[Report 1923] / TB Officer, Lancashire County Council.

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LANCASHIRE

COUNTY COUNCIL.

REPORT

OF THE

Central Tuberculosis Officer

OF THE

LANCASHIRE COUNTY COUNCIL

FOR THE YEAR

1923.

PRESTON:
T. SNAPE & CO., PRINTERS, BOLTON'S COURT.
1924.

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COUNTY TUBERCULOSIS COMMITTEE (1924).

The Chairman of the County Council :

†Sir Henry F. Hibbert, Bart., J.P., D.L.

The Vice-Chairman of the County Council :

†H. Wade Deacon, Esq., C.B.E., J.P.

Chairman of Committee :

*P. J. Hibbert, Esq., J.P., D.L.

Vice-Chairman :

*†C. J. Trimble, Esq., C.B., C.M.G., L.R.C.S.I., J.P., D.L.

COUNTY ALDERMEN—

J. Chadwick, Esq., M.R.C.S.
*W. Hodgson, Esq., J.P.
R. Sephton, Esq., M.R.C.S.
*F. Slade, Esq.
*H. Winstanley, Esq., L.R.C.P., L.R.C.S., J.P.

COUNTY COUNCILLORS—

*J. H. S. Aitken, Esq.
*E. Boothman, Esq.
A. S. Bury, Esq., J.P.
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T. Thompson, Esq.
J. W. Watterson, Esq., M.B., C.M., J.P.

* Members of Sanatorium and Hospital Sub-Committee.
† County Aldermen.

MEDICAL AND NURSING STAFF OF THE TUBERCULOSIS DEPARTMENT, 1924.

Central Tuberculosis Officer ;

G. Lissant Cox. M.A., M.D. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.).

Consultant Tuberculosis Officers ;

George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester). (†24th July, 1913.)

Charles W. Laird, B.A., M.D. (Dublin), D.P.H. (Liverpool). (†24th July, 1913.)

Burgess MacPhee, M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913.)

J. Logan Stewart, M.A., M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913.)

Alan D. Brunwin, M.A., M.D. (Camb.), D.P.H. (Aberdeen). (†23rd October, 1913.)

Assistant Tuberculosis Officers ;

George H. Leigh, M.D., Ch.B., D.P.H. (Manch.). (†15th April, 1914.)

Charles H. Lilley, M.B., Ch.B. (St. Andrew's), D.P.H. (Lond.). (†15th April, 1914.)

George Fletcher, M.A., M.D., Ch.B. (Glas.), D.P.H. (Camb.). (†15th April, 1914.)

Scott C. Adam, M.B., Ch.B. (Glas.), D.P.H. (Lond.). (†21st May, 1919.)

G. Barker Charnock, L.R.C.S., L.R.C.P. (Edin.), L.R.F.P.S. (Glas.), D.P.H. (Liverpool). (†21st May, 1919.)

Alexander B. Jamieson, M.B., Ch.B. (Edin.). (†22nd October, 1919.)

Cecil Berry, L.R.C.P., L.R.C.S. (Edin.), L.F.P.S. (Glas.), D.P.H. (R.C.S.I). (†16th June, 1920.)

John Cathcart, M.B., Ch.B. (Edin.), D.P.H. (R.C.P.S.I.). (†16th June, 1920.)

Medical Superintendent, High Carley Sanatorium and Oubas House Children's Sanatorium, and Consultant Tuberculosis Officer for Furness Sub-Area :

‡E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.). (†24th July, 1913.)

Assistant Medical Superintendent, High Carley Sanatorium :

Henry J. Villiers, L.R.C.P.I. and L.R.C.S.I. (†17th December, 1919.)

† Date of Appointment.
‡ Appointed Medical Superintendent, 1916.

Medical Superintendent, Elswick Sanatorium, and Consultant Tuberculosis Officer for Fylde Sub-Area:

‡George Leggat, M.B., Ch.B., D.P.H. (Aberdeen). (†15th April, 1914.)

Visiting Medical Superintendent, Peel Hall Pulmonary Hospital:

George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Visiting Medical Superintendent, Chadderton Pulmonary Hospital:

James Wood, M.D., M.B., Ch.B., D.P.H., R.C.P.S.I. (†22nd October, 1919.)

Visiting Physician, Luneside Pulmonary Hospital, Lancaster.

Alan D. Brunwin, M.A., M.D. (Camb.), D.P.H. (Aberdeen).

Tuberculosis Health Visitors:

		Commenced duties	
Nurse	C. E. Munro		1st June, 1914.
,,	M. A. Potter	,,	1st June, 1914.
,,	R. Lambert*	,,	12th June, 1914.
,,	E. Walch	,,	15th June, 1914.
,,	H. Dewsnap*	,,	7th December, 1914.
,,	A. Munro*	,,	5th July, 1915.
,,	M. Duggan*	,,	30th August, 1915.
,,	R. Davison	,,	6th September, 1915.
,,	L. Walker*	,,	6th September, 1915.
,,	J. Skelcher	,,	26th April, 1916.
,,	A. Tweedy*	,,	17th January, 1917.
,,	I. Laing*	,,	20th May, 1918.
,,	E. Walters*	,,	1st October, 1918.
,,	I. F. Macdonald*	,,	2nd October, 1918.
,,	F. D. Abbott*	,,	1st July, 1919.
,,	C. Guilfoy*	,,	1st July, 1919.
,,	M. J. Wilson	,,	1st July, 1919.
,,	A. Flynn*	,,	1st December, 1919.
,,	M. B. Jones	,,	1st December, 1919.
,,	L. F. Norwood	,,	5th January, 1920.
,,	A. G. Ward	,,	2nd February, 1920.
,,	E. Watterson	,,	19th July, 1920.
,,	E. A. Duston	,,	1st February, 1921.
,,	F. Milnes*	,,	1st March, 1921.
,,	H. M. Shakespeare*	,,	1st March, 1921.
,,	F. G. Smith	,,	1st November, 1921.
,,	E. Simmons*	,,	30th October, 1922.
,,	M. A. M. Clegg	,,	16th April, 1923.
,,	A. Dickinson	,,	5th September, 1923.
,,	A. Duncan	,,	1st April, 1924.

* Possesses a health visitor's or sanitary certificate.
† Date of Appointment.
‡ Appointed Medical Superintendent, 1919.

REPORT

OF THE

CENTRAL TUBERCULOSIS OFFICER

FOR THE YEAR 1923.

To the Lancashire County Council.

Mr. Chairman, Mrs. Orme, and Gentlemen,

I have the honour to submit the tenth Annual Report on the work of the Tuberculosis Department.

Population.

The population to be dealt with under the County scheme was estimated at the end of the year to be 1,772,658; divided according to the proportion existing at the last Census, the male population was 841,987, and the female 930,671.

Number of cases and deaths, and death-rate.

The statement below gives the case notifications and the deaths for 1923 compared with the average for the preceding ten years :—

	New Cases Notified.			Deaths.		
	Pulmonary.	Non-Pulmonary.	Total.	Pulmonary.	Non-Pulmonary.	Total.
1923.....	1,937	1,188	3,125	1,250	412	1,662
Average ten years 1913-1922..	2,408	1,065	3,473	1,482	454	1,936

The County death-rate per 1,000 of the population from pulmonary tuberculosis (consumption) in 1923 was 0·70, and is the *lowest ever recorded* in the Administrative County, the previous lowest rate being 0·73 in 1921. The death-rate from non-pulmonary tuberculosis (disease of bones, joints, glands, and brain) was 0·23 per 1,000 of the population, which is fractionally above the previous year.

The fall in the deaths from pulmonary tuberculosis has taken place despite the presence of much unemployment and the well-known housing shortage. The reduction in the tuberculosis death-rate is greater than the general fall of other diseases, and it would, therefore, appear that anti-tuberculosis measures are justified by success. [1]

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[1] Sir Robert Philip, Edinburgh Medical Journal, September, 1924.

Progress of the county tuberculosis scheme.

By the exercise of care and economy and with a small fall in prices, it has been possible to increase the sanatorium and hospital accommodation in 1923. The number of beds in occupation at the end of each year has risen from 678 in 1922 to 750 in 1923. The waiting list of patients for sanatorium and hospital treatment varies considerably during a year, being at its lowest in winter and its highest in the summer. Consequently some elasticity is necessary in the accommodation to cope with the seasonal requirements.

More beds have been taken at special hospitals for children suffering from non-pulmonary tuberculosis, that is, tuberculosis of the spine, bones, joints, and glands. As previously reported, considerable progress has been made in recent years, and is still being made, in the methods for treating these complaints, and the results achieved are very encouraging indeed. This becomes most apparent by reviewing the after-histories of 132 County children who received treatment in special hospitals during the years 1914-1922 ; at the end of 1923, 94 of them were fit and able to attend school, 21 were unfit, and 17 had died. Even these figures would be more favourable if we added those children who had got better and attained adult age, and whose after-histories are consequently included in the records of adults.

During the year it has been necessary to deal with the tenure of many dispensary premises which were taken on a ten years' lease in the early years of the tuberculosis scheme. Where satisfactory terms could be arranged, the leases were renewed or the premises purchased, but in three instances—Rochdale, Pendlebury, and Farnworth—it was decided to remove to new and more suitable premises, which action has added to the efficiency of the dispensary organisation.

Care work.

Since the last report five new voluntary care committees have been recognised by the County Council, making 17 of such organisations, covering a population of 780,173, at work in the County. These committees continue to perform most valuable work in helping tuberculous patients and their dependants. The County Tuberculosis Committee have had before them the annual reports of the care committees and have expressed their earnest appreciation of the important voluntary work carried out.

Tuberculous ex-service men are assisted under schemes adopted by the joint council of the Order of St. John of Jerusalem and the British

Red Cross Society, and by the council of management of the United Services Fund, the former dealing with pensioners and the latter those men without pensions. Full co-operation exists between the tuberculosis staff and these organisations, and I have to acknowledge much timely and sympathetic relief from these sources.

In August, 1924, the County Council considered the whole question of care work, particularly the portions of the County with no care committee functioning—covering a population of nearly one million. They decided to extend the care scheme to these areas, the work to be done by the dispensary staff pending the formation of voluntary committees. The provisions of the amended scheme are given on pages 28 and 29, and they allow for the existing organisations to have the full benefit of the funds collected by them from voluntary sources. For 1923-1924, the County Council made grants to the care committees in amounts equal to 25 per cent. of the previous year's expenditure of the care committees on actual assistance to patients, the total grants amounting to £475. In August, 1924, however, the Council decided to increase the grants for the financial year 1924-25 to 33⅓ per cent.

Housing conditions.

The housing conditions of County patients under supervision at the end of the year were as given in the table below :—

	Patients occupying separate bedroom.		Patients occupying separate bed but not separate bedroom.		Not separate bed.	
	No.	%	No.	%	No.	%
Total No. of Pulmonary cases *considered infectious or contagious* ...	1164	65·6	430	24·2	179	10·1
Total No. of Pulmonary cases not considered infectious or contagious ...	1273	32·9	772	19·9	1822	47·1
Total No. of Non-Pulmonary cases ...	600	22·6	755	28·4	1301	48·9

The dispensary staff make every effort to secure that an infective case should have a separate room, or at least a separate bed, and it is important to note that the proportion of such cases without a separate bed, that is, sleeping with one or more persons, has decreased from 17·1 per cent. in 1921 and 13·1 in 1922 to 10·1 per cent. in 1923. This improvement has been made possible chiefly by the stock of bedsteads and mattresses purchased by the Council for lending out to patients unable to provide these articles for themselves.

Examination of house contacts.

As the result of the examination of 1,535 " house contacts " of tuberculous cases, especially those with positive sputum, 119 new definite cases were discovered, representing 77·5 per 1,000 contacts examined. A number of the 119 contacts were infective or carrier cases, and the importance of detecting these unknown spreaders of the disease cannot be over-estimated.

Advanced cases of pulmonary tuberculosis.
Need for the education of the public.

It is an unsatisfactory feature that only one-quarter of the new patients applying for treatment in 1923 were in the early stage of pulmonary tuberculosis. The much brighter prospect of restoration to health when treatment is commenced before the disease has reached the intermediate or advanced stages has constantly been emphasised. Careful investigation into advanced cases and patients dying within three months of notification again show most clearly that the delay in applying for treatment was due chiefly to the disinclination or unwillingness of patients to consult their doctor when feeling ill. In previous reports I have drawn attention to the need for the education of the public in the symptoms and common dangers of tuberculosis. I would like to see more attention paid to the instruction of older children at school in elementary hygiene and laws of health, and the official syllabus now existing might well be extended to provide for this. Sir George Newman, the Chief Medical Officer, has recently presented a special memorandum to the Minister of Health on the desirability of enlightening and stimulating the public in essential matters of hygiene.

Non-notification of fatal cases.

Further improvement has been made in reducing the number of omissions to notify cases of tuberculosis. Less than 7 per cent. of the deaths from pulmonary tuberculosis in 1923 were found to have occurred without the statutory notification having been made prior to death, as compared with 18 per cent. in 1918. Continued efforts are being made to reduce still further this percentage.

Attention may be called to an enquiry made for this report as to the proportion between deaths and notifications in different boroughs, urban districts and rural districts in the Administrative County. The matter is discussed on pages 9 to 13, with special reference to the occurrence of more deaths than notifications in some of the County sanitary areas.

Co-operation with sanitary authorities, medical practitioners, and health officials.

The co-operation with the 121 sanitary authorities within the Administrative County area and their medical officers of health and sanitary inspectors has been of a cordial and satisfactory character. The same applies to the general medical practitioners, as is amply illustrated by the fact that in 1923 76·6 per cent. of the new cases (excluding contacts) examined by the tuberculosis officers had been referred to them by practitioners, pensions authorities, school medical officers, and other health officials for an opinion as to diagnosis or treatment, prior to particulars of notification being received by the tuberculosis staff.

The tuberculosis officers occasionally visit poor-law infirmaries on the request of the medical superintendents in order to confer with them on the diagnosis of suspicious cases or any special treatment required by the tuberculous inmates. A valuable step towards more complete co-operation and co-ordination has been made in Dispensary Area 2, where the consultant tuberculosis officer has made mutual arrangements with the medical superintendent of one union infirmary to visit monthly.

After-Histories of patients who received sanatorium or home treatment.

On pages 78 to 80 the after-histories of 2,228 patients who completed a course of sanatorium treatment are compared with 1,640 patients in a similar stage of the disease who did *not* undergo sanatorium treatment. The result is in favour of the sanatorium patients. Considerable controversy has taken place in the country as to the merits of the sanatorium ; I consider it now proved that, given reasonably early cases for treatment and an institution with a capable superintendent, sanatorium treatment is justified by its results.

Reports on county sanatoria and hospitals.

Particulars are given on pages 59 to 71 of the sanatoria and hospitals belonging to or leased by the County Council, and the reports of the medical superintendents on the patients' treatment, recreation, and welfare are also included, together with several photographs illustrating the life at the High Carley and Elswick sanatoria. In recent years much attention has been paid to giving the patients purposeful work as part of sanatorium treatment. The photographs will show there are no "loafers" in the County sanatoria. These efforts have had the effect of making the patients more settled and contented, and the proportion wishing to go home before their time, or committing offences against the rules, has considerably diminished. The average stay of patients is about three or four weeks longer than formerly.

Research work.

Attention has continued to be directed to research work, including the trial of new methods of treatment. Professor Dreyer's vaccine (alipoid t.b.e.) has not fulfilled expectations, nor have other preparations given any striking success. Several are still being experimented with, including a preparation called *la phagolysine*. It has not been possible to obtain a supply of Mr. Spahlinger's complete or partial vaccine or serum. The Committee have decided to set aside a sum of money in the estimates of expenditure specifically for research work by the staff, to prevent the cost falling as an extra charge on a particular sanatorium or hospital.

Distribution of pulmonary tuberculosis in age-groups.

In 1920, Dr. J. Brownlee, in his report to the Medical Research Council, proved that during the years 1881-1910 the prevailing type of pulmonary tuberculosis in Lancashire was the "middle-age" type affecting persons between 35 and 55 years. An examinution which I have had made of the return of deaths for 1923 showed that for the Administrative County the mortality was now heaviest among the "young-adult" group, aged 20 to 25 years, followed by the "middle-age" group, and last by the "old-age" group 65 to 75 years. The subject is dealt with on pages 3 to 5.

League of Nations.—Visit of foreign medical officers.

A second delegation of foreign public health officers came to this country under the auspices of the League of Nations to study British public health organisation. During their stay in Lancashire in March, 1924, they studied the County scheme for the prevention and treatment of tuberculosis. Visits were paid by the whole party to the High Carley Sanatorium, and by the tuberculosis specialists to the Ashton-under-Lyne Dispensary and Peel Hall Pulmonary Hospital.

Tuberculous cattle.

In previous reports, I have referred at considerable length to tuberculous cattle in relation to non-pulmonary tuberculosis. The Tuberculosis Order of 1914, which provided for the slaughter of tuberculous cattle with payment of compensation to the owner, unfortunately still remains in abeyance since its withdrawal by the Government in 1914. The Milk and Dairies (Consolidation) Act of 1915 should come into operation on the 1st September, 1925, and under its provisions the powers of the County Council will be greatly augmented with regard to the inspection of cattle, dairies, and milk utensils, and also the registration of dairies and dairymen.

Donations and gifts.

The Committee have acknowledged with thanks donations for purchasing a piano and wireless sets for County institutions, and also gifts of books, periodicals, games, gramophone, and gramophone records.

Cost of tuberculosis scheme.

The cost of the County scheme dealing with tuberculosis, allowing for government grants, has required a County rate of a little over one penny farthing in the £ for the current financial year 1924-25.

It is a pleasure to refer once more to the untiring and willing help received from my medical colleagues, the nursing staff, and clerical staff. The higher the efficiency of " team work," the greater will be the success of any reliable scheme dealing with the prevention and treatment of tuberculosis. For the annual report I have had much help from my principal clerk, Mr. H. F. Hughes, and have, in addition, to thank the Public Health Department for assistance with statistics.

I am,

Your obedient Servant,

G. LISSANT COX,

Central Tuberculosis Officer.

County Offices, Preston,
9th October, 1924.

INCIDENCE OF AND MORTALITY FROM TUBERCULOSIS.

The following Table 1 shows the cases notified and the deaths registered during 1923 and preceding ten years in the County area :—

Year.	Cases Notified.			Deaths.			Death-rate per 1,000 of population.		
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Tuberculosis (all forms).
1913	2,700	1,592	4,292*	1,441	527	1,968	0·82	0·30	1·12
1914	2,820	1,140	3,960	1,523	572	2,095	0·87	0·32	1·19
1915	2,872	1,128	4,000	1,614	555	2,169	0·96	0·34	1·30
1916	2,689	1,180	3,869	1,685	471	2,156	1·04	0·29	1·33
1917	2,375	1,062	3,437	1,584	466	2,050	1·00	0·30	1·30
1918	2,534	885	3,419	1,652	435	2,087	1·07	0·28	1·35
1919	2,105	847	2,952	1,339	358	1,697	0·80	0·22	1·02
1920	2,084	968	3,052	1,323	396	1,719	0·76	0·23	0·99
1921	2,044	899	2,943	1,301	376	1,677	0·73	0·21	0·95
1922	1,863	956	2,819†	1,362	389	1,751	0·77	0·22	0·99
1923	**1,937**	**1,188**	**3,125‡**	**1,250**	**412**	**1,662**	**0·70**	**0·23**	**0·93**

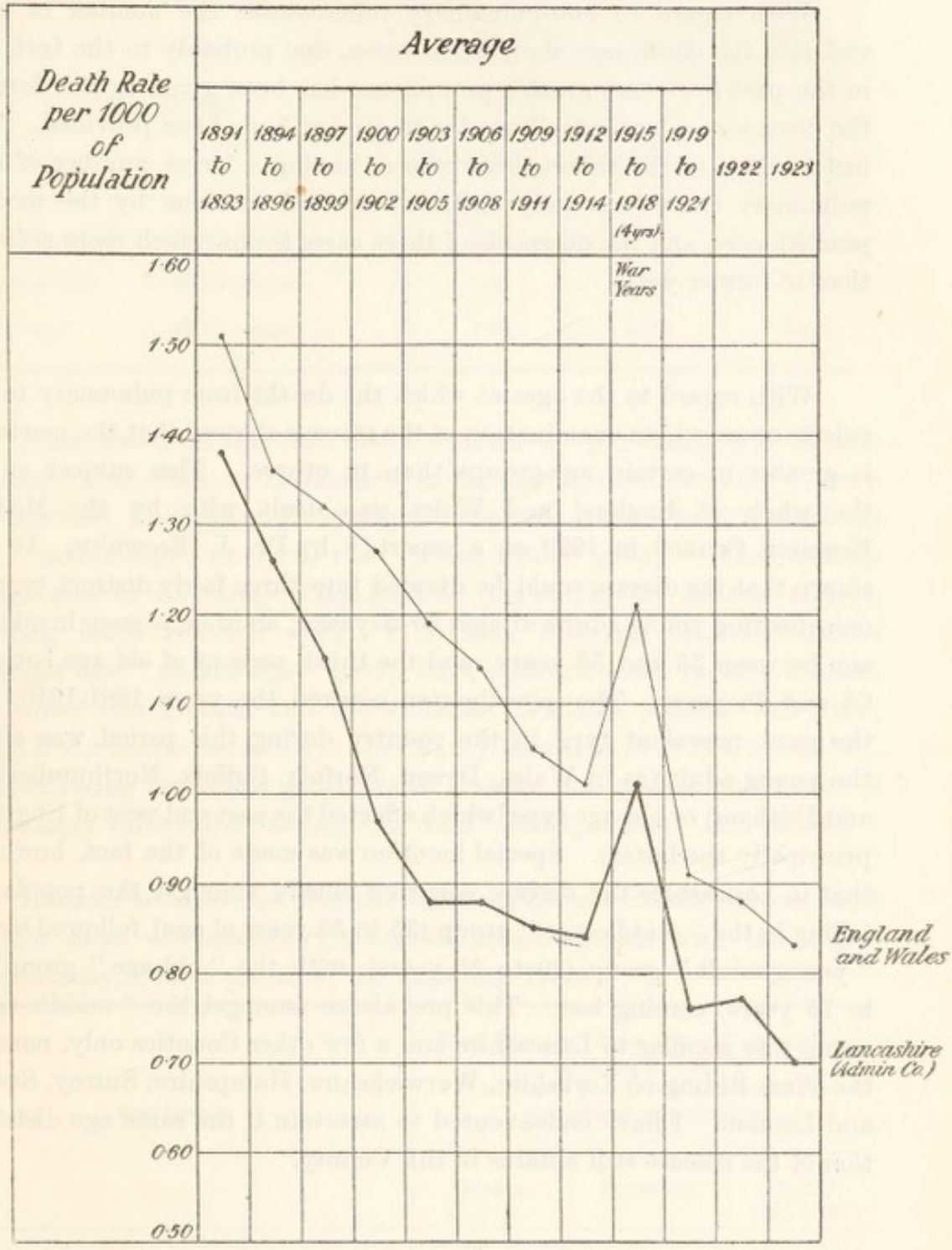
For footnotes, see page 8.

The number of persons dying from pulmonary tuberculosis (consumption) in 1923, both in the aggregate and calculated per 1,000 of the population, *is the lowest ever recorded in the Administrative County* since statistics were first compiled in 1890. Moreover, there is every probability, gauged by the returns so far received for 1924, that a further fall in the pulmonary deaths will be found to have taken place during the present year. It must not be forgotten, as Sir Robert Philip points out [1] that the remarkable fall in the mortality has taken place in spite of the keener search for cases and the improved methods of diagnosis which have resulted from the wide awakening of interest in the subject.

With regard to the possibilities in the future, I am in no doubt that, as long as the schemes for the prevention and treatment of tuberculosis are continued and strengthened, and with further progress in general sanitation and housing, the mortality from tuberculosis will become gradually less and less, until of very small proportions.

The chart opposite shows more graphically the fall experienced in the death-rate from pulmonary tuberculosis in the Administrative County of Lancaster compared with England and Wales :—

DEATH-RATES FROM PULMONARY TUBERCULOSIS, 1891-1923.



The main points which emerge from the chart are : First, the County death-rate from pulmonary tuberculosis is invariably below that for England and Wales ; second, the County pulmonary rate is only half of what it was 33 years ago ; and third, the abnormal rise of the mortality during the war years 1915-18, which are taken together deliberately for striking an average. The improvement in the pulmonary mortality has been shared by both the urban and rural districts, where the rate has fallen to 0·72 (urban) and 0·59 (rural) in 1923, as compared with 0·79 (urban) and 0·60 (rural) in the previous year.

With regard to non-pulmonary tuberculosis, the number of cases and also the death-rate show an increase, due probably to the fact that in the past few years greater prominence has been given to this form of the disease and better facilities for treatment have been provided. This has resulted in the tuberculosis officers having a larger number of non-pulmonary cases (especially children) referred to them by the medical practitioners, and the diagnosis of these cases is now much more accurate than in former years.

With regard to the ages at which the deaths from pulmonary tuberculosis occurred, an examination of the returns showed that the mortality is greater in certain age-groups than in others. This subject as for the whole of England and Wales was dealt with by the Medical Research Council in 1920 on a report [2] by Dr. J. Brownlee. It was shown that the disease could be divided into three fairly distinct types—one affecting young adults at ages 20-25 years; another, persons in middle-age between 35 and 55 years; and the third, persons of old-age between 65 and 75 years. The investigation covered the years 1881-1910, and the most prevalent type in the country during this period was either the young-adult (as in Wales, Devon, Norfolk, Suffolk, Northumberland and Durham) or old-age type (which affected the east and west of England, principally the latter). Special mention was made of the fact, however, that in Lancashire the disease occurred chiefly amongst the population falling in the "middle-age" group (35 to 55 years of age), followed by the "young-adult" group (20 to 25 years), with the "old-age" group (65 to 75 years) coming last. This prevalence amongst the "middle-age" group was peculiar to Lancashire and a few other Counties only, namely, the West Riding of Yorkshire, Warwickshire, Hampshire, Surrey, Sussex and London. I have endeavoured to ascertain if the same age distribution of the disease still obtains in this County.

As the particulars in the form required to make this calculation are not furnished in the ordinary course to the County Council by the Registrar-General, I made a special arrangement with his department to supply the figures in the necessary age-groups for the deaths from pulmonary tuberculosis occurring in 1923 in Lancashire. The statistics revealed that the death-rates in the particular age-groups in the Administrative County were as follow :—

TABLE 2.

Age-Group.	Pulmonary Tuberculosis, 1923 : Death-rate per 1,000 of particular age-group population.		
	Males.	Females.	Total (M. & F.)
" Young-adult "—20-25 years	1·52	1·00	1·24
" Middle-age " —35-55 years	1·30	0·58	0·92
" Old-age " —65-75 years	1·01	0·32	0·62

Thus, based on the 1923 death returns, the prevailing type of pulmonary tuberculosis in Lancashire, so far as the Administrative County is concerned, has apparently changed during the past 20 to 30 years from the " middle-age " group to the " young-adult " group. What exactly is the cause of the change is not known—it is still a very difficult subject, inviting much research work. I do find, however, that the deaths amongst the " middle-age " group have declined more rapidly than in the other two groups, and the statistics available support this view. Even if the deaths occurring in the County Boroughs in 1923 are included, thus covering the whole geographical County, the greater prevalence of pulmonary tuberculosis among the total " young adults " still obtains.

In order to ascertain if in the three age-groups chosen the incidence of new cases of pulmonary tuberculosis corresponds with the degree of mortality, I have prepared the following Table 3 :—

Age-Group.	New Cases of Pulmonary Tuberculosis notified in 1923 : Case-rate per 1,000 of particular age-group population.		
	Males.	Females.	Total (M. & F.)
" Young-adult "—20-25 years	1·89	1·83	1·86
" Middle-age " —35-55 years	1·55	0·91	1·21
" Old-age " —65 and upwards ...	0·41	0·39	0·40

It is clear that young-adults are more prone to attack by pulmonary tuberculosis than older persons, which corresponds with the heavier mortality they experience.

Conclusions.

1.—The prevailing type of pulmonary tuberculosis in the Administrative County of Lancaster at the present time is that affecting "young-adults" of 20 to 25 years of age, followed next in order by the "middle-age" group of 35 to 55 years, and then the "old-age" group, 65-75. This is different to what occurred 20 to 30 years ago, when the order as shown by Dr. Brownlee [2] was: "middle-age" group, "young-adults," and "old-age" group.

2.—The change is due to the greater decline in the deaths from pulmonary tuberculosis amongst the "middle-age" group.

3.—There is evidence of a greater case mortality from pulmonary tuberculosis amongst the young adults—indicating a more virulent form of the disease—than among the other two groups (see page 79).

Table 4 below shows for the Administrative County the percentage of male and female pulmonary deaths in the various age-groups:—

Year.	Deaths at all ages from Pulmonary Tuberculosis.	Deaths in various Age Groups.—Years.							
		0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and over.
		%	%	%	%	%	%	%	%
Males—									
1916 ...	900	·2	·7	1·2	3·1	14·8	43·5	33·3	3·1
1917 ...	827	·6	·8	·7	2·5	15·1	45·9	30·5	3·7
1918 ...	844	·2	·8	·9	3·7	16·1	43·8	29·9	4·4
1919 ...	675	·6	·6	1·2	2·9	14·5	42·4	33·3	4·4
1920 ...	729	·8	·3	·7	2·9	15·9	40·0	35·2	4·1
1921 ...	682	·3	...	·4	2·2	15·2	44·3	34·6	2·9
1922 ...	754	·5	·5	1·2	1·9	17·1	39·1	35·4	4·1
1923 ...	704	·1	·6	...	1·8	19·2	41·6	31·7	4·9
Females—									
1916 ...	785	·4	1·1	1·4	8·7	22·9	47·1	16·4	1·9
1917 ...	757	·5	·5	1·4	8·3	25·9	43·9	17·6	1·7
1918 ...	808	·2	·1	·5	6·8	26·6	46·2	17·2	2·3
1919 ...	664	·3	·6	1·2	6·8	25·1	44·1	17·8	4·1
1920 ...	594	·3	1·2	·8	4·7	27·9	43·3	19·2	2·5
1921 ...	619	·3	·2	·3	5·5	25·2	48·1	17·8	2·6
1922 ...	608	·3	·5	·6	3·9	31·1	40·8	18·4	4·3
1923 ...	546	·2	·4	1·5	5·5	30·2	42·8	16·7	2·7

As in previous years, the total fatalities amongst males exceed those of females—this being especially so in the case of men between 45 and 65 years of age—despite the fact that the female population exceeds the male by 88,684. Between 5 and 25 years of age the female deaths predominate, for age-groups 25 to 45 the rates are almost equal for both sexes ; but in the next group, 45 to 65, the male deaths are much greater.

The higher mortality of males over females, based on the sex distribution at the Census, is illustrated in the following Table 5 :—

Year.	Population.*		Death-rate per 1,000 of Population according to sex.					
	Males.	Females.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Tuberculosis (all forms).	
			M.	F.	M.	F.	M.	F.
1920	829,438	916,800	0·80	*0·65*	0·24	*0·21*	1·13	*0·86*
1921	829,438	916,800	0·82	*0·67*	0·24	*0·18*	1·07	*0·86*
1922	838,837	927,190	0·89	*0·65*	0·24	*0·19*	1·14	*0·84*
1923	841,987	930,671	0·83	*0·58*	0·27	*0·19*	1·11	*0·78*

* 1920 and 1921, Census population : 1922 and 1923 estimated population.

The deaths and death-rates from tuberculosis in the various dispensary areas in the County during 1923 were as follow :—

TABLE 6.

Dispensary Area.	Estimated Population 1923.	Number of Deaths.		Death-rate per 1,000 of Population, 1923.	
		Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.
No. 1	244,001	164	60	0·65	0·24
Furness Sub-Area	42,585	33	13	0·77	0·30
Fylde Sub-Area	51,438	29	8	0·62	0·17
No. 2	359,877	225	87	0·62	0·24
No. 3	376,576	291	100	0·77	0·26
No. 4	451,415	334	93	0·73	0·20
No. 5	246,766	174	51	0·70	0·20
Total ...	1,772,658	1,250	412	0·70	0·23

In Appendix I. on page 102 of this Report is given the death-rates from pulmonary and non-pulmonary tuberculosis in the various urban and rural sanitary districts in the Administrative County. The highest pulmonary death-rates were recorded in the following districts: Dalton-in-Furness 1·52, Failsworth 1·33, Heywood 1·25, Withnell 1·15, Colne 1·10, Thornton 1·09, Kearsley 1·08, Sefton Rural 1·08, Lancaster (B.) 1·07, Morecambe 1·07, Barrowford 1·05, Bury Rural 1·03, Mossley (B.) 1·00; and the lowest in: Croston, Little Crosby, Norden, Poulton-le-Fylde and Rainford nil, Aspull 0·12, Church 0·14, Wigan Rural 0·15, Billinge 0·19, Lees 0·20, Adlington 0·22, and Heysham 0·25.

The notifications from tuberculosis are dealt with further in Appendix III., where tables are inserted analysing the notifications in 1923 as regards the parts of the body affected and in age and sex groups.

Of the 1,662 deaths from tuberculosis in 1923, 970, or 58·4 per cent., were of patients who had made application for treatment to the County Council.

Cancellation of Notifications made in error.

Following on a suggestion made in August, 1922, by the Chief Medical Officer of the Ministry of Health, in any case notified as tuberculosis and found, as the result of observation and examination by the tuberculosis officer, to have been wrongly notified, steps are taken, with the previous consent of the practitioner concerned, to have the notification cancelled in the County and District records.

Of the cases notified in 1923, 33 pulmonary and 31 non-pulmonary have been so cancelled up to the 30th June, 1924. Consequently 64 cases have been deducted from the notification statistics in this Report.

Changes in Nomenclature of Pulmonary and Non-Pulmonary Tuberculosis.

The Registrar-General, in his Report for 1921, substituted the words "*Tuberculosis of the Respiratory System*" for the term "*Pulmonary Tuberculosis.*"

One effect of this change is that deaths from acute "miliary" tuberculosis, which were formerly included under "pulmonary" tuberculosis, are now, by international agreement, classified under "other forms" of tuberculosis, and the mortality tables for England and Wales in the Report of the Ministry of Health have been altered accordingly, but it is not possible for the County statistics to be similarly altered for the years prior to 1921.

The change only makes a very slight difference—almost negligible—in the statistics, and for convenience of reference the better known terms "pulmonary tuberculosis" and "non-pulmonary tuberculosis" have been retained in this Report in preference to the corresponding new nomenclatures "Tuberculosis of the Respiratory System" and "Other Forms of Tuberculosis."

Footnotes, Table 1.:—

* Notifications during a period of 48 weeks only.

† Corrected figure after deducting 14 pulmonary and 12 non-pulmonary cases notified in error by practitioners, and found to be non-tuberculous.

‡ Corrected figure after deducting 33 pulmonary and 31 non-pulmonary cases notified in error by practitioners, and found to be non-tuberculous.

References.

(1) Edinburgh Medical Journal, September, 1924, "The Effects of the Anti-Tuberculosis Campaign on the diminution of the mortality from Tuberculosis," by Sir Robert Philip, M.D., LL.D.

(2) "An investigation into the Epidemiology of Phthisis," Medical Research Council, Special Report, No. 46.

CASE NOTIFICATIONS COMPARED WITH REPORTED DEATHS FROM TUBERCULOSIS.

It will be generally agreed that measures dealing with an infectious disease such as tuberculosis require, for full success, an accurate and complete knowledge of all the existing cases. If, for example, cases are only heard of through the death certificate, or shortly before death when in an advanced stage of the disease, control of spread of infection cannot be effective. For several years special attention has been paid and much research made into reasons for non-notification and late notification of cases, and there is no doubt that the Public Health (Tuberculosis) Regulations are now much better observed than they were three, four, and five years ago. In this report a further step is taken for the first time, namely, a study of the proportion of deaths to notifications in different sanitary areas of the Administrative County. The following paragraphs will show that there are great differences in the proportion of deaths to notifications. The names of a few districts will be given where the deaths from consumption exceed the notifications in a five-year period, 1919-23. Various reasons for this will be discussed in order to find whether a serious omission on the part of some doctor or doctors in these areas to carry out their statutory obligations is the chief reason for these differences.

(*a*) Deaths from Tuberculosis in 1919-23 compared with Cases Notified.

In the Administrative County during the five years 1919-23, the ratio of cases notified to deaths recorded from tuberculosis was :—Pulmonary, 151 cases to 100 deaths ; non-pulmonary, 252 cases to 100 deaths. For England and Wales the corresponding proportions were :—Pulmonary, 167 cases to 100 deaths ; non-pulmonary, 172 cases to 100 deaths. An examination of the annual returns for the urban and rural districts shows that in a small number of districts the proportions are very much below the County average—in some instances even more deaths are recorded than cases notified. The cases and deaths for each urban and rural district have been taken over a period of five years

commencing after the war. The particulars have been compiled for pulmonary and non-pulmonary cases and deaths, and the details of the whole enquiry are set out in Appendix II. of this Report (pages 104 to 106).

The names of the urban and rural districts are given below where the deaths from consumption exceed or nearly equal the notifications in a five-year period, 1919-23 :—

Administrative County of Lancaster. Period 1919-23 (inclusive).

Sanitary District.	Pulmonary Tuberculosis. No. of Deaths.	No. of Cases Notified.
Urban—		
Blackrod	11 ...	5
Longridge	19 ...	13
Little Lever	16 ...	14
Upholland	22 ...	18
Wardle	20 ...	18
Trawden	11 ...	10
Poulton-le-Fylde	10 ...	10
Urmston	33 ...	33
Aspull	19 ...	20
Standish-with-Langtree	27 ...	28
Leyland	32 ...	33
Turton	28 ...	30
Padiham	49 ...	53
Bacup (Borough)	74 ...	78
Brierfield	36 ...	39
Darwen (Borough)	104 ...	109
Prestwich	72 ...	76
Middleton (Borough)	122 ...	131
Rural—		
Lunesdale	20 ...	17
Preston	67 ...	70
Blackburn	31 ...	35
Sefton	21 ...	22

To find the reason or reasons for the great variations in different sanitary districts in Lancashire, differences which also exist in other parts of the country, it will be necessary to consider the following :—

1.—Special circumstances of an area, such as the presence of a poor-law infirmary or an asylum.

2.—A possible different type of the disease prevailing in different areas.

3.—Possible racial differences in the population of certain areas.

