

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

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REPORT

OF THE

**DIRECTOR-GENERAL
OF PUBLIC HEALTH**

FOR THE YEAR ENDED
31st DECEMBER, 1961

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REPORT

OF THE

Director-General of Public Health

For 1961

Ordered to be printed, 9 October, 1962

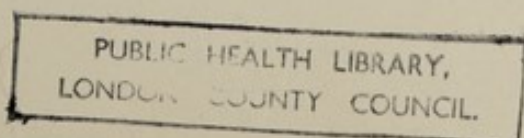
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DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES

Office of the Director-General of Public Health and State Psychiatric Services*
52 Bridge Street, Sydney

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DIVISIONS AND BRANCHES

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

The Division of Establishments includes twelve Mental Hospitals and the 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 State Psychiatric Services and the staff working under his control ; Mental Health Act, 1958 ; Food Preservation by Sulphur Dioxide Enabling Act, 1920 ; Noxious Trades Act, 1902-1944 ; Private Hospitals Act, 1908-1954 ; Public Health Act, 1902-1952 ; Pure Food Act, 1908-1958 ; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937 ; Venereal Diseases Act, 1918 ; Radioactive Substances Act, 1957 ; Fluoridation of Public Water Supplies Act, 1957 ; and the Clean Air Act, 1961

* In April, 1961, the Director-General of Public Health was also appointed Director-General of State Psychiatric Services.

Report of the Director-General of Public Health

TO

The Honourable The Minister for Health

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

Sir,

I have the honour to present the Annual Report for the year ended 31st December, 1961, but prior to furnishing detailed information regarding the work of individual Sections, Branches and Divisions of the Department, I wish to bring to your notice the following major advancements in matters of Public Health.

The Royal Commission appointed by the Government to inquire into certain aspects concerning Mental Hospital, Callan Park, completed its inquiries during the first half of the year, and the report of the Commissioner, while generally indicating that most of the specific allegations investigated were not substantiated, drew attention to many short-comings within the conduct of the Hospital, which called for drastic reorganisation within the Department.

Early in the year under reference, the Government created the Health Advisory Council, consisting of experts in the various fields of health, to advise the Minister for Health on policies and programmes to improve the health services in New South Wales. In April, the Director-General of Public Health was also appointed Director-General of State Psychiatric Services, the dual appointment permitting of a more comprehensive integration of public health, mental health, and hospital services in this State.

The Health Advisory Council has met at regular intervals, and has visited several Australian States and New Zealand, to personally investigate matters coming within its terms of reference. The Council issued its first Interim Report on Preventive Psychiatry in June, 1961, and effect is being given to the recommendations therein. The Council is now giving consideration to the question of the Care of the Aged in New South Wales and its Second Report can be expected early in 1962.

The assumption by the Director-General of Public Health of the additional duties of Director-General of State Psychiatric Services, necessitated considerable re-adjustment within the Central Administration of the Department, firstly to permit of delegation of some of his former duties, and secondly, to facilitate the desired improvements in the various health services. The Division of Psychiatric Services, as such, ceased to exist, being replaced by the Division of Establishments, which has assumed control of administration of all institutions within this Department's jurisdiction.

The position of Deputy Director-General of Public Health has been abolished, and a new position of Director of State Health Services has been created in lieu thereof. The occupant of this position will assume a number of the duties previously performed by the Director-General of Public Health, and will have administrative control and supervision over most of the Divisions and Branches concerned with Public Health.

The Government's policy of decentralisation was further implemented during the year. Officers to conduct the work of the School Medical Service, Dental Services, Maternal and Baby Welfare, Health Inspection, Food Inspection and Private Hospital Inspection have been appointed to Medical Officer of Health Districts. The boundaries of existing Health Districts have been extended and they have been more appropriately designated. Two new districts, the North Western and The Riverina, with headquarters at Tamworth and Cootamundra respectively, have been approved and when the Medical Officers of Health have been appointed, the above services will be available to the greater part of the State.

During the year under reference, I was able to visit South Africa and the United Kingdom. My main mission was to recruit psychiatrists and other medical officers for appointment to the Department. However, although my time abroad was very limited, I was able to make valuable contacts in both countries. Other Senior Departmental Officers to travel abroad during 1961 to study various matters of health coming within their particular spheres, were Dr. K. Harris, Director of Tuberculosis, Dr. H. Kramer, Director of the Institute of Pathology and Clinical Research, Dr. Allan Bell, Director of the Division of Occupational Health, Dr. D. Bell of the Psychiatric Service, Dr. J. J. Donnellan, Metropolitan Medical Officer of Health, Dr. J. Sullivan of the Division of Occupational Health, and Mr. W. Madgwick, Chief Food Inspector. The experience and additional knowledge gained by these Officers must be of inestimable value to the Department, and consequently to the State. Mr. Whaite, Officer in Charge of the Department's Radiation Branch has been awarded a travelling fellowship by the World Health Organisation and will leave for study overseas early in 1962.

A new concept in the care and treatment of geriatric patients has been implemented with pleasing results, and is being expanded. The Strickland Convalescent Hospital at Vaucluse, now known as Strickland House, has been converted to a model home for aged ladies, who are now housed and cared for under excellent conditions and in ideal surroundings. Accommodation at Garrawarra Hospital has been increased, thus providing further good accommodation for the frail aged patient. In addition, the Government has signified its approval to the Department's proposal that the Allandale Hospital, now under construction at Cessnock should be used as a geriatric Hospital instead of a Mental Hospital as originally planned. When functioning, this hospital will provide valuable relief to the overcrowding in mental hospitals by accepting elderly patients, whose admission to a mental hospital was caused by ageing, either chronologically or physiologically. Discussions have been held with the Old People's Welfare Council and with the various religious organisations with a view to placing more elderly persons now in Mental Hospitals. Already a number have been so placed and it is expected that during 1962 quite a large number of patients will be discharged in this manner.

In the Maternal and Baby Welfare sphere, it is worthy of mention, that a retrospective survey has been made of all deaths of infants under one year of age, registered in New South Wales during 1958, and a confidential report of the results of this survey has been submitted. The information thus obtained will be of great value in the future, and in consequence of the report, the Government has already provided funds to transport mothers and new born babies with Rh incompatibility, to appropriate centres, for exchange blood transfusions to the infant. In cases where the mother is not fit to travel, the transport of the baby and an attendant is arranged. It is confidently anticipated that the number of deaths of infants so affected, which numbered 37 in 1958, will be greatly reduced. During 1961, Officers of this Department, and of the Registrar General's Department and of the Bureau of Census and Statistics conferred, and as a result, a further survey of deaths of infants under the age of one month, and of all stillbirths during 1962 will be made. The Division of Maternal and Baby Welfare has also prepared a Monograph of maternal deaths from haemorrhage during the years 1957 to 1960 inclusive, and it is expected that this will be published in the Australian Medical Journal in due course.

The Department has been honoured by the appointment of Dr. Allan Bell to the Expert Advisory Committee on Occupational Health for World Health Organisation, and during the year, Dr. Trainor, also of the Division of Occupational Health was specially invited to Honolulu to deliver a paper at the Tenth Pacific Science Congress.

The Clean Air Act, 1961, introduced by the Government during the year, became law in December, 1961, and there is no doubt that this step towards the abatement of air pollution in the State is a major contribution to public health. Arrangements have been made by the Department for the holding of a Clean Air Conference in Sydney during 1962, and this will be attended by experts from many overseas countries.

The excellent principle of establishing Child Health Centres at strategic locations is taking shape. A new Centre was opened in Parramatta during 1961, and it is expected that additional Centres at Chatswood and Bexley will be established within a reasonable time.

The functions of the Institute of Clinical Pathology and Medical Research, located at Lidcombe, are rapidly expanding. This Institute provides an excellent pathological service for hospitals and medical practitioners and is a decided asset to the State's Health Services. During the year, a new wing has been added to the building to provide a complete unit for uterine cancer detection. An expert committee has been appointed to advise thereon, and the unit will commence to function at an early date. This will be a State wide project, catering for the requirements, in this particular aspect of cancer detection, of medical practitioners and hospitals throughout New South Wales, and in this respect is unique within the Commonwealth of Australia. There can be no doubt that this unit will prove of invaluable assistance to the State's campaign for cancer control.

Valuable extension of the Department's Dental Service has been effected. A permanent Flying Dental Service to residents of the outback has been inaugurated, and is proving a boon to so many persons who would not otherwise have access to dental attention. Seven new Mobile Dental Units have been acquired and are now in service, materially speeding up the dental examination of country children. Also during the year, the Dental Service completed a valuable film dealing with General Anaesthesia in Dentistry, with particular reference to the mentally retarded. This film was prepared in a Departmental institution and has created much interest.

The Department's control of possible contamination from Radiation has been strengthened. Amended legislation will require licensing of all users of irradiating apparatus, with the exception of those acting under the direct supervision of a license holder. More use is being made of the Department's Film Badge Service, a free service to all those who are exposed to radiation. The Radiation Branch is now making regular monthly checks of radiation fall out in the City of Sydney, and should circumstances warrant it, the checking procedures will be intensified.

It is somewhat disappointing that only one water supply authority, The Council of the City of Goulburn, commenced fluoridation of its water supply during 1961, and it is possible that the ill-timed referendum on fluoridation held in Albury during the year will further delay the implementation of the Department's policy of fluoridation of all public water supplies. However, quite a number of Local Authorities have accepted the principle of fluoridation and it is hoped that at least some of these will take positive action during 1962.

The Special Committee appointed to investigate deaths under anaesthesia has met at regular intervals throughout the year, and has received excellent co-operation from medical practitioners. It is anticipated that the Committee's Preliminary Report will be submitted to you in the near future, and that the findings of the Committee will prove of great value to the medical profession and the community in general.

It has been possible to continue the expansion of the Department's health education programme. The quarterly journal *Health Bulletin* has been very well received, and the demand for other pamphlets and brochures continues. The Health Education Advisory Council, constituted under your authority is now functioning, and must improve the standard of such education in this State.

During the year under reference, the Department was extremely fortunate to receive advice on health matters from eminent medical specialists from the United Kingdom, in The Hon. W. S. Maclay, C.B., O.B.E., and Dr. Lionel Cosin. Dr. Maclay's time in Sydney was very short, but he kindly consented to spend some time with the Health Advisory Council, where his opinions were greatly appreciated. Dr. Cosin, a world recognised authority in the field of geriatrics was sponsored to New South Wales by this Department and he was able to remain here for more than a week. During this time, he gave freely of his services in discussions with the Health Advisory Council, Departmental Officers, The Old People's Welfare Council and others interested in geriatrics, and much was learned from his visit.

It will be of interest to note that the medical establishment of the Lidcombe State Hospital has been reorganised in such a manner that will further increase the efficiency of that hospital and the patient quality care therein. The hospital has been divided into integrated medical units with expansion of the policy of a staff-specialist system, a number of medical and surgical positions being filled by doctors holding the relevant post-graduate qualifications.

Following representations by the Foundation for Research and Treatment of Alcoholism, a decision was made to set aside a dormitory at Lidcombe for the treatment and rehabilitation of patients suffering from alcoholism. This building has been structurally altered to convert it to a ward for this purpose. Two-thirds of the ward is used for bed space, housing thirty-two beds in four bed units, and the balance of the ward is used for day space, in which occupational therapy and other rehabilitation is carried out. This is a definite advance in the treatment of alcoholism in this State.

Mention has been made earlier in this communication of the formation of the Health Advisory Council and of the recommendations included in the Council's Interim Report, and I wish to now make reference to action in hand to implement these recommendations. The old Admission Centre at Darlinghurst has ceased to function, and the buildings are now being converted to a Community Psychiatric Unit which will be conducted by St. Vincent's Hospital. The first stage of this Unit, The Day Hospital and Outpatients' Service, is expected to commence to function early in 1962. Further similar units are planned for areas such as Parramatta, North Sydney, Bankstown and Kogarah.

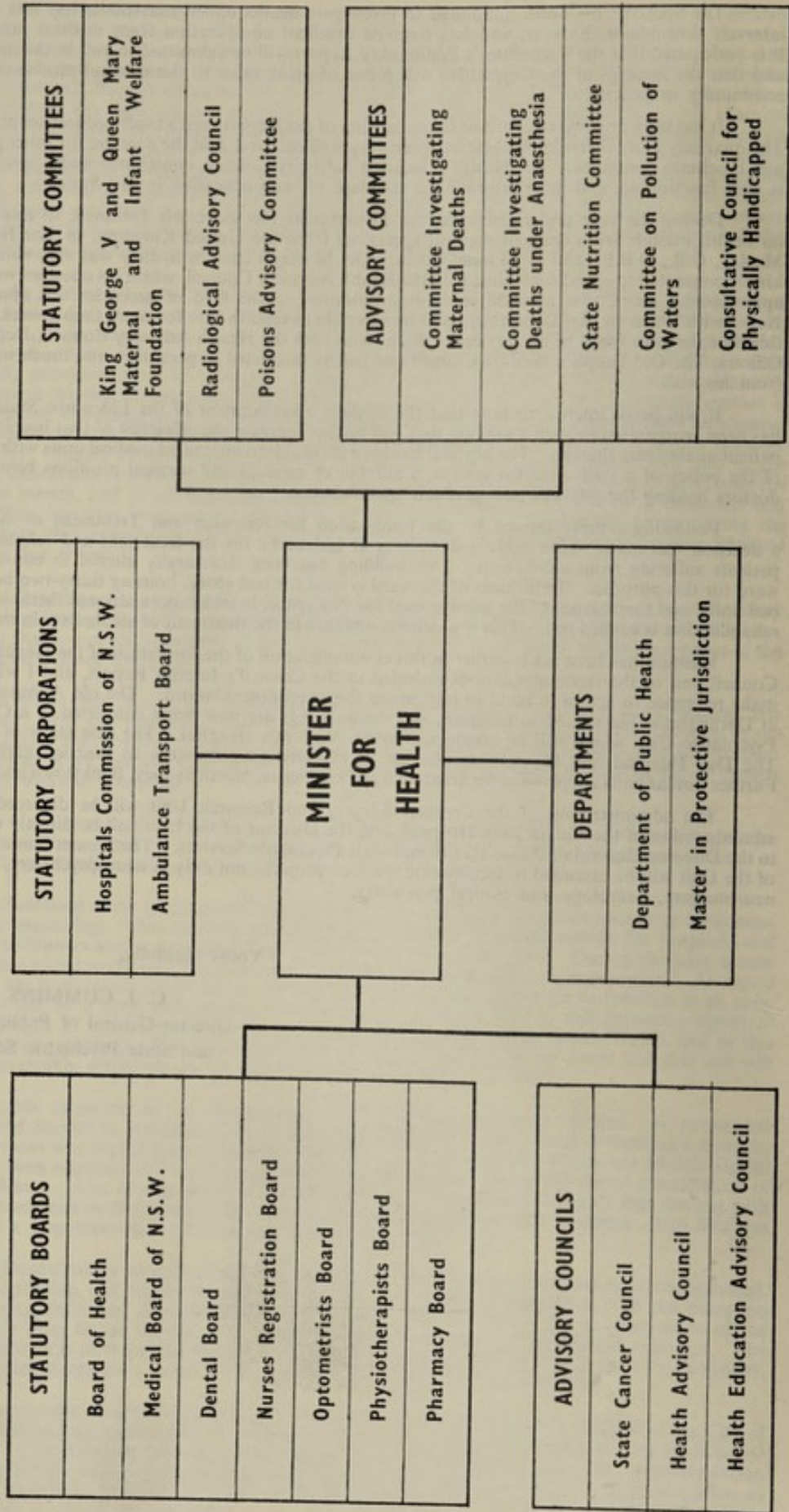
The administration of the Cerebral Surgery and Research Unit will be divorced from the administration of the Callan Park Hospital, and the Director of the Unit will be directly responsible to the Director-General of Public Health and State Psychiatric Services. The present limited functions of the Unit will be extended to incorporate research projects, not only in neuropsychiatry, but also in neurosurgery, neurology and clinical psychiatry.

Yours faithfully,

C. J. CUMMINS,
Director-General of Public Health,
and State Psychiatric Services.

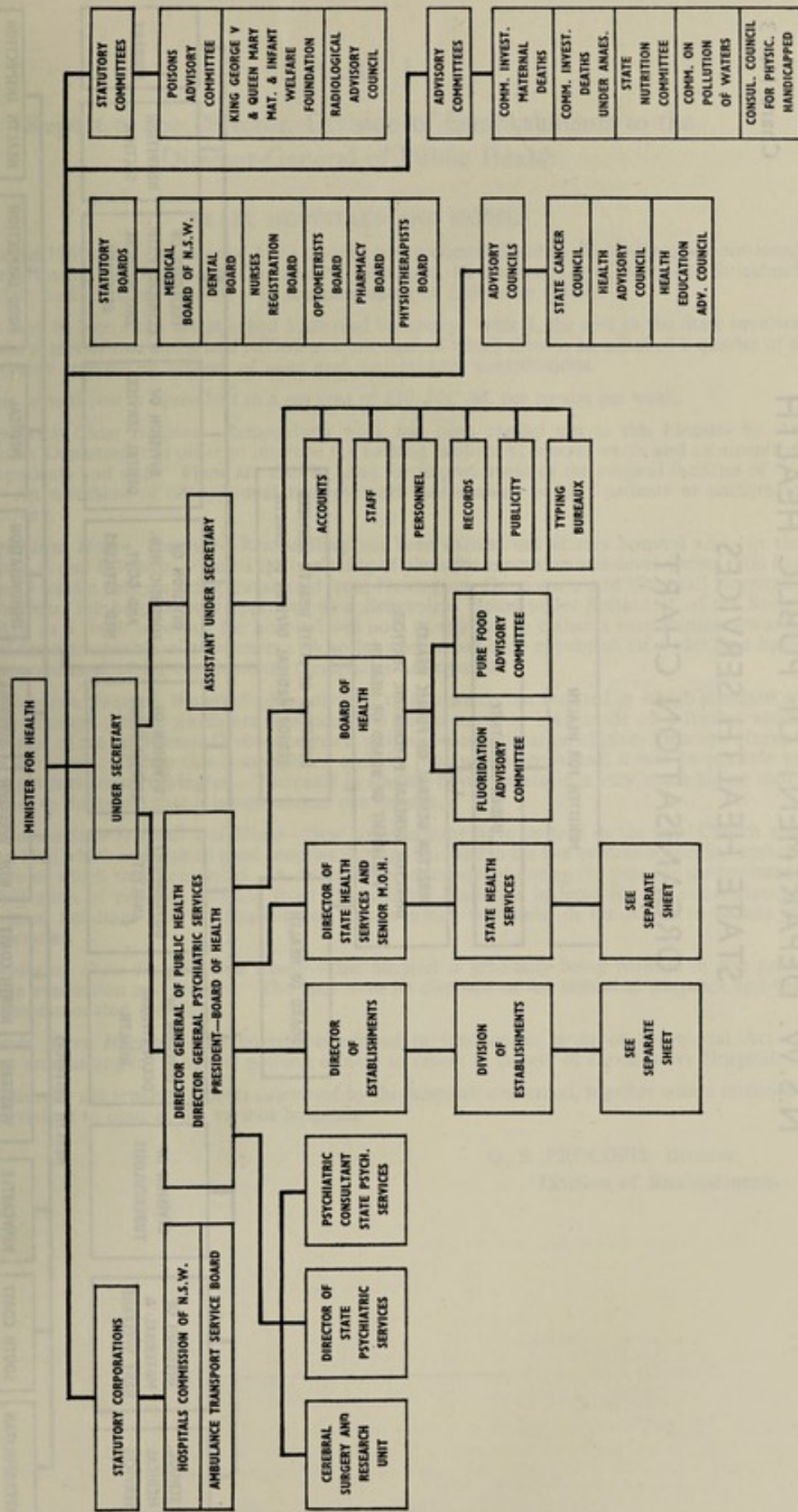
MINISTRY FOR HEALTH ORGANISATION CHART

Chart No. 1



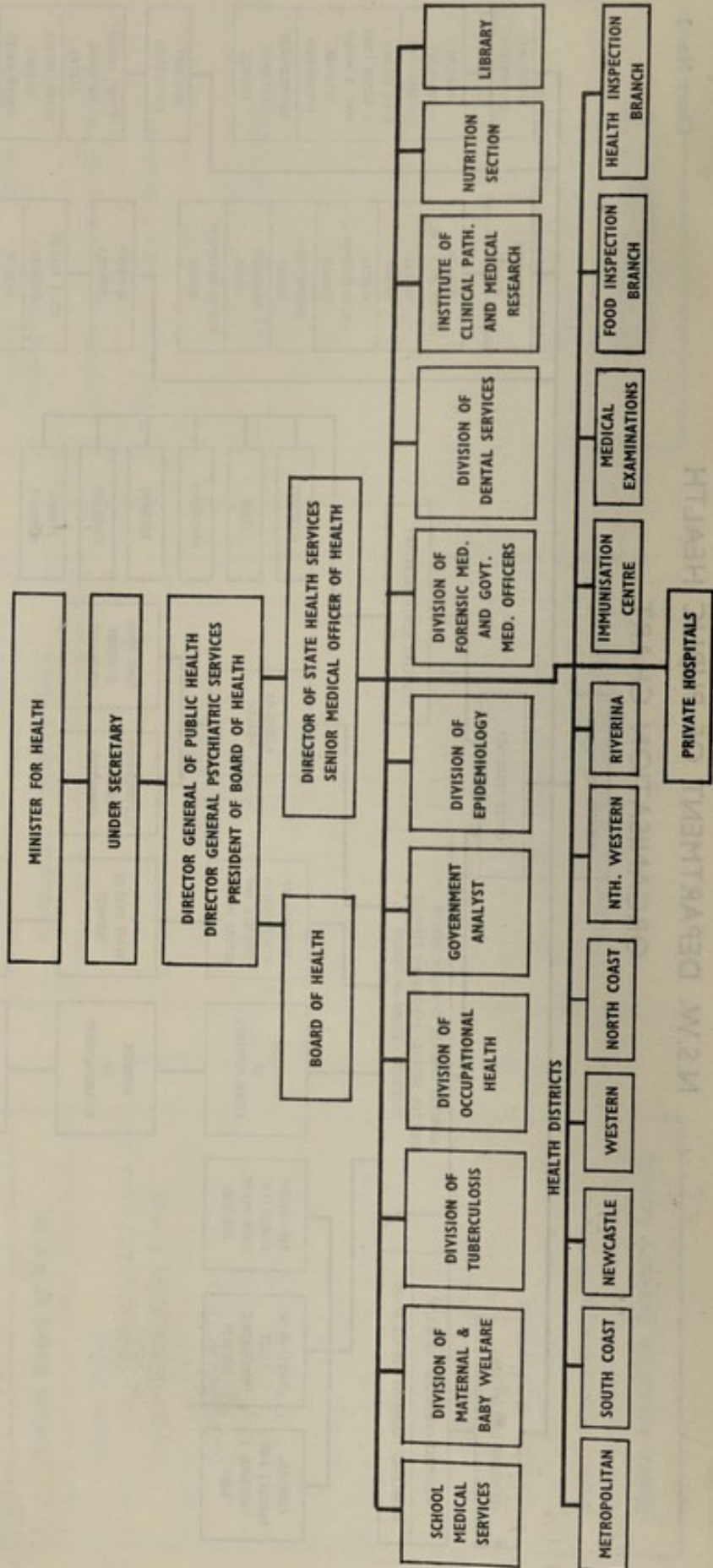
N.S.W. DEPARTMENT OF PUBLIC HEALTH ORGANISATION CHART

Chart No. 2



N.S.W. DEPARTMENT OF PUBLIC HEALTH STATE HEALTH SERVICES ORGANISATION CHART

Chart No. 3



PART I

Report of the Director, Division of Establishments to the Director-General of Public Health

STATE HOSPITALS AND HOMES

During 1961 a daily average of 2,233 persons was accommodated in establishments maintained by the Department, viz., Randwick, Garrawarra, Lidcombe, Newington, David Berry and Strickland House. The bulk of these persons was accommodated at Lidcombe (1487).

As may be seen from the attached Statistical Summary, Table I, the cost to the State involves funds to the extent of one and a half million pounds, against which there is an offset of a quarter of a million pounds received in respect of sales and maintenance contributions.

This annual cost is equivalent to a net cost of £10 14s. 3d. per person per week.

Randwick Chest Hospital—Remodelling work has been carried out at this hospital by the Public Works Department in order to improve the bathing facilities at several wards and an amenities room for patients and staff. Plans are also in hand for improvement of the surgical facilities of the hospital. An extension of occupational therapy work has enabled bedfast patients to participate in this activity.

Strickland House, Vauchuse—Remodelling has been carried out at this hospital also—in the Kitchen, and A and B Wards. This is the beginning of plans for expansion and development, and has resulted in 79 female patients being transferred from Newington, Garrawarra and Waterfall Hospitals. During the year, the hospital was approved as a Benevolent Home under Section 18 of the Social Services Act, as a result of which the hospital will now be enabled to collect a contribution towards the cost of the maintenance of pensioners. A social worker has been appointed on a part time basis and the appointment of an occupational therapist is anticipated.

Garrawarra Hospital, Waterfall—Remodelling of two wards has resulted in a high standard of ward being attained; these wards are now occupied and a start has been made on a further ward. The renovation of the old Female Division wards is waiting on consideration of plans for a new Nurses' Home for 40 nurses. When this is completed and the four wards renovated, it will be possible to take more patients from Newington. Increases in staffing have resulted in a very much higher staff/patient ratio, to the extent that it is now almost one for one.

Lidcombe State Hospital and Home—New constructions have centred in the new Church and Recreation Hall which maintained good progress during 1961, and in the five new residences for medical officers, two of which were completed. A dormitory was converted during the year for the treatment and rehabilitation of patients suffering from alcoholism. Plans are in hand for the conversion of certain unused buildings into a Rehabilitation Centre which will assist in the return to society of disabled persons.

Newington State Hospital and Home—This hospital is gradually being reduced in size prior to complete evacuation and closure. The land is to be disposed of for industrial purposes and the patients accommodated elsewhere.

David Berry Hospital—The hospital continued to function in terms of the special Act of Parliament establishing it. There is nothing of note to report in respect of David Berry Hospital.

Hereunder are separate reports submitted by the hospitals concerned, together with a statistical summary relating to costs at the various hospitals.

G. S. PROCOPIS, Director,
Division of Establishments.

SECTION I

LIDCOMBE STATE HOSPITAL AND HOME—ANNUAL REPORT, 1961

Honorary Visiting Staff :—

Honorary Surgeons : 2
 Honorary Consulting Urological Surgeons : 1
 Honorary Ophthalmic Surgeons : 2
 Honorary Dermatologists : 2
 Honorary Orthopaedic Surgeons : 2
 Honorary Ear, Nose and Throat Surgeons : 2
 Honorary Neurosurgeons : 1
 Honorary Clinical Neurologists : 2
 Consulting Chest Physician from Randwick Chest Hospital : 1
 Consulting Chest Surgeon from Randwick Chest Hospital : 1
 Radiologist : 1
 Dentist : 1

Staff—Administrative :—The medical staffing has been re-constituted and expanded as follows :

Medical Superintendent : G. C. Hughes, M.B., B.S.
 Deputy Medical Superintendent No. 1 (Surgical) : B. E. Sharkey, M.B., B.S., F.F.A.R.A.C.S.
 Deputy Medical Superintendent No. 2 (Medical) : S. Sax, M.B., B.Ch., D.P.H., M.D., M.R.C.P.
 Director of Physical Medicine : 1 (Vacant).
 Staff Physician : 1 (Vacant).
 Staff Surgeon : 1 (Vacant).
 Staff Anaesthetist : 1.
 Assistant Staff Anaesthetist (Acting) : 1.
 Psychiatrist : 1.
 Senior Medical Officer : 1.
 Medical Officers : 10 (1 Anaesthetics, 3 Surgery, 5 Medical, 1 Physical Medicine).
 Cadet Medical Officers : 5 (Vacant).
 Matron : 1.
 Manager : 1.
 Assistant Manager : 1.

Other Staff :

Nurses : 60—plus 23 trainees.
 Other Female Staff : 35—Including clerical.
 Attendants : 240 (4 filled by females within local discretion).
 Other Male Staff : 102—plus 10 supernumerary.

No. of beds available as at 31st December, 1961 : Hospital 892, Home 800. Total : 1,692.

Daily average number of patients and inmates resident :—

1951—1,162	1957—1,374
1952—1,160	1958—1,475
1953—1,171	1959—1,484
1954—1,216	1960—1,446
1955—1,297	1961—1,487
1956—1,347	

Admissions, Discharges and Deaths :—

	Hospital Section	Home Section	Total
In institution, 1st January, 1961 ..	768	621	1,389
Admissions	1,237	1,779	3,016
Transfers	614	595	1,209
Total treated	2,619	2,995	5,614
Discharges	659	1,683	2,342
Deaths	579	19	598
Transfers	595	614	1,209
In institution, 31st December, 1961	786	679	1,465

Daily average: 1,487.

Casual relief : 339 indigent persons were provided with sleeping accommodation for one night and 678 were supplied with a meal ; 5,455 cases were examined in the X-Ray Department, including examination of staff as prescribed by the award made by Judge Kinsela ; 363 General (including orthopaedic and urological) operations and 29 ophthalmic operations were performed.

Electrocardiograms : 780 electrocardiograms were taken and reported on.

Laundry : 1,981,980 articles were laundered.

The following works were carried out under the direction of the Public Works Department :—

- (1) Erection of two new residences for medical staff, and a further three in progress, roadways included.
- (2) Erection of a new church and recreation hall commenced in 1960 and still under construction.
- (3) Re-arrangement of drainage of stockpots in main kitchen completed.
- (4) Installation of five stainless steel urinal stalls.
- (5) Painting of tank stands and steam lines.
- (6) Replacement of electric light poles in hospital grounds.
- (7) Renovations to manager's residence.
- (8) Replacement of flooring in almoner's department.
- (9) Replacement of garage in residence No. 15.
- (10) Conversion of dormitory 35 to an alcoholics rehabilitation ward to be known as Frata House. Conversion initiated at request of Foundation for Research and Treatment of Alcoholism.
- (11) Nurses' Homes 1, 2 and 3—Renewal of wire gauze on balconies completed.
- (12) Asphaltting area surrounding new examination and medical room completed.

Further minor repairs and renovations have been carried out by the Building, Construction and Maintenance Branch of the Public Works Department in various sections of the hospital.

General maintenance has been carried out by hospital artisans and outdoor staff under the direction of the Manager.

The Rehabilitation Department re-opened on 29th May, 1961, with the appointment of Dr. Tinsley. The previously existing Occupational and Physiotherapy Departments have been integrated into one department and there has been a steady expansion of activities. It is ultimately proposed to house the department in a more adequately equipped building under a Director of Physical Medicine. There have been a number of visits during the year by active local and overseas workers interested in the department's programmes. The most noteworthy of these was the visit of Dr. Lionel Cosins, a leading English geriatrician, in November, 1961.

STRICKLAND HOUSE, VAUCLUSE—ANNUAL REPORT, 1961

Staff

One Matron ; one Visiting Emergency Medical Officer ; five Nurses ; four Assistant Nurses ; two Clerical Staff ; three Attendants ; and eight Domestic Staff.

Functions

Strickland House, Vacluse, was approved as a benevolent home under Section 18 of the Social Services Act with effect from 10th March, 1961.

The functions of this hospital are to provide accommodation for a female patient population of 110 home section inmates and a male population of 21 home section inmates. The responsibilities of the Hospital are the care and welfare of the female and male inmates, and the claiming of maintenance each quarter, from the Department of Social Services and the Repatriation Department, for female and male inmates receiving age, invalid or service pensions.

Routine Work

Normal routine nursing of aged and invalid inmates was carried out during the year with a weekly visit from the emergency Medical Officer attached to Randwick Chest Hospital. Any female inmates requiring medical attention were transferred to Randwick Chest Hospital for treatment.

During the year 79 female inmates were admitted from Newington State Hospital, Garrawarra Hospital, Waterfall and through the social worker at the Department of Public Health. Male inmates numbering 104 were admitted through the Hospital Admission Depot at 93 Macquarie Street.

As from 11th May, 1961, age, invalid and widows pensioners were paid their pension every twenty-eight days at the hospital.

Difficulties Experienced

The question of notification to the Department of Social Welfare when pensioners were transferred to Randwick Chest Hospital for hospital treatment was raised by the Secretary and Head Office decided that notification should be furnished to the Department of Social Services in all cases of discharge and re-admission of pensioners, transferred to Randwick Chest Hospital for medical treatment.

The necessity for a pedestrian path from the hospital grounds to the main entrance gates of the Hospital has been reported in the last two annual reports from this Hospital, but as yet this work has not been undertaken.

TABLE I

Patients admitted and discharged with daily average—1961

	<i>Patients</i>
Admitted	184
Discharged	136
Daily average	82.2
Number of bed-days	29,990

NEWINGTON STATE HOSPITAL AND HOME—ANNUAL REPORT, 1961

Staff :—

- Hon. Medical Staff : Neurologist, vacant ; Ophthalmic Surgeon, vacant.
 Medical Staff : J. McManamey, Medical Superintendent ; L. Sharfstein, Deputy Medical Superintendent ; M. Henley, Medical Officer.
 Nurses : 65.
 Clerical Staff : Manager, Senior Clerk, Clerk, 3 Office Assistants.
 Dispenser (part time) : 1.
 Male Outdoor Staff : 35.
 Female Outdoor Staff : 40.

Admissions and Discharges :—

Inmates in institution, 1st January, 1961	316	
Admissions during year	392	
Discharges during year	438	708
Deaths during year	23	
Remaining in Institutions, 31st December, 1961	461	
Average daily number resident	300	

Hospital Division Statistics :—

Beds available	232
In hospital as at 1st January, 1961	221
Admissions during year	69
Discharges during year	91
Deaths during year	23
Remaining in hospital, 31st December, 1961	176

Note :—

- (1) Discharges 438, include 80 inmates transferred to Strickland and 51 to Garrawarra.
- (2) Beds available, 232, does not include :—
 - 10 beds in Ward D. Ward closed, unfit for occupation.
 - 27 beds in Ward E. Ward closed, unfit for occupation.
 - 50 beds in Ward H. Ward closed, being renovated but not to be re-opened owing to proposed closing of the Hospital.
 - 50 beds in Ward G. Ward closed 12th December, 1961.

The Female Yard Section has been closed since 25th July, 1961, following the transfer of inmates to other hospitals.

RANDWICK CHEST HOSPITAL—ANNUAL REPORT, 1961

The following are the Statistics summarizing activities of this hospital during the twelve months ending 31st December, 1961.

Indoor Patients

	Male	Female	Total
Patients under treatment on 31st December, 1960	111	44	155
Admitted during 1961	235	115	350
	<hr/>	<hr/>	<hr/>
	346	159	505
	Male	Female	Total
Died during 1961	34	17	51
Discharged during 1961	206	95	301
	<hr/>	<hr/>	<hr/>
Total died and discharged during 1961	240	112	352
	<hr/>	<hr/>	<hr/>
Remaining in hospital on 31st December, 1961	106	47	153
Daily average number of resident patients .. .. .	..	..	160
Number of individuals who received outdoor treatment .. .. .	..	..	2,207
Total number of visits by outpatients .. .. .	..	..	3,976

Inmate Workers

In the institution on 31st December, 1960 .. .. .	..	..	12
Admitted during 1961 .. .. .	..	..	15
	<hr/>
	..	..	27
Discharged during 1961 .. .. .	..	..	16
	<hr/>
Remaining in the institution on 31st December, 1961.. .. .	..	..	11
General daily average number including workers .. .. .	..	..	171

Autopsies

There were 51 deaths during the year and 21 autopsies were performed.

X-Ray Department

X-ray examinations	4,190
Barium meal examinations	92
Screenings	92
Films used	6,569
Dental films used	132
Tomograms	144
Portables	270

Pathological Laboratory

Specimens submitted for examination	7,739
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Operations Performed

Major Thoracic :—	
Pneumectomy	1
Lobectomy	13
Segmental wedge	9
Thoracotomy	5
Thoracoplasty	7
Decortication	5
Rib resection	5
Oesophagectomy	1

Minor Thoracic :—

Bronchoscopy	61
Bronchial biopsy	21
Oesophagoscopy	10
Tracheotomy	8
Intercostal drainage	4
Thoracoscopy	5
Drainage of empyema	4
Major General	9
Minor General	51
Major Orthopaedic	2
Minor Orthopaedic	1
Major Urological	2
Minor Urological	9
Oto-rhino-laryngeal	9
Ophthalmological	1
Dental	3
Neurological	Nil
Transfusions	76

Surgical Ward

Admissions :	Male	Female	Total
Thoracic	33	12	45
General	10	13	23
Total	43	25	68
Day only and recovery patients	32	10	42

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

Standard Establishment

Visiting Specialist Staff :—

Oto-Rhino-Laryngologist	1
Urologist	1
Consultant Thoracic Surgeons	2
Dermatologist	1
Orthopaedic Surgeon	1
Consultant General Surgeons	2
Consultant Physician	1
Radiologist	1
Ophthalmologist	1
Refractionist	1
Psychiatrist	1
Neuro-Surgeon	1
Consultative Panel	3
Anaesthetists	2*

* The Hospital can call on the services of Departmental Specialist anaesthetists when necessary.

Resident Medical Staff :—

Medical Superintendent	1
Deputy Medical Superintendent	1
Surgical Registrar	1
Medical Officers	5
	<hr/>
	8
	<hr/>

Nursing Staff :—

Matron	1
Sub-Matron.. .. .	1
Home Sister	1
Sisters, theatre and nurses (female)	104
Attendants (male)	25
	<hr/>
	132
	<hr/>

Clerical Staff :—

Secretary	1
Clerk (Male)	1
Shorthand-typiste	1
Office Assistants	2
Record Clerk (female)	1
	<hr/>
	6
	<hr/>

Medical Auxiliary Staff :—

Almoner	1
Occupational Therapists	2
Radiographer	2
Radiographer in training	1
Dispenser	1
Dispensary Assistant	1
Microbiologists	2
Laboratory Assistant	1
Laboratory Attendant	1
	<hr/>
	12
	<hr/>

Domestic Staff :—

Wardsmaids and Housemaids	50
Kitchenmaids	3
Kitchenmaid-Cook.. .. .	1
Cooks	6
Seamstress	1
Head Waitress	1
Cleaner (female)	1
Kitchenmen	3
	<hr/>
	66
	<hr/>

Miscellaneous :—

Outdoor Supervisor	1
Catering Officer	1
Storemen	2
Carpenter	1
Engineer	1
Painter	1
Firemen	3
Maintenance of Grounds, Outdoor Staff, Flower Gardener, etc.	6
Male Cleaners	8
	<hr/>
	24
	<hr/>

Visiting Clergymen 4

Librarian 1

Total

 272

Staff Shortages

Nursing	17
Domestic	11
Medical Auxiliary	1
Medical Officers	1
Miscellaneous	Nil
Total	30

Notification of Cases of Tuberculosis in N.S.W.

Notification of all forms of Tuberculosis :—

1957	1,649	1960.. .. .	1,533
1958	1,410	1961.. .. .	1,465
1959	1,166		

Notification of extra-pulmonary tuberculosis :—

1957	44	1960.. .. .	78
1958	52	1961.. .. .	90
1959	39		

Cases first diagnosed on death certificate :—

1957	113	1960.. .. .	117
1958	113	1961.. .. .	79
1959	49		

GARRAWARRA HOSPITAL, WATERFALL—ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Superintendent : Dr. N. Wright.

Three Medical Officers ; one Radiologist (part-time) ; one Matron ; one Sub-Matron ; one Tutor Sister ; one Radiographer ; one Almoner ; one Physiotherapist ; one Occupational Therapist ; one Laboratory Assistant ; twenty-five Male Attendants ; and seventy-six Clerical and other Staff.

Activities

In September, 1961, two new Wards were opened and at the end of the year were fully occupied.

When renovation work, commenced during the year, is completed on Ward 8, and staff recruited, an additional 26 patients will be admitted from Newington State Hospital.

A part-time chiropodist commenced work at the hospital in May, 1961. Good results have followed this appointment.

There is still a need for a visiting Orthopaedic Surgeon ; a visiting Psychiatrist ; and a visiting Speech Therapist at Garrawarra Hospital, but unfortunately no appointments were made in 1961.

Dr. H. J. Scott of Wollongong was appointed as Honorary Ophthalmic Surgeon during the year, and his services have been appreciated.

Hospital Statistics

	Number of Beds Available	
	As at 31st December 1960	As at 31st December, 1961
Male patients	62	62
Female patients	52	104
Male workers	89	89

	Male Patients	Female Patients	Workers
Remaining in hospital, 31st December, 1960 ..	61	52	70
Admitted during 1961	54	68	328
Total treated during 1961	115	120	398
Discharged during 1961	34	10	320
Died during 1961	23	8	..
Remaining in hospital, 31st December, 1961 ..	58	102	78
Average daily number resident	59.6	61.2	74.3

DAVID BERRY HOSPITAL, BERRY, N.S.W.—ANNUAL REPORT, 1961

The number of inpatients and outpatients treated at this Hospital during 1961, showed a considerable decrease upon the total for 1960. The number of deaths also declined, while fewer X-rays and operations were performed. An increase however was shown in the number of births and the average daily number of patients resident.

The comparative figures for the years 1960 and 1961 are as follows :—

	1960	1961
No. of inpatients	554	494
No. of outpatients	163	106
No. of births	16	20
No. of deaths	22	11
No. of operations performed	187	150
No. of persons X-rayed	560	499
Average daily resident	12.68	12.95

LEPER LAZARET—ANNUAL REPORT, 1961

On 1st January, 1961, seven persons remained under detention at the Lazaret.

No deaths occurred during 1961. The total number of patients admitted since 1883, when patients were first received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900) is now 243. Distributed under nationalities, the following Table shows movements of patients during the year :—

Whites of European Decent	Admitted	Readmitted	Discharged	Repatriated	Died	Remaining at 31st December, 1961
New South Wales	2	..	..	..	..	5
Maltese .. .. .	..	..	..	..	..	1
Cypriot .. .. .	..	..	1	..	..	..
Coloured patients .. .. .	..	..	..	..	..	1
Indian .. .. .	..	..	..	..	..	1
Total	2	..	1	..	..	8

In Lazaret on 1st January, 1961 (3 males, 4 females)	7
Admitted during the year	2
Died during the year .. .. .	..
Discharged during the year	1
Repatriated during the year .. .. .	..
Readmitted during the year .. .. .	..
Remaining in Lazaret at 31st December, 1961 (4 males, 4 females)	8

Hospitals Other Than the Lazaret

Royal Prince Alfred Hospital—one Australian died 1961.

Repatriation General Hospital—one Australian discharged 1961 (to report every three months).

Every opportunity has been offered to the medical profession to visit the Lazaret for the purpose of seeing such patients as were formerly under their care, and for study of the disease.

Statement showing the Working expenses of the Lazarets (for men and for women) at Little Bay to 30th June, 1961 :—

	£	s.	d.
Salaries	6,219	4	7
Provisions	2,197	8	7
Tobacco, comforts and amusement	138	7	3
Clothing, etc.	445	5	9
Fuel and light	609	11	0
Drugs, Dressings, etc.	73	10	10
Miscellaneous	1,079	5	2
	£10,762	13	2

Deduct amounts received in respect of maintenance including contributions by the Commonwealth under the Hospital Benefits agreement, £1,179 14s. 1d. nett cost £9,582 19s. 1d. Average number of patients resident, being equal to an average of £1,537 10s. 5d. per inmate per annum to June 30th, 1961.

TABLE I—SUMMARY OF EXPENDITURE—RANDWICK CHEST HOSPITAL, STRICKLAND HOUSE, GARRAWARRA HOSPITAL, STATE HOSPITALS AND HOMES, LIDCOMBE, NEWINGTON AND
 STATISTICAL SUMMARY
 DAVID BERRY HOSPITAL

For the Twelve Months ended 30th June, 1961

Head of Expenditure	Randwick	Strickland	Garrawarra	Lidcombe	Newington	David Berry	Total
Salaries and payments in the nature of salaries	£ s. d. 203,128 2 10	£ s. d. 15,035 16 9	£ s. d. 123,738 10 1	£ s. d. 512,357 10 9	£ s. d. 129,988 0 7	£ s. d. 23,802 6 0	£ s. d. 1,008,050 7 0
Provisions	36,681 12 8	7,242 13 1	29,903 2 11	133,164 4 3	36,882 4 1	2,786 6 10	246,660 3 10
Drugs, surgical appliances, dressings, etc.	13,863 12 11	Cr. 1 3 4	2,039 12 9	34,481 18 4	3,706 17 11	1,068 4 10	55,159 3 5
Domestic utilities, including laundry expenses, household linen, clothing, furniture, etc.	4,606 2 5	2,562 16 1	14,449 13 2	46,356 14 3	5,405 11 9	39 14 5	73,420 12 1
Fuel, electricity and water	6,738 3 8	1,931 5 1	11,117 16 7	33,939 16 8	8,491 5 10	1,109 9 2	63,327 17 0
Renewals and renovations to buildings and plant	13,484 19 8	5,087 11 6	26,234 3 4	29,418 16 9	7,310 18 2	2,028 8 2	83,564 17 7
General establishment	12,330 6 1	1,889 15 10	9,970 13 2	32,589 14 4	7,286 14 3	2,799 18 3	66,867 1 11
Gross Maintenance Expenditure	290,833 0 3	33,748 15 0	217,453 12 0	822,308 15 4	199,071 12 7	33,634 7 8	1,597,050 2 10
Collections for sales, maintenance and payments by Commonwealth Government	4,073 14 5	3,174 14 2	41,482 5 2	226,651 6 5	57,363 8 4	15,099 8 3	347,844 16 9
Net Maintenance Cost to Staff	286,759 5 10	30,574 0 10	175,971 6 10	595,657 8 11	141,708 4 3	18,534 19 5	1,249,205 6 1
Average Daily Population	£ s. d. 156	£ s. d. 52	£ s. d. 184	£ s. d. 1,487	£ s. d. 342	£ s. d. 12	£ s. d. 2,233
Average annual cost per patient on gross maintenance expenditure	1,864 6 3	649 0 3	1,181 16 3	554 2 4	582 1 7	2,802 17 4	£ 716 3 4
Average weekly cost per patient on gross maintenance cost to State	35 13 2	12 8 3	22 12 1	10 11 11	11 2 8	53 12 2	13 13 11
Average annual cost per patient on net maintenance cost to State	1,838 4 0	587 19 3	956 7 4	401 7 9	414 7 0	1,544 11 7	560 3 7
Average weekly cost per patient on net maintenance expenditure	35 3 2	11 4 11	18 5 10	7 13 6	7 18 6	29 10 10	10 14 3
Capital Expenditure not included in Maintenance	9,630 11 0	25,800 0 0	55,144 8 5	48,327 9 7	719 13 7	.....	139,622 2 7

PART II

Report of the Director of State Health Services to the Director-General of Public Health

The Annual Report for those Divisions, Branches and Sections of the Department of Public Health which are concerned with public health activities, is presented.

In April, 1961, as a result of an administrative re-organisation of senior positions within the Department, the position of Deputy Director-General of Public Health was abolished and that of Director of State Health Services was created. This Officer became responsible to the Director-General of Public Health for the administration of the public health activities of the Department. He also assumed the Chairmanship of a number of Statutory, Advisory and Ministerial Boards and Committees.

In accordance with Government policy the Department has taken steps to decentralise many of its activities to Medical Officers of Health within Health Districts. The areas of existing Health Districts were enlarged. Plans were prepared for the creation of two additional Health Districts, namely, the North Western and Riverina Health Districts, and were completed. It is proposed that these two additional Health Districts will be proclaimed within the near future, following which the greater part of the State will come within Health Districts.

The policy of decentralisation will enable a service to be provided to Local Authorities and the community generally which, in the past, has been available only from Sydney. The setting up of a local office with a trained staff of Health Inspectors and Food Inspectors under the direction of a Medical Officer of Health will assist Councils by providing an advisory and consultative service which must, in turn, result in an improvement of the health of the community generally.

In addition to providing advisory and consultative services, the decentralisation of departmental activities will enable the Medical Officer of Health eventually to administer locally the following services :—

- (1) Maternal and Baby Welfare.
- (2) School Medical Service.
- (3) Private Hospitals.
- (4) Dental Services.
- (5) Tuberculosis Control.

With a view to obtaining closer co-operation between the various Divisions and Branches, Conferences of Directors have been held at monthly intervals. In addition, meetings of Medical Officers of Health have been arranged at quarterly intervals with a combined meeting of Directors and Medical Officers of Health at this period. These joint consultations and divisional talks on common problems have proved extremely valuable.

During the year, the Minister constituted a Standing Committee for the Control of Pollution of Waters in New South Wales. This Committee consists of representatives of a number of Departments and authorities concerned with the control of water pollution, and meetings have been held regularly.

In addition, I attended, in company with the Chief Health Inspector, as the Department's representatives, meetings convened by the Department of Local Government for the purpose of determining the duties, responsibilities and training of Health Inspectors.

In November, 1961, I attended the Meeting of the Public Health Committee and the National Health and Medical Research Council held in Canberra on behalf of the Department, and on two occasions during the year visited Melbourne to represent the Department on the Poliomyelitis Committee.

The work of the Department that comes within my administration has been maintained by its Officers at a very high level, as will be noted from each of the attached reports. The year 1961, can be considered as one marked by a considerable degree of progress in all aspects of Public Health.

Briefly, the salient points in these reports that are considered worthy of separate comment are as follows :—

VITAL STATISTICS

The population at the end of 1961 was 3,953,636. The increase in population by excess of births over deaths was 51,344, and by migration 25,031, making a total increase for the year of 76,375 ; 6,809 fewer than 1960. The total live births were 86,392, equivalent to 22.06 per 1,000 of the mean population. The number of stillbirths registered was 1,306, equal to 0.33 per 1,000 of mean population. Live and stillbirth rates per 1,000 of mean population have remained fairly constant for some years now.

Deaths during the year numbered 35,048, equivalent to a rate of 8.95 per 1,000 of mean population. This rate has decreased by 0.20 per 1,000 of mean population over the 1960 figure. The number of children under one year of age who died was 1,800, equal to 20.84 per 1,000 live births. The Metropolitan Area contributed 877 and the remainder of the State 923 of the infant mortality figures.

DIVISION OF EPIDEMIOLOGY

Communicable Diseases

The number of cases of communicable disease notified during 1961 was 8,621, or 809 more than in 1960, but with a greater number of notifications there were 13 fewer deaths. The decreases in deaths occurred in infantile diarrhoea (— 14); tuberculosis all forms (— 14); and staphylococcal diseases of infants under four weeks of age (— 7); while increase in deaths occurred in acute anterior poliomyelitis (+ 11); and infectious hepatitis (+ 14).

Acute Anterior Poliomyelitis—There were 159 confirmed cases with 13 deaths compared with nine cases and two deaths in 1960.

Tuberculosis (All Forms)—There was a decrease in notifications during 1961 of 78—1,455 in contrast to 1,533 in 1960. Deaths, in the same period, decreased from 172 to 158.

Infectious Hepatitis—There were 6,050 notifications in 1961 with 34 deaths. This is an increase in both instances of 1,125 cases notified and 14 deaths over the 1960 figure.

Scarlet Fever—There were 285 notifications compared with 415 in 1960, and, again in 1961, no deaths occurred.

Venereal Diseases

Gonorrhoea—The year 1961, was again notable for the significant increase (22.2 per cent.) in the incidence of gonorrhoea totalling in all 3,296 cases (2,949 males and 347 females), compared with 2,706 cases (2,410 males and 296 females) in 1960. Of the total cases in 1961, 85.8 per cent. occurred in the Metropolitan Area.

Syphilis—During the year also a significant increase (10.5 per cent.) in the incidence of syphilis occurred totalling in all 569 cases (419 males and 150 females) compared with 515 in 1960 (408 males and 107 females). Of the total cases in 1961, 76.6 per cent. occurred in the metropolitan area.

Attendances at the Venereal Disease Clinic for males totalled 55,824, compared with 50,901 in 1960. Attendances of females at Venereal Section of the Rachel Forster Hospital for Women and Children numbered 3,352, compared with 3,000, in 1960.

Attendances at the Prophylactic Clinic in Albert Street (available day and night) numbered 24,038, compared with 23,236 attendances in 1960.

During the year, total venereal disease serological examinations numbered 104,083, an increase of 10,266 over the 1960 figure.

POLIOMYELITIS VACCINATION CAMPAIGN

The Poliomyelitis Vaccination Campaign was carried on under considerable difficulties during 1961, owing to the unfortunate circumstance of an exceptional period of serious shortage of vaccine coinciding with a year of unusual prevalence of the disease.

There were 159 cases of poliomyelitis with 13 deaths during the year. The outbreak commenced in May in the Wollongong Area and the South Coast (50 cases), spread to Sydney in July (69 cases), and finally to the country areas of the State in August (40 cases). One hundred and three cases occurred in the age group 1-9 years, while 16 cases occurred in the age group 25-29 years. Eleven of the cases were non-paralytic; 123 spinal paralytic; while bulbo and bulbo-spinal cases amounted to 25. Ten of the 13 deaths occurred in the last group.

Types 1 and 3 accounted for 116 of the cases. No case of Type 2 occurred.

In an estimated population of 2,505,375 (0-40 age group) the vaccination status of the general population as at March, 1961, was 1,424,336 (three injections—fully vaccinated) or 56.9 per cent.; and 1,611,092 (1, 2 or 3 injections—fully or partially vaccinated) or 64.3 per cent.

Out of the total of 159 cases of poliomyelitis in 1961, 138 cases, or 86.8 per cent., had received no previous vaccination whatever.

GOVERNMENT ANALYST'S BRANCH

A total of 28,833 samples were examined during 1961, including 18,280 collected in connection with the administration of the Pure Food Act, the remainder being relative to the activities of the Public Service, 4,617, and bacteriological examinations of food and water 5,936.

The improvement shown in 1960 in the percentage of milk adulterations and milk samples deficient in fat continued in 1961. In all, milk samples totalled 10,494.

Whilst a smaller number of meat samples were analysed during the year (6,230), the number of adulterated samples remained the same. Preservatives in mince meat and excessive fat in sausages were the main causes of rejection of these samples.

Sampling, specimens and exhibits for the public services of the State included those from subsidised institutions (473); Government Stores Department (262); water (570); sewages (263); police authorities (361); coroners' enquiries (2,025); Division of Occupational Health (341); and miscellaneous authorities (253).

Additionally, 362 criminal investigations were carried out on blood (21); clothing (22); paint (78); drugs (39); tools (18); urine (7); and miscellaneous (177).

PURE FOOD BRANCH

In pursuance of the Pure Food Act, 1908, as amended, the branch undertook general supervision work in respect of standards required to secure the wholesomeness, cleanliness and freedom from contamination of food and drugs.

During the year the quantity of food seized and destroyed as unfit for human consumption was 58 tons while 17,600 head of poultry were destroyed.

Legal proceedings for breaches of the Pure Food Act were instituted in 956 cases, yielding £7,959 in fines and costs imposed. Warnings numbered 238.

Of 10,836 premises inspected, 466 notices were served to remedy structural and other defects, while 56 prosecutions were instituted with fines and costs amounting to £1,209.

HEALTH INSPECTION BRANCH

During 1961, the branch dealt with 56,700 applications for searches in connection with unhealthy building land notified under the Public Health Act, 1902, as amended, giving a revenue of £14,175. Six new areas of low-lying land were placed under Proclamation while six areas were revoked.

The officers of the branch, otherwise, were primarily devoted to the investigation of applications to install septic tanks and closets. Of the former 6,196 were recommended for approval while 314 septic closets were approved.

Other work included noxious trade inspections 1,087; sewage treatment works inspections 26; and sanitary depot inspections 107.

During the year an experienced officer was detailed to carry out inspections of all mental hospitals outside health districts, and another officer was engaged on inspection of sites for new abattoirs in country districts.

PRIVATE HOSPITALS AND REST HOMES

There are now, in New South Wales, 208 private hospitals with 4,131 beds and 191 cots, and 262 rest homes with 5,680 beds and 58 cots. An increase during 1961, of seven private hospitals with the addition of 283 beds and 21 costs, and 11 rest homes with the addition of 491 beds and 8 cots.

Many inquiries have been made to the branch, during the year, by intending licensees and these were in the main for proposed new rest homes.

Overcrowding is not now such a marked feature of conditions in rest homes.

DIVISION OF FORENSIC MEDICINE

Prior to November, 1961, the Division of Forensic Medicine was known as the Medico-Legal Section and Hospitals Admission Depot.

The functions of the division were essentially the same as those previously carried out by the section and included medical examinations performed in respect of police recruits and other personnel by the Government Medical Officers of Health at Sydney and Newcastle; the performance of autopsies for the appropriate coroners upon request in cases of violent deaths; the examination of victims of criminal assaults; and the giving of evidence in court.

At Newcastle, the examination and certification of insane patients was also carried out.

Medical examinations for various government departments totalled 3,109; medical examinations for the Police Department 2,931; examinations for the City Coroner amounted to 2,238; while 144 criminal assault cases were examined.

The Hospitals Admission Depot admitted 6,856 patients to metropolitan hospitals, State Hospitals and homes and convalescent homes.

Other work of the division included 4,036 smallpox vaccinations; 225 throat swabbings of children entering hospitals; while the medico-legal laboratory examined 1,954 specimens.

PUBLICITY BRANCH

The functions of the branch are to promote health education and public relations by all available methods; the press, radio, television, films, posters and booklets are all employed to do this.

During the year posters, pamphlets and booklets totalling 731,705 were distributed; 135 film screenings were arranged; and 1,757 loans of films from the film library were made. Three television sessions were attended during the year.

The National Health Week slogan for 1961, was "A Healthy Child—A Healthy Nation", During this week the Branch emphasised this theme throughout all schools and essay competitions were held. Radio talks were given and newspaper articles written.

The quarterly journal of the department continues to be extremely popular and the circulation has now increased to 11,000 per quarter.

NUTRITION SECTION

The preparation of scripts for broadcasts, tape recordings of interviews on various topics and television appearances by officers of the Section continued during 1961. Four special articles on nutritional requirements were written, while two Departmental publications on peptic ulcer and meal planning hints were revised. Lectures and talks were given to nursing assistants, kindergarten and day nursery college students and Public Health nurses-in-training. A preliminary survey of dietary intakes of 250 adolescents was made. This was carried out to assist in formulating a more comprehensive survey to be undertaken in 1962.

Weekly attendances at six departmental pre-natal clinics were made when advice was given to pregnant women on dietary requirements during pregnancy.

Advice on menu planning and food preparation was given to State and mental hospitals and other institutions.

DIVISIONS OF MATERNAL AND BABY WELFARE

For the year 1961, the infant mortality rate reached the lowest figure yet recorded in the State—20.84 per 1,000 live births; in 1960 the figure was 21.16. The rate for the Metropolitan Area was 19.95 and that for the remainder of the State 21.75. The total number of live and still births was 86,392 and 1,306 respectively.

In relation to maternal mortality the total number of maternal deaths was 43, of which 9 were due to criminal abortion. The maternal mortality rate for the State excluding criminal abortion was 0.40 and including criminal abortion 0.50 per 1,000 live births. These rates are the lowest figures yet recorded in New South Wales.

During the year there was a nett increase of thirteen Baby Health Centres making the total 378. There were 1,110,641 attendances at these Centres during 1961, (678,503 Metropolitan and 432,138 Country).

