5. *Sister Tutors:*
   Without Diploma: £120 rising to £150 by £10 annually.
   With Diploma: £150 rising to £190 by £10 annually.
6. *Assistant Matrons:*
   Up to 100 beds: £120 to £130.
   100 to 200 ,, £130 to £150.
   200 to 300 ,, £150 to £175.
   300 to 400 ,, £170 to £200.
   over 400 ,, £200 rising.
7. *Matrons:*
   Up to 50 beds: £120.
   50 to 100 ,, £150 to £180.
   100 to 200 ,, £200 to £250.
   200 to 300 ,, £250 to £300.
   300 to 400 ,, £300 to £350.
   over 400 ,, £350 rising.

These demands, which have already been accepted by many of the more progressive authorities, are not excessive, and it is probable that economic forces will compel the most unwilling local authorities to adopt the scale in order to competently staff their institutions, especially since health visiting, school nursing, and sanatoria are rapidly increasing the demands for nurses.

CHAPTER XVIII

THE CONTROL OF TUBERCULOSIS

BEFORE the year 1911 sanitary authorities and their public health departments were not, as a general rule, specially concerned with the treatment or prevention of tuberculosis, despite the fact that the toll of deaths levied by this disease was only exceeded by those from bronchitis and pneumonia, diseases which it frequently follows. The reduction of the tuberculosis death-rate from 3·5 per 1,000 in 1851 to 1·6 in 1907 was a result of the general improved sanitary conditions, and not of any definite steps taken to combat this particular disease.[1] There were exceptions, however; several authorities, such as the Liverpool, Brighton and Blackburn Corporations, adopted systems of voluntary notification of phthisis, whilst Sheffield and Blackburn Councils early in this century obtained powers under private Acts which made notification compulsory. Administrative control, treatment and preventive effort followed as a matter of course; and by December, 1911, nearly 1,400 beds had been provided by sanitary authorities in addition to 9,000 beds in Poor Law institutions occupied by consumptives, and 400 beds rented by local authorities at some of the eighty-four sanatoria (4,200 beds) provided by private persons or voluntary associations. Besides these efforts fourteen sanitary authorities had provided tuberculosis dispensaries, and in fifty other districts tuberculosis dispensaries under voluntary management were available.[2] The experience thus gained, together with the growing

[1] See Annual Report of the Chief Medical Officer of the Ministry of Health, 1925, p. 81.
[2] Forty-second Report of the Local Government Board (Medical Officer's Report), p. xxxix.

public opinion, that a disease, which science showed to be amenable to control and prevention, should be controlled and prevented, resulted in the issue of a series of legislative enactments making all forms of the disease notifiable and requiring sanitary authorities to make provision for its treatment.

The Public Health (Tuberculosis) Regulations, issued in 1912, repealed the previous orders of limited application, and required the notification to the medical officer of health of all cases of tuberculosis (pulmonary and non-pulmonary) by medical practitioners within forty-eight hours after first becoming aware that any person is suffering from the disease; school medical inspectors, medical officers of Poor Law institutions and sanatoria, and tuberculosis officers are allowed to send in weekly returns of cases coming under their notice.[1] The medical officer of health must keep a register of such notifications, revising such register at least once every quarter, must transmit any received in error to the right quarter, notify the medical officers of other districts into which tuberculous patients have removed, and, if the district is a county district, he must forward to the county medical officer of health a weekly list of the notifications received.[2] The medical officer of health, or an officer acting under his direction, is required to make such inquiries and to take such steps as are necessary or desirable for investigating the source or preventing the spread of infection, and for removing conditions favourable to infection. For these purposes the local authority, on the advice of the medical officer of health, may supply all such facilities and articles as may reasonably be required, as well as provide and publish or distribute suitable summaries of information and instruction respecting tuberculosis and the precautions to be taken against the spread of infection.

The powers given by these regulations, supplemented

[1] See also Public Health (Notification of Infectious Disease) Regulations, 1918.
[2] See also Public Health (Tuberculosis) Regulations, 1918.

by the Public Health (Prevention and Treatment of Diseases) Act of 1913, were sufficiently comprehensive to include any steps that a local authority might wish to take to reduce the sickness and mortality rates from this disease. But beyond these powers the provisions of the National Insurance and Finance Acts of 1911 were far more important, and had the additional advantage of encouraging, by grants-in-aid, the authorities concerned to take effective steps to stamp out a disease which entails a heavy drain upon the public and private purses.[1]

The responsibility of Insurance Committees for sanatorium treatment was terminated in 1920 [2] and henceforth was placed upon the councils of counties and county boroughs [3] which may exercise their powers through a committee or sub-committee of which a third may be co-opted persons specially qualified by training or experience,[4] or may form with the consent of other local authorities, and by order of the Ministry of Health, joint committees for the purpose.[5] If an authority neglects to make adequate arrangements for the treatment of tuberculosis the Ministry of Health may, after giving such authority a hearing, make the necessary arrangements and recover from the defaulting authority the costs.[6]

The medical officer of health is the centre of all schemes for the control and treatment of tuberculosis. He it is who must direct educational efforts to impress upon the public the dangerous character of the disease and the importance of utilizing facilities provided for securing early diagnosis and treatment. He also must secure the co-operation of the general practitioner and the school medical officers, and finally he has, as a rule, the administrative control of his authority's scheme, the special machinery of which must be correlated with the general work of his department.

