadily in number. There have also been large increases in blood examination for iron and iron-binding capacity, of importance in the diagnosis of disease states such as the anaemias and haemochromatosis.

The increasing tempo and complexity of the work of the department have necessitated the best endeavours of each member, while at the same time every effort has been made to maintain the high standard of care and accuracy established in calmer days. As much of this routine work has, of necessity, to be done by trainee staff, great emphasis is placed on quality control, and inbuilt safeguards, in the form of standard sera of known composition, are regularly incorporated with batches of tests as a check.

Virology

During the year 6,928 virological investigations were carried out, an increase of 31 per cent over the 5,290 for 1963. Though much of this work was serological, no less than 222 virus isolations were achieved. A great deal of activity was concerned with acute respiratory infections, in particular the influenza epidemic which occurred during the winter months. The causal virus proved difficult to handle in the laboratory (this experience was world-wide) but eleven isolations were made and the agent identified as a variant of the Asian strain A2. Serological studies on some 500 normal blood donors indicated that approximately 12 per cent of the population had evidence of recent infection. Representative isolates were sent to the World Influenza Centre, London, for comparison with strains isolated in other parts of the world. They proved to be closely related to strain A2/Singapore/1/57.

In September a car and driver were made available for the collection of specimens from general practitioners and we now have an active panel of some 20 practitioners monitoring the incidence of respiratory infections in the metropolitan area. It is intended to make use of this panel so that early identification of the causal agents may be achieved in other epidemics which may occur.

In March, the Virology department accepted responsibility for the serodiagnosis of toxoplasmosis. This work was previously carried out in the Kanematsu Institute at Sydney Hospital before the resignation of their bacteriologist. Each serum is tested by two techniques—the complement fixation test and a haemagglutination test. This work has increased considerably during the nine months and at the present rate some 1,500 specimens will be tested each year.

The survey to determine the incidence of Q fever amongst abattoir workers has continued. Outbreaks of this disease occurred in the Forbes and Orange abattoirs and were fully investigated. Sporadic cases continue to occur at Homebush abattoir at the rate of approximately 12 per year. A further paper on Q fever infections in abattoir workers is being prepared for publication.

The preparation of antisera to Coxsackie A viruses has been completed and we are now in a position to act as a reference laboratory for these viruses. A simplified test using a complement fixation method has been developed to replace the more cumbersome neutralisation test in new-born mice which was previously used.

During the year Mr Murphy published a report on a number of isolations of a hitherto unidentified enterovirus from children. This has aroused world-wide interest.

Exfoliative Cytology

During 1964 the work expanded steadily, with 1,356 doctors from all over the State participating The quarterly intake of cervical smears during the year was as follows:—

January to March	11,430
April to June	12,925
July to September	14,302
October to December	17,907

This gives a grand total of 56,564 smears, an increase of 51 per cent over the 1963 figure. Evidence of early cervical cancer was found in 270 cases and to date we have had histological confirmation of the diagnosis in 200 and are awaiting results in the remaining 70.

The film, "A Smear in Time", which was made by the department, has proved popular. It has been shown to representatives of the Cancer Councils of New South Wales, South Australia, Victoria and New Zealand, all of whom have commented favourably on its subject and presentation.

The Universities of Sydney and New South Wales are using copies for the instruction of medical students and it has been shown in various towns in New South Wales to medical and para-medical audiences.

Early in 1964 it was decided to extend the scope of cytology in the non-gynaecological fields and during the year, 619 specimens were received, 472 of which were sputa, 83 ascitic or pleural fluids, 24 breast secretions, 12 gastric washings, 7 urines and 21 miscellaneous. In 45 cases we were able to make a positive diagnosis of cancer. Plans are now being formulated in conjunction with the Department of Occupational Health to extend exfoliative cytology screening to workers in the asbestos and rubber industries, the former being exposed to the risk of lung carcinoma, the latter to malignant disease of the bladder. It is hoped in this way to detect incipient cancers before they become established and give rise to symptoms.

Venereal Disease Serology

Early in 1964 the Venereal Disease Serology Laboratory was transferred from the Microbiological Laboratories to the Institute and housed in new laboratories designed from accommodation previously used as a garage. When transferring the Serology department the opportunity was taken to re-organize its activities completely so that all tests employing lipoidal antigens were replaced by those using the more sensitive cardiolipin antigens. This led to the abandonment of the Kahn test. A modified Wassermann Reaction (W.R.) using cardiolipin antigens, the Reiter Protein Complement Fixation Test (R.P.C.F.T.) and the Venereal Disease Reference Laboratory (V.D.R.L.) test were adopted as a routine for all specimens. Cerebrospinal fluid, which was previously examined only by the W.R. now has the R.P.C.F.T. and the V.D.R.L. test as well, and all reactive V.D.R.L. tests are now examined in serial dilution.

By the end of August 1964 all the equipment necessary for the Treponema Pallidum Immobilisation (T.P.I.) test had arrived from abroad. In September a rabbit, infected intra-testicularly with virulent *Treponema pallidum*, was imported by air from the Venereal Disease Reference Laboratory in London to enable the T.P.I. test to be instituted. This test was then started on a weekly basis and made available as an Australia-wide service. By the end of 1964, 463 T.P.I. tests had been performed. A small number of deep frozen rabbit tests infected with *Treponema pallidum* were imported from Copenhagen and stored at -78° C in case of failure of Treponemal survival in our rabbits.

Initial work was begun on the Fluorescent Treponemal Antibody (F.T.A.) test which presented problems not satisfactorily cleared up in 1964; work on this will continue.

Tests performed for the Psychiatric Centres in New South Wales increased from 19,588 in 1963 to 33,336 in 1964. There was an increase also in work done for the Child Welfare Department, Lidcombe State Hospital and the Rachel Forster Hospital; at the same time the number of tests performed for the Division of Epidemiology, private practitioners and public hospitals decreased. In all, 102,982 tests were performed in 1964 compared with 102,853 in 1963.

B. TEACHING

Training of Medical Graduates as Pathologists

The Institute enjoys full recognition by the University of Sydney and the College of Pathologists of Australia as an approved laboratory for the training of medical graduates seeking specialist qualifications in Pathology.

Seven registrars are at present undergoing training in the Institute's laboratories. While the training offered is, for the most part, on the apprenticeship system, the departments of Bacteriology and Haematology conduct, in addition, rather more formal training programmes. In Histopathology, the museum of gross pathological specimens for teaching purposes has continued to expand, although progress in building up a reference library of histological sections has been slowed down considerably by pressure of work. The multiple viewing micro-projector built in the workshop has proved invaluable for instructing registrars in histopathology. We now conduct regular demonstrations at which all the staff can confer on individual sections.

The tenure of the registrarships is for a period of three years, during which time trainees spend a full year doing Morbid Anatomy and Histology and then six months in each of the other departments, namely, Haematology, Bacteriology and Biochemistry, leaving a further six months for general revision. The post-graduate teaching activities are reinforced by attendance at seminars, scientific meetings, lectures and informal tutorials. During the six months each registrar spends in Haematology he is either in residence or on call for all emergency pathology work at the Lidcombe State Hospital and is in this way able to gain experience in emergency pathology.

The department of Exfoliative Cytology is now in a position not only to offer training to pathologists and gynaecologists but also to train cytotechnicians and scanners for outside bodies, and several people have already taken advantage of the training facilities offered.

Training of Laboratory Technicians

The staff establishment provides for 16 laboratory assistants and 14 laboratory assistants-in-training, the purpose of these appointments being to meet future needs for qualified technical staff in the Health Department's laboratories by providing in-service training in all branches of medical laboratory technology. Trainees fall into two categories:—

(1) 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 Bachelor of Science in Applied Biology.

