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CHAPTER XII.

PUBLIC HYGIENE.

§ 1. Public Health Legislation and Administration.

1. **General.**—(i) *Commonwealth.* The Commonwealth Department of Health, which was created on the 3rd March, 1921, and commenced its administration as from the 7th March, 1921, is controlled by the Commonwealth Minister for Health. The Department was formed by the extension and development of the Commonwealth Quarantine Service, the Director of Quarantine becoming the Commonwealth Director-General of Health and Permanent Head of the Department.

The functions of the Department are as follows :—

The administration of the Quarantine Act : The investigation of causes of disease and death and the establishment and control of laboratories for this purpose : The control of the Commonwealth Serum Laboratories and the commercial distribution of the products manufactured in those laboratories : The methods of prevention of disease : The collection of sanitary data, and the investigation of all factors affecting health in industries : The education of the public in matters of public health : The administration of any subsidy made by the Commonwealth with the object of assisting any effort made by any State Government or public authority directed towards the eradication, prevention, or control of any disease : The conducting of campaigns of prevention of disease in which more than one State is interested : The administrative control of the Australian Institute of Tropical Medicine : The administrative control of infectious disease amongst discharged members of the Australian Imperial Forces : The study of the behaviour of communicable diseases throughout the world and acting as an intelligence bureau for the collection and dissemination of information : The control of venereal disease and infectious diseases in the Mercantile Marine : The inspection of vessels, and the medical inspection of seamen under the Navigation Act : The control of the importation of food and drugs under the Commerce Act : Generally to inspire and co-ordinate public health measures : Any other functions which may be assigned to it.

As noted above, the Department controls the Australian Institute of Tropical Medicine at Townsville, and it directs the campaign in connexion with hookworm disease. These matters, together with the control exercised by the Department over malaria and bilharziasis introduced by returned soldiers and sailors, are dealt with separately in subsequent pages in this chapter (see § 5). Reference to the Commonwealth Serum Laboratories will be found in § 4, 5.

(ii) *New South Wales.* The Department of Public Health is controlled by the Minister of Public Health. The Director-General of Public Health is the chief executive officer, and is assisted by various staffs—medical, bacteriological, chemical, veterinary, dairy inspection, meat inspection, sanitary, pure food, and clerical. The work of the Department extends over the whole of the State, and embraces all matters relating to public health and the general medical work of the Government, the Director-General of Public Health holding the position of Chief Medical Officer of the Government as well as being permanent head of the Department.

The Board of Health has certain statutory duties imposed upon it by various Acts of Parliament, and the Director-General is President of the Board. These duties consist largely in supervision of the work of local authorities (Municipal and Shire Councils), so far as that work touches upon public health matters connected with the following Acts :—Public Health Act 1902, Public Health (Amendment) Acts 1915 and 1921, Dairies Supervision Act 1901, Noxious Trades Act 1902, Cattle Slaughtering and Diseased Animals and Meat Act 1902, Pure Food Act 1908, Private Hospitals Act 1908, and Venereal Diseases Act 1918. The Board further possesses certain powers connected with public health matters under the Local Government Act 1919. The Board of Health is a nominee Board, created in 1881 and incorporated in 1894.

The Director-General of Public Health acts independently of the Board of Health as regards the State hospitals and asylums and the various public hospitals throughout the State which receive subsidies from the Government.

(iii) *Victoria.* In this State the Public Health Acts 1915, 1919, and 1922 are administered by a Commission composed of the Chief Health Officer and six members appointed by the Governor-in-Council. The medical and sanitary staffs of the Commission consist of (*a*) the chief health officer, who is also chairman, (*b*) six district health officers and three assistant health officers, (*c*) chief sanitary engineer and assistant sanitary engineer, three building surveyors and four building inspectors, and (*d*) twelve health inspectors. The main function of the Commission is to enforce the execution of the Health Acts by the local municipalities, but it has been found advisable to supplement this supervisory function by an active policy of inspection of the sanitary condition of various districts, and the sampling of articles of food. The supervision of the sanitary conditions of milk production is under the Dairy Supervision Branch of the Department of Agriculture, but distribution is supervised by the Commission. Acts administered by the Department of Public Health are :—The Health Acts (in which are now included the Adulteration of Wine Act, the Pure Food Act, the Meat Supervision Act) and the Cemeteries Act, which includes the Cremation Act. The Department administers also the Midwives Act, the Goods Act, the Venereal Diseases Act, the Infectious Diseases Hospital Act, the Heatherton Sanatorium Act, the Masseurs Act, and the Nurses Registration Act.

(iv) *Queensland.* The Public Health Acts 1900 to 1922 are administered by the Commissioner of Public Health under the Home Secretary. The executive staff of the Department includes a health officer, a medical officer for the tuberculosis bureau, four part-time medical officers for venereal diseases, twelve food and sanitary inspectors, and one staff nurse. There is, in addition, a rat squad in Brisbane. Northern offices, in charge of inspectors, are located at Rockhampton, Townsville, Cairns, Mackay and Cloncurry, whilst inspectors are stationed at Toowoomba and Charleville. A laboratory of microbiology, in charge of a bacteriologist, is controlled by the Department, and performs a wide range of microbiological work for the assistance of medical practitioners and the Department.

One function of the Department is to stimulate and advise local sanitary authorities on matters pertaining to the Health Acts, and, where necessary, to rectify or compel rectification, at the cost of the local authority, of sanitary evils produced by local inefficiency or apathy. Its powers and responsibilities were widely increased by the Amending Acts of 1911, 1914, 1917, and 1922.

(v) *South Australia.* The Central Board of Health consists of five members, three of whom (including the chairman, who is permanent head of the Department) are appointed by the Governor, while one each is elected by the city and suburban local Boards and the country local Boards. The Health Act 1898 to 1925 provides that the municipal and district councils are to act as local Boards of Health for their respective districts. There are 197 of these local Boards under the general control and supervision of the Central Board. A chief inspector and one inspector under the Health and Food and Drugs Acts periodically visit the local districts, and see generally that the Boards are carrying out their duties. There is also a chief inspector of food and drugs (under the Food and Drugs Act 1908 to 1926), who, in company with an analyst visits country districts, and takes samples of milk, which are analysed on the spot. There are three nurse inspectors employed in advising and assisting local Boards in connexion with outbreaks of infectious diseases and in carrying out generally similar duties to those of male inspectors, with the exception of certain work under the Food and Drugs Act. In the outlying districts there are fifteen inspectors directly responsible to the Board. The Venereal Diseases Act 1920, which provides for the prevention and control of venereal diseases, has not yet been proclaimed.

(vi) *Western Australia.* The legislation in this State comprises the Health Act 1911, with the amending Acts of 1912 (2), 1915, 1918, and 1919, which have been partly consolidated and reprinted as " The Health Act 1911–19." Further amending Acts were passed in 1920, 1921 and 1926. The central authority is the Department of Public Health, controlled by a Commissioner, who must be a qualified medical practitioner. The local

authorities comprise :—(*a*) Municipal Councils, (*b*) Road Boards where the boundaries of a Health District are conterminous with those of a Road District, and (*c*) Local Boards of Health, composed of persons appointed by the Governor. These local Boards are utilized only where neither Municipal Councils nor Road Boards are available. Generally speaking, the Act is administered by the local authorities, but the Commissioner has supervisory powers, also power to compel local authorities to carry out the provisions of the Act. In cases of emergency, the Commissioner may exercise all the powers of a local health authority in any part of the State.

All the usual provisions for public health legislation are contained in the Act, and, in addition, provision is made for the registration of midwifery nurses, the medical examination of school children, the control of public buildings (*i.e.*, theatres, halls, etc.), the control of food, and the provision of standards therefor. The amending Acts of 1915 and 1918 deal exclusively with venereal diseases.