[1] See author's "Elements in the Cost of Consumption" in the *Westminster Review*, June, 1911.
[2] National Health Insurance Act, 1920, s. 4.
[3] See Circular 190 of the Ministry of Health, March 31, 1921.
[4] Public Health (Tuberculosis) Act, 1921, s. 4.
[5] *Ibid.*, s. 5.
[6] *Ibid.*, s. 1.

The scheme set out in the Interim Report of the Departmental Committee on Tuberculosis (Cd. 6164) has been generally followed. It laid down the principles that "the tuberculosis dispensary should be the common centre for the diagnosis and for the organization of the treatment of tuberculosis in each area," and that it should act as a clearing-house for and be linked up with "a system of sanatoria, hospitals, farm colonies, open-air schools, etc."

The functions of the tuberculosis dispensary, of which there are 483, 443 of these being provided by local authorities,[1] are:

(1) Receiving house and centre of diagnosis.
(2) Clearing house and centre of observation.
(3) Centre for curative treatment and supervision of domiciliary cases.
(4) Centre for the examination of contacts.
(5) Centre for "after care."
(6) Information bureau and Educational Centre.

To this institution come or are sent patients in every stage of the disease as well as others whose ill-health may be only suspicious, or whose contact with infected persons makes it possible that they have contracted the disease. After examination by the tuberculosis officer, aided by specially trained nurses, the patients are either drafted off to the various institutions suitable for their particular stage of the disease, treated at the dispensary, or at home—domiciliary treatment—by their medical attendant acting in more or less close consultation with the tuberculosis officer. At the dispensary precautionary advice is given to patients and their guardians, and from it spitting cups, open-air shelters and medicines are distributed and a system of observation and "after care" of patients who have been treated at institutions or at home is organized. The work of the tuberculosis officer and of the dispensary is greatly facilitated by visits to the homes of patients by the health visitor or nurse, who investigates the home conditions and, where necessary, informs the medical officer of health of circumstances requiring the attention of his staff.

[1] Seventh Annual Report of the Ministry of Health, p. 1.

No hard and fast lines can be laid down for the provision of dispensary accommodation. The problem in compact urban districts, which may best be served by one or more centralized dispensaries always open, differs from that in rural areas with scattered populations, where a number of smaller institutions, periodically opened, may give the best results; but in each case the staff must include medical, nursing, and secretarial officers in order to be economical and efficient.

The whole system pivots round the tuberculosis officer, who may be the medical officer of health if he is suitably trained and has sufficient time. If not, the tuberculosis officer must be a suitably qualified and experienced medical man, not less than twenty-five years of age, who has held house appointments for at least six months in a general hospital, in addition to a similar period of service at a special institution for the treatment of tuberculosis, and be competent to supervise the necessary laboratory work. On the 31st March, 1927, there were in England 367 tuberculosis officers working under the schemes of local authorities.[1]

So far as his duties are clinical and concerned with the diagnosis of the disease and the determination of the most suitable treatment the tuberculosis officer acts quite independently of control by any other medical man, but in matters of administration he "should act under the direction of the medical officer of health, who is the chief executive and organizing officer of the scheme."[2] It is very necessary that his relations with the general medical practitioners, the medical officers of the various institutions, and officials of other authorities and voluntary agencies should be close and friendly, as only in this way can a permanent and effective control and treatment of tuberculous patients be secured.

[1] Eighth Annual Report of the Ministry of Health, p. 34.
[2] Forty-second Report of the Local Government Board, Part III, p. xx.