(2) Those who wish to qualify as laboratory assistants—these attend the Biology Certificate course at the Sydney Technical College and on completion of this course may proceed to a Diploma in Medical Technology.

It is only at the University of New South Wales that a part-time Science degree course has been available, but during the past few years the amount of full-time study demanded has increased to the stage where it is virtually impossible for laboratory assistants-in-training to qualify for a degree in this way with only 3½ hours per week allowed for attending classes during working hours. Accordingly, virtually all our trainees are now working towards the Biology Certificate and the majority intend thereafter to attend the course offered by the Department of Technical Education leading to the Diploma in Medical Technology. This demands a further two years of study after qualification for the Biology Certificate. A high standard of proficiency is demanded and in fact those who acquire this diploma will have undergone six years of training and study.

The establishment also provides for 12 positions of trainee scanner. The appointees receive in-service training for their work in the department of Exfoliative Cytology and do not at present obtain any formal qualification.

Staff Meetings

An important feature of the educational side of the work of the Institute is the programme of weekly staff seminars, which are jointly sponsored by the Institute and the Lidcombe State Hospital. These meetings are open to the medical profession as a whole and are advertised in the Medical Journal of Australia, in the British Medical Association's Monthly Bulletin and by the Post-Graduate Committee in Medicine of the University of Sydney. Approximately 36 such meetings are held each year, spread over three terms, in each of which 12 seminars take place; there is a recess of approximately one month between terms. 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; outside speakers are also invited to lecture. 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 the members of the staff to gain practical experience in lecturing before a critical audience.

The programme of weekly seminars held during 1964 is attached (see Appendix C).

Extra-mural Teaching

A number of members of the senior staff have, during the past year, been invited by both Sydney University and the University of New South Wales to deliver casual lectures in undergraduate and post-graduate teaching programmes; other specialized classes have been conducted in the laboratories of the Institute. It is important that this should be encouraged as it implies not only a recognition of the high quality of our senior staff but also contributes materially to facilitating the recruitment of science and medical graduates. Indeed, on many occasions graduates applying for positions on the staff have admitted at interview that they have been influenced in this way. Furthermore, the fact that participation in University teaching has been encouraged has been a factor of considerable importance in enabling us to recruit and retain the services of a senior specialist staff of such high calibre.

The benefits which have already accrued from our training programme give cause for considerable satisfaction. The Institute, when first established in 1959 had, apart from five specialist heads of departments, a nucleus of but six Science graduates experienced in Medical Technology and three laboratory assistants, two of whom were histological technicians. The scientific and technical staff now numbers close on 70, most of whom have obtained all their training here. When the Institute was first established, misgivings were frequently expressed that its staff would drain many personnel away from hospital laboratories. In point of fact, no hospital in New South Wales has lost a single member of its trained staff to the Institute. To date, six registrars have completed their training programme and of these, five* have been appointed to permanent positions in the New South Wales Department of Public Health, while the other has taken charge of the laboratory at one of the metropolitan district hospitals. At present a further eight registrars are in training.

The results of the training programme for laboratory assistants/medical technologists have also been gratifying. To date 16 have qualified for the Biology Certificate at Sydney Technical College and of these, three† have already completed a further two years of study required for the Diploma in Medical Technology. Another four are expected to qualify for the Diploma in Medical Technology this year, while 15 more are attending various stages of the Biology Certificate course.

There is little doubt therefore that the far-sighted policy of creating training positions at the Institute is now yielding a rich dividend; indeed, without this programme our specialist staff position might today be perilous. Instead, we are now in the fortunate position of being virtually independent of outside recruitment. We have already been able to provide understudies to the specialist heads of three departments and should soon be able to extend this to the others. This will make our position far more secure than it has hitherto been. Already we have been able to provide trained staff for other laboratories within the Department of Public Health, while any qualified staff surplus to departmental requirements will readily find employment outside the Public Service.

* One has since resigned and gone into private practice.

† Two have since left to work in country hospitals.

There is very little or no possibility of meeting the growing demand for laboratory investigations in the diagnosis and management of disease unless more staff are trained at both the professional and technical levels. Experience has already demonstrated the futility of trying to recruit qualified staff in the face of a world-wide shortage. An odd one or two may be picked up here or there, but the problem could never be solved in this way. It is essential therefore, that full use be made of the training potential available locally. Further, planning must be based not on immediate needs but on expected future demands, as it takes six years to train a medical technologist while at least four or five post-graduate years are necessary for a pathologist.

Despite the progress already made there is no doubt that our training potential is not being fully utilised. We could readily accommodate five or six more registrars and at least 12 additional laboratory assistants-in-training, and unless full use is made of available training resources, both here and in the hospitals, there is no prospect of adequately staffing peripheral laboratories which could encompass some of the work at present being referred to the Institute.

C. RESEARCH

This aspect of our work has not yet received the attention it deserves, mainly because the heavy commitments for diagnostic investigations have meant that senior members of the staff have had little opportunity to pursue their research interests or to cultivate these activities among their junior staff, who have themselves to carry out much of the routine work under supervision. This is a pity, because the interest and ability to pursue useful research is there, the material and facilities are available and all that is really lacking is time. It is hoped that it will be possible in the near future to provide each of the specialist heads of the departments with an understudy by appointing the best of the registrars when they complete their training to permanent positions on the staff. This should lighten the load of routine work at present carried by the specialist staff and provide the opportunity for collaborative research. At the same time, as more technical staff complete their training, it should be possible to enable some of the Science Graduates at present engaged on technical work to participate in research activities.

Despite these difficulties, programmes of original work are being pursued in the various departments. Much of this is of a developmental nature aimed at overcoming technical difficulties inherent in some of the more specialized investigations. Some involve epidemiological or other types of survey, while a small residue is rather more fundamental in nature.

Biochemistry

In the Annual Report of 1963 reference was made to the work being done on the development of technical methods for the analyses of steroid hormones and their metabolites excreted in urine. Considerable advances have been made during 1964 and it is now possible to carry through, in one continuous process, analyses of nearly all the main types of steroids excreted in human urine. This has involved a great deal of painstaking work on the separation of similar groups of steroids in the form of extracts suitable for presentation to the gas chromatograph, so that eventual quantitation of at least some of the excreted products may be made.

Work has now commenced on a study of the urinary steroid patterns found in normal men and women. This will serve in the ensuing years as a reference point for similar studies of various endocrine diseases.

In a different field, techniques are being studied for the separation of serum proteins by electrophoresis in gel columns of small dimensions. This has a number of applications, including the study of various diseases and of the ageing process, by analysing the complex patterns produced in the gels. These arise from variations in the quantity and nature of the proteins. The proteins are stained with a dye giving a series of coloured bands along the gel. The gel is then run through a special optical scanner which gives a recording on paper of the protein pattern. The scanner was designed and made at low cost in this Institute.

Coupled with this work the technique of gel filtration of serum proteins is also being developed.

Haematology

The investigation of the nutritional status of aged males, with particular reference to haematinics, has continued during the year and this has been extended to include urinary formimine glutamic estimations as an index of folic acid deficiency. A considerable amount of work was devoted to developing and standardising these techniques. Work is at present progressing in an attempt to establish a method for the assay of intrinsic factor and to develop techniques for the determination of auto-antibodies to gastric mucosa. Once these are successfully completed we shall be in a position to conduct very thorough investigations of the macrocytic anaemias.