(vii) *Tasmania.* The office of Director of Public Health was established under the Director of Public Health Act 1920, and the person holding the office of Chief Health Officer under the Public Health Act 1903 at the time of the passing of the first-named Act is the Director of Public Health, and is also the permanent head of the Department. The Director has very wide powers, and in the event of the appearance of dangerous infectious disease (small-pox, plague, etc.) in the State, is vested with supreme power, the entire responsibility of dealing with such an outbreak being taken over by him from the local authorities. Local executive is vested in local authorities, who possess all legal requirements for the efficient sanitary regulation of their districts. Controlling and supervisory powers over these bodies are possessed by the Department of Public Health, and many of the powers conferred upon them may be converted into positive duties. One function of the Department is to advise local authorities on matters pertaining to the Health Act, and, where necessary, to rectify sanitary evils produced by local inefficiency or apathy. The Department has three full-time inspectors, who assist and instruct the local sanitary inspectors, but full-time district health officers are not provided for. The number of local authorities under the Public Health Act has been reduced to forty-nine since the Local Government Act 1906 came into force. All parts of Tasmania are now furnished with the administrative machinery for local sanitary government.

The Public Health Acts 1917 and 1918 deal with venereal diseases. Regulations under the Public Health Act 1903, as amended, for checking or preventing the spread of any infectious disease, came into force in February, 1918.

The Places of Public Entertainment Act 1917 is administered by the Director of Public Health under the Minister. This Act provides, *inter alia*, for the licensing and regulation of places of public entertainment, for the appointment of a censor or censors of moving pictures, and for the licensing of cinematograph operators. Comprehensive regulations have been framed under the Act. Inspectors under the Public Health Act 1903, are Inspectors of Places of Public Entertainment under this Act.

§ 2. Inspection and Sale of Food and Drugs.

1. **General.**—Under the Acts referred to later, and the regulations made thereunder, the importation of articles used for food or drink, of medicines, and of other goods enumerated, is prohibited, as also is the export of certain specified articles, unless there is applied to the goods a "trade description" in accordance with the Act. Provision is made for the inspection of all prescribed goods which are imported or which are entered for export.

2. **Commonwealth Jurisdiction.**—Under Section 51 (i) of the Commonwealth Constitution Act 1900, the Commonwealth Parliament has power to make laws with respect to trade and commerce with other countries and among the States. By virtue of that power, the Federal Parliament passed the Commerce (Trade Descriptions) Act 1905, to which reference has already been made in Chapter VI.

3. **State Jurisdiction.**—The inspection and sale of food and drugs are also dealt with in each State, either under the Health Acts or under Pure Food Acts. This work is carried out in each State by the Executive Officer of the Health Department. There is, in addition, a number of Acts dealing with special matters, such as the adulteration of wine and the oversight of bread and meat supply. The supply and sale of milk are also subject to special regulations or to the provisions of special Acts.

The general objects of these Acts are to secure the wholesomeness, cleanliness, and freedom from contamination or adulteration of any food, drug or article; and the cleanliness of receptacles, places, and vehicles used for their manufacture, storage or carriage. The sale of any article of food or any drug which is adulterated or falsely described is prohibited, as also is the mixing or selling of food or drugs so as to be injurious to health.

Power is given to any authorized officer to enter any place for the purpose of inspecting any article to be used as a food or drug, and also to inspect articles being conveyed by road, rail, or water. The officer may take samples for analysis or examination, and may seize for destruction articles which are injurious to health or unwholesome. Special provision is generally made in the Acts with regard to the sale of preservatives and disinfectants.

In every State except Queensland, Advisory Committees have been appointed for the purpose of prescribing food standards, and for making recommendations generally with a view to carrying out the provisions of the Acts. The duty of enforcing these regulations is entrusted to the local authorities.

4. **Food and Drug Standardization.**—Conferences with the object of securing uniformity in these matters were held in Sydney in 1910, in Melbourne in 1913, in Sydney in 1922 and in Melbourne in 1927. In conformity with the determinations arrived at, each State issued regulations which have had the effect of ensuring uniformity throughout Australia as far as practicable.

5. **Sale and Custody of Poisons.**—In New South Wales, Victoria, Western Australia and Tasmania, the enactments for regulating the sale and use of poisons are administered by the Pharmacy Boards in the respective States. In South Australia, the sale of poisons is provided for by regulations under "The Food and Drugs Act 1908," administered by the Central Board of Health. In Queensland, the sale of poisons is under the control of the Health Department.

In New South Wales, Victoria, and Tasmania the Government formerly subsidized the Pharmacy Board, in order to enable it to carry out the provisions of the Poisons Act. The New South Wales Board does not now obtain a subsidy, as the fees collected are sufficient to defray expenses. The subsidy to the Victorian Board was withdrawn in March, 1921, provision having been made for the payment of a 10s. licence fee under the Poisons Act 1920.

No persons, other than legally qualified medical practitioners and registered pharmaceutical chemists, are permitted to sell poisons, without special licences from the bodies administering the legislation in the respective States. These licences are issued to persons in business distant from four to five miles from a registered chemist, on production of certificates from medical practitioners, police, or special magistrates or justices as to the applicant's character and fitness to deal in poisons. Annual licence fees, ranging from 5s. to 40s., are charged. New poisons regulations were approved in Queensland on the 26th November, 1924, amongst which are stringent restrictions on the sale of cyanide of potassium. A revised list of standard poisons was gazetted in Western Australia in December, 1922.

Special conditions attaching to the sale of poisons were alluded to on p. 1055 of Official Year Book No. 12.

Partial exemptions from the regulations are made in some States in the case of sales of poisons for agricultural, horticultural and photographic purposes, in so far that any person may sell such poisons subject to the restrictions as to the class of container and the manner in which they may be sold. The sale of what are generally known as industrial poisons—such as sulphuric acid, nitric acid, hydrochloric acid, soluble salts of oxalic acid, formalin, etc.—is governed by regulations, as also is the sale of poisons for the destruction

of rats, vermin, etc. Under the existing laws these poisons may, in most of the States, be sold by any one. The Victorian Parliament, in December, 1920, passed an amending Poisons Act, in which the word " wholesale " has for the first time been defined as meaning " sale or supply for the purposes of re-sale," providing for an annual fee of 10s. and the issuing of licences to dealers in exempted poisons. A new principle is introduced into the Victorian Poisons Act of 1920. Certain drugs are declared to be " potent drugs " and may be sold by pharmaceutical chemists only. These drugs include acetanilid, adrenalin, oil of tansy, pituitary extract, thyroid gland preparations, and any serum or vaccine for human use. Under the Victorian " Dangerous Drugs Regulations, 1922." which came into effect on the 1st January, 1923, further restrictions were imposed on the manufacture and sale of abortifacients and of habit-forming drugs such as ergot, morphine, opium, heroin, cocaine, veronal, etc. Regulations regarding dangerous drugs (cocaine, morphia, etc.) are included in the amended Queensland regulations of 26th November, 1924, referred to above. An amending Poisons Act which came into force in Victoria on 1st January, 1926, prohibits the hawking or peddling of poisons, or the distribution of poisons as samples in any street or public place. Magistrates may order the confiscation of opium smoking pipes and paraphernalia in addition to the opium itself. It is made an offence under heavy penalties for any person to obtain narcotic drugs by false representations or to have any morphine, cocaine, medicinal opium, etc. in his possession without lawful authority. A comprehensive act dealing with the sale and distribution of dangerous habit-forming drugs was passed by the New South Wales Parliament early in 1927.

§ 3. Supervision of Dairies, Milk Supply, etc.

1. **General.**—In Official Year Book No. 12 and preceding issues, allusion is made in general terms to the legislation in force in the various States to ensure the purity of the milk supply and of dairy produce generally, but limits of space preclude the repetition of this information in the present issue.

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 cattle thereon. Compulsory registration is not in force throughout the whole area of the various States.

DAIRY PREMISES REGISTERED, AND CATTLE THEREON, 1926.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.
Premises registered ..	22,036	22,046	(a)22,822	1,417	66	(b)
Cattle thereon ..	914,135	303,052	570,540	9,096	966	(b)

(a) Approximate number of dairies operating. (b) Not available.

3. **New South Wales.**—The provisions of the Dairies Supervision Act 1901 extend to the whole of the Eastern and Central Divisions and to all important dairying districts further inland. Other districts are brought under the operation of the Act by proclamation from time to time. Every dairyman, milk vendor, and dairy factory or creamery proprietor is required under penalty to apply for registration to the local authority for the district in which he resides, and also to the local authority of every other district in which he trades. Registration must be applied for prior to commencing trade, and must be renewed annually. The Chief Dairy Inspector is in charge of all inspectorial work under the Dairies Supervision Act 1901, and has assisting him fifteen qualified dairy inspectors, each in charge of a district.