Attendances at Pre-natal Clinics numbered 12,227.

A survey into staphylococcal infection in maternity hospitals in the Metropolitan Area, hospitals in Health Districts and hospitals with 400 deliveries or more took place during the year and resulted in findings suggesting that there was a minimal amount of staphylococcal infections occurring in the hospitals surveyed.

TUBERCULOSIS DIVISION

A total of 1,455 new cases of tuberculosis (all forms) were notified during 1961; a reduction of 78 compared with 1960, while 158 persons died from the disease compared with 172 last year.

During 1961, X-ray of persons taken by the Division totalled 285,695 of which 250,175 were taken in mass miniature surveys, while 35,520 were taken at the Chest X-Ray Centre, 697 George Street, Sydney. A total of 141 new active cases of tuberculosis were detected in this way and a further 280 cases are still under investigation as possible cases. These figures do not include those relevant to the work of the Anti-Tuberculosis Association of New South Wales which made extensive contributions in this field.

Special surveys increased to 14,054 compared with 8,082 in 1960. In seven mental hospitals and state institutions where special surveys were carried out 6,868 X-rays were taken showing 58 cases of active tuberculosis and 149 cases of inactive tuberculosis.

The Epidemiological Section of the Division continued its wide activities and during the twelve months ended 30th June, 1961, 188,214 school pupils were Mantoux tested in 1,090 schools, while 18,144 other persons were Mantoux tested largely during a special pilot survey of Australian-born children in the north west of New South Wales (13,945), when the positive reactor rate amounted to 21.08 per cent.

The sisters of the Visiting Nursing Service increased their activities during 1961, and carried out 32,476 visits compared with 29,149 in 1960.

The dental problems of the tuberculous came under discussion during the year and a plan for dealing with such cases has been circulated to all hospitals which will allow all tuberculous patients at hospitals to obtain free dental treatment.

DIVISION OF OCCUPATIONAL HEALTH

During 1961, the Director of the Division visited the United States of America, Canada, Great Britain and Sweden, in a ten week tour, studying administrative aspects and developments in industrial health, air pollution, radiation and agricultural health and in addition he also attended the first International Conference on Ergonomics in Stockholm.

There was a general increase in the major activities of the division during 1961, including the number of blood slides examined for lead poisoning 5,687; other pathological tests 4,232; while the number of factories inspected increased to 1,483.

Six publications were produced by officers of the division and numerous addresses dealing with varied aspects of industrial health were given to many technical and professional audiences.

The Clean Air Act was assented to in December, 1961; regulations under the Police Offences (Amendment) Act, 1908, were amended to allow authorised persons to use morphia or morphine-like substances in approved mines; and Part VIIA of the Public Health Act was amended to give the Department control over the use of methyl bromide when used for the purpose of fumigation.

Work connected with industrial health included investigations into lead poisoning; carbon monoxide in vehicle exhausts and ships holds; liquefied petroleum gas; dust; metal spraying; exposure to alkaloids; and noise.

In agricultural health investigations were carried out associated with dieldrin poisoning; cholinesterase levels; organic phosphates; carbamates; insecticide vapourizers; chlorinated hydrocarbon insecticides and personal protective devices.

There has been an increase in the amount of work carried out by the Radiation Branch of the Division during 1961, including the licensing of premises; tracer studies; industrial radiography; contamination of aircraft; "fall-out" measurements; the use of radioactive substances in High Schools; luminous paint in watch repairing; and the film badge service.

With the introduction of the Clean Air Bill in December, the necessary administrative machinery was set up to cope with this new legislation. Monitoring stations studied the carcinogenically significant polycyclic aromatic hydrocarbons. The results of the monitoring stations will be found in the text of the Divisional Report and in Tables 1, 2 and 3. A Clean Air Conference was organised during the year to be held in 1962. An officer of the division attended an international conference on cloud physics at Canberra.

SCHOOL MEDICAL SERVICE

Recruitment filled the existing vacancies for medical officers while the establishment of nurses was increased by six during 1961. Consequent on this recruitment routine school medical examinations increased in the Metropolitan Area, Newcastle and Wollongong. A much larger number of country school children were also examined as a result of the expansion of the country scheme conducted by local practitioners and nurses.

Out of a school population of 809,493 the number of pupils fully examined and reviewed amounted to 260,217 or 23.96 per cent. of the school population. Excluding dental defects, defects of a notifiable standard amounted to 32.02 per cent., compared with 27.3 per cent. in 1960. The most frequent defects found were vision defects (including squint 1 per cent.) 4.8 per cent.; hearing defects 2.7 per cent.; and nose and throat defects 2.9 per cent. In nursery schools 21.27 per cent. of boys examined and 15.61 per cent. of girls examined had orthopaedic defects.

Work at the Forest Lodge Child Health Centre proceeded satisfactorily during 1961 and 19,238 children in 94 schools had full (9,300) or partial (9,938) medical examinations. During the year Child Health Centres were opened at Newcastle and Parramatta while the Child Guidance Centre at Brisbane Street, Sydney, was completed and officially opened in July.

The in-service training course in mental health in childhood and the public health nursing course were repeated during the year.

A pilot scheme at a baby health centre was carried out whereby children of the age group 2-5 years were medically examined. Results of the pilot scheme are given in the text of the report.

Decentralisation of the School Medical Service was proceeded with in 1961, and medical officers of health of the decentralised districts took over the administration of the School Medical Service in each area.

The Speech Therapy Clinic, the Hearing Clinic and the Asthma Clinic continued to function successfully.

DIVISION OF DENTAL SERVICES

The establishment was at full strength at the end of the year and 36 dental officers ; 23 dental assistants ; and 4 part-time dentists were then employed. In addition five trainees, who were final year students at Sydney University, were appointed in 1961.

A greater number of school children were contacted than in any previous year and contact in a greater number of schools was also made. Out of a total of 116,086 dental examinations carried out 99,259 were carried out on school children. The remaining figure of 16,827 dental examinations represents dental work carried out on patients in government institutions.

Of the school children examined 81.5 per cent. were notified to parents as needing dental attention, while 94.4 per cent. had experienced dental disease, leaving only 5.6 per cent. of children examined who had healthy dentitions. Treatments, extractions and fillings totalled 184,618 while 1,091 dentures were supplied.

From July, 1961, an Aerial Dental Service was instituted in conjunction with the Royal Flying Doctor Service and during the last six months of the year 28 areas were visited. To this service the Department of Public Health made an annual subsidy of £2,500.

CONSULTATIVE COUNCIL FOR PHYSICALLY HANDICAPPED PERSONS

During 1961, more requests than ever before for assistance in after-care were made and in all 158 persons were given financial aid. Of these 127 cases received payment for physiotherapy. Seventy-six patients were visited by the Occupational Therapist.

Expenditure during the year amounted to £3,215 and this sum was used almost entirely on physiotherapy fees.

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

HEALTH DISTRICTS

On 15th September, 1961, with the exception of Broken Hill District, the boundaries of the Health Districts were expanded to include an increased number of shires and municipalities. In the text of the report, details of these changes have been given including the re-designation of three of these Health Districts.

The statistical figures given in each enlarged Health District, i.e., Vital Statistics and Communicable Disease totals are figures relating to the population of the Health Districts before enlargement. In 1962, these figures will relate to the enlarged and new Health Districts.

Consequent on decentralisation of divisional and branch activities of the department additional information is available in each Health District Report for 1961 appertaining to work carried out under School Medical Service ; the Pure Food Act ; and Tuberculosis Control.

Metropolitan Health District

The population of the district at 30th June, 1961 (enumerated), was 2,001,233. The highest density per acre was 29.25 in the Municipality of Waverley, while the lowest density per acre was 0.4 in Liverpool.

There were 38,335 live births equal to a rate of 19.16 per 1,000 population.

Deaths numbered 19,752, equal to a rate of 9.87 per 1,000 of population. The four main causes of death were Diseases of the heart (8,093), malignant neoplasms (3,313), vascular lesions affecting the central nervous system (2,972) and violence (1,355).

Deaths under one year of age totalled 781, equivalent to a rate of 20.37 per 1,000 live births.

Still births numbered 507 equal to a rate of 0.23 per 1,000 of population and representing 13.05 per 1,000 total births.

During the year 3,830 communicable disease notifications were made with 173 deaths. Four cases of dengue fever occurred.

The expansion of the District and the continued growth of the population has increased the work of the health inspectors considerably. During the year this work included 684 investigations of complaints from the public; 328 nuisances investigated; 240 specimens collected during investigations into infectious diseases; 247 water samples collected; and 131 inspections of sanitary depots.

The inability of sewerage services in some areas to keep pace with development still causes great sanitary problems and because of this lack 5,468 applicants for septic tanks were scrutinised in 1961.

Newcastle Health District. (*Formerly Hunter River Health District*)

The population of the district at 30th June, 1961 (enumerated), was 313,856.

There were 6,973 live births, equal to a rate of 22.22 per 1,000 of population.

Deaths numbered 2,835, equal to a rate of 9.03 per 1,000 of population.

Deaths under one year of age numbered 169, equal to a rate of 24.24 per 1,000 live births.

Stillbirths totalled 126, equal to a rate of 0.40 per 1,000 of population and representing 1.77 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 739 with 27 deaths.

An atmospheric Pollution Committee met quarterly in an effort to diminish atmospheric pollution in Newcastle.

School Medical Service: The Child Guidance Clinic recorded 444 attendances; 1,027 children attended the Speech Therapy Clinic; 49 children attended the Hearing Clinic; while school medical examinations were held in 114 schools.

Pure Food Act: The pure food inspector of the District took 849 food samples of food during 1,275 visits to premises. Food seized and destroyed totalled 22,000 lbs., while 40 prosecutions were instituted with fines and costs totalling £374.

Tuberculosis Control: The number of clinics held was 493, while the Tuberculosis Nursing Staff made 4,358 home visits.

South Coast Health District

The population of the district at 30th June, 1961 (enumerated), was 337,329.

There were 9,067 live births, equal to a rate of 26.88 per 1,000 of population.

Deaths numbered 2,280 equivalent to a rate of 6.76 per 1,000 of population.

Deaths under one year of age totalled 162, equal to a rate of 17.87 per 1,000 live births.

Still births totalled 151, equal to a rate of 0.45 per 1,000 of population and representing 1.64 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 574 with 43 deaths.

The health inspectors of the district carried out a number of sanitary surveys during the year. Routine inspections included 147 noxious trade premises; 3,050 septic tank sites; 136 sanitary depots; while 131 complaints were investigated.

School Medical Service: The number of school medical examinations carried out during the year was 11,238 while 5,151 review examinations were completed. During the examinations the following defects in school children included 103 speech defects; 650 eye defects; and 287 ear defects. Parent interviews totalled 747.

Pure Food Act: The Pure Food Inspector carried out 1,095 inspections of premises. Samples collected for analysis numbered 239. Prosecutions resulting in fines and costs totalled £221.

Tuberculosis Control: Owing to the delegation of tuberculosis control occurring late in 1961 there is, in consequence, nothing of importance to report.

Western Health District. (*Formerly known as the Mitchell Health District*)

The population of the district at 30th June, 1961 (enumerated), was 139,366.

Live births totalled 3,297, equal to a rate of 23.66 per 1,000 of population.

Deaths numbered 1,355, equal to a rate of 9.72 per 1,000 of population.

Deaths under one year of age numbered 66, equal to a rate of 20.02 per 1,000 live births.

Still births numbered 49, equal to a rate of 0.35 per 1,000 of population and representing 1.46 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 294 with 17 deaths.

Three sewerage treatment work sites and a regional abattoir site were inspected and agreed upon during the year, while 977 inspections of septic tank and closet sites were made. Other inspections included 175 noxious trade premises; 67 swimming pools; 80 food premises; and 97 sewerage treatment works and communal sullage schemes.

School Medical Service: A total of 1,644 school medical examinations were carried out.

Pure Food Act: Inspections and complaints totalled 1,819; 23 food samples were taken; while 73 prosecutions were instituted with fines and costs totalling £921.

Tuberculosis Control: At the District Tuberculosis Clinics 6,900 attendances were made and 29 new cases of tuberculosis discovered. The Tuberculosis Nursing Staff made 2,840 home visits. Mantoux tests numbered 1,635; B.C.G. inoculations numbered 68; chest X-rays totalled 4,266; and pathological tests for tuberculosis numbered 981.

North Coast Health District. (Formerly known as the Richmond-Tweed Health District)

The population of the district at 30th June, 1961 (enumerated), was 122,537.

There were 2,809 live births equal to a rate of 22.92 per 1,000 of population.

Deaths numbered 1,009 equal to a rate of 8.23 per 1,000 of population.

Deaths under one year of age numbered 54 equivalent to a rate of 19.22 per 1,000 live births.

Still births totalled 46, equal to a rate of 0.38 per 1,000 of population and representing 1.61 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 203 with six deaths.

The extension of the District has greatly increased the amount of routine inspection work which included 629 septic tank sites; 47 noxious trade premises; and 61 business premises.

School Medical Service: A total of 12,041 school children were examined. Defects notified numbered 2,720 or 27.1 per cent. of those examinations.

Pure Food Act: The number of premises inspected was 579. A total of 271 samples were taken and 37 prosecutions were completed.

Tuberculosis Control: No statistical figures are available of tuberculosis control work carried out during 1961, but it was reported that there was an increase in the number of in-patients in the tuberculosis ward of the Lismore Base Hospital.

Broken Hill and District

The population at 30th June, 1961 (enumerated), was 31,267.

There were 784 live births.

Deaths during the year numbered 209.

The number of communicable disease notifications was 168 with three deaths. Infectious hepatitis accounted for 154 of these notifications and one of the deaths.

General work included 37 post mortem examinations; 41 court attendances; 104 State Government medical examinations; and 142 examinations of patients at the Tuberculosis Clinic.

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

During 1961, an all-round expansion in the activities of the institute took place and a qualitative increase in the work also occurred. The variety of investigations offered was steadily broadened and the establishment of an entire new Department, the Exfoliative Cytology Department, will broaden facilities offered at the institute still further. New buildings are nearing completion to accommodate the staff of this new department, and it is hoped they will be completed in June, 1962.

The total number of investigations completed during the year amounted to 76,162 compared with 65,887 in 1960. These investigations comprised histopathology 14,993; haematology 11,597; biochemistry 13,760; bacteriology 34,195; and virology 1,618.

Thirty papers were read during weekly seminars held in 1961; research work continued at the institute on a variety of projects; ten publications were published in medical journals; and three addresses were given by staff members to learned societies.

E. S. A. MYERS,
Director of State Health Services.

VITAL STATISTICS

Population

The estimated population of New South Wales as at 31st December, 1961, was 3,953,636 of whom 1,986,467 were males and 1,967,169 were females. The increase in population by excess of births over deaths was 51,344, in 1960 this figure was 46,953. The increase by migration was 25,031, which was lower than for the previous year (36,231). The total increase for the year 1961 was 76,375. The estimated mean population for 1961 was 3,915,706.

The population of New South Wales enumerated by Census at 30th June, 1961, was 3,917,016 (males 1,972,911, females 1,944,105).

Live Births

The total number of live births in New South Wales was 86,392, equivalent to 22.06 per 1,000 of mean population. The actual number of births was 4,409 above that of the previous year. Of the total births 44,224 were males and 42,168 were females.

Still Births

The number of still births registered in the State during the year 1961 was 1,306, which is 1.49 per cent. of all births live and still and is equal to 0.33 per 1,000 of the population. In the metropolitan area there were 581 still births and in the remainder of the State 725, representing 1.30 per cent. and 1.68 per cent. of all births live and still. Comparing these figures with those of the previous year it is found that there has been no significant change.

Under New South Wales legislation—Registration of Births, Deaths and Marriages Act, 1899-1956, "Stillborn child" means 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.

This definition is, however, not generally accepted by all States, some of which have other definitions. Until some uniformity of assessment is agreed upon the rates in the various States cannot be exactly compared.

The following table shows the position with regard to live and still births in New South Wales for the past three years :—

TABLE I—LIVE BIRTHS AND STILL BIRTHS—NEW SOUTH WALES, 1959-1961

Year	Total Births (Live and Still Combined)	Live Births		Still Births	
		Number	Rate per 1,000 of Mean Population	Number	Rate per 1,000 Total Births (Live and Still Combined)
METROPOLIS					
1959	40,846	40,270	19.29	576	14.10
1960	41,386	40,778	19.11	608	14.69
1961	44,530	43,949	20.14	581	13.05
REMAINDER OF STATE					
1959	41,261	40,596	24.23	665	16.12
1960	41,858	41,205	24.23	653	15.60
1961	43,168	42,443	24.49	725	16.79
NEW SOUTH WALES					
1959	82,107	80,866	21.49	1,241	15.11
1960	83,244	81,983	21.38	1,261	15.15
1961	87,698	86,392	22.06	1,306	14.89

DEATHS

Deaths in New South Wales are classified according to the International Classification of Diseases. The Codes referred to in the following pages are the International Code Number of the Seventh Revision (1955).

Table II gives a comparison of the crude death rates for the various States and Territories of the Commonwealth for 1960 and 1961.

TABLE II—AUSTRALIA—CRUDE DEATH RATES—STATES AND TERRITORIES—1960 AND 1961

State or Territory	Deaths per 1,000 Mean Population	
	1960	1961
New South Wales	9.14	8.95
Victoria	8.59	8.39
Queensland	8.30	8.42
South Australia	8.26	8.06
Western Australia	7.88	7.77
Tasmania	7.70	7.89
Northern Territory	5.34	4.84
Australian Capital Territory	4.03	3.33
Australia	8.61	8.48

The actual number of deaths in New South Wales for the two years was : 1960, 35,030; 1961, 35,048.

The deaths for the year 1961 include 19,652 males and 15,396 females, equivalent to 9.97 and 7.92 respectively per 1,000 of the mean population. The rate for the metropolitan area was 9.50 per 1,000 of the population and for the remainder of the State 8.26.

A dissection of persons who died in the two years by the age groups under five years and 65 years and over, is shown below :—

	1960	1961
Under five years of age	2,142	2,142
Five to sixty-four	11,387	11,223
Sixty-five and over	21,501	21,683
	<u>35,030</u>	<u>35,048</u>

The total deaths for the year 1961 in quinquennial age groups are set out in the following table :—

TABLE III—TOTAL DEATHS IN QUINQUENNIAL AGE GROUPS

Age Group (Years)	Males	Females	Persons
0—4	1,219	923	2,142
5—9	90	71	161
10—14	109	60	169
15—19	195	56	251
20—24	229	75	304
25—29	193	86	279
30—34	248	138	386
35—39	359	214	573
40—44	523	288	811
45—49	809	465	1,274
50—54	1,152	621	1,773
55—59	1,533	714	2,247
60—64	1,929	1,066	2,995
65—69	2,374	1,624	3,998
75—79	2,548	2,494	5,042
80 and over	3,206	4,309	7,515
Not stated	9	2	11
Total deaths	19,652	15,396	35,048

See Table XVIII for Causes of Death—New South Wales, 1961.

Infantile Mortality

The number of children under one year who died in the State was 1,800, which is equal to 20.84 per 1,000 live births. To this total the Metropolitan Area contributed 877 or 19.95 per 1,000 live births and the remainder of the State 923 or 21.75 per 1,000 live births. The rate for the year 1961 was 6.3 per cent. below the average for the previous five years.

The following table shows the infant mortality rates in Australian States for the years 1957 to 1961, and from this table it will be seen the New South Wales rate although lower than the 1960 rate, the figure of 20.84 is higher than all other States except the Northern Territory.

TABLE IV—INFANT MORTALITY—AUSTRALIAN STATES
Rates per 1,000 Live Births

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	A.C.T.	Australia
1957 ..	22.70	20.16	21.68	20.63	21.09	20.15	34.06	8.82	21.41
1958 ..	21.29	19.23	19.40	22.40	21.52	19.49	31.56	18.04	20.49
1959 ..	22.65	21.21	20.25	20.71	20.16	23.42	38.94	11.75	21.54
1960 ..	21.16	18.46	21.01	18.94	21.62	19.09	33.46	17.69	20.16
1961 ..	20.84	17.80	20.01	20.00	19.67	16.81	23.92	15.57	19.54

Arteriosclerotic and Degenerative Heart Disease

It will be seen from the table below that the increase in deaths due to Arteriosclerotic and Degenerative Heart Disease have increased by 148 as compared with the previous year and are also well above the average for the past four years.

TABLE V—DEATHS FROM ARTERIOSCLEROTIC AND DEGENERATIVE HEART DISEASE (CODES 420-422)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	5,575	3,711	9,286	3,064	2,063	2,562
1958	5,720	3,747	9,467	3,075	2,041	2,561
1959	6,416	4,123	10,539	3,389	2,206	2,801
1960	6,453	4,426	10,879	3,344	2,324	2,837
1961	6,626	4,401	11,027	3,361	2,263	2,816

Vascular Lesions Affecting the Central Nervous System

The main diseases coming under this heading are Subarachnoid Haemorrhage, Cerebral Haemorrhage and Cerebral Thrombosis and Cerebral Embolism. The actual increase during the past five years in the number dying from this cause is 23, but the rate has decreased.

Both the actual figures and the rate indicate that the increase in deaths from this cause has been in women rather than in men.

TABLE VI—DEATHS FROM VASCULAR LESIONS AFFECTING THE CENTRAL NERVOUS SYSTEM
(CODES 330-334)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	2,128	2,652	4,780	1,166	1,474	1,319
1958	1,998	2,493	4,491	1,074	1,358	1,215
1959	2,092	2,705	4,797	1,105	1,447	1,275
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

Malignant Neoplasms

As will be seen from the table below there has been a significant increase in the actual number of deaths from neoplasms, but the rate has increased only slightly.

TABLE VII—DEATHS FROM MALIGNANT NEOPLASMS (CODES 140-205)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	2,611	2,234	4,845	1,430	1,242	1,337
1958	2,650	2,221	4,871	1,424	1,210	1,318
1959	2,676	2,296	4,972	1,413	1,228	1,322
1960	2,827	2,264	5,091	1,465	1,189	1,328
1961	2,832	2,425	5,257	1,437	1,247	1,343

Malignant Neoplasms of the Lung

A further dissection of the figures from neoplasms generally reveals that in the case of cancer of the lung there has been a significant increase over the last five years.

This increase is well illustrated by the figures in Table VIII. The total number of deaths from this cause has risen from 561 in 1957 to 720 in 1961. Of this number (1961) 626 were males and 94 females. The rate also shows an increase from 155-184 per million of mean population.

TABLE VIII—DEATHS FROM MALIGNANT NEOPLASMS OF THE LUNG (INCLUDING BRONCHUS, TRACHEA AND PLEURA (CODES 162 AND 163))

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	480	81	561	263	45	155
1958	514	63	577	276	34	156
1959	544	85	629	287	45	167
1960	572	84	656	296	44	171
1961	626	94	720	318	48	184

Neoplasms of the Lymphatic and Haemopoietic Systems

Reference to Table IX giving certain causes of death under the heading Neoplasms of Lymphatic Haemopoietic Tissues which includes among other diseases Lymphosarcoma, Hodgkins disease and leucaemia, shows that there has been a slight decrease in deaths under this heading and that the rate has also fallen slightly.

TABLE IX—DEATHS FROM NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES (CODES 200-205)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	193	150	343	106	83	95
1958	205	169	374	110	92	101
1959	212	168	380	112	90	101
1960	255	171	426	132	90	111
1961	240	182	422	122	94	108

Respiratory Disease

During the year under review there has been a marked decrease in the number of deaths from pneumonia while the rate has also fallen significantly—Table X.

In contrast to the above decrease, deaths from bronchitis have increased considerably as has the rate—Table XI.

There was a further fall in both deaths and the rate from influenza—Table XII.

TABLE X—DEATHS FROM PNEUMONIA (CODES 490-493)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	776	591	1,367	425	329	377
1958	713	479	1,192	383	261	323
1959	894	667	1,561	472	357	415
1960	747	537	1,284	387	282	335
1961	589	481	1,070	299	247	273

TABLE XI—DEATHS FROM BRONCHITIS (CODES 500-502)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	292	77	369	160	43	102
1958	279	86	365	150	47	99
1959	378	116	494	200	62	131
1960	452	107	559	234	56	146
1961	517	91	608	262	47	155

TABLE XII—DEATHS FROM INFLUENZA (CODES 480-483)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	69	47	116	38	26	32
1958	11	7	18	6	4	5
1959	109	88	197	58	47	52
1960	9	39	48	5	20	13
1961	14	17	31	7	9	8

Deaths from Accidents

The total number of deaths from motor vehicle accidents decreased by 90 during 1961 while the rate also decreased. In 1961 there were 908 deaths while in 1955 there were 806 deaths but in both years the rate was the same—232.

There has been a slight increase, of little significance, of deaths from all other accidents.

TABLE XIII—DEATHS FROM MOTOR VEHICLE ACCIDENTS (CODES E810-E835)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	657	172	829	360	96	229
1958	659	181	840	354	99	227
1959	695	207	902	367	111	240
1960	742	256	998	385	134	260
1961	703	205	908	357	105	232

TABLE XIV—DEATHS FROM ALL OTHER ACCIDENTS (CODES E800-E802, E840-E962)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	785	323	1,108	430	180	306
1958	617	300	917	332	163	248
1959	720	342	1,062	380	183	282
1960	704	390	1,094	365	205	285
1961	738	364	1,102	374	187	281

Acute Anterior Poliomyelitis

The year 1961 began with the occurrence of poliomyelitis following the same pattern of low incidence as in previous years until June was reached. After June a steady increase of cases occurred commencing first in Wollongong and environs, spreading to Sydney and then finally to the Country Areas. In all 159 cases and 13 deaths occurred during the year. Table XV shows the pattern of the disease in the State over the last five years.

TABLE XV—ACUTE ANTERIOR POLIOMYELITIS NOTIFICATIONS WITH DEATHS—1957-1961

Year	Confirmed Cases	Deaths
1957 ..	45	2
1958 ..	11	...
1959 ..	16	2
1960 ..	9	2
1961 ..	159	13

Infectious Hepatitis

In conformity with the pattern in most States of the Commonwealth and, for that matter of it, in a number of other countries infectious hepatitis notifications have risen appreciably over the last five years. The Table below compares the figures in the State over the past five years.

TABLE XVI—INFECTIOUS HEPATITIS NOTIFICATIONS WITH DEATHS, 1957-1961

Year	Notifications	Deaths
1957 ..	2,400	27
1958 ..	3,261	17
1959 ..	3,183	29
1960 ..	4,925	20
1961 ..	6,050	34

Diphtheria

There has been an increase in the number of cases of diphtheria notified during 1961, and one death occurred. Eleven cases occurred in the Newcastle Health District in unimmunised children—two neighbouring families providing six of the cases.

TABLE XVII—DIPHTHERIA NOTIFICATIONS WITH DEATHS, 1957-1961

Year	Notifications	Deaths
1957 ..	56	3
1958 ..	28	1
1959 ..	14	3
1960 ..	10	...
1961 ..	19	1

Tuberculosis (All Forms)

It was not until 1957 that pulmonary and non-pulmonary tuberculosis were statistically tabulated as separate diseases. Table XVIIb shows the pattern of both diseases in the State from 1957. Apart from the year 1959, when the fall in notifications of tuberculosis (all forms) was commented on in the Annual Report of that year and it was then stated that the decrease could not be accounted for, the number of cases of pulmonary tuberculosis has remained fairly constant during the period although the mean population has increased by some 300,000 persons. On the other hand the notifications of non-pulmonary tuberculosis have increased in keeping with the rising population. From the Table it will be seen that there is a significant decrease in the number of persons receiving Tuberculosis Allowances over the five years period due to modern chemotherapy. Deaths from tuberculosis (all forms) have significantly decreased also over the period under review.

Table XVIIIa has been inserted to show the disease pattern of tuberculosis (all forms) by sexes with rates per million of the population, 1957-1961.

TABLE XVIIIa—DEATHS FROM TUBERCULOSIS (ALL FORMS) (CODES 001-019)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1957	196	52	248	107	29	68
1958	149	41	190	80	22	51
1959	179	45	224	95	24	60
1960	129	43	172	67	23	49
1961	116	42	158	59	22	40

TABLE XVIIIb—NOTIFICATIONS AND DEATHS FROM TUBERCULOSIS (ALL FORMS) NEW SOUTH WALES, 1957-1961

Year	Mean Population (100,000)	Number of New Cases Notified			Pulmonary per 100,000 of Mean Population	Number Receiving T.B. Allowance	Death from Tuberculosis			Death Rate per 100,000 of Mean Population	
		Pulmonary	Non-Pulmonary	Total			Pulmonary Codes (001-008)	Non-Pulmonary Codes (010-019)	Total All Form Codes (001-019)	Pulmonary	All Forms
1957 ..	3,624	1,492	44	1,536	41	1,119	232	16	248	6	7
1958 ..	3,696	1,347	52	1,399	38	815	181	9	190	5	5
1959 ..	3,762	1,127	39	1,166	31	908	212	12	224	6	6
1960 ..	3,834	1,455	78	1,533	40	756	155	17	172	4	4
1961 ..	3,916	1,365	90	1,455	37	690	148	10	158	4	4

TABLE XVIII—CAUSES OF DEATH, NEW SOUTH WALES, 1961

International Code No.	Cause of Death	Number of Deaths			Rate per Million Mean Population		
		Males	Females	Persons	Males	Females	Persons
001-138	Ineffective and parasitic diseases	223	130	353	113	67	90
001-008	Tuberculosis of respiratory system	109	39	148	55	20	38
010	Tuberculosis of meninges and central nervous system	2	1	3	1	1	1
011-019	Tuberculosis, other forms	5	2	7	3	1	2
020-029	Syphilis and its sequelae	22	12	34	11	6	9
040-041	Typhoid and paratyphoid fever	1	1	2	1	1	1
045-048	Dysentery	3	3	6	2	2	2
050	Scarlet Fever	.....	.....	.....	.....	.....	.....
052	Erysipelas	.....	.....	.....	.....	.....	.....
055	Diphtheria	.....	1	1	.....	1	.....
056	Whooping cough	.....	.....	.....	.....	.....	.....
057	Meningococcal infections	11	9	20	6	5	5
061	Tetanus	11	6	17	6	3	4
080	Acute poliomyelitis	6	6	12	3	3	3
081	Late effects of acute poliomyelitis	1	.....	1	1	.....	.....
082	Acute infectious encephalitis	4	8	12	2	4	3
083	Late effects of acute infectious encephalitis	1	.....	1	1	.....	.....
085	Measles	8	2	10	4	1	3
092	Infectious hepatitis	13	21	34	7	11	9
Residual	Other ineffective and parasitic diseases	26	19	45	13	10	11
140-239	Neoplasms	2,866	2,465	5,331	1,454	1,268	1,361
140-199	Malignant neoplasms	2,592	2,243	4,835	1,315	1,154	1,235
200-205	Neoplasms of lymphatic and haematopoietic tissue	240	182	422	122	94	108
210-239	Other neoplasms	34	40	74	17	21	19
240-289	Allergic, endocrine system, metabolic and nutritional Diseases	301	435	736	153	224	188
260	Diabetes mellitus	183	312	495	93	160	126
280-286	Avitaminoses and nutritional deficiency states	15	9	24	8	5	6
Residual	Other allergic, endocrine system, metabolic and nutritional diseases	103	114	217	52	59	55
290-299	Diseases of the Blood and Blood Forming Organs	52	70	122	26	36	31
300-326	Mental, psychoneurotic and personality disorders	75	43	118	38	22	30
330-398	Diseases of the nervous system and sense organs	2,308	2,857	5,165	1,171	1,469	1,319
	Vascular lesions affecting central nervous system—						
331	Cerebral haemorrhage	881	1,109	1,990	447	570	508
332	Cerebral embolism and thrombosis	900	1,169	2,069	457	601	528
330, 333, 334	Other	319	425	744	162	219	190
340	Meningitis, except meningococcal and tuberculous	26	21	47	13	11	12
343	Encephalitis, myelitis and encephalomyelitis (except acute infectious)	9	4	13	5	2	3
341-342, 344-398	Other disorders of the nervous system and sense organs	173	129	302	88	66	77
400-468	Diseases of the circulatory system	8,375	6,103	14,478	4,249	3,139	3,697
400-416	Rheumatic fever and chronic rheumatic heart disease	144	134	278	73	69	71
420-422	Arteriosclerotic and degenerative heart disease	6,626	4,401	11,027	3,361	2,263	2,816
430-434	Other diseases of the heart	704	613	1,317	357	315	336
440-447	Hypertensive disease	440	524	964	223	269	246
450-456	Diseases of arteries	416	394	810	211	203	207
460-468	Diseases of veins and other diseases of circulatory system	45	37	82	23	19	21
470-527	Diseases of the respiratory system	1,331	703	2,034	675	362	519
480-483	Influenza	14	17	31	7	9	8
490-493	Pneumonia	589	481	1,070	299	247	273
500-502	Bronchitis	517	91	608	262	47	155
470-475, 510-527	Other diseases of the respiratory system	211	114	325	107	59	83
530-587	Diseases of the digestive system	662	469	1,131	336	241	289
540-545	Diseases of stomach and duodenum	210	86	296	107	44	76
550-553	Appendicitis	33	17	50	9	9	13
560-561	Hernia of the abdominal cavity	48	32	80	24	16	20
570	Intestinal obstruction without mention of hernia	52	55	107	26	28	27
571	Gastro-enteritis and colitis except ulcerative, age four weeks and over	48	34	82	24	17	21
572	Chronic enteritis and ulcerative colitis	32	31	63	16	16	16
576-577	Peritonitis and peritoneal adhesions	1	7	8	1	4	2
581	Cirrhosis of liver	113	75	188	57	39	48
Residual	Other diseases of digestive system	125	132	257	63	68	66
590-637	Diseases of genito-urinary system	549	384	933	279	197	238
590-594	Nephritis and nephrosis	224	178	402	114	92	103
610-612	Diseases of the prostate	154	.....	154	78	.....	39
600-609, 613-637	Other diseases of the genito-urinary system	171	206	377	87	106	96
640-689	Deliveries and Complications of Pregnancy, Child-birth and Puerperium	.....	43	43	.....	22	11
640-649	Complications of pregnancy	.....	12	12	.....	6	3
650-652	Abortion—	.....	9	9	.....	5	2
6502, 6512, 6522	Criminal	.....	9	9	.....	5	2
Residual	Other	.....	3	3	.....	2	1
670-678	Complications of delivery	.....	9	9	.....	5	2
680-689	Complications of puerperium	.....	10	10	.....	5	3
690-716	Diseases of the skin and cellular tissue	15	26	41	8	13	10
720-749	Diseases of the bones and organs of movement	48	74	122	24	38	31
750-759	Congenital malformations	253	203	456	128	104	116
760-776	Certain diseases of early infancy	619	441	1,060	314	227	271
760-761	Injury at birth	158	119	277	80	61	71
762	Post-natal asphyxia and atelectasis	75	57	132	38	29	34
776	Immaturity unqualified	239	165	404	121	85	103
763-775	Other diseases of early infancy	147	100	247	75	51	63
780-795	Symptoms, senility and ill-defined conditions	138	211	349	70	109	89
794	Senility without mention of psychosis	102	196	298	52	101	76
780-793, 795	Other symptoms and ill-defined conditions	36	15	51	18	8	13
E800-E999	Accidents, poisonings and violence	1,837	739	2,576	932	380	658
E800-E962	Accidents	1,441	569	2,010	731	293	513
E970-E979, E983	Suicide and self-inflicted injury	360	145	505	183	75	129
E964-E965, E980-E999	Homicide and operations of war	36	25	61	18	13	16
001-E999	All Causes	19,652	15,396	35,048	9,969	7,918	8,951

TABLE XIX—CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1961

International Code No.	Cause of Death	Number of Deaths			Rate per 1,000 Live Births		
		Males	Females	Persons	Males	Females	Persons
001-019	Tuberculosis .. .. .	.....	.....	.....	.....	.....	.....
020-029	Syphilis and its sequelae	1	.....	1	.02	.....	.01
057	Meningococcal infections	5	5	10	.11	.12	.12
080-081	Poliomyelitis .. .. .	.....	.....	.....	.....	.....	.....
082-083	Infectious encephalitis	1	1	2	.02	.02	.02
030-056, 058-074, 084-138.	Other infective and parasitic diseases	7	6	13	.16	.14	.15
340	Meningitis, except meningococcal and tuberculous	13	8	21	.29	.19	.24
490-493	Pneumonia (age 4 weeks and over)	73	65	138	1.65	1.54	1.60
500-502	Bronchitis	7	5	12	.16	.12	.14
571	Gastro-enteritis and colitis, except ulcerative, age 4 weeks and over	24	10	34	.54	.24	.39
750-759	Congenital malformations	189	153	342	4.27	3.63	3.96
7600-7610	Injury at birth, without mention of immaturity	82	47	129	1.86	1.12	1.49
7605-7615	Injury at birth, with immaturity	76	72	148	1.72	1.71	1.71
7620	Post-natal asphyxia and atelectasis, without mention of immaturity	40	28	68	.91	.66	.79
7625	Post-natal asphyxia and atelectasis with immaturity	35	29	64	.79	.69	.74
7630	Pneumonia of newborn, without mention of immaturity	25	16	41	.57	.38	.48
7635	Pneumonia of newborn, with immaturity	13	6	19	.29	.14	.22
7640	Diarrhoea of newborn, without mention of immaturity	3	1	4	.07	.02	.05
7645	Diarrhoea of newborn, with immaturity .. .. .	.....	.....	.....	.....	.....	.....
7650, 7660, 7670, 7680, 7690-7694, 7700-7702, 7710, 7720, 7730.	Other diseases of early infancy, without mention of immaturity	46	31	77	1.04	.74	.89
7655, 7665, 7675, 7685, 7695-7699, 7705-7707, 7715, 7725, 7735.	Other diseases of early infancy with immaturity	56	40	96	1.27	.95	1.11
774	Immaturity with mention of any other subsidiary condition	4	6	10	.09	.14	.12
776	Immaturity unqualified	239	165	404	5.41	3.91	4.68
E800-E999	Accidents, poisonings and violence	36	22	58	.81	.52	.67
Residual	All other causes	61	48	109	1.38	1.14	1.26
011-E999.. ..	All Causes	1,036	764	1,800	23.43	18.12	20.84

SECTION I

A. (a) Division of Epidemiology

ANNUAL REPORT—1961

STAFF

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

One Senior Medical Officer ; three Medical Officers ; one Microbiologist ; one Laboratory Assistant (one in training) ; eight Clinical Attendants ; one Senior Clerk ; three Clerks ; and three Office Staff.

(i) COMMUNICABLE DISEASE

Notifiable Infectious Diseases Recorded in New South Wales during the Years 1959, 1960 and 1961 under Public Health Act, 1902-1952

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

Disease	Notifiable from	Cases and Deaths Notified					
		1959		1960		1961	
		Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	20th December, 1881 ..	..	..	..	..	..	..
Leprosy	26th November, 1890 ..	1	..	2	..	2	..
Typhoid and Paratyphoid fevers	1st January, 1898 ..	2	1	7	..	8	1
Scarlet fever	1st January, 1898 ..	9	..	2	..	1	..
Diphtheria or membranous croup	1st January, 1898 ..	478	..	415	..	285	..
Plague	23rd January, 1900* ..	14	3	10	..	19	1
Acute anterior poliomyelitis	1st February, 1912† ..	16	2	9	2	159	13
Meningococcal infection	11th October, 1915* ..	75	20	62	17	41	20
Virus encephalitis	1st April, 1962* ..	25	12	19	8	32	12
Cholera	12th August, 1927 ..	..	..	..	..	..	..
Typhus Fever	12th August, 1927 ..	2	..	1	..	..	..
Yellow Fever	12th August, 1927 ..	..	..	..	..	..	..
Puerperal infection	16th August, 1929* ..	56	11	67	14	58	12
Brucellosis	13th August, 1937* ..	7	..	8	..	11	..
Tuberculosis (all forms)	14th May, 1945‡ ..	1,166	224	1,533	172	1,455	158
Infantile diarrhoea	11th July, 1952 ..	237	52	298	52	198	38
Rheumatic fever	11th July, 1952 ..	59	1	73	10	58	13
Chorea (rheumatic)	11th July, 1952 ..	3	..	8	3	3	..
Ancylostomiasis	11th July, 1952 ..	37	2	78	2	40	..
Dengue fever	11th July, 1952 ..	2	..	2	..	4	..
Ornithosis	11th July, 1952 ..	2	1	..	..	1	..
Leptospirosis	11th July, 1952 ..	9	..	13	..	7	..
Ascariasis	22nd January, 1954 ..	58	1	81	4	41	..
Infectious hepatitis	22nd January, 1954 ..	3,183	29	4,925	20	6,050	34
Staphylococcal mastitis	19th September, 1958 ..	38	..	10	..	15	..
Staphylococcal pneumonia	19th September, 1958 ..	97	44	64	46	53	41
Staphylococcal diseases in infants under four weeks of age	19th September, 1958 ..	201	11	127	11	78	4
Totals .. .. .	.. .. .	5,775	414	7,812	361	8,621	348
Population as at 31st December .. .. .	.. .. .	3,790,270	..	3,877,261	..	3,953,636	..

* Definition proclaimed 11th July, 1952.

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

‡ Pulmonary Tuberculosis has been notifiable as follows:—

- From 1904, City of Sydney only;
- From 1915, Metropolitan and Hunter River Districts;
- From 1916, Blue Mountains Districts added;
- From March, 1929, notification was extended to cover the whole State. On 14th May, 1945, extra-pulmonary tuberculosis was made notifiable.

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

General

A total of 8,621 cases of infectious disease were notified under the Public Health Act during 1961, or 809 more cases notified than in 1960, but with a greater number of notifications there were 13 fewer deaths. The increased notifications occurred notably in cases of infectious hepatitis (+ 1,125); and acute anterior poliomyelitis (+ 150). The decrease in the number of deaths occurred in tuberculosis (all forms) (- 14); and infantile diarrhoea (- 14); but a significant increase in deaths occurred in acute anterior poliomyelitis (+ 11).

Poliomyelitis

Poliomyelitis again reached epidemic prevalence during the last half of the year, beginning first in the South Coast Health District. The Medical Officer of Health, South Coast Health District and the Medical Officer in charge of the immunization Centre, have analysed aspects of the outbreak in their respective reports. There were 159 cases and 13 deaths.

Infectious Hepatitis

The year was notable for the highest total number of notifications of infectious hepatitis since this disease was made notifiable in 1956. Six thousand and fifty (6,050) cases were reported with 37 deaths, giving a fatality rate of 0.61 per cent. The rise in the total number of cases compared with the experience in 1960 was due to a higher endemic level of reported incidence during the second two quarters of the year. The peak month for the number of notifications received was again November, with 703 notifications compared with 988 in November, 1960.

Tuberculosis (All Forms)

There were 1,455 cases of tuberculosis (all forms) with 158 deaths. Of these notifications of tuberculosis 1,365 were pulmonary and 90 were non-pulmonary compared with 1,455 and 78 respectively in 1960.

TABLE III—SUMMARY OF NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY HEALTH DISTRICTS, NEW SOUTH WALES—1961

	Estimated Population as at 30th June, 1961	Ancylostomiasis		Ascariasis		Brucellosis		Chorea (Rheumatic)		Diphtheria		Infantile Diarrhoea		Virus Encephalitis		Infectious Hepatitis		Leptospirosis		Meningococcal Infection		Paratyphoid Fever		Puerperal Fever	
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Metropolitan Health District	2,001,903	..	..	7	..	7	..	1	..	2	..	66	7	16	8	2,424	14	..	..	11	10	1	1	13	4
Newcastle Health District	313,856	..	..	..	..	..	..	..	..	..	..	32	3	1	1	584	..	..	..	6	2	..	9	4	
South Coast Health District	337,329	..	..	..	..	..	..	..	..	..	..	9	4	2	..	345	5	..	..	4	3	..	6	1	
North Coast Health District	122,537	..	..	..	..	..	..	..	..	..	..	8	..	..	..	105	..	..	..	1	..	..	7	..	
Western Health District	139,366	..	..	..	..	..	..	..	..	..	..	2	2	3	1	212	2	..	..	5	2	..	7	1	
Broken Hill District	31,287	..	..	..	..	..	..	..	..	..	..	..	..	..	..	154	1	..	..	..	..	..	..	..
Residence outside the State	970,758	..	..	..	..	..	..	..	..	..	..	81	22	10	2	2,216	10	..	..	14	3	..	..	16	2
Armed Forces	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..
Total New South Wales	3,917,016	..	..	41	..	11	..	3	..	19	1	198	38	32	12	6,050	34	..	..	41	20	1	1	58	12
		Acute Anterior Poliomyelitis		Rheumatic Fever		Scarlet Fever		Tuberculosis		Typhoid Fever		Typhus Fever		Ornithosis and Psittacosis		Staphylococcal Pneumonia		Staphylococcal Staphylococcal Mastitis		Staphylococcal Disease in Infants under four weeks		Dengue Fever			
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Metropolitan Health District	2,001,903	66	3	22	5	125	..	956	100	7	1	2	..	1	..	25	18	7	..	67	2	..	..	..	..
Newcastle Health District	313,856	5	1	7	2	11	..	66	10	..	..	..	..	..	3	1	1	2	1	1	1	..	..	..	..
South Coast Health District	337,329	32	7	3	1	14	..	129	14	..	..	..	..	..	8	7	1	..	..	2	1	..	..	..	..
North Coast Health District	122,537	..	..	..	..	..	..	37	1	..	..	..	..	..	..	6	4	1	..	..	..	..	..	..	..
Western Health District	139,366	..	..	..	..	17	..	38	6	..	..	..	..	..	..	3	3	..	..	..	..	..	..	..	..
Broken Hill District	31,287	..	..	..	..	..	..	11	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Residence outside the State	970,758	33	2	19	5	111	..	218	25	..	..	..	..	..	..	8	8	4	..	..	..	..	..	..	..
Armed Forces	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total New South Wales	3,917,016	159	13	58	13	285	..	1,455	158	8	1	2	..	1	..	53	41	15	..	78	4	..	..	..	..

(ii) VENEREAL DISEASE

Gonorrhoea

During 1961, there were 3,296 cases of gonorrhoea recorded, an increase of 590 or 22.2 per cent. over the 1960 figure.

Syphilis

There were 569 cases of syphilis recorded during the year, an increase of 54 or 10.5 per cent. over the 1960 figure.

Penicillin Sensitivity of Strains of *N. gonorrhoea*

The lessened sensitivity of many strains of *N. gonorrhoea* to penicillin has become more marked over the last few years and has necessitated several alterations in the routine treatment used in the Divisional Clinic for uncomplicated cases in males.

The failure rate with the routine treatment used in 1960 was 1.8 per cent. but early in 1961, with the same treatment, the failure rate had risen by the beginning of March to 6.3 per cent. From the beginning of May, 1961, routine treatment was changed to a combination of rapid-acting and long-acting penicillin preparations and for the remainder of the year the failure rate was 1.56 per cent.

Period	Number of cases treated	No. of Relapses	Failure Rate
1st May, 1961 to 31st December, 1961	1,213	19	1.56 per cent.

Cultures were made from the urethral discharges of 37 patients who relapsed with the following results :—

	Number
No growth of organisms of Neisseria Group	4
Gonococci sensitive to penicillin	10
Gonococci moderately sensitive to penicillin	21
Gonococci slightly sensitive to penicillin	2
Gonococci resistant to streptomycin	26

Allergy to Penicillin

An increasing number of patients with a history of penicillin allergy are attending the clinic each year. Allergic skin reactions developed in clinic patients with routine penicillin treatment for gonorrhoea and syphilis as follows —

Year	<i>Gonorrhoea</i>		
	No. treated	No. developed allergy	Per cent.
1960	1,441	9	0.6
1961	1,815	13	0.7
Year	<i>Syphilis</i>		
	No. treated	No. developed allergy	Per cent.
1960	186	6	3.2
1961	176	9	5.1

One acute anaphylactic reaction occurred in a clinic patient during the year. The patient was transferred to Sydney Hospital where he recovered, but was left with some residual anoxic brain damage.

Non-gonococcal Urethritis

The incidence of non-gonococcal urethritis seen in the Divisional clinic is shown for 3 years—

	1959	1960	1961
No. of cases	1,298	1,337	1,475

Serological Laboratory

Dr. M. Garner, Serologist in Charge of the laboratory, reports that for the year there was again a substantial increase in work.

The total number of examinations performed for detection of venereal diseases for the year was 104,083. This was an increase of 10,266 over the 1960 figure of 93,817.

The Wassermann, Kahn, VDRL and Meinicke tests each increased by 1,500 approximately for the year and the Reiter Protein Complement Fixation test by 3,067.

There was an increase in tests performed for the Divisional Clinic from 37,740 in 1960 to 54,542 in 1961. Rachel Forster Hospital increased from 3,466 to 4,018 tests and Lidcombe State Hospital from 966 to 1,433. The Mental Hospital figures rose from 10,313 to 11,179 due chiefly to North Ryde Psychiatric Centre increasing by approximately 700 tests.

There was a decrease of 2,767 in examinations performed for private practitioners and of 1,879 for public hospitals; Commonwealth Government Departments, Child Welfare and Prisons Departments decreased by a total of 1,300 examinations.

The Reiter Protein Complement Fixation test was evaluated during the year and was found of most use on specimens from the Divisional Clinic and Rachel Forster Hospital and in those sera giving indefinite or false results using the standard tests. It is now routinely used in all these cases.

Very occasionally specimens are sent to the Venereal Diseases Reference Laboratory, London, for the Treponemal immobilization test. So far positive results with this test have always agreed with positive results obtained with the laboratory's Wassermann technique.

The laboratory also performed 91 hydatid complement fixation tests during the year, compared with 77 in 1960.

Notifications

Three thousand nine hundred and seventy-eight (3,978) notifications of venereal disease were received during the year 1961. A further 69 cases, for which notifications were not received, have been added to the total, making this 4,067 for the year. These 69 cases were—gonorrhoea 21 (male 18, female 3) and syphilis 48 (male 32, female 16) which were either diagnosed in the Divisional clinic or those for whom serological results and other clinical details were sufficient for identification.

Table I shows the age and sex distribution of these cases, while Table II shows the age-sex grouping of syphilis cases by stage of disease.

GONORRHOEA

A total of 3,296 cases were recorded, 590 above the total for the year 1960, representing an increase of 22.2 per cent. The increases in cases of gonorrhoea for the last 3 years are—

Year	No. of cases	Increase over previous year
1959	2,292	12.3 per cent.
1960	2,706	18.1 per cent.
1961	3,296	22.2 per cent.

Of the cases, 85.8 per cent. were from the metropolitan area. The proportion of cases notified by private practitioners fell to 17.6 per cent. compared with 18.7 per cent. in 1960.

The notification rates for gonorrhoea in 1961 were—

Whole State : 84.2 per 100,000 mean population.

Metropolitan Area : 129.7 per 100,000 mean population.

The sex ratio of reported cases was 8.5 males to 1 female.

Of the reported infections in females 43.8 per cent. occurred in the age group 15-19 years, while in males the proportion in the same age group was 21.4 per cent. Fifteen cases (15) were reported in girls and 2 cases in boys under the age of 14 years.

SYPHILIS

Five hundred and sixty-nine (569) cases were recorded, 424 (74.9 per cent.) of which were in an early infectious stage. Although the reported incidence of syphilis has increased each year over the last three years the percentage increase over that of the previous year has fallen :—

Year	No. of Cases	Increase over previous year
1959	379	58.4 per cent.
1960	515	35.9 per cent.
1961	569	10.5 per cent.

Of the cases 76.6 per cent. were from the metropolitan area. The proportion of cases notified by private practitioners was 13.2 per cent., compared with 26 per cent. in 1960.

The notification rates for syphilis in 1961 were :—

Whole State : 14.5 per 100,000 mean population.

Metropolitan area : 19.9 per 100,000 mean population.

The sex ratio of syphilis cases was 2.8 males to 1 female.

The proportion of cases reported in the age-group 15-19 years was 21.4 per cent. for girls and 8.6 per cent. for boys.

OTHER VENEREAL DISEASES

Those reported are shown in Table I.

Public Clinics

The increase in venereal diseases was shown in returns from most of the public hospital clinics.

Attendances at clinics for males totalled 55,824 (52,061 of this total being attendances at the Division of Epidemiology clinic) compared with a total of 50,901 in 1960.

Attendances at clinics for females totalled 3,352, 2,185 of which were at the Special Clinic, Rachel Forster Hospital for Women and Children. The total of female attendances was 352 higher than that in 1960.

Notifications of Default

The total of defaulters reported was 1,692 for the year, compared with 1,413 in 1960. Of these 443 remained in default—a percentage of 26.2 compared with 35.7 per cent. in 1960.

Prosecutions

During the year summonses to appear before a Magistrate were issued against 715 persons for breach of Section 5 of the Act (failure to continue under treatment) compared with a total of 548 in 1960. Six males were arrested and completed treatment after being placed on verbal recognisance.

TABLE NO. 1—RETURN OF CASES OF VENEREAL DISEASE NOTIFIED DURING 1961 BY DISEASE, AGE AND SEX

	0—14		15—19		20—24		25—29		30—39		40—49		50—59		60—69		70 and over		Age not stated		Totals		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Gonorrhoea	2	15	630	152	1050	89	528	34	511	25	163	20	46	8	13	1	3	..	3	3	2949	347	3296
Syphilis	..	4	36	33	101	21	81	14	98	18	65	27	16	20	11	7	4	..	7	6	419	150	569
Soft Chancre	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	2
Gleet	..	..	1	..	..	..	..	..	..	..	3	..	..	..	1	..	..	..	..	..	5	..	5
Veneraeal Warts	..	..	26	..	69	..	42	..	40	..	10	..	5	..	..	..	..	..	..	..	192	..	192
Gon. Ophthalmia	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
Totals	3	21	693	185	1220	110	651	49	650	43	241	47	67	28	25	8	7	..	10	9	3567	500	4067

TABLE NO. 2.—SYPHILIS—AGE-SEX GROUPING BY STAGE OF DISEASE

	0-14		15-19		20-24		25-29		30-39		40-49		50-59		60-69		70 and over		Not stated		Totals		Grand Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
																								Totals
Primary .. .. .	..	..	32	8	85	7	58	2	4	55	4	52	4	11	2	3	..	1	..	..	1	297	28	325
Secondary .. .. .	..	..	1	13	4	5	7	7	9	11	9	3	10	..	5	..	..	..	2	2	..	28	50	78
Latent—1st Year .. .. .	..	1	..	4	2	2	3	..	2	4	2	1	..	..	1	1	..	..	..	..	..	10	11	21
Cardio-Vascular .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	1	1	..	3	3	6
C.N.S. .. .. .	..	..	..	..	..	..	..	..	1	..	1	2	..	1	3	1	2	2	2	1	2	8	7	15
All Other Late and Latent .. .. .	..	..	..	8	4	7	10	5	2	14	2	6	13	2	8	6	3	1	2	2	2	45	48	93
Treated .. .. .	..	..	3	..	6	..	3	..	..	14	..	1	..	1	..	..	..	..	..	..	..	28	..	28
Congenital—Under 1 year of age	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
Totals	4	36	33	33	101	21	81	14	18	98	18	65	27	16	20	11	7	4	7	6	419	150	569	

A. (b) Poliomyelitis Vaccination Campaign, New South Wales

ANNUAL REPORT, 1961

Director : Dr. E. S. A. Meyers, M.B., B.S., D.P.H.

Senior Medical Officer : Dr. R. W. D. Maxwell, O.B.E., M.B., Ch.B., D.P.H., D.T.M. & H.

Staff : two Clerks ; one Shorthand Typist ; one Office Assistant.

The Poliomyelitis Vaccination Campaign has been carried on under considerable difficulties during 1961 owing to the unfortunate circumstance of an exceptional period of serious shortage of vaccine coinciding with a year of unusual prevalence of the disease.

Vaccine Supplies

The last supply of poliomyelitis vaccine in 1960 was received in late December of that year when, owing to difficulties which arose at the Commonwealth Serum Laboratories in Melbourne in the matter of safety clearance tests of certain batches of vaccine, further supplies were suspended over a period of several months. By mid-March of 1961, all stocks of vaccine in New South Wales were exhausted, and no further supplies then became available until mid-July when a small supply of an imported Canadian vaccine was received. This was then followed by the resumption of limited supplies of Commonwealth Serum Laboratories vaccine at the end of August but, until late in December, such quantities as were received were quite inadequate to meet an exceptionally heavy demand for vaccine brought about by the particularly large numbers of persons seeking poliomyelitis vaccination by reason of the interruption of vaccination programmes during the year and the prevalence of poliomyelitis.

Quadruple Antigen, for simultaneous immunisation against poliomyelitis, whooping cough, diphtheria and tetanus of infants and children up to two years of age, was first introduced in New South Wales towards the end of February, 1961. Soon afterwards, however, production of this Antigen at the Commonwealth Serum Laboratories was suspended until the normal production and supply of poliomyelitis vaccine could be resumed. The last supply of Quadruple Antigen was received towards the end of August, all stocks in New South Wales became exhausted by mid-November, and no further supplies were available over the rest of the year.

From mid-March to mid-July, when no poliomyelitis vaccine was available, the Poliomyelitis Vaccination Campaign became restricted entirely to the immunisation of infants and children up to two years of age with Quadruple Antigen.

Poliomyelitis Vaccination

From the beginning of 1961 to 16th March (when all stock of poliomyelitis vaccine became exhausted), 12,377 injections of poliomyelitis vaccine were given, bringing the total number of injections given up to this date from the commencement of the Poliomyelitis Vaccination Campaign in July, 1956, to 4,599,686. From 23rd February, when Quadruple Antigen was first used, to 30th June, 6,604 injections of Quadruple Antigen were given.

As from 30th June, returns of vaccinations carried out were no longer required to be submitted to the Department by local authorities and private medical practitioners, and Departmental records of the number of injections given throughout the State were discontinued. Over the second half of 1961, however, 259,145 doses of poliomyelitis vaccine and 20,713 doses of Quadruple Antigen were issued to local authorities and private medical practitioners and used at the Departmental clinic.

As from 10th July, 1961, the Office of the Poliomyelitis Vaccination Campaign, and the Departmental poliomyelitis vaccination clinic, were moved from 161 Macquarie Street, Sydney, to premises at 697 George Street, Sydney, to become known as the Immunisation Centre.

Incidence of Poliomyelitis

The year 1961 began with the occurrence of cases of poliomyelitis following the same pattern of low incidence as in previous years subsequent to the commencement of the Poliomyelitis Vaccination Campaign. Only two cases of the disease occurred over the first four months of the year. From May onwards, however, the number of cases began to show a significant rise which continued steeply to the end of the year when the total number of cases notified as suspected poliomyelitis reached 182. Of these 182 notifications, 23 were subsequently cancelled or rejected as being not poliomyelitis, leaving the total number of confirmed cases notified during the year at 159. Among these 159 cases,

13 deaths occurred. The following comparative table shows the number of cases of poliomyelitis, and the number of deaths, in each of the five years following immediately after the commencement of the Poliomyelitis Vaccination Campaign :—

Year	Total Notifications	Finally Confirmed Cases	Deaths
1957	58	45	2
1958	23	11	0
1959	28	16	2
1960	16	9	2
1961	182	159	13

The following table and the graph appended at the end of this report show the distribution of the 159 confirmed cases of poliomyelitis notified during 1961 in accordance with the months of actual onset of the disease :—

	Wollongong Area and South Coast	Sydney	Elsewhere in New South Wales	Total
October 1960 .. ..	..	..	1	1
January 1961 .. ..	..	..	1	1
February .. ..	..	..	..	..
March .. ..	..	..	..	..
April .. ..	..	..	1	1
May	2	..	1	3
June	3	..	1	4
July	6	4	1	11
August	8	4	4	16
September	15	5	1	21
October	11	9	4	24
November	3	33	21	57
December	2	14	4	20
	50	69	40	159

It will be noted that one case notified in 1961 had actually occurred in the previous year. Similarly, the figures shown above do not include further cases occurring towards the end of 1961 but not notified until after the close of the year.