Reference has already been made to the development of improved methods for the electrophoretic determination of abnormal forms of haemoglobin which are known to cause a group of anaemias to which migrants of Mediterranean origin are particularly prone.

Bacteriology

As mentioned elsewhere, the Bacteriology department has collaborated with the Virology department and the Metropolitan Medical Officer of Health and his staff, as well as the veterinary officers of the Department of Agriculture, in a survey of infections to which abattoir workers are occupationally exposed. In this connection the Bacteriology department is principally concerned with brucellosis.

Work on the anonymous mycobacteria is also in hand and strains of tetracycline-resistant pneumococci are being investigated.

Histopathology

The work on the ageing of elastic tissue referred to in previous annual reports was completed to the stage of publication of the preliminary findings, but because of the difficulty experienced in obtaining comparable material from younger age groups this work has now been shelved. The difficulty springs largely from the fact that such material is not available from the Lidcombe State Hospital and attempts to obtain suitable specimens from other sources have met with very limited success.

Work has meanwhile proceeded on the histochemistry of mucins. Techniques of immuno-histochemistry, with particular reference to fluorescence microscopy, have recently been under investigation. It is hoped that these techniques, once established, will also be utilised for investigational work on auto-immune disease in collaboration with the Haematology department.

Attempts are also being made to adapt fluorescent labelled antibody methods to hasten the serotyping of certain viruses.

Improved techniques for ophthalmic histopathology are at present being developed. New devices for sectioning eyes have been made in the Institute's workshop and applications of the freeze-drying technique are under investigation in the hope that its use might lead to the production of better preparations.

Virology

During the year the method was developed for the serotyping of viruses of the Coxsackie A group using a complement fixation technique instead of the tedious and time-consuming neutralisation methods using newborn mice. This is regarded as a significant advance as it combines economy of effort with a substantial saving in the time required for establishing a diagnosis.

Reference has already been made to the discovery of a new enterovirus which affects children. Although its cultural and serological characteristics are now well defined its pathogenicity and clinical significance will require further investigation.

The Q fever survey of abattoir workers was completed during the year and it is now planned to carry out a survey of ornithosis among workers in the rapidly growing poultry industry.

Work is at present proceeding on the cultivation of rubella virus with a view to assaying for the Red Cross Blood Transfusion Service the antibody levels in convalescent serum which they supply for prophylactic use.

The epidemiological study of acute respiratory viral infections which is being undertaken in collaboration with the Research Committee of the College of General Practitioners was commenced rather too late for useful results to have emerged in 1964. However, the organization is now well established and the survey is expected to yield very useful information in the coming year.

Exfoliative Cytology

The Exfoliative Cytology department has already accumulated over 100,000 cervical smears together with well documented information about the women from whom they have come. Some 330 early cancers have been found and over 200 more have revealed suspicious findings which will require follow-up studies. There can be few centres in the world in which such a wealth of data has been collected in so short a time and, of course, the rate of accumulation is rapidly increasing. A great deal of important statistical information which would throw light on the incidence, age groups, parity, etc. of the women at risk at present lies hidden in this vast amount of material. In order that it might be utilized, plans are now in hand to prepare it for computer analysis by the Electronic Data Processing Division of the Public Service Board.

Venereal Disease Serology

There has, as yet, been little opportunity to develop research activities in this field as the Venereal Disease Serology laboratory was set up at the Institute only this year. However, arrangements have already been made to investigate certain unusual features of treponemal diseases as they affect aboriginals and this work should commence in 1965.

GENERAL

Administration

The broad administrative structure of the Institute described in previous Annual Reports has continued to function satisfactorily although the great increase in work over the years has placed a heavy strain on the clerical services. The essence of the system is speed in the despatch of reports and in answering telephone enquiries about investigations which relate to sick people. At present over 700 reports are issued each day and this involves an enormous amount of clerical work. The general administrative work has increased at an even greater rate than the output of the laboratories, because a few years ago the system was re-organized in such a way as to make the most economical use of the time of scientific and technical staff by delegating as much of the written work as possible to clerical personnel. At the same time, the introduction of dictating machines has relieved an enormous amount of written work which previously occupied the staff of the Histopathology department.

During the year, the microfilming of records was introduced and this will permit a considerable saving of space while facilitating reference to the results of previous tests, which are often highly relevant to investigations in progress.

Photography

Although still without the services of a photographer we have managed to proceed with the work of building up a collection of photomicrographs for teaching purposes in Exfoliative Cytology, Haematology and, to a lesser extent, in Histopathology, as several members of the senior staff have taken the trouble to acquire the necessary competence to carry out the work themselves. We have been fortunate in obtaining assistance from one of the medical officers of the Lidcombe State Hospital who is a very experienced photographer and with his help the instructional film, "A Smear in Time", to which reference has been made, was produced for promoting uterine cancer detection work among the medical profession.

Workshop

During 1963 a new Scientific Instrument Maker was appointed and we were at last able to realize the full potential of the workshop. This was most gratifying, as a number of very useful pieces of equipment have been constructed. Of particular value is a multiple-viewing microscope which has greatly facilitated the training of pathologists in Histopathology. Other major equipment produced includes a large capacity roller-tube apparatus and a special deep-freeze for Virology.

An equally important function of the workshop is the maintenance of existing equipment in a serviceable condition.

During the year a universal milling machine was acquired and this has already greatly increased the range of precision work in the field of instrument construction which we are able to undertake.

Animal House

The animal house has had to meet very heavy demands during the year. Work on the Coxsackie viruses has required a constant supply of new-born mice so that it has been necessary to organize a breeding programme to produce several litters each day. Large numbers of guinea pigs are used for tuberculosis bacteriology, while rabbits are in constant demand for the production of specific viral antisera for diagnostic purposes.

The introduction of T.P.I. testing in the department of Venereal Disease Serology will necessitate a great increase in the rabbit stock and a breeding programme has been instituted. To meet this need, it will be necessary to maintain a colony of 150-200 rabbits. During the year additional accommodation was made available for this purpose.

Conclusion

This year has seen a further all-round expansion in the activities of the Institute of Clinical Pathology and Medical Research. The volume of work done in all departments has continued to increase, while the variety of investigations offered has steadily broadened. Many of the investigations now undertaken at the Institute were not previously available in New South Wales, or, if they were available, were restricted to patients attending at a few specialized hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State.

Since the Serology department, which was previously housed at 93 Macquarie Street, was incorporated in the Institute, we are now able to offer a virtually complete Clinical Pathology service. Apart from carrying out routine venereal disease serological examinations this department has become the reference laboratory for T.P.I. tests for the whole of Australia.

The time might now be opportune to consider the future development of the Clinical Pathology service provided by the Institute. Over the five year period the amount of work has increased phenomenally. If the present trend continues, and there is every reason to believe that it will, it is not difficult to envisage a situation where the available laboratory space can no longer accommodate the volume of work.

Looking back over the past five years it would perhaps not be vainglorious to claim that a very considerable amount has been achieved. The Department is now in a position to provide a comprehensive diagnostic laboratory service second to none in this State. That this has come about in so short a period is due in some measure to the excellent facilities provided, but of far greater consequence is the very high quality of the staff which we have been fortunate enough to recruit. They have always reacted with enthusiasm to any proposals aimed at improving the output and quality of work, and it is to this spirit that the results achieved to date 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 Government Stores Department and the Department of Public Works.

Of our three functions, the service component is now fully operative and flourishing. The far-sighted training programme inaugurated in the early days of our existence is now bearing fruit so that the early anxieties over staffing have been dissipated and it now remains to develop the research activities which have perhaps languished a little because of the necessity to ensure that the other two functions were first solidly established. Given continuation of the support which we have enjoyed to date there is now no reason why we should not, in the coming years, make significant contributions of original work which will add further to the reputation which the New South Wales Department of Public Health has built up over the past few years.