4.—Varying methods adopted by medical practitioners in different areas in reference to notification.

Special circumstances of an area, such as the presence of a poor-law infirmary or an asylum.

If a local sanitary area has more deaths than notifications, one reason or excuse advanced for this is the presence of an asylum, union infirmary, or other public institution in the area. It is true that in the past notification has been very unsatisfactorily carried out by many public institutions, but this fact has not the same weight at the present time. But in as much as the Tuberculosis Regulations provide for notifications to be allocated, in a similar way to any death from tuberculosis, to the district in which the patient resided prior to entering the institution, it is clear the main reason for variations in the proportion of deaths to notifications cannot lie in the presence or absence of a hospital, asylum, or union infirmary. There are, however, persons with no settled abode to which they can be assigned, and this, coupled with any irregularity in notification at an institution, will affect some areas, particularly those with a small population which have in their midst one or more large institutions.

A possible different type of the disease prevailing in different areas. Possible racial differences in the population of certain areas.

These may be conveniently discussed together. There is, I think, some evidence that the type of the disease varies somewhat in different areas. If, for example, it is of a fulminating type in one area, and of a much milder type in another, or, which comes to the same thing, if the disease is more easily resisted by a population in one area than another—and this seems to depend in places upon the proportion of Irish blood—then the figures as between one area and another will show differences. I propose to investigate the number of virulent type cases in each area so as to ascertain which, if any, have the larger proportions. It will, however, be clear that neither different types of the disease nor racial differences can alter the seriousness of deaths occurring without any notification at all.

Varying methods adopted by medical practitioners in different areas in reference to notification.

Perhaps the most important cause of variations under this heading is differences in the efficiency of the tuberculosis services of both county councils and county borough councils. In the Administrative County of Lancaster the efficiency as measured by co-operation with the practitioners, is such that 76·6 per cent. of cases are referred to the consultant tuberculosis officers prior to the receipt by them of particulars of the statutory notification, and as a result of this we would expect that many persons sent for examination are not notified, as the tuberculosis officer does not consider them to be tuberculous. But, on the other hand, we would also expect that fewer patients would be seen in an early stage of the disease if the percentage of cases referred to the tuberculosis officer was much lower. The stage of disease at which patients come to the dispensary is now fairly constant (as well as unsatisfactory), so that a high proportion of cases or *suspected* cases referred before notification will probably lower the number of notifications compared to deaths in areas where the co-operation between the tuberculosis staff and the doctors is good. Then some persons notified by doctors are found by the tuberculosis officer to be non-tuberculous, and machinery now exists and is in force in Lancashire for cancelling the notification. Sixty-four of such notifications made in error during 1923 were cancelled. This fact will again lower the number of notifications compared with deaths when Lancashire is compared with other areas.

In regard to differences in individual districts within the County itself, some doctors will send a larger proportion of "suspect" cases to the tuberculosis officer, whilst others wait until the sputum is positive, a method which immediately results in a higher proportion of deaths. Finally, the differences as between local sanitary districts will be vitally affected if any doctor or doctors do not notify cases at all, except at death or just before death. This is a side of the subject I am taking up with the doctors concerned in individual cases, with a view of bringing to their special notice the assistance which can be given under the County scheme in regard to diagnosis and early treatment. There appears to be some evidence that there do exist in a few cases doctors with very large practices from whom a surprisingly small number of tuberculosis notifications are received.

Summary.

From the foregoing information it is clear that notification of cases of tuberculosis is carried out unevenly in the 121 urban and rural districts

in the County, particularly in regard to pulmonary tuberculosis. After making allowances for special local and other circumstances, there is no doubt that in a number of districts there is room for improvement in prompt notification as required under the statutory regulations. It is known from other phases of the work that efficiency in notification has steadily progressed during the past four years in the County. However, having now been able to locate the districts in which proportionately the least notifications are made, I expect by means of future enquiries and with the help of the consultant tuberculosis officers, the local medical officers of health, the medical officers of public institutions, and the practitioners to secure improvement.

(*b*) Deaths from Tuberculosis of Persons not Previously Notified.

The number of deaths from pulmonary tuberculosis which are reported for the first and only time at death give some indication of the extent of unknown or carrier cases of tuberculosis which exist and spread infection among the community.

In the Administrative County the extent of such non-notification is as follows :—

	1918.	1919.	1920.	1921.	1922.	**1923.**
Proportion of non-notified fatal cases of pulmonary tuberculosis to total pulmonary deaths reported by local registrars ...	18%	16%	13%	10%	8%	6·8%

The decline has been consistent and satisfactory, especially in comparison with similar figures published for other areas.

The actual number of deaths since 1918 not previously notified under the Public Health (Tuberculosis) Regualtions, 1912, is as follows :—

Year.	Pulmonary Tuberculosis (Consumption).	Non-Pulmonary Tuberculosis.	Total.
1918	303 ...	137 ...	440
1919	221 ...	104 ...	325
1920	177 ...	122 ...	299
1921	135 ...	96 ...	231
1922	105 ...	83 ...	188
1923	**85** ...	**74** ...	**159**

The 1923 figures are further analysed below :—

TABLE 7.

Deaths in 1923 of cases NOT *previously notified under the Regulations.*

	Cause of Death.			Total.
	Pulmonary. Primary.	Pulmonary. Secondary.	Non-Pulmonary	
No. of deaths of persons at private addresses	58	5	53	116
No. in County Mental Hospitals of persons belonging to County area	3	...	1	4
No. in Union Institutions of persons belonging to County area	16	...	7	23
No. in other public institutions of persons belonging to County area	3	...	13	16
	80	5	74	159
	85			

The figures with regard to non-notified fatal cases have been obtained by comparing the weekly returns of deaths supplied by arrangement with the local registrars with the case notifications in the public health department.

During 1923, 102 pulmonary and 70 non-pulmonary deaths occurred outside the County area of persons usually residing in the Administrative County. Of these, 94 pulmonary and 68 non-pulmonary occurred in public institutions. In 67 instances no case notification could be traced. These are not included in Table 7.

Three objects are served by a notification of a case of tuberculosis : first, the local sanitary authority is made aware of what may be, or possibly will be, a case of infectious disease, and, through the information received will be in a position to deal with it ; second, the person comes under the County organisation dealing with the disease, and can then receive the advice and assistance of the tuberculosis officer and such treatment as is recommended can be given under the County scheme ; third, the examination of " contacts " is made possible.

Special Inquiry into Non-notified Fatal Cases.

Under the Public Health (Tuberculosis) Regulations, 1912, a medical practitioner is required to notify every case to the local medical officer of health within 48 hours of diagnosis, and it is a matter of considerable importance to ascertain the circumstances under which notification in certain instances came to be omitted.

Commencing in October, 1920, special investigations have been carried out in regard to every individual death recorded which had not

been previously notified. For the calendar year 1923 there were 159 such deaths, and the enquiry for that year gave the following important results :—

(1) That so many as 43 of the 159 deaths in 1923 occurred in public institutions.

(2) That of the remaining 116 deaths, the circumstances of non-notification were as stated in the following table :—

TABLE 8.—*Circumstances of Non-Notification of Fatal Cases.*

	Period 1st January, 1923, to 31st December, 1923.		
	Pulmonary.	Non-Pulmonary.	Total.
Doctor in attendance shortly before death—			
1 week or less	3	6	20
1 to 2 weeks	2	7	
2 to 3 weeks	...	2	
Misinterpretation of Tuberculosis Regulations and notification believed to be unnecessary—			
Cases previously notified in another area ...	3	...	40
Disease of long duration, prior to compulsory notification	1	1	
Temporary resident	6	3	
Cases known to Tuberculosis Officers—considerable doubt as to diagnosis in some of these cases	20	6	
Attended by more than one doctor, and notification believed to have been made by first practitioner	11	6	17
Complicated cases, presenting difficulty in diagnosis	7	12	19
Accidental omission to notify	5	1	6
No apparent reason for non-notification ...	2	6	8
	60	50	110
Information not ascertained	3	3	6
Total	63	53	116

(3) That in so many as 18 per cent. of the 110 deaths (excluding those where no information could be obtained) the doctor was only called in attendance a matter of a few days prior to death. These cases referred generally to children with meningitis, and from the nature of the complaint much improvement in the notification cannot be expected.

(4) That in only 7 per cent, of the 110 deaths there was apparently no reasonable excuse for non-notification.

(5) While it is possible to suggest that a large proportion of persons certified as dying from tuberculosis (all forms), but not previously notified as suffering from the disease, were wrongly diagnosed by the practitioner at the time of writing out the death certificate, there does not appear from the enquiries to be any large margin of error so far as pulmonary tuberculosis is concerned.

(6) That in 51 per cent. of the 110 deaths notification was not made, owing to a misunderstanding of the Tuberculosis Regulations or to the belief that the case had already been notified.

In regard to No. (6), the cause of the misunderstanding appears to have been that part of Article V. of the Tuberculosis Regulations which directs that a practitioner *shall not notify a case if he has reasonable grounds for believing that the case has already been notified.* Representations have been made by the County Tuberculosis Committee to the Ministry of Health that the Article in question shall be amended so as to remove the cause of frequent omissions to notify cases. The Ministry have now issued a circular (dated 2nd August, 1923) to every medical practitioner in the country, explaining that in case of doubt as to whether a case has already been notified or not, the practitioner himself should apply to the local medical officer of health for information on the point before deciding that it is not necessary for him to notify. This new instruction does not go nearly far enough.

(*c*) Deaths of 387 Persons within Three Months of Notification.

The examination of the notifications and the death returns shows that in the year under report 387 deaths (369 pulmonary and 18 non-pulmonary—analysed in table in Appendix III.) took place in the County area of persons notified as suffering from tuberculosis within three months of the date of notification of the case. This is equal to 30·9 per

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In addition to the foregoing 387 deaths which occurred within three months of notification, in 29 instances death took place before the receipt of the notification, against 28 in the preceding year.

cent. of the total pulmonary deaths, compared with 27·8 per cent. in 1922, 28 per cent. in 1921, 26 in 1920, 27 in 1919, 25 in 1918, 27 in 1917, 28 in 1916, and 26 in 1915.

At a first glance it would appear that no improvement was taking place with regard to these cases. But throughout the County co-operation between the general practitioners and the tuberculosis officers is very good, some 76 per cent. of the new cases in 1923 being referred to the dispensary staff for examination or opinion as to diagnosis prior to notification being made. Consequently continuing the procedure adopted in the 1921 Report—special attention has been directed to these 387 deaths occurring within three months of notification, and all the information available in regard to each individual case has been examined to ascertain, where possible, the nature of the circumstances operating against earlier notification.

The particulars ascertained vary but little from those of previous years, and in order to save space the tables prepared are not reproduced this year, but the conclusions arrived at—which are similar to and confirm those in previous reports—as the result of the investigation are as follow :—

1.—That the net number of 337 deaths investigated, which occurred in 1923 within three months of notification, can be reduced by so many as 265, or 78·6 per cent., when allowance is made for fulminating cases, complicated cases presenting difficulty in diagnosis, deaths in public institutions, patients who had been attending their doctors for less than two months prior to notification, cases known to the tuberculosis officer for more than three months prior to death, and for certain lay reasons, *e.g.*, removals into County, patients without doctor, and patients refusing to accept treatment.

2.—That, in the remaining 72 cases, representing 21·4 per cent., the patients had been under their doctors two or more months prior to the date of notification or the date of the first examination by the tuberculosis officer. After making deductions for obstinate patients and those who do not disclose their symptoms to the doctor for some weeks, there is a residue of cases, equal probably to not more than 11 or 12 per cent., of the 337 deaths where notification has been unduly delayed.

3.—That, as in the case of advanced patients dealt with on page 22, this investigation shows that, excluding fulminating cases, a considerable number of patients (*i.e.*, 121) delayed consulting their doctors until a date which proved to be less than two months of date of notification or first examination by tuberculosis officer or death.

APPLICATIONS FOR TREATMENT.

Table 9 below shows the number of "new" persons (2,266) who applied for treatment during the calendar year 1923 :—

	Number of Applications received during 1923.	Number Received Treatment.			
		Pulmonary Cases.	Pulmonary and Non-Pulmonary.	Non-Pulmonary Cases.	Diagnosis not Confirmed.
Men	866	647	32	150	37
Women ...	784	528	31	191	34
Boys	320	49	19	234	18
Girls	296	63	14	198	21
TOTAL ...	2266	1287	96	773	110

N.B.—In this table a person who received treatment within the period appears once only, even though he has received treatment in more than one form.

Applications received in previous years were :—1922, 2,099 ; 1921, 2,264 ; 1920, 2,434 ; 1919, 2,168 ; 1918, 2,309 ; and average for 1914-17, 1,790.

During 1923, there were 3,125 cases notified under the Public Health (Tuberculosis) Regulations as suffering from tuberculosis (all forms) ; whereas the number of persons who applied for treatment to the County Council was 2,266, equal to 72·5 per cent. of the notifications.

This figure represents only approximately the percentage of notified cases applying for treatment, as, to be strictly accurate, minor adjustments are required for doubtful cases, removals, and cases where the diagnosis was not confirmed. The cases notified in 1922 who applied for treatment in 1923 may be taken as roughly equivalent to the 1923 notifications applying in 1924. With regard to the balance (approximately 27·5 per cent.) of the notifications where the patients did not apply to the County Council for treatment, the principal reasons for this were : patients suffering from meningitis or other fatal forms of the disease ; patients removed out of county area ; cases in which the diganosis was not confirmed and no treatment required ; and patients who, for some reason or other, did not wish to avail themselves of the benefits under the County scheme.

STAGE OF DISEASE OF ADULT PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS.

During 1923, applications for treatment were received from 1,238 new adult patients (*i.e.*, 15 years and over), and these were reported by the tuberculosis officers to be in the undermentioned stages of the disease on the first examination :—

Early, or first stage	291,	or 23·5 per cent.
Intermediate, or second stage ...	591,	or 47·7 per cent.
Advanced, or third stage	325,	or 26·3 per cent.
Diagnosis doubtful	31,	or 2·5 per cent.
	1,238	100·0

In regard to the "doubtful" cases, it has been the practice to review the diagnosis at the end of the particular year of application, and if by then the case has been definitely established to be tuberculosis, it is classified under the appropriate stage. Thus, in 1923, on the first examination by the tuberculosis officer, there were 71 patients in whom the disease was "doubtful," but as the result of subsequent examinations 40 were definitely diagnosed and disposed of to the various stages (stage I. 22, stage II. 14, and stage III. 4), leaving 31 still "doubtful" at the end of the year.

The stage of the disease on the patient first coming under the tuberculosis scheme has an important bearing on the prospects of successful treatment, and the table below has been prepared to show the position in regard to adults applying for treatment since 1914 :—

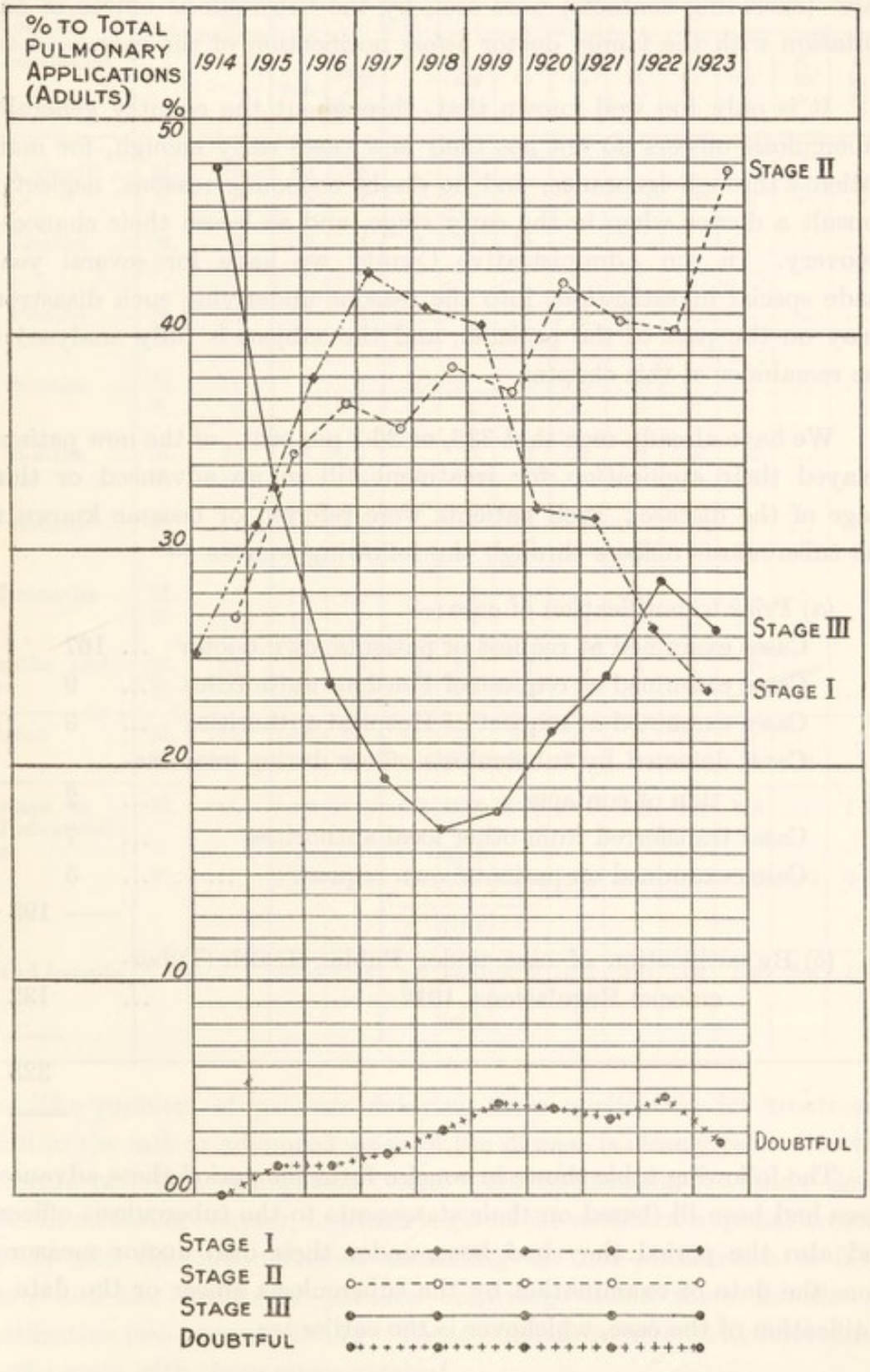
TABLE 10.—*Stage of disease of new adult patients applying for treatment.*

Pulmonary Tuberculosis.	Year of Application.									
	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	**1923.**
†Stage I. ...	305	457	544	615	629	598	454	415	323	291
†Stage II. ...	326	507	526	512	586	551	604	538	493	591
†Stage III. ...	578	484	340	278	260	264	307	319	352	325
Doubtful ...	...	20	20	29	48	64	58	48	57	31
Total ...	1209	1468	1430	1434	1523	1477	1423	1320	1225	1238

† Classified according to the system of Turban-Gerhardt.

The position in comparison with previous years, shown in percentages to total pulmonary applications, may be more readily seen from the following chart :—

STAGE OF DISEASE OF NEW CASES (ADULTS, 15 YEARS AND OVER).



There has been a slight improvement in the percentage of advanced (Stage III.) cases, but, on the other hand, the proportion of intermediate (Stage II.) cases has risen considerably. Thus 74 per cent. of the new cases were either in the intermediate or advanced stages of the disease, and this in spite of the fact that no less than 76·6 per cent. of all new cases (excluding contacts) were seen by the tuberculosis officer in consultation with the family doctor *before* notification of the case.

It is only too well known that, throughout the country generally, tuberculosis officers do not get their new cases early enough, for many patients through ignorance, and no doubt economic reasons, neglect to consult a doctor when in the early stage, and so lessen their chance of recovery. In the Administrative County we have for several years made special investigations into the reasons underlying such disastrous delay on the part of the patients, and the subject is fully analysed in the remainder of this chapter.

We have already seen that 325, or 26·3 per cent., of the new patients delayed their application for treatment till in an advanced or third stage of the disease; such patients were referred or became known to the tuberculosis officers through the following sources :—

(*a*) Prior to notification of case :—		
Cases examined at request of patients' own doctor ...	167	
Cases examined at request of Pensions authorities ...	9	
Cases examined at request of Hospital authorities ...	3	
Cases detected by tuberculosis officer during examination of contacts	2	
Cases transferred from other local authorities ...	7	
Cases examined on patients' own request	5	
		193
(*b*) By notification of case under Public Health (Tuberculosis) Regulations, 1912		132
		325

The following table shows in concise form the period these advanced cases had been ill (based on their statements to the tuberculosis officer), and also the period they had been under their own doctor measured from the date of examination by the tuberculosis officer or the date of notification of the case, whichever is the earlier :—

TABLE 11.—*Advanced adult new patients in 1923—Duration of illness and period under doctor.*

Duration of Patients' Illness at date of notification or T.O.'s examination.	Sex.	Number of Patients	Sputum.		No doctor.	Period under Medical Attendant at date of T.O.'s examination or at notification. Months.								
			Pos.	Neg. or None.		Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9	9 to 12	12 and over.
Under 1 month ...	M.	18	10	8	...	18	...	...	...	...	...	...	...	...
	F.	8	5	3	...	8	...	...	...	...	...	...	...	...
1 to 2 months ...	M.	24	20	4	2	11	11	...	...	...	...	...	...	...
	F.	18	12	6	1	10	7	...	...	...	...	...	...	...
2 to 3 months ...	M.	18	16	2	...	5	5	8	...	...	...	...	...	...
	F.	14	11	3	...	6	4	4	...	...	...	...	...	...
3 to 4 months ...	M.	10	9	1	1	...	2	5	2	...	...	...	...	...
	F.	6	5	1	...	2	2	...	2	...	...	...	...	...
4 to 6 months ...	M.	19	18	1	...	5	3	2	2	4	3	...	...	...
	F.	30	24	6	3	12	7	3	1	3	1	...	...	...
6 to 9 months ...	M.	11	10	1	...	6	3	1	...	...	1	...	...	...
	F.	16	14	2	...	4	2	...	1	1	1	7	...	...
9 to 12 months ...	M.	13	13	...	...	5	4	...	1	1	...	...	2	...
	F.	11	10	1	...	4	3	3	...	...	...	...	1	...
12 months and over	M.	61	52	9	8	24	8	5	4	1	2	...	1	8
	F.	48	39	9	2	23	7	2	...	1	1	2	...	10
TOTAL ...	M.	174	148	26	11	74	36	21	9	6	6	...	3	8
	F.	151	120	31	6	69	32	12	4	5	3	9	1	10
Percentage to total advanced cases	M.	...	85·0	15·0	6·3	42·5	20·6	12·1	5·2	3·5	3·5	...	1·7	4·6
						69·4								
	F.	...	79·5	20·5	4·0	45·6	21·1	8·0	2·7	3·3	2·0	6·0	0·7	6·6
						70·7								
Males and females	...	...	82·5	17·5	5·2	44·0	20·9	10·2	4·0	3·4	2·8	2·8	1·2	5·5
						70·1								

The problem of patients delaying their application for treatment until in the late or advanced stage of the disease is closely related to the subjects of "late notification" and "non-notification" already dealt with in an earlier chapter, in which is given the results of a special investigation into the circumstances attending the non-notification of fatal cases and the deaths of patients occurring within three months of notification (see pages 14 to 17). Those conclusions arrived at correspond in the main with those given overleaf.

The following conclusions may be drawn from the particulars given as to adult patients suffering from pulmonary tuberculosis who were in an advanced stage of disease on applying for treatment :—

1.—That altogether 70·1 per cent. of the advanced cases either had no doctor or had only been attending their doctor for less than two months when first examined by the tuberculosis officer or notified.

2.—After making allowance for a percentage of fulminating cases ("galloping consumption"), a large proportion—about three-fourths—of patients had been feeling ill one month or more before consulting a doctor.

3.—The reason for late notification and patients delaying their application until in an advanced stage of the disease is chiefly the disinclination or unwillingness of the patients to report themselves to their doctor when feeling ill. This is due mainly to the insidious onset of the disease, the discomfort being only slight at first.

4.—There does not appear to be evidence in any large number of cases of unreasonable delay in patients being referred by their doctor to the tuberculosis officer.

5.—The initiative to seek treatment when ill rests with the patient himself, and the only feasible remedy lies in the education of the public as to symptoms and common dangers of tuberculosis and the need for securing prompt treatment. This cannot be too strongly or too often emphasised.

While it is easy to talk of enlightening the public, there are many difficulties in reaching the people who most require such education. On the tuberculosis officer rests chiefly the duty of stimulating public interest, but an increasing number of sanitary authorities and voluntary care committees are assisting in propaganda work. Better results would, I think, accrue if a bolder effort were made in the teaching of hygiene to the older children at school and the syllabus expanded to permit this.

The tuberculosis medical staff have to depend very largely on the general practitioners throughout the County for bringing forward tuberculous patients, and it is satisfactory to note that, as reported on page 33, 76·6 per cent. of new cases are sent *before notification* to the tuberculosis officers for an opinion as to diagnosis. Too much importance is still laid by some doctors on sputum examinations alone, and often too long a time is allowed to elapse in order that the sputum may be tested, or steps are not taken to report the case until it is returned as "positive."

The following table shows that even after treatment is begun in the early stages of the disease (*i.e.*, I. and I.S.), treatment after a positive sputum makes a fatal result two or three times more likely to happen than after the sputum is negative or absent :—

TABLE 12 —*Treatment of Cases after a Positive Sputum compared with Negative or Absent Sputum.*

Year of Application for Treatment.	Sputum.†	Stage I. and I.S. ("EARLY" cases).			Stage II. and II.S. ("Intermediate" cases).		
		Net No. of Adult Patients who received Treatment (all forms).	Deaths (up to 31st Dec., 1923).		Net No. of Adult Patients who received Treatment (all forms).	Deaths (up to 31st Dec., 1923).	
			No.	%		No.	%
1914 ...	Positive ...	63	40	63·5	154	130	84·4
	Neg. or None	103	21	20·4	82	50	60·9
1915 ...	Positive ...	120	88	73·3	290	253	87·2
	Neg. or None	155	43	27·7	118	63	53·4
1916 ...	Positive ...	140	94	67·1	324	275	84·9
	Neg. or None	239	43	17·9	109	55	50·4
1917 ...	Positive ...	184	107	58·1	348	300	86·2
	Neg. or None	281	41	14·6	93	52	55·9
1918 ...	Positive ...	209	107	51·2	409	318	77·7
	Neg. or None	297	46	15·5	150	61	40·7
1919 ...	Positive ...	166	91	54·8	321	263	81·9
	Neg. or None	302	49	16·2	140	49	35·0
1920 ...	Positive ...	175	102	58·3	400	305	76·2
	Neg. or None	196	34	17·3	140	51	36·4
1921 ...	Positive ...	163	90	55·2	359	250	69·6
	Neg. or None	215	24	11·2	116	39	33·6
1922 ...	Positive ...	117	44	37·6	315	195	61·9
	Neg. or None	163	17	10·4	112	37	33·0

† Where sputum is given as positive, tubercle bacilli have been found on one or more occasions during treatment.

This marked higher rate of mortality among the positive sputum cases as compared with the negative or no sputum cases is confirmed—even to a greater degree—in a special report (No. 85) issued by the Medical Research Council working under the Privy Council dealing with the after-histories of patients treated at Frimley.

CARE WORK.

Tuberculosis is usually a chronic disease, and its most prevalent form, consumption, attacks most commonly adults in the prime of life. These facts are the basis on which rests the need for and the great value derived from what is termed care work—or after-care work. Care work may be also described as something additional to routine methods adopted by a local authority in its tuberculosis scheme for the prevention and treatment of this infectious disease. Under the Lancashire scheme dealing with tuberculosis, persons who apply for treatment are examined by the tuberculosis officer, either at their homes or the dispensary, and as and when required are supplied with paper handkerchiefs and sputum flasks, to prevent the spread of infection; dressings if suffering from "open" surgical tuberculosis; special nourishment, usually in the form of milk; thermometers and appliances such as splints, crutches, supports and surgical boots; and the loan of bedsteads and mattresses, if necessary, to enable patients in an infectious state to have a bedroom to themselves. This may be described as the *preventive* side of home treatment, and is, of course, additional and supplementary to the medical treatment of patients by their own doctors.

If insured, patients who are in full benefit receive: (*a*) as sickness benefit 15s. per week for men and 12s. for women for 26 weeks; followed by (*b*) disablement benefit of 7s. 6d. per week for men and 5s. for women, until 70 years of age.

The Voluntary Care Committees.

But, in addition to all the above, there were at the end of 1923 16 voluntary Care Committees, recognised by the County Council, at work, whilst early in 1924 one was formed for Egerton, Eagley, and District, the whole covering an estimated population of 780,173 out of an estimated County population of 1,772,658. Particulars of the populations served, the number of patients assisted, and the amounts expended during 1923 are as follow:—

TABLE 13.—*Summary of Work done by Voluntary Care Committees.*

Name of Committee.	Estimated Population Served. 1923.	Number of Individual Patients Assisted during 1923.	Expenditure during 1923.
			£ s. d.
Ashton-under-Lyne & District ...	69,940	85	344 8 1
Bacup and Rawtenstall	50,570	24	41 5 2
Chorley	72,894	33	245 2 5
Earlestown, Newton and District	21,903	11	40 11 4
*Eccles Guild of Help	45,270	...	...
†Egerton, Eagley and District ...	5,759	...	...
Farnworth and District	69,405	48	195 3 6
Golborne	7,552	18	53 6 5
Horwich	15,940	17	165 11 5
Lancaster and District	78,000	12	87 14 1
Leigh and District	91,004	115	142 12 1
‡Prescot and District	18,389	...	...
§Prestwich	19,140	...	...
Radcliffe, Whitefield and District Relief Fund	34,931	17	43 19 0
¶Stretford Guild of Help	47,920	...	...
Westhoughton	16,260	20	81 4 9
Wigan County District	115,296	44	74 3 1
TOTAL	780,173	444	£1,515 1 4

* Formed 10th October, 1923.
† Formed 9th January, 1924.
‡ Formed 22nd November, 1923.
§ Formed 14th November, 1923.
¶ Formed 12th November, 1923.

The following are in general the objects for which the voluntary Care Committees may be said to stand :—

(1) To assist in the purchase of clothing which patients need when they go to sanatorium.

(2) To provide food and clothes for poor patients who are receiving treatment at home.

(3) To give assistance (in kind) to dependants, so as to enable patients for whom institutional treatment has been recommended to take advantage of the opportunities provided under the County scheme.

(4) To assist patients, who are sufficiently recovered, to obtain suitable employment.

(5) To give suitable advice and encouragement to patients and their friends, and generally to assist the dispensary staff in the enlightenment of the public both as to the laws of health and the facilities for treatment.

The income of the Committees is derived from voluntary sources by means of house-to-house collections, periodical contributions from factories and workshops, proceeds of concerts, whist drives, socials,

flower days, football matches, &c., grants from trade unions, employers' associations, boards of guardians, and other bodies. During trade depression, the finances of the Committees suffer just at a time when their disbursements are of necessity high, and thus the anxiety of the Committees to obtain a reasonable working balance can be well understood. The County Council, in pursuance of their powers under the "Public Health (Tuberculosis) Act, 1921," has continued to vote sums of money to the Care Committees, which have been divided proportionately according to the actual amount expended by each Committee in assisting patients or their dependants. In addition, the County Council defray the cost of printing, stationery, postages, carriage, and clerical assistance, so that the whole income of any Care Committee is available for the relief of patients.

The Committees are composed in the main of representatives of local authorities, trade unions, guilds of help, and other persons interested in the welfare of tuberculous patients. The tuberculosis officer acts as medical adviser, and in the majority of cases the tuberculosis health visitor as hon. secretary or one of the hon. secretaries of the Committee. No assistance is, therefore, given except under the personal supervision of the tuberculosis officer, and on this account no overlapping with other agencies is likely to occur.

These voluntary Care Committees are doing, and have done, very valuable work in providing clothing, grants in kind to completely disabled cases or dependants, either to replace or supplement the sickness benefit when it is insufficient to keep the patient or his family from being a charge on the poor rate. A further most important result is a knowledge gained by the members of these Care Committees and others in the locality of the real nature, extent and aims of the County scheme dealing with the prevention and treatment of tuberculosis.

It has been stated that the most important work by far which can be performed by a Care Committee is the finding of work for patients who return from institutional treatment. While this certainly is one of the objects of a Care Committee, and while posts for patients are from time to time found through the Care Committees, my experience is that the employment which these Care Committees do actually find for patients bears little or no relation to the special work which ~~some~~ most patients have undertaken at training centres or vocational colonies.

The annual reports and balance sheets of the various Committees are considered by the County Tuberculosis Committee of the County Council, who have on several occasions expressed their earnest appreciation of the valuable voluntary work carried out.

Reference has so far only been made to the 17 voluntary Care Committees approved by the County Council, but there are in existence many charitable and other organisations to which the tuberculosis officers are able to refer necessitous cases. Particularly mention should be made of the relief schemes for ex-Service men throughout the County provided by : (*a*) the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society, which deals mainly with tuberculous pensioners, and (*b*) the Council of Management of the United Services Fund, which mainly looks after the interests of those tuberculous men who are *not* in receipt of war pensions. Active and efficient co-operation exists between the representatives of both the organisations named and the tuberculosis staff, and I wish to place on record an acknowledgment of the valuable assistance rendered to many necessitous ex-Service men suffering from tuberculosis, especially those who have not been granted pensions by the Government. The Ministry of Health (in Circular No. 465, dated 19th December, 1923) laid down a scheme for co-operation between the managers of the various employment exchanges of the Ministry of Labour and the tuberculosis officers with regard to the employment in suitable occupations of male patients on discharge from sanatoria or hospitals. The tuberculosis officer, with his knowledge of a patient's condition, employment (if any) and circumstances, plus the report of the medical superintendent on the man's progress at the sanatorium, is charged with the duty of reporting to the employment exchange any need for a change of occupation or for the provision of suitable employment. The County tuberculosis officers make a practice of conferring with the patient himself before making their recommendation. However, with the present large amount of unemployment in the country, there is not much chance for the scheme to show good results.

Extension of Care Scheme.

As the population of the Administrative County is 1,772,658, it will be seen that for nearly 1,000,000 persons there is no recognised Care Committee at work. This incompleteness of the care scheme has been referred to in previous reports, and although new committees are being established each year, there does not appear to be any prospect in the immediate future of the whole County area being covered. The whole question of care work was considered by the County Council in August, 1924, when the following decisions to extend the scheme on and from the 1st October, 1924, were made :—

(1) That the existing scheme for care work be extended so as to cover the whole of the Administrative County, (*a*) by the voluntary Care Committees where they exist, and (*b*) elsewhere

through the tuberculosis dispensary staff, commencing from 1st October, 1924, until such time as additional voluntary Care Committees are formed to take over the work.

(2) That the practice of making initial grants to new Care Committees on their formation be continued as an encouragement to the establishment of more voluntary bodies for care work.

(3) That the practice be continued of making annual grants to existing Care Committees based on a proportion of 25 per cent. or more of their expenditure on actual assistance to patients, and that for the remainder of the Administrative County (that is the portion without voluntary Care Committees) a similar grant be made in proportion to the population.

(4) That, for the present financial year, 1924-25, the County grant for care work be increased to 33⅓ per cent. of the expenditure of existing Care Committees on actual assistance to patients, and that for the remainder of the County calculated in the same proportion a sum of £435 be voted for the half-year 1st October, 1924, to 31st March, 1925, for disbursement, on the recommendation of the consultant tuberculosis officers, in relief of necessitous patients or their dependants, with the following general objects :—

(*a*) To assist in the purchase of clothing which patients need when they go to a sanatorium or hospital.

(*b*) To provide food and clothes for the necessitous patients who are receiving treatment at home, and for those who have returned from an institution with no chance of resuming work.

(*c*) To give assistance (in kind) to dependants, so as to enable patients, for whom institutional treatment has been recommended, to take advantage of the opportunities provided under the County scheme.

(*d*) All assistance, wherever possible, to be given by orders on tradesmen.

Thus, a complete and comprehensive care scheme has now been evolved for the whole Administrative County by which the existing voluntary organisations are retained and the patients assisted by them still have the full benefit of the funds collected. In addition, the tuberculosis dispensary staff will be responsible for the remainder of the County area until such time as voluntary Care Committees become established to supplement the work of the County staff.

THE DISPENSARY ORGANISATION.

To fulfill its proper function, a tuberculosis dispensary should be the centre of activity, for a town or district, in regard to measures for the prevention of the disease, the expert examination and diagnosis of cases, together with the supervision, special treatment, and care of all known tuberculous persons. The tuberculosis officer himself should be a first-rate clinician, of mature judgment and experience, of high professional standing, possessing expert knowledge of tuberculosis in its varied phases, and looked upon as a consultant by the doctors in general practice; he must have tact, discrimination, and administrative ability.

The efficiency of the special work undertaken in a tuberculosis scheme depends directly on the dispensary organisation set up, and although considerable prominence is so often given to the work done in sanatoria, the dispensary organisation is undoubtedly of primary importance because the whole basis of the work here is towards early diagnosis and prevention rather than cure. The dispensary tuberculosis officer and his staff have to carry out the most delicate duties, working in the closest co-operation with the medical practitioners and local health officials, diagnosing with due sense of responsibility cases referred to them, advising the appropriate form of treatment, investigating tactfully and at first-hand the home conditions, and effectively supervising the home treatment of patients.

For dispensary purposes, the Administrative County is now divided into five large areas and two sub-areas. Each area is under the charge of a Consultant Tuberculosis Officer, and to help the Consultants, there are eight Assistant Tuberculosis Officers and 30 Tuberculosis Health Visitors. In each dispensary area there is a chief dispensary at which is co-ordinated the whole of the work required in that particular area, and, in addition, branch dispensaries have been provided.

The civilian (*i.e.*, excluding serving sailors and soldiers) population to be dealt with under the County Council scheme was estimated on December 31st, 1923, to be 1,772,658, resident in 121 sanitary districts; the total estimated population of the County area was 1,773,700.

The complete County scheme provides for 26 dispensaries, namely, 5 chief and 21 branch. At the end of 1923, 5 chief and 18 branch dispensaries were in use, the establishment of the remainder having been postponed owing to the difficulty in obtaining suitable premises.

