

## CHAPTER IX.

### PUBLIC HYGIENE.

#### § 1. Public Health Legislation and Administration.

Reference to the various public health authorities, Commonwealth and State, their functions, and the legislation administered, may be found in earlier issues of the Official Year Book (see No. 22, pp. 493-5).

#### § 2. Inspection and Sale of Food and Drugs.

Legislation in force in all States provides for the inspection of food and drugs with the object of ensuring that all those goods which are sold shall be wholesome, clean and free from contamination or adulteration; and that all receptacles, places and vehicles used for their manufacture, storage or carriage shall be clean. For further particulars in this connexion, and with respect also to the sale and custody of poisons, reference should be made to Official Year Book, No. 22. pp. 495-7.

#### § 3. Supervision of Dairies, Milk Supply, Etc.

1. **General.**—In earlier issues (see No. 22, p. 498), allusion is made to the legislation in force in the various States to ensure the purity of the milk supply and of dairy produce generally.

2. **Number of Dairy Premises Registered.**—The following table shows, so far as the particulars are available, the number of dairy premises registered and the number of cows in milk thereon. In some States registration is compulsory within certain proclaimed areas only.

**DAIRY PREMISES REGISTERED, AND COWS IN MILK THEREON, 1939.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust. (a)	Tasmania.
Premises registered . .	20,956	25,192	29,450	13,117	357	8,305
Cows in milk thereon . .	691,105	543,202	779,714	104,887	10,401	(b)

(a) Premises within a district extending 25 miles north and 90 miles south of Perth only. (b) Not available.

#### § 4. The National Health and Medical Research Council.

In 1926, the Commonwealth Government established a Federal Health Council, in accordance with a recommendation of the Royal Commission on Health (1925), "for the purpose of securing closer co-operation between Commonwealth and State Health Authorities". This Council held sessions each year except 1932. In 1936, the Commonwealth Government decided to create a body with wider functions and representation, and the National Health and Medical Research Council was established with the following functions:—

To advise Commonwealth and State Governments on all matters of public health legislation and administration, on matters concerning the health of the public and on medical research:

To advise the Commonwealth Government as to the expenditure of money specifically appropriated as money to be spent on the advice of this Council;

To advise the Commonwealth Government as to the expenditure of money upon medical research and as to projects of medical research generally ;

To advise Commonwealth and State Governments upon the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition.

The constitution of the Council consists of the Commonwealth Director-General of Health as Chairman, with two officers of his Department, the official head of the Health Department in each State, together with representatives of the Federal Council of the British Medical Association, the Royal Australasian College of Surgeons, the Australian Association of Physicians, and (jointly) the four Australian Universities having medical schools. A prominent layman and laywoman, appointed by the Commonwealth Government, also serve on the Council.

The first session of the National Health and Medical Research Council met at Hobart in February, 1937; the eighth session met at Canberra in May, 1940.

Under the Medical Research Endowment Act 1937, the Commonwealth Government has made an annual appropriation of £30,000 to provide assistance—

(a) to Departments of the Commonwealth or of a State engaged in medical research ;

(b) to Universities for the purpose of medical research ;

(c) to institutions and persons engaged in medical research ;

(d) in the training of persons in medical research.

Approved Research Institutions under this system now number 26. During the year 1939, grants numbered 60 in the following fields: bacteriology, biochemistry, clinical medicine, dentistry, epidemiology, experimental pathology, industrial hygiene, leprosy, obstetrics, ophthalmology, physiology and pharmacology, poliomyelitis, tropical physiology and hygiene, tuberculosis and virus diseases. In certain instances, equipment and apparatus have been made available by the Council: this has greatly facilitated some specialized lines of research.

The work that is being done under these grants is already yielding results; beyond this practical achievement, the original objectives of the Council are being attained in encouraging young graduates to take up research work and in securing a continuity and permanence of medical research in Australia.

## § 5. The Commonwealth Department of Health.

1. **General.**—An Order-in Council dated 3rd March, 1921, defined various functions to be performed by the Commonwealth Department of Health in addition to Quarantine which is the only specific public health power of the Commonwealth Parliament under the Commonwealth Constitution. Many essential services have been developed by the Department to meet current needs and to further public health throughout the Commonwealth. In earlier issues of the Official Year Book reference has been made to several features of this development, including: The Royal Commission on National Health, 1925 (see No. 22, pp. 509-10), the International Pacific Health Conferences (see No. 22, p. 510 and No. 29, p. 334), Industrial Hygiene (see No. 18, pp. 522-55) Tropical Hygiene (see No. 22, pp. 506-7, No. 25, pp. 416-7, and No. 32, p. 226), and the Commonwealth Advisory Council on Nutrition (see No. 32, p. 222). Reference to Quarantine is made below (see § 6, par. 2.)

2. **The Commonwealth Serum Laboratories.**—The establishment for the preparation of Jennerian vaccine situated at Royal Park, near Melbourne, formerly known as the "Calf Lymph Depot" was in 1918 greatly enlarged by the Commonwealth. The remodelled institution is designated the "Commonwealth Serum Laboratories" and is administered by the Commonwealth Department of Health. The Laboratories are now installed in fully equipped buildings and a staff of 235 is employed. At Broadmeadows a farm of 254 acres has been developed, under veterinary supervision, for the many thousands of animals requisite to the work of the laboratories.