APPENDIX A

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Statistical Summary of Specimens Received and Examinations Completed
1st January, 1964–31st December, 1964

Histopathology

	1963	1964
Number of specimens—		
Surgical biopsy	9,824	10,097
Post-mortems (internal)	273	276
Post-mortems (external)	201	145
Miscellaneous	149	82
	10,447	10,600
Examinations completed—		
Paraffin sections	27,844	31,442
Frozen sections	67	105
Post-mortems (internal)	273	276
Miscellaneous	149	82
	28,333	31,905
Chorionic Gonadotrophin Assay (Galli-Mainini)	379	278
Immunology—		
Gastric parietal cell antibodies in serum	*	2
Anti-nuclear factor in serum	*	10
Thyroid antibodies in serum	*	3
	..	15

Virology

A. Specimens for virus isolation—		
Faeces	497	346
Throat washings	54	697
Cerebrospinal fluid	79	89
Miscellaneous	188	297
B. Blood for antibody estimations—		
Complement fixation tests	2,691	1,344
Neutralisation tests	149	103
C. Serum for toxoplasmosis investigation	*	599
D. Smears for inclusion bodies (trachoma)	*	11
	3,658	3,486
Examinations completed—		
Virus isolation and identification investigations	2,264	3,900
Complement fixation tests	2,717	1,975
Neutralisation tests—		
Polio	66	21
Coxsackie	233	420
E.C.H.O.	2	2
Adenovirus	4	..
Influenza	4	..
Haemagglutination test for toxoplasmosis	*	599
Inclusion bodies (trachoma)	*	11
	5,290	6,928

Note: * These tests were not previously carried out at the Institute.

Biochemistry

	1963	1964
Number of specimens	10,010	12,556
Examinations completed—		
C.S.F. for—		
chloride	77	70
colloidal mastic reaction	732	770
globulin	50	79
glucose	69	73
protein	98	87
Blood and Serum for—		
acid phosphatase	359	385
alkaline phosphatase	1,209	1,362
amylase	60	81
bilirubin	1,079	1,194
bromide	36	50
calcium	353	271
carbon dioxide combining power	341	476
chloride	1,246	1,309
cholesterol	490	1,009
creatine	1	10
creatinine	43	50
glucose	463	518
glucose tolerance	63	97
glutamic pyruvic transaminase	472	512
glutamic oxalacetic transaminase	480	594
iron	487	683
iron binding capacity	477	679
methaemoglobin	3	8
phosphate (inorganic)	178	182
potassium	1,259	1,313
proteins, total	1,943	2,584
proteins, albumin	874	848
proteins, globulin	873	841
proteins, electrophoresis	1,107	1,747
protein-bound iodine	216	1,754
sodium	1,281	1,301
sulphaemoglobin	2	9
urea	2,211	2,845
uric acid	385	520
zinc turbidity	1,019	1,207
Faeces for—		
fats	253	347
occult blood	367	225
tryptic activity	1	..
Gastric fluid for general analysis	38	10
Urine for—		
bilirubin	8	5
catecholamines	473	579
17-ketogenic steroids	536	634
17-ketosteroids	710	844
urea	70	28
Calculi for analysis	63	106
Miscellaneous chemical examination	1,331	1,276
	23,886	29,572

Bacteriology

	1963	1964
Number of specimens	15,860	14,502
Examinations completed—		
Antibiotic sensitivity tests	12,720	15,080
Blood culture	32	27
Cerebrospinal fluid cell count	63	74
Cerebrospinal fluid culture	5	23
Dark-ground preparation, spirochaetes	2	..
Escherichia coli, serotype identification	198	4
Faeces, microscopic examination	101	97
Faeces, culture	807	1,051
Guinea pig inoculation, *M. tuberculosis* (other than milk)	535	376
Haemolytic streptococci, Lancefield grouping	117	183
Milk, guinea pig inoculation, *M. tuberculosis*	83	53
Milk, guinea pig inoculation, *B. abortus*	97	53
Nasal smears, *Mycobacterium leprae*	53	57
Nasal swabs, culture	109	126
Pus, Gram's stain	493	628
Pus, culture	504	628
Culture, identification	133	223
Skin, hair and nail, direct examination	98	103
Skin, hair and nail, culture for fungi	81	88
Sensitivity tests, *M. tuberculosis*	2,049	1,941
Sputum, Gram's stain	482	800
Sputum, culture	482	800
Sputum, Ziehl-Neelsen stain	3,458	3,928
Sputum, culture	3,455	3,928
Staphylococcus aureus, bacteriophage typing	420	470
Sterility tests	12	6
Throat swab culture	1,764	929
Urethral smears, Gram's stain	1,400	1,684
Cervical smears, Gram's stain	621	617
Urine, chemical examination	1,837	1,510
Urine, microscopic examination	1,833	1,510
Urine, Gram's stain	634	506
Urine, culture	635	506
Vaccines	13	13
Vaginal discharge, *Candida albicans*	26	40
Vaginal discharge, Trichomonads	10	5
Brucella agglutination test	1,258	951
C-reactive protein test	29	39
Rose-Waaler test	787	962
Weil-Felix reaction	26	26
Widal reaction	65	100
Anti streptolysin "O" titre	391	572
Casoni test	3	5
Mantoux test	180	115
Miscellaneous bacteriology	20	556
	38,121	41,393

Haematology

Number of specimens	5,695	6,135
Examinations completed—		
Haemoglobin	4,074	4,226
Haematocrit	3,679	3,759
Red cell count	35	36
Reticulocytes	178	194
White cell count	2,332	1,980
Differential white cell count	1,938	1,827
Eosinophil count	12	6
Platelet count	197	162
Examination of blood film	4,145	4,372
Malaria	6	7

Haemotology—continued

	1963	1964
Blood sedimentation rate (E.S.R.)	1,499	1,771
L.E. cells	76	77
Prothrombin time	198	116
Examination of blood film for lead	..	5
Group and Rh factor	378	420
Cross-matching	501	575
Bone marrow examination	68	78
Bleeding and clotting times	17	13
Investigation of haemostatic defects	8	8
Serum vitamin B_{12}	836	1,073
Serum folic acid	398	524
Blood volume	5	4
Red cell survival	1	4
Schilling test	25	16
Coomb's test	272	311
Red cell fragility	3	5
Paul-Bunnell reaction	245	390
Haemoglobin electrophoresis	13	38
Histidine load	..	34
Miscellaneous	41	28
	21,180	22,059

Venereal Disease Serology

Examinations completed—		
Quantitative Wassermann Reaction	..	1,070
Wassermann Reaction	..	32,236
Kahn Test	..	3,859
Reiter Protein Complement Fixation Test	..	29,927
V.D.R.L. Test	..	32,733
Hydatid Complement Fixation Test	..	120
Gonococcal Complement Fixation Test	..	2,566
L.G.V. Complement Fixation Test	..	8
Treponema Pallidum Immobilisation Test	..	463
	102,853*	102,982

* Work done in the V.D. Serology Department's old laboratories, 93 Macquarie Street.

