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County Palatine of Chester.

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# REPORT

OF THE

Medical Officer of Health,

FOR THE YEAR 1917.

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BY

MEREDITH YOUNG, M.D., D.P.H.,

*Of Lincoln's Inn, Barrister-at-Law.*

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PRESENTED TO THE

Public Health and Housing Committee

OF THE COUNTY COUNCIL,

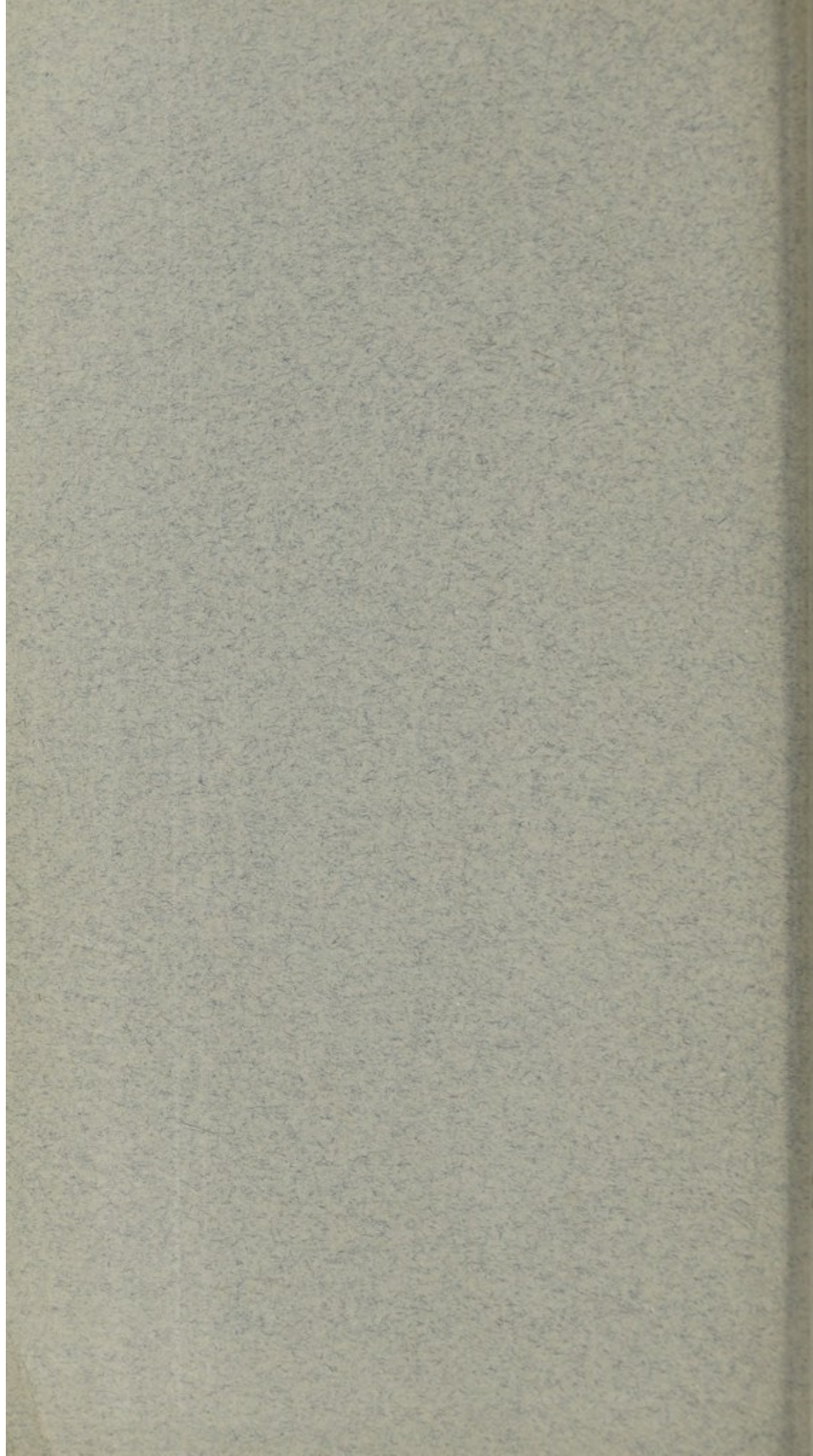
*October 25th, 1918.*

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PHILLIPSON & GOLDER, PRINTERS, EASTGATE ROW & FRODSHAM STREET.







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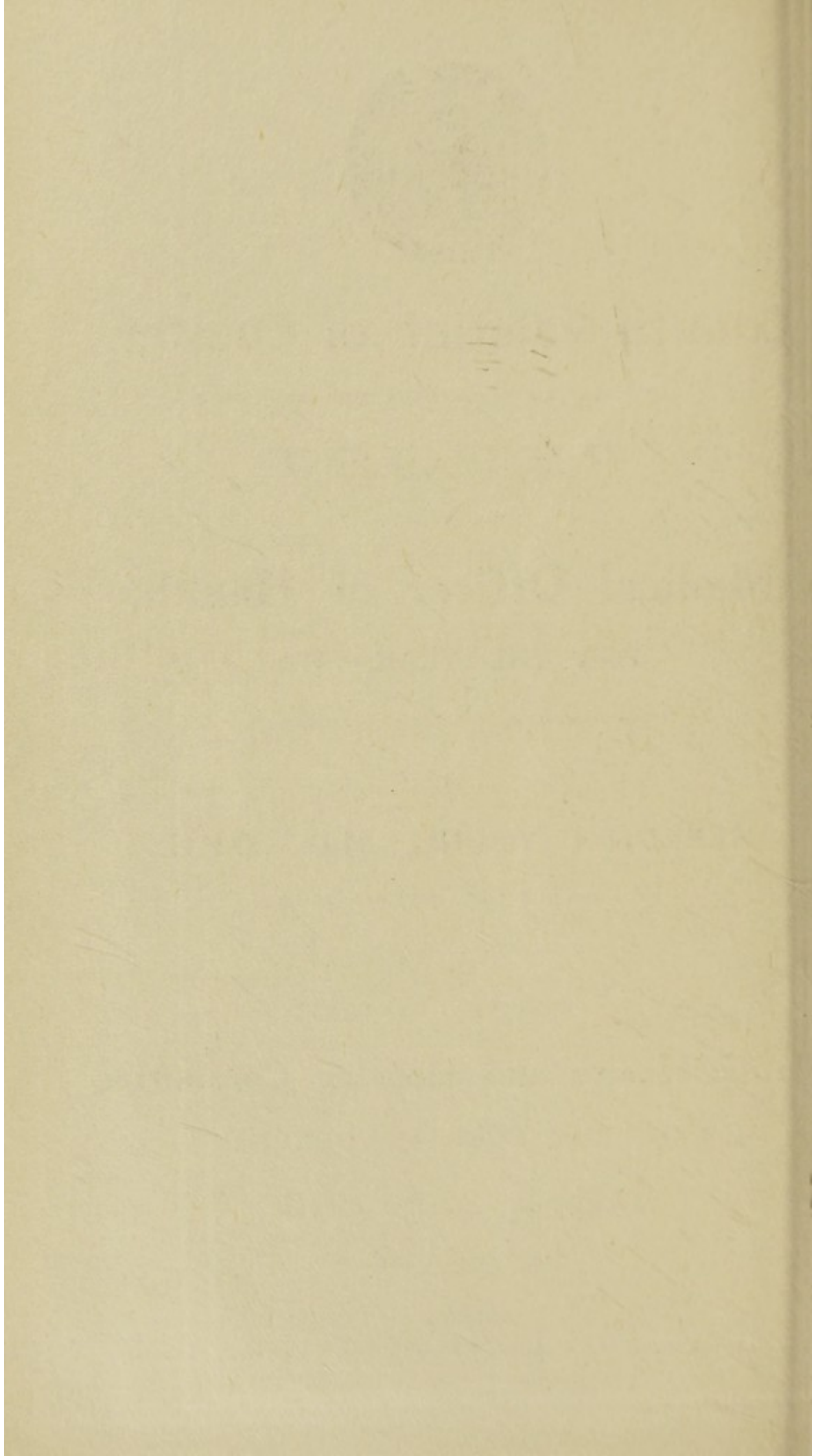
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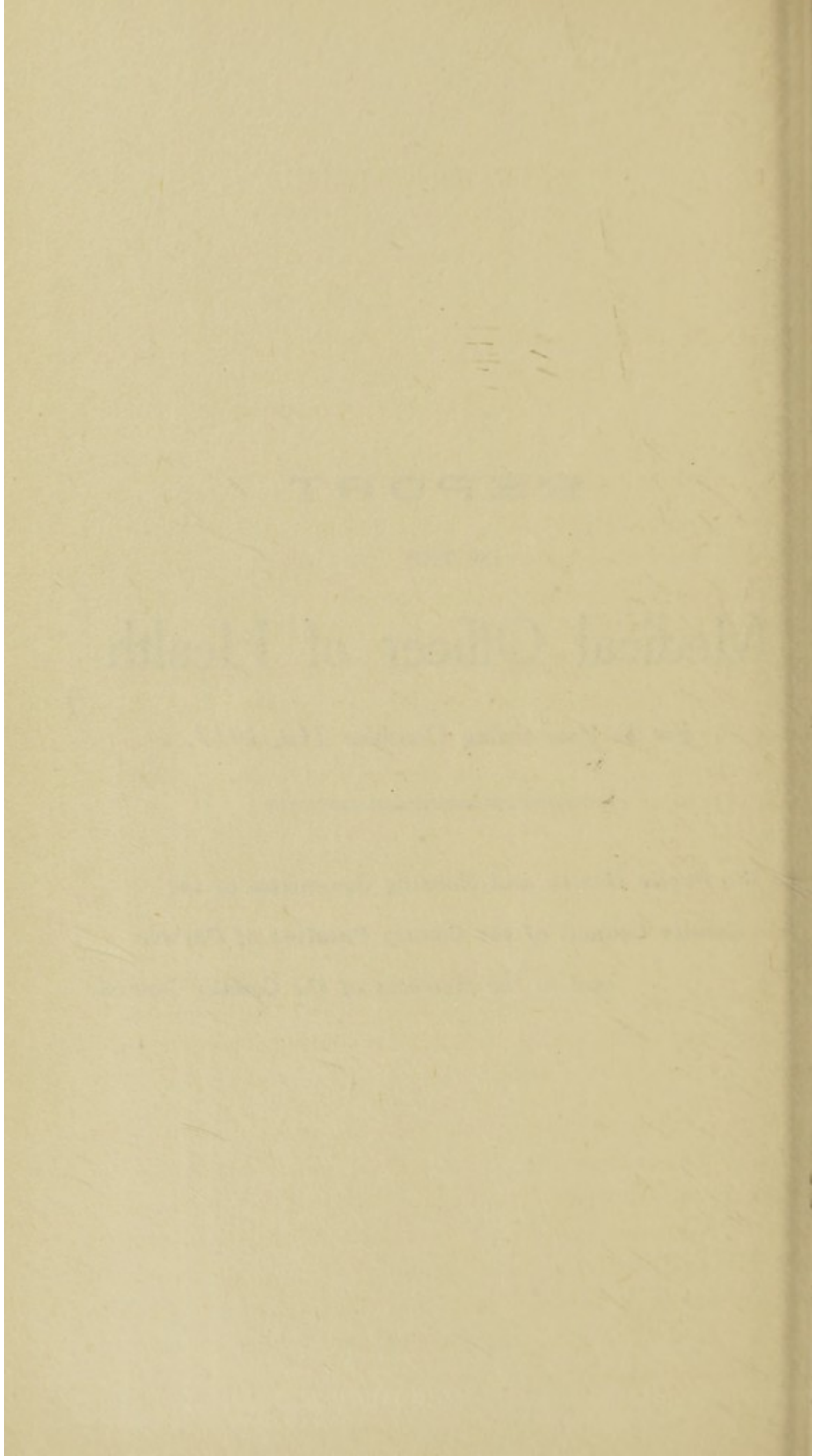
REPORT  
OF THE  
Medical Officer of Health

*For the Year ending December 31st, 1917.*

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*To the Public Health and Housing Committee of the  
County Council of the County Palatine of Chester  
and to the Members of the County Council.*





## INTRODUCTION.

*To the Chairman and Members of the  
Public Health and Housing Committee  
of the Cheshire County Council.*

MR. CHAIRMAN AND GENTLEMEN,

I present herewith for your consideration my Report on the health of the Administrative County during 1917. The work of compiling this Report has of late years been very difficult largely owing to the fact that the Reports from most District Medical Officers of Health have been both late in appearance and lacking in material for comment. Many of them, as you may see from the Abstract, are merely statistical skeletons. For this, of course, that every-day excuse, the war, must be held responsible.

In the vital statistics presented there will be found a further decline in the birth-rate, a further reduction in the death-rate, an infantile mortality rate which is still low but not so low as we hope to see it, a slight increase in the death-rate for tuberculosis, a still further increase in the cancer death-rate, and a reduction in the incidence and mortality of infectious disease.

Several matters connected with the work of the Public Health Department are discussed at some length in the Report—the Maternity and Child Welfare Scheme, the shortage of Midwives and the Tuberculosis Scheme. In matters of this kind involving the expenditure of a large account of public money it is only right that the fullest information should be available to your Council and I have endeavoured to give you this.



The strain of "carrying on" with a greatly depleted staff and with new Orders and Regulations continually being added on to the routine work has taxed the organisation of the Department to the utmost and I have to thank every one of my staff for their loyal and ungrudging support. I have also to thank your Committee for the kindly consideration with which you have treated the many matters which it has been my duty to place before you from time to time.

I am,

Mr. Chairman and Gentlemen,

Yours obediently,

MEREDITH YOUNG,

*County Medical Officer of Health.*

*43, Foregate Street,*

*Chester,*

*August 28th, 1918.*

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# REPORT OF THE Medical Officer of Health

For the Year ended December 31st, 1917.

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## Section I.—Area and Population.

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### Area.

In the Census Report of 1911 this is given as 640,823 acres.

This area is distributed as follows:—

6 Municipal Boroughs	...	...	15,588 acres.
35 other Urban Districts	...	...	80,832 „
12 Rural Districts	...	...	544,503 „
Total	...	...	640,823 „

### Population.

At the Census of 1901 this was 593,865. At the census 1911 the population of the Administrative County was 777,771 (excluding Wallasey).

At Midsummer, 1917, the population was estimated to be as under:—

	For Birth Rate.		For Death Rate.	
6 Municipal Boroughs	...	173,323	...	155,485
35 other Urban Districts	...	264,046	...	236,924
12 Rural Districts	...	190,108	...	170,543
Total	...	627,477	...	562,952



Special attention is directed to the remarks of the Registrar-General, which have an important bearing on the figures shown herein:—

“The statement of births and deaths contains two estimates of population; the one marked ‘death-rate’ is the estimate of the civilian population of the district in 1916 and is used for the calculation of the (civilian) death-rate; the other, used for the calculation of the birth-rate is an estimate of the total population, based on the assumption that the ratio between total and civilian population is the same in the district as in England and Wales as a whole.”

It will be seen from the above that the deaths of all men in the Army and Navy are not included in these Returns.

The figures for the various Districts are as under:—

Municipal Boroughs. (6)	Population.		Population Estimated Mid Year.	
	1901.	1911.	1917.	
			Total.	Civilian
Congleton ... ..	10707	11310	11581	10388
Crewe ... ..	42074	44970	48218	43252
Dukinfield ... ..	18929	19426	19969	17911
Hyde ... ..	32766	33444	34365	30822
Macclesfield ... ..	34624	34804	33034	29652
Stalybridge ... ..	27673	26514	26156	23402

Urban Districts. (35)	Population.		Population Estimated Mid Year, 1917.	
	1901.	1911.	Total.	Civilian.
Alderley Edge ...	2891	3143	3195	2866
Alsager ...	2597	2743	2127	2536
Altrincham ...	16831	17816	19492	17486
Ashton-upon-Mersey ...	5563	7236	7844	7037
Higher Bebington ...	1540	1689	1833	1644
Lower Bebington ...	8398	11412	14623	13118
Bollington ...	5245	5225	5018	4502
Bowdon ...	2788	3044	3090	2772
Bredbury and Romiley	7185	8684	9723	8772
Bromborough ...	1891	1974	2394	2148
Buglawton ...	1452	1439	1602	1437
Cheshire and Gatley ...	7916	9914	10962	9838
Compstall ...	875	908	886	795
Ellesmere Port and Whitby ...	4275	10366	12234	10975
Fale ...	4562	8351	9944	8921
Handforth ...	911	935	940	843
Hazel Grove & Bramhall	7934	9634	10002	8973
Hollingworth ...	2447	2581	2518	2259
Hoole ...	5341	5929	6233	5592
Hoylake & West Kirby	10911	14029	14625	13120
Knutsford ...	5172	5760	5299	4754
Lymm ...	4707	4989	5263	4721
Marple ...	5595	6484	6777	6030
Middlewich ...	4669	4910	5343	4793
Mottram in Longdendale	3128	3049	2051	2647
Nantwich ...	7722	7815	7042	6317
Neston and Parkgate ...	4154	4596	4721	4235
Northwich ...	17611	18151	20818	18676
Runcorn ...	16491	17354	18797	16863
Sale ...	12088	15046	16832	15100
Sandbach ...	5558	5723	6170	5535
Sarporley ...	2644	2604	2634	2363
Vilmslow ...	7361	8153	8518	7641
Vinsford ...	10382	10772	11196	10044
Wearley-cum-Whaley	1487	1659	1700	1525



Rural Districts. (12)	Population.		Population Estimated Mid Year, 1917.	
	1901.	1911.	Total.	Civilian.
Bucklow ... ..	19890	22870	22538	20219
Chester ... ..	10908	12448	12031	10793
Congleton ... ..	12220	12821	13824	12401
Disley ... ..	2827	2958	3184	2856
Macclesfield ... ..	15740	16628	16745	15022
Malpas ... ..	4488	4643	4835	4337
Nantwich ... ..	23197	24992	26360	23647
Northwich ... ..	22073	23270	26033	23354
Runcorn ... ..	23244	28216	29163	26162
Tarvin ... ..	12614	13187	13575	12178
Tintwistle ... ..	2105	2193	2144	1923
Wirral ... ..	13905	19024	19676	17651

## Section II.—Births and Deaths.

### Births.

The total number of births registered in the Administrative County during 1917 was 9,970, equal to a birth-rate of 15.8 per 1,000 of the estimated population. Comparative statistics are:—

County of Cheshire (1916)	...	18.5
England and Wales	...	17.8
96 Great Towns	...	18.1
145 Smaller Towns	...	18.0
London	...	17.5

There were 1,567 less births in Cheshire in 1917 than during the previous year.

The highest birth-rates occurred in the following districts:—

Ellesmere Port U.D.	...	24.2
Middlewich U.D.	...	22.2
Runcorn U.D.	...	21.2
Sandbach U.D.	...	19.9



The lowest rates were recorded in Bowdon U.D., 7.7; Bollington U.D., 9.7; Alderley Edge U.D., 10.6; and Hollingworth U.D., 10.7.

The total number of illegitimate births in the Administrative County was 519, about the same number as last year.

During the past ten years the birth-rate has fallen practically without interruption as the following statement shews:—

1908—23.70	...	1913—21.53
1909—22.87	...	1914—20.91
1910—22.30	...	1915—19.90
1911—22.20	...	1916—18.50
1912—21.52	...	1917—15.80

In the 79th Report of the Registrar-General (1916) some interesting points are to be found. He alludes to the old idea that war conditions lead to male conceptions the assumption being that conditions of physical distress during pregnancy favour the determination of the sex of the infant in this way. Curiously the idea receives some support from the figures of England and Wales for 1916: there were 1,038 males born for every 1,000 females in the period 1911-1915, whilst in 1916 there were 1,049 males born for every 1,000 females—an increase in males of 11 per 1,000 births.

The reduction in the birth-rate is, the Registrar-General remarks, to be regarded as surprisingly light: in the Central European Empires the birth-rate has declined very much more than here. In Germany the figures shew a decline in the birth-rate of 40 per cent. in the two years 1915-6, whilst in Hungary the births in 1916 are stated to have fallen 56 per cent. as compared with the year 1914.

The number of illegitimate births in England and Wales shews only a slight increase over that of 1915 (a year in which the number was smaller with two exceptions than it had been for a century): "this slight increase is not surprising in view of the exceptional circumstances of the year, including the freedom from home restraints for the first time of exceptionally large numbers of young persons of both sexes." Thus the statement made in the House of Commons about the coming of vast numbers of War Babies is now shewn as the product of panic imagination.



## Deaths.

The total number of deaths occurring in the Administrative County during 1917 was 7,278, equal to a death-rate of 12.8 per 1,000 of the estimated population. In 1916 the death-rate was 13.5. Comparative statistics are:—

England and Wales	...	...	14.4
96 Great Towns	...	...	14.6
148 Smaller Towns	...	..	13.2
London	...	...	15.0

The rates vary very considerably. The highest rates are recorded in the following districts:—

Higher Bebington U.D.	...	...	17.6
Nantwich U.D.	...	...	17.7
Mottram U.D.	...	..	17.0
Stalybridge Boro.	...	...	15.8
Macclesfield Boro.	...	...	15.8
Runcorn U.D.	..	...	15.0

The lowest rates are recorded in the following districts:

Compstall U.D.	...	...	6.2
Bromborough U.D.	...	...	6.5
Hale U.D.	...	...	8.7
Yeardsley U.D.	...	...	8.5
Handforth U.D.	...	...	9.4
Cheadle U.D.	...	...	10.1

The record of previous years is as under:—

1910—11.75	...	1914—12.55
1911—13.75	..	1915—13.7
1912—12.52	...	1916—13.5
1913—12.82	...	1917—12.8

## Infant Mortality.

There were 861 deaths of infants under one year of age registered, giving an infant mortality rate per 1,000 births of 86, as compared with a rate of 75 for the year 1916. During the past 10 years the average infant mortality rate in Cheshire has been 104 per 1,000 births.

The rate has ruled highest in the following districts:—

Bollington U.D.	...	...	183
Higher Bebington U.D.	...	...	156
Bowdon U.D.	...	...	166
Bromborough U.D.	...	...	150
Mottram U.D.	...	...	147
Runcorn U.D.	...	...	147

In the following districts there were no deaths under one year viz., Alderley Edge, Compstall, Handforth, and Yeardsley.

Low rates were recorded in the following districts:—

Alsager U.D.	...	...	20
Disley R.D.	...	...	31
Wilmslow U.D.	...	...	39
Malpas R.D.	...	...	41
Bredbury and Romiley	...	...	44
Sandbach U.D.	...	...	48
Lymm U.D.	...	...	56
Neston and Parkgate U.D.	...	...	56
Wirral U.D.	...	...	54

The rate of infant mortality for England and Wales for 1917 (97 per thousand registered births) was the lowest but two which have been recorded for over 30 years. It was excelled in 1916 (when it was 91 per 1,000) and in 1912 (when it was 95 per 1,000). These three years are the only occasions for over 30 years when this rate has fallen below three figures. The greater part of this decrease, according to the Registrar-General, is accounted for under other headings than climatic influences (hot dry summers and excessive mortality from epidemic diarrhoea) and therefore gives the greater promise of permanence. War has certainly not arrested the fall of this death-rate. There has been since the outbreak of war a decline in the heavy mortality of infants on the first day of life but the reason for this is not clear. Illegitimate infants shew an increase in mortality which is greater on the first day than in the remainder of the first weeks—a fact which is not without its significance and is indeed disquieting.



The chief reduction in infant mortality in England and Wales is ascribed by the Registrar-General to infectious diseases and diarrhœa. It is also pointed out by him that certain features of infant mortality are reproduced with curious fidelity from year to year, viz.:—

- (a) Excessive male mortality of about 25 per cent. from all causes and from the principal groups of causes this excess being greatest in the first three months of life:
- (b) Excess of female mortality from whooping-cough:
- (c) Decrease of the excess in the male infant mortality with advancing age.

These facts point the way to our endeavours to lessen this mortality and put very simply they point to the necessity for:—

- (a) Much greater care of boy-babies especially during the early weeks of life, and
- (b) Greater care of the female infant when there is a risk of the infection of whooping-cough and greater nursing care when it has become infected.

Probably as the result of the more stringent liquor laws of the present day deaths from overlaying have shewn a marked decline during the past two years. In 1914 in England and Wales these deaths of infants were 130 per 100,000 births: in 1915 this figure fell to 117 and in 1916 it fell further to 84. The heaping up of these deaths at the week end (Saturday night alcoholic excess) which was so marked a feature of the statistics up to 1914 has been very largely lost since the outbreak of war.

The deaths of boys and girls up to the age of 5 years due to violence (falls, drowning, street accidents, suffocation, &c.) are practically always greater in the case of boys than of girls—due no doubt to “the greater enterprise or mischievousness of boys.” In the case of burns however “so long as both sexes are dressed alike in petticoats the deaths of boys are considerably in excess but after the boys have been put into breeches there are far fewer fatal burns sustained by them.”



Further reference is made to this matter in the Section on Maternity and Child Welfare.

### Deaths from Zymotic Diseases.

The total number of deaths from this special group of diseases in the Administrative County during 1917 was 333, equal to a zymotic death-rate of 0.53 per 1,000 of the estimated population. In 1916 the deaths were 357, the rate being 0.62. The rates were low except in the following districts:—

Hollingworth U.D.	...	...	1.58
Higher Bebington U.D.	...	...	1.63
Ellesmere Port U.D.	...	...	1.38

The principal causes of death under this heading were:—

Measles	...	...	76
Whooping Cough	...	...	56
Diphtheria and Croup	...	...	85
Influenza	...	...	94
Diarrhoea	...	...	172

### Tuberculosis. (a) Pulmonary Forms.

This was responsible for 494 deaths—268 in males and 226 in females. The districts shewing the highest number of deaths from this disease were:—

Stalybridge M.B.	...	...	42
Crewe M.B.	...	...	38
Macclesfield M.B.	...	...	29

Bowdon and Tarporley Urban Districts are the only two districts in the County where no death from tuberculosis in any form occurred during 1917.

### (b) Non-Pulmonary Forms.

These caused 177 deaths of which 74 were due to tuberculous meningitis and 107 to the various other forms of tuberculosis (bones, joints, glands, &c.)



The death-rate per 1,000 of the estimated population from all forms of tuberculosis is 1.19, an increase on the rate for 1916, when it was 1.08 per 1,000.

This subject is further discussed in the Tuberculosis Section of this Report.

### Cancer and Malignant Diseases.

The deaths recorded from this group of diseases during 1917 were 711, giving a cancer death-rate per 1,000 of the estimated population of 1.26 as compared with a rate of 1.25 for 1916. This death-rate has shewn a steady and persistent increase since the year 1900 when it was 0.70: if this increase is maintained the rate will in a few years have doubled itself.

The deaths from cancer in the Boroughs and Urban Districts amount to 492 and in the Rural Districts to 219. Districts in which a considerable number of deaths are recorded are:—

	No. of Deaths.	Population. (For Death Rate.)	Rate per 1000.
Altrincham U.D.	.. 28	... 17486	... 1.60
Crewe M.B. ...	... 49	... 43256	... 1.12
Hoylake and West Kirby U.D. ...	... 18	... 13120	... 1.37
Hyde M.B. ...	... 38	... 30828	... 1.23
Macclesfield M.B.	... 55	... 29634	... 1.86
Northwich U.D.	... 20	... 18676	... 1.07
Runcorn U.D.	... 18	... 16863	... 1.06
Sale U.D. ...	... 20	... 15100	... 1.32
Stalybridge M.B.	... 21	... 23464	... 0.89
Winsford U.D.	... 16	... 10044	... 1.59
Bucklow R.D.	... 20	... 20129	... 0.99
Chester R.D.	... 17	... 10793	... 1.57
Macclesfield R.D.	... 30	... 15022	... 1.99
Nantwich R.D.	... 31	... 23647	... 1.31
Northwich R.D.	... 28	... 23354	... 1.19
Runcorn R.D.	... 39	... 26162	... 1.45
Tarvin R.D.	... 18	... 12178	... 1.47

It would be unwise to draw any conclusions from the above figures without knowing much more of the circumstances of each case than one is able to find out at present. In the case of the Rural Districts for example it would be necessary to know the particular villages affected and the figure covering a fairly long series of years.

---

## Section III.—Infectious Diseases.

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### General.

The following statement gives a summary of the cases of infectious disease notified during the year:—

	Total.
Small-pox ... ..	3
Scarlet Fever ... ..	857
Diphtheria ... ..	794
Enteric (Typhoid Fever) ...	49
Puerperal Fever ... ..	18
Erysipelas ... ..	172
Cerebrospinal Meningitis ...	5
Epidemic Poliomyelitis ...	9
Pulmonary Tuberculosis ...	631
Other Forms of Tuberculosis ...	260
Ophthalmia Neonatorum ...	71

The following Table taken from the Annual Return of the Local Government Board shews the incidence or attack rates of certain infectious diseases:—



COUNTY OF CHESTER.	Small-pox		Scarlet Fever.		Diphtheria.		Enteric Fever.		Puerperal Fever.		Isip
	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.
ADMINISTRATIVE COUNTY ...	3	—	857	1·52	794	1·41	49	0·09	18	0·03	17
DROUGHS & URBAN DISTRICTS—											
Alderley Edge ...	—	—	8	2·79	1	0·35	—	—	—	—	—
Alsager ...	—	—	1	0·39	—	—	—	—	—	—	—
Altrincham ...	—	—	6	0·34	14	0·80	—	—	—	—	1
Ashton-upon-Mersey ...	—	—	10	1·42	3	0·43	—	—	—	—	—
Bollington ...	—	—	—	—	3	0·67	—	—	—	—	—
Bowdon ...	—	—	5	1·80	3	1·08	—	—	—	—	—
Bredbury and Romiley ...	—	—	11	1·26	19	2·18	1	0·11	—	—	—
Bromborough ...	—	—	8	3·72	1	0·47	—	—	—	—	—
Buglawton ...	—	—	1	0·70	3	2·09	—	—	—	—	—
Cheadle and Gatley ...	—	—	18	1·83	7	0·71	—	—	—	—	—
Compstall ...	—	—	—	—	1	1·26	—	—	—	—	—
Congleton ...	—	—	23	2·21	9	0·87	2	0·19	1	0·10	—
Crewe ...	—	—	74	1·71	*163	3·77	—	—	—	—	—
Dukinfield ...	—	—	18	1·00	7	0·39	13	0·73	2	0·11	1
Ellesmere Port and Whitby ...	—	—	14	1·28	10	0·91	—	—	—	—	—
Hale ...	—	—	11	1·23	4	0·45	1	0·11	—	—	—
Handforth ...	—	—	1	1·19	1	1·19	—	—	—	—	—
Hazel Grove and Bramhall ...	—	—	7	0·78	—	—	1	0·11	—	—	—
Higher Bebington ...	—	—	5	3·04	1	0·61	—	—	—	—	—
Hollingworth ...	—	—	—	—	1	0·44	2	0·39	—	—	—
Hoole ...	—	—	7	1·25	11	1·97	1	0·18	—	—	—
Hoylake and West Kirby ...	—	—	21	1·60	7	0·53	—	—	—	—	—
Hyde ...	—	—	55	1·78	21	0·68	4	0·13	2	0·06	1
Knutsford ...	—	—	39	8·20	3	0·63	1	0·21	—	—	—
Lower Bebington ...	—	—	28	2·13	15	1·14	1	0·08	—	—	—
Lymm ...	—	—	8	1·69	—	—	—	—	1	0·21	—
Macclesfield ...	—	—	35	1·18	25	0·84	—	—	—	—	1
Marple ...	—	—	8	1·32	—	—	—	—	—	—	—
Middlewich ...	—	—	2	0·42	16	3·34	2	0·42	—	—	—
Mottram in Longdendale ...	—	—	1	0·38	—	—	—	—	—	—	—
Nantwich ...	—	—	36	5·70	9	1·42	—	—	—	—	—
Neston and Parkgate ...	—	—	8	1·89	1	0·24	—	—	—	—	—
Northwich ...	—	—	8	0·43	73	3·91	—	—	1	0·05	—
Runcorn ...	—	—	70	4·15	23	1·36	—	—	—	—	—
Sale ...	—	—	25	1·66	42	2·78	—	—	—	—	—
Sandbach ...	—	—	1	0·18	3	0·54	—	—	—	—	—
Stalybridge ...	3	—	7	0·30	10	0·43	2	0·09	1	0·04	—
Tarporley ...	—	—	6	2·54	—	—	—	—	—	—	—
Wilmslow ...	—	—	5	0·65	—	—	—	—	—	—	—
Winsford ...	—	—	2	0·20	43	4·28	2	0·20	—	—	—
Yardsley-cum-Whaley ...	—	—	—	—	—	—	—	—	—	—	—
RURAL DISTRICTS—											
Bucklow ...	—	—	16	0·79	9	0·45	1	0·05	1	0·05	—
Chester ..	—	—	29	2·69	13	1·20	1	0·09	1	0·09	—
Congleton ...	—	—	19	1·53	15	1·21	3	0·24	—	—	—
Disley ...	—	—	6	2·10	1	0·35	—	—	—	—	—
Macclesfield ...	—	—	13	0·87	11	0·73	—	—	1	0·07	—
Malpas ...	—	—	15	3·46	2	0·46	—	—	—	—	—
Nantwich ...	—	—	37	1·56	31	1·31	—	—	1	0·04	—
Northwich ...	—	—	9	0·39	93	3·98	3	0·13	4	0·17	—
Runcorn ...	—	—	68	2·60	54	2·06	1	0·04	1	0·04	—
Tarvin ...	—	—	6	0·49	2	0·16	—	—	—	—	—
Tintwistle ...	—	—	2	1·04	—	—	—	—	—	—	—
Wirral ...	—	—	44	2·49	10	0·57	7	0·40	1	0·06	—

\* Many of the cases of diphtheria notified from Crewe are stated to have subsequently proved to be cases of "Vincent's Angina."