Table A, inserted, shows the dispensary areas with the population, present staff, the names of all the dispensaries at present in use, and the days and times on which they are open. The consultant tuberculosis officer, or his assistant, attends the various dispensaries at stated times, to examine and give advice to any resident of the County area.

Ordinary symptomatic treatment is not undertaken at a dispensary if the patient has a doctor and is at the time receiving satisfactory treatment. It is the duty of the tuberculosis officer and his staff to deal more particularly with the diagnosis of patients and with special forms of treatment, and to exercise general supervision over home treatment, acting in co-operation with the insurance practitioner or family doctor. They also devote special attention to general hygienic and preventative measures, in conjunction with the doctor and the local sanitary authority. The number of cases granted "dispensary treatment" is relatively small—between five and six per cent.

Briefly, what is actually allowed under dispensary treatment and dispensary supervision is as follows :—

> Dispensary Treatment is recommended where patients are (*a*) not being attended by a general practitioner and are actually receiving treatment from the County staff, *e.g.*, prescriptions for medicine, supply of malt and cod liver oil, attention for non-pulmonary condition; or (*b*) being attended by a doctor, but, in addition, requiring special care from the dispensary staff, *e.g.*, actual nursing or dressings, provision of surgical appliances and dentures, supply of tuberculin, and other special drugs.
>
> Dispensary Supervision is recommended for patients who are receiving treatment at home under their own medical attendant (whether an insurance practitioner or private doctor), and who also are under the supervision of or receiving assistance from the dispensary staff in co-operation with the medical attendant. Supervision includes the efforts made by the tuberculosis health visitors to prevent the spread of infection in patients' homes, and the assistance given to medical practitioners by seeing that patients carry out properly the usual routine of treatment at home. Under dispensary supervision also, patients are provided with thermometers, sputum outfits, paper handkerchiefs, and loan of bedsteads, mattresses, and nursing requisites where required.

Those patients with active disease are examined at frequent intervals and placed for short periods (of not more than three months) on dispensary treatment or supervision, and granted other forms of treatment as found advisable. Quiescent cases are, however, kept on dispensary supervision so long as they remain well, and they are reviewed annually.

Co-operation with Local Sanitary Authorities.

The co-operation with the local sanitary authority and its officials—a matter of the utmost importance in a County—has continued to be of

TABLE A.

List of Dispensaries and the Tuberculosis Officers for the Dispensary Areas.

Table A.—List of Tuberculosis Dispensaries in use in October, 1924, and the Tuberculosis Officers for the Dispensary Areas.

Dispensary Area No.	SANITARY DISTRICTS.			Estimated Civilian Population 31/12/23.	MEDICAL STAFF October, 1924.	NURSING STAFF.	DISPENSARIES.	Days and Hours of Dispensary Sessions (Distinct from Home Visiting).
1	Adlington Blackrod Carnforth Chorley (B.) Chorley (R.) Croston Fulwood Garstang (R.), Part of, consisting of parishes of— Barnacre-with-Bonds Bilsborrow Bleasdale Cabus	Garstang (R.) *continued* Catterall Claughton Cleveley Forton Garstang Holleth Kirkland Myerscough Nateby Nether Wyresdale Wismarleigh	Heysham Horwich Lancaster (B.) Lancaster (R.) Leyland Longridge Lunesdale (R.) Lytham St. Annes (B.) Morecambe (B.) Preston (R.) Walton-le-Dale Withnell	244,001	Dr. A. D. Brunwin, Tuberculosis Dispensary, 8 Middle Street, Lancaster. Assistant Tuberculosis Officer— Dr. G. H. Leigh	Nurse L. Walker Nurse C. E. Munro Nurse F. D. Abbott Nurse J. Skelcher	CHIEF—Lancaster, 8 Middle Street (Tel. No. 568). (X-Ray Apparatus) BRANCH—Chorley, 5 High Street (Tel. No. 263) BRANCH—Preston, 22 Bolton Street (Tel. No. 1111)	Monday, 12 noon. Thursday morning by appointment. 1st Monday evening in month by appointment. Monday by appointment. Thursday, 11 a.m. 2nd Tuesday evening in month by appointment. Wednesday, 11 a.m. Monday evening before 2nd Tuesday in month by appointment.
	FURNESS SUB-AREA—							
	Dalton-in-Furness Grange-over-Sands	Ulverston	Ulverston (R.)	42,585	Dr. E. H. A. Pask, High Carley Sanatorium, near Ulverston (Tel. No. 110 Ulverston).	Nurse E. A. Duston	BRANCH—Ulverston, Virginia House (Tel. No. 145). (X Ray Apparatus at High Carley Sanatorium).	Tuesday, 10 a.m. Thursday, 10 a.m.
	FYLDE SUB-AREA—							
	Fleetwood Fylde (R.) Garstang (R.), Part of, consisting of parishes of— Great Eccleston Rambleton	Inskip-with-Sowerby Out Rawcliffe Pilling Stalmine-with-Stainall Upper Rawcliffe	Kirkham Poulton-le-Fylde Preesall Thornton	51,438	Dr. G. Leggat, Elswick Sanatorium, near Kirkham (Tel. No. 22 Great Eccleston).	Nurse A. Tweedy	.....	.....
2	Accrington (B.) Bacup (B.) Barrowford Blackburn (R.) Brierfield Burnley (R.) Church	Clayton-le-Moors Clitheroe (B.) Clitheroe (R.) Colne (B.) Darwen (B.) Great Harwood Haslingden (B.)	Nelson (B.) Oswaldtwistle Padiham Rawtenstall (B.) Rishton Trawden Turton	339,877	Dr. B. MacPhee, Tuberculosis Dispensary, 39 Avenue Parade, Accrington. Assistant Tuberculosis Officer—Dr. S. C. Adam	Nurse L. F. Norwood Nurse E. Watterson Nurse M. Duggan Nurse A. Munro Nurse A. G. Ward Nurse R. Lambert	CHIEF—Accrington, 39 Avenue Parade (Tel. No. 2443). BRANCH—Darwen, 20 Railway Road (Tel. No. 408). (X-Ray Apparatus) BRANCH—Nelson, 64, Carr Road (Tel. No. 507). BRANCH—Stacksteads, Knott Hill House (Tel. No. 201 Bacup).	Tuesday, 10 a.m. and 2 p.m. Wednesday, 2 to 3 p.m. 2nd Wednesday of month, 6 p.m. Friday, 10 a.m. Tuesday, 2 p.m. Friday, 2 p.m 1st Friday of month. 6 p.m. Thursday, 2 p.m. 1st Thursday of month, 6 p.m.
3	Ashton-under-Lyne (B.) Audenshaw Bury (R.) Chadderton Crompton Denton Droylsden Failsworth Heywood (B.)	Hurst Lees Limehurst (R.) Littleborough Middleton (B.) Milnrow Mossley (B.) Norden	Prestwich Radcliffe Ramsbottom Royton Tottington Wardle Whitefield Whitworth	376,576	Dr. J. L. Stewart, Tuberculosis Dispensary, Boston House, Warrington Street, Ashton-under-Lyne. Assistant Tuberculosis Officers— Dr. G. Fletcher Dr. C. Berry	Nurse H. Dewsnap Nurse R. Davison Nurse M. A. Potter Nurse C. Guilfoy Nurse I. F. MacDonald Nurse A. Flynn	CHIEF—Ashton-under-Lyne, Boston House, Warrington Street (Tel. No. 775). (X-Ray Apparatus). BRANCH—Bury, The Wylde (Tel. No. 654). BRANCH—Middleton, 71 Manchester Old Road. BRANCH—Mossley, Park Lodge. BRANCH—Oldham, 25 Barker Street (Tel. No. 1671). BRANCH—Rochdale, 168 Drake Street (Tel. No. 392).	Tuesday, 3 p.m. and 6-30 p.m. Friday, 10 a.m. Monday, 10-30 a.m. for X-Ray examinations. Monday, 2-30 p.m. Wednesday, 2-30 p.m. 3rd Wednesday of month, 6-30 p.m. Friday, 3 p.m. 2nd Friday of month, 6-30 p.m. Tuesday, 11 a.m. Monday, 3 p.m. 2nd Monday of month, 6-30 p.m. Wednesday, 10 a.m. Thursday, 10 a.m. 2nd Thursday of month, 7 p.m.
4	Abram Ashton-in-Makerfield Aspull Atherton Burton-upon-Irwell (R.) Billinge Eccles (B.) Farnworth Hindley	Ince-in-Makerfield Irlam Kearsley Leigh (B.) Leigh (R.) Little Hulton Little Lever Orrell Standish-with-Langtree	Stretford Swinton and Pendlebury Tyldesley-with-Shakerley Upholland Urmston Westhoughton Wigan (R.) Worsley	451,415	Dr. G. Jessel, TuberculosisDispensary, 13 Church Street, Leigh. Assistant Tuberculosis Officers— Dr. G. B. Charnock Dr. A. B. Jamieson Dr. J. Cathcart	Nurse H. M. Shakespeare Nurse M. A. M. Clegg Nurse M. B. Jones Nurse F. G. Smith Nurse A. Dickinson Nurse E. Simmons Nurse E. Walters Nurse F. Milnes	CHIEF—Leigh, 13 Church Street (Tel. No. 258). BRANCH—Eccles, 28 and 30 Gilda Brook Road (Tel. No. 533). (X-Ray Apparatus). BRANCH—Farnworth, 12 Bolton Road (Tel. No. 63). BRANCH—Pendlebury, 121 Station Road (Tel. No. 295 Eccles). BRANCH—Stretford, 14 Dorset Street (Tel. No. 110 Trafford Park). BRANCH—Wigan, 14 Rodney Street (Tel. No. 549).	Wednesday, 9-30 a.m. Friday, 9-30 a.m. 2nd Thursday of month, 6-30 p.m. Tuesday, 2-0 p.m.; 3-0 p.m. for X-Ray examinations. Friday, 9-30 a.m. 1st Wednesday of month, 6-30 p.m. Tuesday, 9-30 a.m. Friday, 2 p.m. 3rd Thursday of month, 6-30 p.m. Monday, 2 p.m. Wednesday, 9-30 a.m. Last Thursday of month, 6-30 p.m. Tuesday, 9-30 a.m. Thursday, 9-30 a.m. Last Monday of month, 6-30 p.m. Monday, 9-30 a.m. Thursday, 9-30 a.m. 4th Thursday of month, 6-30 p.m.
5	Formby Golborne Great Crosby Haydock Huyton-with-Roby Lathom and Burscough Litherland	Little Crosby Newton-in-Makerfield Ormskirk Prescot Rainford Sefton (R.)	Skelmersdale Warrington (R.) Waterloo-with-Seaforth West Lancashire (R.) Whiston (R.) Widnes (B.)	246,766	Dr. C. W. Laird, Tuberculosis Dispensary, 7 Claremont Road, Seaforth. Assistant Tuberculosis Officer— Dr. C. H. Lilley	Nurse A. Duncan Nurse I. Laing Nurse E. Walch Nurse M. J. Wilson	CHIEF—Seaforth, 7 Claremont Road (Tel. No. 688 Waterloo). (X-Ray Apparatus). BRANCH—St. Helens, 18 Claughton Street. BRANCH—Widnes, Brendan House, Widnes Road (Tel. No. 156).	Monday, 3 to 4-30 p.m. Friday, 10 to 11-30 a.m 3rd Thursday of month, 6-30 p.m. Tuesday, 3 to 4-30 p.m. Last Tuesday of month, 6 to 7 p.m. Monday, 10 to 11-30 a.m. Friday, 2-30 to 4-30 p.m. 1st Wednesday of month, 6 to 7 p.m.
				1,772,658				

a cordial character, resulting in an increased efficiency of the County scheme, and also preventing overlapping.

(*a*) Home Visits by the Tuberculosis Health Visitors.—Following the routine of previous years, mutual arrangements have been made whenever possible between the local medical officer of health and the tuberculosis officer for the latter to receive direct particulars of the notifications of tuberculosis, and so short-circuit the official procedure described in the following paragraph. When this is done the tuberculosis health visitor pays the primary visit to the notified cases in a sanitary area. Her reports on the environmental conditions are considered by the tuberculosis officer, and a duplicate is sent at once to the local medical officer of health, whose attention is drawn to any sanitary defect or defects which may exist. By this mutual co-operation, prompt and regular visits can be made, and overlapping as regards visiting by officials of two public authorities is avoided.

The consultant tuberculosis officer receives each week from the County medical officer of health the names and addresses of all persons notified to him as suffering from tuberculosis, and the patients so notified are visited by the tuberculosis health visitor, if this has not been done under the procedure just described, and provided they are not already known to the dispensary staff. Each patient receives from the nurse instructions, both written and verbal, as to the general hygienic measures required, and (when not otherwise supplied by the sanitary authority) is given paper handkerchiefs and bags, or sputum flasks, and instructed in the proper method of collecting and destroying the sputum. The patient is also instructed by the nurse how to take his or her temperature, and a thermometer is lent to any patient who, in the opinion of the tuberculosis officer, requires one. Arrangements are also made for the attendance of the patient and contacts at the dispensary. The number of visits paid to each patient varies, the worst cases receiving more frequent visits. In selected cases, the actual nursing of patients is undertaken. The supervision and encouragement given, often under great difficulties, are a most important part of the work, both as regards prevention and treatment of the disease.

(*b*) Wrongly Notified Cases.—It occasionally happens that a medical practitioner notifies a case of tuberculosis where, as a result of examination and observation by the tuberculosis officer, the diagnosis cannot be confirmed. Following on the procedure suggested by the Ministry of Health in 1922, such cases, with the consent of the notifying practitioner, are reported by the tuberculosis department to the local medical officer of health, so that the name may be struck off his register of tuberculous cases.

(*c*) Cured Cases.—Similarly, any case of pulmonary or non-pulmonary tuberculosis which, in the opinion of the tuberculosis officer, has been cured, is reported by the tuberculosis department to the local medical officer so that the patient's name may be removed from his register.

(*d*) Removals and Deaths of Notified Cases.—The tuberculosis officers acquaint local medical officers of health of the changes of address of patients, and similarly the tuberculosis department supply them with copies of the weekly return of deaths. This assists the medical officers to keep up-to-date their Register of Notifications, in compliance with the Public Health (Tuberculosis) Regulations of 1912 and 1921, and to inform the appropriate new sanitary authority when a patient removes from the district.

Co-operation with General Practitioners, Pensions Authorities, School Clinics, Hospitals, and Health Officials.

Next to actual prevention of tuberculosis, treatment of patients in the early stages of the disease is accepted as the chief aim. Consequently, an essential feature in the Lancashire tuberculosis scheme is the necessity for the closest co-operation between the tuberculosis medical staff and the general practitioners and various bodies and officials who medically treat or otherwise come in contact with sick persons, many of whom may be suffering, or suspected to be suffering, from tuberculosis in the early—or even late—stages. It is by this means, and before notification of the case, that the majority of early cases are brought to the notice of the tuberculosis officer, and are thus enabled to avail themselves of the special treatment afforded under the County Council scheme. Every endeavour is made, and with success, to secure effective co-operation with the following:—General practitioners, school medical officers, medical officers of clinics, pensions officials, and medical staffs of hospitals and infirmaries (including out-patient departments). *The extent of such co-operation is indicated by the fact that in 1923, out of 4,414 new cases (contacts excluded) examined by the tuberculosis officers, 3,382, or 76·6 per cent., had been referred to the dispensaries from the sources above stated before particulars of notification had been received by the tuberculosis officer. The proportion in 1922 was 76·7 per cent.*

Information as to the County tuberculosis scheme has been supplied to all medical practitioners, and new doctors commencing or taking over practices in the Administrative County are communicated with by the tuberculosis officer and made acquainted with the address of the nearest dispensary and the special facilities for the treatment of tuberculosis.

Admission of Patients to, and Discharge from, Institutions.

The admission and discharge of every patient suffering from pulmonary tuberculosis who receives residential treatment is reported as soon as possible by the central tuberculosis officer to the medical attendant, to the medical officer of health of the district in which the patient resides, and to the tuberculosis officer. The medical officer is thus enabled to make arrangements for the disinfection of the house when necessary.

SUMMARY OF WORK DONE THROUGH THE DISPENSARY ORGANISATION IN 1923.

In this chapter is given a summary of the work done in 1923 through the dispensary organisation.

It will be observed from the table on page 36 that 5,949 persons (including contacts) were examined at their homes or at the dispensary by the tuberculosis officers for purposes of diagnosis, as compared with 5,682 in 1922. Visits by the tuberculosis officers to the homes of tuberculous persons amounted to 6,403, and attendances of patients at the dispensaries numbered 26,147. During the year the medical staff was depleted by the absence of one tuberculosis officer at a time attending the Lord Mayor Treloar Cripples' Hospital and College, Alton, Hants, in order to study the latest methods of the treatment of tuberculous children under Sir Henry Gauvain. Up to the end of 1923, thirteen of the medical staff had completed their course.

Special attention was paid during the year to reviewing the cases on the register, and the following were written off and will not again be visited or examined :—non-pulmonary cases found to be cured (*i.e.*, disease arrested for three or more years and no symptoms of disease now present), 269 ; cases notified in error by practitioners and notification cancelled, 233 ; cases (not notified) found to be non-tuberculous, 108. In 1924 a commencement has been made in dealing with the cases of pulmonary tuberculosis found after five or more years supervision to be " cured."

Evening Sessions at Dispensaries.

As in previous years, the evening sessions have been regularly held at most of the dispensaries for the convenience of patients who are at work during the day. In this way the patients are able to consult the tuberculosis officers periodically, without being under the necessity of losing wages through absence from work.

Total Number of Cases under Supervision.

Table 14 shows the total number of persons (whether applicants for treatment or not) who were suffering or had suffered from tuberculosis, and who were under the supervision of the dispensary staff at the end of 1923. As a matter of interest, the number of cases per 1,000 of the population has also been calculated for each area :—

TABLE 14—*All Tuberculous Cases.*

Dispensary Area.	Estimated Civilian Population, 31/12/23.	Number of Cases under Supervision on 31/12/23.					Number of Cases of Tuberculosis under supervision per 1,000 of Population.
		Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total number of Cases.	
		Under 15 years of age.	15 years and over.	Under 15 years of age.	15 years and over.		
No. 1	244,001	169	780	306	272	1527	6·25
Furness Sub-Area	42,585	148	253	29	21	451	10·59
Fylde Sub-Area	51,438	29	132	27	28	216	4·19
No. 2	359,877	50	787	149	349	1335	3·70
No. 3	376,576	113	1193	250	376	1932	5·13
No. 4	451,415	290	1655	404	484	2833	6·27
No. 5	246,766	221	903	379	232	1735	7·03
Total for Administrative County	1,772,658	1020	5703	1544	1762	10029	5·65
		6,723		3,306			

TABLE 15—*Applicants for Treatment only.*

Number of Cases (Applicants only) under some form of treatment on the 31st December, 1923:—

		Dispensary Area.							
		1	Furness Sub.	Fylde Sub.	2	3	4	5	Total.
(a) Under 15 years.									
Fit for School ...	M.	62	24	20	45	120	215	142	628
	F.	51	34	8	54	119	225	131	622
Not fit for School	M.	22	22	7	22	26	34	61	194
	F.	21	13	7	15	41	40	62	199
In Institution on 31/12/23 ...	M.	20	8	7	9	20	24	17	105
	F.	18	5	2	8	24	17	15	89
(b) 15 years and over.									
Fit for Work ...	M.	246	55	40	409	572	716	382	2,420
	F.	239	80	44	306	551	659	304	2,183
Not fit for Work...	M.	64	41	28	134	166	204	124	761
	F.	59	23	11	105	108	159	74	539
In Institution on 31/12/23 ...	M.	34	9	10	39	77	90	50	309
	F.	25	11	7	41	69	59	35	247
TOTAL—Males		448	159	112	658	981	1,283	776	4,417
Females ...		413	166	79	529	912	1,159	621	3,879
GRAND TOTAL		861	325	191	1,187	1,893	2,442	1,397	8,296

Summary of Dispensary work done by Tuberculosis Officers in 1923, showing comparison with 1921 and 1922.

	1921.	1922.	1923.
I.—Visits to Patients at their Homes—			
(*a*) Number of new persons examined for diagnosis or expert opinion, including contacts	3,043	2,167	2,005
(*b*) Revisits—			
(1) Respecting continued home treatment and dispensary supervision	4,034	4,031	3,791
(2) For other purposes, *i.e.*, Admissions to institutions, after discharge from institutions, *re* environmental conditions, &c. ...	519	654	607
Total	7,596	6,852	6,403
II.—Dispensary Attendances—			
(*a*) Number of new persons examined for diagnosis or expert opinion, including contacts	4,070	3,515	3,944
(*b*) Attendances of " old " cases	23,176	21,117	22,203
(*c*) *Number of patients receiving Tuberculin	*1*	—	*2*
(*d*) *Number of attendances for Tuberculin	*4*	—	*31*
Total	27,246	24,632	26,147
III.—X-Ray Examinations—			
(*a*) Number of Examinations made at County Dispensaries	657	787	2,352
(*b*) Number of patients recommended for Examination at Manchester ...	222	192	82
IV.—Number of Examinations of Sputum at County Dispensaries	3,168	4,610	5,586
V.—Treatment Recommended—			
(1) Institutional (Sanatoria and Hospitals)	2,380	2,230	2,471
(2) Dispensary and Dispensary Supervision	17,766	18,603	17,711
(3) Provision of Surgical Appliances ...	162	166	144
(4) Loan of Shelters	48	26	30
(5) Diagnosis not confirmed	362	367	341
(6) Refused further treatment		63	46
(7) No action required		8	—
(8) Non-Pulmonary cases written off Register as cured	—	47	269
(9) Cancellation of cases of tuberculosis notified in error	—	—	233
VI.—Number of " Care " Committees attended by Tuberculosis Officers	88	82	98
VII.—Number of Lectures and Addresses given on Tuberculosis	9	1	13
VIII.—Number of Visits to Pulmonary Hospitals by Tuberculosis Officers	†	†	110
IX.—Number of Visits paid by Dispensary Nurses	56,141	59,696	56,915

* Numbers included in II (*a*) or (*b*).

† Record not kept of visits in 1921 and 1922.

Housing.

The following table shows the housing conditions of all patients who have applied to the County Council for treatment and who were under treatment or supervision at the end of 1923. Whilst every effort is made to secure that infectious cases occupy a separate room, or at least a separate bed, no useful purpose is served by making the same insistence in regard to patients with the disease quiescent or arrested. The non-pulmonary cases are given separately, and only a very small number indeed may be considered infectious.

Table 16.—*Housing Statistics of County Patients.*

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	8	4	3
	15 and over ...	1156	426	176
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	106	258	312
	15 and over ...	1167	514	1510
Total number of Non-Pulmonary cases.	Under 15 years	130	431	585
	15 and over ...	470	324	716
Total ...	Under 15 years	244	693	900
	15 and over ...	2793	1264	2402
			8296	

Examination of Sputum.

As an aid to diagnosis, arrangements are in existence for the examination, free of cost, of specimens of sputum sent by medical attendants. At each chief dispensary a small laboratory is installed for this work; whilst, in addition, an arrangement exists with the Director of the Public Health Laboratory, Manchester, for the examination of specimens.

During 1923, 6,453 specimens of sputum have been examined, with the following results, the figures for the previous year also being given :—

	At Dispensary Laboratories.		At Public Health Laboratory, Manchester.	
	1922.	1923.	1922.	1923.
Positive (*i.e.*, tubercle bacilli present) ...	1,193	1,360	376	387
Negative (*i.e.*, tubercle bacilli not found)...	3,417	4,226	514	480
Total	4,610	5,586	890	867

Provision of Special Nourishment.

The provision of special nourishment is, in suitable cases, of great value to a patient in helping him to recover from the disease. A large proportion of cases have been allowed special nourishment pending removal to an institution, and these grants have undoubtedly enabled patients to commence their institutional treatment in a more favourable state than they would have been without it. The effect may, on the whole, be said to have shortened the period of institutional treatment for many patients.

Conditions governing Grants.

The Ministry of Health have approved the scheme of the County Council for granting special nourishment to tuberculous persons on the following conditions :—

(1) That special nourishment be in no case ordered for a period of more than three months, and if in any case a continuance of the treatment is considered from a medical point of view desirable, the Central Tuberculosis Officer to report the case specially to the Tuberculosis Committee.

(2) That special nourishment be granted to persons who are waiting for admission to sanatoria or hospitals, or have returned therefrom, when it is thought to be medically essential as part of the cure of the disease.

(3) That special nourishment may be allowed to cases not included in the foregoing, provided that particulars of the cases are laid before the Tuberculosis Committee for consideration.

(4) That each grant of special nourishment will only be allowed by the Tuberculosis Committee subject to the patient carrying out, in a satisfactory way, the medical treatment and such general hygienic measures as may be advised by the medical practitioner and tuberculosis officer.

(5) That special nourishment be limited to orders for new milk and cream, unless on special report other nourishment be found desirable.

(6) That the limit of expenditure be 7/- per week, unless an amount in excess of this sum is specially recommended on medical grounds by the Central Tuberculosis Officer and sanctioned by the Tuberculosis Committee.

Patients granted Special Nourishment.

During the year, 1,204 grants of special nourishment for varying periods were made to 623 individual patients.

Tuberculin.

Tuberculin treatment was supplied during the year for two patients, who made altogether 31 attendances.

Special Surgical Appliances.

During 1923, the following surgical appliances were supplied to patients, on the recommendation of the tuberculosis officers :—

Angular splint, 1 ; back splint, 4 ; Thomas' knee splint, 6 ; Thomas' hip splint, 12 ; Thomas' caliper splint, 9 ; Thomas' walking splint, 1 ; elbow splint, 1 ; metal splint, 3 ; wooden splint, 1 ; foot splint, 1 ; gutter splint, 1 ; poroplastic jacket, 1 ; spinal jacket, 9 ; spinal support, 19 ; spinal frame, 2 ; abduction frame, 8 ; Whitman's frame, 1 ; crutches, 23 pairs ; patten, 17 ; surgical boot, 22 ; artificial leg, 1 ; Taylor's brace, 5 ; truss, 1 ; urinal, 3 ; throat spray, 1.

Sleeping Shelters.

The number of shelters purchased by the Lancashire County Council is 81. Some of these have been transferred to institutions, and there are now 63 in use by patients at their homes. I have to thank medical officers of health and sanitary inspectors throughout the County for much valuable help in connection with the removal, disinfection, and re-erection of shelters used by County patients.

The loan of sleeping shelters is made to suitable cases on the recommendation of the tuberculosis officer, after careful consideration of the following points : (1) the condition of the patient and his ability to use the shelter properly ; (2) the position of the shelter ; (3) the home conditions of the patient ; and (4) the means of communication with the nearest inhabited building in case of a sudden relapse.

The number of persons in 1923 who were allowed the use of the shelters was 82.

Doubtful Cases of Tuberculosis.

A number of cases are referred to the tuberculosis officers by medical attendants, sanitary officials, Pensions authorities, &c., where the diagnosis of tuberculosis is doubtful. These cases are kept under supervision for a short time, and, if necessary, sent to a residential institution for a period of observation until the diagnosis of tuberculosis can be definitely settled one way or the other.

Examination of House Contacts.

By the systematic examinations of house contacts*, particularly among those of patients with positive sputum, many early or unsuspected cases of tuberculosis are detected. Owing to indifference or unwillingness, considerable difficulty (which, however, is gradually being overcome) is experienced in persuading contacts to come to the dispensary for examination, or even to submit themselves for examination at all, and it, therefore, follows that the tuberculosis officer has to see a large proportion of them at their homes.

Table 17.—*Contacts examined during 1923.*

	Diagnosed as Tuberculous.		Diagnosed as Suspects and kept under Observation.		Non-Tuberculous.	Total.
	Pulmonary.	Non-pulmonary.	Pulmonary.	Non-pulmonary.		
Number examined at home...	14	8	44	7	588	661
Number examined at the dispensary	66	31	119	14	644	874
Total	80	39	163	21	1232	1535
	119		184			

In the Administrative County, at the end of 1923, the number of known cases of tuberculosis under the supervision of the dispensary staff was found to be 5·65 per 1,000 of the population.

Out of the 1,535 contacts examined, no less than 119 were diagnosed as definite cases of tuberculosis—pulmonary 80 and non-pulmonary 39. These cases are equal to 77·5 per 1,000 of contacts examined, and this undoubtedly represents a much higher figure than any random sampling of the ordinary population would give.

It may be stated that of the 80 pulmonary cases no less than 35 per cent. were found with a positive sputum, so that there can be no doubt whatever of the diagnosis in these cases.

* A house contact has been defined as a person who has been staying in the home of a known living tuberculous case, or one who has lived in a house where a death from tuberculosis has occurred not more than six months from the date of examination.

Provision of Bedsteads, Mattresses, and Nursing Requisites.

For each County Dispensary Area a small stock of bedsteads, mattresses (but not bedding), and nursing requisites belonging to the County Council is available for loan to necessitous patients undergoing home treatment. These were obtained principally with a view of securing the isolation of infective cases where, owing to the lack of bedsteads and the inability of relatives to provide them, such patients were compelled to sleep in beds with one or more persons. There are also a number of patients who are confined to bed, and in consequence require the use of certain bedside appliances or nursing requisites, in which case these are supplied if the relatives have not sufficient resources to enable them to procure the articles.

The table following shows the number of these articles owned by the County Council, and also the number of patients who have been granted the use of the articles :—

Table 18.

Articles.	Quantity owned by County Council, 31/12/23.	Number of patients to whom articles have been loaned during 1923.	Articles in possession of patients on 31/12/23.
Bedsteads	171	54	129
Mattresses	167	56	130
Mattress Covers	120	23	97
Air Cushions	146	246	91
Bath Chairs	1	1	1
Bed Pans	103	91	54
Bed Rests	58	75	23
Bed Slippers	70	27	12
Extension Apparatus ...	1	...	...
Fracture Boards	2	1	...
Ground Sheets...	47	20	23
Hot Water Bottles, Rubber ...	6	...	...
Ice Bags	2	3	2
Rest Chairs	1	1	1
Rubber Sheeting	18 yds.	1	1½ yds.
Spinal Boxes	11	4	3
Spinal Carriages	7	6	1
Urinals	110	61	38
Water Beds	14	9	4

The bedsteads, mattresses, &c., are held at the disposal of the consultant tuberculosis officers, and proper receipts are obtained from patients for articles loaned to them.

The action of the County Council in sanctioning the purchase of these articles has proved of valuable assistance in securing the better accommodation at home of persons with pulmonary tuberculosis considered to be infectious or contagious, especially in view of the present-day overcrowding which is general throughout the country, due to the house shortage.

X-Ray Examinations.

X-Ray installations for use by the tuberculosis officers for the examination of patients in order to assist in the diagnosis of doubtful and difficult cases of tuberculosis—both pulmonary and non-pulmonary forms—have been provided by the County Council as follow, in each dispensary area, except No. 2 where a special arrangement exists :—

Area 1.—Lancaster (Chief) Dispensary.
Area 2.—Darwen (Branch) Dispensary (by arrangement with local Radiological Society).
Area 3.—Ashton-under-Lyne (Chief) Dispensary.
Area 4.—Eccles (Branch) Dispensary.
Area 5.—Seaforth (Chief) Dispensary (provided in March, 1923).
Furness.—High Carley Sanatorium, for the Dispensary Sub-Area and Sanatorium patients.

In addition, arrangements exist with the Honorary Radiologists of the Manchester Royal Infirmary whereby occasional patients may be sent to their private surgery for X-Ray examination.

The policy of placing an apparatus in each dispensary area for use by the tuberculosis officer himself is, from experience, found to be the best method, because the tuberculosis officer, with his knowledge of the patient's history and clinical signs, is most fitted to make a correct interpretation of the skiagrams. Cases are from time to time discovered by the tuberculosis officers which, but for the help afforded by X-Ray examinations, would have been sent to an institution for the treatment of non-pulmonary tuberculosis. A few of such cases are alone sufficient to pay for the original cost of an X-Ray apparatus. The various installations are also of use in the control of artificial pneumothorax treatment commenced during a patient's stay at a sanatorium or hospital.

The following X-Ray work was done during 1923 : (*a*) at County dispensaries and High Carley Sanatorium, 520 screen examinations, 1,832 skiagrams ; and (*b*) at Manchester, 82 skiagrams ; making a total of 2,434 examinations. The totals for previous years were : 1922, 979 ; 1921, 879 ; and for 1920, 191.

REPORTS FROM DISPENSARY AREAS.

In this chapter there is given in respect of each Dispensary Area a summary of the work done, the housing conditions of patients, and a report of the consultant tuberculosis officer.

Area No. 1.

Lancaster, Chorley, Preston Rural, and Lytham St. Annes Districts.

(Estimated population, 244,001.)

Consultant Tuberculosis Officer ... ... Dr. A. D. Brunwin.
Assistant Tuberculosis Officer ... ... Dr. G. H. Leigh.

Number of tuberculous cases under supervision on 31st December, 1923 ...	1527
(Of these, 861 were patients who had applied for treatment.)	
Visits to patients at their Homes—	
(*a*) Number of new persons examined for diagnosis or expert opinion, including 30 contacts	203
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	900
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	93
Total	1196

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Lancaster (Chief), 8, Middle Street. [Opened January, 1915]	162	676
Chorley (Branch), 5, High Street. [Opened 22nd June, 1914]	121	523
Preston (Branch), 22, Bolton Street. [Opened July, 1917]	60	225
Total	343 (29 Contacts)	1424

Number of "Care" Committees attended by Tuberculosis Officers ...	20
Number of Lectures or Addresses given	1
Total number of Nurses' visits to cases—	
(*a*) New cases 264	6631
(*b*) Old cases 6367	
Number of sanitary defects reported to the local medical officers of health	19
Number of sanitary defects which after notification were remedied ...	4
Number of disinfections carried out by sanitary authorities	232
Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	422

Housing Statistics of Patients (applicants) in Area No. 1.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	...	...	...
	15 and over ...	125	22	13
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	16	22	41
	15 and over ...	155	31	178
Total number of Non-Pulmonary cases.	Under 15 years	14	31	70
	15 and over ...	57	14	72
TOTAL		367	120	374

Dr. Brunwin sends the following report on work done in this Area :—

The principal feature of 1923 over previous years is the larger number of X-Ray examinations made. About one and a half days per week are now devoted to this work, and the information furnished by the examinations is most useful to ourselves and appreciated by the practitioners in the district.

Treatment by artificial pneumothorax has been done to a considerable extent at the Luneside pulmonary hospital, Lancaster, and to a certain degree in the northern part of my area. I am indebted to Dr. H. de C. Woodcock, of Leeds, for kind assistance in giving advice and practical help when this treatment was first attempted.

A good deal of clinical research work was done during the year at the Luneside pulmonary hospital and it is still in progress

The provision by the Council of a mileage allowance for motor cars used by the staff has added to the efficiency, as owing to the size of the area it would otherwise have been most difficult to deal with the work with any satisfaction.

AREA NO. 2.

Accrington, Bacup, Burnley Rural, Darwen, Nelson, and Rawtenstall Districts.

(Estimated population, 359,877.)

Consultant Tuberculosis Officer ... Dr. B. MACPHEE.

Assistant Tuberculosis Officer ... Dr. S. C. ADAM.

Number of tuberculous cases under supervision on 31st December, 1923 ... 1335

(Of these, 1187 were patients who had applied for treatment.)

Visits to patients at their Homes—

(*a*) Number of new persons examined for diagnosis or expert opinion, including 22 contacts	318
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	339
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	82
Total	739

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Accrington (Chief), 39, Avenue Parade. [Opened April, 1915]	239	769
Darwen (Branch), 20, Railway Road. [Opened 19th May, 1916]	89	273
Nelson (Branch), 64, Carr Road. [Opened January, 1915]	204	484
Stacksteads (Branch), Knott Hill House. [Opened 18th May, 1916]	81	394
Total	613 (114 Contacts)	1920

Number of "Care" Committees attended by Tuberculosis Officers ...	2
Number of Lectures or Addresses given	5
Total number of Nurses' visits to cases—	
(*a*) New cases 423	9738
(*b*) Old cases 9315	
Number of sanitary defects reported to the local medical officers of health	66
Number of sanitary defects which after notification were remedied ...	49
Number of disinfections carried out by sanitary authorities—	
Rooms 402, Articles 677	1079
Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	668

Housing Statistics of Patients (applicants) in Area No. 2.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	2	...	...
	15 and over ...	262	105	39
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	2	12	10
	15 and over ...	110	49	148
Total number of Non-Pulmonary cases.	Under 15 years	12	51	64
	15 and over ...	115	86	120
TOTAL		503	303	381

Dr. MacPhee reports :—

The X-Ray work for Area No. 2 is carried out at the Dispensary, 20, Railway Road, Darwen, and during the year five screen examinations were made and 188 skiagrams taken.

Examinations of sputum are carried out at the laboratory at the Accrington Dispensary. During the year 1,418 specimens were examined with the following results : Positive 250, negative 1,168.

Periodical visits have been paid by myself, or Dr. Adam, to the Bull Hill and Burnley Pulmonary Hospitals, in order to confer with the Medical Superintendent as to the treatment of County patients.

At the end of the year arrangements were made with Dr. J. B. Stewart, the Medical Superintendent of Moorlands Poor-law Infirmary, Rawtenstall, to visit the hospital once a month, when all cases of tuberculosis, and suspicous ones, are examined and arrangements for treatment made. This practice has been very helpful, not only in discovering new cases but in keeping under observation the " casual," who very often has no fixed place of abode. During these visits, 18 cases were examined, 16 for the first time. Out of that number, six cases were diagnosed as tuberculous in one form or another.

Of the 266 patients residing at private addresses who were notified during the year as suffering from pulmonary tuberculosis, 204 (or 76·7 per cent.) were found to have a positive sputum ; 32 (or 12·0 per cent.) negative ; 24 (or 9·0 per cent.) no sputum ; and in the remaining six cases the sputum was not examined.

The Care Committee for the districts of Bacup and Rawtenstall has now been in existence for one year, and during that period 24 patients were assisted, the total expenditure amounting to £41 5s. 2d.

Arrangements were made with the Bromley Cross Guild of Help to form a small Care Committee for Egerton, Eagley and District.

The dispensary premises at Nelson and Accrington were during the year purchased by the County Council on the termination of the leases.

A summary of certain statistical information prepared by Dr. MacPhee for the urban and rural districts in his area is set out in the following table for the years 1922 and 1923, and attention may be drawn particularly to the " number of positive sputum cases under supervision in the year per 1,000 of the population " :—

Area 2.—Statistics.

