ment; and when it is clearly demonstrated, as in my figures from the rest camp quoted above, that the war is going to provide us with a multitude of phthisical cases needing care and treatment, surely we need not reinforce them by enlisting those who are morally certain only to provide occupants for our Military Hospitals, and material for the deliberations of the Pensions Board.

TUBERCULOSIS AND A MINISTRY OF HEALTH.

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ONE of the greatest difficulties that will beset the Ministry of Health, when it is established, will be to provide means for the proper handling of the Tuberculosis Problem. It has long been evident that the eradication of tuberculosis is a national question of the first importance. The arrest of the disease can only be achieved by complete co-operation of all interests concerned and co-ordination of all measures for prevention and treatment.

When the National Insurance Act, 1911, became law, extravagant hopes were entertained that its "Sanatorium Benefit" clauses would speedily produce a substantial effect upon the prevalence of tuberculosis and the mortality from the disease. It was soon realized, however, that the new system was only dealing with the fringe of the subject, and that large sums of money were being expended without any adequate return, so far as a reduction in the number of deaths from tuberculosis was concerned.

Since 1913 pulmonary tuberculosis has increased its toll of victims each year, especially in the industrial districts, and Sir Arthur News-holme has recently shown that in 1915 and 1916 the excess amounted to 12 per cent. Newcastle-upon-Tyne may be taken as a fair sample of urban centres providing abundance of work of an arduous nature, bearing an unenviable reputation for overcrowding, and containing a large number of people who feel the pinch of poverty. The number of deaths, from phthisis, registered in the city (residents only) rose progressively from 297 in 1913 to 388 in 1916, and for the first nine months of 1917 the figure stands at 326. Owing to the absence of many soldiers on active service, it is impossible to indicate to what extent the male population has participated in the increase, but very

significant is the fact that 154 female deaths occurred between January 1 and September 30, 1917, as against 126 during the whole year 1913. If the age-period 15 to 35 years be considered separately, the figures are 84 and 63, and during the past quarter (July 1 to September 30, 1917) the female mortality is greatly in excess of the male (by 44 per cent.).

The serious increase in the death-rate amongst women is, presumably, very largely due to the fact that so many subjects of latent tuberculosis, previously unaccustomed to long hours of hard work, have recently responded to the call for labour in munition factories and elsewhere. Three years of war conditions have demonstrated, in striking fashion, that deaths from pulmonary tuberculosis do not occur simply from exposure to tuberculous infection, a condition which is practically universal in all civilized communities. The spread of the disease is in great measure to be viewed as the result of adverse conditions of housing, industrial occupation, and personal nourishment.

To reduce the existing mortality from tuberculosis, it is essential to focus attention on the predisposing conditions. Then we shall see how best to eliminate all the factors which enable the tubercle bacillus to overcome the natural resistance of the individual.

While other State Departments will, doubtless, deal with factory welfare work, the provision of adequate housing accommodation, improved sanitation and the amelioration of the conditions of the working-classes generally, the Central Preventive Wing of a Ministry of Health should advise the Minister of Health as to the promotion of such research work and legislative measures as will assist in stamping out tuberculosis, and as to the facilities required for treatment.

It should also supervise the work of the local committees and organize experimental schemes, such as farm centres or labour colonies for consumptives, and possibly village "settlements" for phthisical subjects and their dependants.

In any complete scheme the Tuberculosis Dispensary will probably remain the headquarters and dynamic centre of local efforts, and should be developed on the lines laid down by Sir Robert Philip. The most important functions of a tuberculosis dispensary are as follows: (1) To collect statistics and information; (2) to facilitate early and accurate diagnosis by co-operation with the general practitioner; (3) to classify cases and "suspects" with a view to future treatment; (4) to search diligently for evidences of tuberculosis amongst "contacts"; (5) to carry the principles of prevention into affected households; (6) to serve as the connecting-link with the Chief Preventive Officer of the area, and thus insure proper disinfection of infected houses, clothing and bedding, and also secure the inspection and rectification of insanitary dwellings, etc.; (7) to provide treatment in special cases

and for patients while under observation. The tuberculosis section of the local Health Committee or Council will be mainly concerned with the welfare and treatment of all sufferers from the disease, and their dependants, but it should also foster a continuous publicity campaign by lectures and through the medium of the Press. It will be advised by the Tuberculosis Officer, and should have subcommittees to deal with treatment, relief, and employment, on lines similar to the local War Pensions Committees.