4. **Victoria.**—The registration, inspection and supervision of dairies, dairy farms, dairy produce, milk stores, milk shops, milk vessels, dairy cattle and grazing grounds are provided for by the Dairy Supervision Act 1915, and the Milk Supply Act 1922, administered by the Minister of Agriculture. The supervision of butter and cheese factories is provided for by the Dairy Produce Act 1919. Under the Health Act, however, the Department of Public Health is empowered to take samples of food (including milk, cream, butter, cheese, and other dairy products) for examination or analysis, and to institute prosecutions in case of adulterated or unwholesome food. By the end of the

year 1926, 122 municipal districts, comprising almost one-half of the area of the State, had been brought under the operation of the Dairy Supervision Act. The municipal councils have the option of carrying out the administration of the Act, or of deciding that the work should devolve upon the Department of Agriculture; up to the present all the municipalities in which the Act has been proclaimed have elected for departmental administration.

The Milk Supply Act 1922 provides for the appointment of a Milk Supply Committee with power to issue regulations to govern the milk supply of the metropolis, and to disseminate information concerning the best methods of handling the product.

The Council of any metropolitan municipality, or a group of councils acting together, may establish depots at which milk may be brought, treated, and sold. The Committee may, however, issue certificates authorizing persons to sell milk, but, in an area in which there is a municipal depot, no milk may be sold unless it has been treated in a depot or, by approved methods, in a factory. Milk sold in containers must have the grade specified on the label. A laboratory has been established to undertake the bacteriological examination of the milk purveyed and generally to carry out researches in matters relating to the milk supply.

5. **Queensland.**—The control and supervision of the milk supply, of dairies, and of the manufacture, sale, and export of dairy produce are provided for by the Dairy Produce Act 1920, administered by the Department of Agriculture and Stock. This Act and the regulations made thereunder apply only to prescribed areas which comprise the whole of the coastal district from Rockhampton down to the New South Wales border, and the Darling Downs, Maranoa, Mackay, and Cairns districts. In certain proclaimed areas the sale of milk is restricted to persons licensed under the Milk Sellers' Regulations of 1924 administered by the Department of Public Health. Milk for sale is supervised by inspectors of the Health Department under the Health Acts 1900–1922. During the year ended 30th June, 1926, 1,078 samples of milk were analysed, and 369 samples were bacteriologically tested.

6. **South Australia.**—The Food and Drugs Act 1908, and the Regulations made thereunder, provide for the licensing of vendors of milk, and the registration of dairies, milk stores and milk shops. The Metropolitan County Board carries out the requirements of the metropolitan area. In the country, the majority of local authorities have not made statutory provision for the licensing of vendors of milk and the registration of dairy premises, and, in consequence, the Central Board of Health provides for such under the Act.

7. **Western Australia.**—Under the provisions of the Health Act, control of dairies throughout the State is in the hands of the Public Health authorities. The premises of dairymen and milk vendors must be registered by a local authority. The inspectors under the Act supervise the sanitary condition of the premises, the examination of herds being carried out for the Health Department by officers of the Department of Agriculture. Inspection of herds is made at regular intervals, and the tuberculin test is applied in cases of suspected disease.

8. **Tasmania.**—Local authorities are responsible for the dairies in their respective districts. By-laws for the registration and regulation of dairies have been drafted by the Public Health Department, and in the majority of cases have been adopted by the local authorities. The Food and Drugs Act 1917 provides that the municipal council of every city or municipality shall submit for analysis such samples of food or drugs as may be specified by the Chief Officer. The sampling is, in the majority of municipal districts, carried out by the Public Health Department, and particular attention is paid to milk. An Act also provides for the registration and inspection of dairies and other premises where dairy produce is prepared, and regulates the manufacture, sale, and export of such produce.

§ 4. Prevention and 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.**—(i) *General.* 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 inter-state 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 inter-state 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.

(ii) *Administration of Act.* The administration of the Act in respect of the general division, *i.e.*, vessels, persons, and goods, and human diseases, is under the direct control of the Commonwealth in all States except Tasmania. A medical chief quarantine officer, with assistant quarantine officers, has been appointed in each State. This officer is charged with responsible duties, and is under the control of the Director-General of Health. In Tasmania, the chief health officer of the State acts as chief quarantine officer, and payment is made to the State for his services. The administration of the Act in the Northern Territory has been combined with that of Queensland under the chief quarantine officer for the North-eastern division. The administration of the Acts and Regulations relating to oversea animal and plant inspection and quarantine is carried out by the officers of the State Agricultural Departments acting as quarantine officers.

(iii) *Chief Provisions of Act.* The Act provides for the inspection of all vessels including air-vessels, from oversea, for the quarantine, isolation, or continued surveillance of infected or suspected vessels, persons, and goods, and for the quarantining and, if considered necessary, the destruction of imported goods, animals, and plants. The obligations of masters, owners, and medical officers of vessels are defined, and penalties for breaches of the law are prescribed. Power is given to the Governor-General to take action in regard to various matters by proclamation, and to make regulations, to give effect to the provisions of the Act. Quarantinable diseases include small-pox, plague, cholera, yellow fever, typhus fever, leprosy, and any other disease declared by the Governor-General, by proclamation, to be quarantinable. "Vessel" means "any ship, boat or other description of vessel or vehicle used in navigation by sea or air." "Disease" in relation to animals means certain specified diseases, or "any disease declared by the Governor-General by proclamation, to be a disease affecting animals." "Disease" in relation to plants means "any disease or pest declared by the Governor-General, by proclamation, to be a disease affecting plants." The term "plants" means "trees or plants, and includes cuttings and slips of trees and plants and all live parts of trees or plants and fruit."

(iv) *Proclamations.* The proclamations so far issued specify the diseases to be regarded as diseases affecting animals and plants; appoint first ports of landing for imported animals and plants, and first ports of entry for oversea vessels; declare certain places beyond Australia to be places infected or places to be regarded as infected with plague; prohibit the importation (*a*) of certain noxious insects, pests, diseases, germs, or agents, (*b*) of certain goods likely to act as fomites, and (*c*) of certain animals and plants from any or from certain parts of the world; fix the quarantine lines, and define mooring grounds in certain parts of Australia.

(v) *Miscellaneous.* At present, instead of all oversea vessels being examined in every State, as was formerly the case, those arriving from the east and west are now examined only at the first port of call, and pratique is given for the whole of the Commonwealth except in cases of suspicious circumstances, while vessels arriving from the northern routes are examined only at the first and last ports. Restrictions placed upon oversea vessels are being removed as the machinery of quarantine is improved. The present freedom from certain diseases which are endemic in other parts of the world would, however, appear to justify the Commonwealth in adopting precautionary measures not perhaps warranted in the already infected countries of the old world.

3. **Notifiable Diseases.—A. General.**—(i) *Methods of Prevention and Control.* Provision exists in the Health Acts of all the States for precautions against the spread, and

* From information furnished by the Commonwealth Director-General of Health.

for the compulsory notification of infectious diseases. When any such disease occurs, the Health Department and the local authorities must at once be notified. In some States notification need only be made to the latter. 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 and 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) *New South Wales.* The proclamation and notification of infectious diseases are dealt with in Part II. of the Public Health Acts 1902 and 1915. Notification of infectious disease must be made to the local authority by the head of the family, etc., and by the medical practitioner. Provision is made for the disinfection or destruction of premises. Restrictions are placed upon the attendance at school of children suffering from infectious disease or residing in a house in which infectious disease exists. Special provisions have been made with regard to typhoid fever, tuberculosis, small-pox and leprosy, and legislation has been passed dealing with venereal diseases.