	1922.			1923.		
	Urban Districts.	Rural Districts.	Total.	Urban Districts.	Rural Districts.	Total.
No. of Pulmonary Cases under supervision during the year classified according to sputum results :—						
Positive	565	49	614	540	47	587
Negative	173	12	185	208	17	225
None, not exd. or not known	66	2	68	21	...	21
Total	804	63	867	769	64	833
No. of Positive Sputum Cases under supervision in the year per 1,000 of the population ...	1·74	1·34	1·70	1·66	1·29	1·63
No. of Deaths from Pulmonary Tuberculosis classified according to Sputum results :—						
Positive	147	12	159	144	19	163
Negative	6	1	7	9	...	9
None, not exd. or not known	42	5	47	28	1	29
Total	195	18	213	181	20	201
Death-rates per 1,000 ...	0·60	0·49	0·59	0·55	0·54	0·55
Ratio of Deaths from Pulmonary Tuberculosis to Total Number of Pulmonary Cases under supervision	1 in 4·1	1 in 3·5	1 in 4·07	1 in 4·2	1 in 3·2	1 in 4·14
No. of Non-Pulmonary Cases ...	600	29	629	541	24	565
No. of Deaths from Non-Pulmonary Tuberculosis :—						
Number	48	3	51	63	2	65
Death-rates per 1,000 ...	0·14	0·08	0·14	0·19	0·05	0·18
Death-rate per 1,000 from Tuberculosis (all forms)	0·74	0·57	0·73	0·75	0·60	0·73
Estimated Population at end of year	324,021	36,434	360,455	323,412	36,465	359,877

Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

Area No. 3.

Ashton-under-Lyne, Bury Rural, Chadderton, Crompton, Littleborough, Middleton, Mossley, &c., Districts.

(Estimated population, 376,576)

Consultant Tuberculosis Officer ... Dr. J. L. Stewart.

Assistant Tuberculosis Officers ... Dr. G. Fletcher and Dr. C. Berry.

Number of tuberculous cases under supervision on 31st December, 1923 ... (Of these, 1893 were patients who had applied for treatment.)	1,932
Visits to patients at their Homes—	
(*a*) Number of new persons examined for diagnosis or expert opinion, including 3 contacts	250
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	209
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	138
Total	597

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Ashton-under-Lyne (Chief), Boston House, Warrington Street. [Opened September, 1914]	502	2,422
Bury (Branch), The Wylde. [Opened November, 1914]	208	1,175
Middleton (Branch), 71, Manchester Old Road. [Opened 19th May, 1915]	76	458
Mossley (Branch), Park Lodge. [Opened November, 1914]	33	229
Oldham (Branch), 25, Barker Street. [Opened 15th February, 1915]	261	1,319
Rochdale (Branch), 168, Drake Street. [Opened at 134, Drake Street, in March, 1915 and removed to 168, Drake Street on 9th May, 1924]	68	344
Total	1,148 (362 Contacts)	5,947

Number of "Care" Committees attended by Tuberculosis Officers ...		13
Number of Lectures or Addresses given		2
Total number of Nurses' visits to cases—		
(*a*) New cases	709	12,783
(*b*) Old cases	12,074	
Number of sanitary defects reported to the local medical officers of health		139
Number of sanitary defects which after notification were remedied ...		70

Housing Statistics of Patients (applicants) in Area No. 3.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	2	...	...
	15 and over ...	236	132	46
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	10	42	59
	15 and over ...	195	149	417
Total number of Non-Pulmonary cases.	Under 15 years	24	75	138
	15 and over ...	80	84	204
TOTAL		547	482	864

Number of disinfections carried out by sanitary authorities 494

Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment 779

Dr. Stewart reports :—

The Care Committee for Ashton-under-Lyne and district has completed a seventh year's work, and during the twelve months 85 cases were assisted by the Committee in various ways, the total expenditure amounting to £344 8s. 1d.

In the Radcliffe district 17 patients were assisted during the year by the Radcliffe and District Relief Committee for Consumptives, the total expenditure amounting to £43 19s.

A Care Committee was formed for the district of Prestwich in November, 1923.

The bacteriological work for the area is carried out at the laboratory of the chief dispensary at Ashton-under-Lyne. During the year 1,489 specimens of sputum and 48 specimens of urine were examined, with the following results: Sputum—positive 406, negative 1,083; Urine—positive 13, negative 35. These figures include re-examinations. The number of specimens sent by medical practitioners in the area was 356.

The X-Ray work for the area has been carried out at the chief dispensary. During the year 28 screen examinations were made and 1,117 skiagrams taken, as compared with 197 and 406

respectively in 1922. The skiagrams taken are analysed as follow :—

Lungs	911	Elbow	11	Ankle and Foot	20
Hip	55	Shoulder	9	Tibia	2
Spine	41	Forearm	3	Fibula	2
Knee	28	Wrist	6	Scapula	1
Pelvis	15	Hand	10	Ribs	1
				Neck glands	2

Visits for the purpose of conferring with the medical superintendents as to County patients in residence have been made each month to the following pulmonary hospitals in the area : Wolstenholme Hall, Norden ; Marland, Rochdale ; Westhulme, Oldham ; Racefield, Chadderton.

During the year, 28 patients were discharged from the Bury Observation Hospital, and the results on discharge are analysed as follow : Diagnosis not confirmed, 20 ; diagnosis confirmed and transferred to dispensary supervision, 4 ; diagnosis confirmed and transferred to sanatoria, 4. In regard to the cases where a diagnosis of tuberculosis was made, four cases were pulmonary and four non-pulmonary (1 knee, 2 adenitis, and 1 bone). The age of the patients varied from four to 14 years, and the average period of residence was two and a half months.

Area No. 4.

Leigh, Eccles, Farnworth, Stretford, Swinton, and Wigan Rural Districts.

(Estimated population, 451,415.)

Consultant Tuberculosis Officer	...	Dr. G. Jessel
Assistant Tuberculosis Officers	...	Dr. G. B. Charnock
		Dr. A. B. Jamieson
		Dr. J. Cathcart

Number of tuberculous cases under supervision on 31st December, 1923...	2,833
(Of these, 2,442 were patients who had applied for treatment.)	
Visits to patients at their Homes—	
(*a*) Number of new persons examined for diagnosis or expert opinion, including 545 contacts	837
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	1,375
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	98
Total	2,310

Dispensary Attendances—

	New persons examined, including contacts.	Attendances of old cases.
Leigh (Chief), 13, Church Street. [Opened November, 1914]	262	2,054
Eccles (Branch), 28 and 30, Gilda Brook Road. [Opened 4th August, 1915]	126	714
Farnworth (Branch), 12, Bolton Road. [Opened January, 1917]	180	1,263
Pendlebury (Branch), 121, Station Road. [Opened at 40, Chorley Road, Swinton, in October, 1914; removed to 121, Station Road, Pendlebury, 30th May, 1924] ...	103	755
Stretford (Branch), 14, Dorset Street. [Opened November, 1916]	200	718
Wigan (Branch), 14, Rodney Street. [Opened 26th November, 1913]	215	1,437
Total	1,086 (186 Contacts)	6,941

Number of "Care" Committees attended by Tuberculosis Officers ... 52

Number of Lectures or Addresses given 1

Total number of Nurses' visits to cases—

(*a*) New cases 792
(*b*) Old cases ... ... 15,663 } 16,455

Housing Statistics of Patients (applicants) in Area No. 4.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	...	4	2
	15 and over ...	327	101	20
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	40	82	68
	15 and over ...	388	186	388
Total number of Non-Pulmonary cases.	Under 15 years	56	141	162
	15 and over ...	149	105	223
TOTAL		960	619	863

Number of sanitary defects reported to the local medical officers of health 86

Number of sanitary defects which after notification were remedied ... 43

Number of disinfections carried out by sanitary authorities 1,089

Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment 789

Dr. Jessel reports :—

1.—The total number of cases under supervision at the end of the year was 2,833, as compared with 3,238 at the end of 1922, the difference roughly corresponding with the reduction brought about by the removal from the register of non-pulmonary cases that have been quiescent three or more years.

The close co-operation between the dispensary and other agencies working for the prevention and treatment of the disease (private medical practitioners, medical officers of health, Pensions authorities, &c.) has been maintained.

The number of new cases specially referred to me previous to notification being received was 789. In addition, 371 new notified cases, who had actually applied for treatment, and 32 who had not so applied were examined for the first time after notification. For some time past special efforts have been made to encourage more prompt notification and to ensure that particulars of notifications are received at the earliest possible moment. It is to be expected on this account that the relative proportion of new cases brought to my notice directly as the result of notification on the part of private practitioners will increase, and, as it is now generally realised that notification leads to special action being taken by the dispensary staff in the direction of the provision of special treatment and assistance, this may be regarded as one manifestation of good co-operation ; as soon as particulars of notification are received (which, as the result of an informal arrangement with the medical officers of health, is usually simultaneous with their arrival at the County health department) the patient is visited by one of the dispensary nurses and arrangements made for immediate examination.

2.—*Sputum Examinations.*—The whole of the sputum examinations for the area were undertaken at the laboratory at the Eccles Dispensary, and during the year 1,945 specimens were examined, of which 545 were positive and 1,400 negative.

3.—*X-Ray Work.*—During the last year an X-Ray apparatus was installed at the Eccles Dispensary ; 119 patients were screened and 106 skiagrams were taken. It has been the practice to use the X-Ray apparatus for selected cases where special assistance might reasonably be anticipated, in order to supplement the other methods of examination or to confirm the findings of clinical examination.

4.—*Care Work.*—The Care Committees of Leigh, Wigan, Westhoughton and Farnworth have continued to do excellent work.

These voluntary bodies have assisted 227 patients during the year, at a cost of nearly £500. At the end of the year, the well-established Guilds of Help at Eccles and Stretford undertook to act as Care Committees, so that about three-quarters of the population of the area and nearly all the urban population is now covered by the activities of Care Committees.

After-care work, to supplement the medical treatment provided, is of the utmost importance, and although Care Committees are difficult to establish and maintain, the interest taken by the members is of great public advantage. The tuberculosis scheme thereby tends to become more widely understood and appreciated, quite apart from the valuable advice and assistance that can be given by persons who are well acquainted with the local and domestic circumstances of the patients.

5.—*Isolation.*—(*a*) At Home. As in former years, special attention has been paid to infectious pulmonary cases at home, and much credit is due to the eight tuberculosis health visitors for the results which have attended their efforts.

(*b*) In Hospital. The improvement as regards the isolation of infectious cases at home is also partly due to the removal of many of the worst cases to the Peel Hall Pulmonary Hospital situated in the area, and the administration of the area is greatly simplified and aided by the fact that the medical superintendent is also the consultant tuberculosis officer for the area, so that in this way continuity of treatment is secured. There is always a waiting list of patients who are anxious to proceed to this hospital, and the average length of stay of patients last year was three weeks longer than in the previous year.

6.—*Home Visiting.*—This is still regarded as one of the utmost importance, as it is only by actual visits paid by the tuberculosis officers and dispensary nurses that a clear idea of the environmental and home circumstances of the patients can be obtained, and such improvements and modifications as are indicated to further the patients' treatment, or prevent the spread of infection, are usually only obtained at the cost of frequently repeated visits. Home visitation may be regarded as one of the most important parts of the dispensary work. Unfortunately, during the past year the number of home visits had to be curtailed owing to sickness and changes of staff. The increase in actual nursing and dressings undertaken by the dispensary nurses, and the consequent expenditure of time these entail, has also contributed to the reduction in the number of visits.

7.—*Contacts.*—A serious effort was made to examine as many contacts as possible, although during the year two of the assistant tuberculosis officers completed their two months' course at Alton. It is difficult to get healthy contacts to attend the dispensary, and home visitation is usually necessary. The aim has been to examine as many contacts as possible of persons in whose sputum tubercle bacilli have been present.

Area No. 5.

Seaforth, Newton-in-Makerfield, Warrington Rural, West Lancashire Rural, Whiston Rural, and Widnes Districts.

(Estimated population, 246,766.)

Consultant Tuberculosis Officer ... Dr. C. W. Laird.
Assistant Tuberculosis Officer ... Dr. C. H. Lilley.

Number of tuberculous cases under supervision on 31st December, 1923... (Of these, 1,397 were patients who had applied for treatment.)	1,735
Visits to patients at their Homes—	
(*a*) Number of new persons examined for diagnosis or expert opinion, including 32 contacts	236
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	548
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	94
Total	878

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Seaforth (Chief), 7, Claremont Road. [Opened February, 1915]	302	1,763
St. Helens (Branch), 18, Claughton Street. [Opened 21st March, 1922]	131	603
Widnes (Branch), Brendan House. [Opened 20th July, 1914]	192	2,385
Total	625 (148 Contacts)	4,751

Number of "Care" Committees attended by Tuberculosis Officers ...	11
Number of Lectures or Addresses given	4
Total number of Nurses' visits to cases—	
(*a*) New cases 539	6,074
(*b*) Old cases 5,535	
Number of sanitary defects reported to the local medical officers of health	137
Number of sanitary defects which after notification were remedied ...	83
Number of disinfections carried out by sanitary authorities	289
Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	558

Housing Statistics of Patients (applicants) in Area No. 5.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	3	...	1
	15 and over ...	159	53	48
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	19	62	80
	15 and over ...	215	78	258
Total number of Non-Pulmonary cases.	Under 15 years	21	112	130
	15 and over ...	48	27	83
TOTAL		465	332	600

Dr. Laird reports :—

In the course of 1923 the special features as far as this area is concerned consisted chiefly in the installation of an X-Ray apparatus at Seaforth Dispensary, and the formation of a Care Committee for Prescot and district. Both of these innovations are serving a useful purpose.

The X-Ray apparatus at the time of writing this report is working satisfactorily and is a very great help in the matter of diagnosis.

During the year the United Services Fund had its usefulness extended owing largely to representations emanating from the dispensary organisation, and much assistance is now available for tuberculous ex-Service men without pension, who found it difficult hitherto to obtain such things as additional clothing in connection with institutional treatment, or special nourishment when at home.

Addresses were given during the year at Prescot, with a view to organising the care committee, and also at Waterloo and at Seaforth on the request of the medical officer of health for the information of those attending his maternity and child welfare clinics.

A remarkable feature, particularly in the district around Widnes, has been the apparent increase in the number of non-pulmonary cases of tuberculosis, and this has been discussed with the local medical officer of health, who has decided to take special

steps in an endeavour to discover the cause for this increase. It is noteworthy that a similar outburst of non-pulmonary tuberculosis was observed in Germany during the height of the war, and was attributable largely to the great amount of hardship, distress and starvation which prevailed at that time. The district of Widnes of late has been particularly affected by unemployment and poverty, and this may have some bearing on the increase in question.

At Seaforth Dispensary the usual examinations of sputum have been carried out, and the total number examined during the year is considerably greater than 1922.

Monthly visits have been paid to Eccleston Hall Sanatorium, for the purpose of reporting on County patients receiving treatment there.

As yet there is no institution in this area to which the tuberculosis officer is attached as visiting physician in charge, but it is hoped that an opportunity may shortly arise to afford this area the advantages which others enjoy in this respect.

The number of cases referred by the Ministry of Pensions for certificates and reports is sensibly diminished, as was naturally to be expected, but there still remains a fair amount of work in this connection.

The Care Committees at Golborne and Earlestown maintain their enthusiasm, and have continued to do very useful work during the year.

Furness Sub-Area.

Dalton-in-Furness, Grange-over-Sands, Ulverston, and Ulverston Rural Districts.

(Estimated population, 42,585.)

Consultant Tuberculosis Officer ... Dr. E. H. Allon Pask.

Number of tuberculous cases under supervision on 31st December, 1923 ...	451
(Of these, 325 were patients who had applied for treatment.)	
Visits to patients at their Homes—	
(*a*) Number of new persons examined for diagnosis or expert opinion, including 12 contacts	48
(*b*) Revisits—	
(1) Respecting continued home treatment and dispensary supervision	161
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.	9
Total	218

Dispensary Attendances—

	New persons examined, including contacts.	Attendances of old cases.
Ulverston (Branch), Virginia House [Opened 14th October, 1915]...	129 (35 Contacts)	1,220

Total number of Nurses' visits to cases—

(*a*) New cases	114	3,605
(*b*) Old cases	3,491	

Housing Statistics of Patients (applicants) in Furness Sub-Area.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	1	...	...
	15 and over ...	20	4	6
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	12	25	46
	15 and over ...	74	7	87
Total number of Non-Pulmonary cases.	Under 15 years	2	8	12
	15 and over ...	11	3	7
TOTAL		120	47	158

Number of sanitary defects reported to the local medical officers of health	23
Number of sanitary defects which after notification were remedied ...	23
Number of disinfections carried out by sanitary authorities	88
Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	99

Dr. Pask sends the following report on work done in this Sub-Area :—

The number of attendances of "old" cases at the dispensary shows an increase of 241 over the previous year. Six cases more than last year were sent to me for an opinion.

The number of visits paid by myself shows an increase of 40, and the number of visits paid by the nurse shows an increase of 605, both as compared with the previous year.

The number of sputum examinations made at High Carley for dispensary patients was 119, an increase of 28.

The X-Ray examinations of dispensary patients were: screen examinations, 58; skiagrams, 86.

At the year end the number of cases on the books was 451, as compared with 383 for the previous year.

Speaking generally, the work in the area has increased in every way, as the foregoing figures show.

Fylde Sub-Area.

Fleetwood, Fylde Rural, Garstang Rural (part of), Kirkham, Poulton-le-Fylde, Preesall, and Thornton Districts.

(Estimated population, 51,438.)

Consultant Tuberculosis Officer ... Dr. G. Leggat.

Number of tuberculous cases under supervision on 31st December, 1923 ... (Of these, 191 were patients who had applied for treatment.)		216
Visits to patients at their Homes—		
(*a*) Number of new persons examined for diagnosis or expert opinion, including 17 contacts		113
(*b*) Revisits—		
(1) Respecting continued home treatment and dispensary supervision		259
(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c.		93
Total		465
Total number of Nurses' visits to cases—		
(*a*) New cases	91	1,629
(*b*) Old cases	1,538	

Housing Statistics of Patients (applicants) in Fylde Sub-Area.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases *considered infectious or contagious.*	Under 15 years	...	...	...
	15 and over ...	27	9	4
Total number of Pulmonary cases *not* considered infectious or contagious.	Under 15 years	7	13	8
	15 and over ...	30	14	34
Total number of Non-Pulmonary cases.	Under 15 years	1	13	9
	15 and over ...	10	5	7
Total		75	54	62

Number of sanitary defects reported to the local medical officers of health	17
Number of sanitary defects which after notification were remedied ...	13
Number of disinfections carried out by sanitary authorities	60
Number of cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	67

COUNTY SANATORIA AND PULMONARY HOSPITALS.

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(1) High Carley Sanatorium, near Ulverston.

Medical Superintendent :

E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Assistant Medical Superintendent :

Henry J. Villiers, L.R.C.P.I., L.R.C.S.I.

Matron : Miss E. Woosey.

High Carley Sanatorium is situated about three miles west of Ulverston, to the south of the main road to Barrow-in-Furness. The buildings stand in about 23 acres of ground, and accommodation at the end of the year was provided for 112 patients (62 males and 50 females).

The Medical Superintendent and the Assistant are accommodated on the estate ; while seven houses are provided in the vicinity of the sanatorium for certain male employees.

Particular attention is paid to the employment of suitable cases on some purposeful work in order chiefly to keep their minds occupied. An army hut is equipped as a workshop, so as to provide occupational training in woodwork, boot repairing, and hurdle making. An X-Ray apparatus is also installed.

An agreement exists between the County Council and the Barrow-in-Furness Corporation for the reservation at High Carley of a number of beds, not exceeding 16, for Borough patients. These beds when not required are filled by County patients, in accordance with arrangements with the Corporation.

During the year, 211 patients received some form of dental treatment from the visiting dentist (Mr. Miller, L.D.S.).

The following table shows the condition of the 2,027 patients discharged (excluding deaths) from May, 1916, to the 31st December, 1923 :—

Condition on Discharge of 2,027 persons who received treatment in High Carley Sanatorium (1916 to 1923).

†Stage of Disease on Admission.	Total number Discharged.	Average Duration of Treatment in Months.	Condition on Discharge.				
			Quiescent.	Improved.	Stationary.	Worse.	*No Information.
			%	%	%	%	%
Stage I. & I.S—							
Males	690	2·9	26·8	49·1	2·9	2·3	18·8
Females ...	616	3·6	42·4	41·2	5·2	2·1	9·1
Total ...	1306	...	34·1	45·4	3·9	2·2	14·2
Stage II. & II.S—							
Males	412	3·2	7·8	61·9	6·5	6·1	17·7
Females ...	264	4·4	14·0	58·7	8·7	8·7	9·8
Total ...	676	...	10·2	60·6	7·4	7·1	14·6
Stage III. & III.S—							
Males	26	3·7	...	53·8	19·2	11·5	15·4
Females ...	19	5·9	...	84·2	10·5	5·3	...
Total ...	45	...	...	66·7	15·5	8·9	8·9

* Includes patients discharged for other than medical reasons.
† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

Dr. Pask reports as follows on matters relating to the treatment of the patients and the administration of the sanatorium :—

> The treatment adopted at High Carley Sanatorium consists of the well-known methods universally adopted, viz., fresh air, a good supply of nourishing food, systematic rest, and graduated exercise and work, all of which are carefully regulated under strict medical supervision. In practice it has been found that patients, in the majority of cases, respond to this form of treatment alone. Certain new and special forms of treatment have been tried during the year on patients who were not responding to the usual sanatorium routine, but it must be confessed that patients who fail to respond to ordinary sanatorium treatment do not, as a rule, respond to any of the special forms of treatment. It is by no means rare to find patients on whom one tries a special remedy saying they feel better after having had it, but the influence on the course of the disease in the long run would appear to be neglible. The only exception in my hands to this statement is artificial pneumothorax, and in a proportion of selected cases this has certainly checked the downhill progress of the disease.

During the year an extensive trial has been given to the defatted tuberculins. Messrs. Parke, Davis & Co., kindly sent a supply gratis of Alipoid T.B.E., prepared in the Inoculation Dept., St. Mary's Hospital, London, for trial before placing it on the market, and a preparation of defatted tuberculin prepared by the Anglo-French Drug Co., was tried in a number of cases. During the trial of these tuberculins there occurred no violent " reactions " as were so common with some of the older tuberculins. The majority of patients did not suffer any discomfort, a slight headache being the worst that was complained of. On the other hand, no beneficial effect was obtained that could be ascribed directly to the injections.

Collosol calcium was also tried in a few cases, but did not appear to do any good.

Particular attention is paid to the mental state of a patient during treatment, and those who are able are given, as far as possible, congenial and purposeful work to perform. The carpenter's shop has proved again useful in providing purposeful work for a number of patients who have made the following articles :—Poultry houses, spinal boxes, benches, bookcases, tables, garden seats, cupboards, cornbin, stepladders, and cycle shed. In addition to this, numerous minor repairs have been carried out to the plant and furniture of the institution.

A new occupation, " wattle hurdle " making, has been started during the year in the workshop, and numerous hurdles have been made. These are used at the sanatorium to provide shelter for the growing shrubs and plants.

During the year the shoemaker's department—there is no paid instructor—has dealt with 178 repairs to boots and shoes belonging to the patients and staff.

The poultry farm is in the hands of the women patients. During the year 142 chickens were reared, and 6,241 eggs were supplied to the sanatorium. Nearly all the appliances, including houses, runs, foster-mothers, were made by the patients in the joinery department.

The X-ray apparatus at the sanatorium is used for dispensary patients in the Furness Sub-Area, as well as for patients at the

sanatorium. During the year the following work has been done :—

Sanatorium patients	... 89	Screen Exams.	104 Skiagrams.
Dispensary ,,	... 58	,,	86 ,,

The probationer nurses at the sanatorium attend lectures given by myself and the matron on nursing, elementary anatomy and physiology, with special reference to tuberculosis. At the end of their two years' training a certificate is issued to successful candidates ; those in 1923 being Nurses Willson, Cross, and Cowen.

Dental treatment for the patients has been continued. The Dentist visits weekly, and the beneficial results of attention to the teeth undoubtedly justify the expense.

As in previous years, lectures have been given by myself to all patients every month.

During recreation time bowls, croquet, billiards, and card games are indulged in, and periodically mixed whist drives are arranged. In the winter months, concerts, dramatic performances, lantern lectures, &c., are given by various organisations in the district, and frequently in the summer an open-air concert is given.

The sanatorium now possesses a good selection of books for the amusement and education of the patients ; during the year 2,844 books were loaned to the patients, and 39 loaned to the staff.

Through the generosity of a large number of friends of the sanatorium, a piano has been obtained for use in the women's recreation room. This has been much appreciated, and it is hoped during the coming year again to trespass on their generosity to provide a wireless apparatus.

During the spring of 1923, and again in 1924, the sanatorium was visited by a number of foreign medical officers (under the auspices of the League of Nations), who expressed satisfaction with the general arrangements and treatment of patients.

The grounds of the sanatorium are being gradually improved, especially in front of the cubicles. A new lawn has been laid down, and it is hoped to commence using this during the coming summer for a putting green for the men patients.

During the year, 1,337 specimens of sputum were examined for tubercle bacilli, with the following results :—Positive 687, Negative 650.

An investigation has been made of the sputum of 120 cases with a positive sputum on admission who were discharged during the year. Of these 120 cases, 11 were discharged with a negative sputum, and two with no sputum at all, the bacillary loss being 10·8 per cent.

Several photographs are here reproduced which illustrate the life at the sanatorium.

(2) Oubas House Children's Sanatorium, Ulverston.

Medical Superintendent : E. H. Allon Pask, M.D.

Assistant Medical Superintendent : Dr. H. J. Villiers.

Matron : Miss E. Woosey. *Sister-in-Charge :* Miss S. Braithwaite.

In May, 1920, the County Council came to terms with Miss Keswick, the lessor, to accept an assignment, for the residue of a term of 21 years (dating from November, 1912), of the premises known as Oubas House, Ulverston, until then used by Miss Keswick as a hospital for children.

The house stands in its own grounds (about one acre in extent), and accommodation was at first provided for 18 children and later increased to 20 by the provision of a double shelter. The sanatorium was opened for patients in August, 1921. A portion of an army hut has been adapted for use as a classroom. Educational instruction is given to the children in conformity with the requirements of the Board of Education.

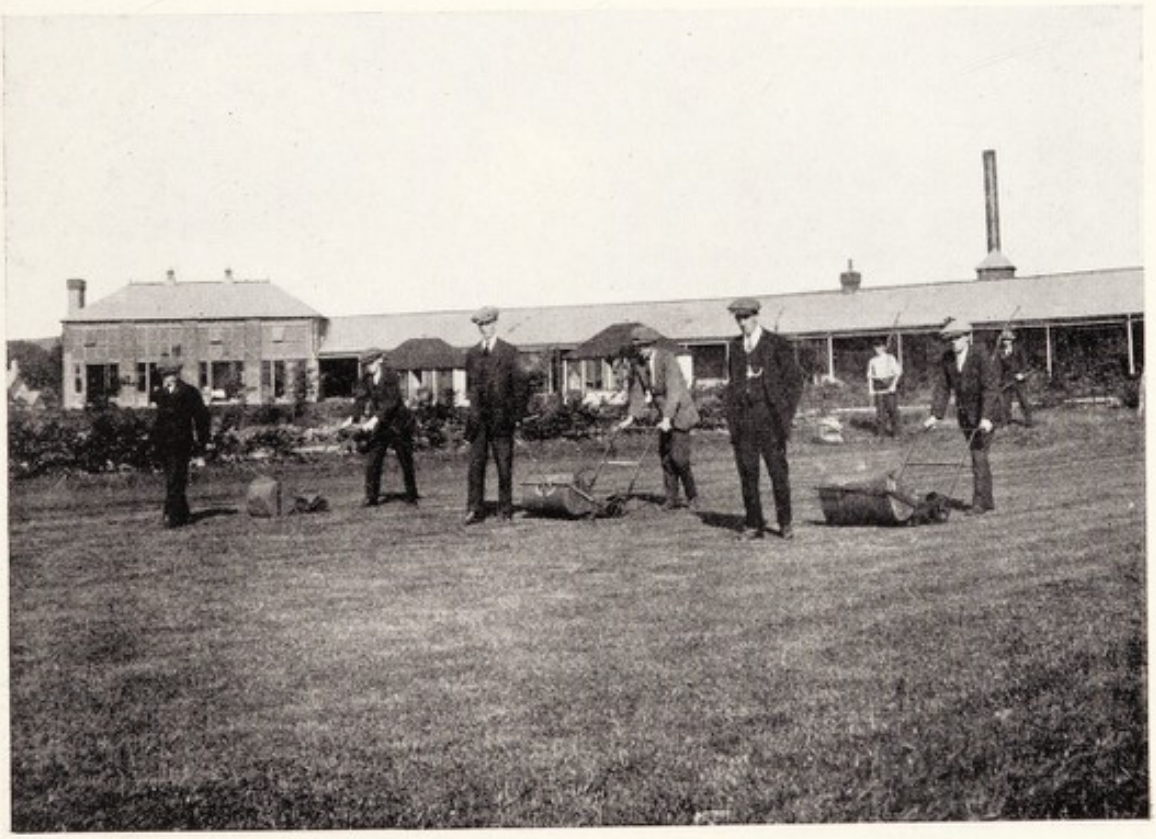
This sanatorium is administered in conjunction with the High Carley Sanatorium, the nursing staff at Oubas House consisting of a sister-in-charge, two probationer nurses (one of whom acts as night-nurse), and also one certificated teacher.

For the period 2nd August, 1921, to 31st December, 1923, 62 patients (girls) were treated and discharged, their condition being as follows :—

†Stage of Disease on Admission.	Total number Discharged (Females).	Average Duration of Treatment in Months.	Condition on Discharge.				
			Quiescent.	Improved.	Stationary.	Worse.	No Information.
			%	%	%	%	%
Stage I. & I.S	46	5·4	69·6	30·4	...	...	...
Stage II. & II.S	14	8·3	57·1	28·6	...	14·3	...
Stage III. & III.S	2	4·9	50·0	50·0	...	...	...

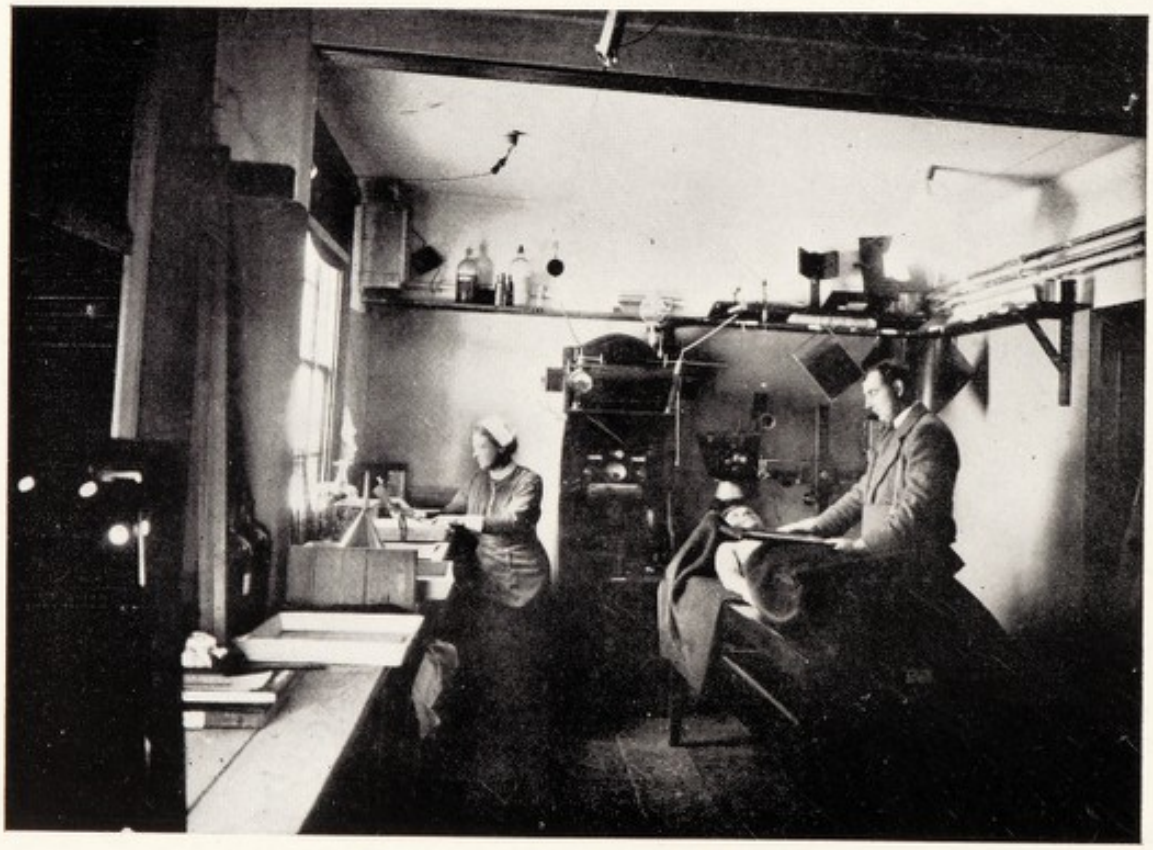
† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

HIGH CARLEY SANATORIUM.—PATIENTS RESTING ON VERANDAH.



HIGH CARLEY SANATORIUM.—PATIENTS AT WORK, MOWING.

HIGH CARLEY SANATORIUM.—WATTLE HURDLE MAKING.



HIGH CARLEY SANATORIUM.—X-RAY ROOM.

Dr. Pask reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

> The children respond very well to sanatorium treatment, and, on the whole, do much better than adults, because they are free from domestic worry, are naturally cheerful, and have their minds engaged in elementary education.
>
> I had hoped that during the summer months some modified form of sun treatment could have been attempted, but unfortunately this was quite out of the question, owing to the inclement weather, except for a short time during July.
>
> Mrs. Robert Crosfield, Ford House, Ulverston, kindly presented a gramophone, with a large number of records, to the institution, which has been greatly appreciated by the children.

(3) Elswick Sanatorium, near Kirkham.

Medical Superintendent :

George Leggat, M.B., Ch.B., D.P.H. (Aberdeen).

Matron : Miss I. G. Barclay.

This sanatorium is situated on the east side of Elswick Village, and is about six miles from Kirkham Station. The buildings and about 11 acres of land belong to the Fylde, Preston, and Garstang Joint Smallpox Hospital Board, and were taken on lease by the Lancashire County Council in 1913 for a period of 21 years. There is accommodation for 57 patients.

The three houses provided under the County housing scheme are occupied by the male employees.

A new recreation hut for the women patients, constructed by the male patients, was opened by the Chairman of the County Council (Sir Henry F. Hibbert) in August, 1924,

Dental treatment was afforded by the visiting dentist (Mr. J. J. Ward, L.D.S.) to 92 patients at this sanatorium.

The following table gives the condition of the 1,221 patients discharged (excluding deaths) since the Institution was opened on the 27th July, 1914, to the 31st December, 1923 :—

Condition on discharge of 1,221 persons who received treatment in Elswick Sanatorium (1914-1923).

†Stage of Disease on Admission.	Total number Discharged.	Average Duration of Treatment in Months.	Condition on Discharge.				
			Quiescent.	Improved.	Stationary.	Worse.	*No Information.
			%	%	%	%	%
Stage I. & I.S—							
Males	315	4·1	47·6	28·2	3·2	3·8	17·1
Females ...	205	4·6	57·6	29·3	2·4	2·9	7·8
Total ...	520	...	51·5	28·6	2·9	3·5	13·5
Stage II. & II.S—							
Males	397	4·3	26·7	44·8	5·3	6·5	16·6
Females ...	205	5·3	29·3	46·3	8·8	7·3	8·3
Total ...	602	...	27·6	45·3	6·5	6·8	13·8
Stage III. & III.S—							
Males	69	4·5	10·1	66·7	13·0	1·4	8·7
Females ...	30	4·5	20·0	53·3	6·7	10·0	10·0
Total ...	99	...	13·1	62·6	11·1	4·0	9·1

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

Several photographs are here reproduced, which illustrate life at the sanatorium.

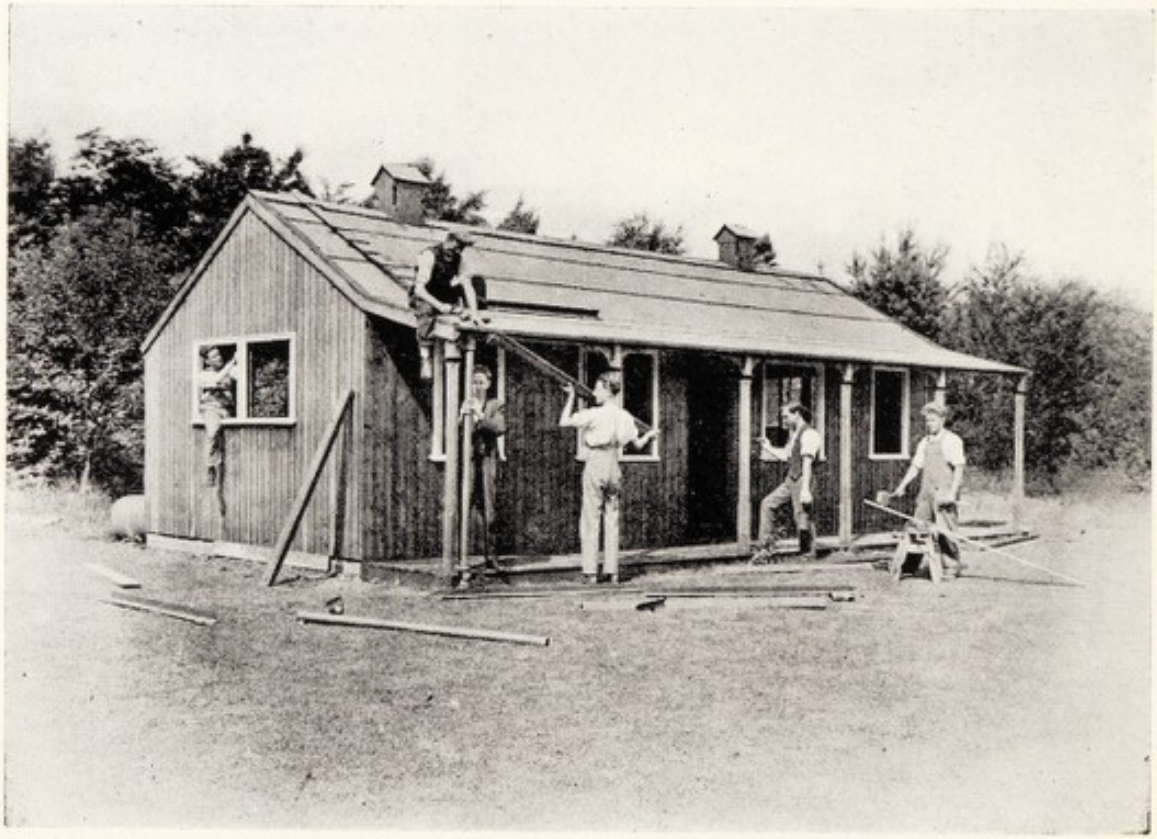
Dr. Leggat reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

> Treatment has been carried out on much the same lines as formerly, though this year more extensive trials have been made with recent therapeutic and vaccine remedies.
>
> The accommodation for carpentry has been much improved by the erection by the patients of a large hut fitted with benches, and large sliding windows arranged along both sides and one end of the hut for fresh air and sunshine. My experience has been that the majority of the County patients are more adaptable to carpentry, and, furthermore, this kind of work has the advantage that it can be carried on irrespective of the weather conditions. An ex-patient has been appointed as instructor in carpentry and poultry-keeping, and under his supervision some very useful work has been turned out, including tables, chairs, barrows, wheel-carts, the erection of huts for poultry and a female recreation-room, and most of the general repairs about the sanatorium.