The first indication during the year of the development of any abnormal situation appeared with the occurrence, from May onwards, of cases in steadily increasing numbers in the Wollongong area and nearby localities on the South Coast. This rise in the number of cases in this area continued steeply, to reach a sharp peak of 15 cases in September followed by an equally rapid decline to the end of the year when this brisk local outbreak, of moderate proportions, was over, a total of 50 cases having occurred. Cases were distributed as follows :—

Wollongong and Environs	37
Shellharbour	8
Port Kembla	3
Kiama	1
Nowra	1

After a lag of some two months following the commencement of the outbreak in the Wollongong and South Coast Area, cases of poliomyelitis began, in July, to occur in the Sydney Metropolitan Area, no cases having occurred in this area over the first half of the year. There was at first only a small but steady rise over succeeding months, but in November there was an almost explosive spread throughout the whole Metropolitan Area and by the end of the year 69 confirmed cases had been reported. The wide scatter of cases is shown as follows :—

Ashfield	1	Hammondville	1	Riverwood	2
Belfield	1	Homebush	1	Rooty Hill	1
Blacktown	2	Hoxton Park	1	Rozelle	2
Bondi	2	Jannali	1	Rydalmere	1
Bradfield Park	6	La Perouse	1	Ryde	1
Cabramatta	1	Leichhardt	1	Seven Hills	5
Campsie	2	Marrickville	1	Smithfield	1
Darlinghurst	1	Mascot	1	Stanmore	1
Darling Point	1	Merrylands	2	St. Ives	1
Dural	1	Mt. Pritchard	2	St. Peters	1
Earlwood	1	Naremburn	1	Sydney City	1
East Hills	1	Peakhurst	2	Turrumurra	1
Fairfield	1	Petersham	1	Villawood	1
Forest Lodge	1	Potts Point	1	West Ryde	2
Granville	2	Punchbowl	1	Willoughby	1
Green Valley	1	Redfern	2		
Harris Park	1	Revesby	1		

Elsewhere in New South Wales, other than the Sydney and Wollongong Areas, the incidence of poliomyelitis remained low over the first ten months of the year, only 14 cases being notified up to the end of October (excluding the one 1960 case). There was then a sharp rise, with 21 cases in November, and by the end of the year the total of confirmed cases notified had reached 40. Cases were widely scattered through the State with only a few instances of local aggregations of a few cases, as follows :—

Albury	1	Cessnock	1	Mudgee	1
Armidale	2	Comobella	1	Newcastle	3
Bateau Bay (via Gosford)	1	Condobolin	1	Peak Hill	2
Bombala	1	Coonamble	5	Singleton	1
Bourke	7	Frederickton	1	The Entrance	1
Breeza	1	Gloucester	1	Toukley (via Gosford)	1
Brewarrina	1	Grenfell	1	Warren	1
Burnt Bridge Aboriginal Station (near Kempsey)	1	Jerrawa	1	Wellington	1
Campbelltown	1	Kempsey	1		

The distribution of cases and deaths in accordance with *age groups* and *sex* was as follows :—

Age Group	Cases			Deaths		
	Male	Female	Total	Male	Female	Total
Under 1 year	5	3	8	..	..	..
1 to 4 years	41	28	69	1	1	2
5 to 9 years	19	15	34	1	2	3
10 to 14 years	5	5	10	..	..	..
15 to 19 years	1	4	5	..	1	1
20 to 24 years	4	4	8	1	1	2
25 to 29 years	10	6	16	2	1	3
30 to 34 years	4	2	6	1	..	1
35 to 39 years	2	..	2	1	..	1
40 to 44 years	1	..	1	..	..	..
	92	67	159	7	6	13

The following table gives a classification of cases in accordance with *age groups* and *types and severity* of the disease :—

Age Group (Years)	Non-Paralytic	Spinal Paralytic			Bulbar			Bulbo-Spinal			TOTAL
		Mild	Moderate	Severe	Mild	Moderate	Severe	Mild	Moderate	Severe	
Under 1 .. .. .	..	2	2	4	..	..	..	..	..	..	8
1-4	4	26	23	8	..	..	..	3	1	4 (2)	69 (2)
5-9	3	6	14	8 (2)	..	..	1 (1)	..	1	1	34 (3)
10-14	3	4	1	1	..	1	..	..	..	..	10
15-19	1	..	2	..	..	..	..	..	..	..	5 (1)
20-24 .. .. .	..	1	3	2	..	..	..	..	1	1 (1)	8 (2)
25-29 .. .. .	..	1	3	7	..	1	..	..	..	4 (3)	16 (3)
30-34 .. .. .	..	2	..	1	..	1	..	..	1	1 (1)	6 (1)
35-39 .. .. .	..	..	1	..	..	..	..	..	..	1 (1)	2 (1)
40-44 .. .. .	..	1	..	..	..	..	..	..	..	..	1
	11	43	49	31 (2)	..	3	1 (1)	3	4	14 (10)	159 (13)

(Figures in brackets indicate deaths).

It will be seen that, of the 159 cases, 121, or 76.1 per cent., occurred in the age group under 15 years of age. Of these 121 cases, five or 4.1 per cent. died, while the great majority were either non-paralytic cases, or showed only mild to moderate degrees of paralysis. On the other hand, although only 38 of the 159 cases, or 23.9 per cent. occurred in the age group of 15 years and over, this group included most of the severe bulbo-spinal cases, and 8 of the 38 cases in this group, or 21.1 per cent. died. Thus, the most susceptible age group has been that of the younger child, while the age group in which the disease has shown the greatest severity of attack has been that of the young adult, particularly between the ages of 20 and 30 years.

Types of Poliovirus

The results of virological examinations were as follows :—

Type 1 poliovirus isolated	.. .. .	108
Type 3 poliovirus isolated	.. .. .	8
No virus isolated from specimens examined	.. .. .	29
Specimens not sent for examination	.. .. .	13
Coxsackie B.4 virus isolated	.. .. .	1

In no case was Type 2 poliovirus found. In one case of quite severe poliomyelitis-like paralytic illness in a child aged eight years, Coxsackie virus Group B. Type 4 was the only virus isolated.

Of the 13 fatal cases which occurred, Type 1 poliovirus was found in nine cases, and Type 3 poliovirus in one case. In two cases no poliovirus was isolated, and in one case no specimens were examined.

Of six cases of poliomyelitis which occurred in persons said to have been fully immunised with three injections of poliomyelitis vaccine, Type 1 poliovirus was found in three cases, Type 3 poliovirus in two cases, and in one case no specimens were examined.

The virological findings in fatal cases, and in cases occurring in fully vaccinated persons, merely reflect, of course, the preponderance of Type 1 poliovirus found in the total of cases which occurred.

Incidence of Poliomyelitis in Relation to previous Poliomyelitis Vaccination

As at March, 1961, the vaccination status of the general population of New South Wales was estimated to be as follows :—





Age group (Years)	Estimated Population	Fully Vaccinated (3 injections)		Fully or partially vaccinated (1, 2 or 3 injections)	
		Number	Per cent.	Number	Per cent.
0-4	397,875	200,339	50.4	268,541	67.5
5-9	366,725	311,811	85.0	327,284	89.2
10-14	354,225	314,589	88.8	328,165	92.6
15-19	292,950	205,104	70.0	220,705	75.3
Others (assumed to be 20-40)	1,093,600	392,493	35.9	466,397	42.6
Total	2,505,375	1,424,336	56.9	1,611,092	64.3

The vaccination status of the 159 persons confirmed as cases of poliomyelitis during 1961 was as follows :—

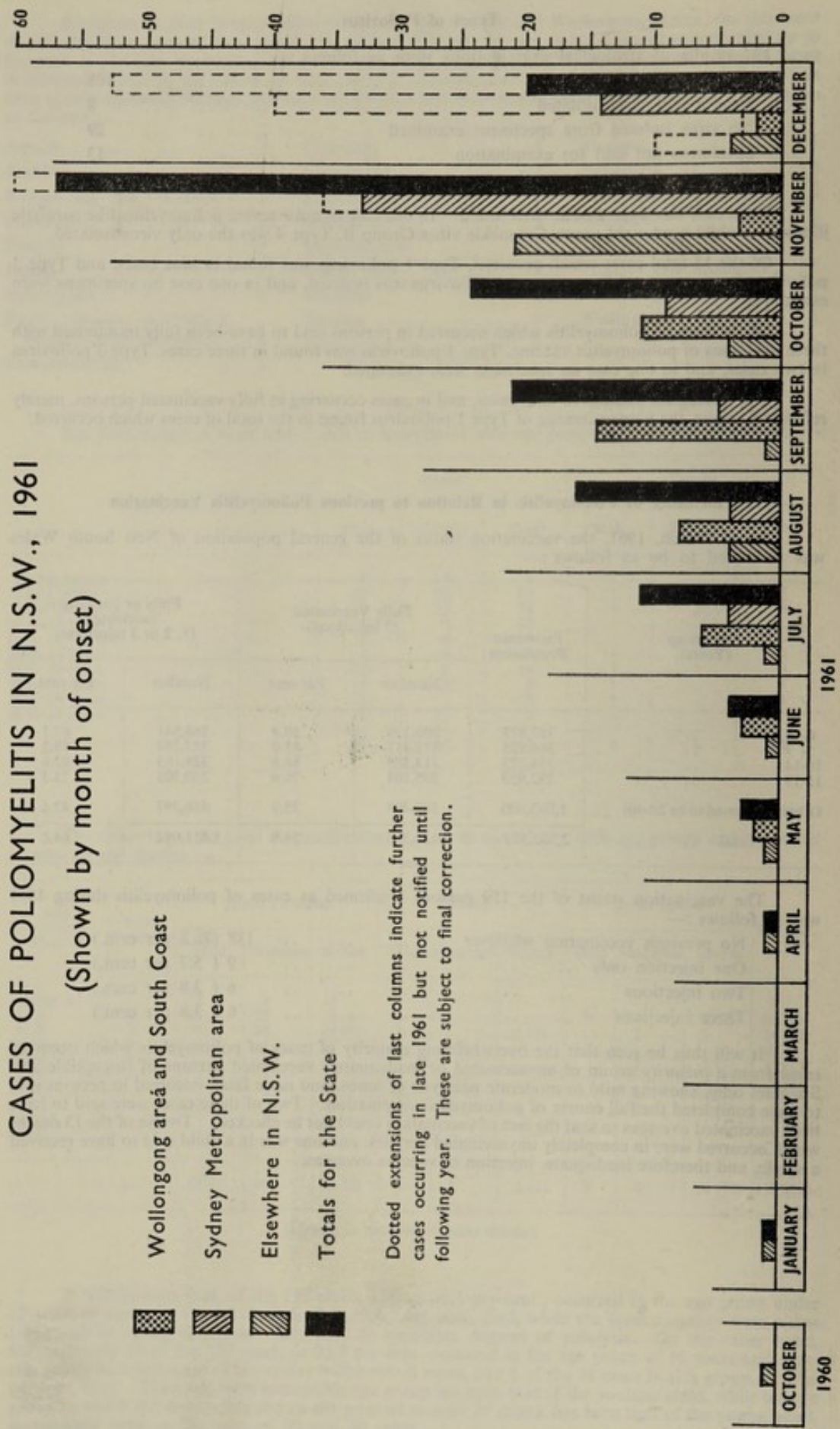
No previous vaccination whatever	.. .. .	138 (86.8 per cent.)
One injection only	.. .. .	9 (5.7 per cent.)
Two injections	.. .. .	6 (3.8 per cent.)
Three injections	.. .. .	6 (3.8 per cent.)

It will thus be seen that the overwhelming majority of cases of poliomyelitis which occurred came from a *minority* group of unvaccinated or inadequately vaccinated persons of susceptible age. Six cases only, showing mild to moderate paralysis of limbs, and none fatal, occurred in persons said to have completed the full course of poliomyelitis vaccination. Two of these cases were said to have been vaccinated overseas so that the fact of vaccination could not be checked. Twelve of the 13 deaths which occurred were in completely unvaccinated persons, and one was in a child said to have received a single, and therefore inadequate, injection of vaccine overseas.

CASES OF POLIOMYELITIS IN N.S.W., 1961 (Shown by month of onset)

-  Wollongong area and South Coast
-  Sydney Metropolitan area
-  Elsewhere in N.S.W.
-  Totals for the State

Dotted extensions of last columns indicate further cases occurring in late 1961 but not notified until following year. These are subject to final correction.



B. Public Health Administration

GOVERNMENT ANALYST'S BRANCH—ANNUAL REPORT, 1961

Government Analyst : Mr. E. S. Ogg, B.Sc. (Hons.), A.R.A.C.I.

Deputy Government Analyst : Mr. W. F. Fisher, A.S.T.C., A.R.A.C.I.

The staff consisted of 16 analysts, 1 Laboratory Assistant, 8 Laboratory Assistants-in-training, 6 Laboratory Attendants, 1 Laboratory Cleaner, 4 Office Assistants.

General

The number of samples examined during the year totalled 28,833 as against 29,131 for the year 1960, the comparative figures being tabulated below.

Authority	Samples Examined	
	1960	1961
Pure Food Act		
Milk	10,070	10,494
Meats	8,768	6,230
Smallgoods	267	269
Other foods	1,345	1,268
Drugs	36	19
	20,486	18,280
Public Services of the State—		
Subsidised institutions	400	473
Government Stores Department	703	262
Police Authorities	466	361
Coroners enquiries	1,610	2,025
State Municipal and Departmental Authorities—		
Waters	643	570
Sewages	287	263
Division of Occupational Health	270	341
Department of Prisons	56	51
Department of Labour and Industry	4	18
Miscellaneous authorities	303	253
	4,742	4,617
Bacteriological examinations—		
Food	471	231
Water—		
Routine	1,240	2,629
Pollution research	158	300
Miscellaneous	2,034	2,776
	3,903	5,936
	29,131	28,833

The following is a brief resume of the activities of the various sections of the Branch :—

MILK PRODUCTS

The total number of milks examined was approximately the same as in the previous year. The improvement shown in the percentage of adulterations was continued to some extent ; whereas the percentage of samples showing added water in the samples taken is approximately the same as the previous year, the percentage of samples deficient in fat showed a further 37 per cent. drop on the 1960 figures.

Particulars of samples taken and adulterations are as follows, the 1960 figures being shown for comparison :—

District of collection	Number of milk samples collected	Deficient in milk fat		Containing added water		Deficient in milk fat and containing added water		Total adulterations	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Number and proportion of Adulterations found									
Metropolitan area—		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
1961	3,359	10	0.30	39	1.16	2	0.06	51	1.52
1960	4,133	29	0.70	42	1.01	11	0.27	82	1.98
Country Districts—									
1961	1,340	46	3.43	22	1.64	12	0.90	80	5.97
1960	1,230	55	4.47	21	1.71	11	0.89	87	7.07
Milk Board—									
1961	5,650	29	0.51	52	0.92	11	0.19	92	1.63
1960	4,707	45	0.95	46	0.98	7	0.15	98	2.08
Total—									
1961	10,494	85	0.81	113	1.07	25	0.24	223	2.12
1960	10,070	129	1.28	109	1.09	29	0.29	267	2.66

Analyses of 125 samples of ewe's milk were carried out in connection with a research project by the C.S.I.R.O. The ewes were classified into groups, early (E) Medium (M) and late (L) in lactation. Fat figures were carried out on all samples, solids not fat only on the late samples. Results are summarised as follows :—

	Extremes	Fat per cent. Normal range	S.N.F. percentage	
			Extremes	Normal range
E	2.2 — 8.2	4.5 — 7.5	....	....
M	4.0 — 10.7	4.5 — 7.5	....	....
L	5.4 — 13.6	6.0 — 8.5	8.7 — 10.5	9.0 — 10.0

As a result of information received from a milk factory of repeated abnormal freezing points in milk from individual cows in a dairy herd, a complete survey of the milks from the individual cows in the mixed herd (68 cows) was carried out. The results are as follows :—

	Freezing Point Determinations	
	a.m.	p.m.
> -0.530°C	4	6
-0.530°C — -0.534°C	5	28
< -0.534°C	56	30

The a.m. readings varied from -0.525°C . to -0.562°C and the bulked a.m. milk had a freezing point of -0.542°C .

The p.m. readings varied from -0.523°C to -0.550°C and the bulked p.m. milk had a freezing point of -0.535°C .

It was clear from these figures that the survey carried out by the milk factory was not properly supervised and that water had been added surreptitiously to some of the milk samples.

Of 356 samples of cream examined, all conformed to the Pure Food Regulations standard.

Two out of 30 samples of butter contained added water and one contained fat foreign to butter.

Ten out of 24 cheese samples were either deficient in fat or contained excess water.

MEAT PRODUCTS

Whilst a smaller number of meat samples were analysed during the year, the number of adulterated samples remained about the same. The falling off in the number of samples submitted was largely brought about by the decentralisation programme and the transfer of food inspectors to the various districts. Very few samples were received from the districts during the year. 11.6 per cent. of mince meats were preservatives as against 8.5 per cent. in 1960, whilst the number of sausages showing excess fat rose from 106 to 129 (12.0 per cent. of samples submitted). Weekly samples of meat supplied under Government contract were examined (152 in all) and of these 13 contained excessive fat as against 2 in 1960.

Of the smallgoods examined, 38 contained excessive starch as against 60 in 1960.

OTHER FOODS

For the first time for many years it was possible to provide this section with something approaching adequate staff. Even though this staff is more or less untrained in the work of this section, the benefits will be felt in later years. Increased use has been made of chromatographic procedures (dyestuffs, sugars, etc.) and of the recording U.V. spectrophotometer (benzoic acid and its derivatives, caffeine and coffee products, etc.).

IMPORTED FOODS

The total number of samples examined was 703. A number of these were imported foodstuffs and it is clear that more attention will need to be paid to these products. Imitation Caviar was found to contain the preservative methyl *p*-hydroxybenzoate and genuine Russian Caviar contained boric acid. Nine samples of canned fish contained benzoic acid, *p*-hydroxybenzoic acid and hexamethylene tetramine as preservative, as well as artificial colour. Imported jams contained added colour, pickles contained potash alum and interstate tomato sauces contained preservative and artificial colour. Oranges and mandarines from Queensland were coated with wax containing an oil-soluble orange dyestuff. This is allowed in Queensland but not in N.S.W.

INSTANT COFFEE

A survey was carried out on instant coffees on sale in N.S.W. Ratios of ash, caffeine and extractable matter for genuine coffees keep within well defined limits. This is not so with instant or soluble coffees. They are not, as commonly supposed, the water soluble compounds of the ground coffee bean. In fact, the bean is treated in a variety of ways, the object being to convert as much as possible of the insoluble constituents of the bean into a soluble form. The finished product could better be described as "Solubilised Coffee". These treatments play havoc with the established analytical figures for the soluble constituents of coffee as shown below, and opens the way for wholesale adulteration.

Brand	Ash per cent.	Caffeine per cent.	Ratio Ash-Caffeine
A		3.7	
B	20.8	4.3	4.85
C	8.6	4.8	1.8
D	13.8	3.4	4.05
E	11.6	3.1	3.75
F	14.0	4.0	3.5
G	14.4	3.8	3.8
H	10.2	4.0	2.55
I	12.6	3.7	3.4
J	10.5	4.9	2.15
K	9.2	3.5	2.63
L	11.0	3.6	3.05
Genuine coffee extracts.	*14.5—20.0	4.85—7.75	2.57—3.04

*Edwards & Nanji, The Analyst, 1937, p. 841.

TOMATO PRODUCTS

Very high mould counts were obtained on a number of imported purees and pastes. Investigations of local products showed a similar state of affairs. Of 53 samples examined, 45 showed excessive mould counts, indicating the use of a large proportion of rotten tomatoes. This situation was no doubt brought about by the lack of supervision over the past few years due to lack of staff.

FOREIGN MATTER

As in previous years a large number of complaints were received from the general public with regard to foreign matter in food. Substances found include rodent excreta. In bread, however, very often what appears to be excreta turns out to be a mixture of grease and flour. A large portion of a mouse found in bread did not leave any room for doubt, however. Ice blocks were found to be contaminated with calcium chloride, which had leaked from the cooling brine. A home made jam had an intensely bitter taste. This was no doubt due to the use of "paddy melons" instead of jam melons. Fragments of fish tape worm were found in sardines. Up to 0.2 per cent. sand was found in local raisins and sultanas.

LOW CALORIE FOODS

A number of complete foodstuffs based on skim milk and sold as low calorie diets (900 calories per day) were found to contain saccharin and their sale in this form was prohibited.

JAMS AND FRUIT SPREADS

A number of low cost jams containing artificial colour, with apple the main constituent mixed with strawberry or raspberry appeared on the N.S.W. market. The use of colour in mixed jams was purposely precluded in the regulations to prevent these cheap products resembling genuine strawberry and raspberry jams.

Another type of cheap product capable of being used as a substitute for jam has appeared in the form of fruit spreads. These are essentially preparations of pregelatinised starch, artificial flavour and colour. As these products are very poor substitutes for jam, the regulation prohibiting the use of colour should be enforced.

A sample of canned lingonberries was found to contain benzoic acid. Lingonberries have been reported as containing up to 20 grains per pound of benzoic acids. A decision as to whether benzoic acid had been added to this product could not therefore be made.

SEMI-CONSERVE FISH PRODUCTS

A number of semi-conserved fish products in sealed cans and plastic containers were examined as regards suitability for human consumption. These represent a potential health hazard, as the public are liable to regard these products as sterile, particularly those in cans. It is considered that the articles should be conspicuously labelled "Keep under Refrigeration below 40° F" as in the proposed regulation for Canned Hams.

PAPRIKA AS COLOURING MATTER

A product "Spicetone" sold as a seasoning for sausages, has been used to colour mince meat. It was found to be an extract of the mild red pepper Paprika (*capsicum annum*) which has spice like properties that are mild in comparison with its colouring properties.

WASHING OF BEER GLASSES

As a result of a suggestion that washing of beer glasses after each use resulted in the customer receiving warm beer, tests were carried out first in the laboratory and then in a hotel bar. These experiments showed that there was no substance in the complaints, the ambient temperature of the bar and the period of time the glass was held in the hand having the greatest effect on the temperature of the glass contents.

ALCOHOLIC LIQUORS

Of 52 samples of spirits, 40 were either adulterated or falsely described. Fifty-three beer samples conformed with the standard of 7.3 per cent. proof spirit.

DRUGS

Drugs are examined for the Government Stores Department, the Food Inspection Branch, the C.I.B., the Commonwealth Department of Customs and Excise, the Pharmacy Board and various hospitals.

Of 132 samples submitted by the Government Stores Department, 13 fell below specifications. Of 42 samples from the Food Inspection Branch and various hospitals, only one, a vitamin A tablet, could be regarded as unsatisfactory. One or two others were on the border line. This is an improvement on recent years.

Fifty exhibits were received for identification from the C.I.B., eight from the Department of Customs and Excise and three from the Pharmacy Board. In addition, several drugs, cigarettes, etc., were examined for the C.I.B. in connection with investigations such as the movement of marihuana and other addiction drugs in N.S.W.

The ever growing array of synthetic drugs on the market has considerably widened the work of the Analyst. This is offset to some extent by the increased use of tablets and preparations containing the actual synthetic chemical in place of the older plant extracts. These modern products lend themselves to a more direct assay procedure involving U.V. spectrophotometry, so that satisfactory assays of a wide variety of drugs can be carried out by simple standardised methods.

A start was made during the year towards systematising the identification of organic substances by means of the I.R. spectrophotometry. This will be a task of some duration, but it will be of great use to the Branch, not only in the field of drugs, but in practically all other fields.

Analysis has made progress of late years and the introduction of new techniques and instrumentation has helped considerably in this direction. Three major problems of analysis are (1) separation of the substance of interest from interfering substances (in this the various techniques of chromatography—paper, column and gas—have proved of great assistance). (2) The identification. Here, the I.R. takes its part and (3) The estimation, in which the U.V. proves its value.

TRACE METALS

A total of 873 determinations for trace metals were carried out as against 721 in 1960. These were distributed as follows, the figures for 1960 being included in brackets :—

Lead	660 (474)
Arsenic	137 (163)
Mercury	34 (34)
Other metals	41 (49)
(Ti, Zn, Cr, V, Mn, F)	

There has been a marked increase in E.D.T.A. therapy and where no indication is given of its use, more lead is present in the sample taken than can be handled by the method. This results in a duplication of the work on that sample.

BIOLOGICAL SECTION

A satisfactory method for barbiturate determination in stomach washes and biological fluids was developed during the year on specimens as small as 2 ml. Work is proceeding on satisfactory identification of the individual barbiturates when present in these small quantities.

BLOOD ALCOHOLS

A total of 642 blood alcohol determinations were carried out as against 516 in the previous year. A breakdown of results are as follows :—

mg./100 ml.	Coroner	C.I.B.	Other Sources
Negative	192	....	4
0—50	71	....	....
51—100	54	....	7
101—150	58	3	9
151—200	59	7	20
201—250	55	7	23
251—300	19	2	8
301—350	19	....	3
351—400	14	....	....
More than 400	8	....	....
	549	19	74

The method used is that of Kozelka and Hine and it has proved very satisfactory.

CORONIAL ENQUIRIES

The increased work in this section shows no sign of abating. 409 cases involving 2,025 exhibits were investigated during 1961. This represents an increase of 32 per cent. over 1960 and an increase of 52 per cent. over 1959. It has placed a great strain on the resources of the Branch, both as regards staff and space and several periods of overtime have had to be worked.

Details of the results of these investigations are included in Appendix I. Barbiturates are again predominant, accounting for 140 of the cases. Brominated ureides have more than doubled. In many cases, they have been found in conjunction with barbiturates, whilst again in many cases, barbiturates, ureides and alcohol are found together.

Parathion was responsible for only two deaths during the year. Another organic phosphorus compound, Lebaycid, was responsible for 1 death. In 1960, 5 deaths were due to organic phosphates.

Thallium was again conspicuous by its absence.

Carbon monoxide accounted for 50 deaths, an increase of 50 per cent. over the previous year.

Seven determinations of blood chlorides were carried out in connection with deaths from drowning.

CRIMINAL INVESTIGATION

There has been a falling off in the number of investigations carried out for the Police Department as compared with 1960, but the number is still in excess of that for 1959.

This falling off in numbers is largely accounted for by the fall in specimens of blood and urine submitted in connection with charges of driving under the influence (29 as against 101 in 1960).

A table showing the nature of exhibits and the attendant charges is shown in Appendix II.

Lectures were given regularly to officers of the C.I.B. in connection with criminal investigation work.

GOVERNMENT STORES

The large falling off in the number of samples analysed for the Government Stores Department is brought about to some extent by the policy of the Government Stores Department to call for fresh tenders with regard to a number of products only every second year.

WATERS, SEWAGES, ETC. (CHEMICAL)

Whereas the number of routine water and sewage examinations fell away this year, the number of special investigations increased.

The number of fluoride determinations increased from 17 to 31 and the number will continue to increase. Fluoridation of Goulburn Water supply commenced 1961, and it is expected that the Orange supply will be fluoridated early in 1962. Several other country centres are considering the question of fluoridation.

Twelve inspections of country water supplies were made in connection with fluoridation problems and a further 16 inspections were made at various country centres in connection with water and sewerage installations and proposed sites.

Samples were analysed and expert evidence tendered on behalf of the Water Conservation and Irrigation Commission in successful court proceedings against Orange City Council re sewage pollution of Blackman's Swamp and Frederick's Valley Creek.

Throughout the year the Government Analyst has taken an active part in the work of the Standing Committee for the Control of Pollution of Waters in N.S.W., and of its Technical Subcommittee.

WATERS, SEWAGES (BACTERIOLOGICAL)

Over 100 per cent. increase in work took place in this section, due in part to pollution surveys of surface waters and of closed-circuit swimming pools and in part to the issue of a printed booklet emphasising the necessity for regular sampling, etc.

A number of notes on various aspects of the bacteriological and chemical analysis of water and related subjects were distributed.

The *Membrane Filter* technique was used in the routine examination of all swimming pool samples and town water supplies regularly received. The method has several advantages, but is unduly long with many turbid surface waters. One instance of salmonella saint paul was isolated from a raw water used for a town water supply.

RESEARCH PROJECTS

The first biological survey of a polluted stream was completed. Identification of the microfauna proved difficult but in general the classification of types fell into fairly well-defined zones as follows :—

Highly polluted water—few forms of life, tubifex worms, red chironomid larvae and rat tailed maggots.

The recovery zone—appearance of snails, white chironimids and larvae of mayflies, etc.

Clean water—a wide variety of life, especially the larvae of mayfly, dragonfly and stonefly.

STORAGE EFFECT ON BACTERIA AT REFRIGERATOR TEMPERATURE (6° C.)

Three hundred samples were stored at 6° C. and examined by membrane filter technique after 1, 6 and 24 hours for *E. coli*, enterococci and salmonella. The majority of samples did not undergo a significant change in the numbers of *E. coli*.

A survey is being carried out on enterococci isolated from the excreta of wild and domestic animals, sewage and waters. Using 11 tests, over 3,800 enterococci have been isolated and typed to determine if specific excretal pollution can be detected. The results of this survey will shortly be evaluated.

MISCELLANEOUS BACTERIOLOGICAL EXAMINATIONS

The Branch continues to carry out a variety of examinations quite unconnected with its activities for other Divisions of the Department. These are outlined below :—

Prostatic smears for gonorrhoea	..	..	..	..	..	..	..	1,931
Cultures for organisms and sensitivity	..	..	..	..	..	..	..	379
Identification of micro organisms	..	..	..	..	..	..	..	82
Rats for plague	..	..	..	..	..	..	..	384

FOOD BACTERIOLOGY

The work in this section was restricted owing to calls on the officer in charge to help out in other sections.

A survey of oysters from Woollooware Bay was commenced to determine the present bacterial load and to observe any increase in bacterial population due to increasing garbage and sewage pollution. This survey was carried out in conjunction with bacteriological examination of the waters of Woollooware Bay.

FETTA CHEESE

Extremely high counts on samples of Fetta Cheese from interstate indicated that poor quality milk had been used in the production of many brands and/or that unhygienic conditions existed in the factories. High counts of coliforms, enterococci and total organisms were encountered and in some instances high counts of coagulase positive staphylococci were found.

HERRING FILLETS

Of a batch of 75 samples of herring fillets in oil, 14.6 per cent. were found to contain coagulase positive staphylococci.

STAFF AND ACCOMMODATION

Accommodation remains much the same as in previous years. The staff is now at practically its full quota, but extra staff is needed in practically all sections. Unfortunately, the accommodation at present available is nowhere near adequate for the existing staff and equipment.

APPENDIX I

Coronial Investigations

Result of Examination—	No. of cases
No poison	117
Alcohol—Nil	192
Alcohol—Positive	357
Arsenic	13
Barbiturates	140
Brominated ureides	62
Carbon monoxide	50
Cyanide	2
Chloral hydrate	6
Chlorpromazine	4
Caffeine	1
Codeine	2
Catecholamines	1
Dinitroorthocresol	1
Diphenylhydantoin	1
Ferrous sulphate	1
Hydrofluoric acid	1
Hydrochloric acid	1
Isoprenaline	1
Lebaycid	1
Lead	2
Manganese	1
Nitrite	1
Nicotine	2
Phenacetin	5
Phenylacetic acid	1
Phenolphthalein	4
Parathion	2
Phenols	1
Phenelzine	1
Promethazine hydrochloride	1
Salicylic acid	14
Strychnine	8

APPENDIX II

Criminal Investigations

Exhibit	No. of cases	Charge
Blood	21	Driving under the influence.
Clothing	22	Murder, road accident, arson, assault, damaging clothing, break, enter and steal, hit and run, sorcery, stealing.
Paint	78	Break, enter and steal, road accidents, arson, fail to stop, safe robbery, false pretences, theft, manslaughter, suspected poisoning, damaging car, driving under the influence, assault and robbery.
Drugs	39	Illegal possession, driving under the influence of drugs, selling without prescription, vagrancy, sending drugs through post.
Tools	18	Break, enter and steal, car stealing, damaging locks.
Urine	7	Driving under the influence, manslaughter.
Miscellaneous	177	Selling liquor without licence, poisoning, rape, break, enter and steal, arson, assault, attempt suicide, stealing, fail to stop, found in enclosed garden, coining instrument in possession, false pretences, death, manslaughter, sorcery, malicious damage.

PURE FOOD BRANCH—ANNUAL REPORT, 1961

Staff

Chief Inspector : Mr. W. J. Madgwick.

Deputy Chief Inspector : Mr. J. W. Wing.

Fourteen Inspectors, one Clerk and one Attendant.

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

Premises

Of 10,836 premises inspected, 466 notices were served on traders to effect structural repairs or to remedy other defects in regard to their premises. Fifty-two traders were successfully prosecuted for failing to keep food premises clean and four traders were also proceeded against under the Local Government Act, Ordinance 39, for unclean premises. Prosecutions totalled 56 with fines and costs amounting to £1,209 15s.

Samples

These comprised a wide range of foods and drugs totalling 10,340 samples purchased and submitted for analysis under the prescribed procedure in the Act. Warnings totalled 238 and 644 prosecutions were undertaken. Fines and costs totalled £5,469 12s.

Seizures and Destruction of Deteriorated Foods and Drugs

Foods and drugs found to be unfit for human consumption and subsequently destroyed under supervision by the Department's Officers comprised over 58 tons, in addition, 17,600 head of poultry were destroyed.

General Breaches

Many breaches against the various regulations under the Pure Food Act, 1908, as amended, were reported and the number of prosecutions amounted to 312 with penalties recorded against the offenders amounting to £2,489 10s.

Complaints

Complaints made by members of the public concerning unhygienic food handling and delivery received priority and 1,040 such complaints were investigated.

Legal Proceedings

The total number of prosecutions successfully instituted by Officers of this Branch, under the Pure Food Act, 1908, as amended, the Medical Practitioners Act, 1938, as amended, Local Government Act, 1919, as amended, Vagrancy Act, 1902, as amended, totalled 1,014 with fines and costs amounting to £9,210 17s.

TABLE I—SUMMARY OF WORK PERFORMED FOR THE YEAR ENDING 31ST DECEMBER, 1961

<i>Milk</i>	
Number of samples from all parts of the State	3,136
Number below standard	139
Number of warnings	40
Number of prosecutions	99
Amount of fines and costs	£646 10s. 0d.
<i>Food and Drugs Other than Milk</i>	
Number of samples from all parts of the State	7,204
Number below the standards	743
Number of warnings	198
Number of prosecutions	545
Amount of fines and costs	£4,823 2s. 0d.
<i>Food and Drugs Unfit for Human Consumption, Seized and Destroyed</i>	
The seizure and destruction comprising approximately 58 tons of food and drugs, 17,600 head of poultry, 48 gallons and 52,000 tablets.	
Number of prosecutions	Nil
<i>Inspections of Premises used for the Preparation, Sale and Storage of Food</i>	
Number of inspections in all parts of the State	10,836
Number of notices issued	466
Number of prosecutions	52
Amount of fines and costs	£1,149 15s. 0d.

Particulars of General Breaches of the Pure Food Act and Regulations

Number of prosecutions	312
Amount of fines and costs	£2,489 10s. 0d.

Action Taken under Other Acts

	Local Government Act	Vagrancy Act	Medical Practitioners Act
Number of prosecutions	4	1	1
Amount of fines and costs	£ s. d. 60 0 0	£ s. d. 25 0 0	£ s. d. 37 0 0

Total—6 prosecutions, £102 fines and costs.

TABLE 2—SUMMARY OF LEGAL PROCEEDINGS FOR 1961

Offences under the Pure Food Act and Regulations	Number of Prosecutions	Amount of Fines and Costs
		£ s. d.
Adulterated milk	99	646 10 0
Adulterated food and drugs	545	4,823 2 0
Unclean premises	52	1,149 15 0
General breaches	312	2,489 10 0
Other acts	6	102 0 0
Grand Totals	1,014	9,210 17 0

HEALTH INSPECTION BRANCH—ANNUAL REPORT, 1961**Staff**

(As at 31st December, 1961)

Chief Health Inspector : Mr. K. R. Horne, F.I.H.S. (Aust.).

Deputy Chief Health Inspector : Mr. D. H. Way, F.I.H.S. (Aust.).

Nine Health Inspectors ; three Cadet Health Inspectors ; two Surveyors ; one Female Tracer ; two Junior Clerks ; one Records Attendant.

In addition to the staff at Head Office, four senior and ten health inspectors are seconded for duty in the Metropolitan and four established country health districts ; however one health inspector position at Wollongong was vacant at 31st December, 1961 : the position has been filled and the officer appointed commenced duty on 2nd January, 1962.

Functions and Responsibilities

Briefly the officers of this Branch are authorised to carry out the duties and to make inspections and reports on matters arising out of the administration of the following Acts :—

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

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

Local Government Act, 1919 (as amended) and Ordinances.

The survey section of the Branch, comprising two licensed surveyors, a senior female tracer, and two junior clerks, function under Sections 54 and 55 of the Public Health Act, 1902, as amended, who deal with land considered to be unsuitable for building purposes throughout the State.

During the year six areas of low lying land were placed under proclamation. These are situated respectively at Bermagui, Burril Lake, Raymond Terrace and three within Gosford Shire. As the terms of the Proclamation had been fully complied with, six areas were revoked ; these are situated respectively at Armidale, Concord (2), Granville, Wollongong and Bankstown.

From 1st January, 1960 to 31st December, 1960, 77,070 applications for search were received and certificates issued. For the same period in 1961, 56,700 applications were received, giving a total revenue of £14,175. The decrease of 20,370 applications over the previous year is due to the recession period which occurred during the year 1961.

PRIVATE HOSPITALS AND REST HOMES BRANCH—ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Medical Officer : Dr. R. Y. Dunlop, M.D., Bch., D.P.H., D.T.M. & H.; and Three Supervisory Nursing Sisters. (Dr. Maxwell supervised the work of the Branch until July, 1961).

Activities

The activities of the Branch cover a considerable amount of routine work and this was carried on as usual in 1961. Such work included inspections of all licensed private hospitals and rest homes, covering general conduct and management and care of patients, conditions of premises, equipment, records, living conditions and nursing staff, adequacy of staff and general compliance with necessary requirements; examination of plans and specifications, and inspections, in connection with proposed new buildings, or alterations or extensions of existing buildings, used or intended to be used as Private Hospitals or Rest Homes; checking on registration with the Nurses' Registration Board of nursing staff employed; investigation of complaints regarding private hospitals and rest homes covering such matters as lack of care and attention to patients, inadequate or unwholesome food, and inadequate sanitary facilities; and submission of reports and recommendations to the Board of Health.

The supervisory nursing sisters carried out the following work in 1961 :—

	Metropolitan	Country
Routine inspections of private hospitals	227	34
Routine inspections of rest homes	346	13
Initial and final inspections	107	11
Special visits	71	3
Complaints investigated	38	1

During the year a steady increase in the number of private hospitals and rest homes has occurred. Existing licensed premises have, in quite a number of instances, been enlarged increasing the number of beds from the 6-10 bed group to the 15-20 bed group, while new premises licensed have mainly been in this latter group or larger. This was due to rising costs of maintenance of both private hospitals and rest homes and licensees realised premises, with a capacity below 15, were not economic to conduct.

From the tables below it will be seen that during 1961, private hospitals in the State increased by seven with the addition of 283 beds and 21 cots, while rest homes increased by eleven with the addition of 491 beds and eight cots. There are now in the State 208 private hospitals with 4,131 beds and 191 cots and 262 rest homes with 5,680 beds and 58 cots.

Overcrowding in private hospitals and rest homes had not been such a marked factor during 1961 and many premises are no longer occupied to capacity.

Complaints received have been investigated and conditions such as inadequate and unappetising food, which often lacked vitamin and heat production content for elderly people, inadequate provision of artificial warmth in the cold weather and general lack of sympathy, have been less frequent but still occur and action has been taken in each case.

The church and charitable bodies continued to provide good amenities in pleasant and kindly surroundings at a minimum cost to rest home patients. It is unfortunate there are only 24 such rest homes accommodating some 1,200 patients.

Summarising the Branch's work in connection with both types of premises : there has been a general upward trend of improved conditions and licensees, in the main, have carried out instructions given to them by the officers of the Branch.

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

Year	District	Hospitals									
		M.S. & L.	M. & S.	L.	M. & P.-O.	M.	P.	M. & L.	M. P.-O. & L.	M.S. & P.-O.	Total
1960	Sydney	19	37	4	72	3	2	1	1	..	139
	Country	18	11	9	10	2	1	3	7	1	62
	Total—N.S.W.	37	48	13	82	5	3	4	8	1	201
1961	Sydney	20	38	2	79	3	2	1	1	1	147
	Country	18	9	7	12	3	1	4	5	2	61
	Total	38	47	9	91	6	3	5	6	3	208

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

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

TABLE II

SHOWING CLASSIFICATION OF PRIVATE HOSPITALS LICENSED AT 31ST DECEMBER, WITH RESPECT TO SIZE, AS SIGNIFIED BY NUMBER OF BEDS AVAILABLE

Year	District	Beds							
		1	2	3	4-5	6-10	11-20	Over 20	Total
1960	Sydney and Districts ..	2	2	1	5	25	54	50	139
	Country Districts ..	6	1	2	10	20	16	7	62
	Totals..	8	3	3	15	45	70	57	201
1961	Sydney and Districts ..	1	1	..	5	18	62	60	147
	Country Districts ..	7	2	1	7	17	17	10	61
	Totals..	8	3	1	12	35	79	70	208

TABLE III

NEW SOUTH WALES—PRIVATE HOSPITALS—NUMBER OF BEDS

Year	District	M.S. & L.	M. & S.	L.	M. & P.-O.	M.	P.	M. & L.	M. P.-O. & L.	M.S. & P.-O.	Total
1960	Sydney	733 + 4 cots	1,038 + 15 cots	13	1,368 + 64 cots	60	45	8	5	....	3,270 + 83 cots
	Country	145 + 15 cots	143 + 14 cots	62	122 + 15 cots	18 + 23 cots	18 cots	14	64 + 2 cots	10	578 + 87 cots
	Total—N.S.W. ..	878 + 19 cots	1,181 + 29 cots	75	1,490 + 79 cots	78 + 23 cots	45 + 18 cots	22	69 + 2 cots	10	3,848 + 170 cots
1961	Sydney	671 + 8 cots	1,048 + 22 cots	16	1,614 + 64 cots	100 + 2 cots	45	12	5	....	3,511 + 96 cots
	Country	141 + 17 cots	136 + 12 cots	48	151 + 25 cots	57 + 23 cots	18 cots	22	34	31	620 + 95 cots
	Total—N.S.W. ..	812 + 25 cots	1,184 + 34 cots	64	1,765 + 89 cots	157 + 25 cots	45 + 18 cots	34	39	31	4,131 + 191 cots

TABLE IV

SHOWING CLASSIFICATION OF REST HOMES LICENSED AT 31ST DECEMBER, WITH RESPECT TO SIZE, AS SIGNIFIED BY NUMBER OF BEDS AVAILABLE

Year	District	Beds							
		1	2	3	4-5	6-10	11-20	Over 20	Total
1960	Sydney and Districts ..	..	..	..	6	48	96	70	220
	Country Districts ..	..	..	..	1	2	16	3	22
	Totals..	..	..	..	7	50	112	73	242
1960	Interim Licenses Sydney and Districts ..	..	..	..	2	2	3	..	7
	Country Districts ..	..	..	..	..	2	..	..	2
	Totals..	..	..	..	2	4	3	..	9
1961	Sydney and Districts ..	..	..	..	6	44	98	82	230
	Country Districts ..	..	..	..	1	4	13	6	24
	Totals..	..	..	..	7	48	111	88	254
1961	Interim Licenses Sydney and Districts ..	..	..	..	2	2	2	..	6
	Country Districts ..	..	..	..	..	1	1	..	2
	Totals..	..	..	..	2	3	3	..	8

TABLE V
REST HOMES—NEW SOUTH WALES—NUMBER OF REST HOMES AND BEDS

Year	District	Rest Homes				Number of Beds			
		General	After-care	Psychiatric	Total	General	After-care	Psychiatric	Total
1960 ..	Sydney	217	1	2	220	4,678 + 24 cots	26 cots	27	4,705 + 50 cots
	Country	22	..	..	22	407	..	..	407
	Total—N.S.W.	239	1	2	242	5,085 + 24 cots	26 cots	27	5,112 + 50 cots
1960 ..	Interim Licenses Sydney	6	..	1	7	57	..	14	71
	Country	2	..	..	2	14	..	..	14
	Total—N.S.W.	8	..	1	9	71	..	14	85
1961 ..	Sydney	226	1	3	230	5,059 + 32 cots	26 cots	27	5,086 + 58 cots
	Country	24	..	..	24	517	..	..	517
	Total—N.S.W.	250	1	3	254	5,576 + 32 cots	26 cots	27	5,603 + 58 cots
1961 ..	Interim Licenses Sydney	6	..	..	6	56	..	..	56
	Country	2	..	..	2	21	..	..	21
	Total—N.S.W.	8	..	..	8	77	..	..	77

DIVISION OF FORENSIC MEDICINE—ANNUAL REPORT, 1961

Staff

Director of the Division and Government Medical Officer, Dr. C. E. Percy.

Deputy Director and Deputy Government Medical Officer, Dr. J. Laing.

Medical and Medico-legal Section—Four Medical Officers.

Medico-legal Laboratory—Two Medical Officers, one Microbiologist, one Laboratory Assistant, one part-time Office Assistant.

Hospital Admission Depot—The Officer-in-Charge, the Assistant Officer, the Night Officer, the Relieving Night Officer, Escort Attendants (from Lidcombe State Hospital), the Almoner.

Activities

ADMISSIONS TO HOSPITALS AND HOMES

During the year, the following admissions were arranged by the Hospital Admission Depot : Metropolitan Hospitals, 2,002 ; State Hospitals and Homes and Chronic Hospitals, 4,128 ; Convalescent Homes, 726.

MEDICAL EXAMINATIONS :—

A total of 2,931 examinations was made for the Police Department, as detailed in Table 1. The work for the Police Department continued to increase, due partly to an increase in the authorised strength of the force and partly to an increase in the number of applicants for admission.

Supervision of the health of the Police Force was maintained at the daily sick parade at Police Headquarters. The average daily number on sick report was 118, the strength in the Metropolitan District being 3,759. This represented a decreased amount of sick leave, due mainly to less respiratory infections.

Examinations to the extent of 3,109 were made for various other Departments, the number being practically the same as in the previous year.

MEDICO-LEGAL WORK :

The autopsy work for the City Coroner showed a marked increase, the total number of bodies examined in the year being 2,238. The number of sexual assault cases, 144, again continued to decline from the peak year, 1959.

OTHER MEDICAL SERVICES :—

There was a lessened demand for vaccination against smallpox. Vaccinations totalling 4,036 were performed and International Certificates completed.

Throat swabbings numbering 225 were taken from children about to be admitted to various institutions.

MEDICO-LEGAL LABORATORY :—

The laboratory provides histo-pathological and biological services for police and coroners throughout the State. It became part of this Division in June, 1960, and 1,954 examinations were carried out during 1961, compared with 662 for the last six months of 1960. The increase was due mainly to the submission of more histo-pathological specimens from the Morgue.

Details of these examinations are shown in Table 1.

SPECIAL FEATURES OF THE YEAR'S ACTIVITIES :—

In November, 1961, the Government Medical Officer's Branch became the Division of Forensic Medicine. Shortage of accommodation and its scattered nature causes some difficulty in the Division, but it is gratifying to be able to report that premises above the City Coroner's Court are at present being converted to laboratories and offices, which will be adjacent to the Morgue.

On the 30th November, 1961, an aircraft accident occurred at Botany Bay, causing the death of 15 persons. This involved the Division in prolonged autopsy and laboratory work in order to identify the bodies, which were in some instances, grossly mutilated. This work was done in close co-operation with representatives of the Director of Aviation Medicine, Department of Civil Aviation.

During the year an important child kidnapping case, in which the Division was able to assist the police investigation by autopsy and laboratory work, was brought to a successful conclusion.

TABLE 1—SHOWING ACTIVITIES FOR THE YEARS 1960 AND 1961

	Year ending 31st December, 1960	Year ending 31st December, 1961
Admissions to Hospitals and Homes—		
Metropolitan Hospitals	1,742	2,002
State Hospitals and Homes, Chronic Hospitals	4,228	4,128
Convalescent Homes	551	726
Medical Examinations for Various Government Departments	3,118	3,109
Medical Examinations for the Police Department—		
Police Recruits—First examinations	1,323	1,654
Police Recruits—Re-examinations	676	722
Probationary Constables—Confirmation of appointment	400	310
Periodic examination of cadets	211	245
Daily average of Police on sick report	130	118
Examinations for the City Coroner—(including week-ends)—	2,093	2,238
Examinations of Criminal Assault Cases—	189	144
Vaccinations and International Certificates—		
Vaccinations (Smallpox)	4,719	4,036
International Certificates	6,378	5,296
Throat Swabbings	425	225
	Six months ending 31st December, 1960	Year ending 31st December, 1961
Medio-legal Laboratory—		
Articles of clothing, weapons, etc., examined for blood stains including grouping and determination of origin of stain	87	315
Articles of clothing examined for seminal stains	128	237
Samples of hair examined	76	122
Vaginal smears examined for spermatozoa	41	77
Blood grouping of fresh samples of blood	39	54
Organs for histo-pathological examination and report	291	1,149

PUBLICITY BRANCH—ANNUAL REPORT, 1961

The staff of the Publicity Branch consists of the Publicity Officer, Assistant Publicity Officer, a clerk, an office assistant and a projectionist.

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

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

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

Local authorities and schools received the main bulk of the following supplies which emanated from this Branch during 1961 :—

Posters	43,370
Pamphlets	549,408
Booklets	138,927

A large quantity of booklets and leaflets were also sent direct to schools and Baby Health Centres by printers, including 53,633 booklets *Our Babies* and 56,016 *Healthy Motherhood*.

A total of 135 (16 mm. film) screenings were carried out by the Branch to a total audience of 12,173. Film loans (16 mm.) totalled 1,757. These were screened to an audience of 45,037. During Health Week and for Tuberculosis Survey publicity 88 35-mm. films were screened to 19,680 persons.

Other details of the Branch's work during 1961 were :—

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

SPECIAL PUBLICATION, *A Picture of Health* : During the year a profusely illustrated brochure describing some of the more recent developments within the Health Department was produced by the Department. A total of 10,000 copies of this booklet were distributed.

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

TELEVISION : Departmental officers made three television appearances during the year. This medium, which is considered to be easily the most effective medium for publicity purposes is beyond the reach of the Branch because of the high cost of advertising involved. Opportunities to appear on ABN Television and commercial channels without cost are limited. When such opportunities occur however, they are always fully utilised.

HEALTH WEEK : The National Health Week slogan for 1961 was "A Healthy Child—A Healthy Nation". The importance of this theme was emphasised throughout all schools in New South Wales. This was done by the insertion of a special supplement in the *Education Gazette*. Two essay competitions were held in which primary and secondary school-children were invited to compete. Health and educational material, notes for radio talks and newspaper articles were also distributed. The Branch again arranged an exhibit at the Health Week Exhibition in the Sydney Town Hall. An exhibit was also included in the Old Peoples' Week Exhibition at the Town Hall.

VOLUNTARY ORGANISATIONS : The Branch works as closely as possible with the many voluntary organisations operating in the field of public health and endeavours to assist these groups by personal liaison, film screenings, supply of health education material and expert advice. During the year the Branch co-operated with these groups on a wide variety of projects, including mental health, old peoples welfare and tuberculosis.

IMMUNIZATION WEEK : Immunization Week was held from 20th to 26th February, 1961. Good progress in this campaign, noticeable in the past, was in some way negated by the lack of available vaccines in the State. A mass distribution of thousands of leaflets including foreign translations of same, posters, stickers and polio consent cards was made throughout the State with the co-operation of local health authorities. Every available means of communication was utilised in this intensive campaign, including radio, television and press.

DEPARTMENTAL JOURNAL : The Quarterly Journal of the Department continues to be extremely popular and the circulation has been increased to 11,000 per quarter.

C. Nutrition Section

ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Senior Dietitian : Miss F. Fenner, B.Sc. (Syd.), Associate N.S.W. Institute of Dietitians.

Three Dietitians : One Secretary to the Nutrition Section and the N.S.W. State Nutrition Committee.

Functions and Responsibilities

The Nutrition Section is responsible to the Director of State Health Services for the interpretation of the findings of recent nutrition research to the lay public and for the dissemination of information on nutritional requirements in health and disease, food values and costs, cooking methods and the organization of food services.

Activities During the Year

PRESS ARTICLES, BROADCASTS, TELECASTS, ETC.

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

A direct broadcast was done for 2UW, the subject being "What will the first Space Man eat?".

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

One 15 minute television appearance was made on Channel 7 and four of 10 minutes length on Channel 2. The topics were the feeding of children, food fads and weight reduction. The latter was the topic for a series of three.

Special articles were written entitled "Nutrition Education of School Children", "Do old people usually meet their nutritional requirements?" and "Can we get enough vitamins from foods" for publication in Health in New South Wales, "Stocktaking of children's food habits" for *Family Health*, the Health Week Journal and one article each for the *Sydney Morning Herald*, the *Education Gazette* and the *Diabetic Journal* (Conquest).

PUBLICATIONS

Publications were revised when necessary for reprinting. These included *Diet hints for peptic ulcer sufferers* and minor revision of *Food and Nutrition* and *Hints for Economy in Meal Planning*.

A pamphlet on weight reduction is being prepared.

LECTURES AND TALKS

A total of four (1½ hour) lectures and six cookery classes were given to junior groups of trainee Nursing Assistants at Lidcombe State Hospital.

A course of 10 lectures was given to Kindergarten and Day Nursery College students.

Three course of four lectures were given to Nurses at the Karitane Mothercraft Training Centre and Prince Henry Hospital.

A course of four lectures was given to Public Health Nurses at Forest Lodge Child Health Centre.

In conjunction with the Women's Extension Service of the Department of Agriculture, a series of lectures was given and films were shown to a group of housewives at Wyong and Coff's Harbour.

Special talks were given at the Mitchell Division Convention, Rockley, and the Western Regional Convention, Wellington, of the Agricultural Bureau of New South Wales, and also the 37th Annual State Congress of the Bureau at Hawkesbury Agricultural College.

Other special talks were given to members of the Church of Jesus Christ of the Latter Day Saints at Parramatta, the Y.W.C.A. at Newcastle and Voluntary Aid Detachments.

PRENATAL CLINICS

Weekly attendances at Manly, Granville, Liverpool, Parramatta, Dee Why and Hurstville Pre-natal Clinics were maintained. Since May 11th, 1961, a Dietitian has been in attendance twice each week at the Parramatta Pre-Natal Clinic.

CLINIC FOR OVERWEIGHT CHILDREN

At the request of the School Medical Service a Clinic service to overweight children was begun on 4th October, 1961, at the Forest Lodge Child Health Centre and is maintained weekly.

ENQUIRIES

Many enquiries pertaining to vitamin supplementation and fats and oils were received. Others concerned various foods, nutritional matters and recipes. The majority of requests for therapeutic diets were for weight reduction, diabetes and hepatitis.

INSTITUTIONS

Advice on menu planning was given to Strickland Convalescent Hospital.

A report was made on conditions at a Matraville Kindergarten.

A report was also made on food services at Callan Park and Parramatta Mental Hospitals for submission to the Royal Commission.

Two visits were made to Bloomfield Hospital, Orange, and recommendations made regarding the food services.

A Committee of four, including a member from the Nutrition Section, is reviewing the ration scales and food standards in prisons.

Since the Senior Dietitian's return from abroad she is now mainly engaged in planning menus, ration scales and procedures for food preparation and service in the mental hospitals.

SURVEY WORK

To assist in planning a more comprehensive survey, a study of their usual dietary intake for a day of 250 adolescents from the Health Department, Industry and the Sydney Teachers' College was made. The results of this study when evaluated gave enough evidence of poor nutritional practices, particularly amongst the young women, to justify a more comprehensive survey of adolescent diets in 1962.

With a survey into the eating habits of school children in mind, a small test was made to see what response would be obtained and how suitable certain methods would be for obtaining information.

STUDENT

A student dietitian from the Royal North Shore Hospital spent two weeks of her dietetic course in this section in October, 1961. She was taken on field trips to the Dairy Farmers' Co-Op. Milk Company, Scott's Pies, a continental provisions factory, Sydney Day Nursery and "Meals on Wheels".

TRAINEE DIETITIAN

A Trainee Dietitian began working in this section on 11th December, 1961, during the University Vacation.

N.S.W. STATE NUTRITION COMMITTEE

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

N.S.W. INSTITUTE OF DIETITIANS

The executive and secretarial work for this body was discontinued in April, 1961.

D. Division of Maternal and Baby Welfare**ANNUAL REPORT, 1961****Staff**

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

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

Establishment : One Senior Medical Officer ; Five Medical Officers ; Three Nurse Inspectors ; Six Clerical Staff. At the Baby Health Centres there were employed 225 full-time Sisters ; 28 part-time Sisters ; 2 Sisters-in-training under bond.

General

This Division is concerned with all aspects of the welfare of mothers and of babies. The field is wide and variable and includes all matters associated with the care of the mother during and after her pregnancy with special emphasis on medical supervision throughout pregnancy, the care of the baby from birth through the formative and impressionable pre-school years and up to the age of five. Deaths of young infants and of mothers in New South Wales are investigated and the policy of the Division is to use every available facility to prevent these deaths.

Health education and other public health measures are practised and encouraged throughout the community. Lectures to medical students, trainee nurses, kindergarten and nursery schools teachers and other groups are undertaken as routine procedures by the Division. The Division also has good liaison with many departments and other authorities which are concerned with the welfare of mothers and their children; Maternity Hospitals, Child Welfare Department, Local Government Authorities, Country Women's Associations, Red Cross and many other bodies work closely with the Division.

The welfare and care of the mother and baby is fundamental in any community and this is the primary reason for the existence of this division of the Department of Public Health.

Maternal Welfare

SPECIAL MEDICAL COMMITTEE INVESTIGATING MATERNAL MORTALITY

Eleven meetings were held during the year. Fifty-nine deaths associated with pregnancy and childbirth occurred in New South Wales during the year: fourteen of these were classified as non-maternal. Forty-four case histories from 1960 were studied either for the first time or re-considered and thirty-five case histories from 1961 were assessed. A Sub-Committee prepared material for circulation to the Committee for appraisal before publication. The objective has been the study of case histories of deaths occurring in the years 1957-1960, under separate groups of causes of death, e.g., haemorrhage, complicated deliveries, toxæmias and death under anaesthesia. The work of the members of the Sub-Committee was greatly appreciated. They gave much time and effort to the preparation of material for discussion at meetings.