The list of biological preparations produced by the laboratories has been extended until at the present time almost the whole range of these products is manufactured and Australia is practically independent of other countries in thus producing its own requirements. Constant research is being conducted into every relevant aspect of bacteriology and immunology and new sera and prophylactic agents are being tested as the growth of medical knowledge opens up new avenues of treatment, prevention and diagnosis. Other original and applied research relating to all aspects of public health is maintained. The laboratories serve as the national centre for the maintenance in Australia of the international standards of the Permanent Commission on Biological Standards of the League of Nations.

For the past fifteen years the production of veterinary biological products has been a feature of the work of the laboratories. In recent years an extensive development has occurred in this direction and the products are being used in greatly increased amounts in all States for the prevention or treatment of diseases in domestic animals and stock.

**3. The Commonwealth Health Laboratories.**—The eleven Health Laboratories of the Department are situated at strategic points throughout Australia. They are located at Darwin, Cairns, Townsville, Rockhampton, Toowoomba, Lismore, Bendigo, Launceston, Port Pirie, Kalgoorlie and Broome. These laboratories were established as an essential part of the quarantine system but were also to undertake research into local health problems and to provide medical practitioners of each district with up-to-date facilities for laboratory investigation and diagnosis. It was realized that co-operation between the general practitioner with his clinical observations and knowledge of the environment of disease on the one hand, and the staff of a well-equipped laboratory on the other hand, is essential to the efficient investigation of disease and the effective operation of control measures.

From this standpoint, the laboratories have already proved their value in the determination of Weil's disease and endemic typhus in North Queensland, in the investigation of special local problems at Darwin, of undulant fever throughout Australia, of silicosis and tuberculosis at Kalgoorlie and of plumbism at Port Pirie. In these investigations close co-operation has existed with State and local health and hospital services; especially is this so in Queensland where collaboration has yielded exceptionally valuable results in differentiating the groups of fevers hitherto unclassified in that State. In this investigational work, as well as in more routine activities, the laboratories have at their disposal the full resources and technical and specialist facilities available at the Commonwealth Serum Laboratories and the Sydney School of Public Health and Tropical Medicine.

A major part of the work performed at the Kalgoorlie Laboratory, since its establishment in 1925, has been the medical examination, on behalf of the State Department of Mines, of employees and applicants for employment in the metalliferous mines in that State. These examinations are performed in accordance with the provisions of the State Mines Regulation Act and the Mine Workers' Relief Act, the objects of which are to provide a healthy body of men for the industry and to free the industry of, and protect the future of, those found to be suffering from serious pulmonary disease. The examinations include clinical, laboratory and radiographic investigation. By means of a mobile X-ray unit an annual tour is also made of outlying mining centres.

In the fourteen years since the inception of this service over 30,000 men have been examined.

X-ray facilities are also provided at the Bendigo Laboratory as part of the campaign against tuberculosis, for the examination of miners and other radiographic work in the district.

**4. The School of Public Health and Tropical Medicine.**—The Commonwealth Government, under an agreement with the University of Sydney, established a School of Public Health and Tropical Medicine at the University of Sydney as from 4th March, 1930, for the purpose of training medical graduates and students in the subjects of public

health and tropical medicine. The organization of the Australian Institute of Tropical Medicine at Townsville was merged in the new school, and the staff, equipment and material were transferred to Sydney.

The work of the school comprises both teaching and investigation. Courses are held for the University post graduate diploma of public health and the diploma of tropical medicine and tropical hygiene. Lectures are given in public health and preventive medicine as prescribed for the fifth year of the medical curriculum. Other classes include students in architectural, social and school hygiene, and lay officers and nurses in the tropical services and missionaries.

Investigational work covers a wide field of public health and medical subjects, both in the laboratory and in the field. Field work has been carried out not only in Australia but in co-operation with the local administrations in Papua, New Guinea, Norfolk Island and Nauru. Further details may be found in previous issues of the Official Year Book (see No. 29, p. 334).

**5. The Australian Institute of Anatomy.**—Information concerning the Australian Institute of Anatomy at Canberra is given in previous issues of the Official Year Book (see No. 32, p. 919). In 1931 the Institute became an integral part of the Commonwealth Department of Health. The work of the Institute on general problems of comparative anatomy has now been concentrated on aspects of structure and function with special reference to the development of the growing child. Biochemical and biological research in this field is being developed in close association with the model kindergarten centres established by the Department in each capital city (see par. 8 below). The background of comparative anatomy and the museums of the Institute are maintained as part of the general plan of work and an expert zoologist is a member of the team of research workers at the Institute.

**6. The Northern Territory Medical Service.**—As from 1st April, 1939, the Commonwealth Department of Health assumed administrative responsibility for the medical and health services of the Northern Territory, absorbing the Northern Territory Medical Service of the Territory Administration. The Health services of Darwin have been strengthened with the growing importance of that town as the northern gateway to Australia and as an administrative and service centre. Plans have been completed and building commenced of a new hospital at Darwin. The needs of the inland have been also carefully considered. The medical officer stationed at the hospital at Katherine, who is his own pilot, has pioneered a flying doctor service in the Territory and recently radio equipment has been installed at Katherine and on his plane to assist in this work. The hospital at Alice Springs has been enlarged and the medical officer of the hospital acts as the flying doctor for the local base of the Australian Aerial Medical Services which provide for pilot, aircraft and ground services.