### Small-pox.

The three cases of this disease occurred in Stalybridge Municipal Borough. Prompt isolation, disinfection and re-vaccination of all possible contacts prevented any spread of the disease.

### Scarlet Fever.

There were 857 cases of this disease notified during 1917, giving an attack-rate for the Administrative County of 1.52 per 1,000 of the population. The attack-rate was high in the following districts:—

	Cases.	Attack-rate.
Knutsford U.D. ...	39	8.20
Nantwich U.D. ...	36	5.70
Runcorn U.D. ...	70	4.15
Bromborough U.D. ...	8	3.72
Malpas R.D. ...	15	3.46
Higher Bebington U.D. ...	5	3.04

No cases were notified in Bollington Urban District, Compstall Urban District, Hollingworth Urban District, or Yeadsley-cum-Whaley Urban District.

There were 13 deaths from the disease.

### Diphtheria.

There were 794 cases of this disease notified, giving an attack-rate of 1.41 per 1,000 of the population. Crewe has again an unenviable record with 163 cases, equal to an attack-rate of 3.77 per 1,000, but it is stated that many of these cases were subsequently proved to be Vincent's Angina—a disease allied to diphtheria but usually to be distinguished clinically by the formation of deep ulcers on the palate, tonsils, &c., as well as by microscopical examination of material collected on swabs from the affected parts. Vincent's Angina is fairly common in children of school age. A spirochete distinguishable from the *Spirochaeta Pallida* (the causal organism in syphilis) with some difficulty, is presumed to be the infective agent in Vincent's Angina. In the Crewe outbreak a very large number of throat swabs taken from persons admitted to the Isolation Hospital as cases of diphtheria gave a negative result when examined for diphtheria bacilli.



Other districts shewing a high attack-rate from this disease were:—

	Cases.	Attack-rate.
Winsford U.D. ...	43	4.28
Northwich R.D. ...	93	3.98
Northwich U.D. ...	73	3.91
Middlewich U.D. ...	16	3.34

### Enteric (Typhoid) Fever.

Only 49 cases of this disease were notified, the attack-rate per 1,000 of the population being 0.09. The attack-rate was high, comparatively speaking, in the following districts:—

	Cases.	Attack-rate.
Hollingworth U.D. ...	2	0.89
Dukinfield M.B. ...	13	0.73

There were eleven deaths from this disease. Enteric fever is becoming a comparatively rare disease in this County as the following figures shew:—

#### CASES OF ENTERIC FEVER NOTIFIED.

	No.	Attack-rate per 1000 of Population.
1917 ...	49	0.09
1916 ...	85	0.15
1915 ...	86	0.15
1914 ...	89	0.15
1913 ...	154	0.22
1912 ...	155	0.22
1911 ...	251	0.37
1910 ...	235	0.36

It is to be hoped that with increased sanitary vigilance and particularly as the abolition of conservancy methods of refuse storage progresses this disease may be stamped out altogether.

### Erysipelas.

There were 172 cases notified, equal to an attack-rate of 0.31 per 1,000 of the population. Only seven deaths are recorded as due to this disease and three of these were in infants under the age of twelve months.



### **Puerperal Fever.**

There were 118 cases of this condition notified and there were 18 deaths recorded from it. This gives an apparent case mortality of 100 per cent. The average case mortality of puerperal fever in England and Wales during the four years 1911-1914 was 58 per cent. The death-rate from puerperal fever for the Administrative County for 1917 expressed as a rate per thousand births was 1.80, which is a shade higher than the average rate for England and Wales during the years 1911-14. There is clearly something wrong here and one can only conclude that all cases of puerperal fever were not notified. In all probability there were about twice as many cases as those formally notified.

In the latest revised Nomenclature of Diseases issued in 1918 by a Joint Committee appointed by the Royal College of Physicians it is stated that "the term 'puerperal fever' should not be used. Pyaemia, septicaemia and toxæmia occurring in connection with parturition should be described as 'puerperal pyaemia,' 'puerperal septicaemia,' and 'puerperal toxæmia' respectively. Other conditions formerly included under the term 'puerperal fever' should be returned under 'affections consequent on parturition,' the word 'puerperal' being in all cases prefixed to the word denoting the local process."

### **Measles.**

This disease was responsible for 76 deaths as compared with 60 in 1916. The disease has not, generally speaking, been of a severe type, though seriously prevalent in many districts. Compulsory notification and the attention of Health Visitors is I think beginning to make the public realise the seriousness of this ailment.

### **Whooping Cough.**

There were 56 deaths attributed to this disease. The number of deaths was greatest in the first year of life—indeed one-third of the total deaths occurred in babies under twelve months of age.



## Section IV.—Tuberculosis.

The cases notified by the District Medical Officers of Health during 1917 (primary notifications) were as under:—

	Males.		Females.		Total.
Pulmonary Tuberculosis ...	320	...	243	...	563
Non-Pulmonary Tuberculosis	99	...	110	...	207
	—		—		—
Totals ...	417	...	353	...	770
	—		—		—

The deaths registered during the same period were:—

	Males.		Females.		Total.
Pulmonary Tuberculosis ...	268	...	226	...	494
Tuberculous Meningitis ...	50	...	24	...	74
Other Tuberculous Diseases	44	...	59	...	103
	—		—		—
Totals ...	362	...	309	...	671
	—		—		—

The death-rate from all forms of tuberculosis was thus 1.19 per 1,000 of the estimated population—an increase as compared with the previous year when the rate was 1.08 per 1,000. In the 41 Urban Districts (including the 6 Municipal Boroughs) the rate was 1.30 per 1,000 and in the 12 Rural Districts it was 0.88 per thousand.

In the Table accompanying this section of the report the notifications of tuberculosis are tabulated under various headings. From this Table it may be seen that the age-period 25 to 45 years is that from which the disease takes its heaviest toll. No age is exempt, however, for even amongst infants under the age of twelve months we have eleven cases notified and in children under the age of 5 years we have 51 cases reported. Both the largest number of cases and the largest number of deaths have occurred in the age-period 25 to 45 years.



Notifications on Form A.															Notifications on Form B. †				Number of Notifications on Form C.		
Age-periods	Number of Primary Notifications.*												Total Notifications on Form A.	Number of Primary Notifications.*				Total Notifications on Form B.	Poor Law Institutions.	Sanatoria.	
	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 upwards.	Total Primary Notifications.		Under 5.	5 to 10.	10 to 15.	Total Primary Notifications.				
Pulmonary Males	1	5	15	10	30	30	99	83	27	17	3	320	320	—	1	—	1	1	—	8	67
“ Females	1	2	12	15	27	36	62	50	25	17	6	243	243	—	—	1	2	3	3	2	63
Non-pulmonary Males	6	16	18	15	11	5	12	7	2	5	—	97	97	—	—	8	5	13	13	—	5
“ Females	3	17	22	17	13	10	12	7	6	1	2	110	110	—	—	8	3	11	11	—	6
Col. (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	

NOTES :—

Patients notified as suffering from both pulmonary and non-pulmonary disease are included among the "pulmonary" returns only.

\* PRIMARY NOTIFICATIONS relate to patients who have not previously been notified in this or former years, either on Form A or on Form B, in the area to which the return relates. Any additional notification of a case which has been previously notified in the area is regarded as duplicate.

† A School Medical Inspector, or the Medical Officer of Health of a county, county borough, or other district, if acting as a School Medical Inspector, is required to notify on Form B all cases of tuberculosis discovered in the course of inspection of children attending public elementary schools whether or not these have previously been notified.

Cols. 2-13. Only those cases which have been notified for the first time during the year on Form A in the area concerned, and which have never previously been notified in the area, either on Form A or on Form B, are included in these columns.

Col. 14. The object of this column is to show the extent to which duplicate notification occurs on Form A, and all notifications on Form A, whether duplicate or not, are included in this column.

Cols. 15-18. Only those cases which have been notified for the first time during the year on Form B in the area concerned, and which have never previously been notified in the area, either on Form A or on Form B, are included in these columns.

Col. 19. All notifications which have been made during the year on Form B in the area concerned, whether the cases have previously been notified in the area, or not, either on Form A or on Form B, are included in this column.

Col. 21. Only notifications on Form C made by the Medical Officers of Sanatoria, as defined in the Tuberculosis Regulations, are entered in this column.



The medical staff has consisted of Dr. Hague (Northwich, Runcorn and Altrincham Dispensaries), Dr. Ingram (Crewe, Winsford, Congleton and Macclesfield Dispensaries), Dr. Ada Barrett (Hyde and Stockport Dispensaries), and Dr. Reginald Lawrence (Chester, Ellesmere Port and West Kirby Dispensaries). Of the above Dr. Hague is the only one who has devoted his whole time to the work.

The total number of new patients who have attended at these Dispensaries during the past three years is given below:

Dispensary.	1915.	1916.	1917.
Altrincham ...	12†	67	80
Birkenhead ...	—	14	30
Chester ...	8	39	32
Congleton ...	11	29	30
Crewe ...	111	111	123
Ellesmere Port ...	68	61	85
Hyde ...	—	112	106
Macclesfield ...	—	8	15
Northwich ...	20*	40	29
Runcorn ...	—	21	21
Stockport ...	—	9	26
Tarporley ...	3	—	—
Winsford ...	17	62	48
West Kirby ...	—	—	78

\* Opened July, 1915. † Opened October, 1915.

### Dispensary Treatment.

The number of new insured patients attending the Dispensaries is 269: as only 219 were specially referred to the Dispensaries by the Insurance Committee, 50 have apparently been specially sent there by their Panel Doctors or have attended on their own responsibility. The number of dependants attending is not a large one—233: assuming most of these to have been 'contacts' the number should have been at least three times as great. The number of attendances too leaves something to be desired: for example 1,159 attendances during the year divided amongst 269 insured persons gives an average attendance of only about 4 per patient per annum: for proper supervision to be maintained over a case of tuberculosis attendance at least once a month should be



the aim. The uninsured have shewn a much better average attendance for 81 patients have put in 668 attendances—an average of over 8 per patient per annum. The dependants shew an average attendance of approximately 7 per case per annum.

It is a pity some greater use cannot be made of these Dispensaries than is the case at present. Certainly more 'contacts' should attend there for examination so that the attack on the disease may be made at the earliest possible moment. The Tuberculosis Officer should impress on all patients the necessity of this measure. The Dispensaries too should be the meeting places for any After-Care Committees that it may be found possible to construct and the Tuberculosis Officer should attend their meetings and advise on the cases brought forward.

In order to correct any misapprehension which may (and probably does) exist about the functions of the Tuberculosis Dispensaries I may reproduce here a copy of a circular which was issued with your Committee's approval to all the medical practitioners in the area concerned directly the several Dispensaries were ready to open. It has now been sent to every medical practitioner in the Administrative County.

### *Dispensary Treatment of Tuberculosis.*

The County Council is most desirous that this and all cognate work should be carried out in full accordance with the best traditions of the profession and in strict compliance with all the canons of medical etiquette and professional courtesy.

A complete Scheme has been prepared which will be put into full operation as early as practicable and which the Council feel assured will be of the greatest assistance and utility to medical practitioners in the treatment of this disease.

The Council is now prepared to assist medical practitioners in the treatment of tuberculosis in the following ways:—

1. By examining at the Dispensary, or at the patient's own home if necessary, and as desired by the practitioner in attendance, any person, insured or uninsured, suffering from or suspected to be suffering



from any form of tuberculosis, and offering suggestions, in confidence of course, to the practitioner concerned as to the form of treatment.

2. By supplying outfits for the collection of sputum and examining and reporting on the same.
3. By examining at the Dispensary, or at the home if necessary, insured or uninsured persons who have been in contact with sufferers from tuberculosis.
4. By arranging for the visitation, by trained nurses, of the homes of patients suffering from tuberculosis, and the giving of such instructions as the practitioner in attendance may wish to be given.
5. By administering tuberculin or rendering assistance in the carrying out of any special form of treatment approved by the practitioner in attendance.
6. By lending sputum cups, pocket flasks, clinical thermometers, &c., to patients under treatment in cases where the practitioner in attendance desires the patient to have such articles, and by supplying cod-liver oil, malt, &c., to patients in necessitous circumstances.
7. By arranging for Institutional treatment or for the use of shelters so far as facilities are available in cases where the practitioner in attendance agrees that such form of treatment is desirable.
8. By supplying appliances required for the treatment of surgical cases where the circumstances, in the opinion of the practitioner in attendance, are such as to render this desirable.
9. Generally to confer with the practitioner in attendance on any case of tuberculosis and to render him such assistance as is reasonably practicable. Practitioners will be welcomed at the Dispensary during any time when it is open for the attendance of patients and at any other time convenient to them by special arrangement.



# Summary of Work carried out at Dispensaries during 1917.

	CENTRAL DISPENSARIES.				BRANCH DISPENSARIES.								
	Chester.	Hyde.	North-wich.	Crewe.	Ellesmere Port.	West Kirby.	Congleton.	Stockport.	Macclesfield.	Winsford.	Run-corn.	Altrincham.	Birkenhead.
New Patients Admitted—													
Insured ...	12	59	† 18	61	17	14	19	9	13	27	† 4	† 42	} 30*
Uninsured ...	6	12	1	3	33	64	2	11	1	3	1	8	
Dependants ...	14	35	10	59	35	—	9	6	1	18	16	30	
Attendances of Patients—													
Insured ...	60	219	105	184	87	45	52	20	54	166	14	198	} 30*
Uninsured ...	43	107	3	30	293	266	37	18	2	35	26	74	
Dependants ...	35	189	142	417	70	—	56	11	17	224	132	268	
Patients Examined at Home... (Unable to attend Dispensary)	3	—	6	11	2	4	2	—	4	3	2	3	—

\* These were all men sent for special examination by the National Service Medical Board; 27 examinations of sputum were made and reports furnished to the Medical Board; 21 men were found to be not suffering from tuberculosis.

† In addition to the figures given in these three columns 40 men were examined for Recruiting Medical Board and reports furnished 40 further cases were examined and found to be non-tubercular so were not entered on the Registers.



## Summary of Results of Treatment at Dispensaries during 1917.

	CENTRAL DISPENSARIES.				BRANCH DISPENSARIES.							
	Chester.	Hyde.	North-wich.	Crewe.	Ellesmere Port.	West Kirby.	Congleton.	Stockport.	Macclesfield.	Winsford.	Run-corn.	Altrincham.
Apparent arrest ...	2	11	2	6	4	6	2	3	—	3	3	16
Much improved ...	4	41	8	10	30	27	5	4	3	13	—	4
Improved ...	18	59	9	30	31	10	9	6	4	17	3	14
Not improved ...	6	57	5	13	10	2	7	4	3	4	4	15
Died ...	1	19	7	9	4	4	1	—	9	2	5	9
Sent for diagnosis only ...	1	112	2	64	6	29	17	12	2	22	—	10
Cases treated with Tuberculin	4	2	6	11	10	6	2	—	4	3	2	3

	Cranham Lodge.	Eastby.	Manchester Royal Infirmary.	Winsford Albert Infirmary.	Hyde Pavilion.	Chester Pavilion.	Crewe Pavilion.	Eryngo.	Leasowe.	Liverpool Delamere Sanatorium.	Manchester Hospital for Consumptives.	Grand Totals.
ADULTS—												
Male	1	5	1	1	1	—	1	—	—	1	1	12
Female	22	—	3	1	—	10	—	6	—	—	—	42
CHILDREN—												
Male	3	11	8	2	6	7	—	—	2	—	—	39
Female	6	—	6	—	—	1	—	2	2	—	—	17
Totals	32	16	18	4	7	18	1	8	4	1	1	110

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\* This Pavilion was only opened for the reception of Patients in October, 1917.

### Results of Treatment in Institutions of Uninsured Persons.

	2	2	—	1	1	2	—	1	—	—	—	9
Apparent arrest	...	...	...	...	...	...	...	...	...	...	...	...
Much improved	11	2	6	3	4	5	—	4	3	1	1	40
Improved	14	11	9	—	1	5	—	3	1	—	—	44
Not improved	5	1	2	—	1	4	—	—	—	—	—	13
Died	—	—	1	—	—	2	—	—	—	—	—	4
Totals	32	16	18	4	7	18	—	8	4	1	1	110



The tuberculosis scheme of the Council has more than once been referred to as a failure. If that were really the case the only business-like procedure would be to abandon it, entirely cutting our losses as well as circumstances permitted. It is a very serious matter to go on spending several thousand pounds every year on a scheme which is alleged to be a failure. Therefore it is necessary to examine very closely the component parts of the scheme in order to see how far this allegation is correct.

### **1. The Staff.**

The County Tuberculosis Officer (Dr. T. H. Peyton) has been on active service since August, 1914. He was appointed in November, 1913, and presented his Report on the organisation of the scheme for the treatment of tuberculosis in May, 1914. He had to leave therefore before anything much could be done to get the scheme into working order. Dr. G. K. Thompson, one of the District Tuberculosis Officers, was called up for service shortly afterwards and Dr. Williams left to take up another post shortly after this again. Dr. Reginald Lawrence, who was doing excellent work in the Chester and Wirral area, has recently joined the R.A.M.C. In the case of Dr. Ingram, of Crewe, you have lent part of his services to the Crewe Borough in order to release the Medical Officer of Health there for military service. Dr. Yeoman who was to have taken over a certain area in the Wirral joined the R.A.M.C. in 1915. The Clerk appointed for Tuberculosis work and the Laboratory Assistant were called up early in 1915. Instead of having a Chief Officer and  $4\frac{1}{2}$  Assistants I have had to try to so re-organise the work as to carry on with one whole-time and three part-time medical officers.

Those medical assistants who are at present engaged on the work are skilled specialists: I speak from a knowledge of hundreds of cases which have passed through their hands and my own during the past four years.

The Health Visitors who carry out the home visits are all qualified in accordance with the Local Government Board standard for London (Circular Maternity and Child Welfare, August 9th, 1918), and are conscientious and tactful workers. I do not recollect having ever had a complaint about their work in connection with the visitation of cases of tuberculosis.



The clerical work goes on like clockwork and could not be better organised.

As for myself I had to take over Dr. Peyton's duties literally at a moments' notice.

I am not a clinical expert in tuberculosis my duties being of an administrative nature. And the difficulties of administering anything—no matter what—during the past four strenuous years have taxed initiative, resource and mental and physical working powers to their uttermost.

Any "failure" under this heading must relate to shortage of medical staff and that has been forced upon us by the war. Had a larger medical staff been available more work could have been done at and in connection with the Dispensaries.

In some districts the medical practitioners do not avail themselves of the facilities provided at the Dispensaries to such an extent as one would like to see. In some districts it has been stated that they are hostile to the Dispensary system, but I should be sorry to think that this could be the case. If this should unfortunately be the fact however and if it should arise from a fear that we are endeavouring to encroach on their domain, let me make it clear at once that far from this being the case we are there merely as their servants and their specialist assistants. If there actually is any hostility to the system it cannot be very widespread as the Table shewing attendances of new patients demonstrates. In at least one district I am informed that several practitioners are inclined to hand over their cases of tuberculosis entirely to the Dispensary Medical Officer. This again is wrong for it is a contravention of what should be the guiding principle of any form of State medical service, viz., that the 'family doctor' should continue to act in that capacity but that specialist assistance should be available for him in any case where it will be of help either to the Doctor or the patient. This view may be dubbed a conservative one, but, official though I am, I acknowledge fully and freely that the personal interest in the individual is a higher ideal than the purely scientific interest in the case. The human and not the pathological element should come first in all cases of disease—at least as a human being and as the natural heir to human frailties I should be very sorry to see the human and personal element displaced by any purely scientific one. The blend



or close co-operation of the two is, of course, the highest desideratum. And, naturally, no blending and no co-operation worthy of the name can result unless both sides are in entire agreement.

## 2. The Dispensaries.

These have received allusion, so far as staff is concerned, under the previous heading. They are not and never have been 'tuberculin dispensaries' which are a type existing in very small numbers in this country. Tuberculin is very seldom indeed administered in them or even advised. (See Table shewing results of treatment). Their actual functions are set out in the circular which is re-printed in this Report. One has been a failure—that at Warporley: the reason for this is unknown to me. In previous reports (1916, page 16, 1915, page 20), I have pointed out where I consider the dispensary service could be improved. But Dr. Peyton framed the Dispensary scheme, your Council approved it and I have done my best to carry your instructions into effect. The record of work done at and in connection with the dispensaries is summarised in Table X. and I must leave it to speak for itself.

## 3. Sanatorium Beds.

I have inspected and reported on 31 possible sites for a County Sanatorium: your Committee have inspected many of these and one was eventually decided upon but the war interfered with the purchase of the site and the erection of the buildings. It became necessary to scour the country for sanatorium beds and I think I have been fairly successful in securing these for you, for men, women and children, in really good Institutions. We have an adequate number for uninsured persons and dependants and the Insurance Committee are responsible for the beds for insured persons.

## 4. Hospital Beds.

We have an adequate number of these for our own requirements at Hyde, Chester and Eryngo (New Brighton). The only difficulty—here as everywhere else—is that the patients will not remain in them during the most infectious part of the disease, i.e., when death is not far off: they prefer, and very naturally so, to die at home rather than amongst strangers.

More beds for advanced cases might have been provided



but for the war. Arrangements had virtually been completed for the provision of these at Crewe, Nantwich, Clatterbridge, Davenham and Runcorn, but all these had to be dropped for the time being.

### 5. Surgical Cases.

Beds in ample amount for such cases are available and are being used at a number of centres, viz., Manchester, Liverpool, Leasowe, Winsford, Ashton-under-Lyne, Chester, &c.

### 6. Shelters.

There are 16 in constant use and circulation. We have not all we could make use of for the simple reason that for about two years it has been next to impossible to get them no matter what price we paid. At the time of writing this Report I am trying to induce the Ministry of Munitions to allocate some timber for them.

### 7. Laboratory.

All specimens of sputum which are sent in to be examined are reported upon within a day or so of their receipt. Specimens of other kinds are examined by Prof. Delépine with similar expedition. During 1917 there were 95 specimens of sputum and one specimen of pus examined at the Chester Laboratory.

### 8. Co-ordination with Local Public Health Service.

This is as close as it can well be made. The notifications of cases of tuberculosis go in the first instance to the District Medical Officer of Health: he sends my Department a copy of all those received each week—at least he should but he often fails to do so. If on visiting a case of tuberculosis any sanitary defects are discovered by the County Health Visitor the District Medical Officer of Health is at once acquainted. If in any case it appears to the District Medical Officer of Health that our intervention is needed and he so acquaints us the matter is taken up without delay. Disinfection is carried out locally.

District Medical Officers of Health have been informed by circular of their special powers in cases of tuberculosis and we assist them whenever we are asked to do so.



## **9. Co-operation with the Poor Law and Voluntary Societies.**

It is not often that we are asked to assist Poor Law cases but we have never failed to respond when a request for co-operation or assistance has reached us. There are only a very few Voluntary Societies which concern themselves with tuberculosis work (and these are chiefly in connection with large works), but we have given all possible assistance in cases referred to us by such bodies.

## **10. After-Care Committees.**

Here there is admittedly a blank in the scheme and until pressure of work relaxes a little I fear the blank is likely to remain. It is an easy matter to form an After-Care Committee in a town but in a county it is an entirely different problem—as the experience with After-Care Committees for defective school children has demonstrated. When time permits I will put forward some suggestions for your consideration on this point.

## **11. Co-operation with Medical Practitioners.**

So far as concerns the Dispensary organisation this has already been commented upon. In the case of uninsured persons and dependants requiring Institutional accommodation I have yet to receive a complaint.

## **12. Domiciliary Treatment.**

This is a matter which concerns only the Insurance Committee and the doctors on the panel: the Public Health Department of the County Council has no control over it.

## **13. Residential Open-air Schools, &c., for Children.**

I reported on this aspect of the tuberculosis scheme to the Education Committee some years ago, but beyond passing a resolution in somewhat general terms to the effect that the County Architect should bear the matter in mind when the plans of new schools or alterations to existing schools were being considered no action was taken. In a few instances open-air classes are held at schools, but there is not so much enthusiasm or initiative on the part of teachers as one would like to see.



#### 14. Conclusion.

I have now discussed all the points mentioned in Dr. Peyton's revised scheme for the treatment of tuberculosis approved by your Council in May, 1914, and if we leave out the admittedly important matter of After-Care Committees I can find no heading under which the tuberculosis scheme of your Council can be called a failure. The case of the uninsured person and the Sanatorium Benefit under the National Health Insurance Act is quite another question and its consideration does not afford any justification for imputing blame to your Council or its Public Health Department. One knows that the rosy prospects held out to the insured person under this Act have only been partially realised and one knows the reasons for the failure here. One can understand that irritation is often engendered in the minds of medical practitioners when patients for whom Institutional treatment is recommended have to wait many months before receiving it. Your Council have gone a good way outside their strictly legal obligations to assist in this matter and with considerable success. But the gap has not been completely filled yet and until normal conditions return it may not be possible to fill it.

I have gone at some length into this matter because this scheme has been unfairly assailed: it has not been criticised but it has been simply denounced as a failure. Criticism would have been welcomed but as such it has not been forthcoming. It has been only possible therefore to meet criticism by anticipation. When criticisms are put into actual words it may be necessary to revert to this subject again. So far I have only attempted to shew your Council what has been done and is being done with the money you have voted for this particular object.

Under your Councils' scheme for the treatment of tuberculosis a vast amount of benefit has been secured to suffering humanity. Lives have been saved or prolonged, death has been eased, cripples have been cured or relieved, incipient disease has been nipped in the bud, infection has been arrested or limited in its spread, practitioners have been assisted in the solution of difficult problems and science has been advanced. Had the money spent on this good work been ten times as much it would have been well spent.



## Section V.—Venereal Diseases.

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The scheme for the diagnosis and treatment of venereal diseases was finally approved by your Council and the Local Government Board in May of this year, so that properly speaking it does not come within the purview of this Report. But I think your Committee would like to know how it has progressed to date and I therefore submit a few observations on it. The scheme is fairly completely set out in the following circular a copy of which was sent to every medical practitioner in the County in June, 1918. Similar notices have been sent out to a large number of persons likely to be of use in circulating a knowledge of the scheme, e.g., District Nurses, midwives, rescue homes, probation officers, clergy, chemists, Poor Law Medical Officers, prison doctors and chaplains, Girls' Friendly Societies and Young Men's and Young Women's Christian Associations.

### Arrangements for Diagnosis and Treatment of Venereal Diseases.

The Cheshire County Council have now made certain arrangements for the diagnosis and treatment of cases of these diseases.

These arrangements comprise the following:—

1. **Diagnosis.**—Arrangements with Laboratories in Manchester and Liverpool for the examination of specimens supplied by medical practitioners for detection of spirochaetes and gonococci, for Wassermann reactions and other pathological purposes and for scientific reports thereon. Medical practitioners will be supplied free of charge with apparatus for the collection of pathological material for transmission to the Laboratories for examination.

2. **Treatment.**—Treatment Centres or Clinics have been arranged at which persons suffering or suspected to be suffering from Venereal Disease may attend. Approved Salvarsan substitutes for use in their private practice will be supplied gratuitously to medical practitioners on the conditions laid down by the Local Government Board in their circular letter of August 29th, 1916.



Medical practitioners are invited to make the fullest possible use of the facilities provided under the scheme of the Council, and to avail themselves of the opportunity afforded for attendance at the clinics provided at those Institutions, also for consultation with the medical officers of the Institutions. The above facilities, both for diagnosis and treatment, will be available to medical practitioners without charge.

A list of the arrangements under each of the above headings which have so far been made by the Council is given below:—

#### LIST OF TREATMENT CENTRES.

Centre.	Days and Hours of Out-patient Clinic.	
	Males.	Females.
Ashton-under-Lyne Infirmary ...	Monday & Thursday, 3 to 5 p.m.	Monday & Thursday, 3 to 5 p.m.
Macclesfield Infirmary ...	Tuesdays, 10-30 to 11.	
Liscard Victoria Central Hospital ...	Wednesday, 3 to 4 p.m. Saturday, 7 to 8 p.m.	Friday, 3 to 4 p.m.
Warrington Infirmary ...	Tuesday, 3 to 3-30 p.m. Saturday, 5 p.m.	Tuesday, 5 p.m. Saturday, 3-30 p.m.
Winsford Infirmary ...	Tuesday, 2-45 p.m. (Saturday afternoon or other convenient times for patient can be arranged.)	
Liverpool Royal Infirmary ...	Monday and Friday at 12 noon, and Wednesday, 6 p.m.	Thursday, 12 noon.
„ „ Southern Hospital ...	Thursday, 4-30 p.m.	Friday, 1-30 p.m.
Skin Hospital, 59, Pembroke Place, Liverpool ...	Each day (except Sunday) at 1-30 p.m.	
Skin Hospital, Myrtle Street, Liverpool ...	Each day at 1 to 2 p.m. (except Sunday).	

#### Diagnostic Outfits.

Medical practitioners who desire to be furnished with a pathological outfit for the collection of specimens for examination at a Laboratory should fill in Form V. 1 and send it to the County Medical Officer of Health, 43, Foregate Street, Chester. Outfits will be supplied gratuitously to the practitioner.

The specimen should be collected in accordance with the "Instructions for Collecting Specimens," which will be sent with the outfit. If necessary, assistance may be rendered to



the medical practitioner in the collection of difficult specimens. When the specimen is collected, it should be sent or posted direct to the Laboratory. At the same time Form V. 4 should be filled up and sent to the Pathologist. Postage upon the specimen should be prepaid. A uniform sum of 6d. per specimen will be allowed to the medical practitioner to cover the cost of the postage, and will be paid by the Council quarterly to the medical practitioner without application by him. For this purpose information as to the amount due to each practitioner will be supplied to the Council by the pathologist to whom the specimens are sent.

### **Treatment Centres or Clinics.**

When a medical practitioner proposes to send any patient to a Treatment Centre, either as an out-patient or an in-patient, it should be explained to the patient that complete secrecy as to the identity of the patient will be observed at the Treatment Centre.