Free Consultant Service During Pregnancy and Delivery

A Free Consultant Service for mothers who cannot afford the additional fee is available to medical practitioners anywhere in New South Wales.

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

Obstetrics has long been recognised as team work between general practitioner, consultants, obstetric hospitals, public health authorities and ancillary services. Until consultations are used more frequently during both pregnancy and delivery, it is unlikely that preventable deaths in obstetrics will be reduced. A further important aspect of consultation in obstetric practice is the resultant reduction of subsequent morbidity which cannot be measured.

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

The Consultant Service was not used extensively this year. The greater percentage of the consultations were with consultants now based in towns outside Sydney such as Cooma, Orange and Wollongong.

Two consultations were arranged in Sydney and fourteen in the country.

Services to Mothers and Babies Suffering from rH Incompatibility

Investigations were made jointly with the Advisory Committee on Infant Mortality and the Special Medical Committee Investigating Maternal Mortality as to the facilities and trained personnel available in hospitals outside Sydney for giving exchange transfusions to babies suffering from haemolytic disease. These investigations resulted in the provision of funds for the transport of mothers before the birth of the baby to centres where exchange transfusions could be done, if necessary at the time of the birth, or for the transport of babies with an attendant, if the mother was unable to travel.

A survey of the facilities and the trained personnel for pathological services in obstetric hospitals outside Sydney was made at the request of the Committee and also information as to the hospitals outside Sydney at present undertaking exchange transfusions.

Mobile Blood Transfusion Services

Five major hospitals in Sydney and one in Newcastle co-operate with the Department and the Red Cross Blood Transfusion Service in making this service available at any hour in Sydney and within 100 miles of Newcastle. In Sydney the mobile units were called on six occasions.

Conferences were held with the Director of the Red Cross Blood Transfusion Service and the Chairman of the Hospitals Commission regarding the availability of blood outside Sydney for mothers in childbirth and also extension of the existing services were planned.

International Classification of Maternal Deaths

Recommendations were made to the National Health and Medical Research Council through the Chairman by the Special Medical Committee Investigating Maternal Mortality, concerning classification of maternal deaths. Many conferences on this matter were held with officers of the Bureau of Census and Statistics Sydney.

Healthy Motherhood

The booklet *Healthy Motherhood* has now an approximate yearly circulation of 81,000 copies. It is distributed to medical practitioners and in addition regular supplies are made available to obstetric hospitals. This booklet is used by all obstetric consultants and most medical practitioners.

Infant Mortality Survey

The material from the Infant Mortality Survey for 1958 continued to be assessed in the early part of the year and recommendations were formulated from the information gained.

It was decided that a prospective survey for the year 1962 would be undertaken and planning with the Bureau of Census and Statistics was begun.

Notification of Staphylococcal Infections in Maternity Hospitals

Certain types of staphylococcal infection were declared notifiable in September, 1958. Early in 1959, it was discovered that very few cases were being notified. On inquiry it was ascertained that there was confusion as to the definition of lesions to be notified, particularly those in relation to "infants under four weeks".

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

The survey included all obstetric hospitals in the metropolitan area; hospitals in health districts; and all other hospitals with over 400 deliveries per annum, with five exceptions. Some other hospitals were also inspected if there was a known high infection rate, or a request was made to the division for assistance.

The main findings were the lack of pathological investigation in a large number of hospitals was due either to lack of pathological facilities or failure on the part of the hospital staff to consider pathological investigation necessary. Standards also varied in relation to the personnel responsible for the recognition of lesions and the varying definitions in use.

This survey clearly indicated the need for further investigation of the staphylococcal problem in relation to the general welfare of the community, while the problems involved in notification needed clarification and the control of infection in Maternity Hospitals generally needed investigation.

It was decided that, to provide more accurate comparisons as to incidence of infection in relation to staffing and facilities, a survey should be undertaken by three major hospitals. A short term survey of eight weeks was conducted at the Royal North Shore Hospital, Royal Hospital for Women, and the Royal Newcastle Hospital with a follow-up of the mothers and babies for eight weeks after discharge from hospital. Extensive pathological investigations were undertaken by the three pathologists of the Hospitals concerned and the bacteriologist from the Institute of Clinical Pathology and Medical Research.

The following schedule was followed:—

- (a) The survey was begun on 19th September, 1960.
- (b) All mothers and babies present in the maternity units at the beginning of the survey were swabbed and the swabbings cultured.
- (c) All medical, nursing, domestic and other staff in the maternity unit were swabbed and cultures made.
- (d) All mothers entering the maternity hospital on and after 19th September had nasal swabbings and culture.
- (e) The mothers were swabbed again on fifth day and before leaving hospital if negative.
- (f) All babies born were swabbed within 48 hours of birth, at the fifth day and on discharge if negative.
- (g) All lesions occurring in the period of hospitalisation were recorded, swabbed and cultured.
- (h) All mothers and babies were followed up after leaving hospital. They were visited each week and examined by Officers of the Division of Maternal and Baby Welfare. All lesions which developed were recorded, swabbed and cultured. The Institute of Clinical Pathology and Medical Research undertook the pathological work so entailed.

The result of this survey indicated that there was a minimal amount of infection occurring at each hospital and despite wide variations in facilities and rooming-in practices there was little difference in the results at the three hospitals.

The Department publishes a booklet *Infection in the Newly Born and Care of the Premature Baby*. A new edition is being prepared and an editorial committee has been appointed to review and re-write the booklet.

During the year contact with obstetric hospitals in the city and country has continued in an effort to devise methods whereby the notification of staphylococcal infection can be carried out efficiently at the hospitals with a minimum of time and routine effort by the staff.

Baby Health Centres

During 1961, seventeen new baby health centres were established and four closed, giving a net increase of thirteen centres. Additionally six centres were transferred to new premises.

In the financial year 1960-61, an amount of £70,000 was voted from loan funds for the establishing and equipping of Baby Health centres and a further sum of £70,000 was voted for 1961-62 and each year these amounts have been expended, yet at 31st December, 1961, there were on hand one hundred and seventy-six applications for new Centres, or applications for replacement of existing centres, which were considered as warranted.

The attendance at baby health centres increased by 23,616 in 1961. Where these figures are dissected into health districts (Table Ib) it is apparent that increases have been greater in some areas than in others. There is a significant increase in the metropolitan area and the South Coast. This can be partly explained by the opening of nine new centres in the metropolitan area, but in the South Coast the increase is no doubt due to the rapid population expansion in Wollongong and environs. The fall in attendances in the North Coast Health District is disturbing for while one small new centre was opened at an aboriginal station the gross attendance in this district fell by 1,043. A detailed analysis has been made of the attendances in the various centres in the North Coast District in an effort to ascertain the reason for this decrease.

There are 24 baby health centres in the North Coast Health District and of these thirteen showed either an increase in attendances or remained at the same figure as in previous years. The remaining eleven centres showed a decrease. All the decreases were small except at Casino, Murwillumbah, Coff's Harbour and Grafton.

Murwillumbah Centre was in temporary premises while a replacement building was being completed which no doubt accounted for the fall in attendance there. The South Grafton Centre increased considerably which probably explains the decrease at Grafton. No obvious explanation can be given for Coff's Harbour and Casino, but this position will be fully investigated since the North Coast Health District has now been established.

During 1961, a survey was conducted at the baby health centres to determine the number of babies born in New South Wales who attended a baby health centre at least once. The position in the family of the baby attending was also recorded. The Bureau of Census and Statistics, Sydney, assisted in this survey and the results have been tabulated; Tables IIIA, B and C attached to this report depict the results. It will be seen that of total births in the State 70.4 per cent. attended baby health centres. Details of this percentage, dissected into statistical divisions and in relation to population, area and numbers of baby health centres, are shown in Table IIIb.

Table IIIA shows the percentage of first born children who attended baby health centres and it is interesting to observe that in the metropolitan area of Sydney 91.3 per cent. of first born children attend a baby health centre while in Greater Wollongong the figure is 95.8 per cent.

In Table IIIC the attendances at baby health centres are divided in relation to the position in the family of the baby. The second part of the table shows the percentage of total births in relation to parity of the mother.

The figures in all three tables do not include babies who would have attended clinics conducted by the Far West Children's Health Scheme, the Bush Nursing Association, or the Well Baby Clinic at Royal Newcastle Hospital. If these figures were added then the Newcastle urban area and the Northern and Western Statistical Divisions would show a higher percentage of babies attending.

It is often presumed that mothers only bring their first born children, but the figures in Table IIIC disprove this.

A further survey is planned, but not yet started, to determine how often and for what period babies are brought to the baby health centres. It will not be possible to conduct this survey at all centres, and the Bureau of Census and Statistics, Sydney, have agreed to assist in selecting a suitable sample.

STAFF

The establishment for Baby Health Centre Sisters at 255 Units as set down in 1947 was complete in September of 1961. The factors in improving this position was the Bond Training Scheme and the country allowance for sisters on compulsory country service. With the rapid increase in new baby health centres, particularly in the metropolitan area and the continued rise in attendances at baby health clinics generally, an increase in the present number of nursing staff is essential.

Prenatal Clinics

There are ten prenatal clinics conducted by medical officers of this division in baby health centres in the metropolitan area of Sydney. A new clinic was started in Belmont, Newcastle in September, 1961. This clinic is conducted in baby health centre premises with baby health centre nurses, but the medical work is carried out by the senior obstetrician attached to the Royal Newcastle Hospital.

The value of the work done in these prenatal clinics cannot be overstated. The high rate of pre-eclamptic toxæmia and antepartum hæmorrhage in Australian mothers is a source of great concern to all those working in the field of obstetrics. Care in the antenatal period is the only protective measure which can be taken and it is essential that all pregnant women attend early and regularly for examinations and referrals if necessary throughout their pregnancy.

With the extension of the city of Sydney, Newcastle and other towns in New South Wales the suburbs where young families live are now remote from the established obstetric hospitals. This would necessitate a mother travelling long distances to such a hospital for antenatal care and it is difficult, time-consuming and expensive. The divisional prenatal clinics therefore have been strategically placed in both Sydney and Newcastle so that the mothers living at a distance from their obstetric hospitals can receive attention and supervision with the minimum cost in fares and time.

It has been planned for some time to open a new prenatal clinic at Blacktown which is the busiest baby health centre in the State. The accommodation however, is limited and as a temporary expedient it has been decided early in 1962 to open a prenatal clinic at Seven Hills. As soon as the Blacktown premises can be altered a prenatal clinic will be established there. It is also planned to extend the prenatal clinics in Newcastle and the suggested sites are Charlestown and Cardiff.

Attendances at the prenatal clinics during 1961 are shown on Table (II).

Mother Discussion Groups

In conjunction with the Mental Health Association a number of discussion groups for mothers were started at baby health centres. These groups were held at night in the centre and the group leader was supplied by the Mental Health Association.

The programme worked very well in most areas but the group at Gladesville Baby Health Centre was particularly successful. The number of groups was only limited by the lack of sufficient leaders. This deficiency will gradually be rectified and it was anticipated that fifteen new groups will be arranged early in 1962.

The response and enthusiasm of the mothers was very gratifying and there would be no difficulty in arranging such discussions in almost every baby health centre in the metropolitan area once leaders were available.

The discussion group method is regarded as being one of the best health education media in existence.

Preschool Child

A. KINDERGARTEN AND DAY NURSERIES

Of the 316,533 children aged between 0-5 years in the community of New South Wales only 2,000 approximately attend day nurseries and kindergartens.

A preschool medical service is offered by the Division of Maternal and Baby Welfare to all kindergartens and nurseries registered with the Sydney Day Nursery and Nursery Schools Association and the Kindergarten Union. The School Medical Service provides a similar service to a number of Nursery Schools and Kindergartens as does the Sydney City Council to the Preschool Child under their control.

The number of preschool child examinations carried out by this Division in 1961 were as follows :—

Kindergarten Union—									
1st examination	..	..	..	..	..	..	..	..	1,092
Review	..	..	..	..	..	..	..	..	353
Sydney Day Nursery and Nursery Schools Association—									
1st Examination	..	..	..	..	..	..	..	..	821
Review	..	..	..	..	..	..	..	..	303
Total	..	..	..	..	..	..	..	..	<u>2,569</u>

All children attending the kindergarten and day nurseries, at which the Division has arranged to conduct medical examinations, were given a complete examination which was recorded on cards supplied by the School Medical Service and these records can be continued when the child attends primary school—thus giving a complete health record from an early age.

Where necessary a child was reviewed to note progress, where deviation from the normal had occurred, and to check the results of the treatment of referrals.

B. PRESCHOOL CLINICS

It is well recognised that the years between 2-5 are vital years in the mental and physical development of the child. For various reasons it has not been possible to examine routinely children in this age group. The Division of Maternal and Baby Welfare did, at one time, conduct a number of "Well Baby Clinics" which had good attendances, and through which the preschool child received supervision. Due to staff difficulties these clinics with the exception of two (Balmain and Hornsby) had to be abandoned.

During 1961, seven of the eight "Well Baby Clinics" closed in previous years were re-opened and the names of these clinics were altered to "Preschool Clinics". Because of population changes and the finding of improved premises, certain of the re-opened clinics were re-sited. The titles of the two "Well Baby Clinics" which had continued to function also were altered to "Preschool Clinics" and the nine clinics are now all working under this more descriptive title. The clinics are conducted at the following Baby Health Centres—Balmain, Bankstown, Caringbah, Dee Why, Gladesville, Hornsby, Liverpool, Parramatta and Pendle Hill.

In order to evaluate the service of the divisional preschool clinics and to ascertain what the preschool age problem might be the following procedure was adopted:—

Morbidity was defined as the "need for referral". As no treatment was carried out at these clinics any child showing an abnormality, physical or emotional, was referred to the appropriate medical authority for treatment. The results of these examinations and referrals are shown on Table IIA, giving a morbidity rate of 23 per cent. This was thought to be high and not truly representative since the conditions for which children are referred were not further dissected. Many of the referrals included in this percentage were for very minor ailments such as "common cold" or "flu".

During the year the Director of State Health Services requested that a pilot study be conducted in a Baby Health Centre to determine the needs of the preschool child. This clinic is conducted by a School Medical Service Officer with special knowledge of the emotional problems of children. The clinic was established at Glebe. Letters were sent to mothers whose children were then three years of age and who had attended the centre when her child was a baby, suggesting that she should bring her child for a routine medical examination.

Division Publications

The following booklets are prepared for publication in this Division: *Our Babies, Healthy Motherhood, Infection of the Newly Born and Care of the Premature Baby*, and *Emergency Obstetrics*.

In 1960, a committee was established to review *Our Babies* with a view to presenting a new booklet which would stress the modern problems associated with the rearing of babies, particularly the emotional development of the child, and the mother-child relationship.

Much time was devoted during the year to a new edition of *Healthy Motherhood*. All aspects of the care of the mother during her pregnancy were studied, particularly in relation to diet, and a new cover was devised. The new booklet became available to the public towards the end of the year. This is an attractive and a valuable publication for which there is a high demand from obstetric hospitals, general practitioners and others.

Emergency Obstetrics is at present under review, and it is anticipated that a new edition will be available early in 1962. It is planned in this booklet to highlight the value and need for consultant services.

The booklet *Infection of the Newly Born and Care of the Premature Baby* will be reviewed in 1962. It is anticipated that this publication may be divided into two separate booklets. One on the *Care of Premature Babies* and the other *Infection of the Newly Born* stressing the problem of staphylococcal infection.

TABLE I—BABY HEALTH CENTRES

A. Number of Established Baby Health Centres

	1960	1961
Health District—		
Metropolitan	123	132
Newcastle	54	55
South Coast	47	46
Western	45	43
North Coast	23	24
North Western	16	16
Riverina	53	56
Broken Hill	4	4
Unincorporated .. ..	..	2
Total	365	378

B. Attendances at Baby Health Centres

The individual and total attendances at Baby Health Centres situated within the Health Districts during 1961, compared with those for 1960 were :—

Health District—	Individual Attendances		Total Attendances	
	1960	1961	1960	1961
Metropolitan	61,877	68,683	627,184	678,503
Newcastle	11,817	12,325	101,146	104,774
South Coast	8,824	9,912	78,209	88,832
Western	8,479	8,580	73,243	75,119
North Coast	4,617	4,096	40,174	39,121
North Western	3,920	4,295	31,529	36,676
Riverina	7,321	7,538	65,909	71,910
Broken Hill	1,505	1,417	14,582	15,073
Unincorporated .. .. .	..	92	..	633
Total	108,360	116,938	1,031,976	1,110,641

TABLE NO. II—ATTENDANCES AT PRENATAL CLINICS, 1961

Clinic	Primiparae		Multiparae		Post Natal	Total visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Campsie	17	90	50	334	..	491	52
Dee Why	52	326	111	776	1	1,266	52
Granville	53	227	123	744	1	1,148	50
Hornsby	2	7	17	88	6	120	50
Hurstville	34	216	94	624	10	978	52
Liverpool	51	295	164	886	..	1,396	50
Manly	79	379	144	831	4	1,437	44
Mascot	20	126	45	255	..	446	45
Narrabeen	38	254	108	743	3	1,146	52
Parramatta	149	780	469	2,592	3	3,993	104
*Belmont	5	62	22	258	..	347	14
Total—1961	500	2,762	1,347	8,131	28	12,768	565
Total—1960	389	2,367	1,291	8,125	74	12,227	554

* Commenced 25th September, 1961. This Clinic is in the Newcastle Health District, all others are in the Metropolitan Health District.

TABLE IIA—1ST JULY, TO 30TH NOVEMBER, 1961

Name	Pre-School Clinics				Referrals						
	No. of Sessions	Attendances	New Cases	Reviews	Child Guidance Brisbane Street	Child Health Centre	Public Hospital	Speech Therapy	Own Doctor	Eye Test	Hearing Test
Gladesville	14	246	238	8	2	1	15	..	15	2	..
Parramatta	6	66	64	2	5	..	7	1	7	..	..
Pendle Hill	11	129	118	11	3	..	13	..	7	1	..
Forestville	5	28	24	4	1	..	2	..	..	..	..
Caringbah	10	115	111	4	6	..	13	1	..	..	..
Dee Why	12	146	132	14	8	..	15	..	17	1	..
Bankstown	11	88	79	9	6	..	5	..	13	1	..
Liverpool	8	86	79	9	8	..	8	..	2	..	..
	77	904	845	61	39	1	78	2	70	5	..

Total number of children seen 904
 Referrals 195
 Morbidity Rate 23 per cent.

TABLE IIIA—COMPARISON OF ATTENDANCES OF 1ST BORN BABIES AT BABY HEALTH CENTRES WITH NUPTIAL FIRST LIVE BIRTHS, N.S.W., 1961 BY STATISTICAL DIVISION

Statistical Division	(2) Number of 1st born babies attending a B.H.C. for the first time.	(2) Number of Nup- tial 1st Live Births	(3) Proportion of 1 ÷ 2 %
Metropolis	13,612	14,907	91.3
Balance of Cumberland	478	701	68.2
North Coast	775	916	84.6
Newcastle Urban Area	1,104	1,451	76.1
Balance of Hunter and Manning	1,160	1,369	84.7
Greater Wollongong	1,037	1,083	95.8
Balance of South Coast	493	669	73.7
Northern Tableland	264	355	74.4
Central Tableland	825	926	89.1
Southern Tableland	466	491	94.9
North Western Slope	347	488	71.1
Central Western Slope	366	446	82.1
South Western Slope	771	957	80.6
North Central Plain	84	267	31.5
Central Plain	117	223	52.5
Riverina	456	572	79.7
Western Division	240	377	63.7
Total, New South Wales	22,595	26,199	86.2

Note.—Figures shown in above Table are not strictly comparable as nuptial first live births relate to births registered in New South Wales during the year 1961, and figures for attendances at Baby Health Centres relate to infants under 12 months of age attending at a Baby Health Centre in New South Wales for the first time during 1961.

TABLE III B—DISTRIBUTION OF AND ATTENDANCE AT BABY HEALTH CENTRES—STATISTICAL DIVISIONS OF N.S.W., 1961

Code No.	Statistical Division	No. of Baby Health Centres	Area in square miles	Population at 30th June, 1961	No. of persons per square mile	Average No. of persons per B.H.C.	No. of Babies attending B.H.C. for 1st time	Average No. of Babies attending for 1st time per B.H.C.	Live Births 1961	Babies attending for 1st time as a proportion of live births %
00										
01	Metropolis	122	671	2,183,388	3,252	17,897	32,226	264	43,949	73.3
02	Balance of Cumberland	8	834	106,372	127	13,297	1,390	174	2,809	49.5
03	North Coast	28	10,883	171,387	16	6,121	2,426	87	3,988	60.8
04	Newcastle Urban Area	17	134	208,641	1,550	12,273	2,531	149	4,716	53.7
05	Balance of Hunter & Manning	34	13,135	239,891	18	7,056	3,240	95	5,155	62.9
06	Greater Wollongong	12	275	131,764	478	10,980	2,590	216	3,477	74.5
07	Balance of South Coast	24	8,940	93,584	10	3,899	1,424	59	2,363	60.3
08	Northern Tableland	8	12,636	55,725	4	6,966	710	89	1,297	54.7
09	Central Tableland	28	16,593	159,974	10	5,713	2,560	91	3,767	68.0
10	Southern Tableland	15	11,104	66,564	6	4,438	1,219	81	1,630	74.8
12	North Western Slope	7	14,430	70,272	5	10,039	1,029	147	1,831	56.2
13	Central Western Slope	15	12,068	67,987	6	4,532	1,227	82	1,856	66.1
14	South Western Slope	27	17,560	135,136	8	5,005	2,381	88	3,702	64.3
15	North Central Plain	2	14,908	34,340	2	17,170	207	104	1,010	20.5
16	Central Plain	5	23,145	28,992	1	5,798	288	58	837	34.4
17	Riverina	26	26,509	89,993	3	3,461	1,368	53	2,388	57.3
18	Western Division	7	125,559	62,174	Less than 1	8,882	824	118	1,615	51.0

Figures shown in the above table give an approximate picture only because Baby Health Centres situated near the border of divisions can serve population from adjoining divisions.

TABLE 111C—APPROXIMATE PROPORTION OF BABIES ATTENDING BABY HEALTH CENTRES, ORDER OF BIRTH, N.S.W., 1961

Particulars	Order of Birth					Total
	1	2	3	4	5 or more	
BABIES ATTENDING A BABY HEALTH CENTRE						
1. Number	22,595	16,425	9,902	5,025	3,693	57,640
2. Per cent. of total	39	29	17	9	6	100

NUPTIAL CONFINEMENTS RESULTING IN A LIVE BIRTH

	*Previous Issue					Total
	0	1	2	3	4 or more	
3. Number	26,199	22,299	15,495	8,852	8,972	81,817
4. Per cent. of total	32	27	19	11	11	100

APPROXIMATE PROPORTION OF BABIES ATTENDING BABY HEALTH CENTRES, N.S.W., 1961

Proportion 1 is of 3 Per cent. ..	86	74	64	57	41	70
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* Ex-nuptial children, previous issue by the same father are included, but children by a former marriage are not.

Note.—Figures of nuptial confinements relate to births registered in N.S.W. during the year 1961, and figures for attendances at Baby Health Centres relate to infants under 12 months of age attending at a Baby Health Centre in N.S.W. for the first time in 1961.

VITAL STATISTICS

Birth Statistics

The number of live births registered in New South Wales during 1961 was 86,392, an increase of 4,409 compared with the previous year. The number registered has increased steadily each year since 1954.

The number of live births per 1,000 of mean population was 22.06 in 1961 which is .68 higher than the rate for 1960 and the highest rate recorded since 1953.

Stillbirths registered totalled 1,306 in 1961 showing an increase of 45 over the previous year though the rate per 1,000 of total births (live and still combined), viz. 14.89, showed a slight improvement.

TABLE IV—LIVE BIRTHS AND STILL BIRTHS—NEW SOUTH WALES—1959-1961

Year	Total Births (live and still combined)	Live Births		Still Births	
		No.	Rate per 1,000 of mean population*	No.	Rate per 1,000 total births (live and still combined)
METROPOLIS					
1959	40,846	40,270	19.29	576	14.10
1960	41,386	40,778	19.11	608	14.69
1961	44,530	43,949	20.14	581	13.05
REMAINDER OF STATE					
1959	41,261	40,596	24.23	665	16.12
1960	41,858	41,205	24.23	653	15.60
1961	43,168	42,443	24.49	725	16.79
NEW SOUTH WALES					
1959	82,107	80,866	21.49	1,241	15.11
1960	83,244	81,983	21.38	1,261	15.15
1961	87,698	86,392	22.06	1,306	14.89

* Calculated on estimates of the population revised in accordance with preliminary results of the 1961 Census.

Maternal Mortality

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

During 1961 the number of deaths from puerperal causes (excluding criminal abortion) in New South Wales was 34, which represents a mortality rate of 0.39 women per 1,000 live births. This is the lowest rate recorded in the State, the previous lowest rate was 0.54 in 1960. This improvement occurred in the area outside the Sydney Metropolitan Area.

TABLE V—MATERNAL MORTALITY (EXCLUDING CRIMINAL ABORTIONS), NEW SOUTH WALES

Year	Live Births			Deaths from Puerperal Causes (Excluding Criminal Abortions)					
				Number			Rate per 1,000 live Births		
	Metro- polis	Remainder of State	N.S.W.	Metro- polis	Remainder of State	N.S.W.	Metro- polis	Remainder of State	N.S.W.
1959	40,270	40,596	80,866	19	26	45	0.48	0.64	0.56
1960	40,778	41,205	81,983	14	30	44	0.34	0.73	0.54
1961	43,949	42,443	86,392	16	18	34	0.37	0.43	0.39

In 1961, nine women died in New South Wales from criminal abortion compared with 12 in 1960. Deaths from criminal abortion were equal 1.05 per cent. of the total deaths of females aged 15 to 44 years, and total puerperal deaths (including criminal abortion) were equal to 5.02 per cent.

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

Year	Deaths from Criminal Abortion			Total Puerperal Deaths (including Criminal Abortion)	
	No.	Proportion per cent. of female deaths at ages 15-44 years		No.	Proportion per cent. of female deaths at ages 15-44 years
METROPOLIS					
1959	5	.90		24	4.30
1960	7	1.30		21	3.90
1961	5	1.00		21	4.20
REMAINDER OF STATE					
1959	4	.94		30	7.06
1960	5	1.29		35	9.04
1961	4	1.12		22	6.16
NEW SOUTH WALES					
1959	9	.92		54	5.49
1960	12	1.30		56	6.05
1961	9	1.05		43	5.02

Table VII shows a comparison of the causes of puerperal deaths for the years 1958 to 1961. The most interesting features are the reduction in the death rate from toxæmias of pregnancy.

TABLE VII—DEATHS DUE TO PUERPERAL CAUSES, METROPOLIS AND REMAINDER OF NEW SOUTH WALES, NUMBER AND RATE, *1958 TO 1961

Cause of Death†	Metropolis						Remainder of State									
	1958		1959		1960		1961		1958		1959		1960		1961	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Toxaemias of Pregnancy	4	-10	6	-16	5	-12	2	-05	5	-13	2	-05	4	-10	2	-05
Ectopic pregnancy	1	-03	3	-08	1	-02	..	..	..	..	2	-05	2	-05	1	-02
Placenta praevia and other Haem. of pregnancy .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Complications of pregnancy	2	-05	1	-02	2	-05	2	-04	4	-10	2	-05	3	-07	2	-05
Abortion excluding criminal	6	-15	2	-05	..	..	1	-02	1	-02	3	-07	4	-10	2	-05
Delivery complicated by haemorrhage	4	-10	..	..	2	-05	..	..	5	-13	2	-05	6	-15	4	-09
Delivery with other specified complications	6	-14	4	-10	2	-05	3	-07	3	-08	7	-17	3	-07	2	-05
Puerperal urinary infection without other sepsis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sepsis of Childbirth and the puerperium .. .. .	..	..	1	-02	..	..	2	-05	1	-02	1	-03	..	..	..	..
Puerperal phlebitis and Thrombosis .. .. .	..	..	..	..	..	..	1	-02	1	-02	..	..	1	-02	..	..
Puerperal pulmonary embolism	1	-03	2	-05	..	..	..	..	2	-05	4	-10	6	-15	2	-05
Other and unspecified complications of the puerperium	1	-03	..	..	2	-05	3	-07	..	..	3	-07	1	-02	2	-05
Total excluding criminal abortion	25	-63	19	-48	14	-34	16	-37	24	-60	26	-64	30	-73	18	-43
Criminal abortion	2	-05	5	-12	7	-17	5	-11	1	-02	4	-10	5	-12	4	-09
Total	27	-68	24	-60	21	-51	21	-48	25	-62	30	-74	35	-85	22	-52

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

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

Infantile Mortality

The figures for infantile mortality from 1937-1961 are given below. In 1961 infant mortality was the lowest ever recorded within the State.

TABLE VIII—INFANTILE MORTALITY—NEW SOUTH WALES

Period	Number of Deaths	Average Annual Rated*	Year	Number of Deaths	Rate*
1936—1940	9,816	41·18	1957	1,804	22·70
1941—1945	10,170	35·95	1958	1,704	21·29
1946—1950	9,952	28·91	1959	1,832	22·65
1951—1955	9,259	25·11	1960	1,735	21·16
1956—1960	8,852	22·24	1961	1,800	20·84

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

Deaths of infants are dissected by age groups in Table IX. Most deaths occur in the first seven days and are mainly due to antenatal causes.

TABLE IX—INFANT MORTALITY IN AGE GROUPS—NEW SOUTH WALES

Year	Age at Death							
	Under One Week	1 Week and under 1 Month	Total under 1 Month	1 month and under 3 Months	Total under 3 Months	3 Months and under 6 Months	6 Months and under 12 Months	Total Under One Year
	NUMBER OF DEATHS							
1958	1,055	170	1,225	136	1,361	149	194	1,704
1959	1,166	158	1,324	141	1,465	192	175	1,832
1960	1,109	141	1,250	134	1,384	164	187	1,735
1961	1,135	149	1,284	187	1,471	172	157	1,800
	RATE PER 1,000 LIVE BIRTHS							
1958	13·18	2·12	15·30	1·70	17·00	1·86	2·43	21·29
1959	14·42	1·95	16·37	1·75	18·12	2·37	2·16	22·65
1960	13·53	1·72	15·25	1·63	16·88	2·00	2·28	21·16
1961	13·14	1·72	14·86	2·17	17·03	1·99	1·82	20·84

Infant mortality rates in New South Wales during the years 1960 and 1961 from causes assigned to the seventeen major groups of diseases in the International Classification of Diseases are set out in Table X. The Table also shows the rates in the Metropolis and the remainder of the State.

TABLE X—CAUSES OF DEATH* OF CHILDREN UNDER ONE YEAR OF AGE, N.S.W.—NUMBER OF DEATHS PER 1,000 LIVE BIRTHS

Class No.	Cause of Death*	Metropolis		Remainder		N.S.W.	
		1960	1961	1960	1961	1960	1961
1.	Infective and Parasitic Diseases	-17	-41	-27	-19	-22	-30
2.	Neoplasms	-02	-14	-05	-10	-04	-12
3.	Allergic Endocrine System, Metabolic and Nutritional Diseases	-07	..	-12	-10	-10	-05
4.	Diseases of the Blood and Blood Forming Organs	-05	-04	-05	..	-05	-02
5.	Mental Psychoneurotic and Personality Disorders	-20	-09	-07	-10	-13	-09
6.	Diseases of the Nervous System and Sense Organs	-39	-45	-49	-28	-44	-37
7.	Diseases of the Circulatory System	-07	-04	-05	-02	-06	-04
8.	Diseases of the Respiratory System	2·04	1·64	2·23	2·21	2·13	1·92
9.	Diseases of the Digestive System	-93	-73	-90	1·11	-91	-91
10.	Diseases of the Genito-Urinary System	-05	-02	-05	-02	-05	-02
11.	Deliveries and Complications of Pregnancy, Childbirth and the Puerperium .. .. .	..	..	..	..	..	..
12.	Diseases of the Skin and Cellular Tissue	-07	..	-02	-07	-05	-04
13.	Diseases of the Bone and Organs of Movement	-02	-05	-07	..	-05	-02
14.	Congenital Malformations	3·22	4·37	3·66	3·53	3·44	3·96
15.	Certain Diseases of Early Infancy	11·39	11·54	13·47	13·03	12·43	12·27
16.	Symptoms, Sentility and Ill-defined conditions	-15	-02	-17	-05	-16	-04
17.	Accidents, Poisoning and Violence	-83	-41	-97	-94	-90	-67
	Total, All Causes	19·67	19·95	22·64	21·75	21·16	20·84

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

Perinatal Deaths

Combined figures for stillbirths and neonatal deaths are given in Table XI for 1936 (the first year for which data on stillbirths are available) and for the last five years.

TABLE XI—STILLBIRTHS AND NEONATAL DEATHS, NEW SOUTH WALES

Particulars	Year ended 31st December					
	1936	1957	1958	1959	1960	1961
Stillbirths	1,419	1,282	1,208	1,241	1,261	1,306
Deaths at ages under 1 week	1,092	1,136	1,055	1,166	1,109	1,135
Stillbirths and deaths under 1 week	2,511	2,418	2,263	2,407	2,370	2,441
Deaths at ages 1 week and under 28 days	274	166	170	158	141	149
Stillbirths and deaths under 28 days	2,785	2,584	2,433	2,565	2,511	2,590
Number of deaths per 1,000 total births (a)—						
Stillbirths and deaths under 1 week	52.74	29.95	27.85	29.31	28.47	27.83
Stillbirths and deaths under 28 days	58.49	32.00	29.94	31.24	30.16	29.53

(a) Live and Still combined.

Although in the 26 years covered by the table the number dying in the perinatal period per 1,000 total births has been nearly halved, approximately one out of each 33 foetuses of 28 weeks gestation still die before completing one month of extra-uterine life. The great majority of these babies die from antenatal causes and the improvement in the rate over recent years has been very gradual. As mentioned elsewhere in this report a special survey of the causes of deaths in the perinatal period is being undertaken in 1962.

E. Tuberculosis Division

ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Director : Dr. Keith W. H. Harris, M.B., B.S., D.P.H., F.C.C.P.

Deputy Director : Dr. V. G. S. Desgrand, M.B., B.S.

3 Medical Officers ; 42 Nurses ; 28 Clerical Officers ; 21 Operator/Receptionists ; 4 Radiographers ; 1 Survey Manager ; 1 X-Ray Technician ; 2 Dark Room Attendants ; 1 Motor Lorry Driver ; 3 Messengers.

In the early months of the year Dr. D. L. Ovedoff resigned to take up a position outside the Department. Although with the Division only a short time, the work he accomplished was greatly appreciated. Dr. V. G. S. Desgrand was appointed in his place.

Radiological Surveys

Statistics relevant to the above are contained in Tables I and II.

The above surveys will be considered under three sections, Mass Miniature Surveys, Special Surveys and those taken at the Chest X-ray Centre.

A. MASS MINIATURE SURVEYS

The number of X-rays taken in mass miniature surveys increased from 225,601 in 1960, to 250,175 in 1961. From these surveys 88 active cases of tuberculosis were detected, or 3.5 per 10,000 of films taken, while 280 cases are still under investigation. Other abnormalities of the lung numbered 1,458 and, by biopsy and other methods, 20 of these have so far been proved to be carcinoma of the lung and this number may be further increased by continuing investigations.

Review of the cases still under investigation at the end of 1960, as a result of the surveys done during that year, 365 in number, show that a further 27 cases of active tuberculosis have been notified. This brings the total for 1960 to 126. The number of cases per 10,000 micros was 5.60.

Areas surveyed during 1961 under the compulsory scheme were as follows :—

(a) Second Round Surveys :—

Shire of Oberon, Shire of Turon, Shire of Abercrombie, City of Bathurst, City of Orange, Shire of Canobolas, Shire of Lyndhurst, Shire of Waugoola, Municipality of Cowra, Shire of Narraburra, Municipality of Deniliquin, Municipality of Hay, Municipality of Forbes, Shire of Molong, Shire of Boree, Shire of Gilgandra, Shire of Bland, Municipality of Temora, Municipality of Condobolin, Municipality of Grenfell, Shire of Lachlan, Shire of Weddin, Shire of Balranald, Shire of Wentworth, Shire of Urana, Shire of Corowa, Shire of Wakool, Shire of Murray, Shire of Wade, Shire of Murrumbidgee, Shire of Carrathool, Shire of Leeton, Shire of Narrandera, Shire of Coolamon.

(b) Third Round Surveys :—

Shire of Berrangong, Shire of Jerilderie, Shire of Berrigan, Shire of Goobang, Shire of Timbongie, Shire of Sutherland, City of Liverpool, Municipality of Young, Municipality of Parkes, Municipality of Peak Hill, Municipality of Narromine, Municipality of Holroyd, Municipality of Fairfield.

B. SPECIAL SURVEYS

In 1961 the total coverage by special surveys increased to 14,054 as compared with 8,082 in 1960. Following the requests by various authorities special surveys were carried out in respect to the staff and/or patients of the following institutions or establishments :—

Bathurst Gaol, Goulburn Training Centre, Kirkconnell Prison Farm, The Macquarie Homes, Bathurst, Sydney University, The Drummoyne Workshops, Royal North Shore Hospital, The Salvation Army Home, Collaroy, S. & M. Box Factory and the Hawkesbury Agricultural College. A total of 7,186 persons were examined and four new cases of active tuberculosis found. Of these, two were gaol inmates, which emphasises the importance of the proposed 70 mm. micro camera installation at Long Bay Gaol for the screening of this social group.

Special surveys were also undertaken at the following Mental Hospitals and State Institutions with results as recorded below :—

Hospital	No. of X-rays	Active T.B.	Inactive T.B.
Bloomfield	1,540	16	23
Callan Park	1,518	8	15
Gladesville	1,452	16	29
Kenmore	1,123	16	26
Lidcombe	776	..	52
Broughton Hall	196	..	2
Newington	263	2	2
Total	6,868	58	149

C. CHEST X-RAY CENTRE

X-rays (70 mm.) taken at the Chest X-ray Centre totalled 35,520 in 1961 as compared with 29,957 in 1960. Various groups comprised this total but the majority were self-referrals. The latter attended the Centre instead of the Mobile Units of the Anti-Tuberculosis Association or Tuberculosis Division. It is not possible to give the attendance referable to each group without a punch carding system. Active tuberculosis cases found were as under :—

Doctor referrals	1
Public Service	1
Mercantile Marine	5
Private employers	1
Immigration Department	4
Contacts of Active Cases	2
Self referrals	39

In addition to the aforementioned activities, 10,966 large films were reported on at the Chest X-ray Centre. These came from the following sources :—

Snowy Mountains Hydro-Electric Authority	2,259
Chest X-ray Centre	1,256
Patients recalled from M.M.R. Surveys	4,987
Hospitals Commission, Agricultural Dept., etc.	2,464
	<u>10,966</u>

In country areas, in order to facilitate the handling of persons recalled with suspect abnormal films resulting from the M.M.R. Surveys, the following change of procedure was inaugurated. A Medical Officer of the Tuberculosis Division was present at the time of taking recall large films and interviewed the patient. This enabled the persons concerned to be informed of the probable nature of the abnormality immediately, and to be assessed regarding the need for further investigations. Arrangements were then made with respect to referral to a Clinic or private doctor. This procedure was particularly valuable in the following cases. Where the abnormality was minor in nature the patient could be reassured. On the other hand, where urgent action was required such as in the case of an open active tuberculosis condition or a pulmonary carcinoma arrangements could be made for admission to hospital immediately. This procedure has only been carried out in country hospitals where adequate X-ray facilities and interviewing rooms were available. When the truck containing the X-ray and developing equipment and an old caravan is converted to a mobile consulting room later in 1962, these limitations will no longer apply. Full medical coverage will also be made possible with the proposed additions to the medical staff at present being considered.

To assist in the mass radiography three of the original 35 mm. units have been converted to 70 mm. micro camera units. The fourth unit is expected to be ready for operation by March, 1962. Plans are being prepared for the replacement of the portable 35 mm. unit by a Siemens-Nanophos 70 mm. unit which is to be installed in a caravan. In 1962, the present large film unit will be replaced by a truck containing both X-ray machine and developing facilities as mentioned above. This latter unit will also be available for small micro-film surveys.

Summary of X-rays taken 1952-1961

As from 14th July, 1952, to 31st December, 1961, over 5½ million X-rays have been taken by this Division and the Anti-Tuberculosis Association of N.S.W. From these approximately 4,000 new active cases of tuberculosis were discovered.

Arrangements for Special Groups

A. HOSPITAL IN AND OUT PATIENTS

In the 1960 Annual Report, mention was made of the initial planning concerning X-raying of all persons admitted to hospital and those attending out-patients' departments.

This envisages that all hospitals with a minimum number of 4,000 in and out patients will be equipped with a 70 mm. unit. The number of hospitals that come within this category has been determined and an order of priority of supply arranged.

Final details concerning staffing are being worked out between the Hospitals Commission and the Department.

B. DENTISTS AND THE DENTAL PROBLEMS OF TUBERCULOSIS

As a result of co-operation between the Hospitals Commission, The Australian Dental Association, the Director of Dental Services and the Director of the Tuberculosis Division, the details of a plan for dealing with the dental problem of tuberculosis patients has now been circulated to all hospitals. The application of this plan will enable the tuberculosis in and out patients to obtain free dental treatment in connection with :—

- (a) Treatment for relief of pain ;
- (b) Extraction, amalgam and porcelain fillings ;
- (c) Urgently required repairs of dentures.

The patient's doctor is responsible to see that an examination is carried out, and also to see that a certificate is completed stating :—

- (a) That the patient is a tuberculosis sufferer ;
- (b) The type of dental work required ;
- (c) That such work is essential for the health of the patient.

Also, precautions were recommended to dentists involving :—

- (a) Annual X-ray ;
- (b) B.C.G. vaccination when necessary ;
- (c) Protective clothing ;
- (d) Sterilisation of instruments ;
- (e) Denture construction and disposal of material used ;
- (f) Dental adjustments and polishing and the disposal of articles used.

Epidemiological Surveys

The Epidemiology Section continued to carry out Mass and Special Surveys of school children, pre-school children, aborigines, trainee teachers, people in occupations of risk from tuberculosis infection and others in contact with Mantoux positive children. In addition, a Pilot Survey in the north west of New South Wales was conducted. Prophylactic chemotherapy continued to be arranged for the young positive reactor, together with special attention to "follow up" care for all those with large positive reactions. Household contacts of positive reactors, as in previous years, continued to be followed up. B.C.G. vaccination was confined to aborigines, contacts of tuberculosis patients and those at risk, Army and other Commonwealth personnel going overseas, and any referred by doctors.

Table III outlines the Australian and migrant-born Epidemiological results by certain groups. These are Primary School Groups 5-12 years, School Entrants, 5-6 years, School Leavers, 14-15 years and Secondary School Leavers, 17-20 years.

Table IV summarises the field covered by the Epidemiological surveys and compares the work carried out in year ending June, 1960, with the year ending June, 1961.

The Epidemiology Section report covers the period 1st July, 1960, to 30th June, 1961. It is considered under the following groups of mass tuberculin surveys, special surveys, the RT 23 Pilot Survey, B.C.G. vaccination, prophylactic chemotherapy, the follow-up of the positive reactor and his household and future plans.

Mass Tuberculin Surveys were conducted ahead of the mobile units of both the Division of Tuberculosis and of the Anti-Tuberculosis Association, and ranged over a large part of New South Wales. Aborigines and school children of all ages, including pre-school groups, where available, were tested. Trainee teachers and others who could be a risk to children; medical students; nurses; and persons at risk were included. The positive reactor rate, on the whole, showed an increase on previous figures—but this could be related to the planning of surveys more frequently in the areas of highest incidence. The attendance in the country area was excellent, but the reverse was so in the city schools. A renewal of lectures to Parents and Citizens' Associations could help to rectify this.

Special surveys were conducted in schools following the notification of a case of tuberculosis in a teacher or child. No active cases were found as a result of these surveys.

In the annual report for 1960, mention was made of a Special Pilot Survey in the north west of New South Wales which was conducted to compare the relative value of the accepted old tuberculin and the new RT 23 reactions. The results of this survey are now to hand, although it did not appear as successful as it was hoped. This was confirmed by the work of the World Health Organisation in other parts of the world. However, it is considered that the policy laid down by the World Health Organisation of reading indurations beginning at 1 mm. was a mistaken one and that, if the reaction is to be considered a positive one, the size must be greater or as great as 4 mm. to 5 mm. in induration.

In this pilot survey of Australian born, and in the five to twelve age group, reading indurations over 5 mm. and including the B.C.G. positive—

the Mantoux Test Positive Reactor Rate was 21.08 per cent. the RT 23 Test Positive Reactor Rate was 1.1 per cent.

The Mantoux Rate for 1961 for all New South Wales areas tested in the same age group was 6.9 per cent. On the other hand, the RT 23 positive reactor rate in the pilot survey and reading 4 mm. and over in induration, was 3.2 per cent. Perhaps an RT 23 figure between 3.2 per cent. and 1.1 per cent. is more in keeping with the cases found. It raises the question of whether or not the RT 23 reaction could be more specific than the old tuberculin in areas where the presence of atypical organisms is suspected.

The B.C.G. vaccination was given to the negative reactor aborigines of all ages in the areas tuberculin tested. When compared with previous years, an increased number of aborigines are showing positive reactions which is related to previous B.C.G. vaccination. The coloured people are now co-operating and becoming more confident in the measures being taken to assist them. On the South Coast, however, they are not so co-operative as in other districts. Medical students, nurses and others at risk continue to be vaccinated during the year.

Chemoprophylaxis of the young positive reactor, as outlined in the 1960 report, continues to be advised. These children are referred to clinics and medical practitioners.

The follow-up of the positive reactor and his household contacts continued to be assiduously carried out by letters, and, where necessary and possible, by visiting. As a result of this, 38 active cases were found in comparison with 31 in 1959-1960. Blue cards, which are given to the positive reactor and his contacts to take to the mobile units or clinics, are often not presented. Also, by the time information is received and lists checked, the active cases may have been accredited to other sources. From this it can be seen that more cases than those actually claimed could be accredited to the Epidemiological Section :—

In 1957-1958 active cases found totalled 29.

In 1958-1959 active cases found totalled 22.

In 1959-1960 active cases found totalled 31.

In 1960-1961 active cases found totalled 38.

Future plans include the continuing of present activities with further emphasis on searching for means of excluding non-specific reactions, the testing of trainee teachers, the extension of mantoux testing and B.C.G. vaccination to Dental, Veterinary and other students, and the carrying out of pilot surveys where indicated. Thought will also be given to limitation of the Mantoux Surveys to special age groups in the schools and the extension of these surveys to certain industrial groups will also be considered.

Migrants

Table III indicates the positive reactor rate of specific age groups of migrants. Table V gives the total number of migrants notified with tuberculosis in 1961 by sex and year of arrival in Australia. (A migrant is defined as anybody who was born outside Australia).

In Table III it can be seen that migrant Mantoux conversion rates are approximately twice that of the corresponding age groups of Australian-born children. This is in accord with the higher incidence of tuberculosis in their country of birth.

From the total migrant notifications it can be seen that 316 were notified for the year 1961 or 21.7 per cent. of the total notifications.

The following facts are of interest :—

Year	Total Notifications	Total Migrants Notified	Migrant per cent. of Total Notifications
1957	1,609	344	21.4
1958	1,399	271	19.4
1959	1,166	237	20.3
1960	1,533	336	21.9
1961	1,455	316	21.7

Although arrangements are made for the chest X-raying of all assisted migrants within one month of arrival in Australia, as well as prior to leaving country of origin, the unassisted migrants, who are thought to be mainly British, have no such check. Close liaison exists between the Department of Immigration and the Tuberculosis Division, but until the actual numbers of the migrants in New South Wales, by country of origin is known it would be impossible to assess the relationship between tuberculosis incidence, percentage of migrants entering Australia and country of their birth.

Visiting Nursing Section

There are now three metropolitan chest clinics fully staffed by this Division—Parramatta, Manly and St. George. In addition to this, six other chest clinics are assisted by having domiciliary visiting carried out by Sisters from the Tuberculosis Division. These are, Royal Prince Alfred, Randwick Chest, St. Vincent's, Royal North Shore, Sydney and Canterbury Hospitals.

A metropolitan Sister spends a considerable time in country areas relieving during holidays and sick leave and assisting during the follow-up of country mass miniature X-ray surveys.

A summary of the work done by the Domiciliary Sisters is shown in Table VI.

In December, 1960, a trial of Ethionamide was begun. Its organisation is under the control of the Senior Medical Officer. The work involved includes deliveries of the drug, collection of specimens and reports. This will continue until December, 1962.

Tuberculosis Allowance Section

As can be seen from Table VII, the number of new Tuberculosis Allowance Applications, was the highest since 1957, which was in accord with the continued high number of notifications. As the ratio of male to female notification continues to increase it is probable that more applicants will be financially eligible for the Tuberculosis Allowance. In contra-distinction to this the terminations increased by 30 to 946, whilst cases in pay at the end of the year decreased by 66 to 690. This was a reflection on the effect of modern therapy and the shorter period the sufferer was incapacitated.

The Tuberculosis Housing Committee this year nominated 36 families for Housing accommodation, bringing the total number of nominations to date to 306. Sixty-three cases were still under review awaiting nomination.

Case Register Section

The number of new cases of tuberculosis notified during 1961 was 1,455 a decrease of 78 on the 1960 figure. However, there were in addition, 74 notifications of doubtfully active cases, plus 34 notifications for which details were being awaited at the close of the year, totalling 108 probable new cases not included in the statistics.

There has been a general increase in the number of cases classified under the headings "Minimal", "Pleural effusion" and "Extra Pulmonary", whilst there has been a decrease in the number of cases classified under the headings "Moderately Advanced" and "Far Advanced".

There were 10 cases of Primary Tuberculosis and 90 Extra Pulmonary during the year. This is the first time that Primary Tuberculosis has been included in the statistics.

As in previous years, the majority of the "Far Advanced" cases were discovered by "Private Practitioner" and "Hospital" who shared approximately 60 per cent. of the cases, discovering 79 of the 132 cases under this category.

The Tuberculosis incidence in the State for the past five years is as follows :—

Year	Total Notifications.	Total Males	Total Females	Ratio to—	
				M.	F.
1957	1,609	1,096	513	1	0.47
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

The number of notifications by Death Certificate dropped from 7.6 per cent. to 5.4 per cent. This is a good sign of increased co-operation by the medical practitioners. However, the figure is still too high, and could be an indication of actual disease in the community which is not being notified, nor diagnosed whilst the patients are still alive.

Summaries showing source of discovery, type of disease and age incidence are given in Tables VIII and IX.

Decentralisation and Health Districts

A distinct step forward during this year has been the opening up of the Health Districts to a fuller extent. As far as the Tuberculosis Division is concerned many of the initial problems have been overcome, but the main problem is still that of clerical staffing within the districts.

Decentralisation became effective on 9th October, 1961, so no worthwhile comparison with previous years is available.

Brief notes from each Centre are as follows :—

A. NORTH COAST HEALTH DISTRICT

New clinic premises were made available by Lismore Base Hospital during October and the considerably increased space has facilitated the work of both the attending physician and Clinic Sister.

A proposed large film survey of the employees of the Casino Meat Works has been delayed pending the increased facilities in the X-ray Department of the Casino Memorial Hospital. The survey is considered most essential as three cases of tuberculosis have been found amongst employees of this establishment.

B. NEWCASTLE HEALTH DISTRICT

Gosford Chest Clinic was opened on the 15th June, 1961, and Dr. Desgrand, the Deputy Director, attends as required.

A new Clinic commenced at Taree on the 12th September, 1961. It opens monthly and is attended by a Sister from Newcastle and two local practitioners.

C. SOUTH COAST HEALTH DISTRICT

New sub-clinics were established at Bateman's Bay and Bega. All clinics functioned smoothly.

At Bega sub-clinic a man found to be suffering from active tuberculosis had been instructing live savers, firemen and ambulance men in mouth-to-mouth resuscitation. Contacts are being X-rayed and skin-tested and positive reactors put on I.N.A.H.

D. WESTERN HEALTH DISTRICT

As Mass Miniature Radiography and Epidemiology surveys were carried out in this area there was considerable additional case load at each clinic and sub-clinic.

A new sub-clinic was opened at Parkes during the year.

Lidcombe State Hospital

There are some problems associated with the functioning of the tuberculosis ward in this hospital.

No use was made of the locked ward during the year 1961, and the recalcitrant sufferers from tuberculosis who were committed by order were admitted to the general tuberculosis ward. This made it very difficult for their conduct and treatment to be adequately supervised. No means were available of preventing these patients discharging themselves. Therefore, adequate control of this type of person was not yet possible.

Training Courses

During the current year training courses of two weeks' duration were held for doctors employed in country clinics. A new departure was the institution of training courses for appointees to the domiciliary nurses and to the country clinics. These extend over a period of three weeks and comprise all aspects of tuberculosis and outside clinics and organisations fully co-operated with the scheme.

For the first time a Nurses' Refresher Course was carried out within the Tuberculosis Division. It consisted of two periods, the first on the 1st to 5th May inclusive, and the second from the 22nd to 26th May inclusive.

Sixty-one nurses attended, only seven of whom had previously had the opportunity of attending a refresher course of this nature. From the sixty-one, nineteen attended from hospitals and clinics which were not attached to the Department, and the remaining forty-two were actual members of the Tuberculosis Division.

The nurses who attended submitted suggestions which showed the value of the course, the fact that it should be extended to two weeks and include additional lectures on social work and other aspects of Tuberculosis.

Physicians and Bacteriological Conferences

Two further conferences were held during the year, and as a result :—

A Committee was formed consisting of leading Chest Physicians and the Director of Tuberculosis, to discuss the value of new Anti-Tuberculosis agents which are introduced by the various drug houses. It is intended that this committee will recommend as to the usefulness of these agents, and, if a clinical trial is necessary, will set down the criteria for such a trial.

In view of the difference in standards of bacteriological work in the tuberculosis field, the Director of the Institute of Clinical Pathology will endeavour to arrange standardisation of such procedures per medium of the Microbiological Society.

Overseas Visit

During 1961, the Director of Tuberculosis visited Tuberculosis Institutions in Honolulu, San Francisco, Toronto, New York, Japan, Hong Kong, and Singapore. The primary reason for this visit was to attend the XVIth Conference of the International Union Against Tuberculosis in Toronto. Much valuable information was collected which dealt with health education, case registers, case finding procedures, contact follow-up, legal measures and other matters especially relating to Public Health Control of Tuberculosis.

Conclusion

This year has seen further progress in the campaign of tuberculosis control. Although there is much to be achieved, there are signs that portend well for the future. The assistance and co-operation received from senior officers of the Department of Health, the staff of the Tuberculosis Division and extra-departmental bodies has played no small part in this.

TABLE I—SUMMARY OF MASS MINIATURE SURVEYS COMPLETED DURING 1961

Statistical Division	No. of Micro Film Examinations	Estimated Total Potential Population of Proclaimed Areas	Per cent. Coverage	Technical Faults	Probable Abnorm. Requiring Re-rays		Active T.B. Diagnosed			Inactive T.B.	Other Abnormalities	Under Investigation
					No.	per 10,000 micros	Previously known	Not Previously known	Cases per 10,000 micros			
Cumberland	114,246	182,609	62.5	0.75	1,933	1.69	2	38	3.50	411	442	28
Sth. West Slope ..	18,518	16,680	111.0	0.27	497	2.68	..	3	1.62	80	127	30
Central Tableland ..	39,108	36,687	106.1	0.35	900	2.30	..	21	5.30	300	396	44
Central Western Slope	26,392	25,613	103.0	0.13	482	1.82	..	8	3.03	139	230	65
Central Plain	5,093	3,270	156.0	0.19	120	2.35	..	1	1.96	28	40	20
Western	3,636	2,800	129.8	1.04	68	1.87	..	..	..	18	15	8
Riverina	43,182	49,480	86.6	0.58	987	2.28	1	17	3.16	196	208	85
	250,175	317,139	78.8	0.52	4,987	1.99	3	88	3.50	1,172	1,458	280

TABLE II—X-RAYS TAKEN AT THE CHEST X-RAY CENTRE AND SPECIAL SURVEYS

	No. of Micro-Film Examinations	Technical Faults		Probable Abnormalities Requiring Re-rays		Active Cases Diagnosed	Active Cases per 10,000 Micros	Inactive Cases Diagnosed	Other Abnormalities	Still under Investigation
		No.	Per 100 Micros	No.	Per 100 Micros					
Chest X-ray Centre ..	35,520	229	-64	849	2.39	58	18.29	316	249	38
State and Mental Hospitals ..	6,868	25	-37	539	7.75	58	88.50	149	95	5
Miscellaneous	7,186	13	-18	107	1.5	4	5.63	24	15	3
	49,574	267	-54	1,495	2.99	111	22.56	489	359	46

TABLE III—COMPARISON BY AGE GROUPS OF AUSTRALIAN AND MIGRANT POSITIVE REACTORS—1961

	Australian	Migrant
Primary School Group (5-12 Years)—		
No. tested and read	133,806	7,485
Positive Reactor rate	6.97 per cent.	13.2 per cent.
School Entrants (5-6 years)—		
No. tested and read	17,043	519
Positive reactor rate	2.9 per cent.	5.8 per cent.
School Leavers (14-15 Years)—		
No. tested and read	10,513	1,145
Positive reactor rate	14.6 per cent.	26.9 per cent.
Secondary School Leavers (17-20 Years)—		
No. tested and read	1,277	Numbers of Migrants not statistically sufficient
Positive reactor rate	21.9 per cent.	

TABLE IV—SUMMARY OF ACTIVITIES OF THE EPIDEMIOLOGICAL SECTION FOR 1961, COMPARED WITH 1960

	Total—Year ended June, 1960	Total—Year ended June, 1961
Field Surveys—		
No. of schools visited	806	1,090
No. of pupils tested and read ..	156,198	188,214
No. of positive reactors	18,609 + 719 previously had B.C.G.	16,978 + 811 previously had B.C.G.
Total No. of X-rays	57,524	55,324
No. of persons with active tuberculosis ..	31	38
No. of persons with inactive tuberculosis ..	412	204
No. of persons with lesions other than tuberculosis	308	269
Pilot Survey—		
No. of persons tested and read ..	....	13,945
No. of reactors to Mantoux and R.T. 23 .. ..	....	3,222
No. of reactors to Mantoux only ..	....	2,997
No. of reactors to R.T. 23 only ..	....	725
Trainee Teachers—		
No. tested and read	1,802	1,755
No. of positive reactors	324 + 185 previously had B.C.G.	344 + 73 previously had B.C.G.
Australian positive reactor rate ..	20.04 per cent.	19.8 per cent.
Aborigines—		
No. tested and read	1,022	1,907
No. of positive reactors	460 + 113 previously had B.C.G.	528 + 322 previously had B.C.G.
Vaccinated	440	869
Others—Contacts and those at Risk—		
No. tested and read	1,765	537
No. of positive reactors	483 + 156 previously had B.C.G.	142 + 90 previously had B.C.G.
Vaccinated	148	115
B.C.G. Conversions—		
No. tested and read (White)	33	13
No. of positive reactors	31	12
Positive reactor rate	93.9 per cent.	93.2 per cent.
No. tested and read (aborigine) ..	106	27
No. of positive reactors	92	27
Positive reactor rate	86.79 per cent.	100 per cent.