(iii) *Victoria.* Under the Health Act 1919 any disease may be declared to be notifiable throughout the State. The occupier of a house containing a case of infectious disease, and the medical practitioner in attendance, must report the fact to the Council. The Medical Officer of Health may order the removal of a patient to a hospital when such is available. The occupier of the house must also inform the head teacher of the school of any child suffering from notifiable disease or residing in an infected dwelling. The notification of venereal diseases is dealt with in the Venereal Diseases Act 1916.

(iv) *Queensland.* Part VII. of the Health Act 1900–1922 stipulates that all cases of infectious disease must be notified by the occupier of the house, and the medical practitioner attending the case. Restrictions are placed on the attendance at school of children suffering from a notifiable disease. Special measures must be taken against typhoid, small-pox, and venereal diseases. Leprosy is dealt with under the Leprosy Act 1892.

(v) *South Australia.* Cases of infectious diseases must be reported to the local board, under the provisions of Part VIII. of the Health Act 1898. The duty of notification rests primarily on the head of the family, and, in addition, the medical practitioner must report the case. Children suffering from or resident with a person suffering from an infectious disease must not attend school till they hold a certificate that there is no risk of infection. Venereal diseases will be dealt with under the provisions of the Venereal Diseases Act, 1920 which, however, is not yet in operation.

(vi) *Western Australia.* The Health Acts 1911 to 1922 provide for the notification and control of infectious diseases, including venereal diseases. The occupier of a house containing a case of infectious disease, and the medical practitioner, must report the case to the local authority. Children may not attend school within three months of suffering from any infectious disease unless they possess a certificate of freedom from infection. Special provisions apply to typhoid fever, tuberculosis, and venereal diseases.

(vii) *Tasmania.* The provisions regarding the notification and prevention of infectious diseases are contained in the Public Health Act 1903 and amending Acts. Notification of cases devolves upon the medical practitioner in attendance or the occupier of the house.

(viii) *Diseases Notifiable in each State.* In the following statement diseases notifiable in each State are indicated by a cross:—

DISEASES NOTIFIABLE UNDER THE HEALTH, ETC., ACTS IN EACH STATE.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.
Acute lobar pneumonia	..	..	..	(c)	+	..
Anthrax	..	+	..	+	+	+
Ankylostomiasis	..	+	+	..	..	..
Beri-beri	..	..	..	..	+	..
Bilharziasis	..	+	+	+	+	+
Bubonic plague	+	+	+	+	+	+
Cerebro-spinal fever	+	+	+	+	..	..
Cerebro-spinal meningitis	+	+	+	+	+	+
Chicken-pox	..	..	..	+	..	..
Cholera	..	+	+	+	+	+
Colonial fever	..	..	..	..	+	..
Continued fever	..	..	+	..	+	..
Dengue fever	..	..	..	..	+	..
Diphtheria	+	+	+	+	+	+
Dysentery	..	+	+(a)	..	+	..
Encephalitis lethargica	..	+	..	..	..	+
Enteric fever	+	+	+	+	+	+
Erysipelas	..	..	+	+	+	..
Favus	..	..	..	+	..	..
Hæmaturia	..	..	+	..	+	+
Hydatids	..	+	..	..	..	..
Infantile paralysis	+	+	+	+	+	+
Influenza	..	..	..	+(c)	+	..
Leprosy	+	+	+	+	+	+
Low fever	..	..	..	..	+	..
Malarial fever	..	+	+	+	+	+
Malta fever	..	..	..	..	+	..
Measles	..	..	..	+	..	..
Membranous croup	+	..	+	+	+	..
Pneumonic influenza	..	..	..	+(c)	+	+
Polioencephalitis	..	+	..	..	..	..
Poliomyelitis anterior acuta	+	+	+	+	+	+
Puerperal fever	..	+	+	+	+	+
Pulmonary tuberculosis (phthisis)	+(a)	+	+	+	+	+
Pyæmia	..	..	..	..	+	..
Relapsing fever	..	..	+	+	+	..
Scarlet fever	+	+	+	+	+	+
Scarlatina	+	+	+	+	+	+
Septicæmia	..	..	..	+	+	..
Small-pox	+	+	+	+	+	+
Trichinosis	..	..	..	+	..	..
Tuberculosis	..	+	..	+	..	..
Tuberculosis in Animals	..	..	..	+	..	..
Typhoid	+	+	+	+	+	+
Typhus fever	..	+	+	+	+	+
Venereal Diseases:—						
Chancroid (soft chancre)	+	+	+	+(d)	+	+
Gleet	+	..	..	+(d)	+	..
Gonorrhœa	+	+	+	+(d)	+	+
Gonorrhœal ophthalmia	+	..	..	+(d)	+	..
Infective granuloma of the pudenda	+	+	+	+(d)	+	..
Ophthalmia neonatorum	..	+	..	..	+	+
Syphilis	+	+	+(b)	+(d)	+	+
Venereal warts	+	..	+	+(d)	+	..
Whooping cough	..	..	..	+	..	..
Yellow fever	..	+	+	+	+	..

(a) Notifiable in certain areas only. (b) Primary and secondary stages only. (c) In South Australia influenza vera is notifiable, and any febrile toxic-septicæmic condition similar to influenza, including pneumonic influenza. (d) Act not yet in operation.

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. In every State notification has been made compulsory. A list of notifiable forms of venereal complaints is given in the table on the preceding page. Steps have been taken to ensure free treatment by medical practitioners or in subsidized hospitals. 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 patient or the employment of an infected person in the manufacture and distribution of foodstuffs.

The Commonwealth Government has granted a subsidy of £15,000 per annum to the various States to assist in providing hospital treatment and administrative control. The supervision of this work, in so far as it relates to the expenditure of the subsidy, is undertaken by the Commonwealth Department of Health. In February, 1922, a conference was held to consider the means of securing the best results from this subsidy.

(ii) *New South Wales.* The Venereal Diseases Act, 1918 came into operation on 1st December, 1920. The Act, which is administered by a Commissioner, aims at ensuring that all cases of venereal disease will have immediate and continued treatment. Clinics have been established at subsidized hospitals. Notification is compulsory; a person suffering from the disease is required to place himself under the treatment of a medical practitioner or to attend a hospital within three days of becoming aware of the existence of the disease, and to continue treatment until a cure is effected. During the year ended 30th June, 1926, notifications numbered 5,856. Satisfactory results are being obtained from action taken in cases where patients have been reported for failure to continue treatment as required by the Act. A number of prosecutions—all of which have been successful—has been undertaken for (*a*) sale of drugs prohibited under the Act, (*b*) treatment of venereal disease by a person other than a medical practitioner, and (*c*) for failing to undergo treatment when required.

(iii) *Victoria.* Under the Venereal Diseases Acts 1916 and 1918 the control of venereal disease is undertaken by the Department of Public Health. The Acts provide for compulsory treatment by qualified medical practitioners of all persons suffering from the disease. All hospitals in receipt of State aid treat patients. Three evening and three day clinics have been established at hospitals in Melbourne, and in June, 1918, a special departmental clinic was instituted. Notification of the disease is compulsory, and 5,249 cases were notified in 1926. Between the 17th June, 1918, and 31st December, 1926, 18,643 cases were treated at the special departmental clinic, the attendances numbering 722,387.

(iv) *Queensland.* The Health Act, 1900–22 confers power on the Commissioner of Public Health to deal with the prevention and control of venereal disease, and affected persons must place themselves under treatment by a medical practitioner. Persons other than medical practitioners are prohibited from treating the disease. Subsidized hospitals are required to make provision for the examination and treatment of cases reported to them, and clinics have been established in Brisbane and ten other towns. Notification is compulsory, and during the year ended 30th June, 1926, 1,401 cases were reported. Visits to the Brisbane clinics numbered 7,582 by males, and 477 by females. Examination of prostitutes is conducted at Brisbane and thirteen other towns by medical officers appointed under regulation 10 of the Venereal Diseases Regulations of 1923.

(v) *South Australia.* The provisions of the Venereal Diseases Act 1920 (not yet in operation) are to be carried out by the Inspector-General of Hospitals. The Minister administering the Act may arrange with any public hospital to provide free accommodation and treatment, and may also establish hospitals and arrange for free examinations and free supply of drugs. Persons suffering from venereal disease will be compelled to consult a medical practitioner or attend a hospital and place themselves under treatment. No person other than a medical practitioner may attend or prescribe for patients.