ELSWICK SANATORIUM.—PATIENTS OUTSIDE FEMALE WARD.

ELSWICK SANATORIUM.—REST SHELTERS.

ELSWICK SANATORIUM.—PATIENTS' WORKSHOP.



ELSWICK SANATORIUM.—CONSTRUCTION BY PATIENTS OF WOMEN'S RECREATION ROOM.

The poultry runs are now completely stocked, and this year 700 chickens have been hatched. It has been found that the female patients take more interest in this branch of work than the male patients, and accordingly this department is entirely run by them under the supervision of the instructor above mentioned.

A long-felt want has now been supplied by the erection of a female recreation-room. Most of the work has been carried out by the male patients, including the erection of a verandah and all the internal lining, decorations and furnishings. The enthusiasm shown by the patients in carrying out this work was astonishing.

With suitable work and recreation the difficulties of running a sanatorium are certainly very much reduced and breaches of discipline less frequent; though we are now fairly well supplied with the former, I am sorry to say that the latter still leaves much to be desired—there is need of a large recreation hall for the holding of concerts, cinematograph shows, and wireless.

The library has been kept well up-to-date, and is much appreciated by the patients. Several persons interested in the sanatorium have frequently sent bundles of books and magazines, which have been a great boon to the patients.

Trials have been made during the year with various new vaccines and therapeutic remedies as follows :—Dr. Paget's tuberculin by insufflation; Professor Dreyer's alipoid bacillary emulsion, mixed vaccines for catarrh, la phagolysine, collosol calcium, and pneumosan. No striking results were obtained with any of the therapeutic remedies. At the same time no ill results were observed. Some cases have done well with Dr. Paget's tuberculin, and a few carefully selected cases appear to have derived benefit from Professor Dreyer's alipoid T.B.E. In the latter instance, the patients had been at least six months under my observation in the sanatorium, and their disease had become more or less stationary. The initial dose used was 1/10th of a c.c. of 1 in 100,000, and this was increased at three day intervals by a 1/10th c.c. to a maximum dose of 1 c.c. of 1 in 1,000.

The discipline for the year has been very good; the patients on the whole continue to show a greater tendency to settle down to sanatorium life, and appear to be more appreciative of the benefits to be derived from the treatment.

(4) Chadderton Pulmonary Hospital.

Visiting Medical Superintendent :
James Wood, M.D., M.B., Ch.B., D.P.H., R.C.P.S.I.

Matron : Miss E. Moseley.

An agreement was made on the 1st October, 1919, with the Chadderton, Royton, and Crompton Joint Hospital Board for the use of the new buildings, erected as a smallpox hospital, for the treatment of patients suffering from pulmonary tuberculosis. Accommodation is now provided for 36 female patients. The County Council are under an obligation to vacate the premises in case of an epidemic of smallpox.

Dr. Wood reports as under on matters relating to the hospital :—

The work in 1923 was carried out on similar lines to the previous years. Several new methods of treatment were tried during the year. Defatted tuberculin and Dr. Paget's insufflation method were used in a few cases. No patient improved under these methods. Tuberculin ointment was used in a few cases, two of whom improved considerably.

Most of the patients admitted are well advanced in the disease, and every effort is made by the staff to make them as comfortable as possible. Consequently, a considerable proportion of the cases are confined to bed the whole of the time, but some are able to get up for a period which varies from one to nine hours, the time depending on their condition and the effect produced.

There is now a good library for the patients and one for the staff, the books having been provided by the British Red Cross Society, E. Kempsey, Esq., J.P., and the County Council. The books are in constant use, and have proved to be a wise and thoughtful provision.

The grounds have been further improved by the planting of more trees. A hard tennis-court for the staff was constructed during the year. A wireless set was installed in April, and is highly appreciated by the patients.

On the whole, the patients have been contented, remaining in the hospital longer, whilst there have been fewer changes in the nursing and domestic staffs.

During the year, 94 specimens of sputum were examined for tubercle bacilli ; 45 were found to be positive, and 49 negative.

(5) Heath Charnock Pulmonary Hospital, near Chorley.

Medical Superintendent :
J. W. Rigby, L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Matron : Miss H. Sinclair.

By agreement with the Chorley Joint Hospital Board, the County Council erected, equipped, and furnished two pavilions, one for male and the other for female patients, containing 16 and 14 beds respectively, together with a dining-hall and some staff accommodation. The pavilions were opened in November, 1914. The County Council provided a hut as a recreation-room for male patients in 1921. The Joint Board are responsible for the administration of the hospital, the County Council paying the maintenance charges.

Dr. Rigby has kindly furnished the following report :—

During the past year we have had the opportunity of trying many of the newer therapeutic and vaccine remedies, but so far with indifferent results. Perhaps with more extended use and less severe cases the results would have been more encouraging.

We depend entirely on fresh air and good food for the treatment, and the patients get plenty of both at Heath Charnock. There has been a marked lack of sun and very many more wet days than usual, and this has told against the inmates, as it has been difficult to get their beds out in the open air. In spite of this, we have endeavoured to make them comfortable, and I may say that they have been satisfied and that we have had no trouble with anyone.

The gardens have been much improved, and will be more so ; this has given much satisfaction.

Poultry-keeping has been started this year, but few are capable of taking advantage of this form of recreation.

There is a great need for something to amuse and help the patients to pass the evenings. Concerts and other entertainments are arranged, but I do think that a wireless apparatus would do good both for the patients and also the nursing staff. We are nearly three miles from any town, and this distance has to be either walked or a taxi hired, so that few nurses ever go.

We should also be glad of a small library of books of a light nature, and also of a more liberal supply of daily papers.

Everything has been done to make the condition for the helpless inmates enjoyable, but this is a hard task and we should appreciate any help.

(6) Peel Hall Pulmonary Hospital, Little Hulton.

Visiting Medical Superintendent :
G. Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Matron : Miss A. Jones.

The Hall, with about 17 acres of land attached thereto, was presented in 1914 to the Lancashire County Council by Mr. A. Wynne-Corrie, and an additional 20 acres of land has been purchased. The adaptation of the Hall as a pulmonary hospital for the treatment of advanced and chronic cases suffering from tuberculosis—delayed owing to the Great War—was completed in 1921, and the first patient was admitted on 30th August of that year.

Accommodation is provided for 45 male patients, and the Hospital serves principally Dispensary Area No. 4 in taking advanced, observation and educational cases.

Dr. Jessel reports as follows on the year's work at the hospital :—

> In nearly all of the patients admitted the disease is in an advanced and highly infectious stage. Their presence in hospital is thus not only likely to prove beneficial to themselves, but removes a source of danger to the other inmates of their homes, while it relieves the friends of the difficult and in many cases impossible task of providing adequate nursing and attention. Most of the men are either very acute or chronic cases, where there has been a recrudescence of activity. Occasional observation cases have also been admitted, as well as a few " combined " cases, *i.e.*, men with tuberculosis in other parts of the body as well as in the lungs. These men require a great deal of nursing and dressing, such as is usually impossible in their homes, and they are not eligible for treatment in general hospitals.
>
> On admission, all patients are put to bed, but many are soon fit to get up. The patients pass through various stages according to their progress, viz., red badge, or up for dinner or tea ; yellow badge, or up all day and taking measured walks, short at first and gradually increased ; and white badge, which means able to undertake light occupations in the grounds, &c. These latter men form the recreation committee. Considerable attention is paid to this aspect of the hospital life, and concerts, whist drives, billiard matches, &c., are regularly held. There are, in addition, the usual table games, a piano, a library of over 400 modern books, croquet, bowls, quoits, &c., as well as a five-valve wireless set.

The men are permitted to receive two visitors at least once a week, and once every two months a week-end leave is granted to suitable patients.

Various alleged "cures" and widely-advertised forms of treatment have been tried, but the results have not been appreciably better than in similar cases where these have been withheld. Rest has been found the most important single factor in preventing the spread of the disease and in lessening its activity, while over-exertion, to which patients are sometimes tempted by their feeling of well-being, has invariably resulted in a relapse.

The hospital and grounds have been considerably improved since last year, and the additional amenities have led to a higher standard of comfort and efficiency.

The behaviour of the patients has been very good, and, having regard to their illness, they appear as a whole to find their stay pleasant as well as often beneficial. This is shown by the fact that the average length of stay of all cases (including deaths) was 99 days, or three weeks longer than in 1922, the first complete year after the hospital was opened. At the end of 1923 three patients had been in the hospital over a year, and two others over six months. No difficulty is experienced in keeping the hospital full, in fact, there are always a number of men anxious to come.

As the majority of cases come from my own dispensary area there is continuity of treatment and supervision throughout the whole period of their illness.

(7) Rufford Pulmonary Hospital.

The County Council acquired, on the 18th October, 1920, Rufford Hall, situated on the west side of the main road from Preston to Ormskirk, together with 302 acres of land. The property includes the Hall (containing electric light installation, &c.), large out-buildings, coach-house, gardener's cottage, two lodges, greenhouses, walled-in kitchen garden, together with growing and standing timber.

Schemes for the utilisation of the property remained in abeyance for several years by order of the Ministry of Health, owing to the financial stringency, but in February, 1924, the County Council decided to utilise the premises for the accommodation of some 43 advanced cases of pulmonary tuberculosis. The plans have been approved by the Ministry of Health, and the work of adaptation will be commenced before the end of 1924.

(8) Wrightington Hall, near Wigan.

The County Council, in November, 1920, decided to purchase Wrightington Hall and Estate of 159 acres, with a view to utilising it eventually for the provision of accommodation for children.

The Hall is situated on the high road between Standish and Parbold, about six miles north-west of Wigan, and stands at an altitude of 300 feet above sea-level.

Plans were prepared for the adaptation of the buildings, but under instructions from the Ministry of Health no work was commenced, and the scheme now remains in abeyance.

DENTAL TREATMENT.

The scheme adopted by the County Council in November, 1920, providing for dental treatment for certain patients undergoing treatment at the Elswick and High Carley Sanatoria was extended by the Council in March, 1924, so as to include those tuberculous patients, either at home or in institutions, who are unable to bear the whole cost of dental treatment (including new dentures) and who are not already provided for under the scheme of other bodies. Patients eligible for this form of treatment are those who are, in the opinion of the medical superintendent or tuberculosis officer, unable to derive full benefit from treatment owing to the defective condition of their teeth. Ex-Service men with pensions and children of school age are not dealt with, as they are already covered by dental schemes of the Ministry of Pensions and Education Authorities respectively.

At High Carley and Elswick Sanatoria the essential dental equipment has been provided, and a visiting dentist appointed for each place.

The following statement shows the dental work carried out during 1923 under the scheme as it then stood :—

TABLE 19.

	High Carley Sanatorium.	Elswick Sanatorium.	Total.
Number of patients who received dental attention (any form)	211	92	303
New Dentures provided—			
(*a*) Complete sets	32	16	48
(*b*) Partial sets	49	8	57
Repairs to Dentures	13	3	16
Number of Extractions	450	281	731
Number of Fillings	73	84	157
Number of Scalings and Cleanings ...	2905	329	3234
Number of other Operations	308	76	384

The dental scheme, considering the benefit derived by the patients, has proved economical, and fully justifies its inauguration.

SANATORIUM TREATMENT.

(*a*) Immediate Results : Condition of 7,921 Patients on Discharge from Sanatorium.

Between 15th July, 1912, and 31st December, 1923, the following numbers of patients received a period or periods of sanatorium treatment, and have been discharged :—

Adults	7,386	7,921
Children	535	

In the foregoing figures a patient is counted once only, even though he may have received two or more separate periods of treatment. The number of admissions and re-admissions of patients to sanatoria in 1923 was 838, as compared with 899 in the previous year, and 972 in 1921.

These cases are distinct from those who received treatment in a pulmonary hospital or observation hospital. Such treatment is granted almost solely for purposes of education or isolation, and no useful purpose is attained in trying to show curative results.

Under the County scheme patients have never been limited to any definite period—the length of stay depending on the recommendation of the medical superintendent. Cases likely to become quiescent have always received as long a period of treatment as considered necessary on medical grounds. In spite of there being no fixed period of treatment, the average duration (as will be seen from Appendix IV.) is about four months—this figure is not affected by patients leaving prematurely for other than medical reasons, as deduction is made for these—although in 1923 and continuing in 1924, there has been a marked tendency for patients to remain in sanatoria longer than the average of previous years.

Tables giving the condition on discharge from sanatorium, as certified by the medical superintendent, have been prepared in considerable detail and show the result according to (1) sex, (2) stage of disease on admission, and (3) whether the disease is " open " or " closed," that is, sputum positive or negative (or absent). The tables in question for both adults and children constitute Appendices IV. and V. of this Report. Eliminating all possible detail, the following particulars, extracted from the tables, give a summary of the *immediate* results of sanatorium treatment.

TABLE 20.—*Immediate Results of Sanatorium Treatment*, 1912-1923.

Adults or Children.	†Stage of Disease on Admission.	Sputum.	No. of Cases.	Condition on Discharge from Sanatorium.				
				Quiescent. %	Improved. %	Stationary. %	Worse. %	*No Information. %
Adults (15 and over).	I. and I.S	Positive ...	1381	18·6	50·3	9·0	5·3	16·7
		Negative ...	1885	41·6	38·4	2·7	0·8	16·4
		None ...	533	52·5	31·1	3·2	0·6	12·6
		Total ...	3853‡	34·3	41·4	5·1	2·4	16·8
	II. and II.S	Positive ...	2161	9·4	51·6	12·2	8·1	18·5
		Negative ...	679	28·4	47·9	3·1	1·8	18·8
		None ...	144	41·6	38·9	3·5	2·8	13·2
		Total ...	3021§	15·2	49·7	9·6	6·3	19·2
Children (under 15).	I. and I.S	Positive ...	8	12·5	37·5	...	12·5	37·5
		Negative ...	132	48·5	38·6	2·3	...	10·6
		None ...	249	51·8	33·7	2·8	0·8	10·8
		Total ...	389	49·9	35·5	2·5	0·8	11·3
	II. and II.S	Positive ...	12	...	33·3	25·0	16·7	25·0
		Negative ...	55	47·3	34·5	3·6	1·8	12·7
		None ...	54	48·1	31·5	3·7	5·5	11·1
		Total ...	121	42·9	33·0	5·8	4·9	13·2

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

‡ Includes 54 cases where the sputum was not examined.

§ Includes 37 cases where the sputum was not examined.

From the foregoing summaries and from the detailed tables in Appendices IV. and V., it will be seen that the earlier stage at which a patient is admitted to a sanatorium—and more especially when tubercle bacilli are not found in the sputum—the greater are the beneficial effects of several months' sanatorium treatment. The after-histories of these patients are dealt with on the next page.

The advanced or third stage cases appearing in Appendix IV. have not been included in Table 20 above, as they were not strictly suitable cases for sanatorium treatment; they were admitted chiefly in 1912 and 1913, before the County dispensary organisation was set up.

(*b*) After-Histories of Patients who Completed a Course of Sanatorium Treatment, associated with Home Treatment and Dispensary Supervision or Treatment.

The immediate results of sanatorium treatment show the condition of the patient on his or her discharge, and whilst the figures published in the preceding Table 20 may be regarded as satisfactory and encouraging, the main test of the efficacy of sanatorium treatment under modern social and economic conditions lies in the after-results of such treatment. The County tuberculosis scheme has now been working some ten years, and this gives a sufficient period to enable the after-histories of those patients who have completed one or more courses of sanatorium treatment to be analysed so as to show how they fared in the subsequent years. The position as at the end of 1923 has been ascertained for these sanatorium cases, and the results are contained in the Tables G and H (Adults and Children) forming Appendices VII. and VIII. of this report. So that the data upon which the tables are based may be clear, it should be stated :—

(*a*) The patients are grouped according to the particular year in which they applied for treatment, the practice of classifying them under the year of discharge having been discarded on account of so many patients receiving two, three, or more courses of treatment ;

(*b*) The cases are confined to patients who have received sanatorium treatment in the true sense, that is, distinct from residence in a pulmonary hospital or observation hospital, where an arrest of the disease is not expected ;

(*c*) Only patients who remained in a sanatorium two months or longer have been included ;

(*d*) Patients who were in an advanced stage of the disease when first commencing treatment under the County scheme, and subsequently admitted to sanatoria, although given for record in Appendices VII. and VIII., are not dealt with in this summary, as they are not strictly sanatorium cases providing a prospect of an arrest of the disease ; and

(*e*) Patients suffering from both pulmonary and non-pulmonary tuberculosis who received sanatorium treatment for their pulmonary condition are included in these tables.

The information relating to adults, contained in Appendix VII. has been summarised under a few essential headings on the opposite page :—

TABLE 21.—*After-Histories of 4,030 Adult Patients who completed one or more Courses of* SANATORIUM *Treatment, associated with Home Treatment and Dispensary Supervision or Treatment.*

Stage‡ of Disease.	Year of Application for Treatment.	Sputum.†	Average Duration of Sanatorium Treatment. (Months).	NET* No. of Patients who completed Sanatorium Treatment.	Position at end of 1923.		
					Fit for Work. %	Unfit for Work. %	Died. %
I. & I.S. ("Early" cases).	1914-15 ...	Positive ...	4·6	124	28·2	4·8	66·9
		Neg. or None	3·8	159	81·1	0·6	18·2
	1916 ...	Positive ...	4·8	100	29·0	8·0	63·0
		Neg. or None	3·7	162	82·7	3·7	13·6
	1917 ...	Positive ...	4·9	140	35·0	9·3	55·7
		Neg. or None	4·2	179	87·1	1·7	11·2
	1918 ...	Positive ...	4·9	144	38·9	13·9	47·2
		Neg. or None	4·2	192	84·4	6·2	9·4
	1919 ...	Positive ...	5·6	118	31·3	15·2	53·4
		Neg. or None	4·2	186	80·1	10·2	9·7
	1920 ...	Positive ...	5·7	113	34·5	15·0	50·4
		Neg. or None	4·7	115	79·1	10·4	10·4
	1921 ...	Positive ...	5·3	125	29·6	15·2	55·2
		Neg. or None	4·5	128	85·1	7·0	7·8
	1922 ...	Positive ...	4·4	81	43·2	33·3	23·4
		Neg. or None	4·6	86	76·7	16·3	6·9
II. and II. S. ("Intermediate" cases).	1914-15 ...	Positive ...	4·5	244	14·7	4·9	80·3
		Neg. or None	3·5	88	54·5	6·8	38·6
	1916 ...	Positive ...	4·9	171	15·2	7·0	77·8
		Neg. or None	3·8	45	77·8	...	22·2
	1917 ...	Positive ...	5·2	176	10·8	7·4	81·8
		Neg. or None	4·8	41	51·2	7·3	41·4
	1918 ...	Positive ...	5·4	202	23·3	9·9	66·8
		Neg. or None	5·2	61	75·4	11·5	13·1
	1919 ...	Positive ...	5·1	155	21·3	5·8	72·9
		Neg. or None	4·5	53	84·9	7·5	7·5
	1920 ...	Positive ...	5·2	183	18·6	15·3	66·1
		Neg. or None	4·9	60	70·0	15·0	15·0
	1921 ...	Positive ...	4·7	172	23·8	19·2	56·9
		Neg. or None	4·7	54	59·2	22·2	18·5
	1922 ...	Positive ...	4·9	135	25·9	28·1	45·9
		Neg. or None	3·9	38	71·0	13·1	15·8

* Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and in institutions on 31/12/23.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

‡ Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

N.B.—The medical condition of the 2,295 living patients at the end of 1923 was: Disease arrested or quiescent 1,651, disease active 586, diagnosis doubtful 58.

The foregoing Table 21, together with the detailed tables in Appendix VII., contain much information bearing on the after-results of sanatorium treatment, and innumerable subsidiary tables can be compiled from them to illustrate a number of points, but space does not allow of all problems being dealt with in detail. The main conclusions may be given as follows :—

1.—That, out of a total of 1,200 early stage patients who commenced treatment during the five years 1914-18, 750, or 62·5 per cent., were fit for work at the end of 1923, and 69, or 5·7 per cent., were living, but unfit for work ; similarly, out of a total of 1,028 intermediate stage cases, 278, or 27·0 per cent., were fit for work at the end of 1923, and 73, or 7·1 per cent., were living, but unfit for work.

2.—That the diagnosis of the disease whilst it is in the early stages is of the utmost importance for successful treatment.

3.—That treatment afforded to patients in the early stages of the disease, who have a negative or absent sputum is three or four times more successful than when the sputum has become positive ; and in the case of patients in the intermediate stages, those with a negative or absent sputum benefit about three times as much in comparison with positive sputum cases.

4.—That the mortality from pulmonary tuberculosis is greater among patients with a positive sputum aged between 15 and 25 years than in the other age groups.

ANALYSIS OF AFTER-HISTORIES OF PATIENTS WHO RECEIVED SANATORIUM TREATMENT AND THOSE WHO RECEIVED TREATMENT AT HOME.

There have been in recent years many unfavourable opinions passed on the results of sanatorium treatment. Two years ago I published for the first time an analysis of the after-histories of a large number of patients who had undergone sanatorium treatment, compared with the after-histories of patients similar, as far as possible, in age, sex and severity of the disease who had *not* had sanatorium treatment. The conclusions on page 80 show that the results of sanatorium treatment are much better than many consider them to be.

Through the dispensary staff the position, as at the end of 1923, has been ascertained of all persons diagnosed by the tuberculosis officers as suffering from tuberculosis, and who made application for treatment during the years 1914-18. The information is contained in Tables G and J of Appendices VII. and X. Table G, dealing with "Sanatorium cases," may be compared in considerable detail with Table J, "Non-Sanatorium cases," and for convenience certain essential particulars have been extracted from the tables in question and given in Table 22 overleaf. The conclusions will be found on page 80.

It may be repeated that only patients who completed a stay of two months or more in sanatorium have been classified as "Sanatorium cases," and that many of the "Non-Sanatorium cases" have received treatment in pulmonary hospitals or observation hospitals or have had a stay of less than two months in a sanatorium, their treatment being interrupted for some reason or other.

Patients who were in an advanced stage of the disease when first commencing treatment under the County scheme are not included in the analysis, as no useful purpose would be served thereby. The small proportion of patients suffering from both pulmonary and non-pulmonary tuberculosis are included in this analysis.

TABLE 22.—*Analysis of After-Histories of* (1) *2,228 Patients who have completed a Course of Sanatorium Treatment, associated with Dispensary Treatment or Supervision, and* (2) *1,640 Patients who have undergone Treatment at Home or in Institutions other than Sanatoria.*

Stage‡ of Disease on Application and Sputum.†	Age Groups.	Sex.	Position at end of 1923 of Adult Patients who applied during 1914–18 (five years). Patients who completed two months or more *Sanatorium* Treatment. Net.* No. of Patients treated.	Fit for Work. %	Unfit for Work. %	Died. %	Patients who received *Home* Treatment. (Non-Sanatorium cases). Net.* No. of Patients treated.	Fit for Work. %	Unfit for Work. %	Died. %
(*a*) I. and I.S Positive	15–25	M	65	21·5	7·7	70·8	21	4·8	...	95·2
		F	47	10·6	8·5	80·8	12	8·3	...	91·7
	25–45	M	205	39·0	12·2	48·8	90	38·9	1·1	60·0
		F	112	34·8	4·5	60·7	40	35·0	2·5	62·5
	45–65	M	69	43·5	5·8	50·7	38	21·0	...	78·9
		F	10	10·0	40·0	50·0	7	42·8	...	57·1
	Total ...	M	339	36·6	10·0	53·4	149	29·5	0·7	69·8
		F	169	26·6	7·7	65·7	59	30·5	1·7	67·8
Neg. or None	15–25	M	92	85·9	1·1	13·0	59	66·1	5·1	28·8
		F	110	86·4	...	13·6	55	69·1	3·6	27·3
	25–45	M	182	85·7	4·9	9·3	110	73·6	...	26·4
		F	207	81·1	4·3	14·5	83	73·5	2·4	24·1
	45–65	M	69	75·4	4·3	20·3	55	65·4	5·4	29·1
		F	32	96·9	...	3·1	21	61·9	...	38·1
	Total ...	M	343	83·7	3·8	12·5	224	69·6	2·7	27·7
		F	349	84·2	2·6	13·2	159	70·4	2·5	27·0
(*b*) II. and II.S Positive	15–25	M	89	3·4	1·1	95·5	75	1·3	...	98·7
		F	89	8·9	6·7	84·3	90	...	...	100
	25–45	M	268	18·3	5·2	76·5	223	5·4	1·8	92·8
		F	177	15·8	7·3	76·8	155	9·7	2·6	87·7
	45–65	M	136	20·6	12·5	66·9	158	5·0	3·2	91·8
		F	34	35·3	17·6	47·0	31	16·1	...	83·9
	Total ...	M	493	16·2	6·5	77·3	456	4·6	1·9	93·4
		F	300	16·0	8·3	75·7	276	7·2	1·4	91·3
Neg. or None	15–25	M	28	71·4	10·7	17·8	27	25·9	...	74·1
		F	30	60·0	6·7	33·3	42	16·7	...	83·3
	25–45	M	56	57·1	7·1	35·7	79	34·2	1·3	64·5
		F	57	63·1	5·3	31·6	64	34·4	1·6	64·0
	45–65	M	46	65·2	6·5	28·3	89	31·5	1·1	67·4
		F	18	77·8	5·5	16·7	16	62·5	6·2	31·2
	Total ...	M	130	63·1	7·7	29·2	195	31·8	1·0	67·2
		F	105	64·8	5·7	29·5	122	31·9	1·6	66·4

* Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and in institutions on 31/12/23.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

‡ Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

The following conclusions emerge from the figures and tables referred to in this chapter :—

1.—As the result of the analysis of 3,868 histories of adults who commenced treatment during the five years 1914-18, so far as comparison is possible, patients in the *early* and *intermediate* stages of pulmonary tuberculosis who have undergone a course of sanatorium treatment, even for three or four months, fare appreciably better in health in later years than those who did not receive such form of treatment. Thus, of 927 sanatorium cases and 700 non-sanatorium cases in the early and intermediate stages with *negative or absent* sputum commencing treatment during the five years 1914-1918 :—

17·0 % of sanatorium cases had died at end of 1923 ;
45·3 % of non-sanatorium cases had died at end of 1923 ;

and of the 1,301 sanatorium patients and 940 non-sanatorium patients with *positive* sputum :—

69·2 % of sanatorium cases had died at end of 1923 ;
87·4 % of non-sanatorium cases had died at end of 1923.

The difference is very considerable in the negative or absent sputum cases, and 18·2 per cent. better in the positive cases. If the sanatorium treatment and home treatment groups were really scientifically comparable, it would appear from the table that in *certain* age groups of the *positive* cases sanatorium treatment, merely regarded from the point of prolongation of life, is not much better than home treatment. It must never be forgotten, however, that from the more important side of prevention of the disease a stay in a sanatorium has, in the main, a definite educational result on the patient, his family, and his friends.

2.—In both sanatorium and non-sanatorium cases, early diagnosis is a very important factor in the successful treatment of pulmonary tuberculosis.

3.—In both sanatorium and non-sanatorium cases, patients with a negative or absent sputum throughout treatment are much more likely to remain fit for work, and less liable to succumb to the disease than those with tubercle bacilli in the sputum.

4.—In the sanatorium and non-sanatorium cases, the mortality from pulmonary tuberculosis is greater among patients with a positive sputum, aged between fifteen and twenty-five years than in the other age groups.

TREATMENT IN PULMONARY HOSPITALS.

The problem of dealing with advanced and highly infectious cases is more difficult in a large County area than in a County Borough. First, it is undesirable to have large numbers of advanced or acutely ill cases in one institution, and secondly, where such cases are treated they ought to be as near their homes as possible for convenience of visiting by relatives. Except in special circumstances, the best and most economical method of providing accommodation in a county like Lancashire for patients who are acutely ill and who require to be isolated on general public health grounds is to treat them in buildings attached to isolation hospitals.

The treatment, therefore, which is given in pulmonary hospitals *is quite distinct from that at sanatoria*, where are treated early cases for a probable arrest or cure of the disease, whereas in the pulmonary hospitals patients are admitted for the purposes of isolation, for observation in regard to diagnosis, and for education in general methods of hygiene which can be applied in certain selected cases, when the patient returns home, much more effectively after a short period of institutional treatment.

Following on these general principles, the Lancashire County Council have made arrangements with as many existing institutions as possible for the treatment of patients. Table 23 is inserted on page 85, giving the number of admissions and discharges from July, 1912, up to the end of 1923, the average duration of such treatment, sex, and other particulars.

As far as possible, the patients from each of the five dispensary areas requiring isolation are accommodated in the pulmonary hospitals situated in the area, and, in order that the consultant tuberculosis officers may keep themselves acquainted with the cases, arrangements have been made (with one or two exceptions, where only occasional County cases are treated) for the tuberculosis officers to visit periodically the pulmonary hospitals in their area and confer with the medical superintendents on the following matters:—(1) The question of extension of patients' treatment or their return home, having special regard to the home conditions which are known to the tuberculosis officer; (2) the question as to the patients' future treatment; (3) applications from patients for transfer to other institutions, or for their discharge home, and to settle, where possible, any difficulties or complaints by patients which may arise.

In four of the five dispensary areas, when present schemes are completed, one of these hospitals will be in charge of the consultant tuberculosis officer, a very useful arrangement because patients come to these hospitals from the area administered by the tuberculosis officer, who is, therefore, conversant with the home conditions. Further, it is of great advantage to the tuberculosis officer, because it provides the means of applying certain forms of treatment and of carrying out valuable clinical work.

The foregoing working arrangements have enabled the highly infectious cases with unsatisfactory home conditions to remain at the pulmonary hospitals for long periods for the purpose of isolation, and for patients who have made good progress and are capable of light work to be transferred to sanatoria for the continuation of their treatment.

The isolation of patients removed from unsatisfactory home conditions where proper nursing is impossible is one of the best known methods for the prevention of tuberculosis, and, therefore, money devoted to this purpose is well spent in removing the source of infection, and thus reducing the number of new cases.

Brief particulars are here inserted of the arrangements existing for the use of accommodation at 15 pulmonary hospitals for County patients.

(1) Bull Hill Pulmonary Hospital, Darwen.

In 1913, an arrangement was made with the Darwen Corporation whereby County patients would be admitted to a pavilion (originally erected for enteric cases but afterwards equipped for tuberculous cases) at the Bull Hill Isolation Hospital. Accommodation was provided for 18 patients, which number was increased to 20 early in 1924. Only females are treated.

No. of cases discharged during 1923 was 47, whilst 12 died.

(2) Burnley District Pulmonary Hospital.

In September, 1919, an arrangement was made with the Burnley Joint Hospital Board to allow the County Council the use of occasional beds at the above hospital for the treatment of patients suffering from pulmonary tuberculosis. Since 1922, it was found practicable to reserve 10 beds for County patients exclusively, with occasional additional beds.

No. of cases discharged during 1923 was 23, whilst 10 died.

(3) Chadderton Pulmonary Hospital, Racefield, Royton.

An agreement was made on the 1st October, 1919, with the Chadderton, Royton and Crompton Joint Hospital Board for the use of the new

buildings, erected as a small-pox hospital, for the treatment of patients suffering from pulmonary tuberculosis.

This institution is dealt with further on page 67.

The hospital accommodates 36 patients (females), and the number of cases discharged during 1923 was 77, whilst 21 died.

(4) Eccleston Hall Pulmonary Hospital, near St. Helens.

In May, 1918, arrangements were made with the St. Helens Corporation to allow the County Council the use of occasional beds at the Eccleston Hall Pulmonary Hospital, when such accommodation was not required for Borough patients.

No. of cases discharged during 1923 was 28, whilst 6 died.

(5) Heath Charnock Pulmonary Hospital, near Chorley.

By agreement with the Chorley Joint Hospital Board, the County Council erected, equipped, and furnished two pavilions, one for male and the other for female patients, containing 16 and 14 beds respectively, together with a dining hall and some additional staff accommodation.

This institution is dealt with further on page 68.

No. of cases discharged during 1923 was 34, whilst 15 died.

(6) Hefferston Grange Pulmonary Hospital, Weaverham, Cheshire.

By arrangement with the Warrington Corporation, in February, 1922, about 10 beds are reserved at this institution for the treatment of advanced cases from the County area, the first County case being admitted on the 14th June, 1922.

No. of cases discharged during 1923 was 23, whilst 10 died.

(7) Linacre Pulmonary Hospital, near Liverpool.

In October, 1915, an arrangement was made with the Bootle Corporation to allow the County Council the use of occasional beds at the Linacre Pulmonary Hospital when such accommodation was not required for patients from the Borough. The hospital was extended early in 1924, and about five beds will be reserved for County cases.

No. of cases discharged during 1923 was 1.

(8) Luneside Pulmonary Hospital, Lancaster.

By an agreement with the Lancaster Corporation, which took effect from the 1st January, 1915, for a period of 10 years, the County Council are allowed the use of 21 beds at the isolation hospital, which had been

adapted for the reception and treatment of persons suffering from tuberculosis.

The Consultant Tuberculosis Officer for Dispensary Area No. 1 (Dr. A. D. Brunwin) acts as visiting physician of this hospital.

No. of cases discharged during 1923 was 54, whilst 22 died.

(9) Marland Pulmonary Hospital, Rochdale.

In November, 1918, an arrangement was made with the Rochdale Corporation to allow the County Council the use of six beds at the Marland Pulmonary Hospital, and in November, 1920, the Corporation were able to increase the number of beds reserved to 15—13 females and 2 males.

No. of cases discharged during 1923 was 13, whilst 5 died.

(10) The Liverpool Hospital for Consumption, Mount Pleasant, Liverpool.

The Committee of Management allow the County Council the use of occasional beds at this Hospital.

No. of cases discharged during 1923 was 3, whilst 6 died.

(11) Peel Hall Pulmonary Hospital, Little Hulton.

This Hospital, belonging to the County Council, was opened on the 30th August, 1921, and provides accommodation for 45 advanced male patients.

This institution is dealt with further on page 69.

No. of cases discharged during 1923 was 99, whilst 36 died.

(12) Pemberton Pulmonary Hospital, Wigan.

By an agreement with the Wigan Corporation, which took effect from the 20th December, 1915, for a period of ten years, the County Council are allowed the use of four beds at the Pemberton Pulmonary Hospital.

No. of cases discharged during 1923 was 3, whilst 1 died.

(13) Rufford Pulmonary Hospital, near Ormskirk.

The County Council, in February, 1924, decided to utilise the large hall and estate purchased by them at Rufford for the purpose of a pulmonary hospital accommodating about 43 patients (females). This institution is dealt with further on page 70.

(14) Westhulme Pulmonary Hospital, Oldham.

In May, 1914, an arrangement was made with the Oldham Corporation whereby five beds, if required, would be reserved for County patients at the Westhulme Pulmonary Hospital.

No. of cases discharged during 1923 was 8, whilst 10 died.

(15) Wolstenholme Hall Pulmonary Hospital, Norden.

In August, 1920, the Rochdale Corporation equipped Wolstenholme Hall, Norden, as a pulmonary hospital for male patients only, and they agreed to reserve 10 beds for County patients, this number being later increased to 25. The first patient was admitted on the 31st August, 1920.

No. of cases discharged during 1923 was 50, whilst 20 died.

Table 23.—*Summary of Cases Treated in Pulmonary Hospitals.*

The following table gives particulars of the patients treated at the various pulmonary hospitals, shown under the appropriate stages. From this statement it will be observed that 3,583 persons were admitted to and discharged from pulmonary hospitals from July, 1912, to the 31st December, 1923 :—

†Stage of Disease on Admission, Age and Sex.			Total No. of Admissions (1912 to 1923).	No. of Transfers to Sanatoria.	No. of Discharges.	No. of Deaths in Hospital.	Average duration of Treatment in months.	Maximum duration of Treatment in months.
Stage I. & I.S—								
Children	M.	...	4	1	2	1	2·3	4·0
	F.	...	5	1	3	1	7·0	14·7
Adults	M.	...	99	6	82	11	3·3	13·5
	F.	...	76	5	66	5	3·9	11·0
Total	...	...	184	13	153	18	...	...
Stage II. & II.S—								
Children	M.	...	13	...	9	4	5·1	20·7
	F.	...	18	2	15	1	6·8	13·7
Adults	M.	...	738	34	561	143	4·3	22·0
	F.	...	479	17	354	108	4·6	35·2
Total	...	...	1248	53	939	256	...	...
Stage III. & III.S—								
Children	M.	...	13	2	8	3	4·5	12·0
	F.	...	38	4	24	10	6·2	19·5
Adults	M.	...	1305	38	871	396	4·5	56·0
	F.	...	795	22	521	252	4·3	26·0
Total	...	...	2151	66	1424	661	...	...

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

N.B.—Patients under 15 years classified as children; 15 years and over classified as adults.

In the foregoing table a patient is counted once only, even though he may have received two or more separate periods of treatment. The number of admissions and re-admissions of patients to pulmonary hospitals in 1923 was 696, as compared with 642 in the previous year.

TREATMENT IN GENERAL AND SPECIAL HOSPITALS.