Beyond the dispensary, and receiving cases which the tuberculosis officer has decided are suitable, are the sanatoria and hospitals. The former treat those cases in which there is a prospect of arrest of the disease. The latter (*a*) take doubtful cases for observation or for determination as to their suitability for sanatorium treatment; (*b*) treat acute cases with a possibility of subsequent transfer to a sanatorium; (*c*) take "middle" and "chronic" cases for short period treatment and education in hygiene; (*d*) isolate dangerously infective and advanced cases. General hospitals are used extensively for the treatment of non-pulmonary tuberculosis, but latterly orthopædic schemes for the treatment of tuberculosis of bones and joints are being developed in conjunction with arrangements for surgical after-cure of the patients after discharge.[1] Treatment by artificial light is as yet in an experimental stage, but installations at thirty-six residential institutions and at eleven tuberculosis dispensaries have been approved by the Ministry of Health.[2] The table on opposite page shows the extent of the provision of residential treatment for tuberculosis.[3]

"The essential element of sanatorium treatment . . . is a carefully calculated balance of rest and exercise (under the constant and watchful supervision of a skilled resident medical officer—the one predominant and essential factor) and conditions which permit of abundance of fresh air and sunshine, adequate and nutritious diet, appropriate occupation, and quiet and restful sleep."[4]

The necessity for providing appropriate occupation for mind and body is one of the most difficult problems of sanatorium administration, the needs and capacities of patients being very varied and their composition changeable. Efforts in this direction are at present experimental and in

[1] Report of the Chief Medical Officer of the Ministry of Health for 1925, p. 89.
[2] Eighth Annual Report of the Ministry of Health, p. 35.
[3] *Ibid.*, p. 34.
[4] Annual Report of the Chief Medical Officer of the Ministry of Health, 1925, p. 91.

	Institutions.		Beds.	
	Local Authorities.	Voluntary.	Local Authorities.	Voluntary.
A.—Institutions for Pulmonary Cases (mainly or entirely):				
(1) Sanatoria	139	58	10,275	4,183
(2) Isolation Hospitals .	50	1	2,351	50
(3) Children's Institutions	10	12	486	801
B.—General Hospitals:				
(1) Town	1	140	44	536
(2) Country Branches .	—	15	—	140
C.—Institutions for Non-Pulmonary Cases (mainly or entirely):				
(1) Adults only . . .	2	5	222	139
(2) Children only . . .	8	35	764	1,650
(3) Adults and children .	1	5	23	538
	211	271	14,165	8,037
	482		22,202	

some cases, e.g. vocational training, do not appear to have given the results hoped for.[1]

An important new power was given in 1925 to county councils as well as urban and rural authorities which enables them to secure the removal to hospital or an institution of any person who is suffering from pulmonary consumption and is in an infectious state and who either cannot or will not take precautions to prevent the spread of the infection. The order of a court of summary jurisdiction is necessary and the period of detention is limited to three months with powers to the authority to apply for an extension at the end of that time and to the patient to apply for a recision of the order at any time after six weeks from its date.

[1] See *Ibid.*, pp. 104–110, for experience of Training Centres.

The costs must be borne by the authority obtaining the order, and it may be required by the justices to contribute towards the maintenance of the patient's dependants whilst the patient is detained.[1]

If the benefits obtained from sanatorium treatment are to be maintained and made permanent it is necessary to safeguard the patient against those influences which may cause relapse. Village settlements [2] provide the necessary conditions most completely and effectively, but this method is available only to a few, hence a system of after-care, recommended by the Departmental Committee on Tuberculosis, has been authorized by the Public Health (Tuberculosis) Act of 1921 [3] and encouraged by the Ministry of Health, and After-Care Committees (including voluntary workers, and representatives of charitable organizations) have been set up in many places. In 85 out of 154 counties and county and metropolitan boroughs some arrangements for after-care are made. "In seventy-four instances the work is carried out by special voluntary committees, in five instances by or under the direction of the public health or other council committees, and in the remaining cases by general social welfare organizations or in other ways." The work of care committees is too variable to be generalized and their effectiveness is equally varied, depending greatly upon the capacity and enthusiasm of their individual members whose work appears, in many cases, to be crippled by lack of funds.[4]

The Chief Medical Officer of the Ministry of Health has indicated the great influences which have caused the decline of tuberculosis since 1850 as follows: [5]

(1) The progress of sanitary reform and factory legislation and increased attention paid to child welfare and diseases predisposing to tuberculosis.

[1] Public Health Act, 1925, s. 62. See Eighth Annual Report of the Ministry of Health, p. 39.
[2] See Annual Report of the Chief Medical Officer of the Ministry of Health, 1925, pp. 97–8.
[3] Section 2.
[4] Annual Report of the Chief Medical Officer of the Ministry of Health, 1925, pp. 95–6.
[5] *Ibid.*, p. 81.

(2) An advance in social well-being and communal health.
(3) The spread of knowledge of the contagiousness of the disease, particularly since 1881.
(4) Special measures of prevention and treatment of the disease.
(5) An increase in the immunity resistance of the population.

The mortality from all forms of the disease continues to fall, despite more accurate diagnosis and more effective notification, and, as experience widens and the full effect of other branches of hygienic effort, such as school medical inspection and maternity and child welfare work are felt, it is reasonable to expect that the decline will be greater in the future.