(vi) *Western Australia.* The Health Act gives power to the Commissioner of Public Health to deal with venereal diseases, and persons suffering from these diseases must consult a medical practitioner and place themselves under treatment. No treatment may be given except by qualified medical practitioners. Free examination and treatment are given by subsidized hospitals.

(vii) *Tasmania.* The Public Health Act 1917–1918 authorizes the Director of Public Health to take steps for the control of venereal diseases, and persons affected must place themselves under the care of a medical practitioner or of a hospital. The State-aided hospitals are required to provide treatment. During 1926, 413 cases were notified by medical practitioners. In accordance with an agreement between the Commonwealth and the State authorities, the latter have made provision for the free maintenance and treatment of persons suffering from venereal diseases.

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 has been made. 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. During the years 1912, 1913, and 1914, the output of the vaccine in doses from the dépôt was respectively 65,000, 570,000, and 146,000. The number of doses issued in 1913 was, however, abnormal, and was due to the epidemic of small-pox which broke out in Sydney at the end of June, and was followed by large numbers of vaccinations in each State.

(ii) *New South Wales.* Although there is no provision for compulsory vaccination, public vaccinators have been appointed. No statistics are available as to the proportion of the population which has been vaccinated, but a report of the Principal Medical Officer of the Education Department states that out of 55,740 children medically examined during 1919, 9,487, or 17 per cent., had been vaccinated.

(iii) *Victoria.* Compulsory vaccination, subject to a " conscience " clause, is enforced throughout the State under Part VII. of the Health Act 1919. From the year 1873 up to 31st December, 1918, it is estimated that 72 per cent. of the children whose births were registered were vaccinated. Free lymph is provided. The number of children vaccinated during 1926 was 1,318, or less than 4 per cent. of the births registered.

(iv) *Queensland.* Although compulsory vaccination is provided for under Part VII. of the Health Act, 1900–1922, its operation has not been proclaimed. Vaccination thus being purely voluntary, medical practitioners do not notify vaccinations.

(v) *South Australia.* The Vaccination Act, 1882, which applies to South Australia and the Northern Territory, is administered by the vaccination officer of the State. Under this Act vaccination was compulsory, but in 1917 an Act to suspend compulsory vaccination was passed. There were only 2 vaccinations reported in 1926.

(vi) *Western Australia.* Vaccination is compulsory under the Vaccination Act, 1878, which, however, remains almost a dead letter, seeing that under the Health Act, 1911, a " conscientious objection " clause was inserted, which is availed of by the majority of parents. The number of children vaccinated is very small. All district medical officers are public vaccinators, but they receive no fees for vaccinations.

(vii) *Tasmania.* All infants are nominally required under the Vaccination Act 1898 to be vaccinated before the age of 12 months, unless either (*a*) a statutory declaration of conscientious objection is made, or (*b*) a medical certificate of unfitness is received. Information in regard to vaccinations in recent years is not available.

(viii) *Persons Vaccinated, 1922 to 1926.* Information regarding the number of vaccinations in recent years is not available for all States, and in those States for which figures are supplied the returns are incomplete. In Victoria 1,318 children were vaccinated during 1926, the annual average for the last five years being 1,915. In South Australia there were 2 vaccinations recorded in 1926, and the average for the last five years was only 1. Information is not available for the other States.

5. **Commonwealth Serum Laboratories.**—The establishment for the preparation of Jennerian Vaccine situated at Royal Park, near Melbourne, formerly known as the "Calf Lymph Dépôt," was in 1918 greatly enlarged by the Commonwealth. The remodelled institution is designated the "Commonwealth Serum Laboratories," and forms a division of the Commonwealth Department of Health. The list of bacteriological 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 Bendigo in Victoria, at Townsville, Toowoomba, and Rockhampton in Queensland, at Port Pirie in South Australia, and at Kalgoorlie in Western Australia, and arrangements are being made for the organization of similar laboratories in other parts of Australia.

The laboratory at Rabaul is carried on in conjunction with the hookworm campaign, and is working in close co-operation with the health organization of the New Guinea Administration.

The Bendigo Laboratory 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.

The laboratory at Townsville is carried on in conjunction with the Australian Institute of Tropical Medicine at Townsville. The laboratory at Toowoomba was opened on 18th December, 1923.

All of these laboratories are undertaking successfully the diagnostic, educative, and research work for which they were created.

By arrangement 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, when 4,067 mine employees were examined. A further arrangement provides for the re-examination annually of mine employees in the Kalgoorlie district for a period of three years.

7. **Industrial Hygiene.**—The Industrial Hygiene division of the Commonwealth Department of Health was established in December, 1921. Its objects are 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 have been issued dealing with the scope of industrial hygiene, and with health hazards in industry. Expert advice is available to employers and employees, and it is anticipated that the work of the division will be of great value in guiding the development of industry along hygienic lines, and in improving generally the condition of workers. 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 and in 1924.

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

8. **Public Health Engineering.**—A division of sanitary engineering was established in the Commonwealth Department of Health early in 1923. Investigation has been made into numerous sanitary engineering problems affecting Australia, including a number referred to the Department by various State Governments. Advice is given generally on the protection of water supplies, drainage, and other engineering questions affecting health.

§ 5. 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 which science

has accomplished, furnish 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 filariasis, malaria, and dengue fever, which, although practically unknown in southern Australia, occur in many of the tropical and sub-tropical parts.

2. **Transmission of Disease by Mosquitoes.**—(i) *Queensland.* The existence of filariasis in Queensland was first discovered in 1876. The parasite of this disease is transmitted by *Culex quinquefasciatus* (*Culex fatigans*), the mosquito most prevalent in Queensland. The mosquito *Aëdes aegypti* (*Stegomyia fasciata*), conveyor of yellow fever and of dengue fever, is another common domestic mosquito throughout Eastern Queensland during the summer. Owing to quarantine measures this mosquito has never been infected from abroad with yellow fever, but it has become infected with the virus of dengue fever, and is responsible for a large number of human cases of this disease in the northern part of Australia. Occasional limited outbreaks of malaria occur in the northern parts of the State; one at Kidston, in 1910, resulted in 24 deaths. The infection was traced to newcomers from New Guinea. Allusion to the efforts made to deal with the mosquito, under the Health Act of 1911, will be found in Official Year Book No. 12, p. 1063. By an Order in Council the local authorities are now responsible for the taking of measures for the destruction and the prevention of breeding of mosquitoes.

(ii) *Other States.* In Western Australia it is stated that malaria is not known to exist south of the 20th parallel, while filariasis has never been discovered. Mosquito-borne diseases are unknown in Victoria, South Australia, and Tasmania, except for very rare sporadic cases, and it is stated that filariasis is uncommon in New South Wales, the only cases known being imported ones. Kerosene and petroleum have been successfully used, both by municipalities and private individuals, to destroy larvae of mosquitoes at various places in these States.

(iii) *Northern Territory.* While the Territory is conspicuously free from most of the diseases which cause such devastation in other tropical countries, malaria exists, and, although cases rarely end fatally, the Administration is taking measures for the destruction of mosquito larvae wherever settlements or permanent camps are formed, and precautions are being taken to prevent the collection of stagnant water in such localities.

3. **Control of Introduced Malaria and Bilharziasis.**—(i) *General.* The control of returned soldiers and sailors suffering from malaria and bilharziasis, which was undertaken by the Commonwealth Department of Health at the request of the Departments of Defence and Repatriation, is still being carried out in conjunction with State Health Departments.

(ii) *Malaria.* Steps were taken to have all recrudescences in returned sailors, soldiers, and nurses in all parts of Australia notified direct to the Commonwealth Department of Health by the Medical Officers of the Repatriation Local Committees. Malaria is also notifiable to each State Health Department, except in New South Wales, and particulars of such notifications are transmitted to the Commonwealth Department of Health.

Treatment on intensive lines has been regularly carried out in connexion with malaria recurrences in returned sailors and soldiers in order to effect a cure as rapidly as possible. Steps were also taken to prevent the settlement of malaria-infected individuals in localities such as irrigation areas, where mosquitoes capable of carrying malaria were known to exist.