### **Travelling Expenses of Patients.**

Within reasonable limits, the Council may, for the present, defray the travelling expenses to and from an approved hospital of persons suffering from or suspected to be suffering from Venereal Disease. As regards patients who are advised by their own doctor to attend at an approved clinic, and who plead that they are unable to pay the railway fare, the patient should be referred by the doctor to the Medical Officer of Health of the County, or with the patient's consent, the doctor might himself communicate with the Medical Officer of Health and state whether he was of opinion that the case was one in which travelling expenses should be paid. The Medical Officer of Health will decide in all cases whether travelling expenses are to be paid.

### **Supply of Approved Salvarsan Substitutes.**

The Medical Officer of Health is authorised to supply approved substitutes for salvarsan to accredited medical practitioners for use either intravenously or intramuscularly. At present the substitutes approved by the Local Government Board are Kharsivan, Arseno-billon, Novarseno-billon, Neo-kharsivan, Salvarsan (Evans & Co.), Diarsenol, Neodiarsenol and Galyl. These are the only substitutes or special drugs which may be supplied gratuitously by the County Medical Officer of Health.



The Medical Officer of Health is required to satisfy himself, before issuing a supply of salvarsan substitute to a medical practitioner, that the applicant is a registered practitioner who possesses one or other of the following qualifications:—

- (a) Holds a certificate of having satisfactorily fulfilled the duties of clinical assistant in a Hospital Department recognised by the Local Government Board in connection with a local authority's scheme for the diagnosis and treatment of Venereal Diseases in their communicable stages;
- (b) Holds a certificate of satisfactory attendance at a course of instruction in the diagnosis and treatment of Venereal Diseases (including intravenous medication) in such a Hospital Department or in a recognised Medical School or Post-Graduate College;
- (c) Is or has been within the last five years a member of the permanent staff of a Hospital managed by a Committee and containing not less than 50 beds;
- (d) Produces satisfactory evidence, other than that indicated in the foregoing paragraphs, that he has had adequate experience in the administration of these drugs by intravenous injection.

Any practitioner wishing to be placed on the list for the gratuitous supply of approved salvarsan substitutes is invited at once to send the necessary particulars of his qualifications to the County Medical Officer of Health or forward the evidence indicated under paragraph (d) of the above.

Copies of each of the following are enclosed for information. Further supplies of any of the documents will be forwarded upon application to the County Medical Officer of Health. Copies of the Public Health (Venereal Diseases) Regulations, 1916, and of the other official Memoranda will also be forwarded upon application.

- (1) Card stating days and hours of consultation at the Treatment Centres and List of Approved Salvarsan substitutes.
- (2) Application for pathological outfit (Form V. 1).
- (3) Application for supply of approved substitute for salvarsan (Form V. 2).



- (4) Warning to patient as to care after administration of salvarsan substitute (Form V. 3).
- (6) Instructions to patients suffering from Syphilis and Gonorrhœa (Forms V. 6 and V. 7).

At the date of writing this Report (August, 1918), the following cases of Venereal Disease are under treatment at the Centres named:—

	Syphilis.		Gonorrhœa.		Soft Chaucre.	
	Male.	Female.	Male.	Female.	Male.	Female.
Royal Infirmary, Liverpool	30	11	13	2	—	—
Liverpool Skin Hospital	8	6	—	1	—	1
Infirmary, Ashton- under-Lyne	9	9	3	—	—	—
Royal Infirmary, Chester	21	15	5	—	3	—
Manchester and Salford Skin Hospital*	13	23	—	—	—	—
Manchester and Salford Lock Hospital	—	6	1	7	1	—
Warrington Infirmary	—	5	2	—	1	—

\* Gonorrhœa and Soft Chaucre not treated here.

In some cases it has come to my knowledge that patients had discontinued treatment before its completion but in almost all of these cases a special personal letter has had the effect of persuading them to go on with the treatment for the necessary period.

The present system of treatment of syphilis by concentrated organic arsenical preparations is comparatively only a few years old and experience has not yet sufficiently accumulated to shew how far the incidence of its late after-effects is affected by them. It may be many years before evidence is available on this point, for, apart from the results of post-mortem examination, such evidence will largely have to be derived from tables shewing the expectation of life in persons who are clear of symptoms of syphilis but shew a positive Wassermann reaction. As Lt.-Col. Harrison puts it



(The Diagnosis and Treatment of Venereal Diseases in General Practice)—“We may have theories on the subject but until we possess instruments which will enable us to search microscopically the innermost recesses of every patient's anatomy, the coats of his arteries, his bone-marrow, spleen, &c., we are not justified in asserting that, in old cases of syphilis, a positive Wassermann reaction unaccompanied by clinical symptoms is a sign of no moment.”

“Although the Wassermann test looks deeper into the patient's condition than the naked eye it is not an absolute guide to a decision regarding the absence of syphilis.”

It is necessary to refer to this aspect of the subject because one hears public discussion of ‘blood tests’ quite frequently and one knows that fallacious statements on the subject are continually being made. If these statements are not corrected they will have a dangerous and detrimental effect on any scheme for the treatment of this disease by creating a false sense of security.

Despite the prolonged discussions which preceded the launching of this scheme the whole of the difficulties of carrying it into practice could obviously not be foreseen and each day still brings its problem to be surmounted. In dealing with this class of disease it is the personal element which comes into prominence—the ability to create an atmosphere of confidence, to read character, to understand and properly assess varying circumstances, to impress the essentials whilst not patently belittling really unimportant side-issues, to carefully avoid anything approaching censure or preaching, and to encourage such a mental condition as will lead to a dogged perseverance with the necessary treatment. The tuberculous patient is difficult enough to deal with but even a short experience has been sufficient to shew one that the venereal case is going to be a much tougher problem. From all concerned we shall require the most earnest perseverance and the exercise of the highest forms of tact if the scheme is to be a success.

Deaths from venereal disease are not so far separately distinguished in the returns furnished by the Registrar-General though this may be remedied in years to come in view of the special interest now aroused.



Confidential certification of causes of death would certainly shew syphilis to be either a primary or secondary cause of death in many more cases than most people imagine. The Registrar-General (79th Report) states that "the actual mortality caused by the disease must probably long remain to some extent a matter of speculation but it is admittedly high." For 15 years the death-rate from syphilis in England and Wales remained fairly steady at 50 per million, but in 1913 it rose to 57, in 1914 to 58, dropping in 1915 to 53 and rising again slightly in 1916 to 55. To some extent this is probably due to more candid or more instructed certification of the cause of death and as improvement takes place in this the death-rate from syphilis must be expected to increase.

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## Section VI.—The Midwives' Act.

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There were 324 midwives who notified their intention to practise in the County area during the year 1917.

Actually	{ 118 Trained Midwives.
Practising	{ 126 Untrained Midwives.
	28 Monthly Nurses.
	16 Midwives living outside County Area.
	1 Midwife struck off the Roll.
	1 Midwife died.
	14 Midwives ceased to practise.
	20 Midwives have not had any cases during 1917.

The work is now so arranged that the Lady Assistant Medical Officer of Health inspects all the trained midwives and the Health Visitors assist with the inspection of the untrained ones.

There have been 992 visits paid to midwives: 788 were formal inspections and the other 204 visits were paid to make enquiries re still-births, puerperal fever cases, infant deaths &c. On 149 occasions midwives were found away from home when the inspecting officer called.



## Facts ascertained on inspection:—

	Bag.		Register.		Charts.		Person.		Home.	
	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.
Satisfactory ...	100	80	99	68	102	35	110	89	112	93
Fair ...	16	39	17	48	12	23	8	34	5	30
Unsatisfactory	2	7	2	10	4	5	—	3	1	3

Sixty-three untrained midwives cannot take the temperature of their patients.

With a few exceptions the trained midwives' bags are well kept, and on the whole the untrained midwives show a marked improvement in this respect. There is still a difficulty in getting the untrained midwives to keep their registers up to date as in many cases they are unable to write them up themselves. One still finds charts showing a similarity of temperature and pulse reading, e.g., 98.4 degrees F. and 72 pulse every day and for every case a fact which makes one extremely doubtful whether the pulse and temperature have actually been taken.

All the midwives have now got washable dresses but a few have been found attending cases wearing a skirt of unwashable material.

Table showing number and nature of notifications received in 1917:—

	Medical Help.	Still-births.	Death of Child.	Laying out of Dead.	Ophthalmia Neonatorum.	Source of Infection
Trained ...	369	71	9	34	16	5
Untrained...	113	26	—	5	10	—

Seven midwives were reported to the Committee for misconduct, two of these being reported to the Central Midwives Board. The remaining five were censured and warned as to future conduct.

Of the two reported to the Board, one was struck off, and the other resigned before the case was brought forward.



There has been a falling off of the bona-fide midwife and there is a great difficulty in filling her place. A few women whose husbands are fighting have taken the opportunity of training in midwifery and are now practising. These women are doing very well and have suggested a way of meeting the need. There are no doubt plenty of such women who would willingly train but are unable to pay for their training. If the County Council would pay their training making the stipulation that the women should settle in their own particular area for a period of 3 years this would be one way of overcoming the shortage of midwives.

During 1917 the Lady Assistant Medical Officer of Health gave lectures to some of the midwives which were well attended and seemed to be much appreciated. Owing to the increasing amount of work, the difficulty of travelling, &c., she has been unable to do so much in this branch of the work as she would have liked.

### **Shortage of Supply.**

The chief difficulty in this County at present is the shortage of midwives in small Rural areas where there is not enough work to enable a living to be made. As the bona-fide midwives fall out of the ranks this difficulty will be continually cropping up. This problem has arisen, at the time of writing this Report, in the following areas:—

1. Southern portion of Tarvin Rural District, including the districts of Clutton, Stretton, Shocklach, Tilstone, Caldecott and Grafton.
2. Northern portion of Nantwich Rural District, comprising Church Minshull, Warmingham, Minshull Vernon, Wettenhall and Cholmondeston.
3. Eastern portion of Runcorn Rural District, comprising Stretton, Higher and Lower Whitley, Dutton and Sevenoaks.
4. Eastern portion of Northwich Rural District and southern portion of Bucklow Rural District, including Allstock, Nether Peover, Peover Superior and Ollerton.
5. South-eastern portion of Macclesfield Rural District, including Wildboarclough and Wincle.

In the first four of these districts the average number of births per annum is about 25; in No. 5 district the annual births number about 10 or 12. It is obvious, therefore, that



there is not enough midwifery work in any of these areas to support a midwife if she must rely entirely on the fees she receives. The shortage can be met in several ways.

(1) By finding suitable women who would not be entirely dependent for their living on the fees earned and who would be willing to train as midwives at the expense of the Council giving an undertaking to practice as midwives in specified areas for a period of years. The period of training for midwives is now extended to six months, and the cost of training each midwife would be approximately £50. Of this sum half could be claimed from the Local Government Board under the Council's Maternity and Child Welfare Scheme.

(2) By inviting the County Nursing Association to arrange for the training of five midwives and to establish them in the areas mentioned. This would take 12 months at least to accomplish. Moreover, it is doubtful whether sufficient funds could be obtained to maintain a District-Nurse-Midwife in these areas.

(3) To appoint midwives for these areas, if the Local Government Board approve and agree to repay half the cost, guaranteeing a salary at the rate of £78 per annum for a period of two years, the position to be reconsidered towards the end of that time.

(4) To arrange with the County Nursing Association for the services of emergency midwives who can be sent to any district when required. This appears to me to be the best system if it can be made practicable to work it. The chief difficulty is that of finding a Local Hon. Secretary to whom applications for the services of a midwife can be made and who can book the cases and notify the County Superintendent of them. The cost of a service such as this would be somewhat as under:—

	£	s.	d.
Expenses of Local Hon. Secretary (Stationery, Postages, &c.) ... ..	5	0	0
Nurses' Salary when attending case (2 weeks at 15/- per week for say 15 cases per annum)	22	10	0
Nurses' Expenses (Board, &c.) at 30/- per week for 2 weeks, 15 cases per annum ...	45	0	0
Nurses' Travelling Expenses at 10/- per case	7	10	0
Midwifery Outfit (initial Expenditure only)...	5	0	0
Maintenance of Outfit per annum ...	1	0	0
	<u>£86</u>	<u>0</u>	<u>0</u>



As income we would have the fees for the cases (15/- each) and probably some private subscriptions so that the net cost to the County Council allowing for a 50 per cent. grant from the Local Government Board would probably not exceed £35 per midwife per annum.

The Local Government Board are prepared to pay grants towards "the provision of a midwife (a) for necessitous women in confinement and (b) for areas which are insufficiently supplied with this service." (Regulations dated September 23rd, 1916). It is necessary to consider how this provision can legally be made. In the circular of the Local Government Board dated September 23rd, 1916, the following methods are suggested:—

- (a) For women who cannot afford to engage a midwife a Local Authority or Voluntary Agency, with the approval of the Board, may provide the services of a midwife and, in proper cases, this midwife may attend women in confinement gratuitously or at less than the ordinary fee of the district. Here the Board will repay to the Local Authority or the Voluntary Agency half the deficiency between the fee paid by the patient and the ordinary fee of the district. In order to put this method into practice the Local Authority or the Voluntary Agency would apparently have to make arrangements with a midwife or midwives to attend necessitous cases free of charge or at less than the current fee undertaking to make good her fee and recovering half of their expenditure from the Board. Obviously therefore, if the above assumption be correct, this method is not of much help in County areas for it does not touch the question of shortage of supply of midwives which is really the acute difficulty.
- (b) In districts where a competent midwife is not available and where a midwife cannot make a sufficient income without financial assistance a Local Authority or Voluntary Agency may, with the Board's approval, arrange to maintain a midwife either paying or guaranteeing a suitable salary (say 30/- per week): the women attended by the midwife pay 'a reasonable fee' for her services when they can afford to pay and such fees go into the funds of the Local Authority or Voluntary Agency: the Board



repay half the difference between the receipts and expenditure, or, in the words of their circular, they "are prepared to pay a grant of half the amount paid towards the support of the midwife."

This is a matter which has already been approved by your Committee for the districts of Lymm, Nantwich, Tarvin and Odd Rode.

- (c) A Nursing Association may appoint a District Nurse-Midwife and at the end of each year may make a claim in which is set out the number of confinements attended by the Nurse-Midwife during the preceding year either as a midwife or maternity nurse. On this claim the Board make a grant towards the midwifery, or maternity nursing portion of the cost of maintenance of the nurse-midwife. The rest of the cost is borne by private subscriptions and fees paid for services.

On June 29th, 1918, the Board issued a circular to County Nursing Associations in which it was pointed out that they would pay a grant towards the initial expenses of starting new District Nursing Associations for employing trained nurse-midwives in areas not served by a competent midwife: the items to be included in this claim may include the expenses of starting the new Associations and of obtaining and equipping the midwife, the cost of training ("for the present") where the midwife cannot be obtained without paying the expenditure on training, and the cost of bicycle, uniform, maternity bag, &c. The County Council may contribute towards the cost of starting new District Nursing Associations employing trained midwives.

- (d) Emergency nurse-midwives may be provided to attend cases in areas not served by a resident district nurse or to take the place of district nurses ill or on holiday. This provision may not help much towards a solution of the real problem of shortage for several reasons, amongst which are:—(1) it is not economy for a nurse to spend all her day nursing one maternity case: (2) the nurse would have either to travel to and from her case each day which might involve a good deal of expense and loss of time or she would have to live in the patient's house: few if any houses in the class of



case calling for midwifery service have any accommodation for a midwife: and (3) an emergency nurse-midwife may be needed in two districts widely separated from each other at about the same time.

If these objections can be overcome (as see under par. 4 supra) this system can be very helpful.

- (e) Where the district is scattered and there is not enough work for a nurse-midwife as such it is suggested that she should, if suitably qualified, act also as Health Visitor, School Nurse, Tuberculosis Nurse and Mental Deficiency Visitor, being paid by the Local Authority for such services. The difficulty here is that of dual control besides which this County is already staffed for the work set out above.

The County Nursing Association has been of the greatest possible assistance in solving problems associated with the supply of midwives and I should like to place on record my appreciation of the very valuable help received from the Hon. Sec., Lady Forbes Adam.

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## Section VII.—Maternity and Child Welfare.

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Although the work described under this Section of the Report was only commenced in 1916 it has already grown enormously and before it can be called complete many further developments will be found necessary. Your Council have taken to heart the statements of the Medical Officer of the Local Government Board that "*at a time like the present there is urgent need for taking all possible steps to secure the health of all mothers and children and to diminish ante-natal and post-natal mortality,*" and that "*steps should be taken in the directions indicated even at the present time when strict economy is required in the expenditure both of public bodies and private individuals.*"

The County Council is now constituted (under an Order of the Local Government Board dated March 14th, 1918) the Local Authority under the Notification of Births Acts,



1907 and 1915, for the following districts, as from April 1st, 1918, though we have been carrying out the work by agreement with the Local Authorities except Macclesfield Rural and Bollington Urban since March, 1916:—

MUNICIPAL BOROUGHs—

Congleton.  
Dukinfield.  
Stalybridge.

URBAN DISTRICTS—

Alderley Edge.	Hoole.
Alsager.	Hoyle and West Kirby.
Ashton-upon-Mersey.	Lymm.
Higher Bebington.	Marple.
Bollington.	Mottram-in-Longdendale.
Bredbury and Romiley.	Nantwich.
Bowdon.	Neston and Parkgate.
Bromborough.	Runcorn.
Buglawton.	Sale.
Cheadle and Gatley.	Sandbach.
Compstall.	Tarporley.
Handforth.	Wilmslow.
Hazel Grove & Bramhall.	Yeardsley-cum-Whaley.
Hollingworth.	

RURAL DISTRICTS—

Bucklow.	Northwich.
Congleton.	Runcorn.
Disley.	Tintwistle.
Macclesfield.	Wirral.
Nantwich.	

The districts in which schemes are being carried out by the Borough, Urban or Rural District Council are thus:—

MUNICIPAL BOROUGHs—

Crewe.  
Hyde.  
Macclesfield.

URBAN DISTRICTS—

Altrincham.	Knutsford.
Lower Bebington.	Middlewich.
Ellesmere Port & Whitby.	Northwich.
Hale.	Winsford.

RURAL DISTRICTS—

Chester.  
Malpas.  
Tarvin.



Whilst I have nothing to criticise in the work being done by the districts which are autonomous in this matter I think it would have been advantageous in several ways if the Local Government Board had made their Order so as to include the whole of the Administrative County. As the matter now stands the County Health Visitor still pays visits to cases of tuberculosis and mental deficiency and to midwives (including inquiries into cases of Puerperal Fever) in all the districts in the County and to school children as well in all the Urban and Rural Districts in the County, thus causing overlapping, and in some instances a certain risk of friction and of over-inspection. Moreover it is, of course, more expensive for a smallish Urban or Rural District to carry out its own scheme than would be the case under a general County scheme, though the Councils concerned are apparently willing to pay the price in order to secure autonomy.

Complications may arise if it should be found desirable to appoint a midwife or District Nurse with other duties to fill up her time in some of these autonomous areas.

In areas where co-operation between the County and the Local Schemes is desirable I have experienced no difficulty so far in arranging for mutual accommodation. Such co-operation is desirable in many Rural Districts where for instance some of the population can more conveniently attend a Centre established in an Urban District adjoining.

There are engaged in this work a Lady Assistant Medical Officer of Health, 21 whole-time Health Visitors and one part-time Visitor (Stalybridge). With the exception of the latter each Health Visitor is responsible for the visiting of all children under 5 years of age, the Schools, and School children, Tuberculous cases, attendance at the Tuberculosis Dispensaries and Maternity and Child Welfare Centre in her particular area.

The Health Visitors are all either fully-trained nurses or have had lengthy special training in the duties they are called upon to perform. Their work is tactfully and conscientiously carried out and they are loyal to the best traditions of their profession in its performance. The task of approaching a working-woman and advising her on the management of her home, her children and herself is no easy one as may be imagined especially when deeply-rooted superstitious and fallacious imaginings and ideas have to be brushed



away and replaced by modern hygienic teachings. But by the exercise of abundant patience, tact and common-sense a vast amount of good work is being accomplished and it is not a bit too much to say that your Health Visitors are established in the position of the working mother's best friend. An intimate and first-hand knowledge of their work is necessary to a full appreciation of the excellent practical results they are achieving. I have on rare occasions heard their work criticised and am always glad to have criticisms as a means to betterment: but I would only say that it would be almost miraculous if well over 40,000 visits in the course of a single year were carried out by anyone without giving cause for any critical remark.

Dr. Jean R. Shaw has worked with a whole-heartedness and keenness which it would be hard to equal: it is both a pleasure and stimulus to have such an enthusiastic colleague.

### **Births, &c., Visitations.**

As in 1916 all births in the scheduled areas have been notified to the County Medical Officer of Health. These are written out on special forms at the Chester Office and sent out daily to the Health Visitors of the district to which they belong. Cases attended by an untrained midwife are visited as soon as possible after the birth and those attended by a Doctor or a trained midwife are visited after the tenth day.

The Health Visitors send every week to the County Medical Officer of Health a report of the work done during the preceding week and a report (on special forms) on every baby visited and re-visited. These reports are carefully gone into by the Lady Assistant Medical Officer and a duplicate is kept of each form.

During the first year the babies are usually visited once a month but it is found necessary in many cases to visit more frequently.

In the second year the children are visited at least quarterly and in subsequent years until admitted to School half yearly visits will be paid to these older children. There will also be cases among them who require to be visited oftener. It is found as the Child Welfare Centres are established that the older children are being brought as well as the infants and are thus kept under medical supervision. As in



1916 with very few exceptions the Health Visitors have been well received and made to feel that their visits are welcome.

Owing to the increase of railway fares and the difficulties of travelling Conferences of Health Visitors have not been held quite so often during 1917.

The following is a summary of visits paid by the Lady Assistant Medical Officer and Health Visitors during 1917:

Infants under one year First Visits	...	4467
Revisits (children under one year and over a year ophthalmia, etc.)	...	38743
Still-births and Death Enquiries	...	422
Visits to Midwives	...	992
Visits to Expectant Mothers	...	558

### The Feeding of Infants.

The following table shows the method of feeding of children over six months old and under one year old. There were 990 Rural cases and 845 Urban cases:—

			Breast.		Mixed.			Artificial.		
			1916.	1917.	1916.	1917.		1916.	1917.	
			%	%	%	%		%	%	
1st Month ...	Rural	...	85	78	...	1	4	...	14	18
	Urban	...	77	80	...	2	4	...	21	16
2nd Month...	Rural	...	79	76	...	2	5	...	19	20
	Urban	...	73	76	...	5	5	...	22	19
3rd Month ...	Rural	...	75	73	...	3	5	...	22	22
	Urban	...	70	72	...	6	6	...	24	22
4th Month ...	Rural	...	72	70	...	3	6	...	25	24
	Urban	...	68	69	...	7	6	...	25	25
5th Month ...	Rural	...	70	69	...	3	6	...	27	25
	Urban	...	65	66	...	7	7	...	28	27
6th Month ...	Rural	...	69	68	...	3	6	...	28	26
	Urban	...	64	63	...	6	7	...	30	30

In the above tables children breast-fed under one month are not counted so that a higher percentage started to have breast milk, but during 1917 in only 78 per cent. and 80 per cent. of the Rural and Urban babies respectively was it continued after the first month. The percentage of breast-feed-



ing is slightly less than what was found in 1916 but the amount of artificial feeding is very similar, the increase is in the percentage of mixed feeding. At one time it was very difficult to persuade a mother to give her child both breast and cow's milk, but this superstition happily seems gradually to be dying out.

In spite of the strain and stress of the present time it is surprising to find the percentage of breast-feeding up to this level. A great deal of it is due to the efforts of the trained midwife in the first instance, and later to the Health Visitors in persuading the mothers to partake of a suitable diet. There have been a considerable number of cases where a mother's milk seemed on the point of failing and the Health Visitor, through some local fund, has been able to get her more nourishment so that she has been able to continue to feed her baby naturally.

Of the mothers in the Rural areas 2 per cent. were employed in factories and with five exceptions children who had mixed feeding during the six months, all had artificial feeding from the 2nd and 3rd month. Three per cent. of the Rural mothers were doing some form of home work (washing, charring, farm work, &c.,) and of these 45 per cent. breast-fed their babies during the whole of the six months. In the Urban areas 4 per cent. of the mothers were employed in factories and with three exceptions (where the children had mixed feeding) their babies were artificially fed from the 2nd and 3rd month, if not being entirely artificially fed. Three and a half per cent. of the Urban mothers were engaged in home work (charring, washing, &c.,) and 43 per cent. of their babies were breast-fed for six months.

Although there has been an increased demand for women labour there is no increase in the number of mothers with babies under one year who are employed outside their homes. It is good to find that in spite of the lure of high wages these mothers have stayed at home and tended their own babies. In this they have shown a high sense of patriotism and worthy appreciation of the proverb "the hand that rocks the cradle rules the world."

There is still great difficulty in persuading mothers to have separate cots for their infants but the number of mothers who do is slowly increasing.



The method of feeding till six months old and health of child at twelve months of age is shewn below:—

FEEDING.			HEALTH.			
			Good.		Fair.	Poor.
			%		%	%
Breast	{ Rural	...	93	...	5	2
	{ Urban	...	94	...	4	2
Mixed	{ Rural	...	88	...	8	4
	{ Urban	...	72	...	19	9
Artificial	{ Rural	...	75	...	18	7
	{ Urban	...	70	...	18	12

From the above figures it will be seen how many more babies enjoy good health when they are fed naturally than when they are fed artificially.

The health of the children over one year and under two years is shewn below:—

			HEALTH.			
			Good.		Fair.	Poor.
			%		%	%
Rural	...	82	...	13	...	5
Urban	...	78	...	13	...	9

The above and the following table show how very necessary it is to continue to keep these young children under supervision. The illnesses from which children between 1—2 years of age have suffered during their first year of life are shewn in the following table:—

			%
Bronchitis	...	...	14.5
Pneumonia	...	...	3.
Convulsions	...	...	1.5
Diarrhoea	...	...	4.
Measles	...	...	7.5
Whooping Cough	...	...	6.5
Marasmus	...	...	1.5



Age at which they suffered from these illnesses:—

		Birth to 3 months.		3 months to 6 months.		6 months to 9 months.		9 months to 1 year.
		%		%		%		%
Bronchitis	...	4.3	...	3.9	...	2.5	...	3.8
Pneumonia	...	.8	...	.9	...	.6	...	.8
Convulsions	...	.6	...	.3	...	.3	...	.2
Diarrhœa	...	1.5	...	1.2	...	.9	...	.7
Measles	...	.6	...	2.	...	2.5	...	2.3
Whooping Cough	...	2.	...	1.5	...	1.5	...	1.3
Marasmus	...	1.1	...	.2	...	.1	...	.05

It is interesting to find how many children have come more or less successfully through these illnesses when one compares the causes of death in a following table.

In some cases the children have had several attacks of bronchitis, diarrhœa, &c., but the first attack only was noted.

It will be instructive to find out the after history of these children, especially those with respiratory affections either as a complication of an attack of measles, whooping-cough or not. The question naturally arises how far these early respiratory affections are responsible for pulmonary tuberculosis or the development of a pre-disposition to respiratory tubercular infection. Further statistics on the health of the parents of these children would also be interesting.

In text books there is often a statement made that under six months a child is not so liable to an attack of measles but the above table does not bear this out though frequently it has been noted by the Health Visitors that all the other children in a house have been suffering from measles and the tiny infant has escaped the infection.

Of the 7.5 per cent. children who suffered from measles 9 per cent. suffered from chest complications, 1 per cent. suffered from inflammation of eyes, 1 per cent. suffered from otorrhœa, 3 per cent. suffered from enlarged glands, 0.1 per cent. suffered from diarrhœa.



Of the 6.5 per cent. children who suffered from whooping-cough during their first year of life 8 per cent. suffered from chest complications, 1.5 per cent. suffered from convulsions.

At one year old 2.5 per cent. of the children showed signs of rickets—1 per cent. slight and 1.5 per cent. marked.

Table giving some particulars of death of 216 children under one year but over ten days old—123 males and 93 females:—

		Ten days to 3 months.	3 months to 6 months.	6 months to 9 months.	9 months to 1 year.			
Respiratory Diseases	62—39 Males 23 Females }	24	...	16	...	14	...	8
Convulsions	... 48—31 Males 17 Females }	31	...	8	..	6	...	3
Gastro-Enteritis	... 17— 8 Males 9 Females }	9	...	2	...	3	...	3
Measles	... 7— 6 Males 1 Female }	—	...	1	...	3	...	3
Whooping Cough	... 8— 4 Males 4 Females }	3	...	3	...	2	...	—
Marasmus	... 13— 8 Males 5 Females }	9	...	1	...	—	...	3
Syphilis	... 5— 3 Males 2 Females }	2	...	1	...	1	...	1
Meningitis	... 6— 3 Males 3 Females }	2	...	2	...	—	...	2
Tuberculosis (General)	... 3— 1 Male 2 Females }	2	...	—	...	1	...	—
Tuberculosis (Abscess)	... 2— 1 Male 1 Female }	—	...	1	...	1	...	—
Inanition	... 23—11 Males 12 Females }	23	...	—	...	—	...	—
Malformations	... 15— 3 Males 12 Females }	6	...	4	...	4	...	1
Peritonitis	... 1— 1 Female	—	...	—	...	—	...	1
Laryngitis	... 2— 2 Males	2	...	—	...	—	...	—
Nephritis	... 1— Male	—	...	1	...	—	...	—
Overlain	... 1— Female	1	...	—	...	—	...	—
Drowned	... 1— Male	—	...	1	...	—	...	—
Scald (Pneumonia)	1— Male	1	...	—	...	—	...	—

The larger proportion of the deaths occur under six months. Out of these 216 deaths 19 were of babies of illegitimate birth.



Table giving some particulars of deaths of 95 children aged ten days or less:—

Premature birth	...	...	51—21	birth attended by Doctor.
			30	„ „ „ Midwife.
Asphyxia	...	...	5—5	„ „ „ „
				(Inquests.)
Respiratory failure	...	...	2—2	birth attended by Doctor.
Edema of neck	...	...	1—1	„ „ „ „
Malformation	...	...	13—6	„ „ „ „
			7	„ „ „ Midwife.
Suffocation (overlain)	...	...	2—2	„ „ „ „
„ due to want of attention at birth			1—1	no Midwife in attendance.
(Inquests.)				
Feebleness of child	...	...	19—9	birth attended by Doctor.
			10	„ „ „ Midwife.
				(One Inquest.)
Broncho-Pneumonia	...	...	1—1	birth attended by Midwife.

Six babies of the above were of illegitimate birth.

Table giving some particulars of 111 still-births that have been enquired into:—

History of shock, fright or accident	12—9	3	birth attended by Doctor.
		9	„ „ „ Midwife.
Born before arrival	5—3	3	Doctors' cases—(1) Premature and decomposed.
			(2) Full-time and decomposed.
		1	Midwife's „ (1) Premature and decomposed.
		1	(Inquest) want of attention at birth.
Placenta Prævia	...	...	3 cases.
Ante-partum Hemorrhage	...	...	6 „
Eclampsia	...	...	1 „
History of ill-health of Mother	...	...	14 „
Malpresentation or difficult labour	...	...	40 „
No known cause—Premature birth	...	...	17 „
„ „ Full-time	...	...	13 „

In two cases the still-births were illegitimate. Twenty-four occurred in primiparae. In nine cases there was a previous history of more than one miscarriage or still-birth and in 19 cases a history of one miscarriage or still-birth. In four cases of the 19 the still-birth had occurred in the second pregnancy so that the mother had not given birth to a live child. In 36 cases the child was said to be decomposed.



### Expectant Mothers.

A start was made in 1917 in visiting expectant mothers, 558 visits and re-visits being made.