Non-Pulmonary Tuberculosis.

The majority of the general hospitals and infirmaries in Lancashire have become approved by the Ministry of Health as residential institutions for the treatment of non-pulmonary (surgical) tuberculosis. Arrangements have been made by the County Council with the Management Committees of 22 of such general hospitals and of one special hospital (Manchester and Salford Hospital for Skin Diseases) for the treatment of cases recommended by the tuberculosis officers for admission to these institutions. Cordial co-operation with the hospital authorities exists whereby particulars of any County tuberculous patients who present themselves direct at the hospitals are referred to the central office or the nearest tuberculosis dispensary, so that, if necessary, the patient may be dealt with under the County scheme.

The large majority of the patients sent to the Manchester and Salford Hospital for Skin Diseases receive out-patient treatment, travelling, as directed, at intervals of one, two, four or more weeks, sufficient medicine and ointment being supplied to them for use between visits. The appropriate tuberculosis officer is informed of the necessary frequency for the patients' attendances and the nature of the treatment provided at the hospital. If attending less often than once weekly, the tuberculosis officers keep the patients under close supervision, so as to ensure their carrying out treatment.

As occasion arises, non-pulmonary cases presenting a considerable degree of difficulty in diagnosis and in the line of treatment to be followed are sent to general hospitals for specialist surgical opinion.

For children requiring prolonged treatment—often several years—for non-pulmonary tuberculosis, special arrangements now exist with the authorities of eight hospitals, including the Lord Mayor Treloar Cripples' Hospital, Alton, Hants. The accommodation for children—for so long inadequate—was greatly extended during the past two years, the number of beds occupied increasing from 31 in 1921 to 105 in June, 1924.

As suggested by the Chief Medical Officer of the Ministry, non-pulmonary cases are now written off the register as cured when the disease has remained completely arrested for three years or more, and there being no symptoms of tuberculosis present. A large proportion—about 90 per

cent.—of the cases classified in the succeeding tables of this chapter as fit for work or school have the disease arrested and are being kept under observation until sufficient time has elapsed to allow the tuberculosis officer to assure himself that the patient is free from the disease.

(*a*) Immediate Results of Institutional Treatment.

A summary of the condition on discharge of patients treated during 1923 in the 22 general hospitals, the several children's special hospitals, and in the Manchester and Salford Skin Hospital is given below :—

Table 24.—*Condition of Patients discharged from General and Special Hospitals during 1923.*

Condition on Discharge.	General Hospitals.		Special Hospitals for Children.		Skin Hospital.			
					Out-Patient.		*In-Patient.	
	M.	F.	M.	F.	M.	F.	M.	F.
Cured	46	38	12	13	15	32	...	...
Relieved	28	15	6	3	...	...	...	...
Improved	114	96	46	35	2	2	18	28
Stationary	19	18	5	5	...	1	...	...
Worse	2	3	4	3	...	...	...	...
Died	9	4	3	2	†4	†2	...	...
Left for other than medical reasons ...	5	6	1	3	6	4	1	2
Discharged for treat- of another Disease ...	3	2	1	1	...	...	...	...
Transferred to Dispensary Supervision	...	...	...	...	5	9	...	...
Transferred to other Institutions	6	4	6	3	9	2	1	...
Diagnosis not confirmed	...	1	2	1	4	4	...	1
Removed	...	...	...	...	5	5	...	...
Total	232	187	86	69	50	61	20	31
Still under treatment ...	23	24	63	43	94	174	1	2
	255	211	149	112	144	235	21	33
Grand Total ...	466		261		379		54	

* 41 in-patients resumed out-patient treatment after discharge. Number of individual patients treated at Manchester and Salford Skin Hospital during 1923 was 433.

† These six patients were attending the Skin Hospital for treatment, and the certified causes of death were as follows:—Pulmonary Tuberculosis 2, General Tuberculosis 2, Cancer 2.

Having dealt with the immediate results of treatment in general and special hospitals, it is necessary to show how the patients fared in health in after-years—a most important consideration. The position as at the end of 1923 has been ascertained for these cases through the dispensary organisation, and the results are given in the several subsequent tables.

(*b*) After-Histories of Patients who received General Hospital Treatment.

The table below shows the after-histories of non-pulmonary cases (adults and children) who have received treatment in General Hospitals, associated with Home Treatment and Dispensary Supervision or Treatment :—

Table 25.

Year of Application for Treatment.	Adults or Children. †	*Net. No. of Patients who received Hospital Treatment.	Position at end of 1923.							
			Cured ‡		Fit for Work or School.		Unfit for Work or School.		Died from Tuberculosis.	
			No.	%	No.	%	No.	%	No.	%
1914 ...	Adults ...	29	13	44·8	5	17·2	...	...	11	37·9
	Children	...	...	...	...	...	...	...	...	...
1915 ...	Adults ...	62	29	46·8	21	33·9	...	...	12	19·3
	Children	2	1	50·0	...	...	...	...	1	50·0
1916 ...	Adults ...	64	23	35·9	27	42·2	2	3·1	12	18·7
	Children	11	2	18·2	4	36·4	...	...	5	45·4
1917 ...	Adults ...	124	43	34·7	49	39·5	8	6·4	24	19·3
	Children	15	5	33·3	4	26·7	...	...	6	40·0
1918 ...	Adults ...	125	37	29·6	63	50·4	7	5·6	18	14·4
	Children	26	9	34·6	12	46·1	1	3·8	4	15·4
1919 ...	Adults ...	110	22	20·0	57	51·8	10	9·1	21	19·1
	Children	24	4	16·7	16	66·7	2	8·3	2	8·3
1920 ...	Adults ...	104	17	16·3	56	53·8	16	15·4	15	14·4
	Children	37	2	5·4	27	72·9	5	13·5	3	8·1
1921 ...	Adults ...	114	...	...	75	65·8	21	18·4	18	15·8
	Children	41	...	...	29	70·7	10	24·4	2	4·9
1922 ...	Adults ...	107	...	...	70	65·4	26	24·3	11	10·3
	Children	88	...	...	59	67·0	24	27·3	5	5·7
Total ...	Adults ...	839	184	21·9	423	50·4	90	10·7	142	16·9
	Children	244	23	9·4	151	61·9	42	17·2	28	11·5

* *Net* Number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and still in hospital on 31/12/23.

† Children—Persons under 15 years of age at the end of 1923 or date of death.

‡ These cases have been classified as cured (in accordance with the suggestion of the Chief M.O. of the Ministry of Health), the disease having been completely arrested for three years and no symptoms of tuberculosis present.

N.B.—The medical condition at the end of 1923 of the 697 adults living was :—Cured 184, disease arrested or quiescent 398, active 109, diagnosis doubtful 6 ; and of the 216 children :—Cured 23, disease arrested or quiescent 144, active 49.

(*c*) After-Histories of Children who received Treatment in Special Hospitals.

The after-histories of children suffering from non-pulmonary tuberculosis who received treatment at one of the Special Hospitals (*e.g.*, Leasowe, Heswall, &c.), associated with home treatment and dispensary supervision, are given in the following Table 26:—

Year of Application for Treatment.	Part of Body affected.	*Net. No. of Children † who received Special Hospital Treatment.	Average duration of Treatment. (Months.)	Position at end of 1923.			
				Cured. ‡	Fit for School	Unfit for School.	Died from Tuberculosis.
1914 ...	Alimentary ...	...	...	...	...	...	...
	Glands	...	...	...	...	...	...
	Joints and Bones	2	8·1	...	1	...	1
1915 ...	Alimentary ...	1	1·7	1	...	...	...
	Glands	1	2·0	...	...	...	1
	Joints and Bones	3	27·7	...	1	...	2
1916 ...	Alimentary ...	2	6·6	...	2	...	...
	Glands	2	8·5	2	...	...	...
	Joints and Bones	3	15·4	...	2	...	1
1917 ...	Alimentary ...	1	9·7	...	1	...	...
	Glands	3	13·4	...	3	...	...
	Joints and Bones	11	15·3	1	7	1	2
1918 ...	Alimentary ...	1	35·2	...	...	1	...
	Glands	6	4·1	1	5	...	...
	Joints and Bones	12	20·2	...	7	2	3
1919 ...	Alimentary ...	1	5·7	1	...	...	...
	Glands	5	2·5	...	5	...	...
	Joints and Bones	9	17·0	...	6	2	1
	Miscellaneous ...	3	12·7	...	1	1	1
1920 ...	Alimentary ...	6	11·5	...	6	...	...
	Glands	9	6·2	1	8	...	...
	Joints and Bones	7	11·9	...	3	2	2
1921 ...	Alimentary ...	9	5·7	...	7	...	2
	Glands	8	5·8	...	5	3	...
	Joints and Bones	9	12·6	...	6	3	...
1922 ...	Alimentary ...	5	3·7	...	4	1	...
	Glands	6	3·7	...	4	1	1
	Joints and Bones	6	8·0	...	3	3	...
	Miscellaneous ...	1	4·2	...	...	1	...
Total ...	.....	132	...	7	87	21	17

* † ‡—For footnotes see previous page.

N.B.—The medical condition of the 115 children living at end of 1923 was:—Cured 7, disease arrested or quiescent 86, disease active 19, diagnosis doubtful 3. Fourteen of the children also suffered from pulmonary tuberculosis.

It is satisfactory to note that there has been considerable success in the institutional treatment afforded to children at the special hospitals taking such cases. A big advance has been made in recent years in the methods of treatment of crippled children, and the general claims made as to the effectiveness of the new methods receive confirmation in the foregoing table.

(*d*) After-Histories of Patients who received Treatment at the Skin Hospital.

Patients suffering from Lupus or other tuberculous forms of skin disease are treated principally at the Manchester and Salford Hospital, and the following table shows the after-histories of 306 cases suffering from the disease :—

Table 27.

Year of Application for Treatment	Adults (15 and over) or Children.	*Net No. of Patients who received Treatment at Skin Hospital.	No. of Out-Patients who also received In-Patient Treatment.	Position at end of 1923.						
				Cured.		Fit for Work or School.		Unfit for Work or School.		Died from Tub.
				No.	%	No.	%	No.	%	No.
1914-19 ...	Adults ...	37	9	...	...	31	83·8	6	16·2	...
	Children	16	3	1	6·2	12	75·0	3	18·7	...
1920 ...	Adults ...	101	35	1	0·9	84	83·2	16	15·8	...
	Children	25	8	2	8·0	18	72·0	5	20·0	...
1921 ...	Adults ...	44	12	...	...	38	86·4	6	13·6	...
	Children	22	8	...	...	21	95·4	1	4·5	...
1922 ...	Adults ...	36	6	...	...	34	94·4	2	5·5	...
	Children	25	5	...	...	21	84·0	4	16·0	...
Total ...	Adults ...	218	62	1	0·4	187	85·8	30	13·8	...
	Children	88	24	3	3·4	72	81·8	13	14·8	...

* *Net* Number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and still in hospital on 31/12/23.

N.B.—(i.) 131 Adults and 51 children are still obtaining out-patient treatment at the Skin Hospital.

(ii.) The medical condition at the end of 1923 of the 218 adults was :—Cured 1, disease arrested or quiescent 81, active 135, diagnosis doubtful 1; and of the 88 children :—Cured 3, disease arrested or quiescent 37, active 48.

INSTITUTIONAL ACCOMMODATION.

On the 31st December, 1923, there were altogether 750 beds at sanatoria and hospitals occupied by County patients, as compared with 678 at the end of 1922. The increase of 72 beds was brought about mainly by the acquisition of new accommodation for children suffering from surgical tuberculosis, and for additional beds for adults in sanatoria and in pulmonary hospitals.

The number of beds occupied fluctuates considerably during the course of the year : there is a greater demand for beds in the summer than during the winter. Consequently, a certain amount of elasticity is required in the acquirement of institutional accommodation to meet the needs of the moment.

Below is given a summary of the beds occupied at the several types of institutions at the end of 1923 and the previous four years, whilst in italics is given the accommodation as it stood in June, 1924 :—

TABLE 28.

Type of Institution.	Number of beds in occupation at end of—					
	1919	1920	1921	1922	**1923**	June, 1924.
Sanatoria	258	262	268	266	283	*294*
Sanatoria and Training Colonies ...	...	2	9	17	12	*15*
Pulmonary Hospitals	164	162	199	211	230	*234*
Observation Hospitals	8	5	8	8	8	*5*
General and Orthopædic Hospitals	43	41	60	51	58	*135*
Children's Sanatoria and Hospitals	79	83	97	125	159	*165*
TOTAL	552	555	641	678	750	*848*

The names of the institutions and the number of beds taken by County patients are set out fully in Appendix VI.

Taking the institutional accommodation as it stood on June 30th, 1924, the number of sanatorium beds occupied worked out at *one* per 6,000 of the population, and the number of pulmonary hospital beds *one* per 7,570.

The number of admissions to sanatoria and hospitals during the past ten years is as follows :—

1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
772	909	1286	1693	1772	1819	1914	2053	1970	2174

HOME TREATMENT AND DISPENSARY TREATMENT OR SUPERVISION.

All notified cases of tuberculosis receive while at home dispensary supervision exercised through the tuberculosis officers and tuberculosis health visitors, in addition to the treatment that may be obtained from their medical practitioners.

For insured persons suffering from tuberculosis, the "National Health Insurance (Medical Benefit) Regulations, 1924," contain references to the duties of practitioners, the following being extracts from the First Schedule :—

> 1.—If the condition of the patient is such as to require treatment which is not within the scope of the practitioner's obligations under these terms of service, the practitioner shall advise the patient as to the steps which should be taken in order to obtain that treatment, and shall, where provision is made for such treatment by any Public Authority . . . take such other steps as may be reasonably necessary in order that the patient may derive full advantage from the provision of such treatment.

An insurance practitioner is required :—

> 2.—To prepare and send to the tuberculosis officer an initial report (on Form G.P. 17, Revised) in regard to each insured person as soon as the practitioner becomes aware that he or she is suffering from tuberculosis ; and also to furnish an initial report on a case when requested by the tuberculosis officer.
>
> 3.—To prepare and send to the tuberculosis officer periodical reports (quarterly) during the continuance of treatment by the practitioner.
>
> 4.—To prepare and send to the tuberculosis officer an immediate report on any serious change in the condition of a tuberculous patient.
>
> 5.—When, in an emergency, an insured person, who is receiving actual treatment through the tuberculosis officer, has to attend his doctor, the latter will inform the tuberculosis officer.

6.—To confer with the tuberculosis officer in regard to patients suffering from tuberculosis.

The most cordial and effective co-operation exists in the County between the tuberculosis medical staff and the family doctors.

Ordinary medical treatment at dispensaries is not undertaken, unless the patient has no doctor or requires some special form of treatment. Patients with active disease are examined by the tuberculosis officer at frequent intervals, and placed for short periods—generally three months—on dispensary supervision, and granted other forms of treatment as found necessary. Quiescent or arrested cases are kept under supervision so long as they are well, and are reviewed annually.

It is highly desirable there should be close co-operation between the medical practitioner or family doctor and the County tuberculosis officer, and, prior to each examination of patients by the latter, information is sent to the medical attendant as to time and place. In some cases general practitioners confer with the tuberculosis officer in person, to their mutual advantage, and in other cases this end is secured by telephone or correspondence.

Results of Home Treatment combined with Dispensary Treatment or Supervision.

(*a*) *Patients with Pulmonary Tuberculosis.*

Detailed tables, forming Appendices IX. and X. of this report have been prepared, showing the condition at the end of 1923 of 7,623 adult patients and 623 children suffering from pulmonary tuberculosis who applied for treatment during the years 1914-1922, and who received home treatment combined with dispensary supervision or treatment. The patients never completed a course of sanatorium treatment, but a proportion have received institutional treatment at pulmonary, observation or general hospitals. The tables have been made as concise as possible, at the same time showing the results of treatment according to stage of disease, sputum, age, sex, and year of application.

The following brief particulars are extracted from the detailed tables mentioned, and show the results of this form of treatment, at the same time bearing out the experience in institutional cases that patients with a positive sputum are much less likely to effect recovery than those with a negative or no sputum :—

TABLE 29.—*Results of* HOME TREATMENT *and Dispensary Supervision or Treatment.*

Stage of Disease.	Year of Application for Treatment.	Sputum.†	Net* No. of Adults who received Home Treatment.	Position at end of 1923.		
				Fit for Work. %	Unfit for Work. %	Died from Tuberculosis. %
I. & I.S. ("early" cases)	1914-15 ...	Positive ...	59	22·0	1·7	76·3
		Neg. or None	99	62·6	2·0	35·3
	1916 ...	Positive ...	40	22·5	...	77·5
		Neg. or None	77	71·4	1·3	27·3
	1917 ...	Positive ...	44	31·8	2·3	65·9
		Neg. or None	102	75·5	3·9	20·6
	1918 ...	Positive ...	65	40·0	...	60·0
		Neg. or None	105	70·5	2·8	26·7
	1919 ...	Positive ...	48	33·3	8·3	58·3
		Neg. or None	116	65·5	7·7	26·7
	1920 ...	Positive ...	62	16·1	11·3	72·6
		Neg. or None	81	67·9	4·9	27·2
	1921 ...	Positive ...	38	28·9	15·8	55·3
		Neg. or None	87	77·0	6·9	16·1
	1922 ...	Positive ...	36	22·2	8·3	69·4
		Neg. or None	77	71·4	14·3	14·3
II.&II.S. ("intermediate" cases)	1914-15 ...	Positive ...	200	5·5	1·0	93·5
		Neg. or None	112	28·6	0·9	70·5
	1916 ...	Positive ...	153	4·6	2·6	92·8
		Neg. or None	64	28·1	1·6	70·3
	1917 ...	Positive ...	172	6·4	2·9	90·7
		Neg. or None	52	30·8	1·9	67·3
	1918 ...	Positive ...	207	5·8	0·9	93·2
		Neg. or None	89	39·3	1·1	59·5
	1919 ...	Positive ...	166	6·0	3·6	90·4
		Neg. or None	87	42·5	5·7	51·7
	1920 ...	Positive ...	217	11·0	4·1	84·8
		Neg. or None	80	37·5	10·0	52·5
	1921 ...	Positive ...	187	9·6	9·1	81·3
		Neg. or None	62	41·9	11·3	46·8
	1922 ...	Positive ...	180	12·8	13·3	73·9
		Neg. or None	74	43·2	14·9	41·9

* *Net* number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

N.B.—Of the 1,136 cases living at the end of 1923, their medical condition was: disease arrested or quiescent 843, active 217, diagnosis doubtful 76.

(*b*) *Patients with Non-Pulmonary Tuberculosis.*

The following table shows the results, as at the end of 1923, of home treatment combined with dispensary treatment or supervision in respect of 1,197 patients suffering from non-pulmonary tuberculosis :—

TABLE 30.

Year of Application for Treatment.	Adults (15 and over) or Children.	Net* number of Patients who received Treatment.	Position at end of 1923.							
			Cured †		Fit for Work or School.		Unfit for Work or School.		Died from Tuberculosis.	
			No.	%	No.	%	No.	%	No.	%
1914 ...	Adults ...	29	11	37·9	6	20·7	1	3·4	11	37·9
	Children	...	...	...	...	...	...	...	...	...
1915 ...	Adults ...	44	12	27·3	16	36·4	2	4·5	14	31·8
	Children	5	3	60·0	1	20·0	...	...	1	20·0
1916 ...	Adults ...	62	25	40·3	22	35·5	2	3·2	13	20·9
	Children	8	4	50·0	2	25·0	...	...	2	25·0
1917 ...	Adults ...	87	33	37·9	33	37·9	2	2·3	19	21·8
	Children	15	11	73·3	1	6·7	...	...	3	20·0
1918 ...	Adults ...	98	35	35·7	35	35·7	9	9·2	19	19·4
	Children	31	14	45·2	13	41·9	2	6·4	2	6·4
1919 ...	Adults ...	114	42	36·8	50	43·8	5	4·4	17	14·9
	Children	47	15	31·9	22	46·8	2	4·2	8	17·0
1920 ...	Adults ...	135	15	11·1	81	60·0	13	9·6	26	19·2
	Children	91	6	6·6	70	76·9	5	5·5	10	10·9
1921 ...	Adults ...	103	...	...	71	68·9	16	15·5	16	15·5
	Children	106	...	...	69	65·1	23	21·7	14	13·2
1922 ...	Adults ...	105	...	...	69	65·7	24	22·8	12	11·4
	Children	117	...	...	83	70·9	24	20·5	10	8·5
TOTAL ...	Adults ...	777	173	22·3	383	49·3	74	9·5	147	18·9
	Children	420	53	12·6	261	62·1	56	13·3	50	11·9

* *Net* number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

† These cases have been classified as cured (in accordance with the suggestion of the Chief M.O. of the Ministry of Health), the disease having been completely arrested for three years and no symptoms of tuberculosis present.

N.B.—(i.) Of the 630 adults living at the end of 1923, their medical condition was : cured 173, disease arrested or quiescent 379, active 67, diagnosis doubtful 11 ; and of the 370 children : cured 53, disease arrested or quiescent 254, active 54, doubtful 9.

(ii.) Patients who left hospital for other than medical reasons after a stay of less than six weeks are included in the table.

DISCHARGED SAILORS AND SOLDIERS SUFFERING FROM TUBERCULOSIS.

All sailors and soldiers whose homes are in the Administrative County and who have been discharged from the Navy or Army after war service suffering from tuberculosis, or who, subsequent to discharge or demobilisation, develop tuberculosis, are given preferential treatment as regards admission to sanatoria or hospitals.

The cost of institutional treatment granted to tuberculous pensioners is borne by the Government, and the travelling expenses of patients are met out of the funds of the Ministry of Pensions. Detailed claims for refund are accordingly submitted from time to time.

Number of Ex-Service Men Treated.

During 1923, there were 309 new applications for treatment from discharged sailors and soldiers (not necessarily pensioners), and these were classified in the following stages on commencing treatment under the County Council. The figures for the cases prior to 1923 are also given :—

Table 31.

Stage.	1914-1920.	1921.	1922.	1923.	Total.
Pulmonary—					
Stage I. ...	1,010	171	126	78	1,385
Stage II. ...	583	110	118	134	945
Stage III. ...	222	53	66	59	400
Non-Pulmonary ...	136	41	35	38	250
Total ...	1,951	375	345	309	2,980

In addition to the above total of 2,980, there were 39 men who did not receive any form of treatment, so that altogether 3,019 applications from tuberculous ex-Service men have been dealt with from the commencement of the war in 1914 up to the end of 1923. After deducting deaths, removals, and cases where the diagnosis was not confirmed, there were 1,238 men living and undergoing some form of treatment on the 31st December, 1923, and in 851 of these cases the Ministry of Pensions had held that the disease was attributable to or aggravated by war service, and had consequently granted war pensions.

The large majority of the men have received a period (in many cases two, three, or more periods) of institutional treatment, and in every instance priority of admission has been given.

Special Nourishment to Ex-Service Men.

The cost of special nourishment ("extra diet") for tuberculous pensioners is borne by the Ministry of Pensions; patients on full pension or allowances are not eligible for the grant. Pensioners in need of special nourishment are recommended for it by their medical attendant to the local War Pensions Committee, who obtain the tuberculosis officer's counter-signature.

Relief Schemes for Ex-Service Men.

As mentioned in the chapter on Care Work, special arrangements exist as follows for the relief of tuberculous ex-Service men:—(*a*) Those who are in receipt of war pensions are eligible for assistance from the funds of the Joint Council of the Order of St. John of Jerusalem and British Red Cross Society; (*b*) the large number of men without pensions owing to their disease not being connected with actual war service are eligible for help under the relief scheme of the United Services Fund as extended in 1923. The consultant tuberculosis officers work in close co-operation with the local representatives of these organisations, and refer to them all necessitous ex-Service men or their dependants. Very useful work has been done by the organisations mentioned, especially in regard to the provision of clothing for men proceeding to sanatoria or hospitals, and by payments to dependants whilst the ex-Service man is undergoing institutional treatment.

Tuberculosis Officers as Medical Referees.

The consultant tuberculosis officers (or the assistants in their stead) act as medical referees of the Ministry of Pensions in regard to ex-Service men suffering from tuberculosis, and in that capacity a very large number of men have been referred to them by the local War Pensions Committees and the Area Deputy Commissioners of Medical Services for examination and report.

Under the Regulations of the Ministry of Pensions, tuberculosis officers are requested to submit certificates and reports required under the following headings:—

(1) Notifications regarding the commencement of treatment and intimating whether or not, in the interests of the treatment, the men should abstain from remunerative occupation;

(2) Certification of medical fitness or otherwise for vocational training in the case of a tuberculous man who has applied to be provided with vocational training otherwise than in a residential institution approved by the Minister of Health ;

(3) Clinical report in the case of a man who, after discharge from the service suffers from tuberculosis and claims that tuberculosis is either attributable to or aggravated by war service.

N.B.—By Circular No. 395, issued by Ministry of Health on 4th May, 1923, a tuberculosis officer is not called upon, as formerly, to give his opinion as to whether the disease is attributable to or aggravated by war service, nor does he assess the degree of the man's disablement.

(4) In the case of a man who claims that there has been an increase in the degree of his disablement since his last examination by a medical board, a report indicating whether, in the opinion of the tuberculosis officer, there has been any increase ; and, if so, of what degree ;

(5) A certificate regarding the physical condition of a man claiming an alternative pension based on his pre-war earnings, in lieu of a disablement pension, based on the degree of his present disablement ;

(6) A certificate as to whether dental treatment is necessary for the efficacy of other treatment to be provided for tuberculosis ;

(7) Reports with regard to a man on special rates of pension at specified periods after discharge from sanatoria, hospitals, or training colonies.

The consultant tuberculosis officers may also serve on Ministry of Pensions Medical Boards to assist in the periodical re-survey of pensions granted to certain discharged disabled men.

The onus of taking the initiative in applying for a pension is thrown on the ex-Service man, but the tuberculosis officers render all possible assistance to those claimants who have good grounds for their application.

The tuberculosis officers' recommendations for treatment are submitted to the County Council, who are responsible for arranging for the special treatment of tuberculous ex-Service men.

TREATMENT AND OCCUPATIONAL TRAINING.

The need of accommodation for the treatment and training of tuberculous ex-Service men following unsuitable occupations was suggested by the Inter-Departmental Committee on Tuberculosis (Sanatoria for Soldiers) in 1919, and since then several new training colonies or sections have been established in the country.

The County Council have not established a training colony of their own, but have made arrangements to send patients to the East Lancashire Training Colony, Barrowmore Hall, Cheshire, and to the Delamere Training Colony, Frodsham, the trades or occupations taught being: pig-keeping, boot-repairing, poultry-farming, market gardening, carpentry, joinery, gardening, and watch and clock repairing.

These institutions have been able to take without delay all the male tuberculous patients (ex-Servicemen and also occasional civilians) who have been recommended by the tuberculosis officers as suitable cases for training in the occupations named. The Ministry of Health have also established several training centres in the country where Lancashire pensioners may be sent, if necessary.

The following table gives particulars of the patients so far granted a course of treatment combined with training :—

TABLE 32.—*Treatment and Occupational Training.*

Stage of Disease on Admission.	Total No. admitted : (3rd Aug., 1920, to 31st Dec., 1923).	Total Number Discharged	Average duration of stay at Colony* (months).	Patients Discharged.			Still undergoing Training, 31st Dec., 1923.
				Course of Training completed.	Training terminated before completion of course.	Transfer to Sanatoria or Hospital.	
Stage I.	35	27	12·25	6	20	1	8
Stage II.	15	12	7·25	1	11	...	3
Stage III	2	1	...	...	1	...	1
Total	52	40	11·50	7	32	1	12

* Average duration relates to patients who completed course.

Thus, of 40 patients who left training colonies, the great majority of whom were pensioners, only seven were regular discharges on completion

of the course. So large a proportion of irregular discharges cannot be considered satisfactory. The published figures for the whole of the country are likewise very disappointing.

Reverting to the Lancashire figures, the reasons given for the 32 patients who left irregularly or prematurely are as follow :—

Medically unfit to continue training	8	32
Temperamentally unsuitable	4	
Discharged for disciplinary reasons	9	
Left on own responsibility and against advice ...	11	

In regard to the seven men who duly completed their training, the following statement shows their position at the end of May, 1924 :—

Successfully following occupation in which trained (poultry-keeping)	2	7
Medically unfit for work	1	
Following other occupations	3	
Removed out of County area	1	

These figures are very significant. Under present conditions and arrangements, training colonies and training sections cannot be considered to have obtained successful results. Despite a most careful selection of patients, we know from experience the temperamental difficulty of persuading even a fraction of the men to complete their course, generally of twelve months' duration. And for the few who do graduate, there are severe obstacles to confront them in their efforts to follow their new occupation. First, twelve months' training is insufficient to enable them to enter the staple trades of the country; and second, their physical condition is often such as to handicap them in their competition with healthy men. Bearing these facts in mind, there appears to be good ground for gradually merging the training colonies with sanatoria in the country, or otherwise changing them into sanatoria, where the patients can undergo their course of treatment at the same time engaging in purposeful work to occupy their minds.

A trainee who is a pensioner receives during his course full treatment allowances, and is eligible for stipulated periods of leave, whilst on the satisfactory completion becomes entitled to a training bonus and grant of tools from the Ministry of Pensions.

The Ministry of Health in a circular, No. 307, draw attention to the following points in reference to the selection of cases for treatment and training: (*a*) No patient should be recommended for a course of vocational training unless he has previously undergone a course of sanatorium treatment. The patient should also be capable of doing at least four hours' work daily without ill-effect. (*b*) It should

be remembered that the great majority of tuberculous patients are damaged lives, and that it will be difficult for patients, even with the aid of war pensions, to make good in competition with healthy workers. It is, therefore, important that only those patients who have a reasonable prospect of securing arrest of the disease should be selected for admission to a course of vocational training. Care should be taken to recommend only those patients who appear to be temperamentally fitted for a course of vocational training, and who are likely to persevere. A thorough study of each patient is requisite before he is recommended for such a course, in order that the risk of sending unsuitable patients may be minimised. (*c*) In selecting a course of training for any particular patient, great care should be taken to select one adapted to the capacity and circumstances of the patient, and the prospects of the patient being able and likely to follow the occupation subsequently should be duly weighed. As far as possible, patients should be given training in the course they select, but as the number of places available for each course is limited, this may not be practicable in all cases, and the patient should indicate whether he is willing to receive training in another course, should there be no vacancies for training in the course he prefers.

Up to 1923, only tuberculous ex-Service men had been recommended for training, but now occasional civilian males, many of whom were not of military age at the time of the Great War, are sent to the training colonies.

APPENDIX I.

Death-Rates in 1923 from Tuberculosis in 121 Urban and Rural Districts in Lancashire.

Sanitary District.	Estimated Population, 1923.	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.	
		Number of Deaths, 1923.	Death-Rate per 1,000 of Population, 1923.	*Average* Death-Rate 10 years, 1913-22.	Number of Deaths, 1923.	Death-Rate per 1,000 of Population, 1923i
URBAN.						
Abram	6,987	6	0·85	0·77	2	0·28
Accrington (B.)	44,180	34	0·76	0·84	10	0·22
Adlington	4,530	1	0·22	0·77	2	0·44
Ashton-in-Makerfield ...	23,450	20	0·85	0·70	5	0·21
Ashton-under-Lyne (B.) ...	44,130	37	0·83	1·22	15	0·33
Aspull	8,217	1	0·12	0·76	1	0·12
Atherton	20,440	14	0·68	0·85	3	0·14
Audenshaw	8,165	8	0·97	0·69	2	0·24
Bacup (B.)	21,550	15	0·69	0·82	5	0·23
Barrowford	5,685	6	1·05	0·65	...	...
Billinge	5,245	1	0·19	0·93	1	0·19
Blackrod	3,988	2	0·50	0·63	...	...
Brierfield	8,392	4	0·47	1·04	4	0·47
Carnforth	3,242	1	0·30	0·48	2	0·61
Chadderton	29,340	16	0·54	0·96	5	0·17
Chorley (B.)	31,300	21	0·67	0·82	3	0·09
Church	6,876	1	0·14	0·82	...	...
Clayton-le-Moors	8,757	4	0·45	0·72	1	0·11
Clitheroe (B.)	12,370	6	0·48	0·90	2	0·16
Colne (B.)	25,260	28	1·10	0·92	7	0·27
Crompton	15,320	11	0·71	1·02	4	0·26
Croston	2,002	...	...	0·35	1	0·49
Dalton-in-Furness	12,460	19	1·52	1·28	2	0·16
Darwen (B.)	38,980	22	0·56	0·70	10	0·25
Denton	17,970	17	0·94	0·90	6	0·33
Droylsden	14,170	9	0·63	1·15	2	0·14
Eccles (B.)	45,270	43	0·94	1·08	10	0·22
Failsworth	17,280	23	1·33	1·10	3	0·17
Farnworth	28,890	23	0·79	1·00	6	0·20
Fleetwood	19,900	14	0·70	0·97	4	0·20
Formby	6,311	5	0·79	0·87	...	...
Fulwood	6,007	6	0·99	0·62	1	0·16
Golborne	7,552	7	0·92	0·83	4	0·52
Grange-over-Sands... ...	2,005	1	0·49	0·72	3	1·49
Great Crosby	13,650	11	0·80	0·69	4	0·29
Great Harwood	13,970	8	0·57	0·63	2	0·14
Haslingden (B.)	17,710	12	0·67	0·80	12	0·67
Haydock	10,930	4	0·36	0·85	2	0·18
Heysham	3,950	1	0·25	0·66	2	0·50
Heywood (B.)	27,030	34	1·25	1·10	6	0·22
Hindley	24,450	18	0·73	0·78	5	0·20
Horwich	15,940	7	0·43	0·85	9	0·56
Hurst	8,328	6	0·72	1·12	2	0·24
Huyton-with-Roby ...	5,194	3	0·57	0·70	1	0·19
Ince-in-Makerfield	24,020	20	0·83	0·88	4	0·16
Irlam	11,300	4	0·35	0·54	8	0·70
Kearsley	10,130	11	1·08	0·68	3	0·29
Kirkham	3,836	1	0·26	1·24	2	0·52
Lancaster (B.)	40,990	44	1·07	1·24	10	0·24
Lathom and Burscough ...	7,691	4	0·52	0·62	2	0·26
Lees	4,893	1	0·20	0·74	2	0·40
Leigh (B.)	46,750	43	0·91	1·19	13	0·27
Leyland	9,212	6	0·65	0·75	1	0·10
Litherland	17,090	15	0·87	1·31	4	0·23
Littleborough	11,660	11	0·94	0·74	4	0·34
Little Crosby	1,155	...	...	0·76	...	...
Little Hulton	8,206	4	0·48	0·79	...	...
Little Lever	5,032	3	0·59	0·76	...	...
Longridge	4,323	4	0·92	0·92	1	0·23
Lytham St. Annes (B.) ...	20,910	8	0·38	0·56	3	0·14
Middleton (B.)	28,870	19	0·65	1·06	6	0·20
Milnrow	8,563	3	0·35	1·01	...	...
Morecambe (B.)	13,910	15	1·07	0·73	2	0·14
Mossley (B.)	12,900	13	1·00	0·90	7	0·54
Nelson (B.)	40,380	19	0·47	0·68	11	0·27
Newton-in-Makerfield ...	19,520	11	0·56	0·94	1	0·15
Norden	4,153	...	...	0·74	1	0·24
Ormskirk	7,553	5	0·66	1·16	2	0·26
Orrell	7,053	6	0·85	0·74	1	0·14
Oswaldtwistle	15,370	5	0·32	0·76	4	0·26

Sanitary District.	Estimated Population, 1923.	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.	
		Number of Deaths, 1923.	Death-Rate per 1,000 of Population, 1923.	*Average* Death-Rate 10 years, 1913-22.	Number of Deaths, 1923.	Death-Rate per 1,000 of Population, 1923.
Padiham	12,720	12	0·94	0·92	6	0·47
Poulton-le-Fylde	2,755	...	...	0·66	...	...
Preesall	1,735	1	0·57	0·54	1	0·57
Prescot	9,586	9	0·93	1·04	4	0·41
Prestwich	19,140	15	0·78	0·94	3	0·15
Radcliffe	25,290	16	0·63	0·87	9	0·35
Rainford	3,553	...	...	0·26	1	0·28
Ramsbottom	15,420	7	0·45	0·88	1	0·06
Rawtenstall (B.)	29,020	15	0·51	0·78	6	0·20
Rishton	7,135	3	0·42	0·76	1	0·14
Royton	17,680	11	0·62	0·92	9	0·50
Skelmersdale	6,946	3	0·43	0·82	...	...
Standish-with-Langtree ...	7,553	5	0·66	0·66	2	0·26
Stretford	47,920	33	0·68	0·89	7	0·14
Swinton and Pendlebury ...	32,000	29	0·90	1·01	10	0·31
Thornton	5,501	6	1·09	0·85	1	0·18
Tottington	6,817	2	0·29	1·02	5	0·73
Trawden	2,777	2	0·72	0·78	...	...
Turton	12,280	6	0·48	0·71	1	0·08
Tyldesley-with-Shakerley ...	16,170	8	0·49	0·95	1	0·06
Ulverston	10,120	6	0·59	0·64	5	0·49
Upholland	5,593	2	0·35	0·92	2	0·35
Urmston	8,367	5	0·59	0·90	...	...
Walton-le-Dale	12,360	6	0·48	0·83	5	0·40
Wardle	4,538	2	0·44	1·35	2	0·44
Waterloo-with-Seaforth ...	30,090	26	0·86	1·03	10	0·33
Westhoughton	16,260	14	0·86	0·55	2	0·12
Whitefield	7,099	4	0·56	0·65	2	0·28
Whitworth	8,871	8	0·90	1·27	1	0·11
Widnes (B.)	40,870	32	0·78	1·27	7	0·17
Withnell	3,470	4	1·15	0·72	1	0·28
Worsley	14,430	6	0·41	0·53	...	...
Total Urban	1,526,909	1,103	0·72	0·90	368	0·24
RURAL.						
Barton-upon-Irwell ...	10,040	7	0·69	0·95	2	0·19
Blackburn	10,120	8	0·79	0·65	...	...
Burnley	19,520	9	0·46	0·66	3	0·15
Bury	9,632	10	1·03	0·78	2	0·20
Chorley	22,380	7	0·31	0·65	3	0·13
Clitheroe	6,825	6	0·87	0·61	2	0·29
Fylde	12,910	7	0·54	0·49	...	...
Garstang	10,930	3	0·27	0·48	5	0·45
Lancaster	9,392	5	0·53	0·61	5	0·53
Leigh	11,330	7	0·61	0·61	4	0·35
Limehurst	9,317	8	0·85	0·95	1	0·10
Lunesdale	6,516	6	0·92	0·44	...	...
Preston	23,450	17	0·72	0·74	4	0·17
Sefton	4,595	5	1·08	1·08	...	...
Ulverston	18,000	7	0·38	0·74	3	0·16
Warrington	12,530	8	0·63	0·88	1	0·07
West Lancashire	21,690	13	0·59	0·68	4	0·18
Whiston	20,260	13	0·64	0·94	4	0·19
Wigan	6,312	1	0·15	0·68	1	0·15
Total Rural	245,749	147	0·59	0·72	44	0·17
Total for Administrative County ...	1,772,658	1,250	0·70	0·88	412	0·23

APPENDIX II.