**7. Physical Fitness.**—Health authorities in Australia have closely followed the world-wide movement for the advancement of physical fitness and in several States active work has been proceeding over some years. In 1938, following a recommendation of the National Health and Medical Research Council, the Commonwealth Government agreed to appoint a National Co-ordinating Council for Physical Fitness, under the Commonwealth Minister for Health, to effect collaboration of Commonwealth, State, and Local Government authorities in the movement. Meetings of this Council were held in January, May, and July, 1939. Meanwhile active State Councils had been formed in all States. As a result of the recommendations of the central Council, the Commonwealth Council agreed to make available an annual sum of £20,000 for five years and grants were allocated to each State for purposes of organization and to each of the six Australian Universities to establish lectureships in physical education. A meeting of representatives of the State Councils and the local State organizers was held at Canberra in May, 1940. The movement continues to develop and to gain public interest and support throughout the Commonwealth.

8. **The Pre-school Child.**—Sessions of the National Health and Medical Research Council and the reports of the Commonwealth Advisory Council on Nutrition have called attention to the need for greater effort throughout the Commonwealth directed towards the care of the growing child, especially during the pre-school period. Movements for the care of the infant and the welfare of the school child are already developed by State authorities as recorded in §§ 7 and 8 below. It was felt by the Commonwealth Government that more could be done for the child of the pre-school age, and it was decided to give a lead by making possible a demonstration of the possibilities of effort and of the practical methods which could be employed.

In pursuance of these objectives the Commonwealth Government therefore decided to establish in each capital city a pre-school demonstration centre, and in order to achieve the best results in association with those who have had experience in this field it has secured the co-operation of the federal organization of Kindergarten Unions which is operating under the title of "The Australian Association for Pre-School Child Development". A suitable piece of land was secured in each capital city and the building of the necessary school structure commenced. The administration of these buildings is under the direction of the local Kindergarten Union, but the employment of staff and the technical methods used are approved by the Commonwealth Department of Health. This applies in so far as the educational side is concerned, and in this field advantage will be taken of the opportunity to try new methods and to make systematic records of observations with the object of securing reliable knowledge of the educational technique of this pre-school period.

Along with this educational practice will proceed also the study of physiological requirements of the child and of the interaction between physical and mental health under varying conditions. In view of the importance, which has been indicated, of the study of growth and of nutrition of this age period, these centres will provide by reason of the children there available a considerable mass of human material for control and study. Not only will routine measurements be made of height, weight and other bodily data, but problems of nutrition will be studied in detail. The medical work at each of the States centres will be carried on on a uniform basis, according to a scheme formulated at, and directed from the Australian Institute of Anatomy, Canberra, where parallel investigations on the laboratory side are being undertaken.

9. **Organization for the Control of Cancer.**—The persistent increase in cancer mortality has led to the development in Australia of a national organization directed towards the control of this disease. The Commonwealth Department of Health has actively participated in this movement. Since 1928 the Australian Cancer Conferences, convened by the Department, have provided an opportunity each year for those actively engaged in the campaign against the disease to meet for the discussion of problems and the determination of lines of action and further development. The tenth conference in this series met in New Zealand in February, 1939, and so marked an association which has been maintained between the Commonwealth and the Dominion since the inception of the conferences.

A large amount of radium purchased in 1928 by the Commonwealth Government for use in treatment and research has been distributed on loan to treatment centres throughout Australia. Under the terms of this loan, treatment at well-equipped clinics is available to all requiring it, irrespective of ability to pay. This work is co-ordinated by the Department. Records of treatment and the results obtained are kept by all treatment centres on uniform lines and are collected and analysed. These records, in respect of certain parts of the body, are also collated in accordance with the international inquiry carried out under the auspices of the Cancer Commission of the Health Organization of the League of Nations in collaboration with the International Radiological Association.

Close co-operation is maintained between research workers, physicists and biochemists and the medical men engaged in the clinical investigation and treatment of the disease, so that problems are mutually investigated and treatment applied with the highest attainable degree of scientific accuracy.

Realizing the essential importance of accuracy in determining the quality of radiation used in the treatment of cancer and in measuring the dosage of this radiation actually delivered to the tumour, and the need for the investigation of physical problems in connexion with the utilization of X-rays and radium in the treatment of disease, the Commonwealth Department of Health has now extended the work of the Commonwealth Radium Laboratory, which was established in 1929, to include the investigation of the physical problems of radiation therapy generally. This laboratory which is now known as the Commonwealth X-ray and Radium Laboratory was established at the University of Melbourne by agreement with the Council of the University, and is maintained, controlled and staffed by the Commonwealth Department of Health. It is accommodated in a separate laboratory building of sixteen rooms specially designed for X-ray and radium work, and is well provided with all necessary equipment for research work, including a high tension generator capable of supplying 500,000 volts to an X-ray tube. This laboratory is actively at work and its specialist officers co-operate closely with the local physical services which are being developed at the Universities in the other capital cities of the Commonwealth. The laboratory also continues its earlier work of production of radon for treatment, the repair of radium apparatus, and research into problems of treatment and protection. During the year 1939 a total quantity of 49,664 millicuries of radon was prepared and issued by this laboratory and the associated centres in Sydney, Adelaide, Brisbane and Perth. Used in the treatment of cancer and for research purposes, this production represents a continuing increase over the output of previous years.