Of 169 cases that were visited during 1917 (the baby being born within that year) the following are some interesting points that have been noted:—

	Good.	Fair.	Poor.
Health of the Mother ...	46% ...	38% ...	16%

Five per cent. of the mothers were advised to seek medical advice on account of passing a scanty amount of urine; 31 per cent. suffered more or less from constipation; 75 per cent. had carious teeth and in many cases the teeth were noted to be in a very bad condition.

Babies born :—85% normal.

8% not very strong.

2% weakly, died during first fortnight.

5% still-born.

### Maternity and Child Welfare Centres.

During 1917 three new centres have been opened at Nantwich, Stalybridge and Sale respectively and larger and more suitable premises were rented at Hoylake and at Runcorn. A local Doctor attends one day a week for consultations and the County Health Visitor attends the meetings. It would be impossible to carry on, with such a small staff, without the services of the Voluntary Committees. The members of the various Committees have worked splendidly, and have been untiring in their efforts to maintain the interest of the mothers in their children's welfare. It is found that though many mothers attend the centres regularly others who have become members come only when the baby seems "out of sorts." It is difficult to persuade all mothers to bring their babies when they are perfectly well in order to have them kept under medical supervision. Fortunately the number with a regular attendance is increasing. The Sewing Classes are not so popular as the Committees would like—the mothers are more eager to buy ready-made garments than to attend a class where they will be shown how to make them for themselves.



The Mothers' Welcome at Utkinton, maintained by one lady, has increased its membership and is doing good work among the mothers and babies of that village.

Successful Baby week celebrations were held at Hoylake, Runcorn, Congleton, Marple, Whaley Bridge, Heswall and Utkinton. These celebrations have been an excellent local means of arousing public interest in Child Welfare:—

	Hoylake.	Runcorn.	Sale.	Staly- bridge.	Nantwich.	Ut- kinton.
Number of Children ... on Books	291	227	44	152	84	21
Consultations held ...	732	250	214	301	128	—
Total Attendances ... made	1209	883	297	470	310	184
Average Attendance... per Meeting	23	17	42	33	16	8
Ante-natal Mothers ...	8	11	1	15	3	—

### Runcorn Day Nursery.

As a large number of mothers of young children in Runcorn were suddenly called upon to go out to work owing to the shortage of labour a Day Nursery was opened there in July, 1917. In the centre of the town a shop with the house over it was rented and fitted out as a Nursery. The Staff consisted at first of a fully trained Nurse as Matron, an Assistant and a Caretaker, but as the numbers increased a young probationer, in addition to the above, was appointed. The average attendance per week before December was disappointing, but since December the average has been 110 per week.

		Children under 3.	Children over 3.
Number of Children on the Books ...	79		
Number of Attendances	1510	1011	499
Average Weekly Attendance	63		

### Ophthalmia Neonatorum.

There have been 69 cases of inflammation of or discharge from the eyes in new born babies notified. Forty-three of these cases were only slight.

The ages of the infants on the day when the disease started ranged from one day to ten days old, most of the cases occurring between the first and fifth days.



In 18 of the cases the birth was attended by Doctors and 51 were attended by midwives. Twenty-five of the cases attended by midwives were reported by a Health Visitor, who also visited the midwife and warned her of her neglect to notify. In some cases a Doctor had been called in to see the patient. It is difficult to get midwives to understand that they must notify a case no matter how slight.

The following description of the cases is interesting:—

Slight cases, one eye affected	...	9
„ „ both eyes „	...	34
Severe cases, one eye „	...	6
„ „ two eyes „	...	20

All the slight cases and the six severe in one eye recovered well.

Of the 20 severe cases 17 recovered and the following are particulars of the other three cases:—

One case, small scar on left eye.
„ „ „ „ „ both eyes.
„ „ scars on both eyes. Sight considerably affected (still attending Infirmary).

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## Section VIII.—Miscellaneous.

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### Housing.

It is apparent from the statements made in the various District Reports that the Housing (Inspection of District) Regulations have been reasonably well carried out considering the many difficulties in existence. Even if defects cannot be completely remedied they can be scheduled for a future date and a certain saving of time thus effected.



### **Dairies, Cowsheds and Milkshops.**

Continuous supervision has been maintained over these premises but a number of structural amendments have necessarily had to be postponed. May I point out what seems to be overlooked in many quarters simple though it is—that the question of overcrowding of shippens and insufficient cubic space for milch cows is an easy one to remedy: if a shippen contains 20 cattle and the cubic space is only sufficient for 15 the removal of 5 cows will remedy the matter in cases where structural alterations cannot be carried out.

The remarks of the Sanitary Inspector for the Nantwich Rural District are well worthy of notice in connection with the cleanliness of the milk-supply (see District Report).

### **Rivers Pollution.**

At the present time fish as an article of food are important and therefore quite apart from questions of sport or æsthetics their preservation is to be encouraged. But in many instances it is only by the most persistent efforts and threats that many of our beautiful rivers and streams are saved from gross pollution and fish life is saved from destruction. In the case of many streams their character is probably destroyed for ever: in the case of others encroachments are being made on their purity which, if permitted to grow, will in the end convert them into trade sewers. I do not think, except in the very small streams, that the entrance of a small amount of domestic drainage does much harm unless the streams are a source of water-supply. But trade effluents of any description are always potentially dangerous at the least and call for such methods of purification as err well on the safe side so that even if there be a failure or stoppage of a part of the purification plant the rest of it will be equal to preventing pollution of the river or stream concerned.

Complaints have continued to be received of the serious pollutions caused by the Birchenwood Colliery Co., (River Wheelock), Talke-o'-th'-Hill Co., (River Weaver through Valley Brook), Silver Springs Bleach and Dye Works, (Timbersbrook and River Dane), and the Forge Colour Works, (Biddulph Brook and River Dane). These are all serious pollutions and demand continuous supervision. Much



stronger action than has yet been deemed advisable may have to be taken before a satisfactory result is achieved.

### **Water Supply.**

No works of any magnitude have been carried out during the year. A number of minor improvements have been effected and in all cases where there was likely to be any direct or indirect danger to health the promptest and most thorough measures possible were adopted.

MEREDITH YOUNG, M.D., D.P.H.,

*County Medical Officer of Health.*



Administrative County of Chester.

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**SUMMARY**

OF

**REPORTS**

OF

**District Medical Officers of Health,**

FOR THE YEAR

**1917.**



THE JOURNAL OF THE

ROYAL SOCIETY OF MEDICINE

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# SUMMARY

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## FOR THE YEAR 1917.

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### CONGLETON

#### Municipal Borough.

**Births, Deaths, &c.**—212 births were registered during the year and 155 deaths occurred of inhabitants of the Borough during the same period.

The birth-rate and death-rate are calculated on figures supplied by the Registrar-General in April, 1917, the population given for the death-rate being 10,664 and for the birth-rate 11,603. Of the births, 112 were males and 100 females and 13 were illegitimate. The birth-rate was 18.2 compared with 20.6 in 1916. The natural increase of the population was 57, against 60 last year. Of the deaths, 98 were of males and 57 of females, 70 were of persons over 60 years of age and 20 were of children under 1 year. The death-rate was 14.5, compared with 15.3 last year.

**Infant Mortality.**—20 deaths of children took place under 1 year of age, the infantile mortality rate being 94.3 per 1,000 births, compared with 81.1 last year and 106 in 1915.

I must draw your attention to the necessity of maintaining a sufficient and good milk supply in the Borough, if we are to get a satisfactory infantile mortality rate in 1918.

**Infectious Diseases.**—150 cases of infectious disease were notified, chiefly the following :—

Scarlet Fever	...	...	24
Diphtheria	...	...	10
Measles and German Measles	...	...	60



*Congleton Municipal Borough.*

With the exception of measles and German measles, the other cases of infectious diseases were of sporadic type. 14 of the cases of scarlet fever were removed to the Fever Hospital and one case occurred in that institution. About half the cases were notified in July and August. The cases were mild except that of one child who died and were scattered pretty well through the borough. 6 cases of diphtheria were removed to Hospital, several of the cases were of a severe type and 3 deaths were caused by this disease; in two instances 2 cases occurred in one house. 1 case of typhoid fever was removed to Hospital and the other patient was a member of the Hospital staff.

A soldier on leave was suspected of having cerebro-spinal meningitis, removed to Monsall Hospital and died there. The case was notified to me as one of cerebro-spinal meningitis by the Military Authorities after the diagnosis had been confirmed, but the death is not included in our returns of death, as they only deal with the civil population. The other occupants of the house voluntarily submitted to quarantine and specimens from these persons were sent for bacteriological examination with a negative result.

27 Bacteriological examinations were made by Professor Delèpine, with positive results in 3 cases.

All the houses where infectious disease occurred were disinfected except in the case of measles and in the latter disease where requested.

**Common Lodging-houses.**—The Chief Constable also reports that there are 4 registered common lodging-houses in the Borough, with a total accommodation for 84 lodgers nightly. These have been visited daily and found to be properly conducted.

**Slaughter-houses.**—The Veterinary Inspector reports that there are 11 private slaughter-houses, all in constant use, that 12 rounds of inspection were made and generally speaking they were kept in a clean condition, that on 3 occasions he had received requests from butchers to inspect carcasses sent to them from farmers and found them in a saleable condition.

**Closet Accommodation.**—About 50 midden-privies have been converted into pail closets during the year, there still being about 190 of the former in outlying districts.



## CREWE

### Municipal Borough.

**Births, Deaths, &c.**—Population, Total 48,218. Civilian 43,256.

Number of births registered (males 382, females 382), Total 764. Birth-rate 15.8. Of the births 28 were illegitimate as compared with 44 in 1916.

Deaths registered in the Borough 506, deaths of non-residents deducted 14, Total in Borough 492. Transferred deaths 61, Nett total in 1917—553.

**Infantile Mortality.**—The infantile mortality rate in the Borough was 81. The number of still-births was 18 and the percentage to total births was 2.4.

Of the 761 births registered in the Borough 682 were notified, a percentage of 89.6 as compared with 94.4 per cent. in 1916. The great majority of the notifications are made by the midwives.

The Baby Clinic was opened in January, 1915, and the meetings are held weekly on Thursday afternoons. It is not possible, unfortunately, to give the figures for the whole of the year 1917, but during the last four months 59 mothers attended at the Clinic, paying in all 186 visits. Lectures are given to the mothers on clothing, feeding and care of infants, &c.

From the reports made by the Health Visitor the following figures have been taken:—

(a) Method of feeding at 1st visit—

1. Breast fed entirely ...	...	446
2. „ „ partly ...	...	7
3. Artificially fed ...	...	110

(b) Mode of artificial feeding—

1. Hygienic bottle ...	...	107
2. Long tube bottle ...	...	10

(c) Number of infants sleeping alone ... 48

(d) Number of visits paid under the Act  
during the last four months of the year 1367



*Crewe Municipal Borough.*

**Notifiable Diseases.**—The incidence of each disease in 1917 was as follows :—

Scarlet Fever	...	...	74
Diphtheria ..	...	...	166
Erysipelas ...	...	...	9
Ophthalmia Neonatorum	...	...	3
Pulmonary Tuberculosis ...	...	...	33
Other forms of Tuberculosis	...	...	15

**Diphtheria.**—The number of cases notified was 166. The age distribution of the cases and deaths was as under :—

Age.	No. of Cases.	No. of deaths.	Case Mortality.
Under 5 years ...	37	5	13.5
5-15 „ ...	114	4	3.5
15-25 „ ...	11	—	—
25-45 „ ...	3	—	—
45-65 „ ...	1	—	—

The number of swabs examined bacteriologically during 1917 was 1,126.

**Pulmonary Tuberculosis.**—The cases notified numbered 33 and the deaths 36, giving a death-rate per 1,000 of the population of 0.83. 17 of the patients notified in 1917 died in the course of the year.

Bacteriological examinations were made as under :—

	No. of Specimens.	Positive.	Negative.
Crewe Laboratory	74	14	60

Five patients were admitted to the Open-air Shelter at Isolation Hospital during the year, two males and three females.

During the year 548 cardboard sputum boxes were distributed from the department.

From other tubercular diseases the number of deaths was 21, giving a death-rate per 1,000 of 0.48.

*Crewe Municipal Borough.*

**Cancer.**—The number of deaths was 48, giving a death-rate per 1,000 of 1.10.

**Isolation Hospitals.**—The Small-pox Hospital was not occupied during the year, but was ready for any emergency. The caretakers continue to carry out their work satisfactorily.

The cases dealt with in the Isolation Hospital were:—

	In Hospital Dec. 31st, 1916.	Admitted.	D'charged	Died.	In Hospital Dec. 31st, 1917,
Scarlet Fever	11	72	72	—	11
Diphtheria ...	12	163	161	9	5
Pulmonary Tuberculosis ...	—	5	4	1	—
Measles ...	—	1	1	—	—
Ophthalmia ...	—	—	—	—	—
Neonatorium ...	—	1	—	1	—
Observation ...	—	6	4	2	—
Total ...	23	248	242	13	16

The percentage of scarlet fever cases removed to the Hospital was 95.9, as compared with 81.5 per cent. in 1916.

**The Average Length of Stay in Hospital** was as under:—

Scarlet Fever patients (no deaths) ...	... 42.3 days.
Diphtheria patients, excluding cases which died...	32.6 „
Diphtheria patients, including cases which died...	31.1 „
Pulmonary Tuberculosis patients ...	... 41.8 „

**Sanitary Arrangements.**—The following table gives the approximate number of the several forms of closet accommodation in the town at the end of the year 1917:—

Water-closets	... 7,592
Waste Water-closets	... 1,002
Pail Closets	.. 2,847
Covered Privy Middens	... 184
Total	... 11,625

15 midden privies were converted into privy pails and four middens into water-closets.



*Crewe Municipal Borough.*

**Dairies and Milkshops.**—There are 51 premises on the Register where the retail trade is carried on in milk. This is a decrease of 16 from 1916. Many of these shops are quite unsuited for the sale of milk, as they lack proper storing room. They are usually small premises where greengrocery, etc., is sold and the milk is, in most cases, kept in an earthenware or tin vessel on the counter or adjoining shelf.

The combination of milk selling with other business in a small shop is not desirable in the health interests of the public.

**Tuberculosis Order of 1914.**—The continued suspension of the Tuberculosis Order, 1914, is resulting in the appearance of tubercular animals in the markets in considerable numbers, especially as in common with other things phenomenal prices are realised. It is to be feared many of the animals are ultimately used for food which is not conducive to the best interests of public health. Cattle which undoubtedly should go straight to a knacker's yard are frequently exposed for sale at the Cattle Market.

**Housing.**—There is a distinct shortage of houses in the Borough and consequently cases of two families living in the same house are often met with. It is impossible to deal effectively with overcrowding, under present conditions, as it is futile to suggest that a larger or another house should be obtained.

For the purpose of Section 17 of the Act of 1909, three houses were inspected during the year and representations made. Closing Orders were made for two and the other was made fit for human habitation. The Closing Orders were determined subsequently. In addition to the above 164 other houses were inspected during the year and 74 re-inspections were made. Informal notices were served in 37 instances. Of these, 34 notices were complied with and three were remaining in hand at the end of the year.

There are 59 back-to-back houses in the Borough. Most of them have ample ground space around them and are in blocks of four.

There are no cellar dwellings in the town.



## DUKINFIELD

### Municipal Borough.

**Infectious Diseases.**—Measles has been present in an epidemic form again in the district from March to August and 357 cases were notified with only eight deaths.

There is no doubt that parents have been educated to look upon measles as a serious disease and exercise greater care in the nursing and hygienic treatment of these cases than was formerly their custom. We are much indebted to the County Council for the valuable assistance rendered to us during these epidemics, by giving us the assistance of a County Nurse.

It is gratifying to know that there were only 18 cases of scarlet fever notified during the year and for the third year in succession there were no deaths from this disease.

We have arrangements with the Hyde Hospital Authorities for four beds, two for small-pox and two for other infectious cases, but we have never had any difficulty in arranging for more cases to be admitted. Two cases of typhoid fever and two of diphtheria were sent to Hospital during the year.

We use the disinfecting apparatus at the Hyde Hospital to disinfect bedding, clothing, &c., and the disinfecting baths there when required.

Many cases of tuberculosis have attended the Centre at Hyde, where they have been given cod liver oil and other suitable remedies and when advisable, arrangements have been made for Sanatorial treatment.

During the year 456 cases of infectious diseases have been notified, including tuberculosis and measles.

**Births, &c.**—The birth of every child is notified under the Notification of Births Act and each mother is visited by the nurse, whose services are highly appreciated. Our infantile mortality for the year, though not so low as last year, is still a low one, 123 per thousand births and I have no doubt that this valuable acquisition to the Sanitary Department has helped to bring about this satisfactory result.



*Dukinfield Municipal Borough.*

Thanks to the pressure brought to bear by the Mayor, Mr. County Councillor Cooke, on the County Council, arrangements are being made to establish in Dukinfield a Child Welfare and Maternity Centre. The medical men in the Borough have expressed their willingness to co-operate in this excellent work, which I trust will bear as good fruit in Dukinfield as reports from other centres would lead us to expect.

**Infantile Mortality.**—There were 45 deaths of children under one year, the average for the previous five years being 64. The mortality per thousand births registered was 123, compared with 105 in 1916, 132 in 1915 and 149 in 1914. The average for the previous five years was 134.

Since 1901, when the infantile mortality in Dukinfield reached its high-water mark of 275, there has been a considerable decline. This year we are well below the average for the previous 10 years. The average for the years 1897 to 1901 (inclusive) was 239.

This question has always been well thought out by your Committee. Special treatment in the way of feeding young children by means of sterilized modified milk has in past years been adopted in order to reduce the mortality. For each monthly meeting a special report is prepared as the result of enquiries relative to the death of infants under twelve months. It is difficult to explain the high infantile mortality in these manufacturing districts and as yet I know of no definite cause as the result of these statistics.

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## STALYBRIDGE

### Municipal Borough.

**Infantile Mortality.**—The deaths of infants under one year of age were 47, as against an average of 99 for the previous ten years, but computed upon the number of births registered the infantile mortality was 128.5 against an average of 166.5 for the previous ten years.

Thirteen still-births were notified during the year.



*Stalybridge Municipal Borough.*

It is evident from even a casual glance at the foregoing figures that influences other than those dependent upon insanitary conditions have had the chief part to play in the loss of infant life at such an early stage, amongst which influences probably the most potent have been ignorance, personal and social habits, ill-health of parents and, possibly, poverty.

The recognition of these influences upon infantile mortality, which are only very partially remedied and alleviated by improved sanitary conditions, has led to the establishment of Maternity and Infant Welfare Centres and it will be readily conceded that a great and important work awaits them. Such a Centre has been inaugurated by the County Council and was, about the middle of September last, opened in our Borough for the needs of Stalybridge and Dukinfield. It has only been working for a few months; it is doing a good work and there is every reason to believe that it will prove a blessing to all who go there for assistance and advice.

Intimately associated with the birth-rate and with infantile mortality is the matter of the prevalence and prevention of venereal diseases, which has of late been brought so prominently to the public notice, for these diseases are mainly responsible for sterility, for miscarriages, for immature births, for infant blindness and for puny, delicate, prematurely-aged infants who rarely survive their first year of life.

It is with a view to counteract this terrible evil, which will most probably, as an after-effect of the war, become accentuated in the future, that the Local Government Board are desirous that the Council of every County and of every County Borough in England and Wales shall both provide laboratory facilities for diagnosis and establish clinics for the free treatment of such diseases.

Moreover, the prevailing opinion is that the dire consequences of these diseases ought to be impressed upon the public mind and that a grave responsibility rests upon ministers of religion, upon head teachers and upon parents to enlighten the public generally, as well as boys and girls, who have come to years of discretion, as to the terrible and far-reaching consequences of illicit and impure sexual intercourse.



*Stalybridge Municipal Borough.*

It appears to me that the Maternity Centres may also do their share in their Anti-Natal Section by timely advice and early reference to an appropriate place of treatment.

**Infectious Diseases.**—Apart from an epidemic of measles, the Borough has been exceptionally free from infectious diseases of a serious nature.

About the middle of February, 1917, one case of German measles and one case of measles were notified and from that time cases became more numerous each month, until they reached the high figure of 93 during July. During August and September they declined, only to rise again during October and November, after which month they rapidly subsided, the epidemic being practically over at the close of the year.

In all, 478 cases were notified and besides these a few were discovered by the Lady Health Visitor whilst visiting and making inquiries *re* notified cases, so that some 500 distinct centres of infection became known. In many instances there were two or even three children of the family attacked, so that we may compute the total number of cases occurring throughout the Borough as, approximately, 1,000.

The disease was of a mild character and only 10 deaths ensued—four under one year of age, four between one and two years of age and two between two and five years of age. Handbills were early distributed throughout the Borough and leaflets of advice were left at the affected homes and yet the disease spread, partly because of its highly infectious nature even before the rash appears and largely because it is difficult to get the general public to regard measles as a really serious disease, although it is one of the most fatal of children's ailments.

**Tuberculosis.**—During the year 48 persons have been notified as suffering from pulmonary tuberculosis, of whom 32 were males and 16 females; while 4 males and 3 females have been notified as suffering from other forms of tuberculosis.

Upon receipt of the notification of a patient resident at the time in the Borough, the patient is visited and enquiries are made as to the patient's habits and occupation.



*Stalybridge Municipal Borough.*

the sanitary condition of the premises, the number of inmates and the possibility or impossibility of the patient's isolation in separate bed and bedroom. A leaflet of instructions is left for the observance of the patient and the others in the home and periodical disinfection of the premises by the Sanitary Authority is also advised.

The deaths from pulmonary tuberculosis during the year numbered 39. From other forms of tuberculosis there were 14 deaths.

Each week the Sanitary Inspector is furnished by me with a return of any deaths registered as due to pulmonary tuberculosis, so that he may visit and ask permission to disinfect the bedding and premises used by the sufferer and as a rule the friends are most willing to allow these precautions to be taken.

**Cancer.**—There were 21 deaths from cancer (including "malignant disease"), the numbers for previous years being:—

1916	1915	1914	1913	1912
—	—	—	—	—
26	42	31	36	26

Premises where deaths from "malignant disease" have occurred are disinfected.

**ALSAGER****Urban District.****Population, Births and Deaths.**

Houses occupied	...	...	657
„ empty	..	...	13
New houses	...	...	nil.
Civil population	...	...	2716
Registered deaths	...	...	36
Death-rate ...	...	13.25	per 1000

**Infectious Diseases.**—Scarlet fever, one case; measles, four cases; German measles, twelve cases.



*Alsager Urban District.*

**Tuberculosis.**—Pulmonary, nine cases ; Peritoneal, one case ; Ankle, one case ; Total, eleven cases.

Two of these Pulmonary cases were reported from Cranham Lodge Sanatorium, near Stroud, Glos., where they are being treated.

**Scavenging.**—The ordinary work is carried out as previously reported, but the Council is taking steps to replace the existing boxes which are in use for the weekly collection of ashes by sanitary metal dustbins. Since the commencement of November 132 notices have been served and 116 dustbins have been provided. The work is still proceeding.

Approximate number of the following in the District.			How frequently scavenged.
Midden privies	...	310 (about).	Fortnightly or as required.
Dry ashpits	...	30 „	As required.
Pail closets	...	2 „	Weekly.
Dustbins	...	630 „	Do.
Cesspools	...	30 „	As required.
Fresh water W.C's.	...	335 „	
Waste water and hand-flushed W.C's.			30.

This work has been done satisfactorily.

**Slaughter-houses.**—Practically only two of the three slaughter-houses do any slaughtering. They have been frequently visited and the manure and offal regularly removed. There is a great improvement in these premises.

**Isolation Hospital.**—I am glad to be able to report that only one case of infectious disease (scarlet fever) has been sent to this Hospital, where it received the usual skilful and kind treatment.

**Schools.**—The County School Inspectors visit these periodically. They are kept in a sanitary condition and the playgrounds are good.

**Housing and Town Planning Act.**

New houses built	...	...	nil.
Houses inspected	...	...	69
Defects remedied without closing	...	...	37

*Alsager Urban District.*

The defects remedied include notices given verbally. The 69 houses inspected this year were found to be in order with the exception of 6 and the notices to remedy the defects will be served early in 1918 and will be included in the returns for that year.

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**ALTRINCHAM****Urban District.**

**Births, Deaths, &c.**—The births registered during the past year were 294—males, 149; females, 145; legitimate, 284; illegitimate, 10. This number is equal to a rate of 14.5 per 1,000, as against 17.6 last year.

The deaths registered during the year were, nett, 222—males, 104; females, 118. Infants under one year, 33.

The number is equal to a rate of 12.6 per 1,000 and being calculated on different figures does not compare with previous rates. On the similar figures of last year, the rate was 16.1.

**Infant Mortality.**—The deaths under one year of age were 33. Of this total 6 deaths were certified as due to premature birth.

The total is equivalent to an infantile death-rate of 89 per 1,000 children born, as compared with 77 for last year and an average of 104 for the past five years.

**Infectious Diseases.**—Notifications of infectious diseases from medical men were—Scarlet fever, 6; diphtheria, 11; erysipelas, 9; enteric, 1; ophthalmia, 2; measles, 144.

Notifications received from schools of cases of infectious diseases were—Measles, 56; chicken-pox, 10; mumps, 33; whooping-cough, 86; ringworm, 9; eczema, 1; various, 6.

All cases of scarlet fever, diphtheria and enteric were removed to the Isolation Hospital.



*Altrincham Urban District.*

Arrangements exist between the Council and the Victoria University, Manchester, for all bacteriological examinations and Antitoxin Serum is supplied for any cases in the district.

**Isolation Hospital.**—The Sinderland Isolation Hospital, in Dunham Massey, was erected by the Council and opened in January, 1911, and provides for scarlet fever, 20 beds; diphtheria, 5 beds; typhoid fever, 5 beds. There are also two observation wards and all the necessary buildings and plant for the disinfection or destruction of infected articles. A separate arrangement for small-pox cases has been made with the Manchester City Council for the reception of cases from this district.

Admitted to Hospital from January 1st to December 31st, 1917 (inclusive of both dates), 31 cases, classed as follows:—Scarlet fever, 13; diphtheria, 18. Also from Bowdon 4 cases. Average length of stay—46 days. Remaining in Hospital, December 31st—one. An arrangement exists to receive cases from Bowdon Urban District on a retaining fee.

**Tuberculosis.**—Notifications of cases of tuberculosis were:—

Form A, 44 (Pulmonary 35, other forms, 9),

Form B, 4, Form C, 16, Form D, 9.

The action taken in the cases of tuberculosis includes the disinfection of houses and effects by the Council, cards of advice provided for households invaded by the disease and attention is directed to the surrounding influences.

**Sewage, &c.**—The treatment of the sewage of the district is carried out at the Council's Farm at Dunham Massey, by sedimentation tanks and land filtration.

The work of separating the surface water from sewage on the east side of the district, with the object of relieving the sewers during storm times, is completed.

As regards the sufficiency of the arrangements at the Sewage Disposal Works, an expert engineer is at present engaged upon a scheme and additions and improvements are contemplated. Application has been made to the Local Government Board for a loan and an enquiry is pending.



*Altrincham Urban District.*

**Sanitary Accommodation.**—A statement as to the privy and water-closet accommodation is given below:—

No. of Common privies	...	1656
„ Moveable receptacles	...	18
„ Fresh water-closets	...	2263
„ Waste water-closets	...	208
		<hr/>
		4145
		<hr/>

In connection with this matter, the Council has decided to attack the conversion of privies on a large scale and application will be made to the Local Government Board for sanction to borrow the sum necessary to convert 1,000 as the first instalment towards the complete abolition of privies in the town, as soon as economic conditions permit.

**Housing.**—The inspection of the district, under the (Inspection of District) Regulations, 1910, has been carried out under my direction by the Inspector of Nuisances.

The total number of dwelling-houses inspected to date, under Section 15 of the Act, is 2,140.

During the year, 61 houses have been inspected and defects reported at 33 houses. At 30 houses the defects have been remedied.

The general character of the defects observed consists of—damaged flooring, defective yard paving, broken plaster on walls, no through ventilation and minor structural defects, as well as the necessity for a large amount of internal decoration of walls and ceilings.

Throughout the year, the question of extending the provision of small houses for the working classes has engaged the serious attention of the Council and the difficulty so far has been the provision of a suitable site for the erection of workmen's cottages. Owing to the restrictions of the Treasury with regard to loans, any extension of their housing scheme is in abeyance, but negotiation is going on about a new site in Oldfield Road.

The Council have erected dwelling-houses under the Housing Acts and there are at present in occupation 25



*Altrincham Urban District.*

five-roomed cottages, which let at a rental of 6/6 per week; 11 four-roomed cottages at 5/6 per week; 22 four-roomed cottages at 4/9 per week; 24 two-roomed cottage flats at 3/6 per week and 4 two-roomed cottage flats at 3/- per week.

The planning of the cottages has had special consideration and allowance has been made for abundant open space and ventilation.

The site of the old Infectious Diseases Hospital in Lloyd Street (one acre) has been acquired by the Council and the best method of dealing with it was under consideration at my last report. In such a congested area, I felt very strongly that the whole site should be kept open and I am glad to report that the Council decided upon this course and it is now in use as an open space.

**Notification of Births Act, 1907.**—Under this Act the Council appointed Nurse Bardsley as Visitor and, the notice necessary having been given to practitioners, nurses and parents in the district, she began her duties on May 1st, 1915, and has carried out much very useful work since.

I was fortunately able to back the Council's provision with a pre-existing voluntary scheme for feeding poor mothers, expectant and nursing and to make other arrangements, so that there is now working a fairly complete method of dealing with this matter. For the present the feeding of mothers is discontinued.

The Maternity Centre is now carried on at the Technical School (September 6th, 1916).

Every Wednesday the Medical Officer of Health and the Nurse attend and the babies are weighed, a record of their progress kept and advice, etc., given. Sugar at cost price is sold to mothers of artificially fed infants and a grant of £10 yearly is given by the Council for milk, etc., for necessitous infants. Of this amount, £6 8s. 4d. has been expended on Virol, &c.

Special milk food is procured by the Council at special rates and sold to mothers at cost price. Virol at cost price is also supplied.



*Altrincham Urban District.*

I have been able to arrange with the Board of the Hospital that all children needing operation, etc., can be sent there for treatment. Also, the Board has extended its scope of operation so as to include the admission of mothers in labour, where such labour is dangerous or requiring operative treatment.

The Health Visitor has made 7,718 visits to infants at home, including 262 first visits to babies; 902 children have been weighed, etc. (as against 374 last year), at the School of Mothers.

Special advice has been given in 42 cases, operations on infants performed in 15 cases; mothers removed to hospital for labour, 3.

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## ASHTON-UPON-MERSEY

### Urban District.

**Births, Deaths, &c.**—The total number of deaths registered in the district was 63, those belonging to the district but dying out of it, 10, making 73 in all and giving a death-rate of 9.4 per 1,000. Of the deaths no fewer than 26 were of persons over the age of 65.

Eleven deaths occurred of children under one year and the rate equals 89.4 per 1,000 births.

No deaths occurred from zymotic diseases. The number of births registered was 123, giving a birth-rate of 16.

**Infectious Diseases.**—The health of the district during the year has been good and the following list shews the various cases of infectious diseases reported:—Diphtheria, 3; scarlet fever, 9; measles, 18; German measles, 11; whooping-cough, 17; erysipelas, 2; chicken-pox, 31; tuberculosis, 8.

**Inspections, &c.**—The work of the sanitary department has been effectively carried out and 70 inspections have been made and the following matters have been attended to:—

Repairs to ashpits	...	...	2
Stopped up drains attended to	...	...	10



*Ashton-upon-Mersey Urban District.*

**Closet Accommodation.**—The total number of privy middens in the district is 146. Several of the above are only used as dry pits. The conversion of these privies will be attended to when the war is over. The dry ashpits number 380 and the ashbins 995.

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## HIGHER BEBINGTON

### Urban District.

The following statement substitutes the Annual Report, in accordance with instructions received from the Local Government Board:—

32 births were registered (including two illegitimate births: 10 males, 22 females, giving a birth-rate of 17.45 per 1,000 of the population.