DEATHS from Tuberculosis in five years, 1919-23, COMPARED WITH CASE NOTIFICATIONS in 121 Urban and Rural Districts in Lancashire.

SANITARY DISTRICT.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Death-rate from Pul. Tub. per 1,000 of population, average 1919-23.
	Total Notifications, 1919-23.	Total Deaths, 1919-23.	Total Notifications, 1919-23.	Total Deaths, 1919-23.	
URBAN—					
Abram	36	26	16	6	0·76
Accrington (B.) ...	201	155	77	40	0·69
Adlington	25	18	29	9	0·80
Ashton-in-Makerfield ...	131	87	59	32	0·76
Ashton-under-Lyne (B.).	308	209	148	67	0·93
Aspull	20	19	23	10	0·49
Atherton	125	71	75	29	0·69
Audenshaw	44	28	28	12	0·68
Bacup (B.)	78	74	59	22	0·69
Barrowford	17	15	7	2	0·52
Billinge	36	21	19	10	0·83
Blackrod	5	11	16	3	0·55
Brierfield	39	36	30	10	0·83
Carnforth	8	5	3	5	0·30
Chadderton	166	109	79	26	0·73
Chorley (B.)	160	99	84	19	0·62
Church	26	19	26	8	0·55
Clayton-le-Moors ...	32	25	17	10	0·57
Clitheroe (B.)	42	38	26	14	0·61
Colne (B.)	135	117	76	37	0·90
Crompton	76	64	57	11	0·83
Croston	4	2	5	2	0·20
Dalton-in-Furness ...	209	89	36	24	1·38
Darwen (B.)	109	104	67	46	0·53
Denton	95	61	55	21	0·67
Droylsden	95	61	54	18	0·88
Eccles (B.)	368	216	171	37	0·96
Failsworth	148	92	76	32	1·06
Farnworth	212	135	117	30	0·94
Fleetwood	118	81	47	16	0·84
Formby	45	32	1	4	1·06
Fulwood	45	16	9	6	0·59
Golborne	65	28	29	9	0·75
Grange-over-Sands ...	12	5	2	4	0·50
Great Crosby	96	53	25	12	0·78
Great Harwood ...	56	32	18	10	0·46
Haslingden (B.) ...	72	52	47	24	0·58
Haydock	70	38	25	8	0·73
Heysham	24	14	11	5	0·74
Heywood (B.)	182	131	86	33	0·96
Hindley	132	87	57	26	0·71
Horwich...	78	61	70	23	0·78
Hurst	44	30	24	11	0·73
Huyton-with-Roby ...	24	17	8	6	0·68
Ince-in-Makerfield ...	139	91	48	22	0·78
Irlam	29	19	26	13	0·38
Kearsley	71	36	21	10	0·72
Kirkham	35	17	12	7	0·88

Sanitary District.	Pulmonary Tuberculosis. Total Notifications, 1919-23	Pulmonary Tuberculosis. Total Deaths, 1919-23.	Non-Pulmonary Tuberculosis. Total Notifications, 1919-23.	Non-Pulmonary Tuberculosis. Total Deaths, 1919-23.	Death-rate from Pul. Tub per 1,000 of population, average 1919-23.
Urban—*Cont.*					
Lancaster (B.)	274	202	127	59	1·02
Lathom and Burscough..	43	16	20	10	0·41
Lees	16	11	11	9	0·44
Leigh (B.)	289	251	180	44	1·08
Leyland	33	32	22	9	0·69
Litherland	209	95	77	32	1·11
Littleborough	48	35	24	13	0·60
Little Crosby	4	2	1	1	0·39
Little Hulton	34	22	25	17	0·54
Little Lever	14	16	10	3	0·65
Longridge	13	19	11	3	0·90
Lytham St. Annes (B.)	68	55	16	15	0·53
Middleton (B.)	131	122	75	32	0·84
Milnrow	53	38	25	9	0·90
Morecambe (B.) ...	113	55	23	15	0·79
Mossley (B.)	67	52	37	18	0·80
Nelson (B.)	126	107	76	37	0·51
Newton-in-Makerfield ...	99	74	64	11	0·75
Norden	33	8	8	3	0·39
Ormskirk	61	34	13	5	0·95
Orrell	44	26	23	4	0·75
Oswaldtwistle	52	39	45	13	0·51
Padiham	53	49	55	23	0·76
Poulton-le-Fylde ...	10	10	1	1	0·73
Preesall	16	6	10	2	0·71
Prescot	66	42	22	16	0·91
Prestwich	76	72	24	11	0·82
Radcliffe	126	93	98	43	0·75
Rainford	2	2	4	5	0·11
Ramsbottom	63	57	20	13	0·74
Rawtenstall (B.) ...	121	96	65	27	0·67
Rishton	29	18	11	4	0·48
Royton	82	58	55	26	0·65
Skelmersdale	41	23	9	5	0·67
Standish-with-Langtree	28	27	33	14	0·72
Stretford	324	198	130	53	0·83
Swinton and Pendlebury	217	120	83	34	0·78
Thornton	27	22	12	3	0·81
Tottington	43	26	23	13	0·75
Trawden	10	11	7	1	0·79
Turton	30	28	33	8	0·45
Tyldesley-w-Shakerley...	106	71	64	22	0·87
Ulverston	142	30	21	17	0·59
Upholland	18	22	21	3	0·79
Urmston	33	33	11	4	0·77
Walton-le-Dale ...	61	42	34	19	0·68
Wardle	18	20	5	4	1·01
Waterloo-with-Seaforth..	225	138	108	39	0·92
Westhoughton	64	41	62	13	0·51
Whitefield	36	24	30	6	0·66
Whitworth	57	43	23	16	0·98
Widnes (B.)	306	198	162	44	1·06
Withnell	18	13	17	4	0·78
Worsley	61	26	31	7	0·35
Total Urban ...	8,620	5,816	4,298	1,703	0·77

Sanitary District.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Death-rate from Pul. Tub. per 1,000 of population, average 1919-23.
	Total Notifications, 1919-23.	Total Deaths, 1919-23.	Total Notifications, 1919-23.	Total Deaths, 1919-23.	
Rural—					
Barton-upon-Irwell ...	67	49	18	13	1·01
Blackburn	35	31	13	4	0·66
Burnley	70	52	53	15	0·55
Bury	48	32	31	10	0·67
Chorley	73	49	71	24	0·43
Clitheroe	83	21	28	5	0·62
Fylde	44	29	17	8	0·46
Garstang	38	26	16	14	0·48
Lancaster	34	25	10	13	0·55
Leigh	51	26	43	13	0·48
Limehurst	63	37	29	10	0·79
Lunesdale	17	20	3	6	0·62
Preston	70	67	32	15	0·62
Sefton	22	21	8	4	0·84
Ulverston	116	52	28	18	0·60
Warrington	114	43	46	11	0·71
West Lancashire ...	81	63	28	16	0·60
Whiston	347	96	67	21	0·99
Wigan	40	20	19	8	0·64
Total Rural ...	1,413	759	560	228	0·64
Total for Administrative County ...	10,033	6,575	4,858	1,931	0·75

APPENDIX III.

NOTIFICATIONS OF TUBERCULOSIS.

Since February 1st, 1913, tuberculosis—both "pulmonary" and "other forms"—has been compulsorily notifiable under the Public Health (Tuberculosis) Regulations, 1912. The figures for the years 1913 to 1923 are given on page 1.

Tables B and C, here inserted, analyse the notifications received both as regards parts of the body affected and in age groups.

Table D, also inserted, compares the male and female notifications.

Deaths of 387 persons "notified as suffering from Pulmonary Tuberculosis" in 1923 which took place within three months of the date of notification (referred to on page 16).

Period between date of case notification and death.	Certified cause of Death.			Total.
	Pulmonary.		Non-Pulmonary	
	Primary.	Secondary.		
Under 1 week	75	8	8	91
1 to 2 weeks	29	7	2	38
2 to 3 weeks	35	3	...	38
3 to 4 weeks	27	...	2	29
1 to 2 months	96	9	2	107
2 to 3 months	77	3	4	84
Total under 3 months	339	30	18	387
	369			

Included in the above Table are 34 deaths which occured outside the County area.

N.B.—The Tables mentioned in Appendix III. have been prepared in the County public health department.

TABLES B, C AND D,

ANALYSING

NOTIFICATIONS UNDER PUBLIC HEALTH

(TUBERCULOSIS)

REGULATIONS, 1912.

TABLE B.

ADMINISTRATIVE COUNTY OF LANCASTER.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

CORRECTED* SUMMARY OF NOTIFICATIONS OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS DURING THE FIFTY-TWO WEEKS ENDED 29TH DECEMBER, 1923.

(Extracted from Weekly Returns of District Medical Officers of Health.)

NOTIFICATIONS ON FORMS A AND B—Excluding Duplicates.

	PULMONARY.				NON-PULMONARY. Alimentary.		Glands.						Genito-urinary.							Joints and Bones. Head (including Middle Ear).	Trunk.		Arm.							Leg.								Meningitis (Brain).	Miliary (Generalised).	Skin (Lupus).	Miscellaneous.	Total.	Total Pulmonary and Non-Pulmonary.	Total Notifications (i.e. including cases previously notified by other Doctors.) uncorrected.
	Lungs only.	Lungs and Larynx.	Laryngitis.	Total.	Enteritis (Primary).	Peritonitis (Abdominal Tuberculosis).	Tabes (Mesenteric Glands).	Axillary.	Cervical.	Inguinal.	Mediastinal.	Not Classified (Two or more Groups).	Bladder.	Fall. Tube.	Kidney.	Prostate.	Suprarenal.	Testicle and Epididymis.	Not Classified (Two or more).		Ribs and Sternum.	Spine.	Shoulder.	Scapula.	Humerus.	Elbow.	Radius.	Ulna.	Hand and Wrist.	Hip and Pelvis.	Femur.	Knee.	Tibia.	Fibula.	Foot and Ankle.	Two or more different Joints.	Not Classified.							
Thirteen weeks ended 31st March, 1923 ..	487	5	3	495	1	39	4	13	90	1	1	1	3	..	..	..	..	5	1	..	4	13	..	..	..	..	..	1	9	15	3	14	1	..	6	4	..	25	1	24	10	289	784	883
Thirteen weeks ended 30th June, 1923 ..	539	4	5	548	4	50	10	5	143	1	2	2	1	1	1	..	..	2	1	2	7	12	..	..	1	..	..	..	11	17	2	11	3	..	5	3	1	23	2	32	5	360	908	1003
Thirteen weeks ended 29th September, 1923	490	6	4	500	9	27	8	5	130	2	1	..	..	..	..	..	..	1	..	2	4	16	1	..	1	1	..	..	2	14	2	14	2	..	6	..	..	21	3	19	4	295	795	875
Thirteen weeks ended 29th December, 1923..	391	3	..	394	4	22	9	9	80	3	2	..	..	..	8	..	..	2	..	1	4	20	1	..	1	2	1	..	4	18	2	7	1	..	8	4	..	17	1	8	5	244	638	720
Total	1907	18	12	*1937	18	138	31	32	443	7	6	3	4	1	9	..	..	10	2	5	19	61	2	..	3	3	1	1	26	64	9	46	7	..	25	11	1	86	7	83	24	*1188	*3125	3481

NOTIFICATIONS ON FORMS A AND B—Excluding Duplicates. / NOTIFICATIONS. FORM B ONLY. (By School Medical Inspectors.)

	PULMONARY. Years.	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwds	Total.	Total M. & F.	NON-PULMONARY. 0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwds	Total.	Total M. and F.	Total Pulmonary and Non-Pulmonary.	Primary Notifications (i.e., excluding duplicates.) Under 5 years. P.	Under 5 years. N.P.	5 to 10 years. P.	5 to 10 years. N.P.	10 to 15 years. P.	10 to 15 years. N.P.	Total. P.	Total. N.P.	Total.	Total Notifications (i.e., including cases previously notified by other Doctors.)	Number of Cases Notified on Form C. (Admissions.) Poor Law Institutions.	Sanatoria.	Number of Cases notified on Form D (Discharges from Institutions).
Thirteen weeks ended 31st March, 1923 ..	M.	..	5	15	5	20	31	70	59	37	23	2	267	495	7	34	42	26	20	6	5	4	5	1	1	151	289	784	..	..	2	3	..	..	2	3	12	15	8	186	176
	F.	..	4	16	15	29	41	50	40	22	8	3	228		5	29	25	24	13	15	13	3	7	4	..	138			..	..	..	4	1	2	1	6					
Thirteen weeks ended 30th June, 1923 ..	M.	1	4	9	16	23	42	62	49	41	25	2	274	548	3	34	42	33	21	12	16	8	3	2	2	176	360	908	1	1	1	7	2	6	4	14	28	28	6	234	202
	F.	..	5	14	20	31	41	76	45	28	11	3	274		5	29	34	30	18	22	15	16	10	3	2	184			..	..	1	3	3	3	4	6					
Thirteen weeks ended 29th September, 1923	M.	1	1	11	9	21	31	65	54	38	19	4	255	500	6	23	31	22	16	9	11	8	3	5	2	136	295	795	..	..	2	3	1	4	3	7	21	22	8	202	178
	F.	..	4	8	14	37	38	68	36	22	12	6	245		2	24	34	30	22	14	19	5	2	5	2	159			..	2	1	4	1	3	2	9					
Thirteen weeks ended 29th December, 1923	M.	..	..	6	13	18	28	38	45	31	27	5	211	394	2	24	19	24	18	8	13	2	3	7	1	121	244	638	..	1	..	1	1	..	1	2	6	6	3	266	241
	F.	1	1	5	11	18	29	57	28	11	18	4	183		2	21	17	23	15	9	17	7	9	2	1	123			..	..	..	..	..	3	..	3					
Total	M.	2	10	41	43	82	132	236	207	147	94	13	1007	*1937	18	115	134	105	75	35	45	22	14	15	6	584	*1188	*3125	1	2	5	14	4	10	10	26	67	71	25	888	797
	F.	1	14	43	60	115	149	251	149	83	49	16	930		14	103	110	107	68	60	64	31	28	14	5	604			..	2	2	11	5	11	7	24					

*Corrected figures after deducting 33 pulmonary and 31 non-pulmonary cases notified in error.

TABLE C.

ADMINISTRATIVE COUNTY OF LANCASTER.

Public Health (Tuberculosis) Regulations, 1912.

ANALYSIS OF THE NOTIFICATIONS ON FORMS A AND B (EXCLUDING DUPLICATES) RECEIVED DURING THE FIFTY-TWO WEEKS ENDED 29th DECEMBER, 1923. (*Corrected figures.)

(Extracted from Weekly Returns of District Medical Officers of Health.)

Age—years :—		0 — 1			1 — 5			5 — 10			10 — 15			15 — 20			20 — 25			25 — 35			35 — 45			45 — 55			55 — 65			65 & upwds.			TOTALS.			
Sex.	Col.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	Col.
PULMONARY—																																			
Lungs only	1	2	1	3	10	14	24	40	43	83	43	60	103	82	114	196	132	149	281	231	246	477	202	146	348	143	81	224	91	48	139	13	16	29	989	918	1907	1
Lungs and Larynx	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	4	4	8	2	2	4	1	1	2	2	1	3	..	..	..	9	9	18	2
Laryngitis	3	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	1	2	3	1	4	3	1	4	1	..	1	..	..	..	9	3	12	3
Pulmonary Total	4	2	1	3	10	14	24	41	43	84	43	60	103	82	115	197	132	149	281	236	251	487	207	149	356	147	83	230	94	49	143	13	16	29	1007	930	1937	4
Cases—Pulmonary and Non-Pulmonary combined		..	1	1	..	1	1	1	1	2	5	4	9	..	..	..	4	4	8	3	5	8	3	2	5	..	2	2	1	..	1	..	..	..	17	20	37	
NON-PULMONARY—																																					
Alimentary — Enteritis (Primary)	5	2	2	4	..	5	5	1	1	2	..	1	1	..	1	1	1	..	1	1	1	2	1	1	2	..	..	..	..	..	..	..	..	..	6	12	18	5
Alimentary — Peritonitis (Abdominal Tuberculosis)	6	8	2	10	27	22	49	12	12	24	11	5	16	9	4	13	5	5	10	3	5	8	1	4	5	..	3	3	..	..	..	..	..	..	76	62	138	6
Glands — Tabes (Mesenteric Glands)	7	1	2	3	4	1	5	4	2	6	4	2	6	2	3	5	..	1	1	2	1	3	..	1	1	..	1	1	..	..	..	..	..	..	17	14	31	7
Glands — Axillary	8	..	1	1	2	7	9	2	2	4	1	4	5	2	1	3	1	1	2	2	2	4	1	2	3	..	..	..	..	1	1	..	..	..	11	21	32	8
Glands — Cervical	9	1	1	2	23	28	51	68	52	120	51	56	107	29	39	68	6	32	38	9	29	38	4	6	10	1	3	4	2	1	3	..	2	2	194	249	443	9
Glands — Inguinal	10	..	..	..	1	..	1	..	..	..	1	..	1	1	..	1	..	..	..	..	1	1	..	..	..	..	2	2	..	..	..	1	..	1	4	3	7	10
Glands — Mediastinal	11	..	..	..	..	..	..	..	2	2	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	5	6	11
Glands — Not Classified (Two or more Groups)	12	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..	2	1	3	12
Genito-urinary — Bladder	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1	1	..	1	..	1	1	..	..	..	3	1	4	13
Genito-urinary — Fallopian Tube	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	14
Genito-urinary — Kidney	15	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	2	1	2	3	..	1	1	1	1	2	..	..	..	..	..	..	4	5	9	15
Genito-urinary — Prostate	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16
Genito-urinary — Suprarenal	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17
Genito-urinary — Testicle and Epididymis	18	..	..	..	1	..	1	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	5	..	5	1	..	1	1	..	1	..	..	..	10	..	10	18
Genito-urinary — Not Classified (Two or more)	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	19
Joints and Bones — Head (Including Middle Ear)	20	..	..	..	1	2	3	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	5	20
Joints and Bones — Trunk— Ribs and Sternum	21	..	..	..	..	..	..	1	1	2	..	..	..	2	1	3	4	2	6	1	..	1	..	1	1	2	..	2	..	..	..	2	1	1	13	6	19	21
Joints and Bones — Spine	22	..	..	..	4	1	5	6	3	9	2	3	5	2	3	5	5	6	11	8	7	15	1	3	4	2	2	4	1	2	3	..	..	..	31	30	61	22
Joints and Bones — Arm— Shoulder	23	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	23
Joints and Bones — Scapula	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24
Joints and Bones — Humerus	25	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	1	3	25
Joints and Bones — Elbow	26	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	3	..	3	26
Joints and Bones — Radius	27	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	27
Joints and Bones — Ulna	28	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	28
Joints and Bones — Hand and Wrist	29	..	..	..	5	3	8	..	2	2	1	..	1	..	5	5	1	..	1	1	2	3	..	3	3	..	2	2	1	..	1	..	..	..	9	17	26	29
Joints and Bones — Leg— Hip and Pelvis	30	..	..	..	5	4	9	12	7	19	8	8	16	2	2	4	1	..	1	2	..	2	3	..	3	1	4	5	2	1	3	1	1	2	37	27	64	30
Joints and Bones — Femur	31	..	..	..	2	2	4	..	..	..	..	..	..	2	1	3	..	1	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	5	4	9	31
Joints and Bones — Knee	32	..	..	..	3	3	6	7	3	10	1	2	3	5	3	8	2	1	3	3	5	8	1	..	1	..	2	2	3	..	3	2	..	2	24	22	46	32
Joints and Bones — Tibia	33	..	..	..	..	..	..	2	..	2	1	..	1	1	..	1	..	..	..	2	..	2	..	..	..	..	..	..	1	..	1	..	..	..	7	..	7	33
Joints and Bones — Fibula	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34
Joints and Bones — Foot and Ankle	35	..	..	..	4	..	4	2	4	6	4	1	5	4	..	4	1	..	1	..	..	..	..	..	..	..	2	2	2	..	2	1	..	1	18	7	25	35
Joints and Bones — Two or more different Joints	36	1	..	1	1	4	5	1	..	1	1	1	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	5	11	36
Joints and Bones — Not Classified	37	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	37
Meningitis (Brain)	38	3	5	8	21	15	36	12	8	20	5	5	10	3	2	5	1	..	1	1	3	4	..	1	1	1	..	1	..	..	..	..	..	..	47	39	86	38
Miliary (Generalised)	39	1	..	1	2	2	4	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4	7	39
Skin (Lupus)	40	..	..	..	3	4	7	4	7	11	9	12	21	6	2	8	3	6	9	3	5	8	1	5	6	2	3	5	2	5	7	..	1	1	33	50	83	40
Miscellaneous	41	..	1	1	4	..	4	..	2	2	2	2	4	1	..	1	1	1	2	2	1	3	1	2	3	2	1	3	1	..	1	..	..	..	14	10	24	41
Non-Pulmonary Total	42	18	14	32	115	103	218	134	110	244	105	107	212	75	68	143	35	60	95	45	64	109	22	31	53	14	28	42	15	14	29	6	5	11	584	604	1188	42
GRAND TOTAL	43	20	15	35	125	117	242	175	153	328	148	167	315	157	183	340	167	209	376	281	315	596	229	180	409	161	111	272	109	63	172	19	21	40	1591	1534	*3125	43

*Corrected figures after deducting 33 Pulmonary and 31 Non-Pulmonary cases notified in error.

TABLE D.—Notifications of Tuberculosis.

The following table compares the male and female notified cases in the Administrative County during the years 1913 to 1923, at certain age groups :—

	Cases Male or Female.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwds.	Total.	Total M. & F.
Pulmonary Tuberculosis :														
1913 (11 months)	M	1	24	97	70	129	131	311	292	228	114	29	1426	
	F	*6*	*28*	*100*	*104*	*158*	*188*	*296*	*201*	*103*	*65*	*25*	*1274*	2700
1914	M	6	40	80	83	112	172	329	315	240	107	23	1507	
	F	*3*	*32*	*115*	*107*	*140*	*181*	*336*	*225*	*107*	*47*	*20*	*1313*	2820
1915	M	5	47	97	79	127	138	305	303	235	117	34	1487	
	F	*5*	*27*	*96*	*111*	*152*	*191*	*383*	*239*	*100*	*60*	*21*	*1385*	2872
1916	M	1	31	71	77	121	157	331	296	190	96	36	1407	
	F	*2*	*24*	*81*	*96*	*165*	*186*	*345*	*220*	*98*	*52*	*13*	*1282*	2689
1917	M	4	20	77	62	113	104	262	268	190	90	30	1220	
	F	*2*	*22*	*90*	*100*	*129*	*155*	*296*	*185*	*107*	*50*	*19*	*1155*	2375
1918	M	3	35	55	59	140	108	300	317	232	98	28	1375	
	F	*1*	*24*	*69*	*74*	*139*	*166*	*297*	*207*	*117*	*52*	*13*	*1159*	2534
1919	M	2	22	53	55	94	107	238	212	165	91	17	1056	
	F	*5*	*14*	*54*	*80*	*126*	*161*	*261*	*184*	*99*	*41*	*24*	*1049*	2105
1920	M	2	24	56	63	94	120	281	249	160	90	14	1153	
	F	*2*	*20*	*53*	*71*	*115*	*122*	*264*	*147*	*84*	*36*	*17*	*931*	2084
1921	M	1	17	43	47	94	133	222	225	162	84	19	1047	
	F	...	*12*	*53*	*77*	*132*	*160*	*255*	*156*	*82*	*50*	*20*	*997*	2044
1922	M	3	16	38	47	83	120	227	190	148	99	27	998	
	F	*4*	*15*	*45*	*57*	*135*	*135*	*202*	*146*	*61*	*42*	*23*	*865*	*1863
1923	M	2	10	41	43	82	132	236	207	147	94	13	1007	
	F	*1*	*14*	*43*	*60*	*115*	*149*	*251*	*149*	*83*	*49*	*16*	*930*	†1937
Non-Pulmonary Tuberculosis :—														
1913 (11 months)	M	29	128	177	137	98	58	71	48	27	18	3	794	
	F	*28*	*118*	*134*	*132*	*118*	*86*	*80*	*47*	*29*	*19*	*7*	*798*	1592
1914	M	43	111	131	95	77	36	47	23	20	14	3	600	
	F	*37*	*88*	*98*	*89*	*77*	*44*	*58*	*27*	*12*	*6*	*4*	*540*	1140
1915	M	39	109	113	93	61	46	50	29	14	5	3	562	
	F	*26*	*88*	*107*	*88*	*84*	*53*	*61*	*33*	*15*	*7*	*4*	*566*	1128
1916	M	20	127	135	99	65	42	47	34	12	13	5	599	
	F	*8*	*68*	*122*	*114*	*85*	*46*	*65*	*41*	*19*	*11*	*2*	*581*	1180
1917	M	21	116	109	105	61	23	42	30	8	9	1	525	
	F	*7*	*79*	*97*	*98*	*89*	*59*	*49*	*25*	*23*	*6*	*5*	*537*	1062
1918	M	14	75	103	65	60	19	29	16	14	7	2	404	
	F	*10*	*75*	*84*	*92*	*80*	*46*	*46*	*29*	*9*	*6*	*4*	*481*	885
1919	M	13	50	97	80	53	26	31	22	19	12	4	407	
	F	*10*	*59*	*98*	*76*	*61*	*43*	*41*	*29*	*11*	*7*	*5*	*440*	847
1920	M	31	62	107	108	68	26	35	23	16	11	5	492	
	F	*12*	*66*	*86*	*78*	*62*	*46*	*52*	*34*	*23*	*16*	*1*	*476*	968
1921	M	12	60	110	84	53	32	41	23	17	6	4	442	
	F	*15*	*62*	*89*	*81*	*65*	*41*	*53*	*15*	*21*	*9*	*6*	*457*	899
1922	M	18	101	111	79	55	37	39	22	13	7	3	485	
	F	*13*	*77*	*80*	*95*	*61*	*45*	*50*	*24*	*14*	*7*	*5*	*471*	*956
1923	M	18	115	134	105	75	35	45	22	14	15	6	584	
	F	*14*	*103*	*110*	*107*	*68*	*60*	*64*	*31*	*28*	*14*	*5*	*604*	†1188

* Corrected figures for 1922 after deducting 14 Pulmonary and 12 Non-Pulmonary cases notified in error.

† Corrected figures for 1923 after deducting 33 Pulmonary and 31 Non-Pulmonary cases notified in error.

APPENDIX IV.

TABLE E.

IMMEDIATE RESULTS OF SANATORIUM TREATMENT OF 7,386 ADULT PATIENTS.

APPENDIX IV.

Condition on Discharge of 7,386 Adult§ Persons who received Sanatorium Treatment.

† Stage of Disease on Admission.	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge. Quiescent. No.	Quiescent. % to total.	Improved. No.	Improved. % to total.	Stationary. No.	Stationary. % to total.	Worse. No.	Worse. % to total.	*No information No.	*No information % to total.
Stage I.—												
Males ...	2119	4·0	681	32·1	884	41·7	96	4·5	55	2·6	403	19·0
Females ...	1552	4·2	585	37·7	626	40·3	91	5·9	31	1·9	219	14·1
Stage I.S.—												
Males ...	101	3·2	30	29·7	48	47·5	7	6·9	3	2·9	13	12·9
Females ...	81	4·0	26	32·1	39	48·1	3	3·7	2	2·5	11	13·6
Total ...	3853	...	1322	34·3	1597	41·4	197	5·1	91	2·4	646	16·8
Stage II.—												
Males ...	1628	4·3	234	14·4	818	50·2	154	9·4	91	5·6	331	20·3
Females ...	1136	4·8	190	16·7	551	48·5	111	9·8	82	7·2	202	17·8
Stage II.S.—												
Males ...	151	3·6	20	13·2	79	52·3	9	5·9	7	4·6	36	23·8
Females ...	106	4·5	14	13·2	53	50·0	17	16·0	12	11·3	10	9·4
Total ...	3021	...	458	15·2	1501	49·7	291	9·6	192	6·3	579	19·2
Stage III.—												
Males ...	261	4·0	18	6·9	137	52·5	38	14·5	17	6·5	51	19·5
Females ...	143	4·0	10	6·9	82	57·3	17	11·9	13	9·1	21	14·7
Stage III.S.—												
Males ...	63	3·5	7	11·1	34	53·9	13	20·6	1	1·6	8	12·7
Females ...	45	4·0	7	15·5	22	48·9	8	17·8	2	4·4	6	13·3
Total ...	312	...	42	8·2	275	53·7	76	14·8	33	6·4	86	16·8

The 7,386 cases in the above Table have been sub-divided in the three following Tables to show the condition according to the patients' sputum—(*a*) positive, (*b*) negative, (*c*) none :—

(a) *Condition on Discharge of 3,922 Adult Persons with* positive sputum‡ *who received Sanatorium Treatment.*

† Stage of Disease on Admission.	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge. Quiescent. No.	Quiescent. % to total.	Improved. No.	Improved. % to total.	Stationary. No.	Stationary. % to total.	Worse. No.	Worse. % to total.	*No information No.	*No information % to total.
Stage I.—												
Males ...	892	4·5	163	18·3	453	50·8	68	7·6	43	4·8	165	18·5
Females ...	433	4·9	86	19·9	211	48·7	52	12·0	25	5·8	59	13·6
Stage I.S.—												
Males ...	39	3·3	7	17·9	22	56·4	4	10·2	3	7·7	3	7·7
Females ...	17	6·0	1	5·9	9	52·9	1	5·9	2	11·8	4	23·5
Total ...	1381	...	257	18·6	695	50·3	125	9·0	73	5·3	231	16·7
Stage II.—												
Males ...	1195	4·4	105	8·8	626	52·4	140	11·7	85	7·1	239	20·0
Females ...	780	5·0	83	10·6	397	50·9	100	12·8	73	9·3	127	16·3
Stage II.S.—												
Males ...	113	3·8	11	9·7	58	51·3	9	7·9	7	6·2	28	24·8
Females ...	73	4·6	5	6·8	35	47·9	15	20·5	11	15·1	7	9·6
Total ...	2161	...	204	9·4	1116	51·6	264	12·2	176	8·1	401	18·5
Stage III.—												
Males ...	199	4·1	9	4·5	108	54·3	31	15·6	16	8·0	35	17·6
Females ...	102	3·9	5	4·9	54	52·9	14	13·7	13	12·7	16	15·7
Stage III.S.—												
Males ...	46	3·7	5	10·9	28	60·9	10	21·7	...	...	3	6·5
Females ...	33	3·9	3	9·1	14	42·4	8	24·2	2	6·1	6	18·2
Total ...	380	...	22	5·8	204	53·7	63	16·6	31	8·1	60	15·8

* Includes patients discharged for other than medical reasons.
† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.
‡ The sputum has been positive at some time during treatment. § Adult age—15 years and over.

(b) *Condition on Discharge of 2,648 Adult Persons with* negative sputum *who received Sanatorium Treatment.*

† Stage of Disease on Admission	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge. Quiescent. No.	Quiescent. % to total.	Improved. No.	Improved. % to total.	Stationary. No.	Stationary. % to total.	Worse. No.	Worse. % to total.	*No information No.	*No information % to total.
Stage I.—												
Males ...	1002	3·5	395	39·4	389	38·8	22	2·2	10	0·9	186	18·6
Females ...	802	3·9	360	44·9	297	37·0	28	3·5	5	0·6	112	13·9
Stage I.S.—												
Males ...	43	3·0	16	37·2	18	41·9	1	2·3	...	...	8	18·6
Females ...	38	3·5	13	34·2	20	52·6	1	2·6	...	...	4	10·5
Total ...	1885	...	784	41·6	724	38·4	52	2·7	15	0·8	310	16·4
Stage II.—												
Males ...	362	4·1	100	27·6	174	48·1	14	3·9	5	1·4	69	19·0
Females ...	267	4·4	78	29·2	123	46·1	5	1·9	7	2·6	54	20·2
Stage II.S.—												
Males ...	26	3·0	8	30·8	14	53·8	...	...	...	...	4	15·4
Females ...	24	4·5	7	29·2	14	58·3	2	8·3	...	...	1	4·2
Total ...	679	...	193	28·4	325	47·9	21	3·1	12	1·8	128	18·8
Stage III.—												
Males ...	37	3·8	8	21·6	18	48·6	6	16·2	...	...	5	13·5
Females ...	28	4·1	4	14·3	18	64·3	2	7·1	...	...	4	14·3
Stage III.S.—												
Males ...	11	2·6	2	18·2	4	36·3	2	18·2	1	9·1	2	18·2
Females ...	8	4·3	3	37·5	5	62·5	...	...	...	...	...	...
Total ...	84	...	17	20·2	45	53·6	10	11·9	1	1·2	11	13·1

(c) *Condition on Discharge of 705 Adult Persons with* no sputum *who received Sanatorium Treatment.*

Stage												
Stage I.—												
Males ...	196	4·4	122	62·2	38	19·4	6	3·1	2	1·0	28	14·3
Females ...	299	3·9	139	46·5	114	38·1	10	3·3	1	0·3	35	11·7
Stage I.S.—												
Males ...	15	2·8	7	46·6	6	40·0	1	6·6	...	...	1	6·6
Females ...	23	3·5	12	52·2	8	34·8	...	...	...	...	3	13·0
Total ...	533	...	280	52·5	166	31·1	17	3·2	3	0·6	67	12·6
Stage II.—												
Males ...	53	4·4	28	52·8	16	30·2	...	...	1	1·9	8	15·1
Females ...	76	3·9	29	38·1	31	40·8	5	6·6	2	2·6	9	11·8
Stage II.S.—												
Males ...	7	3·0	1	14·3	6	85·7	...	...	...	...	...	...
Females ...	8	2·7	2	25·0	3	37·5	...	...	1	12·5	2	25·0
Total ...	144	...	60	41·6	56	38·9	5	3·5	4	2·8	19	13·2
Stage III.—												
Males ...	12	4·9	1	8·3	7	58·3	...	...	1	8·3	3	25·0
Females ...	11	4·2	1	9·1	9	81·8	1	9·1	...	...	...	...
Stage III.S.—												
Males ...	3	4·0	...	...	2	66·7	...	...	...	...	1	33·3
Females ...	2	5·2	1	50·0	1	50·0	...	...	...	...	...	...
Total ...	28	...	3	10·7	19	67·8	1	3·6	1	3·6	4	14·3

N.B.—In connection with the above Tables, the following explanatory notes should be mentioned : (1) the adults admitted in the third stage of the disease were chiefly treated in 1922 and 1923, before the County Dispensary organization had been set up ; (2) in calculating the average duration of treatment, deductions have been made in these tables for persons who left the sanatorium for other than medical reasons (*e.g.*, left without permission and against advice, left for domestic reasons, discharged as a disciplinary measure, left on account of another disease) ; (3) the difference between the numbers in the first table and the total of the tables showing sputum (*a*) positive, (*b*) negative, and (*c*) none is accounted for by the cases where the sputum had not been examined.

APPENDIX V.

TABLE F.

Immediate Results of Sanatorium Treatment of 535 Children.

APPENDIX V.

CONDITION ON DISCHARGE OF 535 CHILDREN WHO RECEIVED SANATORIUM TREATMENT FOR PULMONARY TUBERCULOSIS.

†Stage of Disease on Admission.	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge. Quiescent. No.	% to total.	Improved. No.	% to total.	Stationary. No.	% to total.	Worse. No.	% to total.	*No information No.	% to total.
STAGE I.—												
Males ...	186	6·2	99	53·2	43	23·1	7	3·8	2	1·1	35	18·8
Females ...	203	4·9	95	46·8	95	46·8	3	1·5	1	0·5	9	4·4
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total	389	...	194	49·9	138	35·5	10	2·5	3	0·8	44	11·3
STAGE II.—												
Males ...	58	7·7	29	50·0	12	20·7	3	5·2	2	3·4	12	20·7
Females ...	59	6·2	21	35·6	27	45·7	4	6·8	3	5·1	4	6·8
STAGE II.S.—												
Males ...	1	1·8	...	...	...	...	...	...	1	100	...	...
Females ...	3	7·1	2	66·7	1	33·3	...	...	...	...	...	...
Total ...	121	...	52	42·9	40	33·0	7	5·8	6	4·9	16	13·2
STAGE III.—												
Males ...	14	7·4	5	35·7	4	28·6	1	7·1	...	...	4	28·6
Females ...	9	8·0	2	22·2	5	55·5	...	...	...	...	2	22·2
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	2	3·8	...	...	1	50·0	...	...	1	50·0	...	...
Total ...	25	...	7	28·0	10	40·0	1	4·0	1	4·0	6	24·0

The 535 cases in the above Table have been sub-divided in the three following Tables to show the condition according to the patients' sputum—(*a*) positive, (*b*) negative, (*c*) none :—

(a) *Condition on Discharge of 24 Children with* POSITIVE SPUTUM‡ *who received Sanatorium Treatment.*

STAGE I.—												
Males ...	2	10·4	...	...	...	...	...	...	1	50·0	1	50·0
Females ...	6	7·1	1	16·7	3	50·0	...	...	...	...	2	33·3
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	8	...	1	12·5	3	37·5	...	...	1	12·5	3	37·5
STAGE II.—												
Males ...	3	...	...	...	...	...	...	...	...	...	3	100
Females ...	8	8·6	...	...	3	37·5	3	37·5	2	25·0	...	...
STAGE II.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	11·0	...	...	1	100	...	...	...	...	...	...
Total ...	12	...	...	...	4	33·3	3	25·0	2	16·7	3	25·0
STAGE III.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	3	8·0	...	...	1	33·3	...	...	...	...	2	66·7
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	1·5	...	...	...	...	...	...	1	100	...	...
Total ...	4	...	...	...	1	25·0	...	...	1	25·0	2	50·0

* Includes patients discharged for other than medical reasons.
† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.
‡ The sputum has been positive at some time during treatment.