TABLE V—NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS—MIGRANTS—1961

	Year of Arrival in Australia														Total											
	Prior to 1946		1946-1952		1953		1954		1955		1956		1957				1958		1959		1960		1961			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
COUNTRY OF BIRTH																										
United Kingdom ..	69	13	17	4	..	2	1	2	..	1	2	1	3	..	1	..	2	3	3	1	1	1	99	28	127	
Austria ..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Czechoslovakia ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Germany ..	3	1	2	1	..	1	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	8	4	12
Greece ..	3	..	2	..	..	..	..	1	..	1	2	..	..	..	..	..	..	..	1	1	..	..	8	3	11
Hungary ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	3	..	..	..	1	..	..	..	5	..	5
Italy ..	3	1	2	2	1	..	..	..	..	1	..	2	1	..	2	2	1	1	1	1	..	..	12	8	20
Netherlands ..	1	..	5	1	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	3	10
Poland ..	2	..	6	5	..	..	..	..	..	..	1	..	..	1	..	..	1	1	..	1	..	..	11	7	18
Rumania ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
U.S.S.R. ..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	2	..	1	1	..	2	2	..	6	4	10
Yugoslavia ..	1	..	2	1	..	..	..	..	..	..	..	1	..	..	2	5	1	1	1	..	..	..	9	6	15
Other European ..	7	1	8	1	1	..	..	..	..	2	..	..	..	..	1	1	..	1	..	..	..	..	19	4	23
Cyprus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	5
Malta ..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
African ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
China ..	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Japan	1	10	1	11
Other Asian	1	1	1	..	1
U.S.A. ..	1	1	1	..	1
Canada
Central/South America
New Zealand ..	10	4	1	1	1	1	2	12	8	20
Other	1	1	..	1
Total ..	107	20	54	16	2	3	3	3	1	2	6	5	8	2	6	8	12	10	13	7	19	9	231	85	316	
STAGE OF DISEASE																										
Primary ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Minimal ..	33	7	17	6	..	3	..	2	..	1	1	3	3	..	3	4	7	6	5	3	7	7	76	42	118	
Mod. Advanced ..	56	9	29	7	1	..	1	1	..	1	2	1	5	..	3	2	5	1	7	..	9	1	118	23	141	
Far Advanced ..	14	2	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23	4	27
Pleural Effusion ..	2	..	1	1	1	4	4	8
Extra-Pulmonary ..	..	2	1	3	1	..	2	..	1	..	2	1	..	..	1	..	..	..	3	1	..	..	8	11	19
Death Certificate ..	2	2	..	2
Total ..	107	20	54	16	2	3	3	3	1	2	6	5	8	2	6	8	12	10	13	7	19	9	231	85	316	
SOURCE OF DISCOVERY																										
Priv. Pract. ..	20	4	8	5	1	1	2	2	1	..	2	2	2	1	1	2	1	..	3	4	1	..	42	23	65	
Chest Clinic ..	17	5	11	3	..	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	39	15	54
Sanatorium ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hospital ..	12	7	4	3	..	..	..	..	..	2	3	2	..	..	1	2	3	5	1	3	4	3	28	27	55
Repat. Dept. ..	12	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	..	13
Contact Follow-up ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Mantoux Testing ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Mass X-ray Survey—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Health Dept. ..	17	..	8	1	..	1	..	1	..	1	..	1	..	2	..	2	..	4	..	5	2	..	40	5	45	
Anti-T.B. Assoc. ..	25	3	18	4	1	..	..	..	..	..	1	3	..	2	2	2	1	4	..	1	1	..	54	12	66
Other ..	2	..	5	..	..	..	..	..	..	..	..	..	..	1	2	1	..	..	1	..	..	..	12	2	14
Total ..	107	20	54	16	2	3	3	3	1	2	6	5	8	2	6	8	12	10	13	7	19	9	231	85	316	

TABLE VI—SUMMARY OF WORK OF DOMICILIARY SISTERS IN METROPOLITAN AREA IN 1961 COMPARED WITH 1960

	1960	1961
No. of working days at clinic ..	796½	923½
No. of cases receiving Streptomycin ..	1,233	1,248
No. of visits to cases receiving Streptomycin ..	14,980	15,364
No. of visits for dressings ..	1,735	1,944
No. of visits made at request of this Division other than Streptomycin or dressings ..	11,016	13,286
No. of visits made at request of other doctors, clinics, etc. ..	1,448	982
	29,149	32,476

TABLE VII—STATISTICS CONCERNING THE TUBERCULOSIS ALLOWANCE SECTION

Application for Tuberculosis Allowance	1956	1957	1958	1959	1960	1961
Action incomplete at end of previous year.	20	28	40	19	39	12
New applications	1,023	824	643	661	688	709
Renewals	206	157	132	121	120	126
	1,249	1,009	815	801	847	847
Approvals	1,123	999	795	716	819	904
Refusals	53	52	36	11	17	16
Not proceeded with	3	Nil	4	Nil	Nil	Nil
Action incomplete	28	40	19	39	12	19
	1,207	1,091	854	766	848	939
Terminations	1,486	865	752	650	916	946
Cases in pay at end of year.	1,503	119	751	908	756	690

TABLE VIII—NOTIFICATION OF NEW CASES OF TUBERCULOSIS DURING YEAR ENDED 31ST DECEMBER, 1961

	Stage of Disease														Total		
	Primary T.B.		Pulmonary								Extra-Pulmonary		Death Certificate				
			Minimal		Moderately Advanced		Far Advanced		Pleural Effusion								
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	P.		
SOURCE OF DISCOVERY																	
Private Practitioner	1	37	35	115	31	31	15	5	5	14	19	..	..	202	106	308
Chest Clinic	1	43	22	51	25	13	2	1	1	..	1	..	..	108	52	160
Sanatorium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hospital	3	3	58	27	59	24	24	9	10	4	24	28	..	178	95	273	
Repatriation Dept.	..	..	61	3	33	..	3	..	..	..	2	..	..	99	3	102
Contact Follow-up	1	..	8	7	3	4	1	..	1	..	..	..	..	14	11	25
Mantoux Testing	..	..	2	5	3	2	..	..	..	..	..	..	..	5	9	14
Mass X-ray Survey—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Health Dept.	..	..	55	24	70	20	11	1	1	..	..	..	..	137	45	182
Anti-T.B. Assoc.	1	..	61	27	124	32	19	2	..	..	..	..	..	205	62	267
Other	..	..	11	6	20	6	1	..	..	..	..	..	..	32	12	44
Death Certificate	..	..	..	..	..	..	..	..	..	..	..	..	60	19	60	79
Total	5	5	337	156	478	144	103	29	18	11	40	50	60	1,041	414	1,455	
AGE-GROUP (YEARS)																	
Under 1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
1-4	2	3	2	7	..	1	..	..	..	..	12	9	..	16	20	36
5-9	..	..	5	6	2	1	..	..	..	..	3	2	..	10	9	19
10-14	..	2	3	2	2	..	..	..	..	..	1	1	..	7	5	12
15-19	1	..	7	5	4	7	..	..	2	1	2	2	..	16	15	31
20-24	..	..	13	13	11	6	3	1	1	3	4	6	..	32	29	61
25-29	..	..	11	14	14	10	4	2	3	1	1	4	..	33	31	64
30-34	..	..	22	18	33	10	4	6	3	1	3	4	..	65	39	104
35-39	..	..	31	16	40	20	5	2	..	2	4	9	..	80	50	130
40-44	..	..	44	10	45	14	10	4	..	1	5	5	2	100	35	135
45-49	..	..	43	15	52	20	12	..	1	2	1	2	1	113	38	151
50-54	..	..	44	16	60	8	9	2	..	1	3	2	5	121	29	150
55-59	..	..	27	7	49	7	14	4	..	1	3	2	6	99	22	121
60-64	..	..	21	11	60	11	13	..	3	1	11	1	7	108	25	133
65-69	..	..	30	6	38	12	9	3	..	..	1	1	4	85	25	110
70-74	..	..	21	4	35	4	7	..	..	..	2	10	2	75	12	87
75 and over	..	..	11	3	30	13	13	5	1	..	1	..	19	4	75	25
Not Stated	..	..	2	3	3	..	..	..	..	..	..	..	2	5	5	10
All Ages	5	5	337	156	478	144	103	29	18	11	40	50	60	1,041	414	1,455	

TABLE IX—COMPARISON OF FORM AND/OR STAGE OF DISEASE FOR 1960, AS COMPARED WITH 1961

Form and/or Stage of Disease	1960		1961	
	Number	Percentage of Total	Number	Percentage of Total
Primary	..	..	10	0.6
Minimal	496	32.35	493	33.9
Moderately Advanced	675	44.04	622	42.8
Far Advanced	156	10.17	132	9.1
Pleural Effusion	11	0.72	29	2.0
Extra Pulmonary	78	5.08	90	6.2
Death Certificate	117	7.64	79	5.4
	1,533	100.0	1,455	100.0

F. Division of Occupational Health

ANNUAL REPORT, 1961

Staff

Director : Alan Bell, M.B., B.S., D.I.H.

Senior Medical Officers : E. O. Longley, M.B., B.S.; D. C. Trainor, M.B., Ch.M., F.R.C.S.E., F.R.A.C.S.

Adviser, Industrial Nursing : Miss E. G. Roach, S.R.N., R.M.N., O.H.N. Cert. (R.C.N. Lond.).

Industrial Health : Officer-in-Charge, Mr. A. T. Jones, B.Sc.; Four Scientific Officers ; One Laboratory Assistant.

Radiation Branch : Officer-in-Charge, Mr. H. M. Whaite, B.E.; Two Scientific Officers ; Two Photographic Assistants.

Air Pollution : Chief Scientific Officer, Dr. J. L. Sullivan, Ph.D., M.Sc., A.M. Chem. E.; Two Scientific Officers ; One Analyst-in-Training.

Human Factors Engineering : Officer-in-Charge, Mr. N. J. C. Peres, M.Sc., A.M.I.E. (Aust.), A. Inst. P.; One Scientific Officer ; One Demonstrator.

Other Staff : One Laboratory Attendant ; Six Clerical Staff.

During the year the staff increased by five—namely three scientific officers, a demonstrator in human kinetics and a typist.

The Director visited the United States of America, Canada, Great Britain and Sweden during a 10 weeks study tour. The main objects were to study certain administrative aspects and developments in industrial health, air pollution, radiation, and agricultural health in addition to attending the 1st International Conference on Ergonomics in Stockholm.

Dr. Bell accepted an honorary appointment to serve as a member of the World Health Organisation Expert Advisory Panel on Occupational Health.

In August Dr. D. C. Trainor, divisional senior medical officer, was invited to participate in the 10th Pacific Science Congress held at Honolulu ; he delivered a paper on the toxicology of the Chlorinated Hydrocarbon Pesticides.

Dr. J. L. Sullivan attended the training course on "Atmospheric and Source Sampling" organised by the R. A. Taft Sanitary Engineering Center, Cincinnati, at Honolulu.

Dr. Sullivan submitted his thesis "The nature and effect of Aerosols and Gaseous pollution in N.S.W." to the University of N.S.W.; this was accepted and the degree Ph.D. granted.

Statistical Data

The major activities of the Division are shown in Tables I and II :—

TABLE I

Type of Activity	1959	1960	1961
Number of Patients Examined	1,240	1,786	1,228
Blood slides examined for evidence of lead poisoning—			
(a) Slides sent by medical officers of factories where a lead process is carried out	4,948	5,135	3,286
(b) Slides of men examined at Division	543	362	620
(c) Numbers of slides examined by "approved medical officers" .. .. .	..	..	1,781
Number of other pathological tests carried out in the division	3,201	3,443	4,232
Inspections—			
Number of factories visited	1,205	955	1,483
Number of theatres and halls inspected	14	1	9

TABLE II

The subjects most commonly investigated, apart from atmospheric pollution were :—

Type of Visit	Number of Visits
Radiation	311
Atmospheric pollution	304
Human engineering	191
"Gases"	150
Industrial noise	120
Lead	110
Industrial nursing	83
Residential noise	61
Manual handling	61
Dermatitis	47
Environmental heat	40

Educational Activities

PUBLICATIONS—

Bell, A., Occupational Health : The Pattern in Australia with particular Reference to New South Wales—*International Nursing Review*, Sept./Oct., 1961.

Longley, E., Oil Dermatitis—Departmental Booklet.

Peres, N. J. C., "Human Engineering and the Factory"—*Australian Factory*, April, 1961.
"Process Work without Strain"—*Australian Factory*, July, 1961.

Trainor, D. C. T., Atomic Radiation and its Effects of Health—Departmental Booklet.

Weston, H. R., Noise : The Potential Hazard and Hearing Conservation—*Castings*, April and May, 1961.

Lectures

Numerous addresses dealing with our varied activities were given to many technical and professional audiences. Lectures were also given to the students taking the Public Health Engineering Course organised by the University of N.S.W. and to new factory inspectors.

Three courses in dust sampling techniques were given to officers of the Metropolitan Water, Sewerage and Drainage Board and of the Joint Coal Board.

Two industrial nurses were trained to carry out stipple cell counts.

New Acts and Regulations

(a) CLEAN AIR ACT

This Act was assented to in December, 1961 ; its provisions are discussed elsewhere in this report.

(b) POLICE OFFENCES (AMENDMENT) ACT, 1908

The Regulations under this Act were amended to allow authorised persons (for example first aiders) to use morphia, or morphine like substances, in approved mines ; the object being to relieve pain in the event of accidents occurring under circumstances where medical practitioners cannot quickly reach the scene of the injury.

(c) METHYL BROMIDE

During the year Part VIIA of the Public Health Act was amended so as to give the department control over the use of Methyl Bromide when used for the purposes of fumigation.

The main provisions of the amendments are :—

- (a) to restrict its use to "approved personnel" ;
- (b) to require all Halide lamps to be tested once per year ;
- (c) to require each fumigator to have an approved respirator and suitable protective clothing ;
- (d) to require rooms and vaults used for fumigation to be mechanically exhausted at the rate of 60 air changes per hour.

Medical and Scientific Activities

During the past few years the pattern of work undertaken has gradually altered and been enlarged. Broadly speaking our activities may be subdivided into five groups, namely :—

Industrial Health—including noise, agricultural health and the evaluation of the efficiency of certain items of personal protective equipment.

Radiation.

Atmospheric Pollution.

Human Engineering.

Medical—including industrial nursing.

It is only possible to refer briefly to certain of our investigations and activities in each of these fields.

I. INDUSTRIAL HEALTH

LEAD

Table III shows the results of blood slides examined for stipple cell counts.

TABLE III

Industry	Number of Slides Submitted			Number of Slides with Stipple Cell Counts of—					
				3,000—5,000			5,000 or more		
	1959	1960	1961	1959	1960	1961	1959	1960	1961
Battery works	1,988	2,269	2,927	99	80	218	38	64	76
Manufacture of lead compounds ..	476	525	1,324	57	30	219	6	16	98
Miscellaneous other users of lead ..	2,480	2,341	1,436	286	115	144	81	56	80
Totals	4,944	5,135	5,687	442	225	581	125	136	254

CARBON MONOXIDE IN VEHICLE EXHAUSTS

(1) Exhaust Purifier by Oxy Catalysis

Considerable time has been spent investigating the efficiency of exhaust gas clean up using catalytic type scrubbers fitted to the exhaust of internal combustion engines. The purpose was to gauge the practical use of such equipment in confined areas on vehicles used mainly for lifting. For this type of "scrubber" to be effected non-lead petrols must be used, as lead acts as a poison to the catalyst. The efficiency of the unit also depends on the temperature at which it is operating, being in the range 450-650° F.

Initial tests were carried out in a textile factory store, a closed garage and the hold of a ship with the following results :—

Store	Carbon Monoxide Concentration Parts/Million
(1) Approx. 2 feet from tail pipe—idling	500
(2) Approx. 2 feet from tail pipe—fast running ..	270
(3) General atmosphere of store 100 ft. x 80 ft. x 9½ ft. after 15 minutes	100
Garage—	
(a) 2½ feet from exhaust outlet—idling	50
(b) 2½ feet from exhaust outlet—fast running	100
(c) 3 feet from exhaust 10 mins. running	400
(d) 3 feet from exhaust 15 mins. running	75
(e) 3 feet from exhaust 30 mins. running	50
Ships hold—well ventilated—	
(a) 3 feet from exhaust after 30 minutes work cycle—idling	130
Ship hold—Good natural ventilation—	
(1) 3 feet from exhaust—idling	130
(2) 3 feet from exhaust—running speed	15
(3) General atmosphere 1 hour running	Nil detected

Further work was then carried out at the University of New South Wales on a bench motor ; measurements of speed, temperature, oxygen, carbon dioxide, carbon monoxide, aldehydes, and air fuel ratio were made.

Ranges of concentrations of exhaust gases were as follows at varying temperatures and speeds and slightly varying air fuel ratios :—

	Before Purifier	After purifier
Oxygen—per cent.	0.6-16.2	1.7-11.8
Carbon dioxide—per cent.	1.8-14.5	2.2-11.0
Carbon monoxide—per cent.	0.1- 2.8	0.02- 1.0
Aldehydes-parts/million	31.7-41.8	6.8-11.8

It was concluded that the oxy-catalyst reduced carbon monoxide and aldehydes in the exhaust gases, but there were some limitations in the design and robustness of some parts of the equipment. The importance of engine maintenance and logging of operating time of the purifier are stressed.

(2) *Liquified Petroleum Gas*

Testing of several motors bench and operating, powered with L.P. Gas attachments have also been carried out with the following results :—

- (1) Before bench Holden motor adjusted—80 ppm carbon monoxide.
General atmosphere 6 feet from exhaust.
- (2) After exhaust analysis and adjustment of engine mixture—
 - (a) Idle—oxygen 12.8 per cent.—carbon dioxide 4.2 per cent.—carbon monoxide 0.6 per cent.
 - (b) Fuel—oxygen 3.2 per cent.—carbon dioxide 11.8 per cent.—carbon monoxide 0.2 per cent.
Governed
revs.
1500 rpm.

Bench Austin Motor—

- (a) Idle—oxygen 9.0 per cent.—carbon dioxide 7.7 per cent.—carbon monoxide 0.07-0.2 per cent.
7.3 per cent.—carbon dioxide 9.0 per cent.—carbon
- (b) Full revs.—oxygen 2.9 per cent.—carbon dioxide 12.0 per cent.—carbon monoxide 0.07-0.2 per cent.

Garage—

General atmosphere 1 hour alleged running—30 parts Carbon monoxide/mil.

The products of combustion are much the same as a petrol driven motor although, provided the fuel-air system is properly adjusted, more complete combustion is achieved with a resultant lower carbon monoxide content. Air-fuel ratios must be closely watched.

DUST

(a) *Wheat Dust*

A case of pneumoconiosis in a silo worker was investigated. Dust tests and free silica analyses were done at a city wheat terminal and at five of the country terminals at which the applicant worked.

Average dust exposures ranged from 30 particles per cubic centimetre in a horizontal storage receiving harvested wheat to 300 particles per cubic centimetre in a vertical storage. Dust concentrations in the terminal were during receiving 185 particles and shipping 240 particles per cubic centimeter. This only includes dust of respirable size.

The free silica content of bulk samples, by X-ray crystallography, ranged from approximately 5-12 per cent.

A reasonable standard for such dust would be 600 particles per cubic centimetre.

(b) *General Dusts*

Through the Joint Coal Board Standing Committee on Dust Control, several automatic dust counting and particle sizing devices were investigated on a quantitative basis. These were the Coulter Counter and the Cintel Flying Spot Particle Analyser. Owing to minimum size limitations, the instruments did not appear to be entirely satisfactory for routine dust counting of the type required. Further assessment is to be carried out with the latter instrument.

CYANIDE EXPLOSION

A serious accident resulting from an explosion in an experimental cyanide heat treating container, situated in a laboratory was investigated. Analyses of the materials indicated that the cyanide heat treatment salt was contaminated with a small amount of potassium nitrate, sufficient to initiate the explosion when the crust of the cyanide was broken. This occurrence had been previously reported overseas, but had not been known in Australia.

As nitrate salts are also used in heat treatment of steels in some cases, and the two salts may be held in the one store, a general warning of the possibility of such an occurrence, together with the need for strict precautions, was issued to the industry.

METAL SPRAYING

1. Zinc

For some years spraying of molten zinc metal has been done. In that time reports have indicated some cases of "metal fume fever" as a consequence. Tests were carried out in one factory as a result of several such occurrences. Concentrations in breathing zones were as follows :—

1960—111.5, 40 and 130 milligrammes per cubic metre.

Recommendations were made on ventilation means of control and further tests carried out. At this time an airline respirator was available for confined spaces but was not worn during the test.

1961—40 and 57 milligrammes per cubic metre.

All results were above the standard concentration of 10 milligrammes per cubic metre of air.

Owing to some dispute, analyses for both zinc oxide and zinc metal were done on further samples, with the results :—

Zinc oxide—Zinc.

75.5 milligrammes per cubic metre—9.7 milligrammes/M³.

76.7 milligrammes per cubic metre—19.3 milligrammes.

Further consideration is being given the control of these exposures.

Aluminium Spraying

The use of a new semi-automatic spraying of molten aluminium onto cloth, for the manufacture of capacitors was investigated. One operator is in attendance in a naturally ventilated room.

A concentration of 15.1 milligrammes aluminium per cubic metre of air, about 90 per cent. by number below 10 microns in size was found. Operators wore anti-dust respirators.

No exposure standard has been set by any authority, but in the circumstances a standard of 10 milligrammes per cubic metre of air as for zinc was suggested as reasonable.

The process has been modified to reduce the escape of dust.

EXPOSURE TO ALKALOIDS

A process of drying and packing leaves of the plant *Duboisia myoperoides*, which contains hyoscyne and hyocyamine alkaloids, had been causing complaints of blurred vision from operators. Tests did not indicate any vapour exposure in the atmosphere, but visually a considerable amount of dust became airborne from several operations. Both operators had reduced pupils and it appeared that straight out physical manual contact was the cause.

Suggestions for enclosing those parts of the process producing dust were put forward.

PHOSPHINE

Further investigations were carried out for phosphine exposure at a shipping terminal following "Phostoxin" treatment in situ, in rail wagons, and at a country silo. Phosphine exposures were in the range—0.37-16.0 parts per million whilst handling rail wagon fumigated wheat—0.2-35.0 parts per million when shipping this wheat after given further light treatment of 1-2 tablets per ton.

These results varied with the position of the various operators.

Following these results both railwagon fumigation and shipping terminal "Phostoxin" treatments were suspended. Subsequent fumigation was carried out in country sub-terminals where longer standing periods after treatment could be allowed :—

Country Treatment—

(1) During treatment	0.3 parts phosphine/mil. of air.
(2) After 1 day stand	0.27 parts phosphine/mil. of air.
(3) After 1 day stand	0.23 parts phosphine/mil. of air.
(4) After 1 month stand	0.08 parts phosphine/mil. of air.
(5) Conveyor discharging treated wheat in tunnel ..	0.15 parts phosphine/mil. of air.
(6) Charging port to rail wagon	0.17 parts phosphine/mil. of air.
(7) Arrival at shipping terminal on top of wagon when opened	Nil detected.
(8) Dropping wheat in track shed	Nil detected.

A considerable amount of time was spent on developing test methods and stain standards, in association with the Defence Standards Laboratories and Departments of Health and Agriculture, Victoria. Eventually standard stains were developed both here and in Victoria on silver nitrate treated dried filter papers. At the same time a silver nitrate impregnated silica gel detector tube was developed which has shown much promise.

A combined technical conference under the chairmanship of the Australian Wheat Board was held; a standard method of sampling with silver nitrate papers was adopted. The general properties of Phostoxin tablets, the evolution of phosphine residual powders and dilution of gas in time all received a great deal of attention. Two techniques of analysing silver deposits, one based on silver rhodinate and the other on silver sulphide were developed in the Division's laboratories and have been used with considerable success.

ACETIC ACID

A compound containing 25 per cent. acetic acid is now used for the purpose of loosening wool from hides. It is claimed that this compound gives a greater yield than the older sodium sulphide method. Five men exposed to concentrations of up to 50 ppm complained of upper and lower respiratory tract symptoms; one had blackened teeth. Exposures were highest in the room where the hides are dried subsequent to painting.

AIRLESS SPRAY PAINTING

This new process was investigated in several situations whilst a lead base paint was being applied. Several samples taken at the breathing zone of the operators revealed lead in air concentrations of 1.75, 6.58, 1.64 and 5.67 mg. of lead per c.m. of air respectively. These tests did not bear out the manufacturer's claim that the process was an inherently safe one.

BENZENE

Several types of motor fuel were analysed to determine their benzene content. The percentages present varied from 0.35 per cent. to 4.64 per cent. V/V; in many instances the standard fuel contained more than the super grade.

NOISE

During the last 12 months interest in this subject has increased considerably. Forty-one different industries have been visited in connection with the control of inplant noise, group audiometric examinations or residential noise. Where necessary, advice as to methods of controlling the noise at source or the use of ear defenders has been given. In addition to the foregoing three surveys have been carried out. These are:—

- (1) Noise from high speed dental drills and their possible effect on the hearing of dentists using them. This was carried out because certain investigators overseas found evidence of occupational impairment. Our survey showed no noticeable impairment on a group of dentists in the Sydney area, but it is thought worthwhile repeating the hearing tests on the same dentists in 2 years time.
- (2) Farm tractor noise and hearing acuity of farmer drivers. A number of light to medium to heavy tractors were tested.
- (3) A number of commercially available room air-conditioners have been tested to determine their respective noise levels.

AGRICULTURAL HEALTH

For many years the Division has been interested in one important aspect of agricultural health—namely the safe usage of pesticides. However, the concept of agricultural health is very much wider than this and includes specific problems of noise, tractor design from the ergonomic point of view, certain toxic gases, dermatitis, first aid—to mention but a few.

Mr. G. Simpson has been appointed to the Division to develop and extend this new activity. Of necessity, during the year he has been engaged on making contacts and exploring the field generally. Visits have been made to Young, Orange, Gosford, Windsor, the Murrumbidgee Irrigation Area in addition to vegetable and fruit areas near Sydney. In all of these activities there is close liaison with the Department of Agriculture.

DIELDRIIN POISONING

A case of acute poisoning was seen recently in a woman of 48 who had drunk a pesticide containing dieldrin with suicidal intent. The amount drunk was not known. She had several convulsions which on admission to hospital were controlled by barbiturates and relaxants. Though she improved clinically, she passed no urine from the time of her admission. The blood urea nitrogen rose to 160 mg per cent. on the fourth day though she still seemed relatively well. On the morning of the fifth day she had a sudden fall in blood pressure and died having failed to respond to pressor agents. There was a remarkable thrombosis of the peripheral veins. No changes attributable to chemical toxæmia were found in the liver or kidneys.

CHOLINESTERASE LEVELS

The Division continued to encourage certain country hospitals to provide facilities for carrying out this test for the purpose of diagnosing poisoning by the organo phosphate compounds.

During the year the Division carried out 90 such tests in our laboratory in addition to 230 on farms, orchards and market gardens. Some were performed on a group of employees spraying with the organic phosphate compounds; in some instances no protective clothing was worn, in others the degree of protection varied from "fair" to "satisfactory". In most instances it was possible to correlate reductions in the cholinesterase levels as the season progressed, with the ineffectiveness of the personal protective devices in use, if any.

ORGANIC PHOSPHATES

For many reasons, it is often difficult to verify alleged cases of poisoning amongst sprayers using organic phosphates; such illnesses appear to be not uncommon. The stories of people who "get sick in the spraying season" are recurring with sufficient frequency as to arouse the strongest suspicion that subclinical poisoning is a fairly frequent occurrence.

In the course of the past year ten such cases have been encountered in which the history and symptoms (both admittedly of the "hearsay" variety) suggested organic phosphate poisoning.

Most insecticide factories in the metropolitan areas have been inspected and a blood testing schedule investigated in those plants handling organic phosphates and other cholinesterase inhibiting insecticides. Three cases of depressed cholinesterase activity were detected in one plant and remedial measures made.

CARBAMATES

The carbamates have a pharmacological action similar to that of the organic phosphates though less pronounced. Unfortunately many agriculturalists are under the impression that these substances are completely innocuous.

Three cases were recently seen in the country where a carbamate spray had been used without regard to personal protection. All three operators had become soaked with the material which they had been assured, was harmless. One of the users had suffered from headaches, pains in the abdomen and blurring of vision; the two men who worked with him also had some headache but otherwise no definite symptoms. Cholinesterase estimations showed that they were all between 50 and 60 per cent.

Three other cases were seen in men who were employed in a factory formulating a carbamate preparation. One man had headache, nausea and abdominal pain and the other two had similar though less pronounced symptoms. Cholinesterase estimations were done on all three and the levels were all between 50 and 60 per cent.

INSECTICIDE VAPOURISERS

A vapouriser was tested to see if there was any danger associated with its use. The unit consists of a horseshoe shaped metal cup, into which pellets of Lindane (approximately 0.25 gms each) are placed. This is mounted on a light globe and the heat from it used to vapourise the insecticide.

The vapourisation rate on a 100 watt globe was found to be approximately 90 milligrams per hour, or 2.1 gms if operated continuously for 24 hours. For a 60 watt globe a rate of 30 mg per hour or 0.72 per 24 hours.

The Inter-Departmental Committee on Pest Control and the Pesticides Committee of the American Medical Society (both in the U.S.A.) have issued warnings for caution in regard to their use with Lindane, as some people have been affected by the vapour. In the affected cases symptoms of eye, nose and throat irritation, and in some cases, anaemia, have appeared following exposure. The recommendations of these committees are that the vapourisation rate, 1 gm/24 hrs./15000 cubic feet be not exceeded, that exposure be on a working day basis, that continuous vapourisers should not be used in food or food preparation and handling premises, unless it can be shown that there is no contamination of food.

These recommendations have no legal standing, but have been used as a basis for certain local and State legislation in the U.S.A.

SOIL POISONING WITH CHLORINATED HYDROCARBON INSECTICIDES

The safety of this new process, used for white ant control, has been investigated. The methods of application of these insecticides depend on whether the building to be treated is at the foundation stage, or fully erected.

In the case of the former trenches approximately 4 x 2 inches are dug each side of the foundation wall. The insecticide is pumped from a tanker into the trenches, sprayed over the foundations and the area enclosed by the outer foundation wall. In erected buildings, all accessible foundations are trenched and flooded with insecticides. Paths and floors adjacent to foundations are drilled and the solution applied through these holes. Provided adequate protective clothing is worn, there is little associated hazard.

PERSONAL PROTECTIVE DEVICES

Work was carried out to determine the efficiency of canisters and cartridges recommended for use against phosphine, parathion, organic vapours and dusts. The first named tests were performed as part of our wide investigations carried out in connection with the fumigation of grain by the use of tablets liberating phosphine. The canisters tested reduced phosphine concentrations of 100 parts per million to below the M.A.C. of 0.05 parts per million for a period of 16 hours while the cartridge reduced a concentration of 20 ppm of phosphine to below M.A.C. for over 12 hours. The maximum concentration of phosphine found in N.S.W. grain silos was 35 ppm.

Cartridges specified as being for protection against insecticides mist and dusts were tested with toluene and found to conform to the recommended standard of the Australian Standards Association. Tests on the same cartridge with parathion were not entirely satisfactory due to doubt about the efficiency of the test apparatus. However new equipment has been developed based on an apparatus used by the U.S. Department of Agriculture and further tests on insecticide cartridges have been started.

The efficiency and accuracy of commercial tube detector kits has received much attention as the value of the devices has been seriously questioned by certain overseas authorities. Tubes for the measurement in the atmosphere of carbon monoxide, hydrogen cyanide, methyl bromide, nitrous fumes and phosphine have been tested.

The tubes recommended for the first three named gases were found to be satisfactory ; this was not so for the "nitrous fumes" tubes.

In the course of the extensive work which was done on phosphine during the year, tubes made by two companies were tested under laboratory conditions. Neither type of tube gave entirely satisfactory results but as the following table will show, one make of tube was accurate in some conditions of use and appears to give reproducible readings which make it of use in some circumstances :—

Part per Million of Phosphine Present	Tube "A" Parts/Million Indicated	Tube "B" Parts/Million indicated
144	70	....
86	42	....
53	26	....
31	17	....
19.5	12	....
11.5	7	....
7.2	6	....
4.2	4	....
2.3	2	....
1.5	1	....
0.36	....	0.02
0.13	....	0.01
0.045	....	0.005

Samples of welding goggle lenses retained by various business houses have been collected and tests are proceeding to ascertain whether the lenses conform with the standards established by the Australian Standards Association.

II. OCCUPATIONAL HEALTH ADVISORY NURSING SERVICE

During the year numerous visits have been made either for the purpose of trying to encourage more industries to introduce an occupational nursing service, to see the scope and extent of occupational nursing in this State or to help and advise Sisters already working in this important sphere of preventive medicine. Although there have been considerable staff retrenchment in industry, it is interesting to comment that the service of the trained nurse have been dispensed of in two instances only. This is an encouraging sign ; it is doubtful if the number would have been so small had similar economic circumstances occurred several years ago.

Four one-day refresher sessions were organised ; as previously, every attempt was made to choose practical every day problems for discussion. The enthusiasm of those attending testifies as to the importance of these activities. In addition two group study courses, each consisting of six one-day sessions were also organised. The attendance at the latter is purposely limited to nine Sisters.

Considerable time was also spent on two Advisory Committees to the Educational Committee of the N.S.W. College of Nursing.

Lectures to students attending a part-time occupational health course organised by the latter body, were given. The number of Sisters taking this course was unfortunately small ; it is a pity that management has not supported more fully the Post Graduate Training of the Sister in industry.

One of the aims of this Advisory Service is to influence the thinking of managers and personnel officers, etc.; many still refuse, in one way or another, to allow the Sister to practice preventive medicine within their factory and consider that her duties are those generally understood by the word "first aid". Such a concept is against professional world opinion. There are, however, encouraging signs; in many instances the functions and activities of trained Sisters have considerably widened. I feel that much of the credit for this change of attitude is due to Miss Roach's activities and perseverance.

III. RADIATION

During the year, the Radiation Branch has its staff augmented by the appointment of an additional photographic assistant. The Branch now consists of three scientific officers (one the officer-in-charge), a clerk, a typist and two photographic assistants. The latter operate the film badge service.

NATURE OF WORK

There has been an increase in the amount of work carried out by the Branch, but little expansion into fresh fields. The nature of the work is as follows:—

- (a) Interviews of applicants for licenses under the Radioactive Substances Act, 1957, and inspections of their equipment and facilities;
- (b) Routine monitoring of x-ray departments, etc., for the purpose of recommending measures (where necessary) to reduce radiation dosages;
- (c) Simple determinations of environmental contamination;
- (d) Investigation of suspected or alleged radiation hazards;
- (e) Monitoring of persons' radiation dosages by means of film-badges, and determination of the reasons for any high dosages; and
- (f) Administration of the Act and Regulations.

In the course of this work, a total of 311 visits were made to various organisations or persons, as follows:—

Category	Number of Man Visits
Medical Practitioners	21
Hospitals	86
Research Laboratories	59
Industries	54
Dentists	27
Veterinary Surgeons	0
Chiropractors	8
Miscellaneous	56
Total	311

LICENSING

Many of the above visits were concerned with licensing inspections. A comparison of the licenses in force at the beginning and end of the year is shown in this table:—

Category	Total Licenses at 31st December, 1960	Total Licenses at 31st December, 1961	Rejected Applications
Medical	176	181	2
Hospital	35	36	0
Research	74	79	1
Industrial	22	66	0
Chiropractor	18	18	0
Total	325	380	3

The rejected applications came from one medical practitioner desiring to use a fluoroscope for chest diagnoses—a practice frowned on by the Radiological Advisory Council—another, whose qualifications were not considered high enough for the urological work envisaged, and the third from a high-school teacher desiring to use radioactive sources, in excess of the exempted amounts, for class demonstrations.

AMENDMENTS TO ACT AND REGULATIONS

At the present stage, several of these have been recommended by the Radiological Advisory Council, but have not yet been promulgated. These cover :—

- (a) Removal of the exemption from licensing under the Act of medical practitioners, dentists and veterinary surgeons using x-rays for diagnostic purposes, in which only a picture is taken.
- (b) Amendment of the Regulations covering the permissible concentrations of radioisotopes in drinking water and breathing air in order to bring them into closer conformity with the 1959 recommendations of the International Commission on Radiological Protection.
- (c) Bringing a third category of person, namely, the population-at-large within the ambit of the Regulations.

The amendment to the Act, mentioned in (a), will have the greatest impact since it will rapidly increase the number of licenses held by various persons to well over 2,000.

LIAISON WITH THE COMMONWEALTH X-RAY AND RADIUM LABORATORY, AND WITH THE AUSTRALIAN ATOMIC ENERGY COMMISSION

These liaisons have been maintained. During the year, there was a division of authority between these two bodies, as a result of which radioisotopes for non-medical research, and for commercial and industrial purposes, are being handled by the A.A.E.C. Research Establishment, whilst other radioisotopes are still handled by the Commonwealth X-ray and Radium Laboratory. Certain changes in licensing procedures have been adopted in order to facilitate the procurement of radioisotopes.

TRACER STUDIES

It is customary for the Isotope Section of the A.A.E.C. Research Establishment to inform this Branch of any tracer tests they carry out in the field. The following are some of those carried out during the year :—

- (a) The use of up to nearly 2 curies of copper-64 to study air turbulence, and cloud seeding ;
- (b) The use of about 5 millicuries of sodium-24 to determine carry over of solids in boilers ;
- (c) The use of one millicurie of bromine-82 to detect leakage from an underground pipe ;
- (d) Determination of the rate of mixing of sand in glass making, using 1 millicurie of gold-198 per test ;
- (e) The use of 200 microcuries of gold-198 to determine the rate of mixing of stockfeed constituents ;
- (f) The use of 16 millicuries of cobalt-60 to label furnace bricks to determine their rate of erosion by molten glass.

In all these studies, satisfactory safety procedures were adopted. In most cases, the diluted radioisotope was at a concentration below the permitted drinking-water or breathing-air concentration, and no special disposal problem was involved. In the other cases, the material was stored until its activity fell below the permitted limits.

INDUSTRIAL RADIOGRAPHY

High film-badge dosages continue to occur in this type of work. The field is expanding, and now embraces 15 organisations employing over 60 workers. Most of these are being film-badged, and generally show dosages accumulating at a rate under the permitted 5,000 millirems per year. In a number of cases, high dosages have been traced to workmen storing their working clothes containing their film badges on top of source containers ; in other cases, they have undoubtedly been due to radiation exposure.

CONTAMINATION OF AIRCRAFT

As a result of the recent (September-October, 1961) series of Russian bomb tests, attention was focussed on contamination of high-altitude flying planes by fission products.

Extensive tests carried out during October and November showed some contamination, particularly on those portions of aircraft engines subject to high-velocity impingement by air or exhaust gases. Dosage rates up to 7 millirads per hour have been detected close to the surface, using a Philips PW4012 monitor. The policy of the company is to rewash and scrub areas showing over 0.2 mr per hour, but isolated readings up to 0.7 mr per hour are permitted on areas free of loosely adhering dust.

Gamma spectrometer examination of this contamination by the Branch did not satisfactorily identify any specific fission products.

"FALLOUT" MEASUREMENTS

As a result of the Russian nuclear tests in September and October, considerable public interest was shown in the possibility of "fallout" over New South Wales. There is an Australia-wide network of monitoring stations taking samples for the Australian Atomic Weapons Safety Committee, and these are measured by the Commonwealth X-ray and Radium Laboratory in Melbourne. However, this Branch considered that some preliminary monitoring should be carried out in order to check the efficacy of our own method of air-sampling. This consists of drawing 20 cubic metres of air through a 2-inch filter paper by means of a vacuum-cleaner type sampler. The sample is then counted by end-window Geiger-Muller tube, and the results extrapolated back to the middle point of the sampling time. From this figure, the natural radioactivity of the air, due mainly to thoron and radon, is computed. To date, the highest figure found has been 82 micromicrocuries per cubic metre, which is well within the normal range (up to 500 micromicrocuries per cubic metre). After a day, the natural radioactivity has disappeared, and the sample is recounted to determine the manmade radioactivity. As yet, none of this has been found, and it is not expected that it will be (if at all) before next spring. It is intended to continue these tests.

Concentration of Radioactive Material in Air

Month	Natural	Artificial
	(Radon, Thoron, etc.)	(fallout, Fission products.)
November	82	0
December	22	0
January	7	0
February	119	0

THE USE OF RADIOACTIVE SUBSTANCES IN HIGH SCHOOLS

A survey was carried out to determine the health hazard, if any, arising from radioactive sources used in class demonstrations in high schools.

Most of these sources were radium compounds, or uranium or thorium ores or chemicals. Dosage rates at various distances were determined by Geiger and ionisation probes, and the source strengths were calculated after making due allowance for self-absorption. Discrimination was made between beta and gamma radiation, using $\frac{1}{4}$ -inch perspex as a filtering medium. It was assumed that one yard was the average distance that a pupil would be located from a radioactive sample, and as an additional precaution, one-hundredth of the maximum permissible dosage for radiation workers was used as a standard.

Twenty-two of the fifty-eight samples submitted were considered unsatisfactory, mainly on the grounds of being unsealed (e.g., luminous paint powder or chemicals) or of being of high activity (e.g., over 1 microcurie of radium or 10 of uranium or thorium). It was recommended that five chemicals be returned to the chemical laboratory, and not used for radiation work, and that one rock sample be confined to the geological show case. The remaining sixteen samples, containing about 20 micrograms of radium, were disposed of.

Meanwhile the Department of Education is supplying its schools with two small radium-foil sources, mounted in perspex so that the surface cannot be touched, which supply alpha, beta and gamma radiation for class demonstration. The total strength of these two sources is under the one microcurie of radium which may be held without license.

USE OF LUMINOUS PAINT IN WATCH REPAIRING

Six firms supplying luminous paint to watchmakers have been surveyed. Various quantities of paint were held in stock, and a complete lack of knowledge of possible radiation hazard was found. One firm had two glass jars containing 700 grams of the powder, with a total activity of possibly 10 millicuries. Most of the other firms held about 30 grams, in 1-gram phials.

None of the firms visited had taken any special precautions concerning the handling of the paint or shielding of the staff from radiation.

A number of watchmakers was also visited. It was found that they rarely kept more than 2 grams of paint in stock and that this was mainly used for "touching up". Some bench tops showed contamination slightly greater than the 10^{-1} microcuries per square centimetre recommended by the British "Code of Practice for the Protection of Persons Exposed to Ionising Radiation (1957)". Most of the heavily contaminated bench tops were made of materials difficult to wipe clean because of their rough surface. At the time it was recommended that all benches be covered with plate glass, or other smooth impervious surface.

In the case of the company holding the largest stock of luminous paint, it was recommended that it be stored as far as practicable from occupied areas, provided with lead shielding and, over a period of time, reduced in amount.

FILM BADGE SERVICE

During the year, this phase of our activities has expanded from about 1,000 persons in 157 organisations, using 800 films per month, to about 2,000 persons in 374 organisations, using 1,800 films per month. The distribution amongst the various types of organisations is as follows :—

Industrial firms or departments	29
Hospital departments	121
Private medical practitioners	71
Dental surgeons	124
Chiropractors	15
Veterinary surgeons	2
Scientific organisations or departments	12

Most users are initially placed on a monthly schedule. If their dosages prove to be consistently less than 20 per cent. of the permitted, the period of wearing is extended to 3-months. If ultimately their dosages prove to be less than 10 per cent. of the permitted, film-badge monitoring is only carried out for one three-month period each year. A subscriber can elect to have his films changed more frequently than we recommend, if he so desires. Because of the long periods of exposure (up to three months), we are at present continuing to use DF11 dental film, instead of one of the more sensitive personnel-monitoring films.

The maximum permissible cumulative dose for radiation workers is 5,000 mr per annum. This implies an average maximum monthly exposure of approximately 420 mr.

Thirty-seven individual radiation workers submitted film badges for which the dose rate over the period of exposure was in excess of 420 mr per month.

Of these, sixteen were engaged in medical radiography, nine in industrial radiography, and two in other industrial fields.

In all cases the causes of the excess dose rates were investigated, and in no case was the cumulative annual dose of 5,000 mr exceeded.

IV. HUMAN ENGINEERING

During the year the assistance given to local industry increased particularly in regard to preventing muscular injuries, fatigue and discomfort due to "human factors" in manual and process work.

Much of this took the form of "on-the-spot" advice during scientific investigation of work situations. In addition, we are now receiving an increasing number of requests for advice on the correct design of work benches and other ergonomic aspects of workplace design.

Two new developments took place in the latter half of the year.

One was the appointment of Mr. S. Himbury as Demonstrator to specialize in industrial kinesiology to teach workers on the job scientific methods of manual handling.

Our studies in industry over the past few years showed this to be a long felt need and the training programs which have been given, have proved to be most successful and extremely well received by management and worker alike.

Three types are given ; these are :—

- (a) One-half to 1 day on-the-job courses for workers arranged after prior study of each specific work situations.
- (b) Two to 3 days duration, during which time foremen, training, safety and other key personnel are taught theory and practice, thereby enabling them to teach others in their own factories.
- (c) Special lecture/demonstrations are given to groups such as apprentices, trade associations, regional factory and productivity groups, physio-therapists and others.

Fifty-five factories have been visited to familiarise industry with this new service. No charge is made for these lecture/demonstrations.

The other main development was the appointment of Mr. R. McLellan as occupational climatologist to investigate and advise industry on the effect which extremes and variations in temperature, humidity and air movement have on the human body in work situations.

A knowledge of the physiological responses of the worker to such thermal factors is necessary if the most comfortable, and hence the most efficient conditions for the worker are to be found.

A programme is being prepared for the study of man in severe thermal occupational situations this involves the use of specialized measuring techniques and is necessarily a long term project.

Studies and tests have also begun on heat protective equipment, including clothing and safety hats, in addition to the use and abuse of salt and water in hot work situations.

The other part of the heat problem is that of operator comfort and convenience. A comfort survey among workers in various trades is being planned to determine the optimum thermal environment which the majority of people in local industry find most comfortable.

The success of these comparatively new activities of ours have depended very largely upon the close co-operation which exists between the safety personnel, medical and planning engineers in industry whose positive approach to this new applied science is helping to reduce the present day high incidence of muscular injuries and to attain more comfortable work conditions generally.

Acknowledgment is made specifically to officers of the C.S.I.R.O. Division of Physics for help generously given.

Dr. C. H. Wyndham, Director of the Applied Physiology Laboratory of the Transvaal and Orange Free State Chamber of Mines and a leading ergonomist, visited the group in November.

V. AIR POLLUTION

THE CLEAN AIR ACT, 1961

The culmination of several years of investigation of air pollution and the preparation of legislation occurred when the Clean Air Bill was passed through Parliament in November, 1961. Soon after, the Act received royal assent and steps to establish the necessary administrative machinery were being taken at the end of the year.

As the result of its careful preparation, during which the views and advice from acknowledged experts from many organisations were considered, the final Bill as presented to Parliament was probably one of the most thoroughly planned of any similar legislation throughout the world.

In essential features, the Act as assented to, did not differ in any major detail to the Bill described in the annual report last year. However, certain slight anomalies were corrected in the final Bill and the Schedule was widened to include premises on which any fuel burning equipment or industrial plant is operated by the :—

- (i) The Commissioner for Railways.
- (ii) The Commissioner for Government Transport.

MONITORING STATIONS

The results of the monitoring stations for 1961 are shown in Tables 1, 2 and 3. Compared to 1960, no significant change was made in the types of measurements undertaken nor in the number of stations in use. In this regard, there was pressure to expand the work to other parts of Sydney and other areas, but resources were inadequate to make any substantial increases in this work.

Monitoring of the carcinogenically significant polycyclic aromatic hydrocarbons was placed on a more systematic basis during 1961 and a wider variety of samples were studied. This work was facilitated by the new equipment received during 1960 as described in that year's annual report. However, this work was not sufficiently far advanced to present adequately in the present report and is considered more suitable for a future special supplement. Initial results indicating the levels of certain of the polycyclic compounds were presented in the 1960 annual report.

The results of the deposit gauge measurements in Sydney showed no significant change compared to the previous two years. As reported in 1958 a steady statistically significant decrease had been observed up to that year in the mean dust-fall rate since measurements were commenced in 1953. This figure had been calculated on the basis of ten stations which had been operated continuously within a circle of two miles radius in the central Sydney area. A further decrease in the mean insoluble dust-fall rate to 18.7 tons per square mile per month occurred in 1959. The peak year had been 1955 when the mean monthly rate was 25.0 tons per square mile.

In 1960 and 1961 the mean rates for the same ten stations were 18.3 and 19.1 tons per square mile per month. Neither of these are significantly different to the dust-fall measured in 1959. The reasons for the previous reduction were discussed in the 1958 annual report but in brief the major factors were considered to be a reduction in fuel consumption in power stations in the city and the availability of coals of lower ash content.

In 1961 deposit gauge results for Newcastle show a substantial and as yet unexplained reduction in the dust-fall rate to 21.5 tons per square mile compared to a mean rate of 28.2 tons per square mile per month for 1960. These results were obtained from the mean dust-fall rates of six deposit gauges throughout Newcastle although the biggest change occurred in the Tighes Hill area. The observed dust-fall results during 1961 were approximately the same as in 1954-1955 and only about two-thirds of the readings obtained in the peak year of 1957. The results for Port Kembla were discussed at length in a recent special report.

CLEAN AIR CONFERENCE

One of the major air pollution activities undertaken during 1961 was the organisation of a Clean Air Conference to be held in the University of New South Wales in February, 1962. This conference represented a joint undertaking by the Department and the University of New South Wales. At the end of 1961, preparations for the conference were virtually complete and manuscripts of some thirty papers had been received.

The purposes of the conference are to present details of the Clean Air Act and collect as much information, as available in Australia, concerning the nature, effects and control of atmospheric pollution. A very useful outcome expected from the conference is that the Department will have more knowledge of the experts in various aspects of air pollution. Two overseas guest speakers have also signified their intention of being present at the conference. They will deliver two papers each.

INTERNATIONAL CLOUD PHYSICS CONFERENCE

An international conference to discuss cloud physics organised by the Commonwealth Scientific and Industrial Research Organisation was held in Canberra and Sydney in September last year. Dr. J. L. Sullivan of the Division of Occupational Health was invited to represent the Department and he attended several sessions in both Canberra and Sydney. The study of meteorology is a most important aspect of air pollution research and most of the papers presented at the Cloud Physics Conference, though some were seemingly unrelated, had bearing on the subject. Some of the overseas delegates who were present are well known internationally in the field of air pollution.

TABLE 1—MEAN DEPOSIT GAUGE RESULTS, 1961—TONS PER SQUARE MILE PER MONTH

Location of Gauge	Water Insoluble Solids	Combustible Matter	Ash	Water Soluble Matter
(a) City of Sydney				
City, George Street North	12.3	3.4	8.8	5.9
City, Martin Place	23.8	6.1	17.7	5.3
City, Central Railway	19.7	5.4	14.3	4.3
City, Town Hall	19.7	5.1	14.6	5.8
City, Art Gallery	14.4	3.7	10.7	4.6
Potts Point	14.3	4.3	10.0	5.0
Paddington	14.2	4.3	9.9	5.1
Pymont	50.5	14.4	36.1	8.8
Ultimo	16.5	4.3	12.2	5.1
Redfern	12.1	3.7	8.4	4.3
Darlington	13.6	4.3	9.3	5.7
Rosebery	10.3	3.6	6.7	4.6
Darling Point	15.6	2.7	12.9	4.1
Mascot, Coward Street	15.0	3.8	11.2	5.0
Mascot, King Street	14.4	4.4	10.0	6.3
Eastlakes	9.0	2.6	6.4	4.1
Botany, Aylesbury Street	17.4	3.6	13.8	4.4
Botany, Bourke Street	9.2	2.9	6.3	5.6
Matraville, Carnegie Circuit	21.6	5.3	16.3	6.0
Matraville, Baird Avenue	30.7	7.6	13.1	4.9
Matraville, Jersey Road	20.9	6.9	14.0	4.6
Maroubra Junction	17.2	5.5	11.7	4.6
Sydenham, Princes' Highway	23.6	4.7	18.9	4.8
Sydenham, Unwin's Bridge Road	10.2	3.0	7.2	3.2
Annandale	11.5	3.2	8.3	3.0
Leichhardt	8.9	2.9	6.0	3.6
Rozelle, Callan Park	11.3	4.0	7.3	3.8
Rozelle, Clubb Street	20.6	7.6	13.0	5.8
Rozelle, High Street	11.5	3.9	7.6	2.8
Rozelle, Quirk Street	15.2	4.8	10.4	3.8
Rozelle, Terry Street	29.4	11.6	17.8	10.0
Balmain, Birchgrove Road	12.6	3.8	8.8	4.1
Cabarita	13.0	6.4	6.5	5.4
Drummoyne, Cary Street	12.8	3.7	9.1	3.4
Drummoyne, Regatta Street	9.2	2.6	6.6	2.9
Fivedock	8.4	3.5	5.0	4.0
Mortlake	8.8	3.9	4.9	3.5
Concord	7.5	2.7	5.1	2.5
Rhodes	13.3	4.7	8.7	5.5
Strathfield, Newtown Road	7.3	2.3	5.0	2.5
Strathfield, Palmer Avenue	8.1	2.5	5.6	2.7
Chester Hill	8.2	2.0	6.0	2.9
Bankstown	7.9	2.2	5.7	2.8
Greenacre	7.9	2.4	5.5	2.1
Panania	5.7	1.8	3.9	2.0
Silverwater	25.7	6.9	18.8	3.5
Auburn, Asquith Street	20.5	4.6	15.9	4.0
Auburn, 237 Paramatta Road	12.9	3.3	9.6	3.2
Lidcombe,	11.7	2.7	9.0	2.8
Cremorne	9.3	4.3	5.0	7.1
Cammeray	8.1	3.2	4.9	3.6
Crows Nest	7.5	2.4	5.1	4.5
Gordon	5.9	2.3	3.6	2.5
Hornsby	5.6	2.7	2.9	2.8

TABLE 1—MEAN DEPOSIT GAUGE RESULTS, 1961—TONS PER SQUARE MILE PER MONTH—*continued*

Location of Gauge	Water Insoluble Solids	Combustible Matter	Ash	Water Soluble Matter
(b) City of Parramatta				
Guildford, 28 McArthur Street	9.0	2.8	6.2	1.7
Guildford, 57 MacArthur Street	12.3	2.3	10.0	2.9
Guildford, 62 Woodstock Street	12.5	3.8	8.7	2.9
Parramatta, 5 Buller Street	27.1	6.7	20.4	2.6
(c) City of Newcastle				
Broadmeadow	13.6	4.9	8.7	7.8
Kotara, Gregory Parade	14.8	6.9	7.9	6.9
Kotara, Woodlands Avenue	12.3	7.0	5.3	9.7
Mayfield, Carrington Street	31.9	10.8	21.1	14.4
Mayfield, Ingall Street	37.8	10.5	27.3	13.8
Mayfield, Church Street	20.7	6.9	13.7	12.2
Mayfield, Walsh Street	26.3	9.1	17.2	10.4
Newcastle, City Hall	14.8	5.6	9.2	19.6
Newcastle, City	21.6	14.9	6.7	12.9
Stockton	26.9	11.3	15.6	16.3
Tighes Hill	40.6	12.8	27.8	14.4
Waratah	16.9	6.6	10.3	10.4
(d) City of Wollongong				
Wollongong, Stewart Street	14.5	4.1	10.4	6.1
Port Kembla, Military Road	32.1	7.2	24.9	10.2
Port Kembla, Wentworth Street	22.7	5.1	17.6	8.6
Port Kembla, Jubilee Street	29.5	7.2	22.3	7.7
Port Kembla, Somme Street	14.3	3.3	11.0	8.1
Cringila, Monteith Street	44.3	16.5	27.8	5.0
Cringila, Sheffield Street	30.0	7.0	23.0	5.0
Warrawong, 217 Flagstaff Road	21.9	6.5	15.4	4.7
Warrawong, 149 Flagstaff Road	70.5	24.0	46.5	6.6
Warrawong, Taurus Avenue	33.4	9.9	23.5	6.5
Lake Heights, Northcliffe Drive	27.1	10.1	17.0	4.9
Primbee, Korrongulla Crescent	18.0	5.5	12.5	3.7

TABLE 2—MONTHLY SMOKE DENSITIES—1961
Coh, Units per 1,000 lin. ft.