The deaths numbered 29: 14 males, 15 females, giving a death-rate of 17.63 per 1,000 civilian population.

Deaths of infants under one year numbered 5, equalling an infantile mortality rate of 156.25 per 1,000 births.

All rates are based on figures supplied by the Registrar-General. Deaths concern the civilian population only.

57 cases of infectious diseases were notified, including 50 cases of measles, 5 scarlet fever, 1 diphtheria and 1 tuberculosis. Death occurred in one case of measles and one case of diphtheria. No fatal case of scarlet fever occurred.

The Sanitary Inspector's tabulated statement shows that the district has received systematic inspection.

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## LOWER BEBINGTON

### Urban District.

The following statement substitutes the Annual Report, in accordance with instructions received from the Local Government Board.

*Lower Bebington Urban District.*

273 births were registered (including 9 illegitimate births)—137 males, 136 females, giving a birth-rate of 18.66 per 1,000 of the population.

The deaths numbered 147—75 males, 72 females, giving a death-rate of 11.20 per 1,000 civilian population.

Deaths of infants under one year of age numbered 26, equalling an infantile mortality rate of 95.23 per 1,000 births.

Fourteen of the above infants died under the age of four weeks, the cause of death in eleven instances being prematurity and debility from birth respectively.

All rates are based on figures supplied by the Registrar-General. The deaths concern the civilian population only.

353 cases of infectious diseases were notified, including 268 cases of measles, of the remaining 85—14 were diphtheria, 29 scarlet fever, 1 enteric fever, 1 cerebro spinal meningitis, 2 ophthalmia neonatorum, 8 erysipelas and 30 tuberculosis (all forms).

Five measles cases proved fatal; also 2 diphtheria and four cases of whooping-cough. There were no deaths from scarlet fever.

Investigations failed to trace the source of infection in the case of cerebro spinal meningitis, which terminated fatally.

The Sanitary Inspector's tabulated statement shows that the district has received systematic inspection.

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**BOLLINGTON****Urban District.**

The estimated total population is 5,018, which is the figure on which the birth-rate is calculated.

The estimated civil population is 4,502 and is the figure on which the death-rate is based.



*Bollington Urban District.*

There were registered during the year 60 deaths, 53 of which occurred within the district and the remaining 7 in institutions outside.

The number of births registered was 49, of these 26 were males and 23 females. There were two illegitimate births. The birth-rate for the year is one of 9.4 of the estimated total population. Nine children died under the age of 12 months.

The death-rate for the year is thus one of 13.3 per 1,000 of the estimated civil population.

**Infant Mortality.**—The infantile mortality rate is one of 183.8 per 1,000 births. This high infant mortality rate is due to some extent to the fact that the number of infant deaths includes those of triplets who were born prematurely. In such cases of multiple births coming before full term the expectation of life is very small indeed. One other death was that of a twin and although these infants frequently not only live but thrive, still the probability of their both doing so is not so hopeful as it is in single births. There were no deaths from diarrhoea.

Nurse Ashton has continued to act as Health Visitor under the Infant Welfare Scheme. She paid 47 first visits to infants and with 360 other visits made a total of 407 visits. Nurse and her Committee, the Bollington Nursing Association, have been most interested in this part of her work and Nurse has been most tactful in her dealings with and most helpful to the mothers. She has at all times been welcomed by them. They have been most ready to receive her and to listen to her advice. Your Health Committee and Medical Officer learnt with regret that the District Nursing Association had decided that it was impossible for Nurse to undertake the extra work required in visiting the infants in the immediate districts, as required under the County Scheme, which is shortly to come into force.

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## BOWDON

### Urban District.

During the year 1917 there were 23 births, being 7.3 per 1,000 inhabitants, a very low rate indeed.



*Bowdon Urban District.*

The number of deaths during the same period curiously were the same as the births—23, being 7.3 per 1,000 inhabitants. Four of these deaths were in infants under 12 months of age and ten of people over 65 years of age.

Six died from bronchitis and only three from cancer.

We have had epidemics of German measles, of which there were 16 cases reported, of measles there being 7 cases reported, 5 of scarlet fever, 2 of tuberculosis and one of diphtheria. The district has been more free than usual from influenza, there being no deaths recorded.

**BREDBURY AND ROMILEY****Urban District.**

**Population, &c.**—I have made a careful estimate of the population from the most recent figures obtainable and believe that the average of 4.1 per house, less the number of men who have gone to the war, will be a reliable guide to base calculations upon.

The number of occupied houses on June 30th, 1917, was 2,326, i.e., 1,509 in Bredbury and 817 in Romiley registration area.

The population, therefore, works out at 8,735, i.e., 5,686 in Bredbury and 3,049 in Romiley.

**Births.**—The nett number of births registered in 1917 was:—Bredbury, 82; Romiley, 50; total, 132. Of these 4 were illegitimate.

**Deaths.**—The following Table is a copy of the L. G. B. Table III., and shows the causes of deaths certified of persons belonging to this district;—

Under 1 year, 6; over 1 year, 99.

Totals—Males, 54; Females, 51.

**Infectious Diseases.**—The district has been free during 1917 of any epidemic and comparatively few infectious diseases have been met with; the increasing use of better



*Bredbury and Romiley Urban District.*

isolation of patients at home and exclusion from school of infected children and those in contact with them has been instrumental in preventing any widespread epidemic.

Diphtheria.—19 cases, of which 7 were sent to the Hospital, were notified during the year, most of them during the very severe spring weather when a great many w.c. flushing pipes were frozen up and out of use for long periods owing to the shortage of plumbers in the district.

Scarlet Fever.—12 cases were notified, of which 2 were sent to the Hospital.

Bacteriological examinations have been made by Prof. Delépine of 5 specimens, viz.:—

Typhoid, 2—negative—relating to the same case.

Tuberculosis, 1—positive.

Diphtheria, 2—positive.

Anti-Diphtheria Serum was supplied to all the notified cases with satisfactory results, especially where injected at an early stage; after many years' experience I am satisfied of the great advantage of this remedy in the treatment of diphtheria.

**Infant Mortality** has again decreased this year, the number of deaths under one year of age having been 6; this is equal to a mortality of 45 per 1,000 registered births and is the lowest I have recorded.

**The Midwives' Act and the Notification of Births Act (1915)** are administered by the County M.O.H., and a nurse visits all cases in this district and gives advice *re* feeding and care of infants; I am pleased to report that her visits are becoming increasingly welcome and many young mothers appreciate her efforts to help them; she also calls on the notified cases of tuberculosis.

**Milk Supply.**—The dairies and cowsheds have been periodically inspected and instructions given to remedy any defects or neglect in limewashing, &c.

At the beginning of October difficulties arose about the price of milk delivered by the farmers and the Council took

*Bredbury and Romiley Urban District.*

over the work of delivery at a uniform price, the farmers being instructed to send their milk to the Council's depôts, which were established in convenient parts of each of the villages.

**BROMBOROUGH****Urban District.**

**Births, Deaths, &c.**—Forty births were registered (there were no illegitimate births), including 19 males, 21 females, equalling a birth-rate of 16.70 per 1,000 population.

The deaths numbered 14: 12 males, 2 females, giving a death-rate of 6.51 per 1,000 of the civilian population.

Death of infants under one year of age numbered 6, giving an infantile mortality rate of 150.0 per 1,000 births.

All rates are based on figures supplied by the Registrar-General. The deaths concern the civilian population only.

**Infectious Diseases.**—Ten cases of scarlet fever, one diphtheria and 16 cases of measles were notified during the year. Death resulted in one case of measles.

Three cases of tuberculosis were notified, one of the lungs and two of "other forms."

**BUGLAWTON****Urban District.**

**Births, Deaths, &c.**—The birth-rate and death-rate are calculated on figures supplied by the Registrar-General in April, 1917, the population given for the death-rate being 1,407 and for the birth-rate 1,531.

29 births were registered during 1917 and 17 deaths occurred of inhabitants of Buglawton during the same period.

Of the births, 12 were males and 17 females. There was 1 illegitimate birth and the birth-rate was 18.2, compared with 18.05 in 1916.



*Buglawton Urban District.*

Of the deaths, 7 were males and 10 females and the death-rate was 12, compared with 11.1 last year. Six of the deaths were of persons over 60 years of age.

There were 2 deaths of children under 1 year of age, one death being due to premature birth and the other to tuberculous meningitis and the infantile mortality rate was 71.4 per 1,000 births, compared with 76.9 last year.

**Infectious Diseases.**—23 cases of infectious disease were notified during 1917:—Diphtheria, 3; scarlet fever, 1; erysipelas, 1; measles and German measles, 15; pulmonary tuberculosis, 1; other forms of tuberculosis, 2.

There were no deaths from zymotic diseases.

There was 1 death from pulmonary tuberculosis and 1 from tuberculous meningitis.

All the cases of measles and German measles were of a mild type and occurred during the first four months of the year; a number of cases of mumps occurred during the same period. In the second and third quarters of the year some mild cases of whooping-cough and chicken-pox occurred. Buglawton School was closed from 8th March to 6th April on account of measles and mumps.

Two cases of diphtheria occurred in one house, where sanitary defects were found and were removed to the Fever Hospital; the other case notified was a boy belonging to Manchester and visiting relatives in Buglawton and it seemed clear that the disease was contracted before his arrival in Buglawton.

Three bacteriological examinations were made by Professor Delèpine, with negative results in each case.

All the houses where infectious disease occurred were disinfected, except in the case of measles and German measles.

**Sewage Disposal.**—The sewage from the village is treated at the Congleton Sewage Works, the final effluent from which was satisfactory. The outlying parts of the district are without sewers. A stream is polluted by effluent from the Silversprings Dye and Bleach Works, which, however, is



*Buglawton Urban District.*

treated before being discharged into the stream. Last summer a stream was very badly polluted for several days, a large number of fish being killed, the analysts reporting that they were poisoned by nitre cake.

**Housing.**—41 dwelling-houses were inspected under the Housing and Town Planning Act of 1909.

**Refuse Disposal.**—There are 108 midden-privies, being 7 less than the previous year, which are emptied when required on notice being given; and there are 121 pail-closets, which are emptied weekly.

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**CHEADLE AND GATLEY**  
**Urban District.**

**Statistics.**—The population of the district, Census 1911, was 9,914. The estimated population for the year 1917, including institutions, is 11,880; excluding institutions, 10,918.

The total number of deaths registered in the district during the year was 147, which included 61 at the various institutions in the district. Notice of 12 transferable deaths was received during the year, making a nett total of 98 deaths for the year for the district proper.

The number of births registered in the district during the year was—Males, 68; females, 76; total, 144. No notice of any transferable births was received. There were 11 deaths registered of infants under one year of age.

The death-rate for the year is 9.08.

The birth-rate for the year per 1,000 living per annum is 13.18. The infant mortality for the year per 1,000 births registered, 76.38.

**Infectious Diseases.**—During the year 172 cases of infectious disease were notified, including 1 from Barnes Convalescent Hospital. In the district proper there were notified 19 cases of scarlet fever, 6 diphtheria, 4 erysipelas, 1 poliomyelitis, 1 ophthalmia neonatorum, 16 pulmonary



*Cheadle and Gatley Urban District.*

tuberculosis, 4 other tubercular diseases, 115 measles and German measles.

Of the 19 cases of scarlet fever notified the majority occurred in Cheadle Hulme. Three cases occurred among some children attending the same school; all possible precautions were taken to prevent the disease from spreading. Three cases also occurred in one family; the first case was removed to Monsall Fever Hospital and when the child returned another inmate of the house contracted the disease and later a third member of the family contracted the disease. The other 12 cases were mostly isolated cases and called for no special comment. There were no fatal cases.

**Acute Anterior Poliomyelitis.**—One case was notified. On making enquiries about the case I was informed that no cause could be given for the attack. The patient has made very good recovery and is still under treatment.

**Pulmonary Tuberculosis.**—Twenty cases were notified, 4 cases being notified twice over. Two cases had been discharged from the Army and several notifications were received from the Recruiting Authorities. All cases have been visited and enquired into and instructions given where necessary.

**Refuse Removal.**—During the year your Council gave up doing this work and it is now done by contract. So far the arrangement works well.

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**ELLESMERE PORT AND WHITBY  
Urban District.**

The following statement substitutes the Annual Report, in accordance with instructions received from the Local Government Board.

297 births were registered (including 10 illegitimate births), 149 males, 148 females, giving a birth-rate of 24.27 per 1,000 of the population.

The deaths numbered 122, 64 males, 58 females, giving a death-rate of 11.11 per 1,000 civilian population.

*Ellesmere Port and Whitby Urban District.*

Deaths of infants under one year of age numbered 25, equalling an infantile mortality rate of 84.17 per 1,000 births.

All rates are based on figures supplied by the Registrar-General.

The deaths concern the civilian population only.

552 cases of infectious diseases were notified, of these 481 were measles and of the remaining 71 cases 15 were scarlet fever, 10 diphtheria, 2 ophthalmia neonatorum, 12 erysipelas and 32 tuberculosis (all forms).

Measles was the cause of death in thirteen cases, whooping-cough in two, but there was no case of death from either scarlet fever or diphtheria.

The Sanitary Inspector's tabulated statement shows that the district has received systematic inspection.

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## HALE

### Urban District.

**Population, &c.**—During the year four new houses were erected and at the middle of July the number of inhabited houses was 2,254.

The population is based upon the returns which have been supplied by the Local Food Office, the figures being ascertained from the applications for sugar tickets, together with those resident in institutions, the total population being 8,910. On these figures all the vital statistics of this report are framed. The figures are 35 in excess of those given for the previous year.

There are again a number of instances in which, owing to one or more members of the family being away, two or more families are sharing the same house, but so far as I can ascertain there has been only one instance of overcrowding due to this fact.



*Hale Urban District.*

Consequent upon the reduction of the population owing to fit men being in the Army, the rates for death, &c., appear higher than is actually the case, as it is only reasonable to suppose that there would have been no deaths or infectious diseases amongst these men.

**Births.**—The number of births in the district during the year 1917 was 107—boys, 52; girls, 55. Of these 4 were illegitimate. The birth-rate per 1,000 of the population was 12.0 and is the lowest rate ever recorded in the district and follows on a rate of 13.3 for 1915 and 14.5 for 1916.

**Notification of Births Act, 1907.**—The number of births notified during the year 1917 was 101, of which 37 were referred to the Health Visitor and one of which was a “still-birth.”

**Infantile Mortality.**—During the year seven deaths occurred of children under one year of age. The rate for the year is 65.4 per 1,000 births. The rate for the year 1916 was 31.0.

**Deaths.**—The number of deaths registered in the district was 78, giving a net death-rate of 8.754.

The main causes of death were as follows:—Pneumonia, 10; cancer, 9; phthisis, 7; and senile decay, 7.

**Deaths from Tuberculous Diseases.**—Ten deaths from tuberculous diseases were registered. Seven of those were from phthisis, one was from tuberculous meningitis and two from other tuberculous diseases.

**Infectious Diseases.**—Four cases of phthisis and one of other tuberculous diseases were notified under the Tuberculosis Regulations and 75 cases of measles and German measles were notified under the Measles Order. Under the Notification Act there were notified:—Diphtheria, 4; scarlet fever, 13; erysipelas, 2; typhoid fever, 1.

Bacteriological examinations have been made by the Public Health Laboratory, Manchester, as under:—

	Positive.	Negative.	Total.
Phthisis ...	—	1	1
Diphtheria ...	1	7	8
Typhoid Fever ...	—	—	—



*Hale Urban District.*

**Housing.**—Practically no development has taken place during the year, this of course being entirely due to war conditions. The Housing and Town Planning Act, 1909 (Part 2), has, during the year, been carried out and a report made each month.

The number of inspections made has not been nearly so large as in previous years, the Inspector's time in house-to-house inspection being mostly devoted to prevention of overcrowding and maintenance of cleanliness.

**Sewage Works.**—The result of the year's working continues satisfactory. The samples of effluent taken in all cases satisfied the requirements of the Mersey and Irwell Joint Committee and very few complaints of odorous emanations have been received. The question of removal of the Sewage Farm or of structural alteration is to remain until the termination of the present war.

**Water Supply.**—The water supply to practically the whole of the district is supplied by the North Cheshire Water Company from the Manchester Corporation Reservoirs and is satisfactory. There are only four springs in the district from which drinking water is obtained.

**Milk Supply.**—The milk supply of the district I consider fair, but no complaint can be made as to cleanliness. The samples taken show the quality of the milk to be, in only a few instances, any appreciable percentage above the low standard laid down by the Board of Agriculture and Fisheries, whilst several samples have been just on this standard.

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## HANDFORTH

### Urban District.

The estimated population of the district to the middle of 1917 is 950.

The number of births registered in the district during the year was 14 (boys 5, girls 9). No illegitimate births were registered.



*Handforth Urban District.*

I have received no notices of transferable deaths.

The death-rate for the district is 8.36.

The birth-rate for the district is 14.73.

The death-rate from the principal zymotic diseases, including influenza, is 1.05.

Of the 8 deaths registered in the district 2 were due to pulmonary tuberculosis, 1 to influenza and 1 diseases of pregnancy and parturition. No deaths were registered of children under one year of age.

29 cases of infectious disease were notified during the year, viz., 27 cases of measles, 1 of diphtheria and 1 of pulmonary tuberculosis. One case of scarlet fever was put down in the weekly list of infectious disease issued by the Local Government Board, but this was an error.

A case of measles was notified in July, the patient having contracted the disease outside the district. It was isolated and precautions taken to prevent the disease from spreading. In September 21 cases were notified among the children attending the Day Schools. As the disease was spreading very quickly the County Medical Officer ordered the schools to be closed from September 15th to October 5th. When the schools were reopened on October 5th the attendance was still much below the average, so they were ordered to be closed for another week and when they reopened the attendance was much better and continued to improve; by the end of the month of October the outbreak was practically over.

One case of pulmonary tuberculosis was notified, which proved fatal. The patient had come into the district in an advanced stage of the disease.

I would suggest to your Council that some arrangements should be made whereby bedding and articles of clothing could be disinfected by steam after cases of infectious disease.



## HAZEL GROVE AND BRAMHALL Urban District.

**Statistics.**—The estimated population for 1917 is 10,817.

There have been registered 146 births as against 175 in 1916 and 169 in 1915. Four of these were illegitimate; the birth-rate was 13.3.

The number of deaths registered was 106 of residents who have died in the district and 20 of residents who have died outside the district, giving a death-rate of 9.7, which I believe is the lowest we have had for a number of years.

The infantile mortality is very low. The birth of every child is notified under the Notification of Births Act and each mother is visited by a County Health Visitor, whose services are highly appreciated and valuable advice is given by her which has resulted in many more infants being reared, which otherwise, through ignorance or carelessness, would have been lost.

**Housing.**—The housing accommodation is sufficient. The district is free from cellar dwellings and back-to-back houses. No cases of overcrowding have come to my knowledge.

**Infectious Diseases.**—I have received notifications of the following during the year, viz.:—Scarlet fever, seven cases; erysipelas, two cases; enteric fever, one case; measles, 43 including four notified by others than a medical practitioner; tuberculosis, eight cases of pulmonary tuberculosis and four other forms of tuberculosis.

**Hospital Accommodation.**—The Council have an agreement with Hyde Isolation Hospital for two beds and cases which cannot satisfactorily be isolated in their own homes are removed there.

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## HOLLINGWORTH Urban District.

**Statistics.**—The estimated population for the purpose of the death-rate is 2,259 and for the birth-rate 2,518.



*Hollingworth Urban District.*

The total number of deaths belonging to your district was 38—20 males, 18 females—giving a death-rate of 16.8 per 1,000 living.

The total number of births during the year was 27, of which 12 were males and 15 females, which is equal to a birth-rate of 10.7 per 1,000 living. There were no illegitimate births. Two deaths under 1 year were registered.

**Infectious Diseases.**—48 cases of measles were reported and 2 cases of typhoid and 2 erysipelas. During May and June an epidemic of measles broke out in your district, in consequence of which the Council Schools were closed for 1 month. The disease was of a mild type.

Two cases were reported of pulmonary tuberculosis. General rules were laid down. One case was treated at Hyde Dispensary—both are doing well.

**Maternity and Child Welfare.**—A Nurse appointed by Cheshire County Council visits all lying-in women and infants.

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## HOOLE

### Urban District.

**Infectious Diseases.**—Patients removed to Hospital, 17. Rooms fumigated, 20. Informal notices given to owners to disinfect premises, 4. Bedding removed and burnt from 2 houses after deaths from pulmonary tuberculosis.

The Building and Consulting Surveyor of the Council reports that no new houses have been erected; that no further back passages have been made under the Private Street Works Act, though they are needed in many cases; that a new storm overflow to the sewer has been constructed in the stable yard adjoining the railway, by Messrs. Nightingale's Sale Yard and the one in Lightfoot Street by the culvert made larger to abate the nuisances of flooding in the district; and that a large gully and drain has been constructed in Hewitt Street to abate the flooding in this part of the district which has caused a lot of trouble for some time.



*Hoole Urban District.*

Apart from pulmonary and other forms of tuberculosis, there were 144 cases of infectious disease notified during the year against 64 in 1916, the increase in the number of notifications being due to the prevalence of German measles and measles during the six months ending August 31st. Altogether 121 cases were notified, 35 of which were German measles. Thirty of the cases were notified by the parents. Measles was very prevalent in Chester and the surrounding districts, which explains the occurrence of the epidemic in Hoole. The cases were all visited by the Medical Officer of Health and in the case of those notified by the parents the diagnosis was confirmed and advice given as to isolation and general treatment. The Westminster Road Infants' School was closed by the School Medical Officer at my suggestion from July 3rd to the end of the summer vacation. The cases were for the most part of a mild type and no death was recorded. There were 11 cases of diphtheria, 10 of which were removed to the Chester Isolation Hospital, whilst of the 7 cases of scarlet fever notified 6 were removed to Hospital. On the 10th of October a case of acute polyomyelitis was notified, the patient being at once removed to Hospital and a special report furnished to the Local Government Board. There were three cases of erysipelas and one of enteric fever reported during the year.

**Tuberculosis.**—Ten cases of pulmonary tuberculosis were notified during the year, three of which were admitted to Sanatoria. There were nine deaths from pulmonary tuberculosis, one from laryngeal tuberculosis and one from tuberculosis of the bones. My personal experience is that many of the cases do not come under medical observation till the disease is advanced and beyond remedy. In all cases the rooms were thoroughly fumigated and where necessary the bedding and contaminated articles of clothing destroyed.

**Maternity and Child Welfare.**—The district has joined the County Maternity and Child Welfare Scheme under the direction of Dr. Meredith Young. The services of the County Health Visitor continue to be of the greatest possible value to the neighbourhood. During the year 86 cases were attended and 3,654 visits paid.

There were nine deaths registered under 1 year of age, six of which were less than a month old at the time of death. Two (twins) were premature and one had a bifid spine. The death-rate per 1,000 births was 83.3.



*Hoole Urban District.*

**Statistics.**—During the year there were 63 deaths registered as having taken place in the district, which is equivalent to a death-rate of 11.2. Of the 63 deaths recorded, 8 were over 80 years of age and 6 over 70.

The number of births registered during the year was 108, which is equivalent to a birth-rate of 17.7, which is much the lowest yet recorded. Of the 108 births registered 58 were boys and 50 girls.

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**HOYLAKE AND WEST KIRBY**  
**Urban District.**

The following statement substitutes the annual report, in accordance with instructions received from the Local Government Board.

171 births were registered (including 8 illegitimate)—90 males, 81 females, giving a birth-rate of 11.69 per 1,000 of the population.

The deaths numbered 186—90 males, 96 females, equalling a death-rate of 14.17 per 1,000 civilian population. Deaths of infants under one year of age numbered 17, giving an infantile mortality rate of 99.41 per 1,000 births. All rates are based on figures supplied by the Registrar-General. The deaths concern the civilian population only.

The total number of infectious diseases notified was 150— which include 97 measles cases; of the remaining 53, 23 were scarlet fever, 6 diphtheria, 1 poliomyelitis, 1 erysipelas and 22 tuberculosis. Death resulted in 2 cases of diphtheria and 1 measles. There were three fatal cases of whooping-cough.

The Sanitary Inspector's tabulated statement shows that the district has received sysematic inspection.



## KNUTSFORD

### Urban District.

#### Statistics.

Estimated population, 5,814 gross, 4,892 nett.

Birth-rate per 1,000 living, 14.9.

Death-rate per 1,000 living, 12.1.

Deaths under one year in proportion to 1,000 births, 68.

The total number of deaths was 61, of which 5 were children under one year old and 24 were persons of over 65 years.

**Infantile Mortality.**—The infantile mortality figures have been

Average of 5 years	1895—1899	...	153
„	1900—1904	...	120
„	1905—1909	...	88
„	1910—1914	...	87
„	1915	...	64
„	1916	...	45
„	1917	...	68

The figure for 1917 is based upon a total of only 5 infantile deaths, of which 2 were due to diseases present at birth.

**Maternity and Child Welfare.**—The District Nurse, by arrangement with the Knutsford Nursing Association, has continued to inspect babies during the first year of life. Her work is valuable and fairly large in amount; each baby is, on an average, visited twice monthly.

A "Babies' Welcome" has been continued during the year, under the auspices of the Nursing Association.

The Local Government Board have recently urged Local Authorities to provide Maternity and Child Welfare Schemes, or to join County, etc., Schemes.

It having been considered undesirable, on various grounds, to become involved in the County Council's Scheme,



*Knutsford Urban District.*

the Urban Council intimated that it proposed to make its own arrangements for carrying on this work and an outline scheme was submitted for approval to the Local Government Board in July.

**Infectious Diseases.**—An epidemic of scarlet fever commenced at the end of August and assumed proportions comparable to those which occurred in 1907 and 1910, a total of 39 cases being notified up to the end of the year. The cause of the epidemic was definitely traced to certain mild cases which occurred during the summer holidays, in which the parents did not recognise the nature of the illness and did not call in medical advice. Fortunately the later cases have also not been of a severe type generally and the patients have done well.

Thirty-two cases of measles were reported, but owing to many factors I do not propose to enlarge upon now; this is not necessarily equal to saying that only thirty-two cases occurred. Still there was no extensive epidemic and no deaths were attributable to this disease.

A supply of diphtheria antitoxin, for use by medical practitioners, is now kept in readiness and can be obtained on application either at the Council Offices, during office hours, or at the residence of Mr. Marshall, the inspector, at other times.

The bacteriological examinations have continued to be most efficiently performed at the Public Health Laboratory, Manchester, under the direction of Professor Delépine.

**Tuberculosis.**—Cases as notified are visited by me, and such measures as are desirable and feasible are taken. Great difficulty is experienced in dealing really effectively, especially with the pulmonary cases, due firstly to the often protracted nature of the illness and secondly to the fact that some, if not most, of the organisations concerned have not definitely decided as to whether they will concentrate their attention and funds upon providing curative treatment for early or possibly curable cases, or upon providing hospital, *i.e.*, really *isolation* hospital, accommodation for advanced cases.



## LYMM

## Urban District.

**Statistics.**—The estimated population of Lymm in 1916 was :—Total, 5139 ; \*Civilian, 4723.

The number of births registered during 1917 was 89, giving a birth-rate of 17.3 per 1,000.

The number of deaths attributable to the district during 1917 was 65, giving a death-rate of 13.75 per 1,000 of the civilian population.

The number of deaths of children under one year was 5, giving an infantile death-rate of 56.18 per 1,000 births.

**Pulmonary Tuberculosis.**—There were 19 names on the register at the end of 1916. Of these four died in 1917, two are confirmed invalids, two are keeping fairly well, three appear to have recovered (one of them being in the Army). Of the remaining 8 I have no information.

In 1917 six fresh cases have been notified. Of these one has been in a Sanatorium and two are in Sanatoria now. One has been for a time at Knutsford Infirmary.

**Other Tubercular Diseases** on the register up to the end of 1917 :—Tubercular meningitis, 2 ; tuberculosis of spine, 1 ; hip, 2 ; knee, 1 ; glands, 3 ; skin, 2.

**Infectious Diseases.**—There was a serious outbreak of measles in the spring. The early cases, in February and March, were all traceable to infection from other places. From the beginning of April to the end of May the disease was epidemic in the central part of the district. Many of the cases among the younger children were of a serious type. Lymm schools were closed for four weeks at the height of the outbreak. The timely closing of Statham and Oughtrington Schools for a week appeared to check the spread of the disease in those districts, though the only fatal case, one complicated with pneumonia, occurred in Heatley. In September a few more cases were reported from Heatley, which appeared to be connected with an outbreak in Warburton.

\* Population estimated by applications for sugar cards, 4681, exclusive of residents in institutions which=about 120, in the Home for Belgians, the Red Cross Hospital, and the Grammar School.



*Lymm Urban District.*

This was followed by an outbreak of whooping-cough of some severity, of which I have no actual figures.

Nine sporadic cases of scarlatina occurred during the year, seven of which were removed to the Isolation Hospital. In every case the precautions taken to prevent the spread of infection were successful.

No case of diphtheria occurred during the year. Two swabs were taken, one from a doubtful case and one from a contact, but both proved negative. This is all the more pleasing as our high diphtheria rate last year brought us into unpleasant prominence in the county.

The Isolation Hospital was in use for parts of nine months during 1917. Its rather primitive design and the cost of providing trained nursing for single cases which it may be in the interest of the district to isolate are still bars to its usefulness.

No arrangements have yet been made for the reception of possible cases of small-pox.

The following table gives the number of infectious cases notified during the year:—

Disease.	Treated at Home.	Treated in Hospital.	Deaths.
Measles ...	149	—	1
German Measles	8	—	—
Scarlatina ...	2	7	—
Erysipelas ...	1	—	—
Ophthalmia Neonatorum	1	—	—
Puerperal Fever	1	—	1

**Maternity and Child Welfare.**—Under this heading a great advance has been made this year by the appointment under the County Scheme of a trained midwife in response to your application of May 22nd. She began her work here in August, but unfortunately was obliged to relinquish it owing to serious ill-health. Her place was filled pending the appointment of a successor by Nurse Meadows, who formerly acted as our Health Visitor and has since carried on the double function in this district to our great advantage.



*Lymm Urban District.*

Owing to local difficulties, more or less connected with the war, this place has been slow in establishing a Child Welfare Centre. The County authorities are anxious to see one started here and I would press upon you the importance of helping the matter forward. Children of all ages are likely to suffer in health from the present shortage of food and a Welfare Centre would be a useful medium between the Food Control Committee and families who found difficulties in obtaining supplies.

Since her appointment the midwife has attended alone or with a doctor 18 maternity cases.

During the year the Health Visitor has paid 39 ante-natal visits, 86 first visits to infants, 334 re-visits under one year and 154 re-visits over one year. She has also visited 3 cases of miscarriage, 4 stillbirths, 1 case of death in an infant under 12 months and 1 of 15 months.

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## MARPLE

### Urban District.

The population at the last census was 6,250. Calculated by the Local Government Board this year, it is 6,777 for the birth-rate and 6,080 for the death-rate.

The birth-rate was 11.8 and the death-rate 12.3 per thousand. The infantile death-rate is rather higher, viz., 62.5.

**Refuse Disposal.**—The disposal of excrement is by three methods:—Water carriage, pails and middens. The latter are still being converted into water-closets as rapidly as possible.

There are now 944 water-closets and 309 slop water-closets. In the whole of the district there are twenty cesspools. The pails and middens are emptied by the Council's men at night when possible and tins and pails are collected weekly.

There are over 1,127 ash-tins compared with 90 eight years ago.



*Marple Urban District.*

**Milk Supply.**—The milk supply is fair, but owing to the high price for foods for cattle, the cost is greater. Being rather scanty we are adopting the milk regulations which gives priority to invalids and children.

The dairies and cowsheds are clean and sanitary.

No cases of unsound food or milk came to my knowledge during the year.

