

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 to 495).

§ 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 assuring 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. 495-497.

§ 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, 1938.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust. (a)	Tasmania.
Premises registered ..	21,387	25,005	29,226	13,281	377	8,485
Cows in milk thereon ..	660,167	550,997	691,945	104,767	10,697	(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 sixth session met at Adelaide in May, 1939.

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 23. During the year 1938, grants numbered 41 in the following fields: bacteriology, biochemistry, clinical medicine, dentistry, epidemiology, experimental pathology, industrial hygiene, leprosy, obstetrics, ophthalmology, physiology and pharmacology, poliomyelitis, 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 Advisory Council on Nutrition.

During 1935, Australian delegates to the Assembly of the League of Nations and the International Labour Conference were largely instrumental in inspiring a concerted international inquiry into world-wide problems of nutrition, with a view to improving the public health by greater consumption of protective foods for the prevention of malnutrition and the benefit of agriculture. Within Australia itself, in 1936, the Commonwealth Government appointed a Commonwealth Advisory Council of Nutrition, under the chairmanship of the Commonwealth Director-General of Health, and composed of experts representing health and agricultural interests, the Commonwealth Council for Scientific and Industrial Research, the University medical schools and the practising medical and dental professions.

The inquiries of this Council proceeded along two main lines of activity, a survey of household dietaries in Sydney, Melbourne, Brisbane, Adelaide and Perth, and a survey of the nutritional state of children in inland areas. The statistical compilation of the records obtained and parallel work of chemical analysis were carried out by the special technical staff at the School of Public Health and Tropical Medicine, Sydney. The local organization of the inquiry was furthered by the appointment of State committees. Five progress reports were published and a final report was presented in September, 1938. This report reviewed in comprehensive detail the work and recommendations of the Council.

Having completed this inquiry in accordance with its terms of reference, the Council disbanded, with definite proposals for future effective work in this field. In accordance with these proposals, a specialist nutrition committee has been appointed to co-ordinate Australian activities in relation to the National Health and Medical Research Council. Research work into nutritional aspects of the growing child is a feature of the activities of the Australian Institute of Anatomy at Canberra, and this work is being done in close association with the development of kindergarten schools throughout Australia.

§ 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 overseas 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 (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 Year Books (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 1938 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, 1938.**

Disease.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	Aust. Cap. Ter.	Aust.
Anchylostomiasis	..	..	10	..	..	..	4	..	14
Anthrax	..	..	..	1	..	..	..	..	1
Beri-Beri	..	..	..	..	..	..	5	..	5
Bilharziasis	..	..	..	..	..	..	..	..	..
Cerebro-spinal Meningitis	22	17	2	..	..	3	..	1	45
Cholera	..	..	..	..	..	..	..	..	..
Coastal Fever (a)	..	..	6	..	..	..	..	..	6
Dengue	..	..	..	..	..	..	115	..	115
Diphtheria	3,944	1,824	993	779	921	343	..	27	8,831
Dysentery (b)	..	4	5	8	4	2	2	..	25
Encephalitis Lethargica	..	1	3	1	1	..	..	..	18
Erysipelas	..	..	..	81	..	..	..	..	81
Favus	..	..	..	..	..	..	..	..	..
Filariasis	..	..	2	..	..	..	..	..	2
Helminthiasis	..	..	..	..	..	..	..	..	..
Hydatid	..	19	..	..	..	..	..	..	19
Influenza	..	..	..	42	..	..	136	..	178
Leprosy	..	..	5	..	..	..	7	..	12
Malaria	..	2	..	1	..	..	1	..	6
Measles	..	..	..	85	..	..	15	3	103
Plague	..	..	..	..	..	..	..	..	..
Polio-myelitis	687	807	162	284	47	707	1	3	2,698
Psittacosis	..	2	..	..	..	..	..	..	2
Puerperal Fever	258	37	37	55	29	14	..	..	430
Scarlet Fever	2,588	1,714	455	500	551	123	..	1	5,932
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	10	..	..	..	..	..	..	10
Trachoma	..	41	..	..	..	..	..	..	41
Tuberculosis (c)	1,797	728	311	308	247	173	6	2	3,572
Typhoid Fever (d)	89	40	101	33	37	15	..	..	315
Typhus (Endemic) (e)	6	..	50	8	38	..	..	..	102
Undulant Fever (f)	..	5	..	..	..	..	..	..	5
Variocella	..	..	..	..	..	..	9	..	9
Weil's Disease	..	..	8	..	..	..	..	..	8
Whooping Cough	..	..	..	184	..	..	1	63	248
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) Notifiable in South Australia since 8th September, 1938.