The Treatment Subcommittee will recommend, for each case coming to its notice, such treatment as is judged to be most suitable, and this may be given either at a sanatorium, hospital or dispensary, or in the patient's own home. Increased accommodation will be required for "advanced cases," and the proper care of cases of so-called "surgical tuberculosis" which, at the present day, is the bugbear of the general hospital. Recent experience has shown that sanatorium treatment of pulmonary tuberculosis, among the working-classes at all events, is a very qualified success. Residence in a sanatorium in any case occupies only a short phase in the consumptive's life, so that the greatest need of the future is to concentrate attention on the improvement of the conditions under which "Domiciliary" treatment is to be carried out.

The Relief or "Cases" Subcommittee must have ample funds at its disposal, but with proper supervision it can be arranged that the money will not be wasted. It has been estimated that at least one-eleventh part of all Poor Law Funds are expended on the relief of poverty resulting from tuberculosis, and at present there is no certainty that these moneys are assisting to reduce the prevalence of the disease. The income of an affected household must be supplemented, if necessary, so that every case of open phthisis can have at least a bed, and preferably a room, to himself, and to insure that the family will not lack the necessities of life.

It would be impracticable, not to say unwise, to attempt to segregate every patient with tubercle bacilli in the sputum, but very many young lives could be saved by isolation at home. If an individual is unwilling to take precautions to prevent the spread of infection, or unable to receive proper attention at home, removal to hospital should be insisted upon in the public interest.

The Employment Subcommittee should keep a register of tuberculous cases unable to stand hard or continuous labour, and make every endeavour to secure light and suitable work for them, so as to prevent undue depletion of the funds of the Relief Subcommittee.

If the new Education Act is passed into law, and the "leaving" age for scholars raised to sixteen years, the Employment Subcommittee could collaborate beneficially with the Juvenile Employment Agencies

by assisting in the choice of a calling for children showing the stigmata of latent tuberculosis, or encouraging the emigration to the colonies of children of tuberculous parents.

It is a matter for regret that the Pensions Minister has not dealt with discharged soldiers in a more progressive way, for he has allowed a golden opportunity of instituting prophylaxis to pass beyond his grasp.

Tuberculosis, being a communicable disease, could surely have been treated differently from other disabilities. At the present moment large sums are being expended in pensions, to ex-service men, and allowances to their families, without any practical safeguard to guarantee proper treatment or any precautions against the spread of infection. Had the tuberculous soldier been sent, as a soldier, to a civil institution (hospital or sanatorium) in the same way as one suffering from, say, scarlet fever, the case would have been very different. Once near his native place the best line of treatment could have been decided upon by those conversant with the home conditions, and then, after an interval, the patient's discharge from the Army could have been expedited. Half the pension granted could have been paid from the Pensions Office direct, while the other half, which is "conditional," could have been paid weekly along with any allowances through the local office when it was seen that the patient was taking advantage of every facility provided to better himself and prevent the infection of his relatives. Such action would have only constituted justice for the patient and justice for his family.

The chief conclusions to be drawn from the above contentions are as follows:

1. Present methods (with certain reservations) are on the right lines, and, with adequate financial backing, adjustment in some respects and extension in others, will do much to reduce the mortality from tuberculosis.
2. Attention must be concentrated on the improvement of "Domiciliary" treatment and the prevention of massive infection in the home.
3. Legislation is urgently needed to deal with—(a) The supply of tuberculous milk; (b) careless and helpless infective patients.
4. Increase in the residential accommodation for surgical tuberculosis is much needed, and especially for children.
5. The conditions of labour should be improved, and Welfare Work in factories should be extended, especially with a view to the avoidance of industrial fatigue.

Finally, I would urge that in order to further the co-ordination of measures making for prophylaxis and treatment of tuberculosis, the establishment of a Ministry of Health is much to be desired.