Site	Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
SYDNEY AND SUBURBS													
Sydney Town Hall	Av. .. .	0.6	0.8	0.9	1.1	1.9	1.8	1.5	1.6	1.4	0.8	0.6	0.7
	H.D. .. .	1.3	2.2	2.0	2.6	4.7	3.2	2.5	2.8	2.6	2.2	1.3	1.2
Sydney, George Street North	Av. .. .	0.8	0.7	0.6	0.8	1.3	1.6	1.4	2.1	2.4	1.2	..	..
	H.D. .. .	1.8	1.2	1.7	1.5	6.3	2.6	2.6	5.2	3.5	3.6	..	..
Redfern Town Hall	Av. .. .	0.6	1.0	1.3	1.5	2.2	2.0	1.3	1.7	1.3	0.5	0.4	0.4
	H.D. .. .	1.2	2.0	2.6	2.5	4.5	2.8	3.0	2.7	2.6	1.7	1.4	1.2
Annandale	Av. .. .	0.7	1.0	1.0	1.0	1.7	1.5	1.1	1.3	1.0	0.4	..	..
	H.D. .. .	1.5	2.1	1.8	2.0	5.0	2.8	2.5	3.4	2.6	1.0	..	..
North Sydney	Av. .. .	0.5	0.8	0.8	0.8	1.3	1.1	1.0	1.0	1.5	1.9	1.2	1.1
	H.D. .. .	1.0	1.7	1.2	1.4	4.9	1.8	1.5	2.0	1.5	0.9	..	..
Balmain	Av. .. .	0.6	0.8	0.8	0.9	1.3	1.3	1.0	1.2	0.9	..	..	..
	H.D. .. .	1.2	2.2	1.3	1.5	3.0	2.2	2.1	2.4	1.5	..	..	..
Matraville	Av. .. .	0.6	0.6	1.0	1.0	1.5	1.6	1.2	1.3	0.9	0.8	0.7	0.5
	H.D. .. .	2.6	1.4	2.6	2.3	4.0	3.9	3.4	3.4	2.3	2.0	3.0	1.4
Paddington Town Hall	Av. .. .	0.4	0.6	0.8	1.0	1.8	1.5	1.4	1.0	1.2	0.5	0.4	0.2
	H.D. .. .	1.1	2.8	1.6	2.7	2.6	3.1	2.7	2.5	2.3	1.3	1.0	0.8
Botany Council Chambers, Mascot	Av. .. .	0.6	0.9	0.9	1.3	1.8	1.9	1.7	1.5	1.3	0.8	..	..
	H.D. .. .	1.3	1.7	1.9	2.8	4.0	4.1	3.9	3.7	2.8	1.5	..	..
Botany Town Hall	Av. .. .	0.5	0.9	0.8	1.2	1.3	1.5	1.3	1.4	1.0	0.7	0.6	0.5
	H.D. .. .	1.5	3.8	1.6	1.8	3.4	3.1	3.0	3.7	2.2	1.5	1.0	1.4
NEWCASTLE													
City Hall, Newcastle	Av. .. .	1.0	1.5	2.8	2.6	3.0	3.1	3.6	2.8	2.7	..	2.2	1.5
	H.D. .. .	3.3	4.2	9.6	4.6	5.8	6.0	8.5	5.5	6.6	..	4.5	2.9
Bolton Street, Newcastle	Av. .. .	0.5	0.7	1.3	1.2	1.8	1.7	1.8	1.7	1.4	..	0.9	0.7
	H.D. .. .	2.0	1.9	3.2	2.4	4.4	3.3	4.2	3.8	3.7	..	2.6	2.4
Mayfield East, Newcastle	Av. .. .	1.8	2.1	2.0	2.0	2.2	2.1	2.1	2.2	1.7	..	2.1	2.4
	H.D. .. .	4.2	4.6	4.2	2.9	6.8	4.9	5.5	7.8	4.7	..	4.7	5.8

TABLE 3—SULPHUR DIOXIDE CONCENTRATIONS—1961

Parts per 100 Million

Site	Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
SYDNEY AND SUBURBS													
Sydney Town Hall	Av. ..	0.5	1.0	1.3	1.2	1.4	2.3	2.9	1.7	1.2	0.2	0.2	0.3
	H.D. ..	2.0	3.0	2.6	2.6	4.0	4.0	4.4	3.9	2.8	2.2	1.6	2.2
Sydney, George Street North ..	Av. ..	2.6	1.8	1.3	1.1	3.7	5.4	4.8	5.2	4.9	3.9	..	..
	H.D. ..	4.6	3.6	2.8	2.6	6.4	11.0	7.5	7.6	6.0	5.6	..	..
Redfern Town Hall	Av. ..	8.5	8.1	5.1	4.3	4.5	3.3	3.4	4.6	3.3	2.9	2.1	2.8
	H.D. ..	18.3	17.7	7.8	6.0	6.6	4.8	5.6	6.8	5.5	6.4	4.8	4.9
Annandale	Av. ..	0.5	0.5	0.2	0.8	0.9	1.5	1.7	1.5	1.5	1.2	..	..
	H.D. ..	1.6	1.1	0.7	1.6	1.8	2.3	2.9	2.3	2.4	2.2	..	..
North Sydney	Av. ..	0.8	0.9	1.1	1.0	1.9	1.7	1.8	1.5	1.7	1.5	0.8	0.7
	H.D. ..	1.1	1.3	2.4	1.8	2.6	2.7	3.2	2.2	2.2	2.6	1.2	1.0
Matraville	Av. ..	1.8	1.7	1.8	1.2	2.5	3.4	2.7	2.7	1.5	2.3	1.7	1.8
	H.D. ..	3.3	5.5	2.8	2.2	4.4	5.1	5.3	5.0	3.5	4.6	3.6	3.0
Paddington Town Hall	Av. ..	2.1	4.1	2.2	1.9	2.7	2.9	2.7	1.9	2.1	2.1	1.7	1.4
	H.D. ..	5.0	9.0	3.0	3.4	4.6	4.8	5.2	4.0	4.2	4.0	2.9	3.9
Botany Council Chambers, Mascot.	Av. ..	1.0	1.2	1.2	1.1	1.9	2.1	2.2	2.2	2.0	1.3	..	..
	H.D. ..	3.2	2.7	2.0	3.0	4.0	3.7	4.7	3.5	2.8	2.2	..	..
Botany Town Hall	Av. ..	0.8	0.9	0.9	0.6	1.5	1.6	1.6	1.9	1.4	1.3	0.4	0.4
	H.D. ..	1.3	3.4	1.3	1.3	6.4	2.8	2.4	3.0	5.3	3.7	1.6	0.7
NEWCASTLE													
City Hall, Newcastle	Av. ..	0.5	0.2	1.8	2.1	2.0	1.6	1.3	1.4	0.7	..	0.3	0.2
	H.D. ..	3.8	1.6	3.5	4.4	3.5	4.4	3.2	4.1	4.4	..	1.6	1.3
Bolton Street, Newcastle ..	Av. ..	1.0	0.4	1.2	1.3	1.5	1.4	1.6	1.7	1.1	..	0.5	0.1
	H.D. ..	2.2	1.4	2.2	2.3	2.7	2.0	3.2	3.2	2.8	..	2.2	0.5
Mayfield East, Newcastle ..	Av. ..	1.3	1.0	1.5	1.5	1.3	1.1	1.0	1.1	0.6	..	1.5	0.9
	H.D. ..	3.1	1.7	4.1	3.0	2.5	2.0	2.3	2.2	2.2	..	3.6	2.5

Cloud physics is largely concerned with mechanisms connected with droplet formation and involves a study of nuclei introduced into the atmosphere by nature as well as by man's activities. The significant contribution by the latter is atmospheric pollution and thus a considerable part of the discussion at the conference was devoted to the behaviour, identification and measurement of aerosols. Even in fields such as the formation and measurement of freezing and the seeding of clouds to induce rainfall many of the techniques employed are of mutual value with air pollution.

SPECIFIC PROBLEMS

Port Kembla Survey

The actual survey at Port Kembla having been completed in 1960, the main remaining task in 1961 was the analysis of the data obtained and the preparation of the report. By the end of 1961 this work was virtually complete. As the result of staff limitations and pressure of work in other areas most of the monitoring equipment with the exception of deposit gauges was withdrawn from Port Kembla during 1961. It is hoped that at least a portion of the survey will be resumed during 1962.

Cement Plants

Measurements of dust-fall in the vicinity of all cement works in this State continued at the same high rate as reported in 1960 and no significant changes were made. However, in most cases plans were being made to install equipment during 1962 for the control of dust emissions. More definite indications will be possible in the next annual report.

Smoke from Brick Kilns

Details of a new method for hand-firing brick and other heavy clay-ware kilns were described last year. Where this has been applied definite reductions of smoke emission were made and in some cases was less than densities of Ringelmann 2. In general, the method has been applied where local pressure has been sufficiently great, but at most works, resistance by kiln burners and lack of interest on the part of some managements has prevented wide acceptance of the revised methods.

A more encouraging development in some works, which is likely to spread, has been the introduction of under-fed mechanical stokers for firing kilns. Two of the largest works in the State introduced these stokers during 1961. In one case, it was not possible to evaluate the effects of this development as it only occurred late in the year but in the other there was a dramatic reduction in smoke emission amounting to almost complete elimination. Though the new method was originally introduced as an air pollution control measure there have been other benefits mainly in the form of substantially decreased fuel consumption which should make it generally acceptable. Previously the industry has been reluctant to adopt such methods as they are costly and in most respects have been unproven.

Acid and Smelter Fumes

As the result of the introduction of a new lead-zinc smelter in an area outside Sydney it was decided to monitor sulphur dioxide by means of a continuous recorder. Plans which had been examined previously indicated that the bulk of the sulphur dioxide likely to be emitted would be controlled and used for the manufacture of sulphuric acid. However, as there was also evidence of intermittent acid gas escapes from sulphuric acid plants in the same works it was considered desirable that sulphur dioxide should be measured. Occasional recordings of sulphur dioxide occurred and these were brought to the notice of the management. As a result of the gas recordings, the times of occurrence were determined and a major cause identified. Remedial action for this aspect of the problem is being taken.

Phthalic Anhydride Manufacture

This problem has been referred to in previous reports but it continued to exist during 1961. The major emissions of consequence are by-products of phthalic anhydride manufacture and probably consist of aldehydes, quinones, maleic anhydride, etc. One or more of these or some related compounds produces marked eye-irritation and many complaints of this condition were received early in the year. In the later stages of the year, the plant was closed down owing to marked requirements being lower but no additional steps to control the problem had been introduced. It is quite apparent that oxidation of the effluents will ultimately be necessary but the firm so far has proved unwilling to accept this and has relied on water scrubbing.

Finally, the Director wishes to thank his staff, medical, scientific and clerical, for their help and enthusiasm during the past year. Once again we received invaluable help and cooperation from several of our colleagues in other sections of the Department, particularly the Government Analyst's Branch. These officers, in addition to the liaison officer between the Department of Labour and the Division, greatly facilitate the medical and scientific activities of the Division.

G. School Medical Services**ANNUAL REPORT, 1961****Staff**

(As at 31st December, 1961)

Director : Dr. N. S. Solomons, M.B., Ch.M.

Deputy Director : Dr. W. S. Hemphill, M.B., B.S., D.C.H.

54 Medical Officers ; 6 Psychiatrists ; 5 Part-time Ear, Nose and Throat Surgeons ; 17 Psychologists ; 2 Trainee Psychologists ; 16 Social Workers ; 4 Trainee Social Workers ; 17 Speech Therapist ; 13 Trainee Speech Therapists ; 56 Nurses ; 24 Clerical Officers ; 1 Switchboard Operator.

During the year 7 Medical Officers, 6 Nurses, 1 Psychologist, 6 Speech Therapists, 1 Trainee Speech Therapist, 4 Clerical Officers resigned ; and 1 Medical Officer and 1 Clerical Officer transferred to other Divisions.

The following appointments were made :—

8 Medical Officers ; 4 Psychologists ; 2 Speech Therapists ; 3 Trainee Speech Therapists ; 2 Social Workers ; 11 Clerical Officers ; 11 Nurses.

New positions created during the year :—

1 Medical Officer ; 2 Sessional Ear, Nose and Throat Surgeons ; 3 Clerical Officers ; 6 Nurses ; 6 Trainee Speech Therapists ; 5 Psychologists ; 2 Trainee Psychologists ; 4 Trainee Social Workers ; 5 Social Workers.

At the end of 1961, vacancies existed for :—

4 Medical Officers ; 4 Nurses ; 2 Clerical Officers ; 11 Speech Therapists ; 6 Trainee Speech Therapists ; 5 Psychologists ; 2 Trainee Psychologists ; 5 Social Workers ; 4 Trainee Social Workers.

Early in 1961, the establishment for medical officers and nurses was filled, and towards the end of the year the establishment of nurses was increased by six, and these positions, it is hoped, will be filled early in 1962. As a result of the increased establishment and modifications which were introduced in May in the procedure for routine school medical examinations, only twenty-five programmed schools were not visited in the metropolitan area of Sydney, and a much larger number of schools were visited in Newcastle and Wollongong. The scheme for the medical examination of country school children by local practitioners and nurses expanded rapidly, until at the end of the year it was either operating or about to start in 82 Council areas. Consequently, a much larger number of country school children were medically examined.

In September, the Child Health Centre in Newcastle commenced to function, and a further centre was established at Parramatta in November. Accommodation for a third metropolitan Child Health Centre at Bexley is expected to be completed early in 1962, and it is anticipated that a centre will be established at Chatswood by the end of 1962.

The Child Guidance Centre at Brisbane Street was completed early in the year, and officially opened by the Hon. the Minister for Health, Mr. W. Sheahan, Q.C., on 7th July.

The in-service training course in Mental Health in Childhood was repeated during the year, and in addition to twelve of our own medical officers, four general practitioners also took part.

The course in Public Health Nursing was also repeated and attended by ten school nurses and two nurses from other Divisions.

Decentralisation of the Service has been proceeded with, and at the end of the year each Medical Officer of Health had taken over, on behalf of the Director, the administration of the School Medical Service in his area.

For many years it has been felt that there is a hiatus between the infant and the school child, that is, between the ages of one and five years. During the last three months of the year a pilot scheme was carried out, whereby children of the age group 2-5 years were medically examined at a Baby Health Centre by a senior school medical officer. The results of this pilot scheme are given in Appendix A.

The immunisation state of kindergarten children examined during 1961 was determined and the results are commented on later in this Report. Unfortunately owing to the limited scope of the statistical processing equipment used by the Bureau of Statistics, it may not be possible to continue this study in the future.

Dr. E. S. A. Meyers, Director of State Health Services, relinquished the position of Director, School Medical Service, and on 1st March, Dr. N. S. Solomons was appointed Director. Dr. Woodrow Hemphill was appointed Deputy Director on the same date, and both he and Dr. G. J. Cousins were appointed Junior Specialists.

Medical Inspection of School Children

During 1961 a greater number of school children were examined than ever before. Most schools were visited in the metropolitan area, a large proportion of schools were visited in Newcastle and Wollongong, and a very much larger number of schools were visited throughout country areas by both permanent medical officers and local general practitioners working under the "Council scheme".

The procedure adopted in the schools visited was changed at the beginning of the second school term. Children were fully examined at entrance (kindergarten or first grade), reviewed with particular reference to hearing and vision in fourth grade, and again fully examined in second year (instead of first year) and reviewed in fourth year (instead of being fully examined) during secondary school. Children found to have a defect at a previous examination in any class were reviewed if the medical officer considered it was necessary, but not just because a defect had been recorded. Many children in various classes were also presented by teachers and school nurses for examination.

During 1961, medical officers examined 260,217 children, of whom 158,476 were fully examined and 101,741 were reviewed, 35,471 of the latter group being in fourth grade and fourth year (Table I) :—

TABLE I

	1959	1960	1961
School population	763,071	790,458	809,493
Number of pupils fully examined and reviewed	135,513	178,818	260,217
Number of pupils fully examined	73,734	102,772	158,476
Number of pupils reviewed in 4th grade	14,080	18,621	..
Number of pupils reviewed in 4th grade and 4th year .. .. .	..	..	35,471
Other reviews	47,699	57,425	66,270
Number of pupils fully examined and number reviewed in 4th grade, expressed as percentage of school population	11.51	15.36	..
Number of pupils fully examined and number reviewed in 4th grade and 4th year, expressed as percentage of school population .. .. .	..	..	23.96

Table II shows in detail the number of children who were fully examined or whose cases were reviewed, in the metropolitan area, country, and the whole of the State, in primary and secondary schools, for the years 1959, 1960 and 1961.

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 1961.

Excluding dental defects, defects of a notifiable standard were found in 32.02 per cent., of the children fully examined, compared with 27.3 per cent. in 1960. The rise is partly accounted for by the fact that so many schools were visited which had not been visited before, particularly in country areas. The most important defects found are shown in Table IV. Of the 50,372 defects recorded (this total does not include dental defects), it was found necessary to notify 57.16 per cent. of them to parents or guardians, in order that further investigation and/or treatment could be effected.

The parents of 19.2 per cent. of the children fully examined were notified that the oral condition of their children needed urgent attention or was detrimental to their health. The comparable figure for 1960 was 16.9 per cent.

The number of parent interviews carried out by medical officers in 1961 was 12,674, as against 10,449 in 1960. However, this total does not include parent interviews by local general practitioners working under the "Council scheme," but arrangements are being made to record them in future. Consequently, the percentage of parents interviewed to the number of children fully examined during 1961, namely, 8 per cent., is not a complete record. The comparable figure for 1960 was 10.17 per cent.

The number of "warning letters" sent to parents of children in second, third, fourth and fifth years in Forest Lodge Child Health Centre, and in fourth and fifth years in the rest of the State was 806 in 1961, compared with 783 in 1960. These letters indicate to the parents defects which have been found and which might debar acceptance as trainee teachers, and at the same time informing parents that the Service would be prepared to give a definite opinion on the suitability of the children, if desired. Again parents availed themselves of this offer, and 162 children were examined, 131 at head office and 31 at Forest Lodge Child Health Centre. In addition, definite opinions were given to 224 parents regarding vision and hearing defects without examination, but on presentation of the requisite oculists' or aurists' certificates.

During the year visits were paid to nursery schools by medical officers of the Service, the details of which are given in a later part of this Report. Similarly, the medical examination of children at special schools is dealt with separately.

CHILD HEALTH CENTRE, FOREST LODGE

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

The work of the centre has proceeded satisfactorily during the year. Four rooms in the building have been renovated in preparation for the accommodation of a full-time child guidance clinic. The child guidance staff will undertake investigation of, and treatment for children in the special class for emotionally disturbed children which will be established in the adjoining Forest Lodge School in 1962, in addition to normal referrals for child guidance.

The programme of medical inspections in the 94 schools of the area has been completed, a total number of 19,238 children having been examined in the schools. Full examinations were carried out for 9,300 children, and review or partial examinations for the remaining 9,938. These figures show a marked variation from those of previous years because of a change of School Medical Service policy aimed at reduction of the numbers of review examinations, consistent with adequate medical supervision. The advantage of this policy is that more time is allowed for interviewing parents and concentration on significant problems.

Follow-up work by nurses of the Centre has been carried out regularly in the schools and by home visits, in order to secure attention to defects notified to parents. A total of 3,801 children were interviewed and/or examined in the schools, and 1,798 home visits were made. The reduction in the number of home visits as compared with the 1960 figure is attributed to the fact that better parent co-operation is now being obtained.

A survey has been made in regard to the results of the follow-up work. Over 1,200 notified defects from 58 schools were assessed. It was found that in 59 per cent. of the defects, parents had commenced appropriate attention within three months of notification. This was accepted as a satisfactory result. In a further 15 per cent. there was a delay of six months, and in 18 per cent. of cases there had been no attention after several months, despite intensive follow-up. In another group of 7.5 per cent. the defects appeared to have resolved without medical care.

The six nursery schools served by the centre were visited regularly by a medical officer, the total number of visits made being 60. During these visits 955 medical examinations were made and 346 parents were interviewed.

At the centre the appointment system for consultations for parent and child with the medical officer has been used on 807 occasions during the year. A total of 470 new cases were investigated and appropriate attention arranged, and in addition, review appointments were attended on 337 occasions. Some 31 high school pupils with suspected defects were examined in regard to their suitability for teachers' college training at a later date.

Analysis of the reasons for examination of the 470 new cases at the Centre gives the following information :—

Mental health problems (including emotional disturbance, maladjustment, personality and behaviour difficulties, school failure and retardation) without a detectable physical basis ..	318 — 67.6 per cent.
Suspected physical defects	105 — 22.3 per cent.
Defects of doubtful or mixed origin (mental health or physically based)	47 — 10 per cent.

Of the 470 new cases seen at the Centre, 371 were from departmental schools and 73 from non-departmental schools ; 26 were pre-school children.

During the early part of 1961, the two speech therapists of the centre worked in frequent consultation with the medical officers and with the visiting child guidance staff when indicated. Following the resignation of one of the therapists in May, and because a replacement was unavailable, the work of this section has been curtailed. It is hoped to have a full service in the near future.

The hearing clinic, which was established in March, 1960, has provided a very satisfactory service for the investigation of suspected hearing defects during 1961. The opening of the clinic on one day per week keeps the appointment list at a reasonable working level. A total of 848 circular letters were sent out inviting parents to attend with their children for hearing clinic attention during 1961, and 509 attendances resulted, though in many instances follow-up visits by clinic sisters were also required. Other information concerning the work of the clinic is as follows :—

	Total Number	Hearing Normal	Deafness due to Remedial Defects	Severe Chronic Deafness	Treatment Recommended or Receiving Treatment	Hearing Aid Recommended
New Cases—						
B.	143	28	105	6	73	..
G.	120	22	93	11	62	..
Total	263	50	198	17	135	..
Reviews—						
B.	153	58	85	14	30	..
G.	93	45	53	8	19	1
Total	246	103	138	22	49	1

The child guidance clinic staff have attended the centre irregularly during 1961, in accordance with the demand for their services and relative to their available time. The number of cases referred to them for investigation totalled 184. In addition, valuable advice and help in the handling of cases have been given to medical officers of the centre, by consultation with child guidance clinic staff on frequent occasions.

For some cases of nutritional defect, the services of a dietitian from the Department of Public Health have been made available at the Child Health Centre. Approximately 14 children, usually accompanied by a parent, have been seen by the dietitian for this purpose and it is proposed to expand this service in 1962.

The lecture room at the centre has continued to fulfil a useful function for lectures, demonstrations, films and discussion groups for various purposes, such as in-service training programme for nurses in public health ; for doctors of the Service and general practitioners, in post-graduate training in the mental health field ; for senior undergraduates of Sydney University as part of the psychiatry training. Education Department officers, including school counsellors and trainee school counsellors, have continued to participate in discussions and training programmes.

Liaison has been maintained with various institutions and individuals, such as the Royal Alexandra Hospital for Children, Royal Prince Alfred Hospital, the Education Department, Child Welfare Department and local general practitioners.

A pilot study of pre-school children was carried out at the Glebe Maternal and Baby Welfare clinic by the medical officer in charge of the Child Health Centre. This study was spread over a period of three months, one afternoon per week, in an attempt to assess the need for a medical service in this age group. Parent co-operation was obtained with 58 children who were examined and evaluated, and the morbidity rate in this group was found to be high. Significant physical defects requiring treatment were detected in many of the children, whilst in the mental health field there was an outstanding need for help for, and education of the mothers in child rearing and its difficulties. A report concerning this study is appended, as Appendix A.

The findings strongly support the need for a part-time medical service to the infant welfare clinics. Experience at the Glebe clinic indicates that a weekly half-day service might be warranted in the initial stages, spaced out subsequently, but varied according to local needs. It is likely that the volume of work would increase as the service became better known to the mothers.

Medical officers undertaking this work should have had some sound paediatric training and experience, in addition to a proper orientation towards, and training in the emotional needs of early childhood and the abnormalities in this field.

To further the aims of preventive medicine in the mental health field, consideration might well be given to a programme of training for infant welfare clinic sisters in aspects of mental health in the pre-school child, with the object of reaching many mothers whose young children are already disturbed, but at a readily reversible stage, but who are inaccessible to medical officers. Clinic sisters in their frequent contact with these mothers should be an effective force in this work.

CHILD HEALTH CENTRE, PARRAMATTA

Dr. P. M. O'Flynn, M.B., B.S., D.P.H.

In November, Parramatta Child Health Centre, the second such Centre to be established in the metropolitan area, was opened. The staff consists of four medical officers, four nurses, two speech therapists, a part-time child guidance clinic, and one clerical officer.

The Centre carried out a School Medical Service for a pre-school and school child population of approximately 45,000 children attending 80 schools located in and around Parramatta. The service includes children attending both departmental and non-departmental schools.

Between 30th November and 31st December the four medical officers examined 52 children at initial interview at the Centre. Their ages varied from 5 to 14 years—30 males and 22 females. Of these 52 children, 42 attend public schools, 8 non-departmental schools, and two have not yet attended school.

The referring agencies of these cases are as follows :—

School medical officers	32
Other medical practitioners	9
Head teachers	3
Speech therapists	3
Parents	3
Western Area of Education	2
	<hr/>
	52
	<hr/>

The disposal of these cases was as follows :—

Psychiatrist	24
Psychological testing	6
Awaiting referral to psychiatrist for opinion	15
Requiring initial interview only	3
Counselled by medical officer	3
Referred to special school	1
	<hr/>
	52
	<hr/>

Additionally, four of the above cases were referred to the speech therapists and three to the hearing clinic.

Between 30th November and 31st December, 17 appointments were not kept. This accounts for 25 per cent. of offered appointments. Some of these cases were followed up and information concerning failed appointments is as follows :—

No reason known	7
Further appointments made by parents	5
Appointment not kept because child's behaviour improved	2
Parents not interested in appointment	2
Child transferred to C.W.D. Home	1
	<hr/>
	17
	<hr/>

Child guidance services were available from 20th December, and the clinic interviewed a total of 11 cases up to 31st December, which were treated in the following manner :—

Referred for psychological testing (1 case also referred for E.E.G.)	4
Referred for treatment	1
Referred to North Ryde Psychiatric Centre	1
Initial interview only—further interview if required	2
Initial interview and case to be reviewed	1
Treatment refused by parent	1
Referred to social worker	1
	<hr/>
	11
	<hr/>

The hearing clinic commenced operations on 6th December, and 5 sessions were held during the remainder of the year. Information concerning the work of the clinic is given hereunder :—

	New Cases			Reviews		
	B.	G.	Total	B.	G.	Total
Total No.	16	8	24	4	9	13
Normal hearing	4	2	6	3	2	5
Recommended or under treatment	5	2	7	..	..	..
Remedial E.N.T.	4	5	9	1	..	1
Chronic deafness	3	6	9	..	..	..

The two speech therapists who had been working in the Parramatta area joined the staff of the Centre when it was opened and their clinics were transferred to the centre. The report of their activities is included in that for the speech therapy section of this report.

At 31st December all clinics at the centre had commenced operation, but long waiting lists were present for each clinic.

Medical officers attend the centre one day per week during school term to carry out the initial interviews. It is anticipated that this may not be sufficient in future, especially as they will have to see both new cases and a large number of reviews and cases for supportive therapy as advised by the psychiatrist.

CHILD HEALTH CENTRE, NEWCASTLE

Dr. M. Duncan, M.B., B.S., D.C.H.

In September the School Medical Services in the Newcastle district were combined and began functioning as a Child Health Centre. The staff consists of three medical officers, four school nurses, one psychiatrist, four part-time psychologists, one social worker, one speech therapist, one visiting part-time ear, nose and throat consultant, and one office assistant. The area involves Newcastle and south to Toronto, north to Raymond Terrace and Maitland, and west to Cessnock.

During 1961, 114 schools were visited. Details of the child guidance clinic are contained in the section on child guidance in this Report, as are the details of the speech therapy clinic.

The hearing clinic commenced operating on 7th November and 6 sessions were held, 49 children being examined.

It is anticipated that early in 1962 the Centre staff will be increased to the full complement of four medical officers and eight nurses, and will then be able to give a full Child Health Centre service, as is given by the centres in the metropolitan areas.

DECENTRALISATION

As stated previously, decentralisation of the School Medical Service to Medical Officers of Health in their areas was accomplished during the year.

In addition to administering the school medical service as carried out by permanent officers, the Medical Officers of Health administer the country scheme for the medical examination of school children by general practitioners under the auspices of local councils in their districts.

Full-time permanent medical officers are employed in the Newcastle, South Coast, and North Coast Health Districts, and a part-time school medical officer is employed at Bathurst. The School Medical Service staff in Newcastle has been formed into a Child Health Centre, with medical officers, nurses, a full-time child guidance clinic, full-time speech therapy clinic and a part-time hearing clinic.

The number of local government areas in Health Districts in which the country scheme for the medical examination of school children by local general practitioners is operating is 46, and it is expected that in another 20 areas the scheme will commence during 1962.

Details concerning the operation of the School Medical Service within their areas are contained in the separate reports from each Medical Officer of Health.

Owing to the limited scope of the statistical processing equipment, it is unfortunately impossible to keep separate statistical records for each Health District, although separate statistical records for the Greater Newcastle and Greater Wollongong areas are kept. However, the records for all country areas in New South Wales are grouped together, and appear under the heading of "Remainder of State" in Table II. In the table it will be seen that 86,785 children were medically examined in the remainder of the State during 1961, as compared with 33,797 in 1960.

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

This scheme expanded considerably during the year. In addition to many visits by Medical Officers of Health in their own districts, a medical officer of this Service visited 25 shires and municipalities. During these visits conferences were held with the local councils and the local medical practitioners, who were instructed in the normal procedure of the School Medical Service.

At the end of the year the scheme was operating in a total of 75 council areas. The number of medical practitioners taking part was 201 and the number of schools visited was 403, with a total enrolment of 67,302. The scheme was still under consideration by 27 other councils and it is anticipated that in most of these areas it will commence during 1962.

In 13 areas the scheme was declined or deferred by councils, in the majority of cases because it was not possible to arrange for the co-operation of the local medical practitioners.

Under this scheme, the doctors carrying out medical examinations of school children in shire or municipal areas are paid by the council, according to a fixed scale of fees, and the council is reimbursed by the Department for the amount involved.

MEDICAL INSPECTION OF SPECIAL SCHOOLS

Departmental schools and schools and homes conducted by voluntary organisations for intellectually handicapped children were visited during 1961. All facilities provided by the School Medical Service were made available, so that physical defects and emotional problems could be referred for further investigation. Following, or in conjunction with this investigation, advice or treatment was given by local practitioners, special clinics or hospitals. Children suffering from behaviour disorders were referred to child guidance clinics or to the North Ryde Psychiatric Centre. Of the number of children examined, 16.4 per cent. were suffering from notifiable defects.

There was a steady increase in the number of children being admitted to the schools conducted by voluntary organisations. Lack of accommodation is still a grave problem, although several new schools are planned for next year, and in some cases building has already begun. A new departmental Opportunity A school was opened at Hurstville early in 1961, and this has filled the need for this type of educational centre in the southern suburbs. The need still exists for the education of O.A. children in the northern suburbs.

A conference was held by the Association for the Mentally Retarded at Crowle Home, Ryde, at which the School Medical Service was represented. The great interest now being shown in this problem was evidenced by the number and variety of organisations represented.

The close liaison between this Service and the Division of Guidance and Adjustment was further consolidated and much progress towards the solution of medico-educational problems was made by the interchange of information.

During 1961 a greater interest was shown by the speech therapy department in the speech problems of intellectually handicapped children. Visits were made by a speech therapist, in company with a medical officer, to three special schools so that a full assessment could be carried out on those children with speech defects, and where necessary, arrangements were made for speech therapy to be undertaken.

A panel consisting of representatives of the School Medical Service and the Education Department, and the headmaster of the School for the Blind, Wahroonga, spent three weeks in May discussing the individual medical and educational problems of those children enrolled at the school, and the facilities which might be offered to partially sighted children who are encountering difficulties in the normal school situation.

Visits were paid to three Child Welfare homes. It was found that adequate medical supervision was being carried out at Myee, but that there was no regular medical supervision at Brush Farm or May Villa. Both the Child Welfare Department and the supervisors of these homes gave full co-operation and welcomed the interest and advice of the School Medical Service.

The following schools conducted by the Education Department were visited: School for the Blind, Wahroonga; Glenfield Park Public School, Glenfield; Hassall Street Public School, Parramatta; Albert Road Public School, Strathfield; Cromehurst, Lindfield; Loftus Street, Arncliffe; Woniara Road Public School, Hurstville.

The following schools conducted by voluntary organisations were visited: Crowle Home, Ryde; Eureka House, Burwood; Sunnyfield Centre, Manly Vale; St. George District Branch of Subnormal Children's Welfare Association, Kogarah; Sydenham-Bankstown Branch of Subnormal Children's Welfare Association, Campsie; Sutherland Shire Handicapped Children's Centre, Sutherland; Windgap, Coogee; Greenacres School, Wollongong; Thorndale School, Penrith; "Cooinda" Subnormal Children's Centre, Canley Vale.

The school conducted by a church organisation visited was Mater Dei Special School, Narellan.

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

Information concerning the activities of this Service in the special schools and homes during the year 1961 is given hereunder :—

School	No. of Visits	No. of Full Exams	No. of Reviews	No. of Notifiable Defects	No. of Parents Interviewed
School for Blind, Wahroonga	6	..	36	5	2
Hassall Street	10	47	73	33	..
Eurella House	3	7	10	4	8
Sydenham-Bankstown	7	32	35	9	18
Glenfield Park	10	7	315	25	..
Windgap	7	20	39	14	24
Crowle Home	7	41	25	9	2
Thorndale School	5	17	28	6	18
Sutherland	4	23	21	21	5
Sunnyfield Centre	2	12	9	4	..
Albert Road	4	..	52	5	..
Cromehurst	2	3	25	5	..
Cooinda	2	14	4	2	..
Mater Dei	3	19	25	5	..
St. George District	2	7	7	4	3
Greenacres	4	15	19	6	6
Woniora Road	3	23	12	9	5
Loftus Street	2	1	11	3	..
Brush Farm	2	40	2	5	..
May Villa	3	20	2	4	..
Myee	1	..	..	..	..
John Williams	1	..	..	..	..

Total No. of medical examinations .. 1,098

Total No. notified 178 = 16.4 per cent.

NURSERY SCHOOLS

The children in 17 nursery schools were examined in 1961, 14 in the metropolitan area, 2 in the Lismore district and 1 in Grafton. The schools were visited at monthly intervals in the metropolitan area, but only on one or two occasions in the country. A total of 116 visits were made to these schools, during which 1,746 medical examinations were carried out on 963 children, and 616 parents were interviewed.

The defects of notifiable standard found were as follows :—

Defects	Boys 489 Examined		Girls 474 Examined	
	No.	Percentage	No.	Percentage
Vision	3	0.61	6	1.27
Squint	11	2.25	18	3.79
Hearing	6	1.22	6	1.27
Nose and throat	47	9.61	31	6.33
Skin	21	4.29	18	3.79
Heart	2	0.41	3	0.63
Lungs	21	4.29	10	2.11
Asthma	28	5.71	14	2.95
Development—Hernia including undescended testicle	40	8.18	14	2.95
Orthopaedic	104	21.27	74	15.61
Nervous system	4	0.82	3	0.63
Maladjustment and behaviour problems	57	11.66	49	10.34

School Sanitation

Following each visit to a departmental school, a report is submitted by the medical officer concerning its sanitation. In 1961, 982 departmental schools were visited by medical officers, both full-time and working on a sessional basis in country areas. The accommodation for pupils was considered satisfactory in 98.88 per cent.; sanitation (including toilet, drinking and ablution facilities) was found to be satisfactory in 87.57 per cent., and buildings and grounds were satisfactory in 92.26 per cent. Following receipt of the reports from medical officers of the Service, the Department of Education is notified immediately of the conditions found.

It would appear that school sanitation and hygiene is improving rapidly as compared with previous years, as the Department of Education is catching up with its building and maintenance programme.

Child Guidance Clinics

What was described in last year's annual report as "the beginning of a more enlightened approach to the problems of child health and a progressive step towards better measures of treatment and prevention in the field of mental health" has taken more definite shape this year, and several important advances have been made.

The new premises at Brisbane Street were completed early in the year and were officially opened on 7th July by the Hon. W. F. Sheahan, M.L.A., Minister for Health. This new Centre is bright, attractive, and in every way a more suitable setting in which to carry out remedial work with disturbed children and their parents.

The extension of the psychiatric service in Child Health Centres has continued and is demonstrating that the future development of child guidance in close association with paediatrics is without doubt the best way to make a reality of the concept of child health.

A plan to establish a day school for emotionally disturbed children reached its final stages of discussion with the Education Department in December, and it is hoped that approval will be given for the opening of the school at Forest Lodge early in 1962. This day school, located at the Child Health Centre, is envisaged as a therapeutic unit the primary object of which is intensive psychotherapy with children who are so seriously disturbed that they are temporarily unable to continue attendance at their usual school.

In anticipation of this development in child health, arrangements have been made to transfer a team consisting of a psychiatrist, social worker and two psychologists for full-time duty at Forest Lodge in January, 1962. This new venture, which in the meantime, will be regarded as a pilot study, could prove to be one of the most significant advances yet made by the child guidance clinics in the treatment of emotionally sick children.

By the end of the year a part-time psychiatric service was operating at the Child Health Centre recently opened at Parramatta. Here also it appears that the local needs will call for a rapid expansion of the service.

At Newcastle the clinic opened last year has dealt with a very large case load, having regard to the difficulties caused by shortage of staff.

Against this background of spread into the suburbs, all clinics have been experiencing difficulty in meeting the increasing calls on their services. There has been a rise in the number of cases referred, new requests to undertake more teaching and training, and numerous invitations to participate in mental health activities in the community. These are all encouraging signs of a growing awareness that the role of the clinics in prevention and education is no less important than in treatment.

The teaching of medical undergraduates has continued actively throughout the year, each student attending a series of six clinical demonstrations in child psychiatry. Six groups, each of five or six students, attended during each university term. Although this teaching programme alone occupies three psychiatric teams on one half-day per week each term, it is probably one of the most valuable contributions to the progress of mental health.

During the year five students from the Department of Social Work, University of Sydney, were attached to the clinics for periods of about three months, during which they worked as members of a psychiatric team under the direct supervision of a social worker, attending case conferences and undertaking a limited amount of clinical work.

A psychiatric social worker from the Service gave a series of lectures on Psychiatric Social Work to post-graduate students at Sydney University, and the Senior Psychiatrist conducted the section on mental health in the training of undergraduates at the Department of Social Work.

The in-service training of school medical officers was repeated this year by the Senior Psychiatrist in a course of twenty lectures on "Mental Health in Childhood". Through the co-operation of the Post-Graduate Committee in Medicine six general practitioners were included in the group. Again this year the group displayed keen interest, and there is no doubt that the training should assist medical officers to take a more active part in the recognition and treatment of emotional disorders in children.

A series of eight lectures and two group discussion meetings were conducted by the Senior Psychiatrist as part of the section on mental health in the in-service training course for the nursing staff of the School Medical Service and other Divisions. The discussion groups which met at the conclusion of this section demonstrated that the nurses had developed a keen interest in this aspect of their work and were displaying a deeper understanding of the behaviour problems in children.

A group of trainee school counsellors attended a seminar organised at Brisbane Street Clinic at the request of the Education Department. Demonstrations of psychological testing, discussion of the more common manifestations of emotional disorder in school children, and a clinical demonstration were included in the programme which occupied the whole day.

A psychiatrist from the Service conducted a series of ten sessions on group therapy with psychologists of the Child Welfare Department who had requested assistance in their work with children committed to institutions.

Advantage was taken of the spacious play therapy room in the new building at Brisbane Street to inaugurate a series of clinical conferences, to which were invited the staff of all clinics, school medical officers, and on certain occasions, medical officers from baby health clinics, speech therapists, school counsellors, etc. Members of the staff assisted by reading papers on clinical subjects, presenting clinical demonstrations and introducing topics for discussion. These meetings, which continued at fortnightly intervals to the end of the year, stimulated keen interest and were also most successful in allowing teams from various clinics to share knowledge and exchange views on clinical work.

The Senior Psychiatrist was invited to become a member of a Committee set up by the Director of the Department of Social Work, University of Sydney, at the request of the Board of Directors, to investigate methods of child care in the Burnside Homes and to advise the board regarding possible changes and improvements. A report compiled by this committee aroused considerable interest and led to action by the Burnside Homes and other similar institutions with a view to providing training for the staff.

Arising as a spontaneous gesture by the Burnside Homes, this study has served to demonstrate the growing interest in mental health of children and to improve public relations with institutions caring for children, many of whom are deprived and disturbed.

A lecture on mental health was delivered by the Senior Psychiatrist at the Seminar for Clergy organised by the N.S.W. Association for Mental Health. Lectures on similar subjects were given also to the British Medical Association, the Marriage Guidance Council, and other organisations in the community.

Among various visitors to the clinics during the year two of the most prominent figures in the field of child psychiatry, Dr. Doris Odlum and Dr. Kenneth Cameron, held informal meetings with the staff and discussed problems of clinical interest.

The number of interviews conducted by the clinics shows a substantial increase in comparison with the returns for 1960. This is due in part to the effect of a full year's work at Newcastle, where the rate of interviewing appears to be high in relation to the number of staff employed. Another factor which is probably operating is the introduction of preliminary diagnostic interviews in cases which appear to be relatively simple and not in need of investigation by psychological testing or other diagnostic procedures.

The following figures are obtained from 1,000 unselected cases. The classification is based on the manifest clinical picture after diagnostic investigation. As most cases show multiple symptoms, and as the categories are not mutually exclusive, each item represents the frequency per 1,000 cases :—

	Frequency in 1,000 Cases
A. Development and Maturation—	
(1) Effects of physical disability, ill-health, etc.	95
(2) Retarded intellectual development	75
(3) Retarded emotional development	160
(4) Personality variant	209
B. Reactive to Environment—	
(1) Primary and secondary habit disorders	175
(2) Motor symptomatology, tics, hyperactivity, etc.	124
(3) Disturbed personal relationships	366
(4) Disturbed social behaviour, delinquency, etc.	230
(5) Disturbance of education, learning disability, etc.	221
C. Clinical Syndromes—	
(1) Neurotic syndrome (anxiety, obsessive, hysteria, etc.)	400
(2) Psychosomatic syndrome (asthma, eczema, etc.)	61
(3) Organic syndrome (brain damage, epilepsy, etc.)	88
(4) Psychotic syndrome (schizophrenia, etc.)	27
(5) No psychiatric disability	5

The highest frequency occurs in Neurotic Syndrome. It would be expected, therefore, that relatively high figures would be found in those categories commonly associated with neurotic disturbances, such as disturbed personal relationships (B3), disturbances of learning (B5), personality variants (A4) and habit disorders (B2). The figures above show a relative frequency in that order. The high incidence of disturbed social behaviour (B4) may be influenced by the fact that the clinics deal with fairly large numbers of delinquent children.

Of some practical importance is the indication that various forms of learning disability are common and that psychogenic factors must be responsible in many cases. This diagnostic point has been stressed in the teaching given at the clinics because of the local tendency on the part of teachers, doctors, and others, to place undue emphasis on the actual value of the I.Q.

The benefit gained by treatment cannot be assessed without a carefully conducted follow-up over a period of years. With all psychiatric teams already overloaded with cases requiring immediate attention it is impossible to undertake a systematic follow-up of earlier work, and no more than a subjective assessment of results at the conclusion of treatment can be offered.

The results shown below are based on the opinions of the various psychiatrists who dealt with the cases, but as there are no standard criteria and no means of verifying the assessments it is doubtful if any valid conclusions can be made.

Assessment of Results in 1,000 Unselected Cases

(a) Cases lapsed because of failure to attend, etc.,	173
(b) Cases treated but with little or no improvement	102
(c) Cases still in treatment, progressing but not assessable	203
(d) Treatment concluded, symptomatic improvement (Result fair)	162
(e) Treatment concluded, improved (result good)	193
(f) Treatment concluded. Very good readjustment	155
(g) Cases unsuitable for treatment, or referred elsewhere	12
	1,000

A part-time service was provided at the Child Health Centre, Forest Lodge during the year by the Senior Psychiatrist, assisted as required by psychologists and social workers who could be made available by other clinics. Much of the clinical work was in a consultative and supervisory capacity for the assistance of medical officers employed at the Centre, but in addition to this, 187 referrals were accepted for diagnostic investigation and treatment. It is apparent, therefore, that a full-time service will be required here next year when the day school (referred to elsewhere in this Report) is established.

Experience now gained at this Centre suggests that medical officers might be employed more freely in association with the psychiatric teams, to carry out diagnostic screening and to undertake parent counselling in uncomplicated cases.

A part-time service was started towards the end of the year at the Child Health Centre, Parramatta, but the work has not yet progressed to a stage which provides sufficient material for a report.

Details of the work carried out at the child guidance clinics are given in Table V.

Speech Therapy

The effective establishment was seriously reduced during the year by several resignations, and because of this considerable re-organisation took place. Efforts towards the establishment of full-time clinics were reasonably successful, more especially in Child Health Centres, with two speech therapists at Parramatta Centre and one at Newcastle. At the end of the year seven full-time clinics were operating, but owing again to staffing difficulties, the clinic at Wollongong was conducted on a roster basis by all therapists.

It is anticipated that at least five more speech therapists will join the Service early in 1962, one of whom is a trainee in her final year.

Three trainees commenced the course in 1961, and two graduate therapists joined the Service.

The number of cases treated during the year was 887, compared with 1,087 in 1960. The waiting list at the end of the year totalled 1,309. With the full co-operation of medical officers every effort is being made to assess and assist cases waiting for treatment, even if regular treatment cannot be undertaken. Consequently case loads are being expanded to embrace cases admitted for follow-up treatment only. The immediate needs of country cases are still being met by this consultative follow-up therapy.

As every effort is being made to meet the medical and emotional needs of all referrals these children are being given full team investigation, which creates still closer liaison between the speech therapist and other departments.

Regular staff meetings have been held, as in previous years. The more isolated clinics are kept in regular personal contact with the Acting Senior Speech Therapist.

Statistics relating to the work of speech therapy clinics during 1961 are set out in Tables VI and VIA.

Hearing Clinic

The hearing clinic at 86-88 George Street North continued throughout the year on a full-time basis, ten sessions being held weekly, attended by five ear, nose and throat specialists.

Children were referred to the clinic by paediatricians and school medical officers, child guidance clinics, speech therapists, the Division of Guidance and Adjustment, Department of Education, Aborigines' Welfare Board, Child Welfare Department, by ear, nose and throat specialists, doctors in general practice, parents and school principals and teachers.

The total number invited to attend the clinic was 3,881, this number being made up of 1,975 new cases and 1,906 reviews. A total of 1,704 new cases was examined. The number of cases reviewed was 1,459. Detailed information concerning these cases is contained in Table VII.

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 Laboratories, which supply them to school children free of charge.

Children with severe deafness requiring special education are referred to the Division of Guidance and Adjustment for placement in classes for deaf children, and are reviewed regularly by one of the consultants attached to the clinic. The counsellor for the deaf and blind, 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 full-time for the year, the treatment being continued along the lines given in the Annual Report for 1960.

The total number of appointments for initial consultation (that is, new patients) from January to December was 251, of which number 212 appointments were kept and consultations held. Of these, the number of children who subsequently undertook treatment was 75. The total number of appointments made for consultation with children already under treatment was 1,271, of which number 1,123 appointments were kept.

In addition to the ordinary routine work of the clinic, the general survey of the results of treatment which was begun in 1954 was continued, and completed for those children who began treatment in 1959. Surveys of children who undertook treatment in 1960 and 1961 were begun but could not be fully completed as each survey is based on a two year period of review. An additional survey, commenced in 1958, of all children who commenced treatment in the years 1951 to 1955 and who remained under treatment longer than three months, was completed also, and revealed that 63.43 per cent. of a total of 216 children who replied to a questionnaire or whose parents were interviewed, had not had an attack of asthma for two years at least.

Infectious Diseases, Other Illnesses and Accidents

During 1961, 29,339 cases of injury and 156,969 cases of illness, other than infectious disease, were reported amongst pupils attending departmental schools, necessitating respectively an average absence from school of 1.33 and 1.08 weeks. The figures for 1960 were 27,353 cases of injury and 157,969 cases of illness.

Table 8 shows the number of pupils in departmental schools who suffered from the common infectious diseases for each year from 1952 to 1961, and the average absence from school for each disease during 1961. These figures indicate a decline in numbers, compared to 1960, in German measles, whooping cough, scarlet fever, chicken pox, acute rheumatism and acute conjunctivitis; in the case of sore throat, influenza and hepatitis, there is very little variation; however, when compared with the 1960 figures, the 1961 figures for measles, diphtheria, mumps, poliomyelitis and meningococcal meningitis show a marked increase, in the case of poliomyelitis the increase in numbers being 400 per cent. above 1960.

During 1961, 3,383 children were notified as suffering from impetigo, requiring an average absence of 1.54 weeks; from ringworm, 2,922, average absence 2.07 weeks; scabies, 96, average absence 1.82 weeks; and pediculosis capitis, 1,185, average absence 1.72 weeks. There is very little variation in these figures when compared with those for 1960.

The number of children who were absent from school as contacts of infectious diseases during 1961 totalled 5,449, compared with 6,076 in 1960.

No serious epidemics of infectious disease occurred in any departmental school during the year.

Immunisation State of Kindergarten Children

During 1961 a count was made, with the assistance of the Bureau of Statistics, of the number of children immunised against poliomyelitis, diphtheria, whooping cough and tetanus (according to parental statements), who were examined in kindergarten classes in schools throughout the State. The figures are as under :—

Area	Polio- myelitis	Percentage of Total	Diph- theria	Percentage of Total	Whooping Cough	Percentage of Total	Tetanus	Percentage of Total	Total
Metropolitan ..	21219	86.1	22147	89.5	20333	82.5	19388	78.7	24636
Forest Lodge ..	1808	73.2	1920	77.8	1784	72.3	1637	66.3	2469
Newcastle ..	2979	78.9	3209	84.9	3077	81.4	2816	74.5	3778
Wollongong ..	1359	86.8	1370	87.5	1333	85.2	1193	76.2	1565
Rest of State ..	5505	87.4	5498	87.2	5458	86.6	4995	79.3	6302
Whole State ..	32870	84.8	34144	88.1	31985	82.5	30029	77.5	38750

It will be seen that for poliomyelitis a larger percentage of kindergarten children had been immunised in the country areas than in metropolitan areas ; similarly, in the case of whooping cough and tetanus ; but in the case of diphtheria a slightly larger percentage have been immunised in the metropolitan area. Another interesting fact is that a larger percentage of children of this age group have been immunised against diphtheria than against poliomyelitis, in spite of the publicity carried out over the last few years, and also the comparatively high figures for tetanus immunisation are encouraging.

It is considered that still greater efforts are needed in the field of health education and ordinary publicity, in order that the whole of the child population should be immunised against the crippling communicable diseases of childhood.

Control of Tuberculosis in Schools

Close liaison was again maintained with the Division of Tuberculosis in regard to tuberculosis occurring in school children and teachers. Each case is notified from one to the other Division, is followed up and supervised by this Division, and the necessary action for control of the disease is carried out by the Division of Tuberculosis.

During 1961, there were 24 cases amongst school children (21 pulmonary and three extra-pulmonary) and six cases amongst teachers and students, compared with 13 cases in school children in 1960 and three cases amongst teachers and students in the same year.

During the year, 41 teachers (34 in 1960) who had a history of having suffered with tuberculosis were reviewed, and an opinion given to the Department of Education regarding their fitness to continue teaching.

In compliance with the campaign for the control of tuberculosis, 42 teachers (24 in 1960) who had suffered from acute respiratory conditions, such as pneumonia or pleurisy, were X-rayed and an opinion expressed as regards their fitness to continue teaching.

Medical Examination of Teachers and Teachers' College Entrants

The School Medical Service continued to carry out the general administrative medical work of the teaching service of the Department of Education during 1961. The procedure for the medical examination of applicants for teachers' college scholarships was similar to the previous three years, each applicant being examined by his own family doctor, and the medical examination record card forwarded under confidential cover to this Service. It was again found necessary to review many of these cases by medical examination at head office in order to finally assess their medical fitness. This year each applicant was required to undergo a tuberculin skin test (Mantoux reaction) and/or chest X-ray according to the result, and forward the appropriate completed card with his medical record card. The scheme has worked very well, and only a mere handful of applicants were unable to complete both examinations and there have been no complaints of any hardship received.

Teachers in the service were referred for medical examination, as in the past, for various reasons, including sick leave or retirement, determination of fitness for appointment to the permanent staff, transfer from temporary or casual staff to permanent staff, and others. Where indicated, psychiatric examinations of students and teachers were carried out.

The numbers of medical examinations in most categories were markedly increased compared to previous years, particularly in regard to applicants for employment, psychiatric cases, special examination of school children, and of course, the applicants for teachers' college scholarships.

The number of medical examinations carried out was :—

	1958	1959	1960	1961	
Teachers' college entrants	675†	2†	6†	4†	By School Medical Service. By private medical practitioners.
	4462†	5824†	5862†	7443†	
Applicants for employment	740	805	839	971	
Sick leave, transfer to permanent staff, special examinations, retirements, etc. ..	796	840	920	822	
Psychiatric examinations	128	233	285	350	
	6801	7704	7912	9590	

† These figures cover the twelve months period from 1st March of the year indicated.

Additionally, the following examinations were carried out :—

Teachers' college entrants reviewed at head office	774
Applicants for overseas exchange	2
Medical re-assessment of graduates from teachers' colleges	47
	<u>823</u>

Arrangements were made for chest X-ray only in the case of 45 applicants for employment. The causes of sick leave in the 546 cases examined were as follows :—

	M.	F.	Total
Diseases of the cardio-vascular system	31	32	63
Diseases of the respiratory system—			
Tuberculosis	5	3	8
History of tuberculosis	22	19	41
Bronchitis, asthma	1	8	9
Control of tuberculosis	22	20	42
Gastro-intestinal disease	4	6	10
Malignant disease	3	7	10
Gynaecological disease .. .. .	..	7	7
Diseases of genito-urinary system	4	4	8
Diabetes mellitus .. .. .	..	1	1
Skin disease	1	5	6
Rheumatism and disease of bone	3	4	7
Ear, nose and throat conditions	1	4	5
Eye conditions	2	1	3
Anaemia and general health .. .. .	..	4	4
Acute infectious disease .. .. .	..	1	1
Thyroid conditions	1	7	8
Accidents	3	7	10
Disease of central nervous system	9	8	17
Mental disease—			
Psychosis	27	25	52
Psychoneurosis	25	36	61
Other	40	75	115
Orthopaedic	4	11	15
Hepatitis	2	6	8
Varicose veins .. .. .	..	3	3
Lupus erythematosus .. .. .	..	1	1
Other (general health)	17	14	31
	<u>227</u>	<u>319</u>	<u>546</u>

During the year the retirement of 12 teachers was recommended, for the following reasons :—

	M.	F.	Total
Diseases of the cardio-vascular system	1	3	4
Mental disease—			
Psychoneurosis	1	..	1
Psychosis	1	1	2
Disease of central nervous system	1	2	3
Diabetes .. .. .	..	1	1
Accident .. .. .	..	1	1
	<u>4</u>	<u>8</u>	<u>12</u>

Of the 7,447 candidates examined to determine fitness for entrance to a teachers' college, 117 (1.57 per cent.) failed to pass the medical examination. This percentage of rejects compares with 1.79 per cent. for the previous year. The causes of rejection were :—

	M.	F.	Total
Myopia	3	5	8
Other visual defects	2	1	3
Impairment of hearing	6	6	12
Other E.N.T. conditions (mainly perforated eardrum)	1	4	5
Overweight	1	3	4
Migraine and frequent headaches	6	16	22
Asthma	10	19	29
Orthopaedic conditions	2	..	2
Genito-urinary conditions	1	..	1
Organic heart disease	3	2	5
Lung condition	1	1	2
Epilepsy	4	5	9
Skin conditions	2	6	8
Nervous condition	1	4	5
Other .. .. .	..	2	2
	<u>43</u>	<u>74</u>	<u>117</u>

In addition to the examinations carried out at head office, arrangements were made for the medical examination of applicants for employment in the country, by Government Medical Officers. The number of these examinations was 484, compared with 494 in 1960.

At the end of the year, 1910 graduates from the various teachers' colleges were examined medically, to determine their fitness for permanent appointment. The comparable figure for 1960 was 1,852.

Medical Examination of Special Groups of Children

Children were examined at head office at the request of medical practitioners, teachers or parents because of special health problems, and at the request of the Department of Education, for example, as to fitness for admission to special schools or classes. Children were also examined at the request of the Child Welfare Department, the Aborigines' Welfare Board, the Far West Children's Health Scheme. Many of the children showed mental retardation, and advice was given to parents and the appropriate Department or authority concerning their care and schooling. The number of examinations carried out during the year was 853 (668 in 1960).

Teachers' Colleges

During the year, nine medical officers were seconded to teachers' training colleges in New South Wales—six full time and three part time.

In the final year of their training course all students were given a detailed course of lectures in School Health and First Aid, with set assignments. This included discussion periods and the use of visual aids, such as films, film strips, flannelgraph, charts and models.

In the majority of colleges demonstration lessons were conducted and in some colleges additional lectures were given to first year groups on growth and development and elementary physiology.

All students were required to pass an examination in School Health and elementary First Aid prior to receiving their Teaching Certificate.

All students on scholarship were kept under medical supervision throughout their course. Students absent on account of sick leave were referred to the medical officers and those with illness or injuries were examined and referred, if necessary, to the nearest hospital or to their own doctor for treatment. Many special interviews were also carried out with students who had personal, home or study problems, and of these, many were referred to head office for specialist advice.

All entrants were Mantoux tested by the Tuberculosis Division of the Department. Those who showed positive reactions were referred for chest X-ray. No cases of active tuberculosis were found amongst the students in training.

In the second half of 1961, 1,910 outgoing students were medically examined for permanent appointment to the teaching service.

The year 1961 marked the commencement of a two year course in School Health for the Orange Grove students. Unfortunately, due to the additional intake of students and lack of extra medical staff, the Alexander Mackie College had to revert to a one year course in School Health as from September.

The numbers of students and information concerning the attendance of medical officers at the various colleges are set out hereunder :—

College	Enrolment	Medical Officers
Sydney	2655	2 full time 1 part time
North Newtown	65	1 part time
Balmain	263	1 part time
Orange Grove	169	1 part time
Alexander Mackie	450	1 full time
Armidale	540 From Sept. 390	1 full time
Bathurst	30 External stu- dents. 345	1 part time
Wagga	420	1 part time
Newcastle.. .. .	742	1 part time

National Fitness Camps

Three nurses from the School Medical Service are now attached for duty to National Fitness Camps, the establishment having been increased by one during the year. The camps concerned 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 this Service at the end of each camp.

Co-operation with the Child Welfare Department and Outside Bodies

During the year the examination of special groups of children was carried out for the Child Welfare Department—Little Brothers and Fairbridge Scheme—Far West Children's Health Scheme, and Aborigines' Welfare Board. In addition, this Service is able to assist the Child Welfare Department in expressing opinions on the medical fitness of persons for child adoption, in certain cases.

Conclusion

My thanks are due to all members of the School Medical Service for their co-operation and assistance in carrying on the activities of the Service during the year.