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 Year Books (see No. 22, pp. 503 and 504).

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 Year Book (see No. 22, pp. 504 and 505) information was given concerning the provisions regarding vaccination in each State.

5. **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 list of biological preparations produced by the laboratories has been extended to cover a wide range, thus forming a valuable national provision for the protection of public health.

6. **Health Laboratories.**—The Commonwealth Department of Health has established health laboratories at Rabaul in New Guinea, at Lismore in New South Wales, at Bendigo in Victoria, at Townsville, Toowoomba, Rockhampton and Cairns in Queensland, at Port Pirie in South Australia, at Kalgoorlie and Broome in Western Australia, at Launceston in Tasmania and at Darwin in the Northern Territory.

The laboratory at Rabaul, which until 1930 was carried on in conjunction with the hookworm campaign, and was working in close co-operation with the health organization of the New Guinea Administration, was formally transferred to the Administration at the beginning of 1930.

The Bendigo Laboratory, which was the first of these laboratories to be established, was opened in 1922. Besides carrying on the ordinary diagnostic and educational work of a health laboratory it possesses an X-ray equipment, and undertakes the examination, diagnosis and treatment of persons suffering from miner's disease and tuberculosis.

By arrangements between the Commonwealth and Western Australian Governments a special medical survey of persons engaged in the mining industry in Western Australia was carried out in 1925-26 by the Commonwealth Health Laboratory at Kalgoorlie. A further arrangement provided for the re-examination annually of mine employees in the Kalgoorlie district, and, by means of a mobile X-ray unit, in outlying districts. This work is still being carried out.

7. **Industrial Hygiene.**—The Industrial Hygiene Division of the Commonwealth Department of Health was established in December, 1921. Its objects were the collection of reliable data, the investigation of industrial conditions affecting health, and the issue of advice to employers and employees for the improvement of conditions of work and for the safeguarding of health. Publications were issued dealing with the scope of industrial hygiene and with health hazards in industry. With a view to the adoption of a concerted scheme of action and a uniform basis for standards and records throughout Australia, conferences of delegates from the State Health and Labour Departments and the Commonwealth Department of Health were held in 1922, 1924 and in 1927. This Division ceased to exist with the reorganization of the Department in April, 1932.

A special article entitled "Industrial Hygiene in Australia" will be found in Official Year Book No. 18, pp. 522 to 555.

8. **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.

§ 7. Tropical Diseases.

1. **General.**—The remarkable development of parasitology in recent years, and the increase in knowledge of the part played by parasites in human and animal diseases, have shown that the difficulties in the way of tropical colonization, in so far as these arise from the prevalence of diseases characteristic of tropical countries, are largely removable by preventive and remedial measures. Malaria and other tropical diseases are coming more and more under control, and the improvements in hygiene and the production of new synthetic drugs for treatment which science has accomplished, have resulted in a new outlook on the question of white settlement in countries formerly regarded as unsuitable for colonization by European races. In Australia the most important aspect of this matter is at present in relation to such diseases as hookworm, filariasis, dengue fever and malaria, which, although practically unknown in southern Australia, occur in many of the tropical and sub-tropical parts.

A Division of Tropical Hygiene of the Commonwealth Department of Health was established to deal with these diseases and other aspects of tropical hygiene. This Division ceased to exist as such with the reorganization of the Department in April, 1932.