From information received, it is evident that in the great majority of cases cure has now been established, and that where recrudescences do occur they have been greatly reduced in severity and frequency. The number of foci of infection has been reduced to unimportant dimensions, and the danger of spread of malaria in the community from this source has been practically eliminated.

(iii) *Bilharziasis.* With few exceptions the men who contracted this disease on active service have been brought in from all parts of Australia for expert re-examination and treatment.

Those who have suffered from the disease, and have undergone treatment as indicated above, are still kept under periodical observation, but owing to the success of the measures already taken it is believed that no danger of the spread of infection exists. Action is being taken in the case of a small number of men who have evaded treatment.

4. Hookworm.—In 1911, attention was drawn to the necessity for an investigation into ankylostoma infection in Queensland, and the view was expressed that notified cases did not accurately indicate the prevalence of the disease. Researches made subsequently tended to support this view.

An investigation made in Papua in 1917 by an officer of the International Board of Health of the Rockefeller Foundation disclosed the fact that half of all natives examined were infected with hookworm disease. In co-operation with the Government of Queensland and the Australian Institute of Tropical Medicine, the survey was extended to Queensland, and a considerable number of cases of ankylostoma infection was found in certain northern coastal areas. In October, 1919, the Australian Hookworm Campaign was begun. This campaign was supported jointly by the Commonwealth, the International Health Board of the Rockefeller Foundation, the State of Queensland, and the other States in which work in this direction was undertaken. By the end of 1922, the survey of Australia and its dependencies had been completed. The total number of examinations up to 30th September, 1924, including those in Dr. Waite's survey in Papua and the earlier work in Queensland, was as follows :—

People examined for hookworm disease	394,578
Found to be infected with hookworms	62,051 (15.7%)

Endemic hookworm infection was found in intermittent areas along the eastern coast of Australia from Cape York to Macksville in New South Wales. The higher summer rainfall in these areas appears to be chiefly responsible for the localization of the infection. It is also found in the vicinity of Broome and Beagle Bay in Western Australia, in the northern part of the Northern Territory, and along the eastern coast of the Gulf of Carpentaria. In the Territory of Papua, 59.2 per cent. of the natives were found to be infected, and in the Territory of New Guinea, 74.2 per cent. There is no endemic hookworm infection in Victoria, South Australia, Tasmania, the interior of Queensland, New South Wales, except the north-eastern part, and Western Australia except the far north.

Metalliferous mines were examined in Victoria, South Australia, New South Wales, Tasmania, and Western Australia, and were found entirely free from hookworm infection. The examination of metalliferous mines in Queensland showed either no infection or a light infection which may have originated chiefly outside the mines. Coal mines in Victoria, Tasmania, and Western Australia were free from infection. Examinations were made in the coal mines of the Newcastle district, and among 1,226 miners examined in about 25 mines only five infected miners were found. In the Ipswich group of coal mines in Queensland, 31.5 per cent. of the miners were infected, and in the Howard-Torbanlea group (Queensland) 75.8 per cent. were infected. Recommendations were made with regard to the correction of the insanitary conditions responsible for these high infection rates.

Wherever operations are carried on by the hookworm campaign, emphasis is placed on the prevention of hookworm disease, in contrast to temporary relief through the cure of existing cases, and much work has been done to improve methods of night-soil disposal, and to teach the people the danger from soil pollution.

In October, 1924, the International Health Board withdrew from the work which was then continued under the direction of the Division of Tropical Hygiene of the Commonwealth Department of Health. From 1st October, 1924, to 30th September, 1926, under the new administration the field units engaged in the investigation examined 88,824 persons, of whom 6,578, or 7.4 per cent., were found to be infected with hookworm.

In the latter part of 1922, the scope of the campaign was widened to include a malaria and filaria survey in co-operation with the Division of Tropical Hygiene, Commonwealth Department of Health. This work is being carried out as opportunity arises.

A number of epidemiological and microbiological problems relating to hookworm and other intestinal parasites in tropical and sub-tropical Australia is being investigated by the Australian Institute of Tropical Medicine and the Commonwealth Health Laboratories in Queensland in co-operation with the work of the field units. It is anticipated that useful information will be obtained in regard to the control of hookworm among white people in the tropical and sub-tropical regions of Australia.

5. **Institute of Tropical Medicine, Townsville.**—The Australian Institute of Tropical Medicine was founded at Townsville in January, 1910. Since 7th March, 1921, the Institute has been administered by the Commonwealth Department of Health. A full account of the activities of this Institute from its foundation up to 1922 will be found in Official Year Book No. 15, pp. 1010–1012.

Since 1922 a number of investigations has been carried out, including the physiology of white populations in the tropics, sociological survey of certain tropical areas of Queensland, the destruction of mosquito larvæ and the control of mosquitoes in the larger centres of population, tropical diseases among the aboriginals on Palm Island, leprosy among aboriginals in the Northern Territory, and reputed foci of malaria in tropical Queensland. Courses of instruction in tropical medicine and hygiene commence in May of each year, and continue for four months, and nine publications dealing with various aspects of tropical medicine, etc., have been issued.

6. **Royal Commission on National Health.**—This Royal Commission, which was appointed by the Commonwealth Government in December, 1924, submitted its report on 9th December, 1925. The report deals with and contains recommendations on the following subjects:—Ill-health in the Commonwealth; medical services; co-operation of Commonwealth and State health authorities; prevention of disease; venereal diseases; uniform legislation with regard to the purity of food and drugs; maternity hygiene; child welfare; industrial hygiene; encouragement and development of research work; relationship between public health authorities and medical practitioners, and between public health authorities and other public authorities rendering medical services; and the publication of information relating to public health.

The report was considered by a Conference of Ministers of Health of the Commonwealth and States of Australia in July, 1926. The Conference accepted generally the recommendations of the Royal Commission; adopted specially the recommendation with respect to the creation of a Federal Health Council with functions as specified by the Royal Commission; and referred the recommendations of the Royal Commission to the Council as the general policy to be followed.

The Federal Health Council, consisting of the principal medical officer in the Departments of Health of the Commonwealth and States, with two additional officers from the Commonwealth Department of Health nominated by the Minister, was constituted by the Federal Government in November, 1926.

The first session of the Council was held in January, 1927, when a series of resolutions was adopted with the view of carrying into effect many of the recommendations of the Royal Commission for securing co-operation between the Health authorities of the Commonwealth and State, for promoting uniformity of legislation and administration, and for advancing public health generally within the Commonwealth.

Action is now being taken with respect to the resolutions of the Federal Health Council.

7. **Travelling Study Tours under the League of Nations.**—The Health Organization of the League of Nations has, during the past three years, arranged a series of study tours for medical officers of health of various countries, with resultant benefit by reason of interchange of views to those who have taken part in them. For the purposes of enabling officers to gain experience in public health methods, the Commonwealth Government was invited to nominate representatives for two such tours in 1925, one for three months' travel in Western Europe, and the other for a six weeks' visit to Japan and the neighbouring Asiatic countries.

For the tour in Japan and neighbouring Asiatic countries the Director of Tropical Hygiene in the Commonwealth Department of Health was nominated, and this officer during the latter part of 1925 visited Japan and took part in the Conference of Medical Officers held at Tokio. Several other places of interest to Australia from the public health standpoint were visited, including Korea, Manchuria, Shanghai, and Manilla, and much valuable information was accumulated.

The Director of the Division of Marine Hygiene in the Commonwealth Department of Health visited Europe during the latter part of 1925, and studied public health methods and administration in various countries.

An offer from the League of Nations of two further tours to officers of the Department of Health for the purpose of studying laboratory methods and administration in Western Europe and England was accepted by the Commonwealth Government for the year 1926. The Director and Assistant Director of the Laboratories Division in the Commonwealth Department of Health who were nominated for these tours visited Europe in 1926.

8. **International Sanitary Convention.**—A Conference of representatives of the various signatory countries to the International Sanitary Convention of Paris of January, 1912, was held in Paris in April, 1925, to consider the draft proposals prepared by the International Office of Public Health for the revision of the Convention. The Director of the Division of Marine Hygiene represented the Commonwealth at this Convention.