Exfoliative Cytology

Number of smears examined—		
Gynaecological	37,515	56,564
General	361	617
	37,876	57,181

Total Number of Investigations Completed

Histopathology	28,333	31,905
Chorionic Gonadotrophin Assay	379	278
Immunology	..	15
Virology	5,290	6,928
Biochemistry	23,886	29,572
Bacteriology	38,121	41,393
Haematology	21,180	22,059
Venereal Disease Serology	102,853	102,982
Exfoliative Cytology	37,876	57,181
	257,918	292,313

APPENDIX B

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

COMPARISON OF SPECIMENS RECEIVED AND EXAMINATIONS COMPLETED FOR YEARS 1960-1964

	1960		1961		1962		1963		1964		Percentage Increase 1960-1964	
	Specimens received	Investigations	Specimens received	Investigations	Specimens received	Investigations	Specimens received	Investigations	Specimens received	Investigations	Specimens received	Investigations
Histopathology	5,433	10,572	7,149	14,993	10,425	22,683	10,447	28,333	10,600	31,905	95·1%	201·8%
Bacteriology	10,138	*	11,180	35,423	13,300	38,028	15,860	38,121	14,502	41,393	43·0%	*
Haematology	3,718	5,466	4,299	11,597	4,665	15,291	5,695	21,180	6,135	22,059	65·0%	303·6%
Biochemistry	5,569	10,835	7,112	13,760	8,590	19,407	10,010	23,886	12,556	29,572	125·4%	172·9%
Virology	689	*	1,792	*	2,468	4,418	3,658	5,290	3,486	6,928	406%	*
Exfoliative Cytology	..	..	..	..	..	15,680	..	37,876	..	57,181	..	264·7% (over 3 yr. period).

NOTE: * The number of examinations completed cannot be compared with the total for succeeding years because of a change in the system of classifying tests.

APPENDIX C

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Weekly Seminars Held During 1964

(In Conjunction with the Lidcombe State Hospital and Home)

Date	Subject and Speaker
17th February, 1964.	"The Behaviour and Management of Soft Connective-Tissue Sarcomas". Dr L. Atkinson, Director, Department of Radiotherapy, St Vincent's Hospital.
24th February, 1964.	"Gas Chromatography of Steroids and the Determination of Urinary Pregnanediol". Mr David Croft, Institute of Clinical Pathology and Medical Research. "Applications of Gas Chromatography in Clinical Biochemistry". Mr R. F. Taylor, Institute of Clinical Pathology and Medical Research.
2nd March, 1964.	"Audio-Visual Aids in a Cytology Service". Dr T. J. Ryan, Institute of Clinical Pathology and Medical Research. "Photography in Medical Teaching". Dr C. R. Deuchar, Lidcombe State Hospital.
9th March, 1964.	"Some Diagnostic Uses of Isotopes". Dr J. McRae, Associate Professor in Medicine, University of Sydney.
16th March, 1964.	"Porphyria"— "Biochemistry of Porphyrins". Mr J. Bostrom, Institute of Clinical Pathology and Medical Research. "Cutaneous Aspects". Dr E. Kocsard, Honorary Dermatologist, Lidcombe State Hospital. "Systemic Manifestations". Dr Ben Haneman, Honorary Physician, Lidcombe State Hospital.
23rd March, 1964.	"Care of the Ageing Eye". Dr Eunice Wilson, Honorary Ophthalmic Surgeon, Lidcombe State Hospital.
6th April, 1964.	"Carcinogenesis, with Particular Reference to the Cervix Uteri". Dr Bevan Reid, Queen Elizabeth II Research Institute for Mothers and Infants.
13th April, 1964.	"10-minute Reviews of Recent Literature"— "Organ Transplants". Dr K. Alcott, Lidcombe State Hospital. "Folic Acid Deficiency". Miss L. Cameron, Institute of Clinical Pathology and Medical Research. "Sero-diagnosis in Rheumatic Fever and Rheumatoid Arthritis". Dr D. Hansman, Institute of Clinical Pathology and Medical Research.
20th April, 1964.	"Post-Graduate Training in General Practice". Dr David Brown, Chairman, Education Committee, N.S.W. Faculty, Australian College of General Practitioners.
4th May, 1964.	"Peripheral Vascular Disease: Recent Advances"— "Pathology". Dr T. J. Gaha, Institute of Clinical Pathology and Medical Research. "Radiology". Dr G. W. Carter, Lidcombe State Hospital. "Surgery". Dr J. E. Moulton, Lidcombe State Hospital.
8th June, 1964.	"Sulphation of Steroids by Normal and Malignant Tissue". Mr J. B. Adams, Research Biochemist, New South Wales State Cancer Council.
22nd June, 1964.	"Recent Developments in the Sero-Diagnosis of Syphilis". Dr M. F. Garner, Institute of Clinical Pathology and Medical Research.
29th June, 1964.	"Obstetric Anaesthesia and Analgesia and Resuscitation of the New Born". Dr B. M. Sharkey, Specialist Anaesthetist, Lidcombe State Hospital and New South Wales Department of Public Health.
6th July, 1964.	"The History and Epidemiology of Influenza". Dr A. S. Douglas, Metropolitan Medical Officer of Health.
13th July, 1964.	"Modern Concepts in Bowel Surgery". Dr J. Moulton, Lidcombe State Hospital "Electrolyte Disturbances in Major Bowel Surgery". Dr W. G. Jones, Institute of Clinical Pathology and Medical Research.
20th July, 1964.	"Dialysis and its Clinical Application". Dr David Jeremy, Renal Unit, The Prince Henry Hospital.
27th July, 1964.	"Toxoplasmosis":— "Clinical Aspects". Dr G. Andrews, Lidcombe State Hospital. "The Ocular Manifestations of Toxoplasmosis". Dr M. Morrissey, Honorary Consultant Ophthalmologist, Lidcombe State Hospital. "Pathology". Dr J. C. Booth, Institute of Clinical Pathology and Medical Research. "Sero-Diagnosis of Toxoplasmosis". Dr R. R. Reid, Institite of Clinical Pathology and Medical Research.
10th August, 1964.	"Pharmaceutical Testing and Clinical Evaluation of New Drugs". Dr A. F. Irvine, Medical Director, Smith, Kline and French Laboratories.
17th August, 1964.	"Extended Surgery in Malignant Disease of the Female Pelvic Organs". Dr T. J. Ryan, Senior Cytologist, Institute of Clinical Pathology and Medical Research.
24th August, 1964.	"Chromosomes in Mental Deficiency". Dr G. C. Hughes, Medical Superintendent, Lidcombe State Hospital.
12th October, 1964.	"Observations on Human Pancreatitis". Dr R. G. Elmslie, Prince of Wales Hospital.
19th October, 1964.	"Forensic Psychiatry". Dr H. E. D. Flack, Lidcombe State Hospital.
26th October, 1964.	"Alkaline Phosphatase". Dr S. Posen, Sydney Hospital.
9th November, 1964.	"Sports Injuries". Dr A. P. Millar, Medical Officer, St George Rugby League Club.
16th November, 1964.	"Haemoglobinopathies". Dr B. J. Arnold, Institute of Clinical Pathology and Medical Research.
23rd November, 1964.	"The Laboratory Investigation of Pituitary-Adrenal Function". Dr R. N. Beale, Institute of Clinical Pathology and Medical Research.
30th November, 1964.	"Fluorescent Antibody Techniques"— "Theory and Methods". Dr K. B. Taylor, Institute of Clinical Pathology and Medical Research. "Clinical Applications in Gastro-intestinal Disease". Dr B. Haneman, Lidcombe State Hospital.
2nd December, 1964.	"Designing an Anaesthetic Drug". Dr R. B. Holland, Lidcombe State Hospital
14th December, 1964.	"The Distribution of Cells in Flowing Blood". Dr A. A. Palmer, Kanematsu Memorial Institute of Pathology, Sydney Hospital.