10. **Veterinary Hygiene and Plant Quarantine.**—In 1927 Directors were appointed to control divisions of the Commonwealth Department of Health, which have been created to deal with veterinary hygiene and plant quarantine.

## § 6. Control of Infectious and Contagious Diseases.

1. **General.**—The provisions of the various Acts in regard to the compulsory notification of infectious diseases and the precautions to be taken against the spread thereof may be conveniently dealt with under the headings—Quarantine; Notifiable Diseases, including Venereal Diseases; and Vaccination.

2. **Quarantine.**—The Quarantine Act is administered by the Commonwealth Department of Health, and uniformity of procedure has been established in respect of all vessels, persons and goods arriving from oversea ports or proceeding from one State to another, and in respect of all animals and plants brought from any place outside Australia. In regard to interstate movements of animals and plants, the Act becomes operative only if the Governor-General be of opinion that Federal action is necessary for the protection of any State or States; in the meantime the administration of interstate quarantine of animals and plants is left in the hands of the States. The Commonwealth possesses stations in each State for the purposes of human and of animal quarantine.

Further information concerning the chief provisions of the Act and its administration is given in some detail in earlier issues of the Official Year Book (see No. 22, p. 500).

3. **Notifiable Diseases.**—A. **General.**—(i) *Methods of Prevention and Control.* Provision exists in the Health Acts of all the States for the observance of precautions against the spread and for the compulsory notification of infectious disease. When any such disease occurs, the local authority must at once be notified, and in some States notification must be made to the Health Department also. The duty of giving this notification is generally imposed first, on the head of the house to which the patient belongs, failing whom on the nearest relative present, and, on his default, on the person in charge of or in attendance on the patient, and, on his default, on the occupier of the building. Any medical practitioner visiting the patient is also bound to give notice.

As a rule the local authorities are required to report from time to time to the Central Board of Health in each State as to the health, cleanliness and general sanitary state of their several districts, and must report the appearance of certain diseases. Regulations

are prescribed for the disinfection and cleansing of premises, and for the disinfection or destruction of bedding, clothing, or other articles which have been exposed to infection. Bacteriological examinations for the detection of plague, diphtheria, tuberculosis, typhoid and other infectious diseases within the meaning of the Health Acts are continually being carried out. Regulations are provided in most of the States for the treatment and custody of persons suffering from certain dangerous infectious diseases, such as small-pox and leprosy.

(ii) *Details by States.* In earlier issues of the Official Year Book (see No. 22, p. 501) information was given concerning the notification, etc., of diseases under State headings.

(iii) *Diseases Notifiable and Cases Notified in each State and Territory.* The following table, which has been compiled by the Commonwealth Department of Health, shows for the year 1939 the diseases which are notifiable in each State and Territory and the number of cases notified. Diseases not notifiable in a State or Territory are indicated by an asterisk.

**DISEASES NOTIFIABLE IN EACH STATE AND TERRITORY AND NOTIFICATIONS FOR THE YEAR ENDED 31st DECEMBER, 1939.**

Disease.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	Aust. Cap. Terr.	Aust.
Anchyllostomiasis ..	*	1	16	..	13	..	4	..	34
Anthrax ..	1	..	..	..	..	..	..	..	1
Beriberi ..	*	..	..	..	..	..	2	..	2
Bilharziasis ..	..	..	..	..	..	..	..	..	..
Cerebro-spinal Meningitis ..	22	14	7	1	..	2	1	..	47
Cholera ..	..	..	..	..	..	..	..	..	..
Coastal Fever(a) ..	..	..	3	..	..	..	..	..	3
Dengue ..	..	..	..	..	..	..	585	..	585
Diphtheria ..	4,101	1,617	1,014	643	595	365	..	3	8,338
Dysentery(b) ..	*	7	2	5	2	..	1	..	17
Encephalitis Lethargica ..	5	1	3	2	..	1	..	..	12
Erysipelas ..	..	..	..	96	..	..	1	..	97
Favus ..	..	..	..	..	..	..	..	..	..
Filariasis ..	..	..	..	..	..	..	..	..	..
Helminthiasis ..	..	1	..	..	..	..	..	..	1
Hydatid ..	..	10	..	..	..	..	..	..	10
Influenza ..	..	..	..	246	..	..	184	..	430
Leprosy ..	..	..	4	..	53	..	..	..	62
Malaria ..	..	3	5	2	..	..	5	..	12
Measles ..	..	..	..	6,157	..	..	2	572	6,731
Plague ..	..	..	..	..	..	..	..	..	..
Polio-myelitis ..	33	42	23	4	5	1	..	..	109
Pottacosis ..	..	2	..	1	..	..	1	..	3
Puerperal Fever ..	243	30	37	64	12	15	..	..	401
Scarlet Fever ..	3,188	3,020	359	525	205	162	..	23	7,482
Smallpox ..	..	..	..	..	..	..	..	..	..
Tetanus ..	..	10	..	..	1	..	..	..	11
Trachoma ..	..	7	..	..	..	..	..	..	7
Tuberculosis(c) ..	1,819	706	479	334	219	196	20	4	3,777
Typhoid Fever(d) ..	62	40	52	16	32	8	..	..	210
Typhus (Endemic)(e) ..	1	..	54	4	40	..	..	..	99
Undulant Fever ..	..	..	..	..	..	..	..	..	8
Varicella ..	3	4	..	1	..	..	12	..	12
Weil's Disease(f) ..	..	..	17	..	..	..	..	..	17
Whooping Cough ..	..	..	..	2,931	..	..	1	..	2,932
Yellow Fever ..	..	..	..	..	..	..	..	..	..