9. **Far Eastern Epidemiological Bureau, Singapore.**—Under the auspices of the League of Nations, a Conference of the Advisory Committee of the Eastern Intelligence Bureau of the Far East was held at Singapore in January, 1926, and was attended by medical officers representing Australia, British India, British North Borneo, China, Federated Malay States, Hong Kong, French Indo-China, Japan, Netherlands Indies, Spain, and the Straits Settlements, while three medical representatives of the League of Nations, an observer on behalf of the Philippine Islands, and a visitor on behalf of the International Health Board under the Rockefeller Foundation were also present. The Director, Division of Tropical Hygiene in the Department of Health, represented the Commonwealth.

10. **International Pacific Health Conference.**—At the instance of the Commonwealth Government, the British Government in 1925 invited the Governments of the various countries having possessions in the Pacific to send representatives to a Conference to be held at Melbourne for the purpose of examining the problems relating to health and disease of the indigenous races of the various island groups of the Pacific, and of indicating the directions in which international action and co-operation might prevent the introduction of disease. Accordingly, in December, 1926, there assembled in Melbourne representatives of the Governments of Great Britain, France, United States of America, Japan, New Zealand, and the Commonwealth, and of the territorial administrations of the Federated Malay States and the Straits Settlements, Fiji, the Western Pacific, Samoa, Papua, and New Guinea. A delegate also attended from the Health Organization of the League of Nations. The resolutions which were adopted by the delegates formulated and recommended a definite plan for the development within the Austral-Pacific zone of an intelligence service, of quarantine co-operation, and of research.

§ 6. Medical Inspection of School Children.

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

2. **New South Wales.**—A system of medical inspection of school children was organized in 1913, and arrangements have been made, by means of triennial examinations, to examine each child at least twice during the period of school attendance (compulsory between the ages of 7 and 14 years). For this purpose, the staff attached to the Education Department consists of 19 Medical Officers, 19 Dentists (including 8 part-time Dentists), 8 Nurses, 15 Dental Assistants, and a clerical staff of 13.

Parents are notified of their children's defects, and are urged to have them treated. In the metropolitan district, children may be treated as out-patients at hospitals (general and special), or at the two School Dental Clinics. During 1923, the second School Dental Clinic was established at the out-patient department, Children's Hospital, chiefly to obtain strict oral and dental cleanliness before operations on the nose and throat.

In remote and sparsely-settled country districts, defects of vision are provided for by two School Oculists. One of these is in charge of the Travelling Hospital, which now includes on its staff two Dental Officers, one Nurse, and one Dental Assistant. During 1925, the number of children examined by the staff of the Travelling Hospital was 2,858; 2,406 were treated for all defects, 2,293 of which were dental. The remaining nine Travelling Dental Clinics treated 14,036 children, and the School Dental Clinics in Sydney, 6,759 (5,700 at the Metropolitan Clinic, and 1,059 at the Children's Hospital).

Of the 105,413 examined during 1925, 102,555 were seen during the routine medical inspection. Of these latter, 42,913 (41.8 per cent.) were notified for treatment of various defects, and of those notified, 21,390 (49.8 per cent.) were treated. This does not include the Travelling Hospital's returns, which are shown above, nor does it include the majority of those treated for dental defects by departmental officers, who carried out dental treatment for 20,795 children—14,036 rural and 6,759 city—or approximately 25 per cent. rural and 15 per cent. city of the children of the areas visited.

Eliminating dental defects, unremedied medical defects were found in 18.5 per cent. of children. In rural areas, 42.9 per cent. of those notified were treated by "outside" doctors or hospitals. In the city, 45.6 per cent. to 64.5 per cent. were treated for various types of defect. Much of this improvement is due to the following-up work of the School Nurses.

During the four triennial periods ended 1925, 921,183 children were examined, and 502,198 (54 per cent.) were found to be suffering from physical defects requiring treatment.

In the triennium ended 1925, 308,769 children were medically examined (inclusive of those dealt with by the Travelling Hospital, but excluding those examined by the travelling dental clinics). Of this total 146,433 (47 per cent.) were recorded as defective. The chief defects were:—Dental, 112,546 cases; nose and throat, 39,980 cases; vision, 16,042 cases; and hearing, 9,395 cases. The number of children treated subsequently for any defect was 80,876.

During the period 1924–5–6, 3,694 boys were examined at the Metropolitan Children's Shelter in connexion with the work of the Children's Court. Of these boys, 12.5 per cent. had defects of vision, 5 per cent. defects of hearing, and 22 per cent. defects of nose and throat.

The health supervision of High School girls in the Sydney and Newcastle Districts is allotted to a special woman Medical Officer; while another woman Medical Officer is attached to the Teachers' College. Every teacher, on entering the College, is medically examined, and any defects found must be remedied. The teaching of hygiene is aided by a course of thirty lectures which each student receives at the Teachers' College.

In 1925, certain changes were made in the general scheme. The extra-metropolitan area was divided into three and the metropolis into seven districts, and medical officers allotted accordingly. The work in the metropolis was arranged to permit of an annual, instead of a triennial, visit to every school, but about one-third only of the children will be examined at each visit, viz., entrants, pupils leaving, and cases which are still under review.

3. Victoria.—The system of medical inspection aims at examining the child three times in its school life, but in the High Schools the students are examined every two years. After the examination, the parents are notified of defects, and are advised to obtain treatment from their own doctor or dentist, and in the metropolitan area two nurses follow up these cases. Attached to the department is a dental centre which deals with about 1,670 children each month from the metropolitan schools.

During the year ended 30th June, 1926, 52,084 children were medically examined, and 18,367 received dental treatment. In addition, the nurses of the Bush Nursing Association examine the school children in their districts and report to the Medical Officers of the Education Department, who, in their turn, advise whether medical attention is necessary.

The staff of the medical branch consists of 8 medical officers, 5 dentists, 6 dental attendants, and two school nurses.

4. **Queensland.**—In matters affecting the general administration of the medical branch of the Department of Public Instruction, the Department acts on the advice of its chief medical officer, who, while acting independently in all matters affecting individual schools, is in close touch with the Department of Public Health, and observes the policy of that department in all matters connected with schools which may have direct bearing upon the health of the State. Medical inspection of school children is carried out by full-time and local part-time medical officers, but the policy of the Department is eventually to employ none but full-time departmental officers. A large number of children is examined each year, and parents are advised of physical defects calling for medical attention. A staff of twelve dentists carries out dental inspection and treatment. Particular attention is paid to diseases of the eyes and tonsils. In the western districts, where ophthalmic diseases formerly were rife, the medical officers in charge of district hospitals are employed to treat cases promptly and thereby prevent the spread of infection.

In 1926, 31,030 children were medically examined, of whom 6,845 were found to be suffering from physical defects. The departmental dentists examined 42,033 children. Extractions numbered 25,415, fillings 22,635, and other gratuitous treatments 12,033.

5. **South Australia.**—Medical inspection embraces the examination—three times in their school life—of all children attending the primary schools or entering high or technical schools. Reports are furnished to parents of defects likely to interfere with educational progress. The staff consists of one principal medical officer, five medical inspectors, three dentists, five trained nurses, and a disinfecting officer. The dentists attend remote country schools and treat children. There is also a Dental Clinic where children from the metropolitan schools receive treatment. The Medical Inspector meets the parents after the examination of the children, reports any defect, and recommends treatment. It is found that a personal talk is of greater value than a written notice. A trained psychologist is attached to the medical branch.

During the year 1926, 422 schools were visited, and children to the number of 35,819 were examined by the medical officer, and a considerable number of defects was disclosed. The school dentists gave treatment to 1,201 children in the City Clinic and 1,741 children in the outback districts of the State.

6. **Western Australia.**—Under the Public Health Act 1911–1922, the medical officers of health appointed by the local authorities became medical officers of schools and school children. In the Health Department there are two medical officers for schools, whose duty is to conduct medical examinations, and three school nurses are employed. During 1926, 15,857 children were examined. The staff comprises 2 full-time and 1 half-time medical officers.