APPENDIX D

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Publications by Staff Members

"Plasma Therapy in Haemophilia"*. B. J. Arnold (with W. R. Pitney, Department of Haematology, Royal Perth Hospital, Perth, W.A.). Med. J. Aust., II, 661, 1960.

"A Sensitive Method for the Colorimetric Determination of Urea". R. N. Beale and D. Croft. J. Clin. Path., **14**, 418, 1961.

"Rapid Incremental Methods for the Determination of Serum Iron and Latent Iron Binding Capacity". R. N. Beale, J. O. Bostrom and R. F. Taylor. J. Clin. Path., **14**, 488, 1961.

"Herpes simplex of the Fingers". A. M. Murphy (with A. Chancellor, Merrylands, N.S.W.). Med. J. Aust., I, 517, 1961.

"Improved Rapid Methods for the Determination of Iron Content and Binding Capacity of Serum". R. N. Beale, J. O. Bostrum and R. F. Taylor. J. Clin. Path., **15**, 156, 1962.

"The Determination of Cholesterol in Serum by Persulphuric Acid Oxidation". R. N. Beale and D. Croft. J. Clin. Path., **15**, 221, 1962.

"The Determination of Urinary 17-ketosteroids by an Improved Zimmermann Reaction". R. N. Beale, J. O. Bostrum and D. Croft. J. Clin. Path., **15**, 574, 1962.

"The Megaloblastic Anaemias". B. J. Arnold. Med. J. Aust., II, 698, 1962.

"Plasma Anti Haemophilic Factor (Factor VIII) Concentrations in Normal Families"*. B. J. Arnold (with W. R. Pitney, R. L. Kirk and N. S. Stenhouse). Brit. J. Haem., **8**, 421, 1962.

"A Fatal Case of Listeria Septicaemia and Meningitis". D. Hansman (with J. C. Farrell, Fairfield District Hospital, N.S.W.). Med. J. Aust., II, 62, 1962.

"Sensitive Methods for the Titrimetric Micro-Determination of Biological Calcium and Magnesium". R. N. Beale and J. O. Bostrom. J. Clin. Path., **16**, 252, 1963.

"Q Fever among Abattoir Workers in New South Wales". A. M. Murphy and D. Hansman (with J. Henson, Medical Officer of Health, Tamworth, N.S.W.). Med. J. Aust., I, 343, 1963.

"Tetracycline-resistant pheumococcus". D. Hansman (with W. Evans, Royal North Shore Hospital). Lancet, I, 451, 1963 (correspondence).

"Poliovirus in an Infants' Home". A. M. Murphy and N. Martin (with H. Walsh, Epping, N.S.W.). Med. J. Aust., **2**, 46, 1963.

"Reaction of the Pentacyanocobaltate (II) Ion with Molecular Oxygen"*. R. N. Beale (with R. H. Bayston, N. Kelso King and M. E. Winfield, Chemical Physics Section, Division of Industrial Chemistry, C.S.I.R.O., Victoria). Aust. J. Chem., **16**, 954, 1963.

"The Microdetermination of Biological Copper with Oxalyldihydrazide". R. N. Beale and D. Croft. J. Clin. Path., **17**, 260, 1964.

"N-terminal Residue of Aortic Elastin". K. B. Taylor. Nature, **202**, 1217, 1964.

"Leukaemoid Reactions in Disseminated Tuberculosis". K. L. Withers. Med. J. Aust., **2**, 142, 1964.

"Coxsackie B4 Virus Infections in New South Wales in 1962". A. M. Murphy and R. Simmul. Med. J. Aust., **2**, 443, 1964.

"The Isolation of an Unclassified Virus from an Outbreak of Infantile Diarrhoea". A. M. Murphy. J. Hyg., Camb., **62**, 425, 1964.

Work in Preparation

"The Determination of Metachromasia with 1:9-Dimethyl Methylene Blue". K. B. Taylor.

"Application of Gas Chromatography to the Investigation of Steroid Metabolites in Urine. Part I. The Determination of Urinary Pregnanediol (5β-Pregnane-3α, 20α-diol)". R. N. Beale et al.

"Application of Gas Chromatography to the Investigation of Steroid Metabolites in Urine. Part II. The Determination of Urinary Oestrone, Oestradiol, Oestriol and epi-Oestriol". R. N. Beale et al.

Note: * Work done before joining the staff of the Institute.

APPENDIX E

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

ADDRESSES TO LEARNED SOCIETIES AND PUBLIC BODIES BY STAFF MEMBERS DURING 1964

Participation in a Symposium on Exfoliative Cytology held at Royal Prince Alfred Hospital before the New South Wales Branch of the College of Pathologists of Australia. Dr T. J. Ryan. February, 1964.

"Cancer Detection in General Practice". A series of lectures to the local branch of the Australian Medical Association, under the auspices of the Post-Graduate Committee in Medicine of the University of Sydney and the New South Wales State Cancer Council, held at Maitland, Taree, Dungog, Gloucester, Stroud and Newcastle, accompanied at Maitland, Taree and Newcastle with the showing of the film, "A Smear in Time". Dr T. J. Ryan (with Drs R. P. Melville and A. B. Lilley). March, 1964.

"The Early Detection of Cancer of the Cervix", by Dr T. J. Ryan. Lecture and showing of film, "A Smear in Time" to the Graduate Nurses' Auxiliary of the New South Wales College of Nursing, Glen Innes, and local medical practitioners. March, 1964.

Lecture on the early detection of cancer of the cervix, together with showing of the film, "A Smear in Time", under the auspices of the Post-Graduate Committee in Medicine of the University of Sydney, to the Sutherland Shire Post-Graduate Society. Dr T. J. Ryan. June, 1964.

Lecture on early detection of cancer of the cervix, together with showing of film, to the Nursing and Medical Staff, Auburn District Hospital. Dr T. J. Ryan, June, 1964.

"Geriatric Haematology", by Dr B. J. Arnold. Read before Geriatric Nursing Course, Repatriation General Hospital. September, 1964.

"The Laboratory Diagnosis of Virus Diseases", by Dr H. Kramer. Read at a Staff Seminar, The St George Hospital, Kogarah. October, 1964.

"Application of Gas Chromatography to the Investigation of Steroid Metabolites in Urine", by Dr R. N. Beale. Read before Australian Association of Clinical Biochemists. October, 1964.

STATE HOSPITALS AND HOMES

During 1964 a daily average of 2,140·1 persons were accommodated in the State Hospitals and Homes. The largest of these establishments is the Lidcombe State Hospital, which had an overall daily average of 1,457 persons, including both hospital and home sections.

The gross cost of maintaining the State Hospitals and Homes for 1964 was £1,938,284, against which was a return of £857,359 to the Department from income of sales of waste, maintenance charges to patients and payments by the Commonwealth Government. The average weekly cost of maintenance per patient was £8 17s. 5d. This was a reduction on the average weekly cost for 1963 (£13 10s. 0d.), the decrease being accounted for by increased Commonwealth benefits.

LIDCOMBE STATE HOSPITAL AND HOME

Formal medical undergraduate tuition began at Lidcombe State Hospital during the year 1964. Medical students from the University of Sydney attended for a number of regular clinical sessions conducted by tutors from the Department of Medicine of the University of Sydney. At the request of the Department of Surgery, University of Sydney, surgical tutorials were held every Saturday morning by the Lidcombe State Hospital Staff Surgeon for students from Royal Prince Alfred Hospital, Royal North Shore Hospital, Sydney Hospital and Repatriation General Hospital, Concord.