**Infectious Diseases.**—We have been very free from infectious diseases this year, with the exception of 24 cases of measles and 8 of scarlet fever.

Our usual plan of home isolation and fumigation has been quite satisfactory.

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## MOTTRAM-IN-LONGDENDALE

### Urban District.

**Statistics.**—The estimated population for the purpose of the death-rate is 2,647 and for the birth-rate 2,951.

The total number of deaths belonging to your district was 45, equal to a death-rate of 17 per 1,000 living.

During the year 1917 the number of births registered was 34, equal to a birth-rate of 11.5 per 1,000 living.

Five deaths of infants under one year were registered, being equal to a death-rate of 176 per 1,000 births registered.

**Infectious Diseases.**—One case of scarlet fever occurred in Broadbottom. The patient was isolated and no further outbreak was reported.

Twenty-three cases of measles, of a mild type, reported from March to August. Since August there have been no more cases. It was not found necessary to close the Schools.

**Scabies.**—Before the war this disease was unknown in your district. Now, owing to so many soldiers coming home



*Mottram-in-Longdendale Urban District.*

on leave, their families contracted the disease. I find that izal baths and sulphur ointment are the most efficacious treatment.

**Inspection of the District.**—Work under the Housing and Town Planning, etc., Act, 1909, has not been undertaken since the war commenced. Consequently there is an accumulation of improvements and repairs which will have to be undertaken at the first opportunity. The scavenging and emptying of ashpits is not carried out in the same systematic manner as before the war. Four new shippons will have to be built on the Tollemache estate. They are all in a most deplorable condition.

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**NANTWICH**  
**Urban District.**

**Statistics.**—The estimated population for the purpose of death-rate is 6,823 and for the birth-rate 7,424. The births registered numbered 120, giving a birth-rate of 16.1.

Of the total births registered 6 were illegitimate.

The deaths at all ages registered in the district numbered 84, including the deaths of 3 non-residents. The deaths of residents not registered in the district (including 14 deaths in the Workhouse Infirmary) numbered 30. The net deaths during the year of persons belonging to the district therefore amount to 111 and the corrected death-rate is 16.2 per 1,000 population.

Deaths from zymotic diseases were 6 in number; measles, 3; diphtheria, 1; scarlet fever, 1; diarrhoea, 1. This shows an increase of 3 against the number in the previous year.

**Infantile Mortality.**—Seven deaths occurred under 1 year of age, being 5.8 per cent. of the total births registered during the year and a death-rate of 58.3 per 1,000 births. Causes of death as follows:—Premature birth, 3; bronchitis and pneumonia, 2; diarrhoea, 1; poliomyelitis, 1. This is the lowest infantile death-rate recorded for some considerable time and is extremely satisfactory.



*Nantwich Urban District.*

**Infectious Diseases.**—The list given below shows the prevalence of infectious diseases in the district for 1917, 403 cases being notified:—Measles and German measles, 347; scarlet fever, 37; diphtheria, 10; pulmonary tuberculosis, 7; poliomyelitis, 1; erysipelas, 1; total, 403.

Thirty-seven cases of scarlet fever occurred. This figure is a considerable increase against the number 10 notified during 1916. Thirty-four cases were removed to the Isolation Hospital. One death occurred in Hospital.

Three hundred and forty-seven cases of measles were notified during the year. Six cases only were notified during 1916. The cases were visited and careful instructions given to parents as to isolation, disinfection, etc., and also printed leaflets distributed to prevent the spread of the disease. The whole of the schools in the district were closed from October 8th until November 3rd and again from December 14th until January 7th, 1918, and carefully disinfected and cleaned under supervision. The disease upon the whole was of a mild type, but about a dozen severe cases with lung complications occurred and three deaths were recorded.

**Tuberculosis.**—The number of cases of pulmonary tuberculosis notified during the year was 7; other forms of tuberculosis, nil. The deaths registered from phthisis numbered 11 and from other forms of tuberculosis 3. During the year all cases of consumption reported have been frequently visited, sputum cups and disinfectants provided gratis and leaflets containing information for those suffering from the disease have been distributed. Disinfection is carried out of rooms, bedding, etc.

**Isolation Hospital.**—Forty-four cases of infectious disease were admitted to the Isolation Hospital from this district, *i.e.*, 10 diphtheria, 34 scarlet fever.

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## NESTON AND PARKGATE

### Urban District.

**Births, Deaths, &c.**—273 births were registered (including 9 illegitimate births)—137 males, 136 females, giving a birth-rate of 18.66 per 1,000 of the population.



*Neston and Parkgate Urban District.*

The deaths numbered 147—75 males, 72 females, giving a death-rate of 11.20 per 1,000 civilian population.

Deaths of infants under one year of age numbered 26, equalling an infantile mortality rate of 95.23 per 1,000 births. Fourteen of the above infants died under the age of four weeks, the cause of death in eleven instances being prematurity and debility from birth respectively.

All rates are based on figures supplied by the Registrar-General. The deaths concern the civilian population only.

**Infectious Diseases.**—353 cases of infectious diseases were notified, including 268 cases of measles; of the remaining 85 there were 14 diphtheria, 29 scarlet fever, 1 enteric fever, 1 cerebro-spinal meningitis, 2 ophthalmia neonatorum, 8 erysipelas and 30 tuberculosis (all forms).

Measles accounted for five deaths, diphtheria for two and whooping-cough four. There were no deaths from scarlet fever.

Investigations failed to trace the source of infection in the case of cerebro-spinal meningitis, which terminated fatally.

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**RUNCORN****Urban District.**

**Statistics.**—The estimated mid-year population for the year was—17,910.

The number of births registered in the district during the year was 402 as compared with 426 in 1916, with 462 during 1915, 440 during 1914 and 474 during 1913. Of the 402, 209 were boys and 193 girls. The birth-rate for the year was 22.4 per 1,000 of the population as compared with 23.9 in 1916.

Fifteen illegitimate births, eight males and seven females, were registered during the year; that is a percentage of total births equal to 3.2.



*Runcorn Urban District.*

The number of deaths registered in the district during the year was 233. Of these registered deaths 9 were non-residents, whilst 31 deaths of residents occurred outside the district, giving a nett result of 255 residents. Of these 155 were males and 100 females.

The death-rate for the year was 14.2 per thousand of the population as compared with 14.8 for 1916.

**Infant Mortality.**—The infantile mortality rate, 149 per 1,000 is the highest recorded for a number of years. In 1916 the rate was 77.4. The following table compares the number of deaths from different principal causes during 1916 and 1917 respectively:—

	Total under 1 year.		Under 1 month.		Between 1 and 3 months.		Between 3 and 6 months.		Between 6 and 9 months.		Between 9 and 12 months.	
	1916.	1917.	1916.	1917.	1916.	1917.	1916.	1917.	1916.	1917.	1916.	1917.
Debility, Atrophy, } Weakness, ... } Prematurity ... }	16	26	9	18	4	6	3	0	0	1	0	1
Convulsions ...	3	7	2	2	0	4	1	1	0	0	0	0
Respiratory Diseases	7	16	0	1	2	5	2	5	1	3	2	2
Infectious Diseases	2	1	0	0	1	0	0	0	0	0	1	1
Digestive Diseases ...	2	4	0	1	0	1	1	0	0	1	0	1

From this table it is seen that the deaths in 1917 due to what may be regarded as antenatal causes—that is most of those deaths in the earlier months of life from debility, atrophy, weakness and prematurity—are roughly doubled the number from the same causes as those of 1916.

In this connection it is interesting to compare the numbers of stillbirths, namely, 22 in 1916 and 10 in 1917.

The infantile mortality figures just referred to indicate the necessity for antenatal welfare work in the town; that is, the extension of the work which is at present being carried on by the County Council and the Runcorn and District



*Runcorn Urban District.*

Health Society. Possibly, a factor which has operated to increase the infant mortality rate particularly from "Antenatal" causes, although probably also accounting in a measure for some of those from postnatal causes, is the employment of a relatively large number of married women during the last two years in the works of the district.

Amongst deaths from postnatal causes, in the table above, distinct increases in numbers of deaths due to both digestive (with which most convulsions cases should be included) and respiratory diseases are noted. To account for these one has to take into consideration in the case of respiratory diseases the severe wintry weather of the first four months of last year; and in the case of digestive diseases the difficulties of the food question during 1917 both as regards the supply of milk for infants and of food for mothers.

The good work of the Mothers' and Infants' Welfare Centre has been steadily continued throughout the year and a Day Nursery established in the town in July, 1917, by the County Council.

The following table gives the number of still-births registered during the years 1914 to 1917 inclusive:—

1914	...	...	28
1915	...	...	22
1916	...	...	22
1917	...	...	10

**Infectious Diseases.**

	Cases notified.		Deaths.	
Diphtheria ...	...	23	...	5
Erysipelas ...	...	2	...	—
Scarlet Fever ...	...	70	...	2
Ophthalmia ...	...	10	...	—
Phthisis ...	...	21	...	19
Other forms of Tuberculosis	...	20	...	2
Measles ...	...	48	...	—

**Isolation Hospital.**—During the year systematic Bacteriological examinations of the throat swabs of scarlet fever cases in hospital were made and no case was discharged until the throat (or discharges) was found to be free from the organism commonly found in such cases, viz., *Streptococcus Scarlatinæ*.



*Runcorn Urban District.*

**Small-pox—Vaccination and Exemption.**—Of the 402 births during the year 88 were successfully vaccinated, 233 died before vaccination and 266 were exempted from vaccination. The percentage not vaccinated was 66.1.

**Tuberculosis.**

	Cases.	Deaths.
Total No. Tuberculosis Cases	41	21
No. Cases of Pulmonary Tuberculosis	21	19
No. Cases of other forms of „	20	2

**Bacteriological Examinations.**—Numerous examinations of sputa for tubercle bacilli, throat swabs for diphtheria bacilli and for streptococci in cases of scarlet fever have been conducted in the private laboratory of the Medical Officer of Health.

**Housing.**—The following statement shows the work done under this Act :—

No. of new houses built	...	...	nil.
No. of dwelling-houses inspected	...	...	383
No. of closing orders made by Local Authority	...	...	nil.
No. of houses where defects were remedied without closing orders being made	...	...	84
No. of houses with work in progress	...	...	8
No. of houses demolished	...	...	6
No. of back-to-back houses	...	...	about 100

**SALE****Urban District.**

**Statistics.**—There were registered during the past year 163 deaths—97 males and 66 females, giving a death-rate of 10.4 per 1,000 per annum.

284 births were registered—151 males (8 being illegitimate) and 133 females (9 illegitimate), giving a birth-rate of 18.26 per 1,000 per annum. Thus it will be noticed that death and birth-rates are lower than for 1916.



*Sale Urban District.*

**Infant Mortality.**—In latter part of the year a Children's Welfare Centre was started in the district; and as Medical Officer for Sale I hope to see the infantile mortality still further reduced, as a result of this new organisation, in our midst. There were 16 deaths of infants under 12 months old—13 males and 3 females—in the past year, giving an infantile mortality rate of 56.3 per 1,000 births. It is satisfactory to note that the rate has steadily declined in the past five years, as shewn by the following:—1913, 113.9; 1914, 85.35; 1915, 79.9; 1916, 78.78; 1917, 56.3.

The notification of births was taken over by the County Council on 1st January, 1916, so that no report can be made by your Medical Officer.

**Infectious Diseases.**—There were 113 cases of infectious diseases notified in the year under review, viz.:—Scarlet fever, 24; diphtheria, 47; measles, 18; rubella, 19; erysipelas, 5. There were three deaths from diphtheria and one from whooping-cough, but no deaths from scarlet fever, measles, or epidemic diarrhoea, which is very satisfactory.

**Tuberculosis.**—During the year 22 cases of pulmonary tuberculosis (14 males and 8 females) and 3 (females) of general tuberculosis were notified. A number of cases were treated at Sanatoria and General Hospitals. There were 13 deaths from tuberculosis of the lungs and 2 from tuberculosis of other parts of the body in Sale; and 2 deaths were notified from outside districts from pulmonary tuberculosis.

**Scavenging.**—Owing to shortage of labour the Department Staff for scavenging is now worked by two night gangs and one day gang instead of three night gangs and one day gang as in former years. Thus extra supervision by the Sanitary Inspector and harder work by the gangs has been necessary to cope with keeping the district in a clean and sanitary condition. The public seemed to be more concerned about the food problem than sanitary matters.

**Housing.**—Eighty houses were inspected. No new houses have been built in 1917, the increased cost of material and shortage of labour accounting for this. There were five houses where defects were remedied without closing orders being made. No houses were closed. There are some 2,020 houses without the limits of rent in S.14 of the Act of 1909.



## SANDBACH

### Urban District.

**Statistics.**—During the year there have been 64 deaths in the district and 13 of people dying outside the district, making a total of 77 and an average per thousand of 13.4. In 1916 the total was 78; average, 13.6. Six children under one year of age died—4 of marasmus, 1 of bronchitis and 1 of meningitis. Three cases of phthisis died during the year.

There have been 109 births—54 boys and 55 girls.

**Infectious Diseases.**—We have been very fortunate this year with regard to infectious disease with a total of 14, viz.:—Measles, 6; diphtheria, 4; phthisis, 2; scarlet fever, 1; erysipelas, 1. Four of these cases—3 diphtheria and 1 scarlet fever—were sent to West Heath Sanatorium. Two diphtheria cases died.

**Child Welfare.**—All notifications of births are sent direct to Dr. Meredith Young, who promptly sends his Health Visitor to instruct the mothers as to the most simple and efficient way to take care of their children and can only say that the infantile mortality for the year reflects great credit on her work.

## TARPORLEY

### Urban District.

**Statistics.**—During the fifty-two weeks of the year ending December 31st, 1917, the returns of the Registrar recorded 23 male and 18 female births, which is equal to a birth-rate of 15.5 per 1,000 of the population, which is 3.7 lower than last year. There were two illegitimate births.

The total number of deaths registered in the district was 29, which is equal to a death-rate of 15.5. Three non-residents died in the district and three residents died out of the district. The corrected number of deaths is thus 29, which is equal to a death-rate of 12.2. Four of these deaths were under one year of age.



*Tarporley Urban District.*

**Infant Mortality.**—Nett deaths from stated causes at various ages under 1 year of age :—

Cause of Death.	Under 1 week.		Total.	
Injury at birth	...	1	...	1
Congenital malformation	...	1	...	1
Premature birth	...	2	...	2
		—		—
Total	...	4	...	4
		—		—

Nett births { legitimate 39. No deaths of illegitimate children.  
 { illegitimate 2.

**Infectious Diseases.**—There were 24 cases of infectious disease notified during the year 1917, viz.:—Measles and German measles, 17; scarlet fever, 6; non-pulmonary tuberculosis, 1. There were no cases of diphtheria nor of pulmonary tuberculosis notified during the year.

**Housing.**

Number of new houses built during 1917	...	nil.
Number of dwelling-houses inspected under Sec. 17, Act of 1909	...	60
Number of such houses considered unfit for habitation—	3 dirty, 2 cleaned, 1 in hand	
Number of representations made to Local Authority—	20 houses reported	
Number of closing orders made by Local Authority	...	nil.
Number of houses where defects remedied <i>without</i> closing orders being made	...	20
Estimated or ascertained number of houses within limits of rent in Sec. 14 of Act of 1909	..	356
Number of such houses in respect of which notice was served during 1917	...	15

**WILMSLOW****Urban District.**

**Statistics.**—101 births and 90 deaths were registered in 1917. Six births were illegitimate. The birth-rate was 11.8 per 1,000 living. The death-rate was 11.7.



*Wilmslow Urban District.*

There were four deaths of infants under one year. The infant mortality, *i.e.*, the death-rate of infants under one year per 1,000 births, was 39.6.

**Infectious Diseases.**—377 cases of acute infectious disease were notified:—Cerebro-spinal fever, 1; scarlet fever, 5; measles, 355; rubella (German measles), 16.

The case of cerebro-spinal fever (fatal) was that of a member of the Naval Forces, who contracted the infection in another district. Precautions taken included the examination at the Public Health Laboratory of nasopharyngeal swabs from nine "contacts." No meningococci were found and no further cases occurred. All the scarlet fever cases recovered; three were removed to Monsall Fever Hospital.

There was one death from measles, in the case of a child of 21 months who developed broncho-pneumonia. The disease mostly ran a mild course without complications. The epidemic lasted throughout the second half of the year, rising to a maximum in September and coming to an end in December. It was found necessary to close some of the schools for short periods. Leaflets of advice were distributed and a nurse was engaged for seven weeks in September and October to visit notified cases. Her services were very valuable; she not only gave very helpful advice, but brought to light cases that otherwise would probably not have been notified.

The majority of the cases of rubella occurred in May, before the measles epidemic had set in.

A soldier, home on leave for five days, developed cerebro-spinal fever a week after returning to camp. Nine "contacts" were sent to the Public Health Laboratory for examination, with negative results in all.

During the year there were sent for examination to the Public Health Laboratory throat swabs from eleven patients with suspected diphtheria. In all the results were negative. Sputum from three patients was examined for tuberculosis, with a positive result in two cases. Two specimens of blood were examined for enteric fever with negative results.

**Tuberculosis.**—Seven new cases of pulmonary tuberculosis and three of other forms were notified.



## WINSFORD

### Urban District.

#### Statistics.

Population at 1911 Census—9,950. 1917—11,196 for birth-rate; 10,044 for death-rate (*i.e.* excluding military population).

Inhabited houses at 1911 Census—2,372.

Births (107 males, 105 females)—212.

Birth-rate per 1,000 living—18.9.

Illegitimate births (5 males, 8 females)—13.

Deaths (80 males, 68 females)—148.

Death-rate per 1,000 living—14.7.

**Infectious Diseases.**—Measles: number of cases, 253; number of deaths, 1. Scarlet fever: Number of cases, 2; number of deaths, nil. Diphtheria: Number of cases, 42; number of deaths, 1. Whooping-cough: Number of cases, not known; number of deaths, nil. Typhoid fever: Number of cases, 2; number of deaths, 1. Diarrhoea: Number of cases, not known; number of deaths under 2 years, 1.

**Tuberculosis.**—Number of old cases, 32; number of new cases, 27; number of deaths, 11. The notifications include:—

Tuberculosis of Lungs	...	15	Number of deaths	7
			(2 males, 5 females)	
„ „ Meninges	..	1	Number of deaths	nil.
of Abdominal glands	5	}	Number of deaths	4
of Cervical glands...	2			
of Peritonium	1			
Other Tuberculosis	...	3	(2 males, 2 females)	
Deaths under 1 year (18 males, 12 females)	...	...	...	30
Deaths under 1 year per 1,000 births	..	..	...	141

**Closet Accommodation**—Water-closets, 1,140 (approx.), an increase of 4 as a result of conversions from cesspool privies. There are no waste water or hand-flushed closets. Peat pails, 512 (as in 1916), emptied and changed once a week. Cesspool privies, 804 (estimated); a reduction of 4 by conversion to w.c.'s. The cesspool privies are scavenged once each nine weeks. Dry ashpits emptied and disinfected monthly. Galvanized ashbins emptied fortnightly.



*Winsford Urban District.*

**Pathological Reports** have been made by the Laboratory of Public Health, York Place, Manchester, and by the Lister Institute, London, on throat swabs, etc.

The practice of swabbing the throats of contacts of known cases of diphtheria has led in several instances to the detection of the disease in persons apparently well. These have been isolated and the spread of the disease thus prevented. The pursuit of this policy should save much epidemic illness.

**Measles Prevention.**—The Council has issued a leaflet on the subject and has also commenced the policy of freely supplying eucalyptus oil for the purpose of anointing children in contact with measles patients. The parents are instructed also to wash the throats of the children exposed to the infection with weak permanganate of potash solution. The infection resides in the nose and throat and that substance is a proved disinfectant for that region. The strength of the solution advised is one of permanganate of potash in 4,000 of salt and water. The strength of the salt and water is a tea-spoonful of salt in a pint of water. It is best used as a nose wash and gargle.

**Maternity and Child Welfare.**—In September a Maternity and Child Welfare Scheme for the district was prepared and submitted by the Council to the Local Government Board. The Scheme is as follows:—

1. That the Council appoint a whole-time Health Visitor
  - (a) to visit children as at present up to one year of age;
  - (b) to visit children between one and five years of age;
  - (c) to report defects noted in condition of children to M.O.H.;
  - (d) to advise all mothers to bring their children for periodical weighing and inspection to the Centre;
  - (e) to make it known to mothers and women who are pregnant that the Centre is available for the purpose of advising them;
  - (f) to visit cases of measles during an epidemic, should the M.O.H. consider it necessary, due precautions being taken against conveying infection;



*Winsford Urban District.*

(g) to attend at the sittings of the Centre.

Salary of Health Visitor estimated at £80.

[Her present part-time salary is £30, plus extra payment in case of epidemic of measles.]

2. That the Council hire the Consulting and Waiting Rooms at the Sub-Dispensary, Albert Infirmary, Winsford, one afternoon a fortnight at a charge of, say, £7 10s. per annum, to include lighting, heating and cleaning and the use of any apparatus for diagnostic purposes possessed by the Infirmary, assuming the Medical Officer of the Centre to be a member of the Staff of the Infirmary.
3. That the Council hire rooms at the Guild Hall (or other suitable premises) in Over one afternoon a fortnight at a charge of, say, £7 10s. per annum, to include lighting, heating and cleaning.
4. That the premises rented under paragraphs 2 and 3 above be used as a Centre, each alternate week in Over and Wharton, for the examination of children up to five and such mothers and pregnant women as may attend.
5. That the Council appoint a doctor as Medical Officer to the Centre, to conduct the Centre as laid down in the Memoranda and Regulations of the L.G.B., at a salary (based on the rate of 10s. per hour for 1½ hours per week) of £40 per annum.
6. That the Council invite the Board of the Albert Infirmary to approach the Ladies' Committee of that Institution and suggest that they should appoint a small Sub-Committee to give voluntary assistance at the Centre, of which Sub-Committee one lady (either an original member or co-opted for the purpose) should be willing to attend each week and to act as secretary to the M.O. of the Centre.
7. That it should be suggested to the Ladies' Sub-Committee that they should raise a small voluntary fund for maintaining such ancillary features of the Centre as advice on the forms and materials of infants' garments, the provision of tea for the mothers attending and other means of rendering the Centre attractive. Cost to Council: Nil.



*Winsford Urban District.*

8. That the Council purchase a suitable weighing machine for weighing the infants at the Centre. Estimated cost, say, £5.
9. That the Council purchase record cards and report sheets at a cost of, say, £3.
10. That it be the duty of the M.O. to send weekly to each Medical Practitioner whose patients attend the Centre the names of such patients on the form below with the particulars of the results of the examination thereon recorded;  

To keep a card index or otherwise similar records in respect of each person examined.
11. That the Council subscribe to the Winsford and Moulton District Nursing Association [recently formed under the presidency of Mrs. Newall to maintain two nurses in Winsford and one nurse in Moulton] the sum of, say, £20 per annum, for the purpose of improving the supply of midwives in the district.
12. That the Council maintain in the Albert Infirmary any patients found at the Centre to require hospital treatment when the requisite treatment is not available without such assistance: such treatment to be given by or through the patient's own doctor if he be a member of the hospital staff and in any case by a member of the staff. For such cases (on the experience of children's and gynaecological cases in 1915 and 1916) I estimate £12.
13. That the Council submit this Scheme, in accordance with the suggestion of the L.G.B. to that effect, to the Local Medical Profession for an expression of its views.

*Draft Form of Weekly Report by Centre to Practitioner:—*

*Winsford Urban District Council.*

*Maternity and Child Welfare Centre, Albert Infirmary.*

From M.O. to the Centre to Dr. \_\_\_\_\_, of \_\_\_\_\_

*Date:* \_\_\_\_\_ The following is a list of your patients who attended at the Centre yesterday, \_\_\_\_\_. The general nature of any hygienic or dietetic advice given to them is indicated in the columns opposite their names. When any diseased condition specially calling for attention



*Winsford Urban District.*

was noted it is stated in the right-hand column on this sheet. In each such case the patient or the patient's friends were instructed to seek your advice and treatment. The Health Visitor will be glad to assist in seeing that any instructions you may give are carried out.

## FORM OF RECORD CARD.

Christian Name.	Age. Yrs. Mths.		Address.	O. or W.*	Height. ft. in.		Weight. lbs. ozs.		Diet No.†	Hygienic Advice.‡	Attention is called to:
Example):											
Oliver	4	3	c/o J. O. Jones, High St.	O.	3	4	37	2	8	—	R. Inguinal Hernia.
George	1	1	c/o J. T. Geddes (grandfather), 6, Weaver St.	O.	2	1	14	1	5	Daily bath followed by oiling.	(Dirty and poorly nourished.)
on Jane	—	6	W. Robinson, Station St.	W.	1	8½	15	½	Breast.	3-hourly feeds.	—

\* Over or Wharton.

† See Typewritten LIST OF DIETS.

‡ Any special advice given to be stated on separate slip.

The scheme received the approval of the L.G.B. after the termination of 1917 and was subsequently launched.

**YEARDSLEY-CUM-WHALEY****Urban District.**

**Statistics.**—There have been 18 births (4 males and 14 females) registered in the district during the year, which gives a birth-rate of 12 per thousand.

The number of deaths registered is 11, giving a death-rate of 7.5 per thousand.

Two residents of the district died outside the district. Including these, the total number of deaths is therefore 13, which gives a death-rate of 8.6 per thousand.

The number of births is the same as that registered last year and the deaths eleven less.



*Yeardsley-cum-Whaley Urban District.*

There have been no deaths of infants under one year of age.

**Infectious Diseases.**—24 cases of infectious diseases have been notified, as compared with 57 the previous year. Of the cases notified, 3 were of measles, 17 German measles, 1 erysipelas, 1 typhoid fever and 2 pulmonary tuberculosis.

On making investigations with regard to the case of typhoid fever, I was able to ascertain that it was contracted outside the district. All the necessary precautions were taken and no other cases occurred.

With regard to the two cases of pulmonary tuberculosis, one was that of a visitor to the district.

No cases of infectious disease have been removed to Hospital.

**Water Supply.**—The water supply continues satisfactory as regards quality and there has been no shortage throughout the year. I would suggest that the valve at the far end of Reservoir Road be flushed out rather oftener than is now being done. No connections have been made to the Council's system during the year.

**General Sanitary Work.**—During the year a most important piece of work has at least been completed by the connecting of those properties which drained into the Mill Race. As you are aware, I was compelled to lay this matter before the County Medical Officer of Health in the early part of last summer and the matter was placed by him before the Mersey and Irwell Joint Committee. I congratulate the Council on having attended to this important piece of work, as I am of opinion that they have thereby eliminated a very probable source of zymotic disease.

Three connections have been made to the sewerage system and the Picture Palace has also been connected.

Public scavenging is now done by your Council, which I am sure will be a great sanitary boon to the district.



## BUCKLOW

### Rural District.

#### Vital Statistics.

Estimated population, 23,749 gross, 22,316 nett.

Number of inhabited houses, 4,971.

Average number of persons per house, 4.4.

Area of district in acres, 57,642.

Birth-rate per 1,000 living, 14.5.

Death-rate per 1,000 living, 10.4.

Deaths under one year in proportion to 1,000 births, 67.6.

The total number of deaths was 225, of which 22 were children under one year old and 78 were persons of over 65 years.

**Infantile Mortality.**—The infantile mortality figures have been

Average of 5 years	1911—1915	...	85
	1916	...	78.5
	1917	...	67.6

**Maternity and Child Welfare.**—The Rural Council, after much discussion and the failure of an attempt to make arrangements for co-operation with neighbouring Urban Authorities, decided to join the Cheshire County Council's Scheme for the carrying on of this work, which now includes visiting and care of children from birth until they are five years old. So far the result is exactly as foreseen, in that the County Council have provided Health Visitors—as the Rural Council could easily have done and have failed to provide the Centres required in the L.G.B. circular. The difficulty in the provision of Centres was the chief obstacle to the Rural Council making its own arrangements.

**Infectious Diseases.**—As regards the acute infectious diseases, other than measles, the statistics are so exceptionally satisfactory as to call for no comment.

The number of cases of measles reported is somewhat larger, but not more so than is accounted for by a wider knowledge of the duty of notification. No deaths occurred



*Bucklow Rural District.*

from measles during the year. The temporary arrangement for a measles visitor, referred to in last year's report, has worked very fairly well, but an increase to two or three visitors will probably shortly be necessary.

The bacteriological examinations have continued to be most efficiently performed at the Public Health Laboratory, Manchester, under the direction of Professor Delépine.

Medical practitioners, whose practices in the Rural Council's area are at all extensive, have each been supplied with apparatus for taking specimens in suspected cases of diphtheria and typhoid fever. Immediately I receive a report, indicating that one of these pieces of apparatus has been used, one to take its place is forwarded to the doctor. This obviates delay caused by doctors having to obtain each apparatus after they find they require it.

**Tuberculosis.**—The number of deaths due to tuberculosis, both pulmonary and other cases, is smaller than in the previous year. On the other hand the number of "new" cases reported is larger. This increase, however, is not great and probably does not indicate any actual increase in the incidence of the disease, but is due to notifications of cases which were not "new" cases at all by Medical Boards.

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## CHESTER

### Rural District.

**Statistics.**—During the fifty-two weeks of the year ending December, 1917, the returns of the Registrars recorded 888 male and 81 female births, equal to a birth-rate of 14 per 1,000, or 8.3 per 1,000 lower than last year. Nine of these were illegitimate.

The nett total of deaths was 134, which is equal to a death-rate of 12.5. 231 non-residents died in the district and 188 residents died outside the district. 134 is the corrected number. Fifteen of these deaths occurred in children under one year of age. Total deaths in institutions in the district were 231; of that number 25 occurred in the Tarvin Union Workhouse, Great Boughton and 203 in the Asylum and of



*Chester Rural District.*

these 203 deaths in the Asylum 4 belong to the Rural District and 2 were not transferable. There were 11 deaths from phthisis and two from tuberculous meningitis.

**Notification of Births Act and Child Welfare.**—The following is a tabulated statement of visits paid with the results:—Number of births notified to M.O.H., 133; first visits, (a) expectant mothers, (b) children, 102; revisits, (a) expectant mothers, (b) children, 898; children dead, 11; children removed, &c., 38; illegitimate, 2; children clean, mostly; children dirty, nil; children breast fed, 75; children bottle fed, 8; boat bottles used, 7; tube bottles used, 1; parents clean and tidy, mostly; parents drunken and dirty, nil; number of babies visited, 1916-17, 206; total births, 169, so 36 not notified.

**Infectious Diseases.**—There were 166 cases of infectious disease notified during the year 1917, being 90 cases more than 1916, viz.:—Measles and German measles, 104; scarlet fever, 29; diphtheria (including membranous croup), 13; enteric, 1; puerperal fever, 1; acute poliomyelitis, 4; erysipelas, 2; pulmonary tuberculosis, 10; other forms of tuberculosis, 2.

Of the four cases of poliomyelitis one occurred in September, two in October and one in November. One case was sent to the Isolation Hospital and the other three attended at the Royal Infirmary.

Results:—H. W., aged 10, M., slight permanent paralysis.

M. E., „ 1½, F., no permanent paralysis.

B. B., „ 14, F., no permanent paralysis.

F. W., „ 11, M., slight permanent paralysis.

All these cases occurred just outside the city and there was no apparent cause for the outbreak.

**Tuberculosis.**—There were 10 cases of pulmonary tuberculosis and 2 of non-pulmonary notified during 1917.

### **Housing.**

Number of new houses built during 1917	...	nil.
Number of dwelling-houses inspected under Sec. 17 of Act of 1909	... ..	79
Number of such houses considered unfit for habitation		nil.



*Chester Rural District.*

Number of houses where defects remedied <i>without</i> closing orders being made	...	...	23
Estimated or ascertained number of houses within limits of rent in Sec. 14 of Act of 1909	...	...	1592
Number of such houses in respect of which notice was served during 1917—Informal	...	...	23

**CONGLETON****Rural District.****Statistics.**

Population at Census, 1911—12,845.