2. **Transmission of Disease by Mosquitoes.**—Information under this heading has appeared in earlier issues (see No. 22, pp. 506 and 507).

3. **Control of Introduced Malaria and Bilharziasis.**—Reference to this subject may be found in earlier Year Books (see No. 22, p. 507).

4. **Hookworm.**—Reference to this subject may be found in earlier Year Books (see No. 25, pp. 416 and 417).

5. **Australian Institute of Tropical Medicine.**—The Australian Institute of Tropical Medicine was founded at Townsville in January, 1910. From 7th March, 1921, to 3rd March, 1930, when it was merged in the School of Public Health and Tropical Medicine, Sydney University, the Institute was administered by the Commonwealth Department of Health, and a full account of its activities from its foundation up to 1922 will be found in Official Year Book No. 15, pp. 1010–1012.

6. **School of Public Health and Tropical Medicine, Sydney University.**—The Commonwealth Government, under an agreement with the Sydney University, established a School of Public Health and Tropical Medicine at the Sydney University 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 have been 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 service and missionaries. Three classes of native medical assistants from Papua have attended a special course of instruction at the School.

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 Year Books (see No. 29, p. 334).

7. **Royal Commission on National Health, etc.**—Information concerning the following subjects may be found in previous Year Books (see No. 22, pp. 509 and 510):—(a) Royal Commission on National Health appointed by the Commonwealth Government in 1924; (b) Travelling Study Tours under the League of Nations; (c) International Sanitary Convention; and (d) Far Eastern Epidemiological Bureau, Singapore.

8. **International Pacific Health Conferences, 1926 and 1935.**—In Official Year Books No. 22, page 510, and No. 29, page 334, information was given relating to the First International Pacific Health Conference which met at Melbourne in December, 1926 and the second Conference convened by the Commonwealth Government at Sydney in September, 1935.

§ 8. 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 1938 a total quantity of 48,803 millicuries of radon was prepared and issued by this laboratory and the associated centres in Sydney, 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.

§ 9. 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 1938 the staff comprised 19 medical officers (including a psychiatrist for the Child Guidance Clinic, and an oculist), 18 dental officers, 8 dental assistants, 12 school nurses, 1 psychologist, 1 social worker and 6 clerical officers. Eight 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.

The medical and psychological examination of delinquent boys brought before the Children's Court is carried out by a male Medical Officer, who examined 906 boys in 1937, and 1,057 in 1938. 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.

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 1938, was 1,662.

The following summary furnishes particulars of children medically examined in schools in 1938:—

Number fully examined (routine inspection)	..	..	45,669
Number reviewed	..	..	23,597
Of those examined—percentage notified for defects, medical and/or dental	..	..	37.44 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 210 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. A special physical and orthopaedic survey was carried out in 1938. 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.**—The system adopted provides for the medical examination of each child once every three years during its school life. With the doubling of the medical staff 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. Medical inspection is now undertaken in all high schools, in practically all country State schools, and in about half of the metropolitan State schools, but in only a few of the registered and institutional schools.

Each school is visited once in every three years, and each child examined. At this 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 infant classes in 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, 1938, 26,736 children and 1,301 teachers were medically examined, and 26,534 children received dental treatment. In addition 2,207 homes were visited by the school nurses. The number of children examined in 1937-38 was less than usual owing to the poliomyelitis epidemic.

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; 4,143 were thus medically examined in 1938, and of these 1,962 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 1938, school nurses examined 28,008 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 1938, 29,724 children were examined; 31,143 extractions were performed; and there were 59,886 fillings and 20,415 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 five 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 waggon at 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, central, high and technical high schools. Children in the primary schools are examined in grades I., IV. and VII.; in the central 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 and two dental assistants 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, etc.