TABLE II—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, 1959, 1960, 1961

	Metropolitan Area			Remainder of State			New South Wales		
	1959	1960	1961	1959	1960	1961	1959	1960	1961
Primary—									
Full Examination—									
Kindergarten and Grade 1 ..	22,320	29,226	37,719	4,151	6,372	20,833	26,471	35,598	58,552
Others	10,118	11,261	10,080	2,711	7,062	28,425	12,829	18,323	38,505
Total—									
Full Examinations	32,438	40,487	47,799	6,862	13,434	49,258	39,300	53,921	97,057
Reviews	40,378	52,781	67,792	3,720	3,991	10,986	44,098	56,772	78,778
Grand Total	72,816	93,268	115,591	10,582	17,425	60,244	83,398	110,693	175,835
Secondary—									
Full Examination—									
Year 1	20,031	25,594	20,246	5,894	9,186	10,895	25,925	34,780	31,141
Year 4	4,126	5,281	5,898	1,304	1,748	2,643	5,430	7,029	8,541
Others	1,710	5,071	13,460	1,369	1,971	8,277	3,079	7,042	21,737
Total—									
Full Examinations	25,867	35,946	39,604	8,567	12,905	21,815	34,434	48,851	61,419
Reviews	15,435	15,807	18,237	2,246	3,467	4,726	17,681	19,274	22,963
Grand Total	41,302	51,753	57,841	10,813	16,372	26,541	52,115	68,125	84,382
Total Full Examinations	58,305	76,433	87,403	15,429	26,339	71,073	73,734	102,772	158,476
Total Reviews	55,813	68,588	86,029	5,966	7,458	15,712	61,779	76,046	101,741
Grand Total	114,118	145,021	173,432	21,395	33,797	86,785	135,513	178,818	260,217

TABLE III—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, AND SCHOOL POPULATION, IN METROPOLITAN AREA, COUNTRY AND NEW SOUTH WALES, 1961

	Metropolitan Area		Country		Total	
		Percentage		Percentage		Percentage
Primary Schools						
Population	293899		283600		577499	
No. of Full Examinations	47799	(16.26)	49258	(17.37)	97057	(16.81)
No. of Reviews	67792	(23.07)	10986	(3.87)	78778	(13.64)
Secondary Schools—						
Population	134188		97806		231994	
No. of Full Examinations	39604	(29.51)	21815	(22.30)	61419	(26.47)
No. of Reviews	18237	(13.59)	4726	(4.83)	22963	(9.90)
Total—						
Population	428087		381406		809493	
No. of Full Examinations	87403	(20.42)	71073	(18.63)	158476	(19.58)
No. of Reviews	86029	(20.10)	15712	(4.12)	101741	(12.57)

TABLE IV—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PUPILS FULLY EXAMINED, 1961, AND EXPRESSED AS A PERCENTAGE

No. Examined	Primary		Secondary		All Pupils	
	Boys	Girls	Boys	Girls	Boys	Girls
	50180	46877	33504	27915	83684	74792
Defects—						
Vision	2.9	3.5	4.3	4.2	3.5	3.8
Squint	0.9	1.1	0.4	1.0	0.7	1.0
Hearing	3.7	3.1	1.9	2.0	3.0	2.7
Nose and throat	3.7	4.0	0.9	1.2	2.6	2.9
Skin	1.5	1.4	1.3	2.3	1.4	1.7
Thyroid	0.1	0.2	0.1	0.8	0.1	0.4
Heart—Circulation	0.5	0.6	0.3	0.8	0.5	0.7
Lungs	3.0	2.6	0.7	1.0	2.1	2.0
Asthma	3.1	1.9	2.5	1.9	2.8	2.0
Development—Hernia	0.8	0.4	0.2	0.1	0.6	0.3
Orthopaedic	2.0	1.6	1.2	2.4	1.7	1.9
Nervous system	0.3	0.3	0.2	0.2	0.3	0.3
Psychological	1.0	0.7	0.2	0.3	0.7	0.6

TABLE V—STATISTICS RELATING TO WORK OF CHILD GUIDANCE CLINICS, 1961

In charge of Clinic: Location:	Dr. Collins Brisbane St.	Dr. Higgin Brisbane St.	Dr. Campbell Camperdown and Brisbane St.	Dr. Cooley Camperdown	Totals Sydney	Dr. Kirton Newcastle	Dr. Gilchrist Yasmar
Case load—							
(a) Continued from 1960 to 1961	75	51	73	30	229	37	830 (referred)
(b) New cases, 1961	505	475	323	319	1,622	394	388 (committed)
(c) Reviews, etc., not included above .. .. .	..	109	38	20	167	13	..
Total	580	635	434	369	2,018	444	1,218
(d) Closed during 1961	509	497	350	283	1,639	164	..
(e) Cases current at 31st December, 1961	71	29	84	44	228	99	..
(f) On waiting list 31st December, 1961	165	92	76	56	389	67	..
Continued to 1962 (e) + (f)	236	121	160	100	617	166	..
(g) Failed to attend	68	83	106	61	280	21	..
Age Groups—							
Male	303	255	156	153	867	236	1,218
Female	202	220	167	166	755	158	..
Total	505	475	323	319	1,622	394	1,218
0-5 years	58	26	39	32	155	65	92
6-11 years	239	194	159	138	730	162	490
12-15 years	185	212	101	125	623	134	248
Over 15 years	23	43	24	24	114	33	..
Total	505	475	323	319	1,622	394	..
Source of Referral—							
Personal application	188	149	106	123	566	40	All referred from
Children's Courts	75	100	79	96	350	44	Children's
Department of Child Welfare	7	42	9	3	61	28	Courts and
Education Department	73	55	30	16	174	41	Child Welfare
Hospitals, social agencies, etc.	34	39	9	13	95	61	Department.
Medical practitioners	64	36	15	21	136	79	..
School medical officers, nurses, etc.	57	52	55	31	195	89	..
Speech therapists	7	2	20	16	45	12	..
Total	505	475	323	319	1,622	394	..

TABLE VI—STATISTICS RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1961

	Camperdown		Forest Lodge		Darlington	Rockdale	Waterloo	Parramatta		Willoughby	Glenfield Park	Wollongong	Blind School Wahroonga	Newcastle	Paddington	Total
	No. 1	No. 2	No. 1	No. 2				No. 1	No. 2							
No. of first interviews	24	54	76	6	20	50	14	29	103	73	..	35	3	131	53	671
Admitted or re-admitted to treatment—current.	18	40	76	4	14	24	9	32	32	23	..	22	..	67	46	407
Admitted for follow-up only	..	..	14	..	1	17	4	2	24	20	..	9	..	26	16	133
Under treatment 1st January, 1961	..	..	..	..	..	15	..	36	34	23	..	..	..	36	36	207
Total cases treated 1961 ..	56	72	125	43	30	64	36	74	71	68	..	34	15	94	93	887
No. of Reviews ..	1	17	90	9	5	18	6	6	2	26	..	26	..	14	77	297
Total No. of attendances, 1961 ..	464	811	1421	400	275	965	433	774	914	1015	167	420	192	1027	1125	10403
Failed to continue treatment	4	9	9	4	2	8	10	6	3	2	..	5	2	7	10	81
Transferred to other clinics	25	10	3	19	13	..	8	..	..	..	..	1	2	1	4	86
Discharged under observation	18	29	78	10	12	12	13	8	5	16	..	2	5	20	14	242
Discharged relieved	6	24	21	10	2	16	4	24	5	10	..	6	6	4	2	140
Discharged follow-up admissions 1961.	..	..	13	..	..	..	..	36	5	5	..	2	..	..	..	20
Cases attending 31st December, 1961.	..	..	..	..	..	15	..	..	34	23	12	..	..	36	36	192
Cases awaiting first interview 31st December, 1961.	..	..	157	..	..	289	..	113	253	105	..	273	..	58	61	1309

TABLE VIA—ADDITIONAL INFORMATION RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1961

Classification of speech defects seen during the year : (Current cases at beginning of year plus all "admitted/readmitted") :—

Dyslalia	432
Stammering	252
Dyslalia and stammering	44
Sigmatism	47
Cluttering	2
Vocal disorders, including hyperrhinophonia, cleft palate, etc.	28
Speech defect due to brain damage	58
Speech defect associated with hearing loss	24
	<u>887</u>

Referrals for further investigation :—

Child guidance clinic	75
Hearing clinic	33
Division of guidance and adjustment, Department of Education	24
Psychologist, research	4

TABLE VII—FIGURES RELATING TO WORK OF HEARING CLINIC, 1961

	Total Number	Hearing Normal	Deafness due to Remediable Conditions	Chronic Deafness	Examined in O.D. classes	Hearing aid Recommended	Recommended for O.D. Classes	Recommended for Darlington School for the Blind
New Cases—								
Boys	1,010	310	418	66	....	7	12	16
Girls	694	207	283	60	....	3	10	17
Total	1,704	517	701	126	....	10	22	33
Reviews—								
Boys	836	227	308	102	80	15	3	....
Girls	623	175	235	76	50	10	....	....
Total	1,459	402	543	178	130	25	3	....

TABLE VIII—NUMBER OF COMMON INFECTIOUS DISEASES IN DEPARTMENTAL SCHOOLS, 1952-1961

	Measles	German Measles	Whooping Cough	Scarlet Fever	Diphtheria	Sore Throat	Chicken Pox	Mumps	Influenza	Acute Conjunctivitis	Acute Rheumatism and Chorea	Polio-myelitis	Meningo-coccal Meningitis	Hepatitis
1952	29,578	7,143	2,772	529	154	21,016	10,974	9,319	87,390	1,318	804	449	59	•
1953	8,748	2,193	2,946	516	237	23,551	23,383	6,838	20,828	1,041	1,065	219	61	
1954	36,080	6,345	1,210	477	144	27,482	12,577	24,480	98,665	946	1,007	190	54	
1955	7,229	3,765	2,184	411	63	30,953	22,733	14,623	93,334	1,543	1,090	83	63	
1956	30,202	5,547	3,132	478	34	29,790	15,513	9,052	79,595	2,119	1,095	120	47	
1957	8,484	4,234	1,270	450	31	35,571	19,518	14,616	211,793	2,043	945	34	44	
1958	22,389	6,059	1,036	658	29	40,016	18,090	32,207	82,632	2,849	925	35	65	
1959	31,513	6,492	1,696	514	7	46,668	17,163	15,110	178,918	3,512	746	23	50	
1960	13,823	12,023	1,902	465	8	53,383	29,778	10,514	112,426	5,293	801	7	45	
1961	31,203	6,230	1,560	323	14	53,068	15,405	20,882	104,570	3,185	603	35	54	
Average absence in weeks 1961	2.45	1.70	3.66	2.97	4.37	0.99	2.1	2.19	0.94	1.12	4.19	6.89	3.79	4.29

• Figures not available prior to 1960.

APPENDIX A—REPORT ON A PILOT STUDY OF PRE-SCHOOL CHILDREN EXAMINED AT THE GLEBE MATERNAL AND INFANT WELFARE CENTRE BETWEEN 5TH SEPTEMBER, 1961, AND 28TH NOVEMBER, 1961

Period of Study : 13 weeks (one half-day per week).

Total number of children examined	58
Number of attendances	67
Number of review attendances	9
Number of failures to attend for review	11

The number of children seen during November was adversely affected by the inclement weather, and perhaps also by the absence, through illness, of the regular Clinic Sister, for the last two weeks :—

In September	21 children were seen in 4 sessions.
In October	32 children were seen in 5 sessions.
In November	14 children were seen in 4 sessions.

Ages of the children examined :—

Less than 1 year	4
Between 1 and 2 years	10
Between 2 and 3 years	15
Between 3 and 4 years	12
Between 4 and 5 years	15
5 years	2
Total	58

Analysis of results of the various methods used to secure attendance :—

(1) Invitation to attend for routine medical examination by the Clinic Sister	29
(2) Attendance recommended because of either Clinic Sister's or maternal concern about the child	19
(3) Attended in response to the sending of a letter by the Maternal and Baby Welfare Division—100 letters were sent, 9 were returned from the Dead Letter Office, 81 did not reply, leaving the 10 attendances	10

Morbidity Rate : The overall morbidity rate was assessed at 62 per cent. (36 of the 58 children examined were involved.)

In 17 children (29.5 per cent.)—*Physical ill-health* of significant degree, requiring investigation and/or treatment was present.

Eleven (11) mothers were unaware of an abnormality requiring treatment—this included one patent ductus arteriosus, now awaiting operation at R.A.H.C., and one, provisionally diagnosed as hiatus hernia with oesophageal stricture, now awaiting investigation.

Four (4) children were already having satisfactory treatment, and two (2) mothers felt uncertain of, or were dissatisfied with present treatment.

In 19 children (32.7 per cent.) there were definite problems in the *Mental Health field* requiring counselling. Disturbed parent/child relationships of varying degree were present, often associated with faulty parent attitudes towards the child, with punishment and retaliation for unacceptable behaviour and habit disturbances, from a very early age.

The *Nutritional State* was classified as :—

A grade (entirely satisfactory)	in 49 children
B grade (moderately satisfactory)	in 8 children
C grade (unsatisfactory)	in 1 child.

Immunisation was judged to be :—

Completed (or satisfactory)	in 37 children
Unsatisfactory	in 21 children

Impressions : There was enthusiastic acceptance of the examination and interview by a majority of the mothers, numbers of whom volunteered their appreciation, particularly in matters of physical health, and for advice in minor child rearing problems.

In the cases of disturbed parent/child relationships accompanied by marked parent concern over difficulties such as feeding problems, defective sphincter control, thumbsucking, head banging, etc., it was difficult or impossible in a short interview, to help the mother to gain insight into, and to understand the child's needs. There was a fairly regular trend towards punitive and corrective training methods by the mothers and frequently a failure to return to the clinic for further interview for discussion of the problem and its handling by a more positive approach.

H. Division of Dental Services

ANNUAL REPORT, 1961

In previous reports of the Division of Dental Services the difficulty of obtaining dental officers for country service has been emphasised. It was gratifying during 1961 to receive approval for the establishment of Traineeships in Dentistry. Five trainees who were students in the final year at the Dental School at Sydney University were appointed. Four graduated at the end of the year and the remaining one is expected to commence duties in the early part of 1962.

The year was reasonably successful in that a greater number of school children were contacted than in any previous year. Contact was also made with the greatest number of schools. It was, however, disappointing that so many delays were experienced in relation to the building of fixed clinics in school grounds. Finance was received for an additional three mobile clinics, and at the end of the year they were nearing completion in readiness for the commencement of the 1962 school year.

Vacancies on the staff were filled gradually earlier in the calendar year so that by approximately the end of the financial year the establishment was at full strength of 36 dental officers including the Director and Senior Supervisory Dentist, 23 dental assistants, four part-time dentists, one office assistant and five trainees in dentistry.

School Medical Service

The new system of examination and notification of dental defects was well received. Seventy thousand seven hundred and forty-seven primary school children were examined, and notifications to the parents of 57,670 of these were made. Thus, 81.5 per cent. of the children were dentally unfit at the time of examination. Only 5.6 per cent. had naturally healthy dentitions so that in all 94.4 per cent. had experienced dental disease. The examining officers visited 465 schools in the country, and 104 in the Metropolitan Area, a total of 569.

Nine mobile dental clinics were in continuous operation in country areas throughout the year. During the 1961 Christmas School Vacation, two of the units were made available to the Australian Dental Association to assist with the treatment of the children at the Far West Camp at Manly.

A dental officer and assistant spent the majority of the year at Stewart House Preventorium, Curl Curl, in providing dental treatment for children from country areas, and those who had been brought to the Home from the metropolitan area because of extenuating circumstances.

At the beginning of July a dental officer and assistant were placed on full-time duty with the Royal Flying Doctor Service, N.S.W. Section, located at Broken Hill. By this means some attention was brought to many children living in remote areas of the State who would not otherwise have received it.

The clinical officers also carried out a dental health survey on children 6-9 years inclusive prior to commencing actual treatment, and it was found that of 27,011 included in the survey 78 per cent. were in need of treatment. Only 7 per cent. of this very young age group had naturally healthy dentitions; 15 per cent. had healthy teeth as a result of previous treatment. Thus, 93 per cent. had actually experienced dental disease.

Total work achieved by the School Dental Service was as follows:—

Examinations	.. .. .	99,259
Notifications	.. .. .	57,670
Treatments	.. .. .	15,423
Visits	.. .. .	49,205
Extractions	.. .. .	24,611
Fillings	.. .. .	50,650
Other treatments including prophylaxis	.. .. .	53,692
Dentures	.. .. .	17

The undermentioned schools were not treated because of unsatisfactory accommodation:—

Metropolitan: Greystanes Public, Heathcote Public, Heathcote East Public, Killara Public, Maroubra Bay Convent, Maroubra Junction Public, Maroubra Junction Convent, Waterfall Public.

Country: Morpeth.

The following schools declined to accept a visit from the School Dental Service:—

Metropolitan: St. Patrick's College, Strathfield.

Country: Dorrigo Convent, Loomberah, Manilla Upper, Weabonga, Wood's Reef.

Children from 181 country and 84 metropolitan schools actually received dental treatment.

The Child Welfare Department continued to avail itself of the advisory service. The customary visit was also made by the Division's officers to the Annual Camp for Aborigine Children at La Pouse in January.

Posters and pamphlets on oral hygiene were distributed and the usual lectures given to classes in schools, Mothers' Clubs, teachers-in-training, etc. Some use was also made of television and radio for dental health education purposes.

Total work achieved for penal establishments was :—

Examinations	..	..	..	..	..	..	..	3,732
Treated	..	..	..	..	..	..	..	1,546
Visits	..	..	..	..	..	..	..	4,197
Extractions	..	..	..	..	..	..	..	2,962
Fillings	..	..	..	..	..	..	..	1,051
Other treatments, including prophylaxis	..	..	..	..	..	..	..	1,958
Dentures	..	..	..	..	..	..	..	150
Denture repairs	..	..	..	..	..	..	..	80

Aerial Dental Service

The aerial dental service from Broken Hill in conjunction with the Royal Flying Doctor Service, N.S.W. Section, was placed on a permanent basis as from July, 1961. The service continued to be well appreciated and the Royal Flying Doctor Service has expressed complete satisfaction with the project. To this Service the Department now makes an annual subsidy of £2,500.

The undermentioned areas were visited during 1961 : Menindee, Talyealye, Wanaaring, Tibooburra, Radium Hill, Naryilco, Silverton, Manara Mine, Hungerford, Arrabury, Pooncarie, Balranald, Louth, Bourke, Cobar, Wilcannia, White Cliffs, Ivanhoe, Oakvale, Owen Downs, Wooltana, Wirrealpa, Nappa Merrie, Muloorina, Wertalooona, Angepena, Kinalung, Nepabunna.

A total of 1,162 patients were examined, 584 were treated in 982 visits and 570 extractions, 821 fillings and 781 other treatments were provided. It is estimated that 25,000 miles approximately will be travelled by the dental team annually.

Total work achieved by the division in 1961 was :—

Examinations	..	..	..	..	..	..	..	116,086
Notifications	..	..	..	..	..	..	..	57,670
Treated..	..	..	..	..	..	..	..	21,613
Visits	..	..	..	..	..	..	..	72,294
Extractions	..	..	..	..	..	..	..	37,270
Fillings	..	..	..	..	..	..	..	58,618
Other treatments, including prophylaxis	..	..	..	..	..	..	..	67,117
Dentures	..	..	..	..	..	..	..	1,091
Denture Repairs	..	..	..	..	..	..	..	588
General Anaesthetics	..	..	..	..	..	..	..	66

Comments

Dissatisfaction must be expressed regarding the delay in the implementation of the building programme for the first five fixed dental clinics in school grounds. Progress has not been what might reasonably be expected, and it will be now some time before all fifteen fixed clinics, as recommended in the report to the Public Service Board on the expansion of the School Dental Service, will be finalised.

However, the acquisition of twelve of the recommended sixteen mobile dental clinics has been satisfactory. Also the increase in staff has been effected despite resignations at a period when the establishment was being increased. The traineeships scheme has been successful, and will be a safeguard to further progress, particularly in country areas.

It is felt that the Division is developing in an organised manner and, short of adopting a scheme similar to that in New Zealand which would be extremely costly, will provide a degree of assistance in overcoming the problem of dental caries in New South Wales school children.

An essential condition of this is the implementation of generalised fluoridation of water supplies throughout the State. Such action is the preferable preventive measure as opposed to an expensive restorative one.

It was of particular interest to this Division to know of the formation of the Health Education Advisory Council. It is to be hoped that due importance will be given to dental health education in the deliberations of the Council.

The disturbing factor regarding the high incidence of dental decay in New South Wales school children is that dental disease is almost entirely preventable. The inclusion of specific instruction in oral hygiene commencing early in the primary school, together with the intelligent use of fluorides could reduce the problem greatly.

The sinister type of advertising of certain foodstuffs on television will need considerable thought and action to counteract it effectively. No doubt the Health Education Advisory Council will consider this problem.

SUMMARY OF DENTAL SERVICES CARRIED OUT, 1961

	School Dental Service	Mental Hospitals	State Hospitals and Homes	Tuberculo- sis Hospital	H.M. Gaols	C.W.D. Establish- ments	Total
Examinations	99,259	8,780	1,237	116	3,732	2,962	116,086
Notifications	57,670						57,670
New cases	15,423	2,314	432	116	1,546	1,782	21,613
Visits	49,205	9,980	1,689	531	4,197	6,692	72,294
Extractions	24,611	6,074	1,076	153	2,962	2,394	37,270
Fillings	50,650	2,031	151	140	1,051	4,595	58,618
Other treatments including prophylaxis.	53,692	4,981	1,378	403	1,958	4,705	67,117
General anaesthetics		38	27			1	66
Dentures	17	438	149	34	150	303	1,091
Repairs to dentures		357	45	9	80	97	588

Total number of Dentures, 1,679.

Total number of schools examined and notified, 569.

Total number of schools examined and treated, 265 = 834.

I. The Physically Handicapped—The Consultative Council for the Physically Handicapped

ANNUAL REPORT, 1961

Membership

Mr. J. R. Danks, State Supervisor, Engineering Trades Courses, Department of Technical Education, continued to act as Chairman of the Consultative Council for the Physically Handicapped. The only change in the personnel of membership was that Dr. J. J. Donnellan was asked by Dr. C. J. Cummins, Director-General of Public Health and Director-General of State Psychiatric Services, to represent him at the meetings.

Staff

The staff personnel remained unchanged with one Medical Officer and secretary, one occupational therapist and one shorthandwriter and typist.

Meetings

Eleven general meetings of the Council were held during the year. Problems connected with the physically handicapped were discussed, especially those matters relating to the homebound patient. New applications for assistance were considered, and progress reports on those persons already being helped were reviewed.

Co-operation with Other Organisations

The customary close co-operation was maintained between the Council and other organisations caring for the physically handicapped, and an increased number of requests for assistance was received from those organisations with limited facilities for providing domiciliary physiotherapy or occupational therapy.

Through the Council of Social Service of New South Wales valuable information was obtained regularly regarding the activities of other bodies helping individuals, and every effort was made to avoid any form of overlapping.

Representations

The occupational therapist continued to represent the Council on the Rehabilitation Co-ordinating Committee of New South Wales and on the Standing Committee on The Employment Problems of the Physically Handicapped.

The medical officer continued as representative at meetings of the Central Council of Women's Auxiliaries (New South Wales Society for Crippled Children) and of the Council of Social Service of New South Wales, and attended the opening meeting and interstate conference of the Australian Advisory Council for the Physically Handicapped at Manly on 24th October.

The medical officer and occupational therapist also attended the interstate conference of the Association of Sheltered Workshops held in Sydney on 12th and 13th May.

Addresses

Following requests by the matrons of two rest homes for instruction to their nursing staff in occupational therapy for their patients it was decided to arrange for the Council's occupational therapist to give two addresses on this subject and invite representatives of the nursing staffs of all metropolitan rest homes and private hospitals to attend.

Through the courtesy and co-operation of the Pharmaceutical Branch of I.C.I. the addresses were given at the Theatre, I.C.I. House, 69 Macquarie Street, under the overall title "How Much More Can We Help?" Although attendances were disappointing the keen appreciation and interest of those present showed the need for more opportunities of this kind.

Broadcasts

Two broadcasts on the work of the Council were given by the medical officer, one over Station 2UW and one over Station 2CH.

Grant

Following an approach made through the Accounts Branch, Department of Public Health, to the State Treasury for an increase in the amount allotted to the Council for the financial year 1960-1961 (£2,000), advice was received in January, 1961, that the grant would be supplemented to the extent of £1,250. This made possible the continuance of very necessary assistance not only to those patients whom the Council had already undertaken to help, but to others making application for aid.

After-Care

There were more such requests for assistance than ever before and in all 158 persons were given financial aid. In 127 cases (107 domiciliary, 20 at Far West Home, Manly) this took the form of payment for physiotherapy. Seventy-six patients were visited by the occupational therapist, 44 of whom were among those receiving domiciliary physiotherapy. Many others were helped by advice and guidance either in the office or by letter or telephone.

The occupational therapist not only covered tuition in craft-work in appropriate cases, but in all instances carefully investigated the home set-up and advised on individual problems of readjustment; problems affecting not only the patient but the whole family circle. It is of course quite impossible to estimate the results of this guidance in terms of mere physical progress.

Expenditure

Expenditure during the period under review amounted to £3,215 10s. 8d. This was almost entirely for physiotherapy fees, the visiting occupational therapist being an officer of the Department of Public Health.

Types of Illness

Types of cases assisted included patients suffering from the after-effects of cerebral haemorrhage (48), poliomyelitis (37), rheumatism (24), multiple sclerosis (16), fractured femur (9), cerebral tumour (5), amputation of lower limb/limbs (4), traumatic paraplegia (3), muscular dystrophy (2), Parkinson's disease (2), Friedrich's ataxia (2), polyneuritis (2), polyarteritis nodosa (1), motor-neurone disease (1), injury to joints (2).

The increase in the number of patients assisted and consequently in expenditure during the period under review in comparison with the figures for 1960 is shown in the table below:—

	1960	1961
Physically handicapped persons given domiciliary care	85	138
Expenditure therefor	£2,217 8s. 9d.	£3,069 16s. 0d.
Poliomyelitis patients assisted at Far West Home, Manly	20	20
Expenditure therefor	122 10s. 8d.	145 14s. 8d.
Total number of patients given financial assistance	105	158
Total expenditure therefor	£2,339 19s. 5d.	£3,215 10s. 8d.

Equipment

With the help of two anonymous donations amounting to £17 17s. 0d. the Council was able to purchase a 4-point walking stick and a third walking frame. These additions to the already existing equipment have been in constant use. The other two walking frames, the folding wheelchair, the typewriter, weaving loom and overhead bars and rings are also in steady demand. The velocipede, kindly donated by the Chairman, has been lent to the Occupational Therapy Department, Royal Alexandra Hospital for Children.

The Council's ability to supply these articles promptly when occasion arises saves much wasteful delay in helping with this aspect of the patient's rehabilitation.

Acknowledgments

The Medical Officer and Secretary would again like to gratefully acknowledge the every-ready help and advice given by the Chairman and Members of the Council, and the valuable assistance rendered by the staff.

SECTION II—HEALTH DISTRICTS

DECENTRALISATION OF DEPARTMENTAL ACTIVITIES—ALTERATION OF TITLES OF HEALTH DISTRICTS AND OF AREAS COVERED BY SUCH DISTRICTS

In accordance with Government policy, the Department has prepared a plan for the decentralisation of many Departmental activities, through its Medical Officers of Health.

The areas of the present Health Districts are to be enlarged, and two additional Health Districts will be created in the near future. This will result in practically the whole of the State being incorporated within these Districts. The new areas were gazetted on 15th September, 1961.

The Board of Health has approved of the following variation of titles of some of the present Health Districts :—

Metropolitan Health District—Unchanged.

The Hunter River Health District will become the Newcastle Health District.

The South Coast Health District title is unchanged.

The Richmond-Tweed Health District will become the North Coast Health District.

The Mitchell Health District will become the Western Health District.

Broken Hill Health District will also remain unchanged.

The boundaries of all present Districts, except Broken Hill, will be altered and in future each will consist of Municipalities and Shires as listed under each Health District in the text of this Report.

Eventually, the Medical Officers of Health will be responsible within their Districts for :—

- (a) Supervision of Health of the Community ;
- (b) Health Education ;
- (c) Supervision of the health activities of local authorities, including environmental sanitation and pure food inspection ;
- (d) Departmental Administration relating to—
 - (i) Maternal and Baby Welfare ;
 - (ii) School Medical Service ;
 - (iii) Private Hospitals ;
 - (iv) Dental Services ;
 - (v) Tuberculosis Control.

The two proposed additional Health Districts are the North Western Health District with headquarters at Tamworth ; and the Riverina Health District with headquarters at Cootamundra. These Health Districts should commence to function in 1962.

A map showing the boundaries of the new Health Districts will be found in this Section.

METROPOLITAN HEALTH DISTRICT—ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Metropolitan Medical Officer of Health : Dr. J. J. Donnellan, M.B., Ch.M., D.P.H.

Assistant Medical Officer of Health : Dr. J. Henson, M.B., Ch.B., D.P.H.

Two Health Inspectors.

The district comprises thirty-six municipalities including the cities of Sydney, Liverpool, Penrith and Parramatta and the Harbour of Port Jackson, and four shires.

The mean population at 30th June, 1961 (enumerated), was 2,001,233 persons, an increase of 32,305 over the previous year. The density per acre was 4.25, a slight increase on the 1960 figure (4.17).

The population of the City of Sydney decreased from 174,770 in 1960 to 172,202 in 1961. The density per acre decreased from 24.41 to 24.05.

The highest density per acre was at Waverley 29.25, Leichhardt 25.00 ; the lowest being Liverpool 0.4 and Hornsby 0.5.

On 15th September, 1961, the Metropolitan Health District was expanded considerably in size by the incorporation of certain Municipalities and Shires on the southern and western boundaries. The District is now comprised of the following Municipalities and Shires :—

Municipalities : City of Sydney, Ashfield, Auburn, Bankstown, Blacktown, Botany, Burwood, Camden, Campbelltown, Canterbury, Concord, Drummoyne, Fairfield, Holroyd, Hunter's Hill, Hurstville, Kogarah, Ku-ring-gai, Lane Cove, Leichhardt, City of Liverpool, Manly, Marrickville, Mosman, North Sydney, City of Parramatta, City of Penrith, Randwick, Rockdale, Ryde, Strathfield, Waverley, Willoughby, Windsor, Woollahra, The Harbour of Port Jackson.

Shires : Baulkham Hills, Hornsby, Sutherland, Warringah.

Vital Statistics

There was a slight rise in the birth and infant mortality rates with a significant decrease in the maternal mortality rate, and a slight fall in the death rate.

TABLE I—LIVE BIRTHS AND DEATHS WITH RATES—1960 AND 1961

Category	1960	Rate*	1961	Rate†
Live Births	35,873	18.22	38,335	19.16
Deaths	19,643	9.98	19,752	9.87
Males	10,523	10.74	10,557	10.70
Females	9,120	9.06	9,195	9.06

* Per 1,000 mean population.

TABLE II—INFANT AND MATERNAL MORTALITY WITH RATES—1960 AND 1961

Category	1960	Rate*	1961	Rate†
Infant deaths	723	20.15	781	20.37
Maternal deaths	20	0.56	17	0.44

* Per 1,000 live births.

SELECTED CAUSES OF DEATH

TABLE III—SELECTED CAUSES OF DEATH, 1961, WITH COMPARATIVE FIGURES FOR 1960

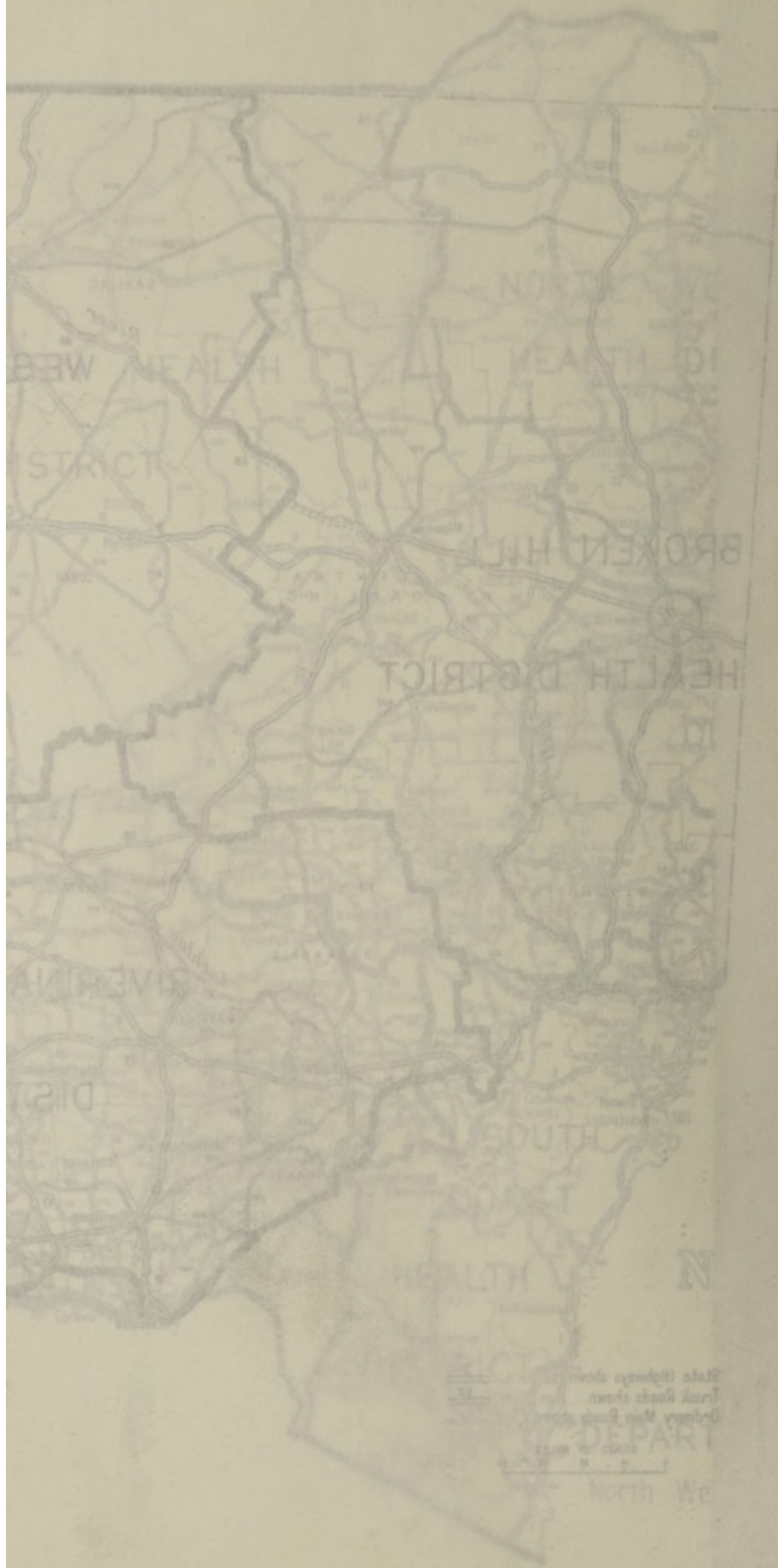
Cause of Death	1960	Rate*	1961	Rate*
Diseases of the heart	8,101	3,797	8,093	3,708
Malignant neoplasms	3,177	1,489	3,313	1,518
Vascular lesions affecting the central nervous system	3,011	1,411	2,972	1,362
Violence	1,329	623	1,355	621
Pneumonia	680	319	574	263
General arteriosclerosis	310	145	322	148
Bronchitis	330	155	354	162
Nephritis and nephrosis	209	98	210	96
Diabetes mellitus	267	125	291	133
Hypertension without mention of heart disease	216	101	174	80
Ulcer of stomach and duodenum	155	73	186	85
Senility	113	53	94	43
Tuberculosis	105	49	106	49
Infections of kidney	154	72	179	82
Cirrhosis of Liver	124	58	123	56
Influenza	16	7	13	6
Gastro-enteritis and colitis except Ulcerative and diarrhoea in the newborn	67	31	29	13
Alcoholism	21	10	28	13
Arthritis and rheumatism except rheumatic fever	41	19	42	19
Syphilis and its sequelae	20	9	23	11

* Rate per million of mean population

The figures quoted above are for the Statistical Metropolitan Area which has a mean population of 2,182,580, i.e., 181,347 more than the Metropolitan Health District, as it existed prior to September, 1961. Figures for the two areas would be approximately comparable.

There is little significant difference between the figures for 1960 and 1961. The three main causes of death are diseases of the heart, malignant neoplasms and vascular lesions affecting the nervous system, whilst violence also continues to be an increasingly important cause of death.





COMMUNICABLE DISEASES

There was an increase in the incidence of infectious disease due to an epidemic of poliomyelitis (66 cases and three deaths) which commenced in Wollongong and spread to Sydney; and an increase in the cases of infectious hepatitis to the highest total so far recorded (2,424 cases and 14 deaths). There was also an increase in the cases of virus encephalitis (16 cases and eight deaths); a mortality of 50 per cent.

A decrease in the number of cases of infantile diarrhoea and scarlet fever occurred.

In October there was a small outbreak of "Q" fever at the Homebush abattoirs.

Four cases of dengue fever were notified during the year.

Investigations into several cases of typhoid were carried out during the year and visits were made to Collarenebri, Rydalmere Hospital and several schools to investigate outbreaks of Infectious Hepatitis.

TABLE IV—COMMUNICABLE DISEASE NOTIFICATIONS WITH DEATHS, 1960-1961

Disease	1960		1961	
	Cases	Deaths	Cases	Deaths
Acute anterior poliomyelitis	5	2	66	3
Ancylostomiasis .. .. .	..	..	..	..
Ascariasis	8	..	7	..
Brucellosis .. .. .	..	..	7	..
Rheumatic chorea	3	2	1	..
Dengue fever .. .. .	..	..	4	..
Diphtheria	1	..	2	..
Infectious hepatitis	2,123	8	2,424	14
Infantile diarrhoea	144	17	66	7
Leptospirosis .. .. .	..	..	..	..
Meningococcal infection	24	7	11	10
Ornithosis	1	..	1	..
Paratyphoid fever	1	..	1	1
Typhoid fever	5	..	7	1
Puerperal fever	19	5	13	4
Rheumatic fever	19	5	22	5
Scarlet fever	208	..	125	..
Typhus fever .. .. .	..	..	2	..
Tuberculosis	933	99	956	100
Virus encephalitis	5	1	16	8
Staphylococcal mastitis	2	..	7	..
Staphylococcal pneumonia	32	21	25	18
Staphylococcal infection in infants under four weeks of age	79	6	67	2
Total	3,612	173	3,830	173

Environmental Sanitation

With the continued growth of Sydney and the recent expansion of the Metropolitan Health District, the amount of work in connection with environmental sanitation has increased considerably. Also the increased distances to be travelled has made it difficult to investigate all matters in this respect, and keeping in touch with local authorities has also been difficult.

Investigation of nuisances and dealing with complaints from the public took up much of the time of the inspectors. A summary of the work carried out in 1961 is shown in Table V below.

TABLE V—ENVIRONMENTAL SANITATION WORK CARRIED OUT IN 1961

Complaints from the public	684
Interviews with the public	174
Nuisances investigated	328
Specimens collected	240
Water samples collected	274
Visits to offices of local authorities	62
Inspection of sanitary depots	131
Infectious diseases investigations	27
Shops and buildings inspected	30
Air Pollution	8
Inspection of swimming pools	7
Sewage treatment works inspected	6
Rivers and beach pollution	5
Miscellaneous	36

The inability of sewerage services in some areas to keep pace with development has produced a number of problems. However, the Metropolitan Water, Sewerage and Drainage Board is continuing to expand their work in order to cope with the difficult task of providing services to Sydney's expanding area. This lack of sewerage facilities is exemplified by the fact that in 1961,

5,468 applications for septic tanks were received. In some areas health problems existed for frequent overflows of sewage and leakage and seepage from pipes occurred, especially during the heavy rains and flooding was experienced during the latter half of the year. Pollution of creeks, canals, waterways and harbours has occurred in this way. Also there have been numerous complaints of ponding of sullage water due to inadequate disposal facilities.

During the floods in the Windsor area, an inspection was made to see if any health hazard existed, but the local authorities had coped with all matters arising from the emergency.

Liaison with other Government departments has been maintained and co-operation from these departments on problems affecting environmental sanitation has been good.

Problems of previous years have recurred and those in particular that were investigated were pollution of beaches, atmospheric pollution, disposal of effluents from industrial plants and pollution of harbour waters. Ventilation of underground garages and parking stations was another problem which had consideration.

The remaining nightsoil depots in the District are maintained adequately, but stricter control of conditions at garbage depots by many local authorities is required. The unauthorised dumping of rubbish on roadways and vacant land continues to be a health problem in some Sydney suburbs.

Miscellaneous

Health education and publicity are an increasingly important part of the work of the Metropolitan Medical Officer of Health. Talks on radio and television were given and many statements on public health matters given to the press. Also much time was spent providing health information, which was requested by both the medical profession and the public.

Lectures were given on infectious diseases and environmental sanitation to sisters attending the Public Health Nurses In-Service Training Course. Also a series of lectures was given to Public Health Engineering students at the University of New South Wales. Teaching and demonstrations in connection with environmental sanitation were given to students attending the course for the Diploma of Public Health at the University of Sydney.

The Metropolitan Medical Officer of Health served on various committees during the year including the Pure Food Advisory Committee, Building Advisory Committee, New South Wales Film Council, and the recently formed Standing Committee for the Control of Pollution of Waters in New South Wales. He acted also as Chairman of the New South Wales Health Week Council. Meetings of the Diabetic Society, Family Planning Association, Australian Water and Waste Water Association and Gerontological Society were attended.

Examination of applicants for fumigation licenses was carried out periodically.

NEWCASTLE HEALTH DISTRICT (FORMERLY HUNTER RIVER HEALTH DISTRICT)— ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Medical Officer of Health : Dr. H. R. Dugdale, M.B., Ch.B., D.P.H.

Deputy Medical Officer of Health : Dr. C. K. Newman, M.D., D.P.H., D.T.M. and H.

One Psychiatrist ; three School Medical Officers ; three part-time Psychologists ; one part-time Ear, Nose and Throat Specialist ; one Senior Health Inspector ; one Senior Food Inspector ; one speech therapist ; three tuberculosis nurses ; one social worker ; three assistant Health Inspectors ; three office assistants.

Decentralisation and Extension of District

The Hunter River Health District was comprised of the Cities of Newcastle, Greater Cessnock and Maitland, the Municipality of Singleton, the Shires of Port Stephens and Lake Macquarie and the Harbour of Port Hunter.

As a result of the Proclamation of 15th September, 1961, the area was extended by the addition of the following Municipalities and Shires :—

Municipalities : City of Maitland, City of Newcastle, City of Greater Cessnock, Kempsey, Muswellbrook, Port Macquarie, Singleton, Taree, Wingham, The Harbour of Port Hunter.

Shires : Dungog, Gloucester, Gosford, Hastings, Lake Macquarie, Macleay, Manning, Merriwa, Muswellbrook, Patrick Plains, Port Stephens, Scone, Stroud, Wyong.

Vital Statistics, 1961

Population—The population of the district at 30th June, 1961, was enumerated at 313,856.

Live Births—There were 6,973 live births equivalent to a rate of 22.22 per 1,000 of population. Of these 3,512 were males and 3,461 females.

Deaths—Deaths numbered 2,835 equivalent to a rate of 9.03 per 1,000 of population. Of these, 1,621 were males and 1,214 females.

Infantile Mortality—Deaths under one year of age numbered 169 equivalent to a rate of 24.24 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 119 or 70.41 per cent. occurred within the first week of birth, and 130 or 76.92 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 17.07 and 18.64 respectively.

Still Births—There were 126 still births, equal to a rate of 0.40 per 1,000 of population, and representing 1.77 per cent. of all births (live and still).

Environmental Hygiene

An Atmospheric Pollution Committee, of which representatives of this Department and Dr. Sullivan of the Occupational Health Division are members, meets quarterly in the City Hall.

While records show Newcastle as having a very considerable problem, improvements in individual cases have been achieved. The Committee has visited the Steel Works and has made representations to the firm with the result that a great deal of money is to be spent in an effort to minimise the smoke and grit nuisance.

It is unfortunate that the sources of pollution most obvious to the public eye are the railways and small shipping, particularly tugs and ferries in the harbour, neither of which come within the purview of the Committee.

The help of the police has been sought to control fumes from heavy lorries, but such complaints, as are made about public transport, are again beyond the jurisdiction of the Committee. Correspondence with the departments concerned has so far been unavailing.

The number of septic tank applications has increased very considerably with the enlargement of the district. These are mainly from the Gosford and Wyong Shires.

Complaints by the public are frequent, mainly concerning drainage, inefficient nightsoil services, garbage removal and nuisance from tips. Many watercourses are polluted or neglected, but until fish die as in Cockly Creek, or cattle are allegedly affected as occurred at Black Creek, or there is an outbreak of hepatitis, conditions are tolerated. In the majority of cases complaints have already been made to the Local Authority before the complainant approaches the Department of Public Health.

Liaison was maintained with the Hunter District Water Board and several visits were made to the new work being carried out at Grahamstown. Originally conceived with a view to recharging the Tomago sand beds, the scheme has now developed into a large reservoir partly fed by the diversion of the Williams River. Examinations of the water have been carried out in the Board's own laboratory.

As far as it has been possible to ascertain, little in the way of systematic sampling appears to have been carried out in the new areas, especially to the north of Newcastle. It is intended to collate information in all reticulated supplies.

During the year 638 applications for approval of septic tanks and 14 applications for approval of septic closets were made; while 85 applications for clearance of unhealthy building land proclaimed under Public Health Act, 1902, were considered.

COMMUNICABLE DISEASES

TABLE I—NOTIFIED COMMUNICABLE DISEASES NEWCASTLE HEALTH DISTRICT, 1960 AND 1961

Disease	1960		1961	
	Cases	Deaths	Cases	Deaths
Infectious hepatitis	561	2	584	2
Scarlet fever	23	1	11	..
Infantile diarrhoea	25	1	32	3
Virus encephalitis	1	1	1	1
Poliomyelitis	..	..	5	1
Typhoid and paratyphoid fever	1	..	..	..
Puerperal infection	10	3	9	4
Meningococcal infection	2	1	6	2
Diphtheria	..	..	11	1
Ornithosis	1	..	..	..
Ancylostomiasis	1	1	1	..
Ascariasis	8	..	..	..
Rheumatic fever	8	..	7	2
Staphylococcal pneumonia	6	6	3	1
Staphylococcal mastitis	..	..	2	..
Staphylococcal diseases under four weeks	..	..	66	10
Tuberculosis	115	23	1	..
Total	762	38	739	27

Infectious Hepatitis—Out of a total of 684 cases of infectious hepatitis in the District, 273 occurred in the Lake Macquarie Shire (163 in the last three months of the year).

Diphtheria—Eleven cases of diphtheria with one death occurred in unimmunised children in Port Stephens Shire; two neighbouring families providing six of the cases. The other five were from Newcastle, one of whom received one prophylactic injection a week before notification.

Poliomyelitis—Five cases of poliomyelitis with one death occurred in the last two months of the year. The disease in all cases was mild. None of the cases had been immunised.

School Medical Services

TABLE II—ATTENDANCES AT CHILD GUIDANCE CLINIC, 1961

Number of cases from 1960 continuing attendance	..	..	..	..	..	..	..	..	37
New cases	..	..	..	..	..	..	..	..	394
Review cases	..	..	..	..	..	..	..	..	13
Total cases	..	..	..	..	..	..	..	..	444
Cases closed during 1961	..	..	..	..	..	..	..	..	164
Cases current at 31st December, 1961	..	..	..	..	..	..	..	..	99
Cases on waiting list but not seen by 31st December, 1961	..	..	..	..	..	..	..	..	67
Cases carried forward to 1962	..	..	..	..	..	..	..	..	166
Cases lapsed or failed to return	..	..	..	..	..	..	..	..	111
Cases seen at special clinic in Wauchope	..	..	..	..	..	..	..	..	13

"In service" training for the School Medical Officers was commenced in September and since these officers are now dealing with some of the commoner behaviour disorders in children pressure is not so great at the clinic. Arrangements have also been made so that referrals, apart from those from school inspections and private doctors, are first seen by a school medical officer. Mothers group meetings have been started, but have not been able to be held more frequently than monthly.

The Speech Therapy Clinic commenced in April, 1961, many of the children being referred by the District Guidance Officer.

TABLE III—ATTENDANCES AT SPEECH THERAPY CLINIC, 1961

Number of cases seen	..	..	..	..	..	..	..	..	97
Number of individual attendances	..	..	..	..	..	..	..	..	1,027

The Hearing Clinic commenced in November, 1961.

TABLE IV—ATTENDANCES AT THE HEARING CLINIC, 1961

Number of clinics held	..	..	..	..	..	..	..	..	6
Number of children examined	..	..	..	..	..	..	..	..	49

Routine medical examinations have been held at 114 schools in Newcastle which also included high schools in the Maitland and Cessnock areas.

A room for clinical examinations has been provided where the school medical officers can recall children and discuss findings with parents to an extent not possible at the routine sessions at school.

A number of cases were referred from the Wauchope area to the Child Guidance Clinic by the Country School Service.

Because of travelling difficulties, it was impossible to bring children and parents to Newcastle and so a psychologist held, with a school medical officer a two day clinic at Wauchope. All appointments were kept and appreciation expressed.

Medical examination was provided for school children in the Shires of Scone, Mirriwa, Hastings, Manning, Stroud, Macleay and Gosford, in the City of Greater Cessnock and the Municipalities of Kempsey, Taree, Wingham and Port Macquarie.

So far, mainly due to the difficulty of finding practitioners willing to undertake the task, it has not been possible to implement the scheme in the Shires of Lake Macquarie, Wyong, Patrick Plains, Muswellbrook or Port Stephens, nor in the Municipality of Singleton.

Pure Food Administration

Extension of the district area by decentralisation will mean that the supervision of food and food premises in the old Hunter District will become less frequent.

From an assessment that has so far been achieved in the new area it is apparent that food hygiene is not understood. Prosecutions have been avoided except in extreme cases until the whole area has been visited and until food handlers have a chance to reform.

It was apparent that the more heavily populated districts south of Newcastle will require a considerable part of the inspector's attention and will make it impossible for him to devote nearly enough time to the relatively isolated urbanisations to the north and west.

Two outbreaks of food poisoning occurred at the end of the year. The first involved some twenty children and their class teacher. Action at the school "tuck shop" prevented further trouble. In the second, four adults were affected after eating "Pluto Pups". Further sales were stopped immediately and were not resumed until the shop-keeper had been instructed in the correct technique of manufacture.

TABLE V—FOOD SAMPLES, PREMISES INSPECTED, FOOD SEIZED WITH PROSECUTION AND FINES, 1961

Food samples	849
Inspections	1,275
Notices	142
Complaints	57
Food seized and destroyed	22,000 lb.
Prosecutions	40
Fines and costs	£374

Tuberculosis Control

The number of tuberculosis clinics held was 493 while the number of home visits made by tuberculosis nurses was 4,358.

A new monthly clinic was started at Taree in August, 1961; staffed by local practitioners and a Sister from Newcastle. Attendances have been good. The existing Gosford Clinic was added to the area in November.

Cases are also seen at the medical clinic of Maitland Hospital and if attendances rise, an established clinic may be justified at a future date.

Public Relations

A good liaison exists with the press and wireless stations and comment is invariably sought on public health matters. Two members of the staff have part-time teaching appointments at the local technical college and others have addressed a number of local gatherings.

The Medical Officer of Health is a member of the Health Week Committee in Newcastle.

Miscellaneous

After a lapse of seven months following the retirement of Dr. Dunn, medical examinations under the Workmen's Compensation Act recommenced in October, 1961. A Board consisting of Dr. J. P. White and the Medical Officer of Health, Newcastle Health District, examined eleven cases during the months of October and November.

The fluoridation issue has been discussed by the various Councils served by the Hunter District Water Board without any decision being reached. A meeting of the constituent Councils representatives, open also to the public, was called by the Lord Mayor of Newcastle, Alderman Purdue on 15th November. Professor N. D. Martin and the Medical Officer of Health arguing for fluoridation of water supplies were opposed by the Publicity Officer of the Anti-Fluoridation Society of Australia and Mr. G. Bland of Stockton. No action was subsequently taken by the smaller councils and an attempt by the City Council to give a lead was defeated as was an amendment that a referendum be held. It is apparent that the matter will not be considered again at least until after the 1962 council elections.

SOUTH COAST HEALTH DISTRICT—ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Medical Officer of Health : Alexander Douglas, M.B., LL.B., D.P.H., D.T.M., and H.

Deputy Medical Officer of Health : Bernard Joseph Green, M.B., M.R.C.S., D.P.H., D.T.M. and H.

Two School Medical Officers ; two School Nurses ; three Tuberculosis Nurses ; one Senior Pure Food Inspector ; one Senior Health Inspector ; one Health Inspector ; one Male Clerk ; three Office Assistants.

Decentralisation and Extension of District

During the year an important event was the expansion of the district increasing the number of local authorities from eleven to twenty-four. The additional authorities were taken over in September, 1961. Following the policy of decentralisation the Department of Public Health saw fit to increase the staffing establishment by a deputy medical officer ; a senior pure food inspector ; a graded clerk and an office assistant, two full-time school medical officers and nurses.

The following is a list of municipalities and shires in the expanded South Coast Health District:—

Municipalities : Bega, Bowral, Bombala, Cooma, City of Goulburn, City of Greater Wollongong, Kiama, Queanbeyan, Shellharbour.

Shires : Bibbenluke, Crookwell, Eurobodalla, Gunning, Imlay, Mittagong, Monaro, Mulwaree, Mumbulla, Shoalhaven, Snowy River, Tallaganda, Wingecarribee, Wollondilly, Yarrowlunla.

Vital Statistics, 1961

Population—The population of the district at 30th June, 1961, was enumerated at 337,329.

Live Births—There were 9,067 live births equal to a rate of 26.88 per 1,000 of population. Of these 4,589 were males and 4,478 females.

Deaths—Deaths numbered 2,280, equivalent to a rate of 6.76 per 1,000 of population. Of these 1,378 were males and 902 females.

Infantile Mortality—Deaths under one year of age numbered 162, equivalent to a rate of 17.87 per 1,000 live births.

Of the total number of deaths of infants under one year of age 106 or 65.43 per cent. occurred within one week of birth and 121 or 74.69 per cent. within the first month. The corresponding rates per 1,000 live births for the two age-groups were 11.69 and 13.35 respectively.

Still Births—There were 151 still births equal to a rate of 0.45 per 1,000 of population and representing 1.64 per cent. of all births (live and still).

Environmental Hygiene

SPECIAL SURVEYS

The health inspectors have been able to carry out a number of surveys covering the overall health responsibility of local authorities as well as a number of special surveys. Both local authorities and district office have found this more positive approach of great value.

During the year a sanitary survey of Eurobodalla Shire was undertaken and following on a report on the conditions found, a comprehensive list of recommendations designed to assist council in improving sanitary matters in the area was forwarded to the local authority.

A detailed survey of camping areas on the South Coast was carried out as a preliminary to drawing up a set of standards covering such areas. These standards have now been prepared and submitted for Departmental consideration.

The question of possible pollution of underground water supplies by septic tank effluent has also been under consideration and surveys relating to this problem are continuing.

A survey of drainage problems and other matters in connection with alpine villages in the Kosciusko State Park Trust area was carried out and appropriate recommendations forwarded to the authority concerned.

LOCAL AUTHORITY LIAISON

Two one-day conferences of health inspectors employed by local authorities in the district were held. These conferences were well attended and provided a useful means of discussing health problems.

After taking this question up with the local authorities, annual reports from local authority health inspectors have been received from nine out of twenty-four local authorities.

TABLE I—ROUTINE INSPECTIONS AND INVESTIGATIONS SOUTH COAST HEALTH DISTRICT, 1960-1961

	1960	1961
Noxious Trades Act	107	147
Premises (Health Act) .. .. .	..	24
Water Supplies, sewage and river Pollution (Health Act)	5	232
Inspections of septic tank sites—		
New	3,417	2,818
Existing	14	81
Number of applications for septic tanks received	3,143	2,646
Applications for septic closets	567	103
Inspections of sanitary depots, proposed sites and proposed extensions	40	136
Investigations of complaints	99	131
Inspections of public amenities—camping areas, parks, reserves, and conveniences, swimming pools	22	100
Inspections of alpine villages .. .. .	..	7
Inspections of reclamation area, proposed garbage reclamation area and extension to scavenging district	1	4

Much better supervision of local authority health work is now possible with an increase in inspectors and a reduction in septic tank supervision. There is still, however, a great deal of work to be carried out with local authorities in supervision of sanitary depots, camping grounds and noxious trades.

COMMUNICABLE DISEASES

TABLE II—NOTIFICATION OF COMMUNICABLE DISEASES AND DEATHS—SOUTH COAST HEALTH DISTRICT—1960 AND 1961

Diseases	1960		1961	
	Cases	Deaths	Cases	Deaths
Brucellosis .. .. .	..	..	..	..
Virus encephalitis	2	1	2	..
Diphtheria	1	..	..	..
Infantile diarrhoea	11	2	9	4
Staphylococcal pneumonia	6	5	8	7
Staphylococcal infection in infants under 4 weeks	15	1	1	1
Scarlet fever	40	..	14	..
Rheumatic fever	7	1	3	1
Puerperal infection	7	1	6	1
Meningococcal meningitis	4	3	4	3
Infectious hepatitis	398	2	345	5
Acute anterior poliomyelitis .. .. .	..	..	52	7
Tuberculosis	136	16	129	14
Total	627	32	574	43

Apart from the outbreak of Poliomyelitis the notified communicable diseases call for little comment.

POLIOMYELITIS

A sharp outbreak of poliomyelitis occurred in the latter half of the year. The first case was reported in the first week of May, the patient being the infant son of a garbage and nightsoil removal contractor. The next case appeared in mid-June and from then until the end of the year a total of 55 cases were notified, the peak being September when 22 notifications were received.

At the time of writing, 31 of the cases have been confirmed as poliomyelitis by the Surveillance Committee, whilst four have been declared not poliomyelitis. In all instances except one in which the virus was isolated it proved to be Type 1, the exception being Type 3.

Fifty per cent. of the notifications were in children aged five years or under, and 67 per cent. were in the 0-10 years group. Eight per cent. of those notified had received no immunisation. Four persons had received three injections of Salk type vaccine, four had had one injection and one person had received two injections. Seven patients died and of these, five had not had any immunisation.

A study of information obtained during investigation of the outbreak and from School Medical Service records shows that there is inadequate protection of the most susceptible group, the 0-5 years, and to a less extent of the 5-10 years group.

Once the disease became established, schools appeared to be the reservoirs of infection, and there seemed to be a particular danger to active disease being introduced into overcrowded homes by children attending such schools. Investigating officers reported that many of the homes involved were grossly overcrowded, often with added poor sanitary conditions.

A review of immunisation procedures is to be made with a view to devising some scheme which would ensure the immunisation of the maximum number of the most susceptible group—the pre-school child.

It is of interest to note that of approximately 26,000 dwellings in the Wollongong area only five to six thousand are on the sewer and a few hundred on a septic tank system. This means that some 20,000 houses with approximately 80,000 persons are on a nightsoil service. This service costs near a quarter of a million pounds per year. Any attempted control of enteric borne disease such as poliomyelitis or hepatitis by education personal hygiene is most difficult in the absence of water carried sewerage.

School Medical Service

Prior to May, 1961, the school medical service activities in the District were controlled from Sydney and medical officers were sent from Sydney when available. With the appointment of a Deputy Medical Officer of Health, two School Medical Officers and a second Sister, the transfer of the day to day administration of the service, at least as far as the Wollongong area was concerned, became feasible, and this was initiated in May.

The staff of the service now attached to the District Office consists of two medical officers and two sisters and they are responsible for the medical supervision of the 65 public schools, eight high schools, 15 private primary schools and five private secondary schools in the Wollongong, Shellharbour and Kiama areas with an estimated pupil population of some 32,000.

TABLE III—ANALYSIS OF WORK OF FULL-TIME SCHOOL MEDICAL SERVICE—SOUTH COAST HEALTH DISTRICT, 1961

No. of Schools	Pupil Population	Full Exams.	Reviews	Speech Defects	Eye Defects	Ear Defects	Parent Interviews
51	20,562	9,394	4,044	71	448	216	641

In addition, 270 home visits were made by the Sisters.

As most of the public and primary schools had not been visited for three years and some of them not at all, it was found impossible to keep to the established routine of examinations as so many parents requested examination of their children. Judging from the number of vision and hearing defects in older children who had not been examined previously, the extra effort and the divergence from normal procedure was more than justified and it is hoped that by continuing along similar lines during the coming year, the whole school population will have been examined at least once by 1963.

The following municipal and shire councils are participating in the medical examination of school children in their areas :—

Municipal Councils : Bombala, Cooma, City of Goulburn, Bega and Bowral.

Shire Councils : Gunning, Monaro, Mulwaree, Snowy River, Yarrowlumla, Eurobodalla, Imlay, Mumbulla, Shoalhaven, Wingecarribee and Wollondilly.

TABLE IV—ANALYSIS OF SHIRE SCHEME—SOUTH COAST HEALTH DISTRICT, 1961

Total shires in District (+ Snowy Mountains Authority)	..	25
Shires where approval has been given for the scheme .. ..	..	21 + Snowy Mountains Authority
Shires that have had the scheme approved but are not working ..	..	7
Shires that worked all schools in 1961 .. .. .	..	9
Shires that worked some schools in 1961 .. .. .	..	6

Because of the shortage of speech therapists, the Speech Clinic at Wollongong was able to function for only one day each week, a group of therapists being organised in a rota system from Sydney. This was not a satisfactory arrangement, but at least the more urgent cases were able to receive some attention and the therapist was available to the medical officers for consultations.