(b) *Condition on Discharge of 199 Children with* NEGATIVE SPUTUM *who received Sanatorium Treatment.*

†Stage of Disease on Admission	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge. Quiescent. No.	%	Improved. No.	%	Stationary. No.	%	Worse. No.	%	*No information No.	%
STAGE I.—												
Males ...	53	6·1	26	49·0	14	26·4	2	3·8	...	...	11	20·7
Females ...	79	5·6	38	48·1	37	46·8	1	1·3	...	...	3	3·8
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	132	...	64	48·5	51	38·6	3	2·3	...	...	14	10·6
STAGE II.—												
Males ...	27	9·0	16	59·2	3	11·1	2	7·4	1	3·7	5	18·5
Females ...	28	7·3	10	35·7	16	57·1	...	...	...	...	2	7·1
STAGE II.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	55	...	26	47·3	19	34·5	2	3·6	1	1·8	7	12·7
STAGE III.—												
Males ...	5	6·3	1	20·0	1	20·0	1	20·0	...	...	2	40·0
Females ...	6	8·0	2	33·3	4	66·7	...	...	...	...	...	...
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	6·0	...	...	1	100	...	...	...	...	...	...
Total ...	12	...	3	25·0	6	50·0	1	8·3	...	...	2	16·7

(c) *Condition on Discharge of 312 Children with* NO SPUTUM *who received Sanatorium Treatment.*

STAGE I.—												
Males ...	131	6·2	73	55·7	29	22·1	5	3·8	1	0·8	23	17·5
Females ...	118	4·5	56	47·5	55	46·6	2	1·7	1	0·8	4	3·4
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	249	...	129	51·8	84	33·7	7	2·8	2	0·8	27	10·8
STAGE II.—												
Males ...	28	6·5	13	46·4	9	32·1	1	3·6	1	3·6	4	14·3
Females ...	23	4·0	11	47·8	8	34·8	1	4·3	1	4·3	2	8·7
STAGE II.S.—												
Males ...	1	1·8	...	...	...	...	...	...	1	100	...	...
Females ...	2	5·1	2	100	...	...	...	...	...	...	...	...
Total ...	54	...	26	48·1	17	31·5	2	3·7	3	5·5	6	11·1
STAGE III.—												
Males ...	9	7·8	4	44·4	3	33·3	...	...	...	...	2	22·2
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	9	7·8	4	44·4	3	33·3	...	...	...	...	2	2·22

N.B.—Patients under 15 years of age are classified as children, but as they attain the age of 15 they are transferred to the Adults' Table.

APPENDIX VI.

INSTITUTIONAL ACCOMMODATION.

The following Tables show the number of beds occupied by County patients undergoing residential treatment for pulmonary and non-pulmonary tuberculosis as on the 31st December of 1919, 1920, 1921, 1922 and 1923:—

	Number of Beds occupied—				
	End of 1919.	End of 1920.	End of 1921.	End of 1922.	End of 1923.
Sanatoria—					
Aitken, near Bury	55	53	47	45	48
Benenden, Kent	2	...	...	...	...
Blencathra, Cumberland	1	1	...	...	...
Bournemouth (Home)	...	1	...	1	...
Bournemouth (Royal National)	...	...	...	1	1
Crossley, Kingswood	1	...	3	...	1
Elswick, near Kirkham	55	54	55	56	58
Fazakerley, Liverpool	...	...	...	1	1
Halifax (Shelf)	8	16	18	10	12
High Carley, Ulverston	64	62	75	90	96
Holy Cross, Surrey	1	1	1	1	...
King Edward VII., Midhurst	...	1	...	2	1
King George's, Hants (for sailors)	...	...	...	1	2
Liverpool, Kingswood	1	...	...	2	3
Maghull, near Liverpool	1	4	...	...	...
Meathop, Grange-over-Sands	45	51	47	37	42
Mendip Hills	...	1	...	...	...
Nordrach-on-Dee	1	1	1	1	2
Strinesdale, Oldham	3	1	...	...	1
Ventnor, Isle of Wight	...	...	...	1	1
Wensleydale, Aysgarth	3	...	1	1	...
Wilkinson, Bolton	17	15	20	16	14
	258	262	268	266	283
Sanatoria and Training Colonies—					
Barrowmore Hall, Cheshire	...	...	4	13	11
Delamere, Cheshire	...	...	5	4	1
Preston Hall, Kent	...	2	...	...	...
	...	2	9	17	12

	Number of Beds occupied— End of 1919.	End of 1920.	End of 1921.	End of 1922.	End of 1923.
Hospitals (Pulmonary)—					
Ainsworth, near Bury	31	34	...	...	...
Bull Hill, Darwen	16	19	18	16	18
Burnley	9	13	10	13	11
Chadderton, near Oldham	30	*	29	27	34
Eccleston Hall, St. Helens	11	10	4	10	15
Heath Charnock, Chorley	26	30	29	25	29
Hefferston Grange, Cheshire	...	...	...	15	9
Luneside, Lancaster	22	17	15	14	18
Linacre, Bootle	1	...	3	1	...
Marland, Rochdale	9	14	14	8	11
Mount Pleasant, Liverpool	1	2	...	3	3
Peel Hall, Little Hulton	...	...	44	44	45
Pemberton, Wigan	4	4	4	4	4
Westhulme, Oldham	4	5	7	6	3
Wolstenholme Hall, Norden	...	14	22	25	30
	164	162	199	211	230
Observation Hospitals—					
Bury	8	5	8	8	8
Hospitals (Non-Pulmonary)—					
Ancoats Hospital, Manchester	...	2	4	6	2
Ashton-under-Lyne Infirmary	1	...	7	3	8
Blackburn Royal Infirmary	2	1	3	1	1
Bolton Infirmary	...	...	4	7	3
Bootle Borough Hospital	...	...	3	1	...
Burnley Victoria Hospital	...	...	...	1	...
Bury Infirmary	...	...	6	1	2
Liverpool David Lewis Northern Hospital	...	2	...	...	...
Liverpool Royal Infirmary	...	2	...	2	1
Liverpool Royal Southern Hospital	...	2	...	...	...
Liverpool Stanley Hospital	...	...	...	1	...
Manchester Royal Infirmary	35	14	9	9	6
Manchester & Salford Skin Hospital	...	5	4	4	3
Margate Royal Sea Bathing Hospital	...	...	...	...	1
North Lonsdale Hospital, Barrow	...	...	1	...	1
Preston Royal Infirmary	2	4	8	6	4
Salford Royal Hospital	...	...	1	...	...
Shropshire Orthopædic Hospital, Oswestry	...	...	...	2	25
Southport Infirmary	...	...	1	...	...
Warrington Infirmary	3	3	5	3	...
Wigan Infirmary	...	6	4	4	1
	43	41	60	51	58
Sanatoria (for Children only)—					
(a) Pulmonary—					
Bowdon, Cheshire	7	13	4	2	1
Eastby, near Skipton	32	37	43	35	40
Eldwick, Bingley	6	...	...	...	...
Freshfield, near Liverpool	2	2	1	...	1
Oubas House, Ulverston	...	...	18	21	21
(b) Non-Pulmonary—					
Alton, Hants. (Lord Mayor Treloar Cripples' Hospital)	...	...	...	11	17
Heatherwood, Berks. (United Services Fund)	...	...	...	15	20
Heswall (Royal Liverpool Children's Hospital)	5	3	3	4	11
Leasowe (Liverpool Open-Air Hospital for Children)	20	20	20	26	26
Myrtle Street, Liverpool (Royal Liverpool Children's Hospital)	...	...	...	2	...
Pendlebury (Royal Manchester Children's Hospital)	...	...	...	4	6
Stannington (Children's Holiday Association)	...	...	...	...	10
West Kirby (Children's Convalescent Home)	7	8	8	5	6
	79	83	97	125	159
GRAND TOTAL	552	555	641	678	750

* Chadderton closed in 1920 owing to small-pox.

APPENDIX VII.

TABLE G.

After-Histories of 5,760 Adults who completed a Course of Sanatorium Treatment.

TABLE G.—After-histories of 5,760 Adult* Patients suffering from Pulmonary Tuberculosis who have completed a course of SANATORIUM TREATMENT associated with Home Treatment and Dispensary Supervision or Treatment.

N.B.—A proportion of the patients dealt with in this Table also received treatment in Pulmonary, Observation, or General Hospitals. Patients who failed to complete two months' stay in a Sanatorium are excluded from this Table.

† Stage of Disease on First Examination by Tuberculosis Officer.	‡ Sputum.	Age Groups. ¶	Gross No. of Adults who received Sanatorium Treatment.		Deduct: Patients left County, Unfitted, Treatment ceased for other than medical reasons.		Deduct: Deaths from other than Tuberculosis.		Deduct: Diagnosis not Confirmed.		Deduct: Still in Institution on 31st Dec., 1923.		Nett No. of Adults who received Sanatorium Treatment.		Average Duration of Sanatorium Treatment.	
		Years.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. and I.S.	Positive	15-25	171	225	25	12	...	...	...	...	15	5	131	208	4·9	5·8
		25-45	471	250	75	44	3	2	...	...	19	11	374	193	5·2	4·8
		45-65	132	39	5	1	1	...	...	...	3	1	123	37	6·4	5·9
		Total	774	295	105	57	4	2	...	...	37	19	628	437	...	...
	Negative or None	15-25	309	245	83	76	2	1	30	42	4	1	190	124	4·8	4·4
		25-45	497	356	102	110	2	3	81	89	10	2	302	327	4·9	4·9
		45-65	163	76	20	8	3	1	21	13	1	...	116	54	3·5	3·6
		Total	969	677	205	214	9	14	132	144	15	4	608	339	...	...
II. and II.S.	Positive	15-25	183	227	37	22	2	...	...	...	4	4	140	198	5·2	5·6
		25-45	536	486	65	32	1	2	...	...	19	10	451	442	4·8	4·3
		45-65	251	64	33	4	5	1	...	...	3	1	228	57	4·7	5·5
		Total	970	777	97	81	8	3	...	...	26	16	839	350	...	...
	Negative or None	15-25	85	95	18	21	3	1	5	7	2	1	57	73	6·0	4·6
		25-45	156	165	33	41	2	1	22	14	1	1	98	107	4·2	4·2
		45-65	89	59	6	5	3	2	10	3	1	...	69	36	3·8	3·8
		Total	330	321	57	67	8	4	37	24	4	2	224	216	...	...
III. and III.S.	Positive	15-25	36	26	8	1	...	...	...	...	...	...	28	25	4·6	5·8
		25-45	72	46	10	5	...	...	...	...	2	1	60	40	5·4	4·3
		45-65	45	9	2	1	...	...	...	...	2	...	41	8	6·3	6·9
		Total	153	81	20	7	...	...	...	...	4	1	129	73	...	...
	Negative or None	15-25	17	15	6	2	...	...	2	1	...	...	9	12	5·1	4·7
		25-45	22	22	3	4	...	1	3	1	...	...	17	15	3·9	4·1
		45-65	16	7	...	2	1	...	3	1	1	...	11	4	3·3	3·7
		Total	55	44	9	9	1	1	8	3	1	...	37	39	...	...

Position at end of 1923 of patients who applied in 1914, 1915 and 1916:

Stage / Sputum / Age	1914: Fit for Work M.	F.	1914: Unfit for Work M.	F.	1914: Died from Tuberculosis M.	F.	1915: Fit for Work M.	F.	1915: Unfit for Work M.	F.	1915: Died from Tuberculosis M.	F.	1916: Fit for Work M.	F.	1916: Unfit for Work M.	F.	1916: Died from Tuberculosis M.	F.
I. and I.S. Positive 15-25	...	...	...	...	3	...	...	...	...	1	10	5	...	1	...	...	8	7
25-45	6	7	2	...	10	5	8	3	1	2	27	12	19	6	4	2	21	14
45-65	3	...	...	...	4	...	8	...	...	...	3	1	3	...	...	2	12	1
Total	9	7	2	...	17	5	16	3	1	3	40	21	22	7	4	4	41	22
I. and I.S. Negative or None 15-25	...	4	...	...	1	1	5	7	...	...	4	1	24	22	1	...	3	2
25-45	23	20	...	...	...	4	15	33	1	...	4	4	35	33	1	2	6	6
45-65	10	2	...	...	2	...	8	2	...	...	6	...	8	6	2	...	3	1
Total	33	26	...	...	3	5	28	42	1	...	14	5	67	61	4	2	12	9
II. and II.S. Positive 15-25	...	...	1	...	13	7	...	...	...	...	18	14	...	1	...	...	22	19
25-45	4	6	1	2	36	14	11	8	1	2	43	23	11	2	4	2	36	23
45-65	1	1	2	...	8	...	4	1	3	...	15	5	8	5	3	1	25	1
Total	5	7	4	2	57	21	15	9	4	2	76	42	19	7	7	3	83	43
II. and II.S. Negative or None 15-25	1	...	...	...	1	4	...	2	...	1	...	1	2	5	...	...	1	2
25-45	4	5	...	...	5	1	7	12	...	2	5	7	7	20	...	...	3	2
45-65	6	4	1	1	4	1	6	1	1	...	5	...	8	3	...	...	1	1
Total	11	9	1	1	10	6	13	15	1	3	10	8	17	28	...	...	5	5
III. and III.S. Positive 15-25	...	...	...	...	7	1	...	...	...	...	6	4	...	1	...	...	3	2
25-45	2	1	2	...	10	11	1	1	...	...	8	7	...	...	...	...	10	4
45-65	4	2	1	...	10	1	...	...	1	...	12	...	...	...	...	...	5	...
Total	6	3	3	...	27	21	1	1	1	...	26	11	...	1	...	...	18	6
III. and III.S. Negative or None 15-25	...	...	...	...	3	4	2	1	...	...	...	...	...	1	...	...	...	...
25-45	4	4	...	1	4	4	3	2	1	1	...	1	1	...	...	...	2	...
45-65	3	2	...	...	5	1	...	...	...	...	...	1	...	...	...	...	1	...
Total	7	6	...	1	12	9	5	3	1	1	...	2	1	1	...	...	3	...

Position at end of 1923 of patients who applied in 1917, 1918 and 1919:

Stage / Sputum / Age	1917: Fit for Work M.	F.	1917: Unfit for Work M.	F.	1917: Died from Tuberculosis M.	F.	1918: Fit for Work M.	F.	1918: Unfit for Work M.	F.	1918: Died from Tuberculosis M.	F.	1919: Fit for Work M.	F.	1919: Unfit for Work M.	F.	1919: Died from Tuberculosis M.	F.
I. and I.S. Positive 15-25	5	1	...	1	14	14	9	3	5	2	11	9	4	3	1	1	11	11
25-45	23	11	9	...	24	18	24	12	9	1	18	19	20	6	8	2	23	7
45-65	9	...	2	1	6	2	7	1	2	1	10	1	4	...	3	1	11	...
Total	37	12	11	2	44	34	40	16	16	4	39	29	28	9	12	4	45	18
I. and I.S. Negative or None 15-25	22	29	...	...	3	2	28	33	...	...	1	5	30	29	3	1	3	1
25-45	46	39	1	2	3	9	37	37	6	5	4	7	37	27	11	2	9	1
45-65	12	8	...	...	2	...	14	11	1	...	1	...	15	11	2	...	2	2
Total	80	76	1	2	8	11	79	81	7	5	6	12	82	67	16	3	14	4
II. and II.S. Positive 15-25	1	2	...	1	19	27	2	3	...	5	13	18	4	1	...	...	8	21
25-45	7	4	5	3	48	32	16	9	3	4	42	39	30	14	3	1	30	33
45-65	5	...	3	1	25	3	10	5	6	2	18	5	3	...	3	1	17	4
Total	13	6	8	5	92	62	28	17	9	11	73	62	37	15	6	2	55	58
II. and II.S. Negative or None 15-25	4	3	1	1	2	2	13	6	2	...	1	1	5	10	1	...	...	1
25-45	6	2	...	1	5	5	8	7	4	...	2	3	13	5	1	2	1	1
45-65	2	2	...	...	2	1	8	4	1	...	1	...	6	2	...	...	1	...
Total	12	5	1	2	9	8	29	17	7	...	4	4	24	17	2	2	2	2
III. and III.S. Positive 15-25	...	...	...	...	...	2	...	...	...	...	1	2	...	...	...	2	1	...
25-45	...	...	...	...	6	3	...	1	1	...	6	4	...	1	1	...	3	...
45-65	...	...	...	...	3	1	...	...	...	...	...	...	...	...	2	...	1	...
Total	...	...	...	...	9	6	...	1	1	...	7	6	...	1	3	2	7	...
III. and III.S. Negative or None 15-25	...	2	...	...	2	...	...	1	...	...	1	...	...	...	...	1	...	...
25-45	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
45-65	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Total	...	2	...	...	2	1	...	1	...	...	1	...	1	...	...	1	...	...

Position at end of 1923 of patients who applied in 1920, 1921 and 1922:

Stage / Sputum / Age	1920: Fit for Work M.	F.	1920: Unfit for Work M.	F.	1920: Died from Tuberculosis M.	F.	1921: Fit for Work M.	F.	1921: Unfit for Work M.	F.	1921: Died from Tuberculosis M.	F.	1922: Fit for Work M.	F.	1922: Unfit for Work M.	F.	1922: Died from Tuberculosis M.	F.
I. and I.S. Positive 15-25	3	1	1	1	10	5	6	6	3	2	16	10	4	3	4	3	3	3
25-45	20	6	2	3	22	14	10	11	7	3	22	22	12	8	14	2	5	3
45-65	5	1	2	1	5	1	1	3	3	...	9	...	7	...	3	1	1	...
Total	28	11	10	7	37	20	17	20	13	5	47	32	24	11	21	6	9	6
I. and I.S. Negative or None 15-25	13	18	...	5	3	1	29	30	3	1	2	1	12	26	...	1	...	1
25-45	25	26	3	1	5	2	8	14	1	1	2	1	12	20	5	2	2	2
45-65	7	2	3	...	...	...	5	3	3	...	2	2	4	2	3	...	1	...
Total	45	41	6	6	8	3	42	47	7	2	6	4	28	48	8	3	3	3
II. and II.S. Positive 15-25	3	1	2	2	18	17	1	3	3	6	12	13	6	3	4	20	8	11
25-45	8	9	15	2	34	39	9	12	8	8	27	27	12	2	10	8	17	26
45-65	5	1	2	1	16	8	8	2	6	...	16	3	4	1	5	1	7	...
Total	16	11	19	5	68	64	18	17	17	14	55	43	22	6	19	29	32	37
II. and II.S. Negative or None 15-25	7	12	...	1	2	2	4	8	2	2	2	...	6	4	...	1	...	2
25-45	7	9	2	4	1	1	4	12	3	2	3	1	4	8	1	1	2	...
45-65	3	1	2	...	2	1	1	3	2	1	...	4	3	1	1	1	2	...
Total	17	23	4	5	5	4	9	23	7	5	5	5	13	13	2	3	4	2
III. and III.S. Positive 15-25	...	...	...	...	1	...	...	2	...	...	2	2	1	...	1	...	2	...
25-45	...	...	1	...	2	2	...	...	1	...	4	1	...	...	1	2	1	...
45-65	...	...	...	...	1	...	1	...	...	1	...	...	...	...	...	1	...	...
Total	...	...	1	...	4	2	1	2	1	1	7	3	1	...	2	3	3	...
III. and III.S. Negative or None 15-25	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
25-45	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...
45-65	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total	...	2	...	...	...	...	...	...	1	...	...	...	1	...	2	...	...	...

* ADULTS.—Persons 15 years of age and upwards at end of 1923 or date of death.
† Classified according to the system of Turban-Gerhardt, and further subdivided into cases with slight and severe constitutional symptoms as suggested by Philip.
‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in sputum once at any time during treatment.
¶ Nine patients 65 years of age and over have for convenience been included in the group 45—65.

APPENDIX VIII.

TABLE H.—After-histories of 372 CHILDREN* suffering from Pulmonary Tuberculosis who have completed a Course of SANATORIUM TREATMENT associated with Home Treatment and Dispensary Supervision or Treatment.

Year of Application for Treatment.	†Stage of Disease on first Examination by Tuberculosis Officer.	‡Sputum.	§*Net* No. of Children who received Sanatorium Treatment.	Average Duration of Sanatorium Treatment. (months).	Position at end of 1923.		
					Fit for School.	Unfit for School.	Died from Tuberculosis.
1914 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	2	3·1	2	...	...
1915 ...	I. & I.S ...	Positive ...	1	11·5	1	...	...
		Neg. or None	3	5·5	3	...	...
	II. & II.S ...	Positive ...	...	...	...	...	...
		Neg. or None	2	6·5	1	...	1
1916 ...	I & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	15	6·5	14	...	1
	II. & II.S ...	Positive ...	2	9·5	1	...	1
		Neg. or None	3	5·7	3	...	...
	III. & III.S...	Positive ...	...	...	...	...	...
		Neg. or None	1	8·0	1	...	...
1917 ...	I. & I.S ...	Positive ...	1	7·0	...	...	1
		Neg. or None	31	3·7	27	1	3
	II. & II.S ...	Positive ...	1	3·2	...	...	1
		Neg. or None	5	7·3	4	...	1
	III. & III.S...	Positive ...	1	8·0	...	...	1
		Neg. or None	...	...	...	...	...
1918 ...	I. & I.S ...	Positive ...	2	7·6	1	...	1
		Neg. or None	40	5·9	35	2	3
	II. & II.S ...	Positive ...	2	4·4	...	...	2
		Neg. or None	9	10·6	7	2	...
	III. & III.S...	Positive ...	1	3·0	...	...	1
		Neg. or None	1	9·0	...	1	...
1919 ...	I. & I.S ...	Positive ...	1	10·0	...	...	1
		Neg. or None	31	5·9	30	1	...
	II. & II.S ...	Positive ...	1	2·7	...	...	1
		Neg. or None	11	6·1	10	...	1
	III. & III.S...	Positive ...	1	6·2	...	1	...
		Neg. or None	4	10·8	3	1	...
1920 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	37	5·0	28	7	2
	II. & II.S ...	Positive ...	2	18·7	...	...	2
		Neg. or None	24	5·2	19	2	3
	III. & III.S...	Positive ...	...	...	...	...	...
		Neg. or None	5	4·7	3	...	2
1921 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	49	6·5	41	8	...
	II. & II.S ...	Positive ...	1	8·2	...	...	1
		Neg. or None	12	7·5	10	2	...
	III. & III.S...	Positive ...	...	...	...	...	...
		Neg. or None	3	4·8	2	1	...
1922 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	45	6·9	33	12	...
	II. & II.S ...	Positive ...	1	11·0	...	1	...
		Neg. or None	18	6·9	12	5	1
	III. & III.S...	Positive ...	...	...	...	...	...
		Neg. or None	3	8·8	1	2	...
Total ...	...	...	372	...	292	49	31

For footnotes see page 112.

APPENDIX IX.

TABLE I.—Condition at end of 1923 of 623 CHILDREN* suffering from Pulmonary Tuberculosis who received Treatment at HOME, combined with Dispensary Treatment or Supervision.

Year of Application for Treatment.	†Stage of Disease on first Examination by Tuberculosis Officer.	‡Sputum.	*Gross* No. of Children who received Home Treatment.	§*Net* No. of Children who received Home Treatment.	Position at end of 1923.		
					Fit for School.	Unfit for School.	Died from Tuberculosis.
1914 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	2	...	...	...	...
	II. & II.S ...	Positive ...	1	1	...	...	1
		Neg. or None	1	...	...	...	...
	III. & III.S...	Positive ...	...	...	...	...	...
		Neg. or None	4	3	...	...	3
1915 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	11	1	1	...	...
	II. & II.S ...	Positive ...	1	1	...	...	1
		Neg. or None	5	3	...	...	3
	III. & III.S...	Positive ...	4	4	...	...	4
		Neg. or None	3	1	...	...	1
1916 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	22	8	4	...	4
	II. & II.S ...	Positive ...	1	1	...	...	1
		Neg. or None	8	3	...	...	3
	III. & III.S...	Positive ...	4	4	...	...	4
		Neg. or None	8	2	1	...	1
1917 ...	I. & I.S ...	Positive ...	2	1	...	...	1
		Neg. or None	51	21	17	1	3
	II. & II.S ...	Positive ...	1	1	...	...	1
		Neg. or None	12	6	2	...	4
	III. & III.S...	Positive ...	7	7	...	...	7
		Neg. or None	6	4	...	...	4
1918 ...	I. & I.S ...	Positive ...	4	4	...	...	4
		Neg. or None	44	21	19	...	2
	II. & II.S ...	Positive ...	2	2	...	...	2
		Neg. or None	9	5	2	...	3
	III. & III.S...	Positive ...	6	6	1	...	5
		Neg. or None	5	3	2	...	1
1919 ...	I. & I.S ...	Positive ...	...	...	...	...	...
		Neg. or None	47	25	19	1	5
	II. & II.S	Positive ...	4	4	...	...	4
		Neg. or None	9	9	3	...	6
	III. & III.S...	Positive ...	8	8	1	...	7
		Neg. or None	9	7	3	1	3
1920 ...	I. & I.S ...	Positive ...	1	1	...	...	1
		Neg. or None	63	27	22	1	4
	II. & II.S ...	Positive ...	1	1	...	...	1
		Neg. or None	19	11	4	3	4
	III. & III.S...	Positive ...	8	8	...	...	8
		Neg. or None	17	11	2	1	8
1921 ...	I. & I.S ...	Positive ...	1	1	...	...	1
		Neg. or None	75	27	17	7	3
	II. & II.S ...	Positive ...	3	3	...	...	3
		Neg. or None	21	15	9	...	6
	III. & III.S...	Positive ...	7	7	...	1	6
		Neg. or None	10	6	2	1	3
1922 ...	I. & I.S ...	Positive ...	1	...	...	...	...
		Neg. or None	58	23	16	2	5
	II. & II.S ...	Positive ...	2	2	...	...	2
		Neg. or None	15	11	4	4	3
	III. & III.S...	Positive ...	8	8	...	1	7
		Neg. or None	12	8	3	4	1
Total ...	...	...	623	336	154	28	154

For footnotes see page 112.

APPENDIX X.

TABLE J.

Results of Home Treatment combined with Dispensary Treatment or Supervision.

7,623 Adult Patients suffering from Pulmonary Tuberculosis.

APPENDIX X.

TABLE J.—Condition at end of 1923 of 7,623 ADULT* Patients suffering from Pulmonary Tuberculosis who received Treatment at HOME, combined with Dispensary Treatment or Supervision.

N.B.—These patients have never completed a course of "Sanatorium Treatment"; a proportion of them have, however, at some time or other received treatment in Hospital (i.e., Pulmonary, Observation, or General Hospital) as distinct from a Sanatorium.

Patients who remained less than two months in a Sanatorium are included in this Table.

† Stage of Disease on First Examination by Tuberculosis Officer.	‡ Sputum.	Age Groups §	Gross No. of Adults who received Home Treatment.		Deduct: Patients left County, Untraced, Treatment ceased for other than medical reasons.		Deduct: Deaths from other than Tuberculosis.		Deduct: Diagnosis not Confirmed.		Deduct: Still in Institution on 31st Dec., 1923.		Nett No. of Adults who received Home Treatment.	
		Years.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. and I.S.	Positive	15-25	55	32	7	2	...	...	...	...	1	...	47	29
		25-45	210	87	29	12	3	...	...	...	3	1	165	68
		45-65	80	73	6	1	2	...	...	...	1	...	71	12
		Total	345	176	52	16	5	...	...	...	5	1	283	109
	Negative or None	15-25	269	244	43	34	8	3	85	89	...	1	107	117
		25-45	630	257	164	93	19	8	232	112	...	...	215	164
		45-65	218	61	14	5	11	1	86	21	...	...	107	34
		Total	1091	[illegible]	221	132	38	12	403	222	...	1	429	315
II. and II.S.	Positive	15-25	310	206	9	8	...	...	...	...	1	4	150	194
		25-45	496	158	41	32	4	1	...	...	6	2	415	222
		45-65	383	78	8	2	1	...	...	...	8	2	326	74
		Total	960	442	58	42	5	1	...	...	15	8	891	501
	Negative or None	15-25	82	93	9	19	1	1	16	29	...	...	56	77
		25-45	222	196	47	34	7	8	27	22	1	2	140	120
		45-65	246	63	19	9	17	2	34	13	2	...	174	43
		Total	550	352	75	51	25	11	77	42	3	2	370	250
III. and III.S.	Positive	15-25	210	247	9	8	...	...	...	...	...	4	201	235
		25-45	606	457	36	23	4	1	...	...	4	5	562	428
		45-65	366	207	17	1	2	...	...	...	6	3	341	203
		Total	1182	911	62	32	6	1	...	...	10	12	1104	866
	Negative or None	15-25	102	133	14	9	2	...	7	2	...	...	79	122
		25-45	156	133	14	15	2	2	14	2	...	1	126	113
		45-65	188	43	8	7	6	...	11	1	...	...	123	39
		Total	496	139	36	31	10	2	32	29	...	1	328	277

Stage	Sputum	Age Groups	Patients who applied in 1914. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1915. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1916. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. and I.S.	Positive	15-25	...	...	...	...	2	2	...	1	...	...	5	2	...	...	...	...	2	3
		25-45	...	3	...	...	5	2	2	1	...	1	13	3	7	2	...	...	12	8
		45-65	2	...	...	...	6	...	...	1	...	...	4	...	...	...	...	...	5	1
		Total	2	3	...	...	13	5	2	6	...	1	22	5	7	2	...	...	19	12
	Negative or None	15-25	...	2	...	...	3	1	1	6	...	1	6	3	9	9	...	...	...	3
		25-45	9	8	...	...	2	2	10	12	...	...	7	4	17	14	...	2	9	4
		45-65	3	1	...	...	1	2	8	2	1	...	3	1	3	3	...	...	3	2
		Total	12	11	...	...	6	3	19	20	1	1	16	8	29	26	...	2	12	9
II. and II.S.	Positive	15-25	...	...	...	...	12	7	...	...	...	...	33	17	...	...	...	...	15	22
		25-45	1	3	1	...	20	4	1	4	1	...	39	12	...	3	...	2	49	26
		45-65	...	1	...	...	6	3	1	...	...	...	31	3	3	1	2	...	29	1
		Total	1	4	1	...	38	14	2	4	1	...	83	32	3	4	2	2	93	49
	Negative or None	15-25	...	...	...	...	4	1	2	...	...	...	2	5	3	1	...	...	2	10
		25-45	2	4	...	...	9	5	6	5	...	1	33	10	4	4	...	...	13	3
		45-65	2	2	...	...	10	1	8	1	...	...	34	1	4	2	...	1	11	...
		Total	4	6	...	...	21	11	16	6	...	1	29	16	11	7	...	1	26	15
III. and III.S.	Positive	15-25	...	...	...	...	19	26	...	...	...	...	33	40	...	...	...	1	26	15
		25-45	2	2	1	...	73	32	4	4	1	2	86	37	...	2	...	...	67	41
		45-65	2	1	1	...	40	4	1	...	...	...	47	4	...	...	1	...	36	4
		Total	4	3	2	...	132	62	5	4	1	2	164	81	...	2	1	1	129	62
	Negative or None	15-25	...	...	...	...	31	15	...	1	...	...	10	15	...	...	...	...	6	15
		25-45	2	4	...	...	58	56	2	1	...	...	15	23	1	2	...	...	8	8
		45-65	2	...	1	...	29	4	1	2	2	...	19	2	1	2	1	...	10	2
		Total	4	4	1	...	119	75	3	7	2	...	44	40	2	2	1	...	24	25

Stage	Sputum	Age Groups	Patients who applied in 1917. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1918. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1919. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. and I.S.	Positive	15-25	1	...	...	...	3	1	...	...	...	...	8	1	...	2	1	...	4	...
		25-45	8	3	1	...	9	7	18	2	...	...	15	4	8	...	1	...	8	10
		45-65	2	...	...	...	8	1	3	2	...	...	7	2	6	...	...	2	4	2
		Total	11	3	1	...	20	9	22	4	...	...	30	9	14	2	2	2	16	12
	Negative or None	15-25	14	12	2	1	4	3	15	9	1	...	6	3	14	12	1	2	6	5
		25-45	22	18	...	1	3	7	23	9	...	...	8	2	25	14	5	...	4	2
		45-65	7	4	...	...	3	1	15	3	2	...	6	2	10	1	2	...	11	1
		Total	43	34	2	2	10	11	53	21	3	...	18	10	49	27	8	2	21	19
II. and II.S.	Positive	15-25	...	...	...	...	13	22	1	...	...	...	21	27	...	2	...	...	14	24
		25-45	5	1	2	...	46	36	5	4	...	2	53	18	2	3	3	...	37	41
		45-65	2	1	3	...	31	8	2	...	...	...	48	11	2	1	2	1	30	4
		Total	7	4	5	...	90	46	8	4	...	2	122	71	4	6	5	1	81	69
	Negative or None	15-25	...	1	...	...	2	3	2	2	...	...	10	11	5	4	...	...	4	11
		25-45	3	3	1	...	8	7	12	6	...	...	8	3	8	5	...	1	9	8
		45-65	3	2	...	...	12	1	11	2	1	...	13	2	8	5	2	2	12	1
		Total	6	10	1	...	22	11	25	20	1	...	31	22	21	25	2	3	25	20
III. and III.S.	Positive	15-25	...	...	...	1	22	14	...	1	...	1	11	26	1	1	...	1	18	41
		25-45	1	...	...	1	58	35	2	...	1	...	47	54	...	...	1	2	28	56
		45-65	1	...	3	2	29	9	...	1	...	...	19	20	1	...	...	...	29	9
		Total	2	...	3	3	109	58	2	2	1	1	77	100	2	1	1	3	75	107
	Negative or None	15-25	4	1	...	...	3	3	5	2	...	...	2	6	4	...	...	...	2	3
		25-45	2	...	...	...	4	6	...	1	1	...	6	7	...	...	...	...	7	6
		45-65	3	...	1	1	3	...	...	1	...	...	8	1	3	2	1	1	6	1
		Total	9	1	1	1	10	11	5	4	1	...	16	14	7	2	1	1	15	11

Stage	Sputum	Age Groups	Patients who applied in 1920. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1921. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.		Patients who applied in 1922. Position at end of 1923. Fit for Work.		Unfit for Work.		Died from Tuberculosis.	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. and I.S.	Positive	15-25	...	...	3	...	8	3	...	...	1	...	3	3	2	...	...	1	6	6
		25-45	9	...	2	1	14	8	7	2	4	...	7	3	5	1	2	...	8	3
		45-65	1	...	3	...	10	...	2	...	1	...	4	1	...	...	...	...	2	...
		Total	10	...	8	1	32	11	9	2	6	...	14	7	7	1	2	1	16	9
	Negative or None	15-25	7	8	...	...	...	6	9	11	1	1	1	3	6	7	1	1	2	1
		25-45	15	16	1	2	5	1	22	10	...	1	6	2	17	15	3	1	2	1
		45-65	6	3	1	...	7	1	2	1	2	1	2	...	5	5	2	...	2	...
		Total	28	27	2	2	12	10	33	24	3	3	9	5	28	27	6	3	6	5
II. and II.S.	Positive	15-25	1	...	...	2	18	22	...	3	1	2	19	21	2	2	2	4	18	21
		25-45	9	3	3	2	52	41	2	7	7	4	37	36	7	4	6	5	27	21
		45-65	6	5	3	...	39	10	6	2	1	2	29	10	4	1	6	1	42	4
		Total	16	8	6	3	109	73	6	12	9	8	85	67	13	10	14	10	87	46
	Negative or None	15-25	8	2	...	...	4	3	1	1	...	1	5	4	2	2	1	...	3	7
		25-45	3	11	3	...	6	7	4	12	...	3	8	5	12	3	1	2	7	5
		45-65	8	2	5	...	18	4	5	5	2	...	7	...	6	5	5	1	7	2
		Total	15	15	8	...	28	14	10	18	2	5	20	9	20	12	7	4	17	14
III. and III.S.	Positive	15-25	...	...	1	...	21	30	1	1	...	1	21	35	2	1	1	1	20	41
		25-45	1	2	2	4	59	44	2	2	4	3	55	50	3	2	9	4	53	46
		45-65	...	1	2	3	36	15	1	...	3	...	40	28	3	2	9	2	37	18
		Total	1	3	5	7	116	89	4	3	7	4	116	106	8	5	19	11	116	105
	Negative or None	15-25	2	2	...	1	2	3	1	2	...	...	3	8	...	2	1	1	2	5
		25-45	...	4	...	...	4	7	...	2	...	1	7	7	2	2	...	1	7	8
		45-65	3	1	1	...	9	2	...	1	1	...	5	4	3	1	3	1	7	1
		Total	5	7	1	1	15	14	1	5	1	1	15	18	5	5	4	4	16	14

* ADULTS.—Persons 15 years of age and upwards at end of 1923 or date of death.
† Classified according to the system of Turban-Gerhardt, and further subdivided into cases with slight and severe constitutional symptoms as suggested by Philip.
‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in sputum once at any time during treatment.
§ One hundred and five patients 65 years of age and over have for convenience been included in the group 45—65.

Footnotes for Appendix VIII., Table H., Page 110.

* Children—Persons under 15 years of age at end of 1923 or date of death.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in the sputum once at any time during treatment.

§ Net. number arrived at after deducting: 67 patients left County, untraced, or treatment ceased for other than medical reasons; 1 died from other than tuberculosis; 30 cases diagnosis not confirmed; 25 patients in institutions at end of 1923.

N.B.—A proportion of the patients dealt with in this table also received treatment in pulmonary, observation, or general hospitals.

Patients who failed to complete two months' stay in a sanatorium are excluded from this table.

Footnotes for Appendix IX., Table I., Page 111.

* Children—Persons under 15 years of age at end of 1923 or date of death.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in the sputum once at any time during treatment.

§ Net. number arrived at after deducting: 83 patients left County, untraced, or treatment ceased for other than medical reasons; 14 died from other than tuberculosis; 188 cases diagnosis not confirmed; 2 cases in institutions at end of 1923.

N.B.—These patients have never completed a course of "Sanatorium Treatment"; a proportion of them have, however, at some time or other received treatment in hospital (*i.e.*, pulmonary, observation, or general hospital) as distinct from a sanatorium.