The Department of Physical Medicine and Rehabilitation is now firmly established in its new quarters which are in close relation to Ward 26A. In this ward patients specially selected for intensive rehabilitation procedures are accommodated.

The Sheltered Workshop, conducted as a joint enterprise with the Civilian Maimed and Limbless Association, has expanded considerably during the year. Employment has been provided for 35 physically and mentally handicapped patients. The present building is no longer large enough for all its planned activities and arrangements are being made to extend the workshop into other areas.

The Day Centre has proved a valuable asset in the restoration of patients to a more normal social life, and a useful stepping stone to their return to life outside the institution.

NEWINGTON STATE HOSPITAL AND HOME

The female hospital section was closed on 4th December, 1964 following the transfer of patients to, principally, Garrawarra and Strickland Hospitals. The kitchen services, for both staff and patients, were discontinued on 6th December, 1964, and the preparation and supply of meals and provisions stocks were undertaken by Rydalmere Hospital together with the supply of drugs and medicines. This arrangement is working satisfactorily.

Following the closure of the abovementioned sections and the resultant reduced activities for artisans and outdoor staff, all the nursing staff and the majority of the outdoor staff were transferred or seconded to other hospitals.

There was also a substantial reduction in the number of male inmate workers during the latter part of the year. The small number retained being utilized for the upkeep of the grounds, working the switchboard, assisting on the motor vehicles and stoking small boilers.

The section of the hospital referred to as Silverwater Ward, which was re-opened some two years ago to provide temporary accommodation for Callan Park patients, whilst wards were being renovated, is still in use and has been occupied by a daily average of 106 patients.

RANDWICK CHEST HOSPITAL

This hospital is the principal tuberculosis hospital administered by the Department of Public Health. It provides for investigation and treatment of tuberculosis both by in-patient and out-patient care.

Building maintenance and repairs have been fully implemented and an extensive painting programme has been effected including the exterior of the nurses' quarters, the interior of kitchen and utility rooms, interior and exterior of administrative block, the main kitchen, the roofing of wards, interior and exterior of the dispensary building.

GARRAWARRA HOSPITAL, WATERFALL

During September and October, 1964, about 130 female patients were transferred from Newington State Hospital to the four wards of the former Women's Division of the Sanitorium which had been newly renovated, re-furnished and re-equipped. The appearance of these wards was most attractive when ready for occupation and their setting and outlook is extremely pleasant; those patients fortunate enough to be accommodated here have been most appreciative. The present policy is to accommodate the least disabled patients in this section of the hospital and it is at present entirely a female section.

Shortly after the occupation of the four renovated wards, the new (No. 3) Nurses' Home was occupied. Here again, the furniture, furnishings and appointments combined to give the new home a most attractive appearance.

The last year has seen a great increase in the numbers of patients attending the central dining room for meals which they previously took in their wards; such a development is considered highly desirable both from an economic and a therapeutic point of view.

STRICKLAND HOUSE, VAUCLUSE

Strickland House is a nursing home conducted by the Department for geriatric patients. It receives nursing home benefits from the Commonwealth Government under the National Health Act. The main building is a delightful old home, Carrara House, which has been extensively renovated to good effect during the year.

DAVID BERRY HOSPITAL

This is a small general hospital, endowed to the State, which gives a reasonable hospital service to the residents of the Berry District.

POPULATION AND SERVICE STATISTICS

Lidcombe State Hospital and Home

Number of beds available as at 31st December, 1964:—

Hospital	892
Home Section	741
Total	1,633

Daily average number of patients resident in hospital and home sections:—

1954	1,216	1960	1,446
1955	1,297	1961	1,487
1956	1,347	1962	1,498
1957	1,374	1963	1,467
1958	1,475	1964	1,457
1959	1,485		

Admissions, Transfers, Discharges and Deaths:—

Admissions	Hospital Section	Home Section	Total
In institution at midnight 31st December, 1963	823	633	1,456
Admissions	1,158	1,463	2,621
Transfers within institution	705	621	1,326
Total admitted	2,686	2,717	5,403
Discharges and Deaths—			
Discharges	705	1,378	2,083
Deaths	576	18	594
Transfers within Institution	621	705	1,326
Total discharged or dead	1,902	2,101	4,003
In Institution at midnight 31st December, 1964	784	616	1,400
Total	2,686	2,717	5,403

Surgical Operations: Operative procedures were as follows:—

	1963	1964
General Surgery	257	315
Urological Surgery	63	48
Orthopaedic Surgery	78	54
Ophthalmic Surgery	29	30
Plastic Surgery	46	30
E.N.T. Surgery	6	6
Neurosurgery	2	0
Dental Surgery	17	30
Endoscopic Examinations	164	170
Gynaecological Operations	..	3
Total	662	686

In addition, electroconvulsive therapy (requiring general anaesthesia) was given as follows:—

1963	1964
35	15

Anaesthetic Services: The anaesthetists on the staff of Lidcombe State Hospital supply anaesthetic services to the following Departmental Hospitals: North Ryde Psychiatric Centre, Psychiatric Research Unit Callan Park, Callan Park Hospital, Broughton Hall Psychiatric Clinic, Parramatta Psychiatric Centre, Randwick Chest Hospital, and Peat and Milson Islands Hospital.

	1962	1963	1964
Total Anaesthetics given	1,122	1,397	1,607

Other Special Services—	1963	1964
Physiotherapy treatments	7,832	10,606
X-ray Examinations (Number of patients)	5,109	5,061
Autopsies	273	276
Electrocardiograms	1,304	1,273

Casual Relief: 87 indigent persons were provided with sleeping accommodation for one night and 194 were supplied with a meal.

Newington State Hospital and Home

Medical Staff: J. McManamey—Medical Superintendent.

Clerical Staff: Acting Manager and one Office Assistant.

Nursing Staff: Nil.

Male Outdoor Staff: Eight.

Female Outdoor Staff: Six.

The staff figures shown are of those actually employed as at 31st December, 1964, and do not include some artisans and outdoor staff who have been seconded to other positions. Fourteen Male Nurses, from Callan Park, are employed in the Silverwater Section, but are not shown on the strength of Newington Hospital.

Admissions and Discharges

	Hospital (Female)	Male Inmates	Callan Park Section (Male)
Remaining in hospital 1st January, 1964	136	65	100
Admissions during year	38	247	91
Sub Total 1	174	312	191
Discharges during year	149	300	72
Deaths during year	25	1	2
Sub Total 2	174	301	74
Remaining in Institution as at 31st December, 1964	Nil	11	117
Average Daily Number Resident	114·7	57·1	106·2

Randwick Chest Hospital

The following are the statistics summarising activities of this hospital during the twelve months ending 31st December, 1964.

Indoor Patients

	Male	Female	Total	Male	Female	Total
Patients under treatment on 31st December, 1963	..	..	..	130	45	175
Admitted during 1964	..	..	..	275	100	375
	..	..	..	405	145	550
Died during 1964	54	12	66	..	..	..
Discharged during 1964	242	100	342	..	..	..
Total died and discharged during 1964	..	..	..	296	112	408
Remaining in hospital on 31st December, 1964	..	..	..	109	33	142

Daily average number of resident patients	164
Number of individuals who received outdoor treatment	5,141
Total number of visits by out-patients	6,656

Inmate Workers

In the Institution on 31st December, 1963	11
Admitted during 1964	13
	24
Discharged during 1964	15
Remaining in the Institution on 31st December, 1964	9
General daily average number including workers	173

Autopsies

There were 66 deaths during the year and 15 autopsies were performed.