A serious defect in the potential value of the service is the absence of consultant specialist services on an out-patient basis at the Wollongong District Hospital. A number of parents have complained that they do not have the ready money available to pay specialists' fees, and when the specialist's investigations have negative results ill-feeling towards the service is engendered. Some relief has been obtained by an informal arrangement through the medical superintendent with the honoraries at the hospital to see children free who cannot afford to pay as private patients.

Concessionary spectacles are not available in Wollongong, but it is understood that this deficiency will be rectified in 1962.

Sanitary conditions are not always up to standard in the schools, and the rehabilitation of substandard toilet facilities should be treated as a matter of urgency with regard to the immediate danger to health, and also as an important educative factor.

A survey of the school milk scheme was carried out in the City of Greater Wollongong in co-operation with the Milk Board and the Department of Education. Specific defects in delivery and storage of milk were taken up with vendors and headmasters.

Pure Food Administration

In order to bring about uniform administration and higher standard of supervision of the Pure Food Act and Regulations generally, an endeavour has been made to work in close co-operation with local authority health inspectors.

Wherever practicable, dual inspections have been made. Copies of reports of breaches of the Pure Food Regulations and of Notices relating to food premises have been forwarded to the respective local authorities and they have been requested and have in practice forwarded copies of similar reports to this Office.

A complete survey of food premises in the district has not been completed and priority has been directed to prompt investigation of all complaints received; inspections of premises where food is being manufactured or processed; and inspection of premises mainly supplying meals and food at camping and holiday resorts in the district.

TABLE V—PURE FOOD INSPECTION SOUTH COAST HEALTH DISTRICT, 1961

Hotels	63
Hostels	4
Motels, guest houses	2
Food factories	57
Fish depots	3
Milk depots	12
Slaughter-houses	33
Pharmacies	15
Wharfside canteens	4
Cafes	115
Bulk food stores	24
Other food premises	763
Total	1,095

TABLE VI—PURE FOOD INSPECTIONS—SOUTH COAST HEALTH DISTRICT, 1961

Complaints investigated	22
Notices served	50
Food and drug samples for analysis	239
Bottles of spirits examined	859

TABLE VII—SUMMARY OF PROSECUTIONS, SOUTH COAST HEALTH DISTRICT, 1ST JANUARY, 1961, TO 31ST DECEMBER, 1961

	£	s.	d.	£	s.	d.	
Breach Section 10—							
Sale adulterated milk	(1)	11	0	0			
Sale adulterated meat	(3)	26	5	0			
Sale adulterated smallgoods	(1)	7	0	0			
Sale adulterated spirits	(1)	11	0	0			
				(6)	55	5	0
Breaches of Regulations—							
Unclean premises	(2)	27	0	0			
Flies in food premises	(9)	89	0	0			
				(11)	116	0	0
Breaches of Regulations—							
Unclean appliance	(1)	6	0	0			
Exposed food	(2)	11	0	0			
Smoking in food premises	(2)	12	0	0			
Insufficient Methyl Violet in waste beer .. (3)		18	0	0			
Not wearing cap whilst delivering meat for sale (1)		3	0	0			
				(9)	50	0	0
Total				(26)	221	5	0

Tuberculosis Control

Responsibility for tuberculosis control has only recently during 1961 been delegated to this office and there is consequently little to report.

Accommodation for the clinic is completely inadequate and the possibility of obtaining further space has been discussed with the secretary, Hospital Board and the Medical Superintendent. Clerical staffing of the clinic is inadequate with the result that the Sisters have to spend time on records which could otherwise be used to good effect in supervision of patients and contacts in their homes.

Public Relations

Press Articles : The following articles have appeared in the local press during the year :—

- Pure Food : An analysis of the condition of 554 food premises in Greater Wollongong.
- School Medical Service : The effect of decentralisation of school medical service in Wollongong.
- Health Services in Wollongong : Partly prepared by this office for the Minister for publication in a special industrial supplement of the *South Coast Times*.
- Various news items from this office have appeared in the press from time to time on poliomyelitis and hepatitis.

Two addresses to parents and citizens' groups have also taken place. One talk on the need for poliomyelitis immunisation was given over the women's session of the local radio station. Various news items on health from this office appeared in the local radio news.

A short paper on the poliomyelitis outbreak in the Wollongong area was given to a clinical meeting of the British Medical Association.

Two one-day conferences of health inspectors in the South Coast Health District were held and were very successful.

The Medical Officer of Health was appointed as Vice Chairman of a recently formed South Coast Aid Retarded Persons Committee and attended regular monthly meetings.

Miscellaneous

A total of 162 medical examinations were carried out ; 384 vaccination certificates were stamped and issued to people travelling overseas ; while the fluoridation plant at Goulburn commenced operating immediately before the New Year and several visits have been paid to the plant at Yass and reports sent to the Director of State Health Services.

WESTERN HEALTH DISTRICT (FORMERLY THE MITCHELL HEALTH DISTRICT)— ANNUAL REPORT, 1961

Staff

(As at 31st December, 1961)

Medical Officer of Health : Dr. E. C. Wallace, M.B., B.S., D.P.H.

Deputy Medical Officer of Health : Dr. T. F. Rennie, M.B., Ch.B., D.P.H.

One Senior Health Inspector ; one Senior Food Inspector ; two Health Inspectors ; one Office Assistant.

Extension of District

On 15th September, 1961, the Mitchell Health District was abolished and a new very much enlarged district, the Western Health District, was established. This new District comprises thirteen Municipalities and twenty-eight Shires as under :—

Municipalities : City of Bathurst, City of Blue Mountains, Condobolin, Cowra, Dubbo, Forbes, City of Lithgow, Mudgee, Narromine, Nyngan, City of Orange, Parkes, Peak Hill.

Shires : Abercrombie, Blaxland, Bogan, Boree, Brewarrina, Canobolas, Cobar, Colo, Coolah, Coonabarabran, Coonamble, Cudgegong, Darling, Gilgandra, Goobang, Jemalong, Lachlan, Lyndhurst, Molong, Oberon, Rylstone, Talbragar, Timbregongie, Turon, Walgett, Warren, Waugoola, Wellington.

Vital Statistics, 1961

Population—The population of the District at 30th June, 1961, was enumerated at 139,366.

Live Births—There were 3,297 live births, equivalent to a rate of 23.66 per 1,000 of population. Of these, 1,690 were males and 1,607 females.

Deaths—Deaths numbered 1,355, equivalent to a rate of 9.72 per 1,000 of population. Of these 763 were males and 592 females.

Infantile Mortality—Deaths under one year of age numbered 66, equivalent to a rate of 20.02 per 1,000 live births. Of the total number of deaths of infants under one year of age, 39 or 59.09 per cent. occurred within one week of birth and 43 or 65.15 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 11.83 and 13.04 respectively.

Still Births—There were 49 still births, equal to a rate of 0.35 per 1,000 of population and representing 1.46 per cent. of all births (live and still).

Environmental Hygiene

Further water samples connected with stream pollution were taken in May along the course of Summer Hill Creek. As a culmination to this and to much detailed work extending over several years by the officers of the Western Health District, Orange City Council was prosecuted in November, 1961. The prosecution was successful.

In conjunction with officers of the Public Works Department sewerage treatment work sites at Gilgandra, Hazelbrook and Lawson were inspected and approved. A site at Emu Plains was inspected, but approval withheld pending soil tests.

In July, 1961, Mudgee was visited by officers of the Western Health District in connection with a site for a regional abattoir. In conjunction with an officer of the Department of Agriculture and representatives of Cudgegong Shire Council, several sites were inspected. A site known as the Heath-Cox site was selected as being by far the most suitable.

A public meeting connected with Bathurst water supply was organised by a Bathurst citizen in March, 1961. The meeting was addressed by a Government microbiologist. A petition was organised but public response was half-hearted. The situation continues to be unsatisfactory and at times during the year untreated river water has been fed into the town reticulation system.

TABLE I—ENVIRONMENTAL HYGIENE INSPECTIONS CARRIED OUT—1960 AND 1961

Inspections carried Out	1960	1961
Septic tanks and closets	635	977
Sewerage treatment works and communal sullage scheme	16	97
Garbage and sanitary depots	63	70
Noxious trades	68	175
Abattoirs	5	11
Complaints and nuisances	35	62
Water supply	64	95
Swimming pools	50	67
Food premises	122	80
Inspections of premises, halls, hotels, &c.	72	72
Miscellaneous activities	15	48

Two additional health inspectors were appointed in December, 1961. The lessening of work in food shops and premises is due to the appointment of a senior food inspector in January, 1961, and a summary of his work appears in this report.

COMMUNICABLE DISEASES

TABLE II—NOTIFIED COMMUNICABLE DISEASES AND DEATH—WESTERN HEALTH DISTRICT—1960 AND 1961

Disease	1960		1961	
	Cases	Deaths	Cases	Deaths
Infectious hepatitis	375	2	212	2
Diphtheria	1	..	..	..
Meningococcal meningitis	4	..	5	2
Rheumatic fever	2	1	4	..
Scarlet fever	30	..	17	..
Anterior poliomyelitis .. .. .	..	..	3	..
Virus encephalitis	1	1	3	1
Infantile diarrhoea	4	2	2	2
Tuberculosis	26	4	38	6
Staphylococcal pneumonia	4	4	3	3
Puerperal infection	1	1	7	1
Total	448	15	294	17

POLIOMYELITIS

The rise in the poliomyelitis notifications is part of a State-wide rise in the incidence of poliomyelitis. The three notifications took place in the last quarter of the year.

INFECTIOUS HEPATITIS

There has been a considerable lessening in the notifications of infectious hepatitis. It is not considered that this represents an actual decrease in the incidence of the disease. Some doctors in the area are known to be lax in the notification of infectious diseases. The Public Health Department, Bathurst, has been approached by local authorities on this matter.

School Medical Service

The extent of the School Medical Service in the Mitchell Health District immediately prior to the creation of the Western Health District was examinations carried out on school children in two Municipalities and seven shires. Three municipalities and four shires had not joined the scheme.

There was one Departmental School Medical Officer in the Western Health District who was stationed at Bathurst. This doctor was employed on a part-time basis. A summary of school examinations carried out is shown below :—

Boys examined	824
Girls examined	820
Total	<u>1,644</u>

The County Council's scheme has expanded quickly in the Western Health District and most local authorities are anxious to take part in the scheme, but for various reasons it is often difficult to obtain the services of a doctor. In larger centres, e.g., Dubbo and Orange, it may be some years before a service can be established.

Pure Food Administration

A senior inspector, Pure Food Branch, joined the staff of the District in January, 1961.

TABLE III—PURE FOOD INSPECTIONS, SEIZURES, PROSECUTIONS AND FINES, 1961

Category of Work carried out	Number
Inspections and complaints	1,819
Hotels (Liquor)	60
Seizures	1
Samples	23
Notices served	18
Prosecutions	73
Fines and costs	£921

The Western Health District is by far the largest of the Health Districts in area. Consequently a great deal of time was spent by the senior food inspector in travelling. It has been estimated that he will only be able to visit each of the food premises once every three years. This is too infrequent and additional staff is required.

Tuberculosis Control

Tuberculosis control was decentralised in October, 1961. In the Western Health District there are three main clinics at Bodington Chest Hospital, Orange Base Hospital and Dubbo Base Hospital. There are also seven sub-clinics. These clinics are staffed by two Departmental medical officers, one part-time medical officer and four general practitioners. There are three Departmental sisters.

Decentralisation of tuberculosis control was achieved relatively smoothly and as many clinics and sub-clinics were visited as was possible.

The following table contains details of work carried out in 1961 in the above clinics both before and after decentralisation :—

TABLE IV—TUBERCULOSIS CONTROL, 1961

Category of Work carried out	Number
New cases discovered	29
Total number of patients	3,957
Total number of attendances	6,900
Total number of visits	2,840
Total number of Mantoux tests	1,635
Total number of B.C.G.	68
Total number of Chest X-rays	4,266
Total number of Pathological tests	981
Total number of contacts	2,603
On books number arrested cases	534
On books number still active	14
On books number under investigation	11

Public Relations

Many talks have been given by officers of the Western Health District on radio and to various groups, including Rotary, church groups and societies. Health problems generally were discussed. The activities of the Department are given a good press in the area generally.

Health Inspectors' Conferences

These conferences were organised in different towns in the district. They were for local authority health inspectors and were useful for the advancement of health inspectors by means of lectures and films and also for the dissemination of information and discussions on local problems.

Mental Health

All possible support is given by officers of the Western Health District to organisations and individuals who are dealing with the problem of mental deficiency. Visits were paid to schools for educationally sub-normal children at Lithgow, Bathurst, Dubbo, Orange and the Blue Mountains.

The Deputy Medical Officer of Health attended the ninth annual conference of the Australian Council for the Mentally Retarded at Sydney in September.

The Medical Officer of Health throughout the year has continued to foster and encourage all work on the preventive aspects of mental health on a community level by the founding and fostering of "Recovery" Groups of ex-mental hospital patients and others suffering from nervous and emotional illness; while encouragement was given to the formation of a group of voluntary workers called the "Christian Service Movement" in Orange, to visit selected patients in Bloomfield Mental Hospital, Orange. These patients were taken out into the community as a preparation to their discharge.

Many articles were written for the press and talks were given on the radio on the subject of mental illness.

Miscellaneous

Medical examinations totalled 23 during 1961.

**NORTH COAST HEALTH DISTRICT (FORMERLY RICHMOND-TWEED HEALTH DISTRICT)
ANNUAL REPORT, 1961**

Staff

(As at 31st December, 1961)

Medical Officer of Health : Dr. I. K. Hay, M.B., Ch.B., D.P.H., D.T.M. & H.

Deputy Medical Officer of Health : Dr. D. J. Law, M.B., B.S., D.P.H.

Two School Medical Officers ; two School Nurses ; two Tuberculosis Nurses ; one Senior Health Inspector ; one Health Inspector ; one Senior Food Inspector ; one Office Assistant.

Decentralisation and Extension of District

On 15th September, 1961, the new North Coast Health District was proclaimed—to include four additional local authority areas with a population of 49,000, bringing the total population of the district to 161,000.

The process of decentralisation of School Medical Services and Tuberculosis Control was effected during the year.

The following is a list of Municipalities and Shires in the expanded North Coast Health District :—

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.

Vital Statistics, 1961

Population—The population of the district at 30th June, 1961, was enumerated at 122,537.

Live Births—There were 2,809 live births in the district equivalent to a rate of 22.92 per 1,000 of population. Of these 1,435 were males and 1,374 females.

Deaths—Deaths numbered 1,009 equivalent to a rate of 8.23 per 1,000 population. Of these 596 were males and 413 females.

Infantile Mortality—Deaths under one year of age numbered 54 equivalent to a rate of 19.22 per 1,000 live births. Of the total number of deaths of infants under one year of age 40 or 74.07 per cent. occurred within one week of birth, and 43 or 79.63 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 14.24 and 15.31 respectively.

Still Births—There were 46 still births in the district, equal to a rate of 0.38 per 1,000 of population and representing 1.61 per cent. of all births (live and still).

Environmental Hygiene

A detailed survey of camping reserves was begun at the end of the year with a view to finding out the defects and establishing a code of practice.

Local authority liaison has been excellent throughout the year, and became more comprehensive with the expansion of activities in the field of school medical examinations and pure food work.

TABLE I—INSPECTION WORK CARRIED OUT IN 1961 WITH COMPARATIVE FIGURES FOR 1960

Inspection	1960	1961
Septic tanks (proposed and existing)	488	629
Noxious trades	69	47
Sanitary depots	40	47
Business premises	17	61
Water samples and supplies	35	35
Sewage treatment works	4	5
Camping reserves	9	5
Aboriginal reserves	2	4
Complaints	16	9
Food premises	43	..
Other inspections	22	9
Total	745	851

The extension of the district in the last quarter of the year greatly increased the amount of routine inspection work. In two of the local authority areas now included in the district, namely, the Shires of Coff's Harbour and Nambucca, rapid development took place and many proposed septic tank sites required inspection.

The greatest part of the Senior Health Inspector's time was occupied with the inspection of these septic tank sites. If this function was handed over, gradually and selectively to the local health authority, with the departmental inspectors acting in a supervisory capacity only, more time would be available by these inspectors for attention to other matters connected with environmental hygiene.

The disposal of garbage in the district generally was unsatisfactory. Nowhere is proper controlled tipping carried out, supervision is minimal, and a false sense of security is instilled by the indiscriminate use of diazanon often combined with burning. Incineration, as carried out in Tenterfield was advocated to councils.

The mosquito population has been prolific during the last few months. The species are mainly *Culex fatigans* and *Aedes aegyptii*, and their nuisance value is great. The main breeding places appear to be neglected creeks in towns, and casual water.

A considerable amount of attention was paid to aboriginal reserves, but little improvement in hygienic conditions or living standards has been achieved as a result of recommendations made. Special reports have been submitted to the Secretary, Board of Health, from time to time.

Communicable Diseases

TABLE 2—COMMUNICABLE DISEASES NOTIFIED WITH DEATHS DURING 1961, WITH COMPARATIVE FIGURES FOR 1960

Disease	1960		1961	
	Cases	Deaths	Cases	Deaths
Acute anterior poliomyelitis .. .. .	..	..	..	..
Ancylostomiasis	32	1	12	..
Ascariasis	16	1	6	..
Brucellosis	1	..	1	..
Diphtheria	1	..	2	..
Infectious hepatitis	56	1	105	..
Infantile diarrhoea .. .. .	..	..	8	..
Leptospirosis	12	..	6	..
Meningococcal infection	2	1	1	..
Puerperal fever	8	..	7	..
Rheumatic fever	2	..	3	..
Rheumatic chorea	1	..	..	..
Scarlet fever	3	..	7	..
Tuberculosis	41	3	37	1
Virus encephalitis	1	..	..	..
Staphylococcal pneumonia .. .. .	..	..	6	4
Staphylococcal mastitis .. .. .	..	..	..	..
Staphylococcal diseases in infants under 4 weeks of age	11	..	2	1
Total	187	7	203	6

DIPHTHERIA

One case was notified in 1960 and two in 1961. These were the only cases notified since 1956.

INFECTIOUS HEPATITIS

A total of 105 cases was notified, about twice the incidence recorded in 1960 and there can be little doubt that many more cases occurred but were not notified. Cases occurred throughout the district with perhaps a slightly higher incidence along the tourist coast, but no definite epidemiological picture could be distinguished, and the increased incidence was in keeping with the State figures.

LEPTOSPIROSIS

All cases notified were from Byron Shire ; the disease no doubt occurs elsewhere, but was only notified by one medical practitioner in this shire. The factor common to all cases was employment on farms.

TUBERCULOSIS

Notifications of tuberculosis in 1961 did not alter significantly from the previous year. It is of interest, however, that the marked rise in 1960 (41 cases) from 1959 (17 cases) was maintained in 1961 (37 cases).

A case-finding survey was conducted in the district in 1960 and the rise, at this time, was attributed largely to this factor : that the higher rate has been maintained is significant but it is not easy to determine the import.

School Medical Service

Decentralisation of administrative procedures in connection with the full-time service and the shires scheme was put into effect during the last quarter of the year. The enlargement of the district to include four additional shires in the southern part greatly increased the amount of work to be done by the school medical officers and nurse operating in this area.

TABLE III—SCHOOL MEDICAL EXAMINATIONS WITH NUMBER OF NOTIFIABLE DEFECTS, 1961

Area	School Population	Number Examined	Defects Notified	Defects Notified as Percentage of Number Examined
Southern	10,071	6,509	1,020	22.6
Lismore (Shire Scheme)	8,859	4,878	1,467	30.1
Tweed Shire (Shire Scheme)	5,318	654	233	35.5
Total North Coast Health District	24,248	12,041	2,720	27.1

The figures for the southern area represent a full year's work; examinations began in the Lismore area in April, and in Tweed Shire in mid-October. The value of the service is convincingly demonstrated by the number of defects discovered. Between one quarter and one-third of all children attending primary and high school in this district suffer from a defect of notifiable standard; most frequent defects found were nose and throat conditions, dental caries and visual defects.

Sanitary conditions in schools were generally reasonably satisfactory, but where conditions warranted it these were reported to the education authorities. The installation of water-borne sewerage to schools where a town water supply had become available was urged. Only in two high schools was there any serious overcrowding, and in both these cases the authorities are aware of the position.

Pure Food Administration

Since the appointment of a Senior Food Inspector to this District an attempt has been made, with considerable success, to establish co-operation between the department and the officers of local authorities in relation to pure food work.

TABLE IV—INSPECTIONS, NOTICES, SAMPLES INVESTIGATED AND PROSECUTIONS—1961

Work Carried Out	1960	1961
	Number	Number
Premises inspected	No pure food work carried out	579
Warning notices issued		90
Samples purchased		271
Samples below standard		61
Prosecutions completed		37

An endeavour was made to effect compliance with the regulations without resorting to prosecution, and there is no doubt that the honest and reputable traders realise the value of departmental inspections.

Inspections included many different types of food manufacturing and retail premises. Of the 90 warning notices served, the great majority were in respect of conditions arising from basic uncleanliness, poor state of repair, or unsatisfactory structural standards. In the smaller towns and villages many of the shops are obsolete, and there is not sufficient trade competition to provide any incentive to improve matters.

Again, in many places, owing to the small volume of trade in foodstuffs, shopkeepers take on additional lines, such as dry cleaning, shoe repairs, lending libraries and general hardware, to boost business. This inevitably leads to a deterioration in standards of hygiene, particularly in storage.

The proportion of samples found to be below standard (22 per cent.) was high, and the most common infringement was the adulteration of meat with preservatives. The traders involved were almost invariably those with previous convictions and, therefore, with a knowledge of the law.

Of the 37 prosecutions completed 36 resulted in fines being imposed.

There was a great variance in the amount and standard of work carried out by different councils. In some instances, where food premises were licensed under the Local Government Act, licenses were renewed without inspection of premises.

Tuberculosis Control

Decentralisation of tuberculosis control became effective on 9th October, 1961. The closing weeks of the year saw an increase in the number of in-patients of the tuberculosis ward of the Lismore Base Hospital to a total never previously approached.

The augmented number of contacts requiring follow-up procedures imposed a heavy burden on the clinic sister and, therefore, an undesirable back-log of contacts developed. Regular supervision of the work of the sub-clinics was not practicable because of the clerical staff position.

Public Relations

Decentralisation and increase of staff afforded an opportunity to improve public relations and to make the public more aware of the functions of the Department. This was approached through the media of the press, the radio and by film screenings and public addresses.

Personal contact with the editors of local newspapers was established and maintained and their ready acceptance of the proposal that a consistent publicity campaign be instituted by this office was gratifying. This acceptance led to the preparation of a series of fourteen articles of some 500-600 words, which were published weekly in five local newspapers including the three important daily newspapers in this Health District. Topics ranged from the history of public health; the benefits of decentralisation; and the functions and activities of the divisions of the Department. Several smaller items of current interest were also released to and utilised by the press.

The Medical Officer of Health and his deputy each gave a short talk over the Lismore and Murwillumbah radio station during National Health Week.

Health film equipment was obtained from the Publicity Branch on permanent loan, late in the year, and the first of an anticipated regular public screening of health films to interested organisations proved successful.

The Medical Officer of Health addressed a week-end conference of the Aboriginal Advancement League and Apex and Rotary Club meetings during the year.

Miscellaneous

A total of 81 medical examinations in connection with entry to the Public Service and repatriation pensions was carried out by the Medical Officer of Health in 1961.

The prescribed course of lectures on personal and communal health to nurses attending the Regional Training School at the Lismore Base Hospital was given by members of the staff. This has now become a recurring tri-annual responsibility.

Alterations and reconstruction of offices, and installation of additional telephones for additional staff, were completed.

Summary of Work—1961

The outstanding achievements of the year's working of the North Coast Health District were considered to be—the expansion of School Medical Service programme for the routine medical examination of school children; the success of the Tuberculosis Clinic at the Lismore Base Hospital, run by this Department; the great advance in pure food work in the district; and the successful start to the publicity campaign designed to improve public relations and awareness of the functions of the Department.

BROKEN HILL AND DISTRICT—ANNUAL REPORT, 1961

Staff

Dr. J. T. Cullen, M.B., B.S.

Vital Statistics

The population of the Broken Hill Municipal District at 30th June, 1961, was enumerated at 31,267.

The births for the period under review numbered 209. There were 784 deaths.

Communicable Diseases

TABLE I—INCIDENCE OF NOTIFIABLE DISEASES, BROKEN HILL, 1960-1961

Disease	1960		1961	
	Cases	Deaths	Cases	Deaths
Acute anterior poliomyelitis .. .. .	..	..	..	..
Typoid and paratyphoid fever .. .. .	..	..	..	..
Scarlet fever .. .. .	..	..	..	..
Diphtheria .. .. .	..	..	..	..
Virus encephalitis	1	1	..	..
Infectious hepatitis	89	..	154	1
Infantile diarrhoea .. .. .	..	..	11	2
Staphylococcal pneumonia	1	..	..	..
Staphylococcal disease in infants under four weeks	5	..	2	..
Staphylococcal mastitis .. .. .	..	..	1	..
Tuberculosis	11	3	..	..
Total	107	4	168	3

Infectious hepatitis remains as the major notifiable disease. The incidence has risen sharply and the cases notified have almost doubled since 1960.

TABLE II—EXAMINATIONS CARRIED OUT, 1961

Examinations and interviews as Medical Officer of Health	72
Post mortem examinations at the request of the Coroner	37
Attendance at court and giving evidence in police cases	41
Examinations of arrested persons or prisoners	24
Visits to gaol for examination of prisoners	13
Examinations and reports on police constables re fitness for duty	22
Governmental examinations (Public Service Board, Railway Department, Education Department, &c.)	104

The number of new patients examined at the Anti-Tuberculosis Clinic was 142, while attendances totalled 180.

SECTION III

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
ANNUAL REPORT, 1961

Director : H. Kramer.

This is the third annual report of the Institute of Clinical Pathology and Medical Research, and whereas the first two relate to the periods of establishment and consolidation respectively, this report concerns a year which has been noteworthy as one of great expansion. Not only has the year under review seen a substantial, all-round increase in the volume of routine work, it has also seen the introduction of a number of new investigations. However, the most notable feature has been the progress made towards establishing an Exfoliative Cytology Diagnostic Service on a scale vastly greater than any other in Australia. Indeed, when this service is fully developed it will rank among the largest in the world.

As pointed out in previous reports, the function of the Institute of Clinical Pathology and Medical Research may be broadly defined as :—

- (1) the provision of a clinical pathological service ;
- (2) the training of medical technologists and medical graduates ;
- (3) research.

This report will describe the activities carried out under these various headings and discuss also the progress made towards the implementation of new developments.

(1) Clinical Pathology

The year under review has been remarkable for the great increase in the amount of routine clinical pathology work carried out. Apart from this increase in the volume of routine work, there has been a further broadening of the range of investigations offered in accordance with the policy of making available any test of proved usefulness for which there is a demand.

The increase in the amount of work is clearly revealed in the statistical tables (Appendix A). It should, however, be mentioned that during the year under review the basis for the compilation of these tables has been modified so that detailed comparison with previous years is difficult. In the past, the old system of classification which was used for many years by the Microbiological Laboratories was followed, but it has become increasingly apparent that this classification was not capable of yielding an accurate picture of the work currently undertaken at this Institute. The total number of specimens received and the total number of investigations carried out in each department can still be easily and accurately compared with the corresponding figures for previous years, except in the case of Bacteriology, where, for reasons which will be discussed later, the number of investigations carried out shows an apparent decline. Comparison in detail however, is made difficult because in many instances tests previously grouped together have been dissected, certain investigations which have been superseded by more accurate or refined ones have been eliminated, and certain other examinations not previously undertaken have been added. The percentage increase in the number of investigations carried out in each department during the year is shown below :—

	per cent.
Biochemistry	27
Histopathology	41
Haematology	112
Virology	172

This substantial, all-round increase in the volume of work has precipitated a serious accommodation problem in several departments, notably Histopathology, Haematology and Virology, and it is indeed fortunate that the decision to establish a department of Exfoliative Cytology has necessitated the construction of a new wing to the building, as this has afforded an opportunity to re-arrange the existing laboratories to some extent and provide additional laboratory space to accommodate the increased amount of work. Early in the new year, Histopathology and Virology, as well as the new department of Exfoliative Cytology, will be housed in the new wing. Haematology will move into the laboratories vacated by Histopathology, while Bacteriology and Biochemistry will acquire the laboratories previously occupied by Virology and Haematology, respectively.

PATHOLOGICAL ANATOMY AND HISTOLOGY

During the past year there has been a very considerable increase in the number of specimens received for histological examination. In 1960, 5,025 specimens were received for histological examination, whereas in 1961 the number was 6,553, an increase of 30 per cent. At the same time the number of sections prepared has risen from 10,572 in 1960 to 14,993 in 1961, an increase of 41 per cent., and this has naturally imposed a great strain on the department, particularly since the recruitment of additional staff has not kept pace with the growing demand for the histological service. The result is that certain other activities carried on in this department, notably the mounting of museum specimens and the accumulation of a collection of teaching slides, have had to be somewhat curtailed. The autopsy rate for the year has increased from 184 to 209, but is still regarded as rather less than

satisfactory as it represents only about 30 per cent. of the death rate at the Lidcombe State Hospital. In view of the importance of the autopsy work for teaching purposes it is hoped that this can be increased in future, even though we are able at present to ensure that each Registrar carries out at least 100 autopsies during his period of training.

During the year, assay of chorionic gonadotrophin by the Galli-Mainini method on toads has been introduced for the diagnosis of pregnancy. This investigation is carried out in the Histology department by the Research Associate, Dr. K. B. Taylor.

BACTERIOLOGY

During the year, 11,180 specimens were received and on these 34,194 tests were carried out. This represents an increase of 10 per cent. in the number of specimens received. Although there is an apparent decrease in the number of examinations carried out as revealed in statistical Table A, the reason for this discrepancy lies in the alteration in the system of statistical compilation which previously, by duplicating certain examinations, produced exaggerated totals.

As in the previous year, the Bacteriology Department has continued to be the busiest section of the Institute. The great bulk of the work still consists of specimens for *Mycobacterium tuberculosis* and antibiotic sensitivity tests for this and other organisms, but there has been no slackening in the demand for other investigations. The Bacteriology Department continues to carry out guinea pig inoculations for the identification and characterisation of *M. tuberculosis* and has also carried out examinations of milk for both tuberculosis and brucellosis. The isolation and identification of pathogenic fungi has continued to prove a very popular service, as have the Rose-Waaler reaction for rheumatoid arthritis, the determination of C-reactive protein, and the estimation of anti-streptolysin titre, the Lancefield typing of haemolytic streptococci, and the serological identification of salmonellae and pathogenic strains of *Escherichia coli*. The bacteriophage typing of *Staphylococcus aureus* which was first started in May, 1961, has proved a valuable addition to the range of investigations offered. Since it was made available 12 metropolitan and country hospitals have utilised it as a means of tracing and dealing with cross-infection problems.

The range of work carried out in the Bacteriology Department has been further expanded during the year by the undertaking of ethionamide and cycloserine sensitivity tests on strains of *M. tuberculosis* which have proved resistant to the conventional drugs, while the sensitivity testing of this organism to streptomycin has been refined by the adoption of the resistance ratio method. The introduction of the niacin test to distinguish human strains of *M. tuberculosis* from the unclassified mycobacteria represents a further step towards the provision of a comprehensive tuberculosis bacteriology service.

BIOCHEMISTRY

The demand for biochemical investigations has continued to increase and during the year 7,112 specimens were received, and on these 13,760 analyses were performed. This work represents an increase of 27 per cent. over the figure for 1960. The main burden of work is still concerned with blood urea investigations and liver function tests, although the figures for the latter have fallen somewhat since the epidemic of infectious hepatitis has declined. There has been a steadily increasing demand also for blood electrolyte determinations, which is attributable in part to an increase in the amount of major surgery undertaken at the Lidcombe State Hospital. Almost all the catechol amine and urinary steroid work for the whole of New South Wales is now carried out by this Institute, so that even the major teaching hospitals send specimens here for these determinations. In addition, new or improved methods have been introduced during the year for serum and urinary copper determinations, iron content and iron-binding capacity of serum, calcium and magnesium in serum or urine, serum arginase, urinary 17-keto, 17-ketogenic and 17-hydroxy steroids. There has at the same time been a steadily increasing demand for electrophoretic investigations and determinations of glutamic, oxalacetic and pyruvic transaminases, while work has continued towards the development of useful techniques for starch gel and continuous paper electrophoresis of serum as well as the determination of urinary amino acid excretion patterns.

There has, during the year, been a growing demand for estimations of serum protein-bound iodine, an investigation which is not at present available in this State. In fact, specimens from Sydney are at present being sent to the United States for this investigation. Methods are at present being studied with a view to making this determination available at the Institute. Plans are also afoot to introduce the technique of gas chromatography for the estimation of a variety of steroid hormones. Facilities for the estimation of these hormones are not at present available in New South Wales.

HAEMATOLOGY

During the year the Haematology Department received 4,299 specimens and carried out 11,597 examinations on them. This represents an increase of 112 per cent. over the 1960 figures. As in the previous years, most of the routine haematological investigations are done for the patients at Lidcombe and Newington State Hospitals because there is as yet no really satisfactory method of preventing the deterioration of blood cells while specimens are in transit through the post, and this problem of deterioration imposes quite serious limitations on the examination of specimens referred from the country districts. However, there has been an increasing use made by practitioners in the country of examinations of blood films and haemoglobin determinations.

With an increase in the staff of the Lidcombe State Hospital during the year and more emphasis towards the surgical treatment and rehabilitation of patients, there has been a marked increase in the number of specimens of blood received for grouping and cross-matching, and this part of the work has come to occupy an increasing amount of the time of the trained staff. On the other hand, a

reasonable amount of blood transfusion work is regarded as of considerable importance for the training of registrars in clinical pathology, and a system has now been instituted whereby the Registrar in the Haematology Department is on call or in residence at the hospital for all emergency work during the six months' period he spends in this department.

The microbiological assay of vitamin B₁₂ has proved to be a most worthwhile and popular investigation and an ever-increasing number of specimens have been received from hospitals throughout the State for this determination. Considerable progress has also been made towards the introduction of a microbiological method for the assay of folic acid and the time is fast approaching when it may be possible to offer this test on a routine basis.

The radioisotopes ⁵¹Cr and ⁵⁸Co are in regular use in the Haematology Department for diagnostic procedures both for the Lidcombe State Hospital and other referring hospitals. In fact, the increased range and volume of work carried out in the Haematology Department is such that the limiting factor to further expansion at present is the amount of laboratory bench space available. However, early in the new year when the building extensions are completed, it is intended that the Haematology Department will move into the accommodation at present occupied by histopathology, and once this move is effected the accommodation situation will be considerably eased.

VIROLOGY

This year has seen a very considerable increase in the number of specimens received for virological investigation; in fact, the stage has now been reached where lack of accommodation is a major obstacle to this work, as with the two rooms currently available the accommodation of increased staff to handle the greatly increased amount of work is not possible. However, this situation too will be greatly improved early in the new year when the new Virology Department is ready for occupation.

During the year 1,618 specimens were received for virological investigation compared with 595 in the corresponding period last year and this represents an increase of 172 per cent. A considerable proportion of this increase is attributable to the current outbreak of poliomyelitis which at present appears to be assuming epidemic proportions in New South Wales. It is hoped that when this department moves to its new accommodation and it then becomes possible to reinforce the present staff, that work will be extended to include studies on the recently isolated common cold viruses.

(2) Teaching

(a) TRAINING OF MEDICAL GRADUATES AS PATHOLOGISTS

Since the University of Sydney granted full recognition of the Institute as a post-graduate training centre for medical graduates wishing to become specialist pathologists, the Public Service Board has agreed to establish training posts of Registrar in Clinical Pathology. As a result five registrars are now undergoing training in the institute's laboratories. Further experience is gained by attending seminars, scientific meetings, lectures and informal tutorials. The tenure of these 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. During the six months each registrar spends in haematology he is either in residence or on call for all emergency work at the Lidcombe State Hospital, and in this way is able to gain experience in emergency pathology.

(b) TRAINING OF LABORATORY ASSISTANTS AND MICROBIOLOGISTS

The staff establishment provides for five laboratory assistants and seven laboratory assistants-in-training, the purpose of these appointments being to meet future needs for qualified technical staff in the Department's laboratories by providing in-service training in all branches of medical laboratory technology. Trainees fall into two categories:—

- (i) 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;
- (ii) those who wish to qualify as laboratory assistants—these attend the laboratory certificate course at the Sydney Technical College and on completion of this course may proceed to a Diploma in Medical Technology.

To cater for the growing need for trained medical technologists in the State, the Public Service Board has recently approved the creation of six additional posts of laboratory assistant-in-training, and it is proposed to fill these positions from candidates at present sitting for the Leaving Certificate examination.

(c) 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* and in the British Medical Association's *Monthly Bulletin*. Approximately 36 such meetings are held each year, spread over three terms in each of which 12 seminars take place, and 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. 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 1961 is attached (see Appendix B).

(3) Research

The past year has seen the beginning of research activities at the institute, but as yet no attempt has been made to develop an integrated research programme on one or other aspect of geriatric pathology because the staff situation has militated against this, and also because of the general disorganization caused by building alterations, and the need to give priority to the development and organization of the Exfoliative Cytology programme, to be discussed below. However, Dr. K. B. Taylor joined the staff in April, and has commenced work on the degenerative vascular diseases which occur in old age. Meanwhile there has been considerable activity in the various departments, mainly in the nature of surveys and in technical developments. A list of research projects being undertaken during 1961 is attached (see Appendix C).

General

ADMINISTRATION

The broad administrative structure of the institute described in previous reports has continued to function reasonably well, but the establishment of the new Department of Exfoliative Cytology, coupled with the general increase in the amount of routine work, will involve a considerable augmentation of the administrative load. Accordingly, a complete re-organization of the administrative component of the work of the institute is being planned, and arrangements have been made to enlist the assistance of the Organization and Methods Group of the Public Service Board. Essentially, the aim is to improve the office procedures and record systems in such a way that:—

- (a) the preparation and despatch of reports is hastened ;
- (b) the results of previous investigations on any particular patient are readily available ;
- (c) telephone enquiries relating to the results of investigations can be answered with a minimum of delay ;
- (d) clerical personnel are used whenever possible to reduce the amount of writing which at present is done by professional and technical staff so that the time of the latter can be more economically used in exercising their special experience and skills.
- (e) unnecessary clerical work and record-keeping are eliminated.

Although modifications to the present procedures to attain these ends will involve an increase in the clerical staff, the benefits which should accrue in the way of a general increase in efficiency, not to mention economy in the use of the time of the professional and technical staff, should make this a sound investment.

Ancillary Services

(a) PHOTOGRAPHY

Up to the time of his departure in August, Mr. R. G. Hill combined the duties of photographer and histological technician, and carried out a large amount of photographic work for both the Lidcombe State Hospital and the Institute. This work was of immense value for teaching purposes. However, since his departure and pending the appointment of another officer capable of carrying out high quality photography, it has been necessary to carry on without this valuable amenity.

(b) WORKSHOP

The demands on the workshop have been heavy throughout the year both for maintenance of existing equipment and construction of new apparatus. While the quality of the work done has been of the highest order, the number of jobs completed has been disappointing, so that a considerable backlog exists.

A system of priorities has been instituted, but this of course means that many jobs which in themselves may be quite minor, have to be deferred for a long time. This is a matter for concern because these delays, particularly in relation to research activities, very quickly undermine enthusiasm. The workshop difficulties are to some extent attributable to inadequate accommodation, and provision has been made for a more spacious workshop in the basement of the new wing.

Steps have now been taken towards the appointment of an assistant for the Scientific Instrument Maker, and it is anticipated that by relieving him of much of the unskilled or semi-skilled work, more economical use could be made of his time.

Projected Developments

The major development during the past year relates to the establishment of a new Department of Exfoliative Cytology which will be concerned mainly with the early detection of cancer of the cervix uteri using the Papanicolaou smear technique. In the previous annual report mention was made of the decision to establish this department and it now remains to describe the steps which have been taken in 1961 towards its implementation.

Early in the year final plans for the extensions to the existing buildings were received from the architects. Tenders were called forthwith, the contract was let in May and construction work commenced in June. Currently orders for equipment were placed and the first steps were taken towards the recruitment of a nucleus of qualified staff. In July, the Director of the Institute proceeded abroad to study the organization of exfoliative cytology diagnostic services in other countries, at the same time taking the opportunity of investigating matters of interest to the various other departments of the institute. During this visit applicants for the post of Specialist Cytologist and for various other positions in the department of Exfoliative Cytology and the other specialised departments, were interviewed. The results of this visit abroad have been the subject of a special report to the Director of State Health Services.

In investigating the organization and function of various other exfoliative cytology departments it emerged that these fall broadly into two categories: (a) those concerned merely with case finding; (b) those concerned not merely with case finding but also with following-up the impact which they are making on the mortality and morbidity rates of cancer of the cervix in the communities in which they operate, and utilising the material which they accumulate in the course of this work for studies of the natural history of this particular type of cancer. The most notable organizations of this type operate in Columbus and Cleveland in the United States, Vancouver in Canada, and in Honolulu; and accordingly it is planned that the service to be established at this institute will be organized in such a way as to incorporate the best features of these various departments.

During the past few months, as the buildings near completion, the recruitment and training of staff has proceeded satisfactorily; equipment previously ordered is now being delivered and detailed planning of the organization is in hand, so that early in the new year the service should be in a position to operate on a small scale, while at the same time being systematically built up for full-scale operation by mid-1962. Mention has already been made of the proposed re-arrangement and extension of existing departments when the additional accommodation at present under construction becomes available early in the new year.

Conclusion

This year has been one in which there has been an all-round expansion in the activities of the Institute of Clinical Pathology and Medical Research. There has been a conspicuous increase in the volume of work done in all departments and in the case of some the amount of work has more than doubled. At the same time as this quantitative increase in the amount of work has occurred there has been a qualitative increase as well, in that the variety of investigations offered has been steadily broadened not only within existing departments but actually extending to the establishment of an entirely new department, in the case of exfoliative cytology. In order to accommodate this increase in the amount and scope of work undertaken it has been necessary to reinforce the staff and increase the available laboratory space by construction of the extensions to the existing building. 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 specialised hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State.

It is a pleasure to pay tribute to all members of the staff of the institute. 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. A happy relationship exists with the Lidcombe State Hospital and also with the many hospitals and medical practitioners served by the institute, and so long as this can be maintained all members of the staff should continue to find the work congenial and rewarding, secure in the knowledge that they are providing a useful service to the community.

Appendix A

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

STATISTICAL SUMMARY OF SPECIMENS RECEIVED AND EXAMINATIONS COMPLETED 1ST JANUARY, 1961 TO 31ST DECEMBER, 1961

	<i>Histopathology</i>								1960	1961
Number of specimens—										
Biopsy	5,025	6,553
Exfoliative cytology	224	317
Post-mortems	184	209
Miscellaneous	70
Total specimens	5,433	7,149
Examinations completed—										
Paraffin sections	10,215	14,232
Frozen sections	45	97
Exfoliative cytology smears	312	594
Miscellaneous	70
Total examinations completed	10,572	14,993

Haematology

	1960	1961
Number of specimens	3,718	4,299
*Examinations completed—		
Haemoglobin	2,745	3,297
Haematocrit .. .. .	..	558
Red cell count .. .. .	..	58
Reticulocytes .. .. .	..	152
White cell count .. .. .	..	..
Differential white cell count	327	1,057
Eosinophil count .. .. .	..	647
Platelet count .. .. .	..	30
Examination of blood film	1,069	102
Malaria .. .. .	..	3,390
Blood sedimentation rate (E.S.R.)	496	3
L.E. cells .. .. .	..	1,095
Prothrombin time	215	20
Examination of blood film for lead .. .. .	..	193
Group and Rh factor	380	2
Cross-matching .. .. .	..	299
Bone marrow examination	21	101
Bleeding and clotting times	12	38
Investigation of haemostatic defects .. .. .	..	8
Serum B ₁₂	90	9
Blood volume .. .. .	..	262
Red cell survival } Radio-isotope tracer method .. .. .	..	3
Schilling test .. .. .	..	6
Coomb's test .. .. .	..	57
Red cell fragility .. .. .	..	2
Paul-Bunnell reaction	62	194
Cerebrospinal fluid cell count	46	..
Miscellaneous	3	14
Total examinations completed	5,466	11,597

Biochemistry

	1960	1961
Number of specimens	5,569	7,112
Examinations completed—		
C.S.F. for—		
Chloride	111	121
Colloidal mastic reaction	889	824
Glucose	82	87
Globulin .. .. .	..	121
Protein	226	141
Blood and Serum for—		
Acid phosphatase	273	282
Alkaline phosphatase	931	923
Amylase	55	73
Bilirubin	768	760
Bromide	95	22
Calcium	132	152
Carbon dioxide combining power .. .. .	..	166
Cephalin cholesterol flocculation	2	..
Chloride	132	605
Cholesterol	323	318
Creatine .. .. .	..	4
Creatinine .. .. .	..	49
Glucose	155	502
Glucose tolerance	61	69
Glutamic pyruvic transaminase .. .. .	..	117
Glutamic oxalacetic transaminase .. .. .	..	139
Iron .. .. .	..	86
Iron binding capacity .. .. .	..	81
Methaemoglobin .. .. .	..	4
Phosphate (inorganic)	84	109
Potassium	161	624
Proteins—		
Total .. .. .	..	645
Albumin	441	283
Globulin .. .. .	..	288
electrophoresis	172	414
Sodium	148	615
Sodium para-amino salicylate	48	..

Note : *Because of the change in the system of classification of tests, an accurate, detailed comparison cannot be made between tests carried out in 1960 and 1961.

Biochemistry—continued

	1960	1961
Sulphaemoglobin .. .. .	..	1
Thymol turbidity	1,518	309
Urea	1,410	1,967
Uric acid	261	297
Zinc turbidity	1,518	741
Faeces for—		
Occult blood	258	296
Tryptic acitivity .. .. .	..	1
Fats	142	206
Gastric fluid for general analysis	9	101
Urine for—		
Bilirubin .. .. .	..	4
Diastase .. .. .	..	2
Catechol amines .. .. .	..	107
17-ketogenic steroids .. .. .	..	169
17-ketosteroids	111	269
Urea .. .. .	..	56
General	146	..
Calculi for analysis	39	38
Miscellaneous chemical examination	134	..
Total examinations completed	10,835	13,760

Bacteriology

	1960	1961
Number of specimens	10,138	11,180
*Examinations completed—		
Antibiotic sensitivity tests	20,774	15,066
Blood culture	21	34
Cerebrospinal fluid cell count	95	101
Cerebrospinal fluid culture	2	9
Dark-ground preparation, spirochaetes	1	3
Escherichia coli, serotype identification .. .. .	..	185
Faeces, microscopic examination	77	67
Faeces, culture	822	567
Guinea pig inoculation, M. tuberculosis (other than milk)	255	231
Haemolytic streptococci, Lancefield grouping	201	128
Milk, guinea pig inoculation, M. tuberculosis	116	144
Milk, guinea pig inoculation, B. abortus	116	144
Nasal smears, Mycobacterium leprae	79	35
Nasal swabs, culture .. .. .	..	524
Pus, Gram's stain and culture	840	677
Culture, identification .. .. .	..	251
Skin, hair and nail, direct examination .. .. .	..	135
Skin, hair and nail, culture for fungi	230	138
Sensitivity tests, M. tuberculosis	1,032	2,280
Sputum, Gram's stain and culture .. .. .	..	778
Sputum, Ziehl-Neelsen stain and culture	6,460	4,940
Staphylococcus aureus, bacteriophage typing .. .. .	..	360
Sterility tests	7	16
Throat swab culture	794	593
Urethral and cervical smears, Gram's stain	2,008	2,614
Urine, chemical and microscopic examination .. .. .	..	2,422
Urine, culture	2,580	552
Vaccines	68	54
Vaginal discharge, Candida albicans .. .. .	..	43
Vaginal discharge, Trichomonads	1	6
Miscellaneous bacteriology	440	37
Brucella agglutination test	183	248
Paul-Bunnell reaction	132	..
C-reactive protein test .. .. .	..	154
Rose-Waaler test	105	286
Weil-Felix reaction	76	80
Widal reaction	88	98
Anti streptolysin O titre .. .. .	..	71
Kahn test	224	..
Wassermann reaction	266	..
V.D.R.L. reaction	227	..
Casoni test .. .. .	..	1
Mantoux test	98	122
Extol parasites	1	..
Total examinations completed	38,419	34,194

Note: *Because of the change in the system of classification of tests, an accurate, detailed comparison cannot be made between tests carried out in 1960 and 1961.

								<i>Virology</i>	
								1960	1961
Number of specimens	..	..	..	..	..	..	..	689	1,792
*Examinations completed									
A. Specimens for virus isolation—									
(1) Faeces	..	..	..	..	..	..	..	850	
(2) Throat washings	..	..	..	..	..	..	..	92	
(3) Cerebrospinal fluid	..	..	..	..	..	..	..	29	
(4) Miscellaneous	..	..	..	..	..	..	..	71	
B. Blood for antibody estimations—									
Complement fixation tests	..	..	..	..	..	..	..	289	
Neutralisation tests	..	..	..	..	..	..	..	287	
Total examinations completed								595	1,618

Total Number of Investigations Completed

	1960	1961
Histopathology	10,572	14,993
Haematology	5,466	11,597
Biochemistry	10,835	13,760
Bacteriology	38,419	34,194
Virology	595	1,618
	65,887	76,162

Note: *Because of the change in the system of classification of tests, an accurate, detailed comparison cannot be made between tests carried out in 1960 and 1961.

Appendix B

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
WEEKLY SEMINARS HELD DURING 1961
(IN CONJUNCTION WITH THE LIDCOMBE STATE HOSPITAL AND HOME)

Date	Subject and Speaker
6th February, 1961	"Connective tissue" (Dr. H. Kramer, Institute of Clinical Pathology).
13th February, 1961.	"Synthesis and abnormalities of human haemoglobin" (Dr. W. Hensley, Department of Biochemistry, University of Sydney).
20th February, 1961.	"Ulceration of the lower limb" (Dr. I. J. Hunter, Institute of Clinical Pathology, and Dr. R. Holland, Lidcombe State Hospital).
27th February, 1961.	"Oedema, diuresis and diuretics" (Dr. N. F. R. Fink, Lidcombe State Hospital).
6th March, 1961.	"Human chromosomes" (Dr. Brian Turner, North Ryde Psychiatric Centre, and Dr. G. C. Hughes, Lidcombe State Hospital).
13th March, 1961.	"Symposium on poliomyelitis" (Dr. E. S. A. Meyers, Department of Public Health, Mr. A. M. Murphy and Dr. I. J. Hunter, Institute of Clinical Pathology).
20th March, 1961.	"Urinary retention in the elderly male" (Dr. T. L. O'Connell, Lidcombe State Hospital).
27th March, 1961.	"The quest for rejuvenation" (Drs. R. Holland and F. Ofner, Lidcombe State Hospital).
17th April, 1961.	"Skin Cancers, Part II" (Dr. V. St. E. D'Abrera, Institute of Clinical Pathology).
24th April, 1961.	"Symposium on emphysema" (Dr. P. Harden, Institute of Clinical Pathology and Drs. B. E. Sharkey and G. E. Kellerman, Lidcombe State Hospital).
5th June, 1961.	"A review of recent pathological literature" (Drs. J. Cooper Booth, R. Reid, K. L. Withers and T. J. Gaha, Institute of Clinical Pathology).
19th June, 1961.	"Symposium on medical electronics" (Professor D. Lampard, University of New South Wales, Mr. E. Williams, Cerebral Surgery and Research Unit, Callan Park, Dr. G. L. Donnelly, Unit of Clinical Investigation, Royal North Shore Hospital of Sydney).
26th June, 1961.	"Bone Marrow Studies" (Dr. B. J. Arnold, Institute of Clinical Pathology).
3rd July, 1961.	"Emulsions and emulsification" (Professor B. Breyer, University of Sydney).
10th July, 1961.	"Emulsification in human sera" (Dr. F. Ofner, Lidcombe State Hospital).
17th July, 1961.	"Iatrogenic electrolyte disturbances" (Dr. N. F. R. Fink, Lidcombe State Hospital).
24th July, 1961.	"Atypical mycobacteria" (Mr. B. O'Connor, Institute of Clinical Pathology).
31st July, 1961.	"Biochemical changes in mental disorder" (Dr. G. Chapman, Lidcombe State Hospital).
14th August, 1961.	"The role of some metals in metabolic processes" (Dr. R. N. Beale, and Messrs. R. F. Taylor, D. Croft and J. O. Bostrom, Institute of Clinical Pathology).
9th October, 1961.	"Aspects of forensic medicine" (Dr. John Laing, Assistant Government Medical Officer).
6th October, 1961.	"Army Psychiatry" (Dr. H. E. D. Flack, Lidcombe State Hospital).
23rd October, 1961.	"Histochemical Methods" (Dr. K. B. Taylor, Institute of Clinical Pathology).
30th October, 1961.	"Physics in medical practice" (Mr. W. Caw, C.S.I.R.O., and Dr. T. L. O'Connell, Lidcombe State Hospital).
6th November, 1961.	"Tumours of the pituitary and the pituitary region" (Dr. I. J. Hunter, Institute of Clinical Pathology).
13th November, 1961.	"Management of old age" (Dr. S. Sax, Lidcombe State Hospital).
20th November, 1961.	"Glycogen storage disease" (Dr. Ian Thomas, The Royal North Shore Hospital of Sydney).
27th November, 1961.	"Coarctation of the aorta"—"General anaesthesia for dentistry" (Film Session).
4th December, 1961.	"Some laboratory aspects of cross-infection in hospitals" (Dr. D. Hansman and Miss A. F. Vickery, Institute of Clinical Pathology).
11th December, 1961.	"Induced hypothermia" (Dr. B. E. Sharkey, Lidcombe State Hospital).
	"Overseas developments in pathology" (Dr. H. Kramer, Institute of Clinical Pathology).

Appendix C

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
RESEARCH AND DEVELOPMENT PROJECTS DURING 1961

Biochemistry Department

The following projects have been continued, completed or abandoned during the year :—

- (1) *The determination of Iron Content and Total Iron Binding Capacity of Serum*—As reported previously, initial work on this subject was completed and the results have now been published. Since then, considerable improvements have been made, resulting in methods which are believed to be the most rapid and precise so far described. The results of this further work have also been published and considerable interest has been shown in both articles.
- (2) *The Determination of Total Cholesterol in Serum*—A sensitive and reliable method for the determination of this steroid in blood has been worked out and the results published. As before, the emphasis has been on the development of a methodology which can be rapidly and routinely carried out by the average laboratory worker.
- (3) *Photochemical Determination of Low Chloride Ion Concentration*—This work was initiated with a view to finding a more convenient way of estimating chloride in sweat. Although promising in the early stages difficulties which could not be resolved were encountered when dealing with biological material and the project was therefore abandoned.
- (4) *The Determination of Arginase Activity in Serum*—Considerable effort was made to develop a sensitive method for assaying this enzyme in serum, and eventually a sensitive technique of a novel kind was worked out. So far, no clinical application of this has been discovered since there appears to be little correlation between the enzyme level and liver or kidney function.
- (5) *The Determination of Copper in Blood and Urine*—As a result of considerable investigational work on all aspects of copper determination, methods have been evolved for serum and urine which are now in use in this Institute.
- (6) *The Determination of Calcium and Magnesium in Biological Materials*—Rapid and reliable methods have been evolved for determining calcium and magnesium in serum and urine by simple titrimetric methods suitable for routine use.
- (7) *Improvements in the Colorimetric Determination of Urinary Steroids*—For many years determinations have been based on the Zimmermann reaction which is not easily carried out under most conditions suggested. The reaction has been thoroughly re-investigated here and new conditions have been designed which greatly improve the reliability of urinary steroid assays. These findings have been embodied in a published paper.

Pathological Anatomy and Histology Department

Studies on the changes which occur during ageing in the elastic tissue of human aorta.

Bacteriology Department

Neonatal staphylococcal infections (in collaboration with The Royal Newcastle Hospital).

Haematology Department

- (1) Serum vitamin B₁₂ levels in various chronic diseases.
- (2) Development of methods for the assay of folic acid in serum, and studies of serum folic acid levels in various types of anaemia.

Virology Department

Continuation of studies into the association of entero-viruses and infantile diarrhoea.

Appendix D

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH
ADDRESSES TO LEARNED SOCIETIES AND PUBLICATIONS BY STAFF MEMBERS, 1961

Addresses

"Improved Methods for the Direct Determination of Serum Iron and Iron Binding Capacity" by R. N. Beale. Read before the Clinical Science Society, April, 1961.

"Macrocytic Anaemias" by B. J. Arnold. Read at combined meeting of Sections of Pathology and Medicine of the British Medical Association, November, 1961.

"Macrocytic Anaemias". Lecture-Demonstration by B. J. Arnold. Given before Post-Graduate Committee in Medicine, University of Sydney.

Publications

"A Sensitive Method for the Colorimetric Determination of Urea". R. N. Beale and D. Croft, *Journal of Clinical Pathology*, Vol. 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. *Journal of Clinical Pathology*, Vol. 14, 488 (1961).

"Improved Rapid Methods for the Determination of Iron Content and Iron Binding Capacity of Serum". R. N. Beale, J. O. Bostrom and R. F. Taylor. *Journal of Clinical Pathology* (in Press).

"The Determination of Total Cholesterol in Serum by Persulphuric Acid Oxidation". R. N. Beale and D. Croft. *Journal of Clinical Pathology* (in Press).

"The Determination of Urinary 17-ketosteroids by an Improved Zimmermann Reaction". R. N. Beale, J. O. Bostrom and D. Croft. *Journal of Clinical Pathology* (in Press).

"The Determination of Calcium and Magnesium in Serum and Urine by Titrimetry". R. N. Beale and J. O. Bostrom. (In preparation).

"The Macrocytic Anaemias". B. J. Arnold. *Med. J. Aust.* (in Press).

"Plasma Anti-Haemophilic Factor Concentrations in Normal Families". B. J. Arnold, W. R. Pitney, R. L. Kirk and N. S. Stenhouse. *Brit. J. Haem.* (in Press). (Work done before joining staff of Institute).

"Herpes Simplex of the Fingers". A. M. Murphy and A. Chancellor, Merrylands, N.S.W. *The Medical Journal of Australia*, Vol. 1, 517, 1961.

"A Fatal Case of Listeria Septicaemia and Meningitis". D. Hansman and John C. Farrell, *The Medical Journal of Australia* (in Press).

The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β . It is shown that the system has solutions for all values of the parameters if and only if the condition $\alpha + \beta > 0$ is satisfied.

In the second part of the paper the problem of the stability of the solutions of the system (1) is considered. It is shown that the solutions of the system are stable for all values of the parameters α and β if and only if the condition $\alpha + \beta > 0$ is satisfied.

The third part of the paper is devoted to a study of the asymptotic behavior of the solutions of the system (1) for large values of the parameter α . It is shown that the solutions of the system approach a certain limit function as $\alpha \rightarrow \infty$.

Finally, in the fourth part of the paper the problem of the existence of solutions of the system (1) for arbitrary values of the parameters α and β is considered. It is shown that the system has solutions for all values of the parameters if and only if the condition $\alpha + \beta > 0$ is satisfied.