7. **Tasmania.**—To Tasmania belongs the credit of being the first State in Australia to provide for the medical inspection of State school children. As far back as 1906, 1,200 children from the Hobart State schools were examined. At the present time 2 full-time medical officers carry out medical inspections in country and convent schools, while 2 part-time medical officers conduct examinations of school children in Hobart and Launceston. There are also 4 nurses, whose chief duty is to visit the homes to advise the parents as to the treatment of defects disclosed by the medical examination. Country schools are visited by medical officers about once every two years, while 2 dentists visit the smaller country schools.

§ 7. 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 1922 to 1926 no less than 37,551 children died before reaching their first birthday. With the exception of New South Wales for the year 1924, and Queensland for the year 1926,

the rate of mortality in the metropolitan area has in every case been consistently greater than that for the remainder of the State. Further information regarding infantile mortality will be found in Chapter XXV.—*Vital Statistics* :—

INFANTILE DEATHS AND DEATH RATES, 1922 TO 1926.

State.	Metropolitan.					Remainder of State.				
	1922.	1923.	1924.	1925.	1926.	1922.	1923.	1924.	1925.	1926.
NUMBER OF INFANTILE DEATHS.										
New South Wales	1,292	1,431	1,299	1,282	1,336	1,665	1,846	1,866	1,719	1,724
Victoria	1,101	1,345	1,289	1,155	1,205	835	1,011	927	892	764
Queensland ..	347	362	367	318	318	660	716	644	599	683
South Australia ..	347	388	337	287	328	223	317	258	241	181
Western Australia	247	258	232	280	232	205	184	182	183	177
Tasmania ..	120	105	94	101	77	204	220	202	187	156
Australia (*b*) ..	3.454	3,889	3,618	3,423	3,496	3,792	4,294	4,079	3,821	3,685
RATE OF INFANTILE MORTALITY.(*a*)										
New South Wales	57.68	63.26	57.18	56.74	60.72	50.81	58.70	60.22	53.68	55.41
Victoria	58.25	71.18	66.32	59.81	62.91	48.03	59.54	55.49	53.70	47.14
Queensland ..	57.10	57.89	57.76	49.71	50.41	44.96	52.15	48.22	43.14	50.76
South Australia ..	58.23	66.70	56.45	48.95	53.03	36.73	53.96	45.89	43.08	34.16
Western Australia	58.27	61.24	53.13	65.71	53.85	52.67	50.54	46.26	49.64	44.33
Tasmania ..	71.94	66.00	61.32	67.83	53.73	49.17	54.11	52.47	50.15	43.88
Australia (*b*) ..	58.33	65·48	59·92	57·13	58.86	48·50	56·69	54·79	50·43	50.05

(*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 children. Government and private organizations are, therefore, taking steps to 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, visitation by qualified midwifery nurses, supervision of 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 XI.—Public Benevolence.) Under the provisions of the Maternity Allowance Act 1912, a sum of five pounds is payable to the mother in respect of each confinement at which a living or viable child is born. Further particulars regarding Maternity Allowance are given in Chapter VIII.—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) *New South Wales.* Baby health centres were established by the Government in 1914. Attached to each centre is an honorary medical officer and a staff of trained nurses who instruct mothers in matters pertaining to the care of themselves and their children.

In December, 1926, there were 61 centres in operation, of which 36 were in the metropolitan area, 15 in the Newcastle district, and the remainder in important industrial and rural centres. During 1926 the attendances at the clinics numbered 210,244, and the nurses paid 87,179 visits to newly-born babies—viz., 22,433 first visits and 64,746 subsequent visits. No charge is made for attention or advice.

The Royal Society for the Welfare of Mothers and Children conducts two welfare centres in the metropolis, and has two training schools where nurses may receive post-graduate training in infant hygiene and mothercraft. The nurses attached to health centres are required to take this course, and arrangements have been made to train the nurses engaged by the Bush Nursing Association. The Day Nursery Association maintains four nurseries where working mothers may leave their children during the day.

The Bush Nursing Association aims at providing fully-qualified nurses in country districts throughout Australia. Centres may be formed in any district where the residents can enrol sufficient members to guarantee the salary of a nurse. As the greater part of the nurses' work is that of midwifery, the nurses must be registered midwives. In February, 1927, there were 35 bush-nursing centres in New South Wales.

(iii) *Victoria.* The first Baby-Health Centre was opened in 1917. At the latest available date the Victorian Baby-Health Centres' Association had 76 centres in operation, 53 in the metropolitan area, and 23 in country towns. The Association receives subsidies from the State Government and the local municipal councils. During the year ended 30th June, 1926, 23,264 individual babies were taken to the centres, while total attendances numbered 153,883, and 50,064 visits were paid by the nurses to patients in their own homes. The Society for the Health of Women and Children also maintains six centres in the industrial suburbs of the metropolis and one centre in the country. There are, in addition, crèches where children may be left while the mothers are at work.

The Bush Nursing Association had in February, 1927, 51 centres in operation in the country districts. In connexion with this association there are eight cottage hospitals in operation and others are in process of preparation.

(iv) *Queensland.* Four Baby Clinics have been established in Brisbane by the Government, and others have been formed in ten of the larger provincial centres. A training school has been organized to train nurses for welfare work. For the year 1926 attendances at the clinics numbered 74,883, in addition to which the nurses paid 14,042 visits in connexion with the after care of mothers and infants.

There are in the metropolitan area six kindergartens and four crèches where children may be left during the day. The Playgrounds' Association aims at providing playgrounds for children in the populous parts of towns and cities.

The Bush Nursing Association has nine nurses stationed in the country districts.

(v) *South Australia.* A School for Mothers is situated in Adelaide, and there are several branches in the suburbs, and at Port Pirie and Renmark. These schools receive a Government and municipal grant. During the year ended 31st July, 1926, the nurses paid 1,506 visits to expectant mothers and 29,189 to young babies. In August, 1921, baby clinics were established, to which, in 1925–26, 33,545 babies were brought for examination, advice and information being given where necessary to the mothers. There is a crèche at West Adelaide for the benefit of the children of women obliged to earn their own living.

The District Trained Nursing Society has over 30 branches, of which about half are in the metropolitan area. The nurses of this society paid 62,542 visits to homes. Nursing homes have been established by the Australian Inland Mission at Beltana and Oodnadatta in the far north of South Australia, and at three places in the Northern Territory.

(vi) *Western Australia.* The organizations which aim at improving the conditions of infant life include an ante-natal clinic established by the Government at the King Edward Maternity Hospital, a day nursery where children may be left and cared for while the mothers are away at work, and the Infant Health Association, which is subsidized by the government and local authorities, and which controls twelve centres, with a specially trained nurse in charge of each. During the six months ended 31st December, 1926, the attendances at clinics numbered 10,692, in addition to which the nurses paid 5,164 visits to homes.

The Bush Nursing Trust maintains a rest-house for expectant mothers, and the Australian Inland Mission has nursing homes at Hall's Creek and Port Hedland.

(vii) *Tasmania.* There are three baby clinics in Hobart, two in Launceston, and one in the country, controlled by Child Welfare Associations. During the year 1926, the nurses visited 9,934 homes, and attendances at the clinics for the same period numbered 17,090. The number of individual babies taken to the clinics was 2,104. A mother-craft home was opened in Hobart in August, 1925, with accommodation for 10 babies and 3 mothers. During 1926, 27 mothers and 59 babies were inmates of the home and 11 trained nurses completed a special course in infant hygiene.

The Bush Nursing Association, which is subsidized by the Health Department, the Red Cross Fund, and municipal councils, has stationed nurses in fifteen country districts.

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

Heading.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
Baby Health Centres :—							
Metropolitan No.	38	59	4	33	10	3	147
Urban, Provincial, and Rural No.	25	24	10	5	2	3	69
Total No.	63	63	14	38	12	6	216
Attendances at Centres .. No.	210,244	158,883	74,883	33,545	(*b*)10,692	17,090	505,337
Visits paid by Nurses .. No.	87,179	50,064	14,042	62,542	(*b*)5,164	9,934	228,925
Bush Nursing Association, Number of Centres	35	51	9	(*a*) 30	1	15	141

(*a*) District Trained Nursing Society. (*b*) For 6 months only.