\* Not notifiable.

(a) Includes Mossman and Sarina Fever. (b) Includes amoebic and bacillary. (c) Includes all forms except in New South Wales and Northern Territory where only pulmonary tuberculosis is notified. (d) Includes enteric fever and paratyphoid. (e) Cases reported are all of the mild type known as Brill's disease or endemic typhus. (f) Includes Leptospires, Weil's and Para-Weil's disease.

**B. Venereal Diseases.**—(i) *General.* The prevention and control of venereal diseases are undertaken by the States. Each State has a Venereal Diseases Act, or provisions in the Health Act govern the working of the measures taken to combat these diseases. Under these Acts notification has been made compulsory in every State except South Australia, where the Venereal Diseases Act has not yet been proclaimed. Steps have

been taken to ensure free treatment by medical practitioners or in subsidized hospitals and clinics. Registered pharmaceutical chemists are allowed to dispense prescriptions only when signed by medical practitioners. Clinics have been established and, in some cases, beds in public hospitals have been set aside for patients suffering from these diseases.

Penalties may be imposed on a patient who fails to continue under treatment. Clauses are inserted in the Acts which aim at preventing the marriage of any infected person or the employment of an infected person in the manufacture or distribution of foodstuffs.

For several years the Commonwealth Government granted a subsidy to each of the States to assist in providing hospital treatment and administrative control of venereal diseases, but this subsidy has been discontinued.

In 1927 a Division of Tuberculosis and Venereal Disease was established in the Commonwealth Department of Health, with a medical officer as Director. This Division ceased to exist in April, 1932.

(ii) *Details by States.* A statement of the preventive provisions in each State together with certain statistical data, appeared in earlier issues of the Official Year Book (see No. 22, pp. 503-4).

4. **Vaccination.**—(i) *Demand for Vaccine.* In New South Wales there is no statutory provision for compulsory vaccination, though in all the other States such provision exists. Jennerian vaccine for vaccination against small-pox is prepared at the Commonwealth serum laboratories in Melbourne. A moderate demand exists for the vaccine in Victoria, but in the other States the normal requirements are small, as is also the proportion of persons vaccinated.

(ii) *Details by States.* In earlier issues of the Official Year Book (see No. 22, pp. 504-5) information was given concerning the provisions regarding vaccination in each State.

## § 7. Medical Inspection of School Children.

1. **General.**—Medical inspection of school children is carried out in all the States. Medical staffs have been organized, and in some States travelling clinics have been established to deal with dental and ocular defects.

2. **New South Wales.**—A complete system of medical inspection of school children came into operation in this State in 1913. The scheme includes, in country districts, the medical examination of every child at least twice during the usual period of school attendance (6-14 years). In the metropolitan area, the scheme provides for the full medical examination of all children in first and sixth classes, and the review of children in other classes who have been found defective in previous years. Parents are notified of the defects found, and urged to have them treated. In the metropolitan area, these notices are reinforced by "follow up" work of school nurses, who also arrange hospital and clinic treatment in many cases.

In 1939 the staff comprised 21 medical officers (including 2 psychiatrists for the Child Guidance Clinic, and 3 oculists), 18 dental officers, 8 dental assistants, 10 school nurses, 2 psychologists, 2 social workers and 6 clerical officers. Nine medical officers were engaged in country districts, and 9 in the metropolitan area, and of the 18 travelling dental clinics (8 of which were each staffed by a dental officer and dental assistant), 9 were engaged in metropolitan schools and 9 in country districts. One of the metropolitan officers was also engaged half-time at the clinic attached to the Out-patients' Department of the Royal Alexandra Hospital for Children.

Special attention is paid to the supervision of the health of High School pupils, both girls and boys, and High Schools in the metropolitan area, as well as certain country schools, are medically inspected annually.

Every student, before entering the Teachers' College, is medically examined, and any defects found must be remedied before final acceptance. Health supervision is maintained at these Colleges by women Medical Officers—whole-time at the Sydney College and part-time at the Armidale College. Also, a course of lectures on hygiene, which every student attends, is given by these officers assisted part-time at the Sydney College by two other medical officers.

The medical and psychological examination of delinquent boys brought before the Children's Court is carried out by a male Medical Officer, who examined 1,057 boys in 1938, and 970 in 1939. Similar examinations are made in the case of girl delinquents.

Towards the end of 1936 a Child Guidance Clinic was established by the Education Department. This Clinic functions as part of the School Medical Service, a psychiatrist having been appointed to take charge of the work of the clinic. Cases are referred through School Medical officers, teachers, and officers of the Child Welfare Department, no fee being charged for any examination. A second clinic was established during 1939.