During the year 1938, 7,112 children were examined by medical inspectors; of these 183 required notices for defective vision, 37 for defective hearing, and 342 for tonsils and adenoids. Three hundred and sixty-nine 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 1938, 10,099 (8,286 country and 1,813 metropolitan) children were examined. In addition 1,487 metropolitan and 51 country school children were re-examined. There were 37 schools visited in the metropolitan area and 263 in country districts.

Three dental officers visited 57 schools and gave attention to 4,270 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 (1938), two part-time medical officers conduct examinations of school children in Hobart and Launceston, and ten 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 six full-time dental officers—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 1938 the examinations of entrants and those leaving the primary schools showed that 49.3 per cent. had dental defects, 8.5 per cent. had some pathological condition of the nasopharynx, 4.7 per cent. had eye defects, 5.2 per cent. had ear defects, 5.6 per cent. showed some evidence of minor deformity, and 2.4 per cent. were 10 per cent. or more underweight for their height and age. Of the pupils recommended for medical advice 60 per cent. received this advice, and 63.7 per cent. of those recommended for dental treatment received such treatment.

§ 10. 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 1934 to 1938 no less than 22,859 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 XIII. "Vital Statistics" :—

INFANTILE DEATHS AND DEATH RATES.

State.	Metropolitan.					Remainder of State.				
	1934.	1935.	1936.	1937.	1938.	1934.	1935.	1936.	1937.	1938.
NUMBER OF INFANTILE DEATHS.										
New South Wales	732	602	738	702	713	1,277	1,160	1,270	1,230	1,268
Victoria ..	637	570	605	538	510	605	578	617	553	528
Queensland ..	181	190	185	201	215	524	469	494	482	569
South Australia ..	151	133	123	134	124	150	156	154	163	163
Western Australia	136	139	156	154	115	183	187	202	169	194
Tasmania ..	45	72	53	43	48	144	159	174	159	147
Australia (b) ..	1,882	1,706	1,860	1,772	1,724	2,883	2,709	2,911	2,756	2,869
RATE OF INFANTILE MORTALITY. (a)										
New South Wales	44.26	35.61	41.73	38.66	38.35	47.65	41.77	44.56	41.92	44.10
Victoria ..	48.42	43.01	44.06	37.13	34.19	41.24	39.51	40.72	36.28	34.22
Queensland ..	42.36	42.41	37.95	40.22	42.36	40.04	35.51	35.59	34.03	40.89
South Australia ..	39.89	35.11	28.62	30.94	27.36	32.09	34.81	33.38	35.02	33.42
Western Australia	41.25	40.05	44.21	42.40	29.76	40.63	40.23	40.81	33.96	36.76
Tasmania ..	40.54	73.47	50.48	39.74	43.32	42.80	45.74	49.28	42.30	37.40
Australia (b) ..	44.64	39.90	41.18	37.95	36.00	42.97	39.71	41.20	38.21	39.81

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

(b) Exclusive of Territories.

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 XXVII. "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 by States.* In earlier issues of the Year Book (see No. 22, pp. 515 and 516) information, with certain statistical data, concerning the activities of institutions in each State 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, 1938.

Heading.	New South Wales.	Victoria. (a)	Queens-land. (a)	South Australia.	Western Australia. (a)	Tasmania.	Aust. Capital Territory. (a)	Total.
Baby Health Centres—								
Metropolitan No.	53	71	16	41	13	2	..	196
Urban-Provincial and Rural No.	147	104	88	23	11	22	8	403
Total No.	200	175	104	64	24	24	8	599
Attendances at Centres ..	790,450	361,187	213,453	100,256	87,331	39,241	5,206	1,597,124
Visits paid by Nurses ..	68,906	89,821	12,252	23,943	18,279	15,315	2,384	230,900
Bush Nursing Association—Number of Centres ..	52	71	13	30	6	18	..	190

(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 1933 to 1937 :— 1933, 1,232,887 ; 1934, 1,178,957 ; 1935, 1,355,306 ; 1936, 1,512,198 ; and 1937, 1,657,052.