X-Ray Department

X-ray examinations	5,108
Barium meal examinations	86
Screenings	86
Films used	7,726
Dental films used	31
Tomograms	220
Portables	280
70 mm. chests	348

Pathological Laboratory

Specimens submitted for examination	13,166

Operations Performed

Major Thoracic—	
Pneumonectomy	2
Lobectomy	9
Segments, Wedges, Cones	7
Decortication	2
Thoracotomy	8
Rib resection	6
Oesophagectomy	..
Thoracoplasty	2

Operations Performed—continued

Minor Thoracic—	
Bronchoscopy	42
Bronchial biopsy	12
Oesophagoscopy	5
Miscellaneous	2
Major General	11
Minor General	22
Orthopaedic	1
Urological	7
Ear, Nose and Throat	4
Dental	7
Blood and Saline, Transfusions and Infusions	36

Surgical Ward Admissions

	Male	Female	Total
Thoracic	25	4	29
General	10	2	12
	35	6	41
Day only and recovery patients	..	2	2

The undermentioned schedule illustrates the fluctuation in the number of patients in residence since the peak year of 1954:—

Daily Average Number of Patients

1954	267
1955	260
1956	240
1957	202
1958	204
1959	158
1960	151
1961	160
1962	160
1963	168
1964	164

Garrawarra Hospital, Waterfall

	Number of beds available	
	As at 31st December, 1963	As at 31st December, 1964
Male Patients	61	61
Female patients	130	238
Male Workers	89	89

	Male	Female	Workers
Remaining in hospital 31st December, 1963	57	129	72
Admitted during 1964 = 45 + 26	71	188	476 + 21
Total treated during 1964	128	317	569
Discharged during 1964 = 25 + 21	46	42	464 + 26
Died during 1964	25	41	..
Remaining in hospital as at 31st December, 1964	57	234	79
Average daily number resident	56·4	147·5	70

Strickland House, Vaucluse

	1963			1964		
	Patients Female	Inmate Workers Male	Total	Patients Female	Inmate Workers Male	Total
Admitted	45	80	125	54	105	159
Discharged	52	78	130	46	107	153
Daily Average	100·6	19·7	120·3	96·1	19·7	115·8
No. of Bed Days	36,717	7,195	43,912	35,079	7,180	42,259
No. of Persons Treated	150	..	150	145	..	145

David Berry Hospital

Beds available as at 31st December, 1964—33.

Daily average number of patients resident:—

1955	..	1960	.. 12·68
1956	.. 14·32	1961	.. 12·93
1957	.. 13·30	1962	.. 13·76
1958	.. 12·25	1963	.. 11·40
1959	.. 15·49	1964	.. 14·16

Admissions, Transfers, Discharges and Deaths

In hospital 1st January, 1964	9
Admitted 1964	460
	469
Discharges	435
Deaths	22
Total	457
In hospital 31st December, 1964	12
Total	469

Surgical Operations

Type	1963	1964
Major	20	15
Minor	15	26
Anaesthetics	41	..
X-Rays	882	..
Autopsies	Nil	..

Staff Establishment

Medical Officer (Part-time)	1
Clerk	1
Nurses	11
Outdoor Staff etc.	12
Total Authorised Establishment	25

Statistical Summary

SUMMARY OF EXPENDITURES—RANDWICK CHEST HOSPITAL, STRICKLAND HOUSE, GARRAWARRA HOSPITAL, STATE HOSPITALS AT LIDCOMBE, AND NEWINGTON AND DAVID BERRY HOSPITAL FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1964.

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	236,640 1 2	30,508 6 0	187,669 11 7	631,491 16 0	132,477 11 7	25,431 12 6	1,244,218 18 10
Provisions	30,933 7 7	13,400 7 11	34,309 12 4	136,389 1 11	41,148 14 0	2,436 10 8	258,617 14 5
Drugs, Surgical Appliances, Dressings, etc.	20,755 4 3	699 1 7	3,163 8 3	34,206 19 4	5,090 14 9	909 1 4	64,824 9 6
Domestic utilities, including laundry expenses household linen, clothing furniture, etc.	5,234 16 11	3,559 10 0	11,960 5 4	56,467 14 1	9,264 12 0	1,200 14 7	87,687 12 11
Fuel, Electricity and Water	7,090 5 4	3,943 19 10	12,574 6 5	38,060 2 5	8,585 4 6	998 9 11	71,252 8 5
Renewals and Renovations to buildings and plant	30,662 6 5	19,529 19 1	27,322 1 5	64,784 12 1	6,922 17 8	1,517 12 6	150,739 9 2
General Establishment	13,386 11 6	3,638 1 4	9,875 19 10	28,086 14 6	5,143 15 2	812 4 10	60,943 7 2
Gross Maintenance Expenditure	344,702 13 2	75,279 5 9	286,875 5 2	989,487 0 4	208,633 9 8	33,306 6 4	1,938,284 0 5
Collections for Sales, maintenance and payments by Commonwealth Government (Hospital Benefits)	5,486 4 1	49,564 5 4	106,400 11 8	588,294 8 1	96,825 0 2	10,788 11 9	857,359 1 1
Net Maintenance Expenditure	339,216 9 1	25,715 0 5	180,474 13 6	401,192 12 3	111,808 9 6	22,517 14 7	1,080,924 19 4
Average daily population	191·5	115·4	254·8	1,452·8	309·2	13·0	2,336·7
Average annual cost per patient on gross maintenance expenditure	1,800 0 3	652 6 8	1,125 17 8	681 1 10	674 15 1	2,562 0 6	829 9 11
Average weekly cost per patient on gross maintenance expenditure	34 10 5	12 10 2	21 11 10	13 1 3	12 18 10	49 2 8	15 18 2
Average annual cost per patient on net maintenance expenditure	1,771 7 4	222 16 8	708 6 0	276 3 0	361 12 1	1,732 2 8	462 11 9
Average weekly cost per patient on net maintenance expenditure	33 19 5	4 5 6	13 11 8	5 5 11	6 18 8	33 4 4	8 17 5

The above figures do not include revenue received from the Commonwealth Government as a result of the Department's claim for maintenance under the terms of the Tuberculosis Arrangement nor the revenue received as a result of the Pharmaceutical Benefits Claim.

STATE HOSPITALS AND HOMES 1963-64

EXPENDITURE ON THE MAINTENANCE OF PATIENTS AND CAPITAL EXPENDITURES ARE SHOWN IN THE FOLLOWING TABLE:—

Hospital	Maintenance Expenditure	Capital Expenditure	Total Expenditure
	£	£	£
Randwick	344,702 13 2	14,749 8 7*	359,452 1 9
Strickland	75,279 5 9	974 6 6	76,253 12 3
Garrawarra	286,875 5 2	190,693 13 1	477,568 18 3
Lidcombe	989,487 0 4	25,240 17 5	1,014,727 17 9
Newington	208,633 9 8	209 8 7	208,842 18 3
David Berry	33,306 6 4	1,234 8 8	34,540 15 0
	1,938,284 0 5	233,102 2 10	2,171,386 3 3
Contribution towards upkeep and maintenance of Lazaret, Little Bay (Part of year only)	2,488 8 3	.....	2,488 8 3
Expenditure on the provision of religious services ..	1,760 0 0	.....	1,760 0 0
Total Expenditure	1,942,532 8 8	233,102 2 10	2,175,634 11 6

* A total of £14,749 8s. 7d. was expended on capital items in respect of Randwick Chest Hospital during the year ended 30th June, 1964. This amount was recouped, in full, by the Commonwealth Government under the terms of the Tuberculosis Arrangement.