The medical and/or psychological examination of many children referred from schools, also certain children under the jurisdiction of the Child Welfare Department, Widows' Pensions Branch (Family Endowment Department) and Soldiers' Children Education Board is also carried out by medical officers of this service, either at this Department or at Child Welfare Department institutions. The total examined in this way, including those examined at the Child Guidance Clinic, during 1939, was 1,905.

The following summary furnishes particulars of children medically examined in schools in 1939:—

Number fully examined (routine inspection)	..	..	81,493
Number reviewed	..	..	24,249
Of those examined—percentage notified for defects, medical and/or dental	..	..	39.24 per cent.

These figures do not include record of the medical examination and health supervision of children in residence at the Glenfield Special School for backward children, which is carried out by a woman medical officer; or a total of 205 children medically examined at Stewart House Preventorium and the Christmas Camp organized under the Far West Children's Health Scheme.

The School Medical Service carries out regular and/or periodical investigations into problems affecting the health of children, such as goitre, crippling, mental deficiency, stammering, left-handedness, nutrition, trachoma, acute rheumatism, and special investigations into outbreaks of infectious diseases occurring in schools. The sanitary condition of school buildings is also inspected and reported on.

The above statement does not include record of the numerous medical examinations of teachers, and other Departmental work of a medical nature, done by the School Medical Service.

3. **Victoria.**—Medical inspection of school children was established in 1909. One of the objectives of the system is to have each child medically examined once every three years in its school life. In 1925 the Department concentrated on country work, and medical inspection has been undertaken since that date in country and rural districts, reaching the most remote corners of the State. In spite of the comparatively small medical inspection staff, the plan for triennial visits to State schools is being fairly well maintained and all State High Schools, nearly all other State schools in the country, and some in the densely populated inner metropolitan area are visited once in three or four years. Only a few of the registered and institutional schools are, however, visited.

At the medical inspection every child is first weighed and measured, vision and hearing tested, then undressed to the waist and medically examined as for life assurance, but with a fuller investigation of many hygienic factors, which at that age greatly influence the health and growth of the child. Opportunity is also taken to teach the child healthy habits, how to correct faults, also to get its co-operation for the remedying of defects found. In schools with an attendance of 70 or more, the older boys are examined by a

medical man and the older girls by a medical woman. School nurses employed by the Department are devoted to "follow-up" work, *i.e.*, visiting the homes and getting treatment for children found defective by the school medical officers. Owing to the smallness of the staff their work is confined to the metropolitan area.

In addition to the medical examination, each child in those schools visited by the school dentist receives dental treatment on entrance to school (if under 8 years of age), and each year thereafter, until it is 12 years of age, when it is left dentally fit. The present staff is arranged so that 3 dentists and 4 dental attendants are always on duty at the Melbourne Dental Centre, where children from the inner metropolitan schools are brought by the teacher for dental treatment. Two dentists with dental attendants and equipment travel along the railway line far enough to give one year's work, using practically every town large enough to provide a day's work as a base. The school committees of the outlying schools are notified of the visit, and the parents are invited to bring to the base all children eligible for treatment, *i.e.*, all children under 8 years of age, and all other children treated by the school dentists on previous visits. The time of another dentist is fully occupied treating the children in the three largest country centres, Bendigo, Ballarat and Geelong. In each of these cities a centre with a dentist, dental attendant and equipment is established for about four months of the year, where children from the infant classes of the neighbouring schools are brought by the teacher or parents. Three dentists with dental attendants are in charge of three fully-equipped dental vans, each of which has an itinerary which it completes each year.

The staff of the medical branch consists of 7 full-time medical officers, 9 dentists, 10 dental attendants and 2 school nurses.

During the year ended 30th June, 1939, 33,332 children and 2,118 teachers were medically examined, and 32,145 children received dental treatment. In addition 7,828 homes were visited by the school nurses.

4. **Queensland.**—The School Health Services Branch, under the direction of the Chief Medical Officer, consists of three sections known as the Medical, Dental and Nursing Sections.

Medical inspection of schools and school children is carried out by one full-time medical officer and one part-time officer under the general direction of the Chief Medical Officer, School Health Services. These officers as far as possible, examine children for cardiac and pulmonary conditions, and in addition, make a thorough examination of all children referred to them by the school nurses; 3,559 were thus medically examined in 1939, and of these 1,408 were notified as suffering from some condition requiring correction.

The nurses now number fourteen. Each nurse is assigned a group of schools, and she is instructed to make a list at each school of those children who she considers should be seen by the medical inspector at his next visit. She supervises the sanitation, cleanliness and ventilation of the school and notifies the head teacher of all infectious or verminous children or those suffering from impetigo, scabies, etc., who are then excluded. During the year 1939, school nurses examined 31,354 children. In the metropolitan area the nurses examine the teeth and report all eligible carious cases to the Dental Hospital for treatment.

The Department has in its employ a staff of sixteen dentists. These officers are each assigned a district, and such district is not changed for three years unless for reasons which the Chief Medical Officer, on the recommendation of the Chief Dental Inspector, considers advisable. During the year 1939, 31,737 children were examined; 26,724 extractions were performed; and there were 57,784 fillings and 13,535 other treatments.

At the Wilson Ophthalmic School Hostel children suffering from trachoma are treated and educated. They are admitted from time to time on the recommendation of the part-time Ophthalmic Officer. Beneficial results have already been obtained. The Institution is situated at Eildon Hill, Windsor, and is fully equipped to treat all types of eye case.

The work of Hookworm Control (the dealing with *ankylostomiasis duodenale* and *Necator Americanus* infestation) throughout the State is under the control of the Director-General of Medical Services and his deputy. This activity has resulted in a marked reduction in the incidence of this dangerous menace on the northern coastal belt. Several sisters of the School Health Services are seconded for hookworm duty. The personnel consists of a microscopist, a health inspector and two trained sisters.

In order to give the same medical and dental facilities to the children of the back country as are obtainable by city dwellers, a Rail Dental Clinic equipped on the most modern lines has been constructed. A motor car is carried on a railway wagon on the rear for use at each stopping place to visit the surrounding villages served by the rail centre. Two road motor clinics have also been provided. One functions in the south-western portion of the State with Charleville as a base, while the other operates in the central-west and the north-western territory using Longreach as the centre. The staff of each clinic consists of one qualified dental surgeon and one motor mechanic.

5. **South Australia.**—The system of medical inspection in force requires the examination of all children attending primary, junior technical, high and technical high schools. Children in the primary schools are examined in grades I., IV. and VII. ; in the junior technical schools in grade X., while high school children are examined in their second and fourth years. Reports are furnished to the parents of any remediable defects found during these examinations. The medical inspectors meet the parents after the examination of the children and give an address on the prevention and treatment of the conditions which were found during the inspection. After these lectures the parents are given an opportunity to ask questions regarding their children. When there is an epidemic or a threatened epidemic in a district, similar lectures are given and special visits paid to all the schools in that locality. All students are examined before they enter the Teachers' College. Courses of lectures in Hygiene and in First Aid are given to these students.

The medical staff consists of a principal medical officer, two medical inspectors and a trained nurse. A psychologist, two dentists, two dental assistants and a speech therapist are attached to the Medical Branch. The psychologist, in addition to examining retarded children and supervising their work in the opportunity classes, lectures to the students at the Teachers' College, and examines children referred to her by the Children's Court, by the Women Police, or by the Children's Welfare Department, &c. The speech therapist examines children with defective speech, ascertains the nature of the defect and teaches the child to overcome it.

During the year 1939, 12,886 children were examined by medical inspectors ; of these 487 required notices for defective vision, 54 for defective hearing, and 1,157 for tonsils and adenoids. Six hundred and ninety-seven children were examined by the psychologist.

6. **Western Australia.**—Under the Public Health Act 1911–1935 the medical officers of health appointed by the local authorities became medical officers of schools and of school children. The principle aimed at is that each child shall be examined twice during its school life, once between the ages of 7 and 8 years and again between the ages of 12 and 13 years. In the Health Department there are two full-time medical officers for schools, whose duty is to conduct medical examinations, and two school nurses are employed. During 1939, 13,241 (8,358 country and 4,883 metropolitan) children were examined. In addition 644 metropolitan and 23 country school children were re-examined. There were 57 schools visited in the metropolitan area and 175 in country districts.

Four dental officers visited 105 schools and gave attention to 5,009 children.

7. **Tasmania.**—Tasmania was the first State in Australia to provide for the medical inspection of State school children, its system of inspection having been initiated in 1906. During the year 1931, however, for financial reasons, medical inspection ceased, and the services of all doctors were terminated. School medical and dental services are now controlled by the Department of Public Health.

At the present time (1940), one part-time medical officer conducts examinations of school children in Hobart, and fifteen full-time Government Medical Officers examine school children in the various country districts. In addition four nurses visit the homes to advise the parents as to the treatment of defects disclosed by the medical examination. There are seven full-time dental inspectors and seven dental attendants—working at dental clinics in Hobart and Launceston, and visiting the country schools.

8. Australian Capital Territory.—By arrangement education facilities are provided by the Education Department of New South Wales. The Commonwealth Department of Health, however, took over from the State in 1930 the medical inspection of school children and carried out examinations of entrants and those leaving during 1930.

Subsequent to 1931, examinations of entrants and those leaving the primary schools have taken place. During 1937 this examination was supplemented by examinations of all pupils of all rural schools (including Duntroon and Molonglo). During 1939 the examinations of entrants and those leaving the primary schools showed that 47.3 per cent. had dental defects, 9.8 per cent. had some pathological condition of the nasopharynx, 6.6 per cent. had eye defects, 8.8 per cent. had ear defects, 4.9 per cent. showed some evidence of minor deformity, and 3.5 per cent. were 10 per cent. or more underweight for their height and age. Of the pupils recommended for medical advice 61 per cent. received this advice, and 60.4 per cent. of those recommended for dental treatment received such treatment.

### § 8. Supervision and Care of Infant Life.

1. General.—The number of infantile deaths and the rate of infantile mortality for the last five years are given in the following table, which shows that during the period 1935 to 1939 no less than 22,991 children died in Australia (excluding Territories) before reaching their first birthday. With few exceptions the rate of mortality in the metropolitan area is consistently greater than that for the remainder of the State. Further information regarding infantile mortality will be found in Chapter XXI. "Vital Statistics" :—

#### INFANTILE DEATHS AND DEATH RATES.

State.	Metropolitan.					Remainder of State.				
	1935.	1936.	1937.	1938.	1939.	1935.	1936.	1937.	1938.	1939.

#### NUMBER OF INFANTILE DEATHS.

New South Wales	602	738	702	712	667	1,160	1,270	1,230	1,268	1,302
Victoria ..	570	605	538	510	494	578	617	553	528	591
Queensland ..	190	185	201	215	181	469	494	482	569	541
South Australia ..	133	123	134	124	161	156	154	163	163	175
Western Australia	139	156	154	115	148	187	202	169	194	221
Tasmania ..	72	53	43	48	83	159	174	159	147	120
Australia(a) ..	1,706	1,860	1,772	1,724	1,734	2,709	2,911	2,756	2,869	2,950

#### RATE OF INFANTILE MORTALITY.(b)

New South Wales	35.61	41.73	38.66	38.35	34.51	41.77	44.56	41.92	44.10	45.41
Victoria ..	43.01	44.06	37.13	34.16	32.15	39.51	40.72	36.28	34.22	39.07
Queensland ..	42.41	37.95	40.21	42.36	33.93	35.51	35.59	34.03	40.89	36.04
South Australia ..	35.11	28.62	30.94	27.36	34.82	34.81	33.38	35.02	33.42	35.05
Western Australia	40.05	44.21	42.40	29.76	37.98	40.23	40.81	33.96	36.76	42.97
Tasmania ..	73.47	50.48	39.74	40.03	47.09	45.74	49.28	42.30	39.64	38.58
Australia(a) ..	39.79	41.09	37.95	35.80	34.31	39.78	41.21	38.13	39.90	40.89

(a) Exclusive of Territories.

(b) Number of deaths under one year per 1,000 births registered.

During recent years greater attention has been paid to the fact that the health of the community depends largely on pre-natal as well as after care in the case of mothers and infants. Government and private organizations, therefore, provide instruction and treatment for mothers before and after confinement, while the health and well-being of mother and child are looked after by the institution of baby health centres, baby clinics, crèches, visits by qualified midwifery nurses, and special attention to the milk supply, etc.

2. **Government Activities.**—In all the States acts have been passed with the object of supervising and ameliorating the conditions of infant life and reducing the rate of mortality. Government Departments control the boarding-out to suitable persons of the wards of the State, and wherever possible the child is boarded-out to its mother or near female relative. Stringent conditions regulate the adoption, nursing and maintenance of children placed in foster-homes by private persons, while special attention is devoted to the welfare of ex-nuptial children. (See also in this connexion Chapter VIII. "Public Benevolence".) Under the provisions of the Maternity Allowance Act 1912-1937, a sum of £4 10s. is payable to the mother in respect of each confinement at which a living or viable child is born, provided the total income of the claimant and her husband for the period of twelve months preceding the date of the birth did not exceed £247. Where there are already one or two children under 14 the amount payable is £5, with an income limit of £263, and where there are three or more other children under 14 the amount payable is £7 10s. with an income limit of £338. Further particulars regarding Maternity Allowances are given in Chapter XXVI. "Public Finance".

3. **Nursing Activities.**—(i) *General.* In several of the States the Government maintains institutions which provide treatment for mothers and children, while, in addition, subsidies are granted to various associations engaged in welfare work.

(ii) *Details of Institutions.* In earlier issues of the Official Year Book (see No. 22, pp. 515 and 516) information is given, with certain statistical data, concerning the activities of institutions in each State which may be found.

(iii) *Summary.* The following table gives particulars of the activities of the Baby Health Centres and the Bush Nursing Associations :—

#### BABY HEALTH CENTRES AND BUSH NURSING ASSOCIATIONS, 1939.

Heading.	New South Wales.	Victoria. (a)	Queensland. (a)	South Australia.	Western Australia. (a)	Tasmania.	Aust. Capital Territory. (a)	Total.
<b>Baby Health Centres—</b>								
Metropolitan No.	57	72	21	43	13	2	..	208
Urban-Provincial and Rural No.	154	135	101	24	11	22	9	456
<b>Total No.</b>	<b>211</b>	<b>207</b>	<b>122</b>	<b>67</b>	<b>24</b>	<b>24</b>	<b>9</b>	<b>664</b>
<b>Attendances</b>								
Centres .. at	852,422	520,819	241,911	116,397	95,406	39,241	3,574	1,869,770
Visits paid by Nurses .. No.	72,597	73,490	13,601	23,210	17,970	15,315	1,676	217,859
<b>Bush Nursing Association—Number of Centres ..</b>	<b>46</b>	<b>70</b>	<b>12</b>	<b>32</b>	<b>6</b>	<b>18</b>	<b>..</b>	<b>184</b>

(a) Year ended 30th June.

The number of attendances at the Baby Health Centres has increased very considerably in recent years. The following are the figures for the years 1934 to 1938 :—1934, 1,178,957; 1935, 1,355,306; 1936, 1,512,198; 1937, 1,657,052; and 1938, 1,597,124.