Birth-rate—21.3.

Death-rate—10.5.

Births registered in 1917—274.

Deaths registered in 1917—159.

„ „ „ excluding non-residents, 136.

Deaths of under 1 year per 1,000 births, 57.6.

Deaths from 7 principal zymotic diseases, .23.

**Infectious Diseases.**—I have received 88 notifications of infectious disease, made up as follows:—Scarletina, 23; diphtheria, 16; typhoid, 4; measles, 30; German measles, 12; erysipelas, 1; chicken-pox, 1; ophthalmia neonatorum, 1.

**Water Supply.**—The district is fairly well supplied except Hassall Green, but as this is not the time to extend works except in cases of necessity, I will not call your further attention to this matter. Cranage, Mount Pleasant and Astbury are in the same condition.

**Sewage Disposal.**—The irrigation grounds have been inspected and found in good working order and the other drainage schemes have also been attended to. Elworth is not very satisfactory.

**West Heath Sanatorium.**—This Hospital has been used and has proved of great advantage both in the prevention of



*Congleton Rural District.*

the spread of disease and the very skilful and kind attention the patients receive. I never get any complaints from the relatives of the patients, but everybody expresses their thanks and gratitude to the staff there.

**Tuberculosis.**—Nine cases have been reported to me this year. I visit every case and give advice where requisite and provide necessary articles free of charge, such as pocket spittoon, &c. Twelve deaths have occurred in this district from tuberculosis—7 of the lungs and 5 of other parts of the body. After the burial of the body the rooms are disinfected by the Inspector.

**Pollution of Rivers.**—Birchenwood continues the pollution of the Brook at Church Lawton. This again must be put off, as I believe they are on Government work of importance.

**Housing.**—No new houses have been built this year and no houses have been inspected. Under the Act of 1909 4 houses were considered unfit for human habitation, of which one was closed, one was restored and two no action taken till after the war.

**Scavenging.**—This has been done, but owing to shortness of labour the pails and cesspools have not been emptied as frequently as I should like. The work is done by contractors.

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## DISLEY

### Rural District.

**Infectious Diseases.**—The number of cases notified was—Scarlet fever, 6; diphtheria, 1; ophthalmia neonatorum, 1; erysipelas, 1; measles and German measles, 15. Number of cases removed to Hospital:—Scarlet fever, 4.

There was no epidemic of infectious disease during the year and no deaths occurred. The Council has arranged with Professor Delépine that Medical Practitioners can have pathological specimens examined at a reduced rate of fees. In my opinion these facilities should, in the interest of the public health, be extended so that practitioners may have examinations made free of cost to themselves.



*Disley Rural District.*

**Tuberculosis.**—There were 10 cases of this disease, of which 6 were in Disley, 3 in Furness Vale and 1 in Newtown. There were 3 deaths. There are dispensaries for cases of tuberculosis at Stockport, Hyde and Macclesfield. There is a pavilion at Hyde for men in all stages of the disease. Several Sanatoria throughout the country are also available.

**Births, Deaths, &c.**—The number of births and deaths counterbalance, there being 32 in each category. On the whole the health of the district was good. War conditions have apparently not caused any increase of disease. The outstanding feature is that the number of births is exceptionally low, due, doubtless, to the absence of the young adult male population on war service. The number of births is only about half the average of the years before the war.

**Water Supply.**—Some few houses, having water from private sources, should be connected to the Stockport Corporation main.

**Housing.**—No new houses have been built during 1917. 48 dwelling-houses were inspected under S. 17 Act of 1909. None of such houses were considered unfit for habitation. In 15 houses defects were remedied without closing orders being made.

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## MACCLESFIELD

### Rural District.

**Infectious Diseases.**—There were notified 29 cases of infectious disease. Six of diphtheria occurred in January and were widely distributed. Five others occurred with long intervals between. Two of the eleven were fatal. Thirteen of scarlet fever occurred at eleven centres. In most cases the infection was traceable to some source outside the district. Thirteen of the above were removed to Isolation Hospital. Three cases of erysipelas and one of puerperal fever were also notified. The remaining case was of paratyphoid, a soldier in a military hospital, who was removed to Isolation Hospital.

235 cases of measles were notified. These were distributed throughout 32 townships. There were not any deaths from the disease, which spread in a more or less definite course.



*Macclesfield Rural District.*

Eighteen cases of pulmonary tuberculosis were notified, nine of them by military medical boards and four of other forms of the disease. Five persons died of pulmonary tuberculosis, one from tubercular meningitis and three from other tubercular disease.

One case of ophthalmia neonatorum was notified.

**Statistics.**—The births registered in the district numbered 245, comprising 123 males and 122 females. The birth-rate for the district is 14.63. The number of illegitimate births is 3.6 per cent. of the total births.

The number of deaths registered was 169, from which 3 deaths of non-residents have to be deducted and to which 18 deaths of residents—not registered in the district—have to be added, thus giving a total nett number of deaths at all ages of 184. The death-rate calculated upon the latest received estimate of the population is 12.24.

**Small-pox Hospital.**—Your Hospital for the isolation of small-pox has deteriorated structurally and repairs have become necessary which it is not practicable to effect at the present time. Consequently an agreement has been made with the Hyde Corporation for the reservation in their Small-pox Hospital of two beds for cases which may arise in this district. The agreement provides for the reception of additional cases should they occur and there is room for them in the Hospital.

**Maternity and Child Welfare.**—In January the County Medical Officer of Health addressed a letter to the Rural District Council suggesting that the Council should join the County Scheme.

A conference of the Urban and Rural District Councils of the County was held at Chester and representatives of the Council were present. The result of the conference was submitted to the Council, who were unanimously in favour of either working their own scheme, or of combining with the Bollington Urban District Council in a joint scheme. It is hoped that the Local Government Board will approve of the scheme, for the Council are of opinion that their own scheme will not only be more economical but will be more efficient and moreover derive the benefit of being worked by their own officials, who are familiar with the requirements of the district.



## MALPAS

## Rural District.

**Statistics.**—During the fifty-two weeks of the year ending December 31st, 1917, the returns of the Registrars recorded 41 male and 31 female births, which is equal to a birth-rate of 14.8 per 1,000 of the population. This rate is the lowest for the last six years. There were 7 illegitimate births.

The total number of deaths was 49 corrected, which is equal to a death-rate of 11.2. Ten residents died out of the district. Three of the total deaths occurred in children under one year of age. Included in the 49 deaths were 4 from phthisis.

**Maternity and Child Welfare.**—The following is a tabulated statement of visits paid, with approximate results:—Number of births notified to M.O.H., 55; 1st visits, (a) expectant mothers, (b) children, 49; revisits, (a) expectant mothers, (b) children, 354; children dead, 1; children removed, &c., 12; illegitimate, 7; children clean, mostly; children dirty, nil; children breast-fed, 47; children bottle-fed, 2; boat bottles used, 1; tube bottles used, 1; parents clean and tidy, mostly; parents drunken and dirty, nil; number of babies visited 1916-17, 110; total births, 72, so 17 not notified.

**Infectious Diseases.**—There were 49 cases of infectious disease notified during the year 1917, viz.:—Measles and German measles, 29; scarlet fever, 15; diphtheria, 2; pulmonary tuberculosis, 2; non-pulmonary tuberculosis, 1.

There was an epidemic of measles in January and June and scarlet fever in June.

**Tuberculosis.**—There were two cases of pulmonary tuberculosis and 1 of non-pulmonary notified during 1917.

**Housing.**

Number of new houses built during 1917	...	nil.
Number of dwelling-houses inspected under Sec. 17 of Act of 1909	... ..	18
Number of such houses considered unfit for habitation		nil.



*Malpas Rural District.*

Number of houses where defects remedied <i>without</i> closing orders being made	...	...	7
Estimated or ascertained number of houses within limits of rent in Sec. 14 of Act of 1909	...	...	872
Number of such houses in respect of which notice was served during 1917	...	...	7

## NANTWICH

### Rural District.

**Infectious Diseases.**—Thirty-one cases of diphtheria were reported. Two died in hospital. Seven cases were nursed at home.

Thirty-seven cases of scarlet fever were reported. Two died in hospital, eighteen cases were nursed at home and one case removed from Gresty to Crewe Isolation Hospital.

Two cases of cerebro-spinal fever occurred. All contacts were isolated for the period laid down in the official instructions with regard to this disease. Careful disinfection was undertaken and no spread of infection took place. It was impossible to trace the source from which the cases were infected.

Three cases of ophthalmia neonatorum were reported during the year. Instructions as to the treatment of the cases were given and, as far as can be learnt, no case of permanent blindness resulted.

Four cases of erysipelas were reported. No case of spread of infection to other persons resulted.

Seventeen cases of pulmonary tuberculosis were reported during the year. The Medical Officer of Health does not consider that the majority of cases are reported in their early stages, during which stage only can good results be expected from treatment. He looks forward to the time (after the conclusion of the war) when all advanced cases can be treated locally in a Hospital properly suited to their treatment and where they will be prevented from spreading the infection to other members of their family.



*Nantwich Rural District.*

Three cases of other forms of tuberculosis were reported—two peritoneum, one intestines.

**Isolation.**—During the year forty-four cases of infectious disease belonging to the Rural District were treated at the Nantwich Joint Isolation Hospital. They were as follows:—Scarlet fever, 19; diphtheria, 24; typhoid, 1; total, 44.

**Maternity and Child Welfare.**—This work is carried out by a health visior appointed by the County Council.

**Housing.**—Number of new houses built during 1917, 4. Number of dwelling-houses inspected under s. 17, Act of 1909, 17. Number of such houses considered unfit for habitation, none. Number of houses where defects remedied without closing orders being made, matters in hand. Estimated or ascertained number of houses within limits of rent in s. 14, Act of 1909, 17. Number of such houses in respect of which notice was served during 1917, none. Number of such houses closed after notice, none. Number of such houses where Local Authority has executed necessary repairs, etc., none. Approximate number of back-to-back houses in district, 12. Approximate number of cellar dwellings in district, none.

The Surveyor reports as follows:—

**Water Supply.**—No new mains have been laid in the Rural District during the past twelve months.

The number of houses connected to the water mains during the year was 6.

The total quantity of water consumed in the Rural District during the past twelve months was 93,437,000 gallons and in addition 990,000 gallons were supplied to Bickley for the Malpas Rural District Council. The consumption of water per house per day for the whole district was 66.5 gallons and the consumption per head of population per day was 12.8 gallons. As compared with last year the consumption of water in 1917 has increased by 9,167,000 gallons, or about 10 per cent. on the supply from the London and North Western Railway Company and about 16 per cent. on the supply from the Liverpool Corporation.



*Nantwich Rural District.*

**Sewerage.**—There are still a few houses on the line of sewers in Wistaston that have not been connected to the same, but I understand that these will shortly be coupled up.

The Disposal Works continue to work satisfactorily, the effluent from the same being quite clear and free from smell.

The laying of the sewers in Haslington has proceeded during the year and with the exception of one short length, the whole of the sewers have now been laid. The disposal works are also in a forward state, but difficulty has been experienced in obtaining the necessary ironwork and sprinklers and these are not yet to hand, though ordered nearly twelve months ago.

The Inspector of Nuisances reports as under:—

**Drainage.**—The contractors are busy laying new sewers in the Haslington township; when completed the ditch nuisances, so often complained of, will be abated.

**Conversion of Privies, &c.**

Privy cesspits converted into pail closets	...	4
Pail closets converted into water-closets	...	1
New pail closets built	...	4
Ashbins provided	...	3
New water-closets	...	4

**Paving of Yards.**—The back yards at two cottages have been paved with blue bricks. A considerable number of yards have been partly repaved in the Haslington township after the laying of new drains which were connected to the sewers.

**Ditches.**—The ditch opposite the Crewe Green Day Schools has been cleaned out twice. The process will have to be repeated until the village of Haslington is properly sewered. The ditches in Broughton Road, Coppenhall, have also been thoroughly cleaned out and lengths of ditches in Broad Lane, Stapeley; but the ditches in this vicinity will remain offensive until it is properly sewered.

**Clean Milk.**—The following rules, if observed, will secure the customer a pure supply of milk:—



*Nantwich Rural District.*

- 1—The milk to be obtained from healthy cows kept in a clean condition, supplied with good food and pure water and housed in a clean shed.
- 2—Milkers to be healthy and cleanly, provided with clean overalls and to milk with clean hands.
- 3—The milk cans, churns and all utensils to be thoroughly cleaned and sterilized with steam or hot water.
- 4—The milk to be removed from the shippon as soon as possible to a clean dairy, to be filtered and refrigerated and put into clean, covered churns.
- 5—If sent by rail, the churns to be securely sealed, kept cool and to be kept from dust contamination on station platforms. Conveyance to be in clean milk vans used for no other purpose.
- 6—Milk to be delivered to customers in clean sealed bottles.

**Housing.**—The Committee appointed to consider the question of Housing has submitted an interim report, said to embody some practical suggestions.

Points to be observed in plans submitted to Local Authorities:—

- 1—The house to be broad rather than deep to secure plenty of light.
- 2—Extensions at back to be avoided—all rooms to be brought under main roof.
- 3—Size of house: a living room, scullery and larder, three bedrooms, a bath with hot water is suggested. Out-office to be provided.
- 4—Window space to be adequate, not less than one-tenth the floor area of room; top to be as near ceiling as possible.
- 5—A layer of concrete or some other impervious material to cover site of house. This is a matter of supreme importance; to neglect such a precaution is inimical to the health of the occupants. A damp-proof course to be provided to prevent dampness of walls.



*Nantwich Rural District.*

- 6—Twelve houses to be built to the acre. Each house to have a fore-court. In my opinion a nine-foot passage should be made, where houses are built in blocks, at each end of block to allow for proper scavenging, etc.

The report asks the Government to make conditions of housing loans and grants-in-aid for rural housing schemes as follows:—

- 1—A proper lay-out scheme to be submitted.
- 2—Open spaces to be provided.
- 3—Gardens to be provided of not less than one-eighth of an acre.
- 4—Careful grouping for further extensions.

Where houses are built in rural areas, they should be reserved for the occupancy of those engaged in rural work and in trades essential for rural developments.

The following suggestions made for reducing the cost of building cottages, by some housing enthusiasts, are not worth much consideration:—

- 1—Reduction in size of rooms.
- 2—The doing away with building byelaws, which would inevitably lead to jerry building.
- 3—The use of cheaper materials, etc.

We are of opinion that houses should be built with good materials and of such a size as to enable a man to bring up his family in a decent and healthy way.

My experience as a housing Inspector leads me to the conclusion that the working classes must be made to realise that in many cases the evils resulting from bad housing are remediable by themselves. If they would spend less on drink and other forms of deteriorating luxuries and be willing to pay a rent sufficient to provide them with decent and healthy dwellings (in many cases this is obviously possible), capital would flow into the business, just as it flows into the business of building public-houses. It is unfair to tax the community at large for that which it is in the power of all who receive fair wages to provide for themselves.



## RUNCORN

### Rural District.

#### Statistics.

Population—estimated June 30th, 1917, for births	29,163
„ „ „ „ for deaths	26,162
Births registered—465 (less 4 belonging to other districts)	461
Birth-rate (corrected)	15.8

The decrease in the number of births is unfortunately only in line with the rest of the country—a matter of grave national concern.

Deaths registered (all causes)	308
„ transferred IN as belonging to this district	29
	<hr/> 337
„ transferred OUT—belonging to other districts	24
„ corrected number (males 172, females 141)	313
Death-rate	11.9

**Infant Mortality.**—The death-rate from all causes under one year of age per 1,000 births was 79. The death-rate from diarrhoea and enteritis under two years of age was 8.6. The actual number of children who died within a year of birth was 37. It is usual to find a much higher percentage death-rate among illegitimate than legitimate children, but last year there was no death of any illegitimate child, of which there were 17 registered. Is this attributable to Maternity and Child Welfare Centres?

**Infectious Diseases.**—At the time of commencing my duties measles was raging in many parts of the district. Preston-o'-th'-Hill, Daresbury, Appleton, Hatton, Stockton Heath Council and Whitley Schools had already been closed and others had to follow in quick succession. viz., Stretton and Kingsley. Frodsham received the visitation, but largely, I believe, owing to the prompt notifications by doctors and head teachers and the assiduous visiting of your Inspector to infected homes, this threatening extension of the epidemic was nipped in the bud and only odd cases occurred after this throughout the district. Many parents do not realise that it is their duty to notify measles if no doctor is in attendance. Again, as doctors are not compelled to notify



*Runcorn Rural District.*

any but the first case which occurs in any home—unless a period of eight weeks has elapsed before another occurs and parents not yet realising their liability to notify all cases—it is impossible to get a correct record of the total number of such cases. Bearing in mind that measles causes more deaths than any other infectious disease and that 11,000 deaths took place last year in Great Britain from this cause, it is very satisfactory to note that only four deaths occurred in your district.

Early in June diphtheria commenced in the Weston Point Church of England Infants' School. The school was promptly closed and apart from the circle already infected only odd cases here and there at irregular intervals cropped up. The neglect of refuse removal and the large number of overflowing, badly-constructed, filthy privies in this district must conduce to the prevalence of this disease. Nor is Weston Point the only place in which such conditions prevail. Frodsham (especially near the Bridge), Frodsham Lordship, Newton-by-Frodsham and parts of Helsby all have insanitary conditions, which diminish the resisting powers of the body to this and other diseases. The disease was introduced into the Infants' and Junior branch of the Stockton Heath Council School by a scholar resident in Warrington, who subsequently died. A number of cases followed, but as it was near the summer holidays the school was not then closed. No case was reported during the holiday, but about a week after resuming, cases again began to appear. This pointed to the existence of a "carrier," who though not ill was infective. To find such a one the whole of the scholars had to be individually examined and here I would like to thank Dr. McLeod, the County School Medical Officer, for her valuable assistance so willingly and skilfully rendered in this arduous work. As a result five scholars were picked out on suspicion and throat swabs submitted to test. Two of these proved "positive," one child developed the disease in an acute form two days later, so that everything pointed to the other—a strong-built lad looking the picture of health and who the parents stated had not recently been ailing at all, being the cause of the successive cases which were occurring. He was promptly removed to the Isolation Hospital and not another case developed subsequently.

Thelwall contributed its apparently annual quota to the diphtheria total. No satisfactory explanation as to why it



*Runcorn Rural District.*

should be endemic in this district is forthcoming, but investigation is being rigorously prosecuted.

In order to obtain early diagnosis and treatment, swab outfits are now in the hands of all doctors in the areas and antitoxin is supplied free as a first injection in cases which ultimately go into Hospital and is kept available by chemists in Warrington, Northwich, Runcorn and Frodsham.

The Hospital has never been free from scarlet fever. Stockton Heath, Weston Point and Helsby having contributed the majority of the cases. The motor ambulance now in regular use has been of inestimable service in helping to get cases into Hospital earlier than would otherwise be possible in such a very wide area. Fortunately, it had been obtained just prior to the diphtheria outbreak at Stockton Heath. Many cases which would formerly have had to remain at home till the following day were got into Hospital and antitoxin promptly given—a fact of vital importance to the patient and the danger of infecting others was also greatly minimised.

It is worthy of note that Norley, which appears in the past to have been a fertile source of notifiable infectious diseases, has not produced a single case during 1917. The question arises as to how far the improved water supply (now obtained from the Liverpool mains) is responsible for this. There is no doubt that an unlimited supply laid on, instead of having to be carried, is a great help in flushing the drains continually. Manley, which has now an improved water supply, has also been quite free from notifiable infectious diseases.

Included in the total of 474 notifications received were:—Ophthalmia, 4; erysipelas, 3; typhoid fever, 1; cerebro-spinal fever, 1; puerperal fever, 1; and tuberculosis, 33.

The number of Patients removed to Hospital were:—Scarlet fever, 47; diphtheria, 42. The average number of notifications for the last 10 years prior to the compulsory notifications of measles was 202, so that the figure of 161 (not including measles) for last year is very satisfactory.

**Bacteriological Examinations.**—During the year 91 specimens have been submitted to Prof. Delépine (Public Health Laboratory, Manchester), and results of unfailing



*Runcorn Rural District.*

accuracy obtained. Eighty-five were for diphtheria, 2 for typhoid, 3 for cerebro-spinal fever, and 1 for water bacteriological analysis.

Doctors have availed themselves of submitting diphtheria swabs in doubtful cases. This has meant getting "positive" cases more promptly into Hospital, thus diminishing the risk to others; and quite conceivably, has prevented "negative" doubtful cases being sent in unnecessarily. Many of the 85 diphtheria swabs were sent from the Hospital in order to be quite sure that patients were perfectly free from disease before being discharged.

**Scavenging and Refuse Disposal.**—Great difficulty has been experienced in getting privies, ashpits, etc., emptied, and if it happens—as is so often told us by property owners "that they cannot get the required labour"—it will be necessary for the Council to take the matter entirely in its own hands in many of the more populous areas.

**Water Supply.**—There has been no alteration during the year as regards water supplies. Twenty-six townships have a continuous supply of good drinking water, whilst fourteen are supplied by public or private wells and springs. Five samples of water have during the year been submitted for chemical analysis:—

- 1.—From Yew Tree Farm, Appleton.
- 2.—From Village Farm, Kickwick.
- 3.—From Marsh End Farm, Dutton.
- 4.—From Rock Savage Farm, Clifton.
- 5.—From Ram Farm, Clifton.

Nos. 1 and 3 were found to be fit for general use, whilst Nos. 2, 4 and 5 could not be so regarded, except after most careful filtering or boiling.

With regard to the Clifton supply it was thought advisable to have a bacteriological examination and the report was as follows:—"This water contains many more bacteria than is allowable in drinking water. This is probably the result of some organic contamination. There is however no evidence of marked faecal pollution." A sub-committee has been appointed to investigate this supply with a view to making it quite safe from adventitious contamination.



*Runcorn Rural District.*

**Sewerage.**—All the more populated parts have a system of sewers except Grappenhall, Thelwall and Latchford Without, in regard to which the combined scheme is still in abeyance.

All the sewage works have been visited by myself and your Inspector. There have been no further conversions of privies into water-closets during the year owing to the war, but pails have been substituted in several cases.

**Housing.**—There has been no building of dwellings during the year. One house at Frodsham Bridge has been condemned and closed during the year, whilst a closing order has been issued for a cottage in Ship Street, Frodsham, as soon as the tenant can find another house.

**Rivers Pollution.**—A Special Report was submitted by myself on the alleged fouling of Bradley Brook, Newton-by-Frodsham. The cause was traced back to the National Children's Home and Orphanage—the sewage from which was passing untreated through the drains into the stream. The authorities of the Homes have submitted a scheme of treatment on the septic tank system, which has been approved by your Public Health Surveyor and the Council and is now in course of construction.



## TARVIN

### Rural District.

**Statistics.**—During the fifty-two weeks of the year ending December 31st, 1917, the returns of the Registrars recorded 112 male and 111 female births, equal to a birth-rate of 16.3 per 1,000. There were 11 illegitimate births.

The total number of deaths registered in the district was 167, which is equal to a death-rate of 13.7. Nine non-residents died in the district and 21 residents died outside the district. Of the 21 residents who died outside the district 7 died in the Asylum, 6 in the Chester Infirmary, 4 in the Workhouse, Great Boughton, and the other 4 deaths occurred in other districts. 167 is the corrected number, 15 of these deaths occurred in children under one year of age. The corrected death-rate is 13.7.

**Maternity and Child Welfare.**—Number of births notified to Medical Officer of Health, 131; 1st visits, (a) expectant mothers, (b) children, 189; revisits, (a) expectant mothers, (b) children, 1,327; children dead, 19; children removed, &c., 49; illegitimate, 7; children clean, mostly; children dirty, nil; children breast-fed, 153; children bottle-fed, 12; boat bottles used, 8; tube bottles used, 4; parents clean and tidy, mostly; parents drunken and dirty, 2; number of babies visited, 1916-17, 325; total births, 223, so 92 not notified.

**Infectious Diseases.**—There were 99 cases of infectious disease notified during the year 1917, which is two less than 1916, viz.:—Measles and German measles, 86; scarlet fever, 7; diphtheria, 1; pulmonary tuberculosis, 4; non-pulmonary tuberculosis, 1.

Measles and whooping-cough were prevalent in the spring of the year. Measles continued in different parts of the district from April to November.

**Tuberculosis.**—There were four cases of pulmonary tuberculosis and one of non-pulmonary notified during 1917.



*Tarvin Rural District.***Housing.**

	Northern Division.	Southern Division.
Number of new houses built during 1917 ...	nil.	nil.
Number of dwelling-houses inspected under Sec. 17 of Act of 1909 ...	126	14
Number of such houses considered unfit for habitation ...	1	3
Number of representations made to Local Authority ...	nil.	nil.
Number of closing orders made by Local Authority ...	nil.	1
Number of houses where defects remedied <i>without</i> closing orders being made ...	25	1
Number of houses where defects remedied <i>after</i> closing orders made ...	nil.	nil.
Estimated or ascertained number of houses within limits of rent in Sec. 14 of Act of 1909 ...	1064	987
Number of such houses in respect of which notice was served during 1917 ...	nil.	1
Number of such houses closed after notice ..	nil.	1
Number of such houses where Local Authority has executed necessary repairs, &c. ...	nil.	nil.
Approximate number of back-to-back houses in district ...	nil.	nil.
Approximate number of cellar dwellings in district ...	nil.	nil.



**TINTWISTLE****Rural District.**

**Population.**—The estimated population for the purpose of the death-rate is 1,923 and for the birth-rate 2,144.

**Births, Deaths, &c.**—The number of births registered was 29, equal to a birth-rate of 13.5 per 1,000 living. The total number of deaths belonging to your district was 26, equal to a death-rate of 13.5 per 1,000 living.

**Infantile Mortality.**—Four deaths of infants under one year were registered, being equal to a death-rate of 137 per 1,000 births registered. The principal causes of death were:—Pulmonary tuberculosis, 3; cancer, 2; heart disease, 5; bronchitis, 5; pneumonia, 2.

**Infectious Diseases.**—The following were notified: scarlet fever, 2; measles, 6.

**Pulmonary Tuberculosis.**—Two cases were reported in the Woodhead portion of your district. They were both of an acute type and terminated fatally.

**Housing.**—Work under the Housing and Town Planning, etc., Act, 1909, has not been undertaken since the war commenced. On the whole the cottages are in a good state of repair. There is no overcrowding, the average number of persons per house being under four. The scavenging and emptying of ashpits is on the whole satisfactory.

**Sewage.**—The Sewage Works at Tintwistle act well. The disposal of sewage in the Matley portion of your district is awaiting for the termination of the war to be dealt with. In the meantime the sewage is being treated as well as circumstances permit.



**WIRRAL****Rural District.**

The following statement substitutes the annual report, in accordance with instructions received from the Local Government Board.

329 births were registered (including 22 illegitimate births)—146 males, 183 females, giving a birth-rate of 16.72 per 1,000 of the population.

The deaths numbered 194—99 males, 95 females, giving a death-rate of 10.99 per 1,000 civilian population.

Deaths of infants, under one year of age, numbered 18, equalling an infantile mortality rate of 54.71 per 1,000 births.

All rates are based on figures supplied by the Registrar-General. The deaths concern the civilian population only. 127 deaths took place in public Institutions in the district.

211 cases of infectious diseases were notified, of which 126 were measles; of the remaining 85—45 were scarlet fever, 9 diphtheria, 6 enteric fever, 3 erysipelas, 1 puerperal fever and 21 tuberculosis, "all forms." Death resulted in four cases of scarlet fever, one case of puerperal fever and one measles. There were no deaths from diphtheria.

The Sanitary Inspector's statement shows that the district has received systematic inspection.



# Administrative County of Chester.

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## APPENDIX OF STATISTICS

FOR 1917.

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TABLE A.—Vital Statistics for all Districts in the  
Administrative County of Chester, 1917.

TABLE B.—Causes of Death at Different Periods of  
Life in the Administrative County of Chester, 1917.

TABLE C.—Population, Area, Births, Deaths, &c.—

Showing enumerated and estimated population, area, births and deaths, birth-rates, and death-rates, proportion of deaths of infants to births, deaths from seven principal zymotic diseases and corresponding death-rates.



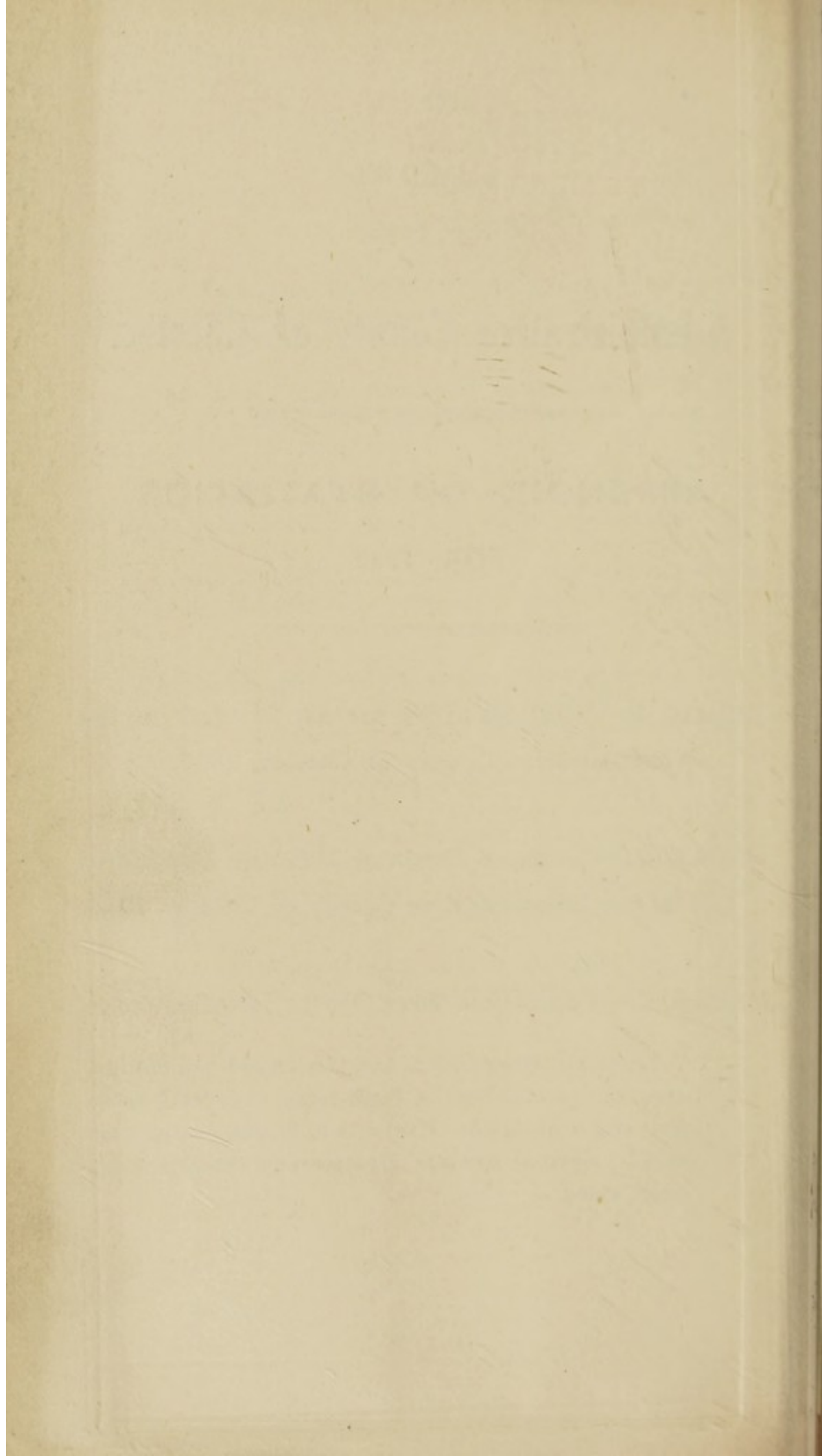




TABLE A.

VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1917.

CAUSES OF DEATH.	Alderley Edge U.D.		Alsager U.D.		Altrincham U.D.		Ashton-upon-Mersey U.D.		Bollington U.D.		Bowdon U.D.		Bredbury and Romiley U.D.		Brom-borough U.D.		Baglawton U.D.		Cheadle and Gatley U.D.		Compstall U.D.		Congleton M.B.		Crewe M.B.		Dukinfield M.B.		Ellesmere Port and Whiteby U.D.		Hale U.D.		Handforth U.D.		Hazel Grove and Bramhall U.D.			
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
ALL CAUSES	14	15	19	19	104	118	36	34	23	35	9	17	54	52	12	2	7	10	56	44	1	4	56	59	304	248	145	137	64	58	32	46	3	5	62	54		
1 Enteric Fever					1									1													1	2								1		
2 Small-pox																																						
3 Measles					1				1	2					1											6	3	6	2	8	5							
4 Scarlet Fever	1																								1	2	1											
5 Whooping Cough					1	8			1	1		1							1	1			1	1	1	1			2	3	1							
6 Diphtheria and Croup													3	1					1	1			3		4	6	2				1							
7 Influenza				1	3		1												1				5	3		3	2				2	1			1	1		
8 Erysipelas																		1						1				1										
9 Pulmonary Tuberculosis	2		4	6	8	5		2	2	1			3	1	1			1	5	3		2	8	4	21	17	8	12	10	7	2	6	1	1	6	4		
10 Tuberculous Meningitis	1					1			1				2	1	1		1		1				2		7	2	4			1								
11 Other Tuberculous Diseases					1		2			2				2	1				1	1			2		4	7	1	3	2	1	1					4		
12 Cancer, Malignant Disease	3	5	1		8	20	1	3	2	4	1	2	6	6			1		9	6	1		11	7	23	26	8	14	5	5	3	5			6	7		
13 Rheumatic Fever												1		1											2	2			1		1							
14 Meningitis					1	1	1			1															2	1		1	1						1			
15 Organic Heart Disease	2	1	2	2	11	11	3	5	5	5			9	9	2		1	1	4	7			6	4	25	30	19	24	3	6	3	5	1		2	8		
16 Bronchitis			1		7	12	3	2	1	4	1	3	5	5	1			2	5	3			11	10	25	20	14	14	5	6	1	6			9	4		
17 Pneumonia (all forms)			1	2	2	11	6	3	3		3		2	5	4	1		1		3	3		1	11	8	16	10	12	6	11	5	4	4			5	6	
18 Other Respiratory Diseases			1		2	3								1											4	9	1		2		1	1			1		1	
19 Diarrhoea, &c. (under 2 years)					2	1	3	2															1		8	1	8	2	1	1	1					2		
20 Appendicitis and Typhilitis					1	1								2					1						2			1										
21 Cirrhosis of Liver																								3														
21a Alcoholism																								1														
22 Nephritis and Bright's Disease			1		4	2	1	2	2			3	3	1	1				2	1			4	1	11	4	4	4		1	1	1			1	5	1	
23 Puerperal Fever																									2		3							1		1		
24 Parturition, apart from Puerperal Fever																			1						1		2		1									
25 Congenital Debility, &c.		1	1		8	7	3	1	4	1		1	1	1		1		1		3			7	3	26	15	12	8	5	2	1				2	4		
26 Violence, apart from Suicide			1		3	4	1				1		2	1			2		2				4	2	9	6	9	3	3	1						1		
27 Suicide				1	1	1								1						2					3	1	1	1			1				2			
28 Other Defined Diseases	5	7	5	7	30	35	14	14	6	11	6	4	14	15	3	1	1	4	20	11		1	25	13	94	83	32	33	8	13	8	13		1	19	12		
29 Causes ill-defined or Unknown																									1				1									
Special Causes (included above)—																																						
Cerebro-spinal Fever																																						
Poliomyelitis																																						
Deaths of Infants under 1 year of age			1		16	17	8	5	6	3		4	3	3	4	2	1	1	6	4			15	5	39	23	30	18	13	12	5	2			6	5		
TOTAL BIRTHS	26	8	21	23	149	145	65	59	26	23	11	13	73	61	19	21	12	17	79	80	6	11	106	103	362	362	202	170	149	148	55	56	4	8	78	67		
Legitimate	25	7	18	26	143	141	60	50	25	22	9	13	70	59	19	21	12	16	76	78	6	11	102	95	363	367	192	160	143	144	52	53	4	8	77	65		
Illegitimate	1	1	3	2	6	4	5	9	1	1	2		3	2			1	3	2			4	8	14	15	10	10	6	4	3	3			1	2			
POPULATION FOR BIRTH RATE	3195		2827		19192		7844		5018		3080		9723		2394		1602		10962		886		11581		48218		19969		12234		9944		940		10002			
DEATH RATE	2966		2536		17486		7037		4502		2772		8722		2148		1437		9831		795		10389		43256		17914		10975		8921		843		8973			



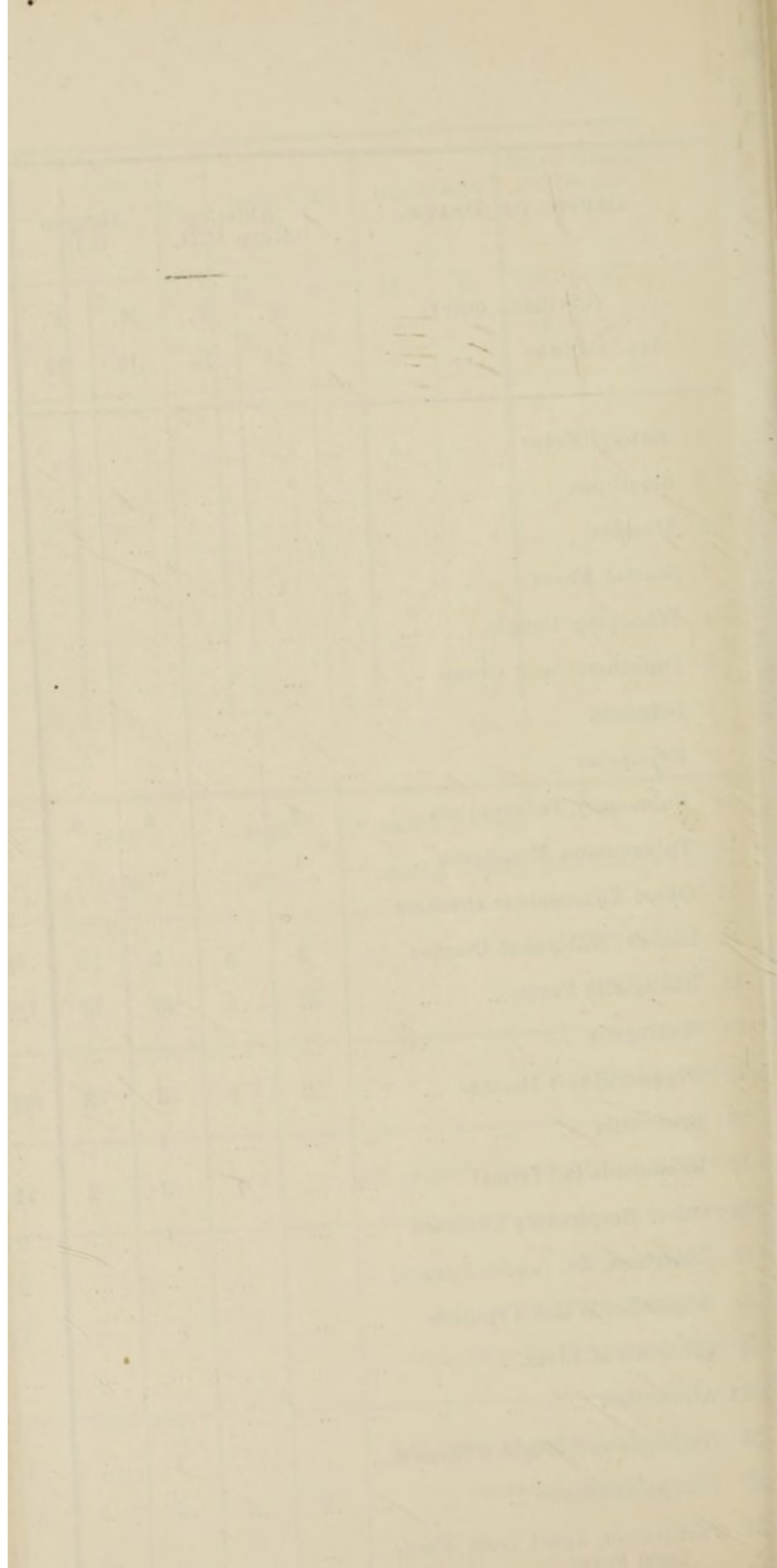




TABLE A.—Continued.

VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1917.

CAUSES OF DEATH.	Higher Bebington U.D.		Helling- worth U.D.		Hoole U.D.		Hoylake and West Kirby U.D.		Hyde M.B.		Knotsford U.D.		Lower Bebington U.D.		Lymm U.D.		Macclesfield M.B.		Marple U.D.		Middlewich U.D.		Mottram-in- Longendale U.D.		Nantwich U.D.		Neston and Parkgate U.D.		Northwich U.D.		Runcorn U.D.		Sale U.D.		Sandbach U.D.		
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES	14	15	20	18	29	33	90	95	207	196	41	25	75	72	29	38	244	226	44	31	32	37	19	26	59	53	22	23	143	107	151	102	118	82	41	38	
1 Enteric Fever									1																												
2 Small-pox																																					
3 Measles			1				1		1	2			5		1		3									3											
4 Scarlet Fever																			1													1					
5 Whooping Cough			3				2	1		1			2	2														1	2		4	3		1			
6 Diphtheria and Croup			1	1					2	3	5		1	2			2	3			1	1			1		1		2	6		5	1	2	1	1	
7 Influenza			1		1	1	1	3								1	1	3	1	1			1							1	4	1	4	1	1		
8 Erysipelas																																					
9 Pulmonary Tuberculosis	2	2		1	6	3	10	8	7	14	3	2	6	6	2	2	19	10	4	1		1		1	5	6	4	2	6	7	13	5	8	6	2	1	
10 Tuberculous Meningitis				1			1	1	1	3			2	3	2		1	1			1							1	1	1	2	2					
11 Other Tuberculous Diseases			2		1		3		2	3		1		1			5	3	2			1		1	2				2	3		2		2			
12 Cancer, Malignant Disease	1		3	2	1	2	7	11	21	17	5	3	1	4		4	22	33	4	5		8	4	1	6	4	4	2	14	6	8	10	9	11	6	6	
13 Rheumatic Fever					1								2																		1	1	1				
14 Meningitis							1	6	3	1		2	1				1				1	1			1				2			4	1		1		
15 Organic Heart Disease	2		2	1	4	3	8	9	13	25	5	2	4	13	2	4	38	46	2	6	3	3	3	8	5	5		2	16	21	8	5	10	10	2	1	
16 Bronchitis			1	1	3		2	5	7	25	19	4	1	4	1	1	4	16	16	1	1	5	3	1	2	4	1	1	3	9	6	9	9	4	1	3	3
17 Pneumonia (all forms)		1		2	3	6		9	5	15	17	2	1	5	2	1	11	17	7	2	2	3	1		6	3	1		14	9	18	7	5	2	1	1	
18 Other Respiratory Diseases					1	2	2	5	2	1		2	1			1	1	3	1	1	1			1	3	1	1		2	3	3	2	4	1		2	
19 Diarrhoea, &c. (under 2 years)	1	1			1	1	1	1				2	1				8								1	1			3	3	3	3	4	1			
20 Appendicitis and Typhilitis		1				1	1			2		1			1											1		2					2	1	1		
21 Cirrhosis of Liver						1		1		1			1				1	1	1							1				2		2		2	1		
21A Alcoholism																																					
22 Nephritis and Bright's Disease	1	1			1	2	8	8	11	6	1	2	3	1	1	1	9	7	2		1		1	1		1		1		1	4	4	4	1	3	2	
23 Puerperal Fever								1		1			1		1																						
24 Parturition, apart from Puer- peral Fever								1		4				3			1								1					1		1		3			
25 Congenital Debility, &c.		1		1	2	2	3	3	14	9	1	1	6	7	2	2	8	9		1	8	1		1	3	1	1		4	4	18	11	5	3	2	2	
26 Violence, apart from Suicide			1	1	2	1	4	2	10	3	1		2	2	2	2	9	4	2	1	2	3		1	3	1	5	1	6	3	13		6	3	3	1	
27 Suicide									1	4	1		1	1			2	1											1		2		2				
28 Other Defined Diseases	6	3	6	5	3	14	23	30	71	57	13	11	21	21	15	14	90	66	15	12	8	11	9	10	18	23	4	8	57	32	38	30	43	31	16	17	
29 Causes Ill-defined or Unknown		1									1		1	1																	1						
Special Causes (included above)—																																					
Cerebro-spinal Fever													1	1																							
Polymyelitis								1									1								1				1								
Deaths of Infants under 1 year of age	2	3	1	1	4	5	11	6	26	15	3	3	16	10	3	2	30	15	3	2	9	5	1	4	5	2	4	1	15	13	37	22	13	4	2	4	
TOTAL BIRTHS	10	22	12	15	50	48	90	81	260	253	37	36	137	136	53	36	228	210	44	36	71	48	13	21	60	62	43	45	189	177	210	190	151	134	62	61	
Legitimate	9	21	12	15	49	45	84	79	247	237	33	35	131	133	50	35	215	196	43	34	68	47	12	21	56	60	41	44	174	172	201	183	143	124	57	56	
Illegitimate	1	1			1	3	6	2	13	16	4	1	6	3	3	1	13	14	1	2	3	1	1		4	2	2	1	15	5	9	7	8	10	5	5	
POPULATION FOR BIRTH RATE	1833		2518		8233		14625		34365		5299		14623		5263		33034		6777		5343		2951		7042		4721		20818		16797		16832		6170		
DEATH RATE	1644		2259		5592		13120		30628		4754		13118		4721		29634		6080		4793		2647		6317		4235		18676		16863		15100		5535		



No.	Date	Description	Debit	Credit	Balance
1	1890	Jan 1			
2	1890	Jan 2			
3	1890	Jan 3			
4	1890	Jan 4			
5	1890	Jan 5			
6	1890	Jan 6			
7	1890	Jan 7			
8	1890	Jan 8			
9	1890	Jan 9			
10	1890	Jan 10			
11	1890	Jan 11			
12	1890	Jan 12			
13	1890	Jan 13			
14	1890	Jan 14			
15	1890	Jan 15			
16	1890	Jan 16			
17	1890	Jan 17			
18	1890	Jan 18			
19	1890	Jan 19			
20	1890	Jan 20			
21	1890	Jan 21			
22	1890	Jan 22			
23	1890	Jan 23			
24	1890	Jan 24			
25	1890	Jan 25			
26	1890	Jan 26			
27	1890	Jan 27			
28	1890	Jan 28			
29	1890	Jan 29			
30	1890	Jan 30			
31	1890	Jan 31			
32	1890	Feb 1			
33	1890	Feb 2			
34	1890	Feb 3			
35	1890	Feb 4			
36	1890	Feb 5			
37	1890	Feb 6			
38	1890	Feb 7			
39	1890	Feb 8			
40	1890	Feb 9			
41	1890	Feb 10			
42	1890	Feb 11			
43	1890	Feb 12			
44	1890	Feb 13			
45	1890	Feb 14			
46	1890	Feb 15			
47	1890	Feb 16			
48	1890	Feb 17			
49	1890	Feb 18			
50	1890	Feb 19			
51	1890	Feb 20			
52	1890	Feb 21			
53	1890	Feb 22			
54	1890	Feb 23			
55	1890	Feb 24			
56	1890	Feb 25			
57	1890	Feb 26			
58	1890	Feb 27			
59	1890	Feb 28			
60	1890	Feb 29			
61	1890	Feb 30			
62	1890	Mar 1			
63	1890	Mar 2			
64	1890	Mar 3			
65	1890	Mar 4			
66	1890	Mar 5			
67	1890	Mar 6			
68	1890	Mar 7			
69	1890	Mar 8			
70	1890	Mar 9			
71	1890	Mar 10			
72	1890	Mar 11			
73	1890	Mar 12			
74	1890	Mar 13			
75	1890	Mar 14			
76	1890	Mar 15			
77	1890	Mar 16			
78	1890	Mar 17			
79	1890	Mar 18			
80	1890	Mar 19			
81	1890	Mar 20			
82	1890	Mar 21			
83	1890	Mar 22			
84	1890	Mar 23			
85	1890	Mar 24			
86	1890	Mar 25			
87	1890	Mar 26			
88	1890	Mar 27			
89	1890	Mar 28			
90	1890	Mar 29			
91	1890	Mar 30			
92	1890	Mar 31			
93	1890	Apr 1			
94	1890	Apr 2			
95	1890	Apr 3			
96	1890	Apr 4			
97	1890	Apr 5			
98	1890	Apr 6			
99	1890	Apr 7			
100	1890	Apr 8			

TABLE A.—Continued.

VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1916.

CAUSES OF DEATH.	Stalybridge M.B.		Tarporley U.D.		Wilmshaw U.D.		Winsford U.D.		Yeardsley- cum-Whaley U.D.		Bucklow R.D.		Chester R.D.		Congleton R.D.		Disley R.D.		Macclesfield R.D.		Malpas R.D.		Nantwich R.D.		Northwich R.D.		Runcorn R.D.		Tarvin R.D.		Tintwistle R.D.		Wiral R.D.		
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES	193	179	9	20	42	48	80	68	7	6	109	108	74	60	84	60	17	16	86	101	24	25	149	158	130	139	172	141	83	84	14	12	99	95	
1 Enteric Fever							1					1												1					1						
2 Small-pox																																			
3 Measles	6	4					1	1								1							1	4			3	1		1				1	
4 Scarlet Fever				1																			1										1	5	
5 Whooping Cough				1	2						2		1											1		2				2					
6 Diphtheria and Croup	3	1						1							1	1			1	1	1		1	1	2	2	3	2							
7 Influenza	2			2		2	2	2			3		3	1	1	1	1		2	1	1	3	3	2	2	1	2	2	1	1				1	
8 Erysipelas		1									1	1																						1	
9 Pulmonary Tuberculosis	25	17			1	1	2	5	1	1	3	6	5	6	6	2	3		3	4	1	3	6	6	4	8	14	8	3	3	2	1	11	5	
10 Tuberculosis Meningitis	3	3									1		2		2				1				2		2	1	5	2		1					
11 Other Tuberculous Diseases	3	4			1	1	2	2			1	1			1	1			2				1	1	1	1	1	1	2	2		1	2		
12 Cancer, Malignant Disease	12	9	1	5	3	2	4	12			8	14	13	4	7	8	1	2	10	20	1	3	13	18	14	14	24	15	12	6	2		3	9	
13 Rheumatic Fever		1													1				1		1	2			1		1	1		3				3	
14 Meningitis	6	2						1				1		2	1	2							1	1	2	1	2	2	1					2	
15 Organic Heart Diseases	12	23	1	1	4	8	11	13			15	12	9	8	9	3				12	19	4	4	18	30	11	15	13	22	6	15	3	2	10	12
16 Bronchitis	19	29	1	3	5	9	6	5			4	8	3	6	6	4			2	10	10		1	8	14	11	9	16	7	8	3	2	3	8	4
17 Pneumonia (all forms)	16	6	1		1	2	9	3		1	8	7	4	4	10	4	1	2	6	10	2	2	14	6	13	12	8	7	5	3	2		11	8	
18 Other Respiratory Diseases	1	4			2	1					4	1		1	2	2			1		3		1	1	1	1	4	4	1	1		1	2	1	
19 Diarrhoea, &c. (under 2 years)		2					1				1		2			2				2				1	2	3	1	3	1						
20 Appendicitis and Typhlitis	4	1			1	1					1		1							1			3	1	1		4								
21 Cirrhosis of Liver	2	1	1					1	1		1		1							2				1	1		1	1	1				1		
21a Alcoholism											1															1	1								
22 Nephritis and Bright's Disease	5	4			2	2		2	1		7	2	4	4	2	2	1			2			1	4	4	3	3	2	4	1				2	
23 Puerperal Fever														1		1									1		2							1	
24 Parturition, apart from Puerperal Fever											2			1						1				3		3			2		1				
25 Congenital Debility, &c.	12	15	2	1	3		6	5			7	7	2	2	1	5	1		4	1		1	11	5	6	8	11	7	2	3			7	4	
26 Violence, apart from Suicide	6	2			2	1	5	1			7	2	7	1	6	2			1	2	1		7	4	7	3	14	1	5	1			4	3	
27 Suicide	1							1			2		2	1	1					1			1					3	2						
28 Other Defined Diseases	54	50	2	6	17	16	29	14	4	4	34	42	16	18	28	18	9	9	28	26	10	6	57	52	42	40	38	49	29	33	3	4	36	34	
29 Causes ill-defined or Unknown	1										1								1	1				1		1			2	1			1		
Special Causes (included above)—																																			
Cerebro-spinal Fever																								1			1								
Poliomyelitis																																			1
Deaths of Infants under 1 year of age	24	23	2	2	3	1	18	12			12	11	10	6	10	12	1		8	6		3	19	13	13	19	25	12	8	7	1	3	13	5	
TOTAL BIRTHS	190	179	23	13	43	58	107	105	4	14	159	171	88	81	133	128	18	14	123	122	41	31	226	183	222	249	242	223	112	111	15	14	146	183	
Legitimate	175	161	21	18	41	54	102	97	4	14	154	161	82	78	127	121	17	14	117	119	38	27	206	172	202	234	231	217	107	106	15	13	135	172	
Illegitimate	15	18	2		2	4	5	8			5	10	6	3	6	7	1		6	3	3	4	20	11	20	15	11	6	5	5		1	11	11	
POPULATION FOR BIRTH RATE	26156	2634			8518	11196		1700			22538	12031	13824		3184				16745		4835		26360	26033		29163		13575		2144		19675			
DEATH RATE	23464	2363			7641	10044		1525			20219	10793	12401		2856				15022		4337		23647	23354		26162		12178		1923		17651			



NAME OF VESSEL		DATE		PLACE		REMARKS	
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50	...	...	...	...	...	...	...

TABLE B.

Causes of Death at Different Periods of Life in the Administrative County of Cheshire, 1917.

CAUSES OF DEATH.	Sex.	AGGREGATE OF URBAN DISTRICTS.									AGGREGATE OF RURAL DISTRICTS.								
		All Ages.	0—	1—	2—	5—	15—	25—	45—	65—	All Ages.	0—	1—	2—	5—	15—	25—	45—	65—
ALL CAUSES	M	2752	385	89	135	110	96	283	737	917	1041	120	25	28	37	41	100	262	428
	F	2496	259	76	90	108	104	315	578	966	989	97	21	18	39	35	122	232	425
1 Enteric fever	M	4	...	...	...	1	1	2	...	...	1	...	...	...	...	1	...	...	...
	F	4	...	...	...	3	...	1	...	...	2	...	...	...	...	...	2	...	...
2 Small-pox	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3 Measles	M	41	13	12	14	2	...	...	...	...	4	2	2	...	...	...	...	...	...
	F	23	4	10	5	4	...	...	...	...	8	2	3	...	2	1	...	...	...
4 Scarlet fever	M	4	...	...	3	...	...	1	...	...	1	...	...	1	...	...	...	...	...
	F	4	1	...	3	...	...	...	...	...	4	...	...	2	2	...	...	...	...
5 Whooping cough	M	23	11	6	5	1	...	...	...	...	5	3	...	2	...	...	...	...	...
	F	26	8	8	8	2	...	...	...	...	2	...	2	...	...	...	...	...	...
6 Diphtheria and croup	M	31	...	3	21	6	...	1	...	...	9	...	2	5	2	...	...	...	...
	F	38	...	1	13	22	1	1	...	...	7	...	...	2	5	...	...	...	...
7 Influenza	M	32	1	...	...	...	2	5	13	11	20	1	1	...	1	...	2	4	11
	F	29	2	...	...	2	1	1	9	14	13	1	1	...	...	1	1	...	9
8 Erysipelas	M	2	2	...	...	...	...	...	...	...	2	1	...	...	...	1	...	...	...
	F	2	...	...	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...
9 Pulmonary tuberculosis	M	207	2	2	2	9	32	91	63	6	61	...	1	...	1	15	26	13	5
	F	174	...	...	3	8	47	82	28	6	52	...	...	...	2	13	24	12	1
10 Tuberculous meningitis	M	35	3	9	12	7	2	...	2	...	15	1	...	5	6	1	2	...	...
	F	20	3	3	8	4	1	1	...	...	4	1	...	1	1	1	...	...	...
11 Other tuberculous diseases	M	35	3	3	5	8	3	7	5	1	9	1	...	...	2	2	2	1	1
	F	49	6	5	4	8	6	11	7	2	10	1	1	...	4	...	2	1	1
12 Cancer, malignant disease	M	225	...	...	...	1	...	11	120	93	106	...	1	...	...	...	2	53	50
	F	267	...	...	...	...	2	24	138	103	113	...	...	...	...	...	8	57	48
13 Rheumatic fever	M	9	...	...	1	2	1	...	4	1	4	...	...	...	2	1	...	1	...
	F	7	...	...	...	...	3	2	2	...	10	...	...	...	2	1	5	2	...
14 Meningitis	M	29	7	4	9	6	2	...	1	...	9	...	6	1	1	1	1	...	...
	F	16	4	3	2	4	2	...	1	...	9	1	1	2	2	1	2	...	...
15 Organic heart disease	M	253	...	...	...	5	7	18	88	135	110	...	...	...	2	...	2	41	65
	F	327	...	...	...	6	6	40	99	176	142	...	...	...	2	2	7	45	86
16 Bronchitis	M	213	28	6	6	2	2	8	59	102	76	9	2	1	...	1	2	14	47
	F	220	23	4	4	...	1	11	47	130	71	8	...	1	...	...	1	12	49
17 Pneumonia (all forms)	M	219	43	21	23	12	10	29	40	41	84	14	5	4	5	1	16	21	18
	F	149	22	20	14	9	4	17	21	42	65	13	4	6	2	3	9	10	18
18 Other respiratory diseases	M	39	3	2	4	1	...	5	14	10	19	1	1	1	2	1	2	5	6
	F	43	2	2	3	5	2	4	16	9	13	...	...	...	2	1	1	5	4
19 Diarrhoea, &c.	M	84	44	7	6	2	2	2	7	14	17	6	1	1	...	...	...	6	3
	F	48	16	5	5	2	1	6	6	7	23	9	3	...	1	...	3	3	4
20 Appendicitis and typhlitis	M	16	...	...	1	2	2	5	5	1	10	...	...	...	1	6	1	1	1
	F	13	...	...	...	7	1	2	2	1	3	...	...	...	1	...	1	1	...
21 Cirrhosis of liver	M	19	...	...	...	...	...	2	13	4	7	...	...	...	...	...	1	5	1
	F	4	...	...	...	...	...	1	1	2	2	...	...	...	...	...	...	2	...
21A Alcoholism	M	1	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	...	...
	F	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	2	...
22 Nephritis and Bright's disease	M	96	2	...	1	5	2	8	52	26	26	1	...	...	...	1	4	10	10
	F	69	...	...	...	3	3	10	30	23	22	...	...	...	...	1	5	8	8
23 Puerperal fever	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F	11	...	...	...	...	...	10	1	...	7	...	...	...	...	...	7	...	...
24 Parturition, apart from puerperal fever	M	...	...	...	...	...	2	18	...	...	13	...	...	...	...	2	11	...	...
	F	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25 Congenital debility, &c.	M	170	167	1	...	2	...	...	...	...	52	52	...	...	...	...	...	...	...
	F	129	123	1	2	2	...	1	...	...	43	41	1	...	1	...	...	...	...
26 Violence, apart from suicide	M	121	5	2	11	19	10	26	27	21	59	2	1	3	8	4	14	19	8
	F	51	3	5	3	9	1	5	5	20	19	1	1	1	5	2	4	3	2
27 Suicide	M	19	...	...	...	...	...	6	10	3	9	...	...	...	...	...	3	4	2
	F	14	...	...	...	...	1	4	8	1	5	...	...	...	...	1	3	...	1
28 Other defined diseases	M	819	51	9	10	17	18	54	212	448	320	26	1	3	4	6	18	62	200
	F	736	42	7	13	8	18	63	156	429	320	19	4	2	5	5	23	68	194
29 Causes ill-defined or unknown	M	6	...	2	1	...	...	2	1	...	5	...	1	1	...	...	1	2	...
	F	3	...	2	...	...	...	...	1	...	4	...	...	1	...	...	2	1	...



REPORT OF THE BOARD OF HEALTH

No.	Name	Age	Sex	Occupation
1	John Smith	25	M	Farmer
2	Mary Jones	22	F	Housewife
3	Robert Brown	30	M	Teacher
4	Elizabeth White	28	F	Shopkeeper
5	William Black	35	M	Blacksmith
6	Anna Green	20	F	Domestic
7	James Grey	40	M	Physician
8	Sarah Hall	18	F	Student
9	Thomas Lee	27	M	Engineer
10	Elizabeth King	32	F	Widow
11	John Miller	24	M	Student
12	Mary Davis	21	F	Housewife
13	Robert Wilson	38	M	Merchant
14	Elizabeth Moore	26	F	Teacher
15	William Taylor	33	M	Blacksmith
16	Anna Scott	19	F	Domestic
17	James Adams	42	M	Physician
18	Sarah Baker	17	F	Student
19	Thomas Clark	29	M	Engineer
20	Elizabeth Evans	31	F	Widow
21	John Foster	23	M	Student
22	Mary Gibson	20	F	Housewife
23	Robert Harris	36	M	Merchant
24	Elizabeth Hunt	25	F	Teacher
25	William Jenkins	34	M	Blacksmith
26	Anna Kelly	18	F	Domestic
27	James Lamb	41	M	Physician
28	Sarah Lewis	16	F	Student
29	Thomas Martin	30	M	Engineer
30	Elizabeth Nelson	27	F	Widow
31	John Owen	22	M	Student
32	Mary Parker	19	F	Housewife
33	Robert Quinn	37	M	Merchant
34	Elizabeth Reed	24	F	Teacher
35	William Russell	32	M	Blacksmith
36	Anna Scott	17	F	Domestic
37	James Turner	43	M	Physician
38	Sarah Vance	15	F	Student
39	Thomas Ward	28	M	Engineer
40	Elizabeth Young	26	F	Widow

TABLE C.

## TABULAR STATEMENT

prepared from the Reports of Medical Officers of Health of Sanitary Districts in the Administrative County of Chester  
for the year ending 31st December, 1917.

SANITARY DISTRICTS	Column Number	Population at	Population 1917	Population 1917	Area in	Births.	Birth-rate per	Legitimate Births.	Deaths.	Death-rate per	Deaths from										Deaths under one year.	Deaths under one Year to 1000 Births.	Is Hospital Isolation for Infectious Diseases provided?	Name of Medical Officer of Health.		
		Census, 1911.	for Birth Rate.	for Death Rate.							Acres.	1000 Living.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Deaths from Principal Zymotic Diseases.					Principal Zymotic Diseases Death-rate.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
<b>MUNICIPAL BOROUGH.</b>																										
Conington	11309	11581	10089	2572	209	18.0	12	155	14.9				1	3	2		1	7	40	20	95	Yes.	West Heath Joint	Dr. P. M. Davidson		
Crewe	44690	48218	48256	2184	761	17.8	29	352	12.7				9	3	10	2	9	33	68	62	81	Yes.	Crewe.	Dr. A. B. McMaster		
Dakinfield	19422	19969	17914	1407	373	18.6	20	282	15.6				8	3			3	10	23	115	48	Yes.	Hyde.	Dr. J. R. S. Park		
Hyde	33137	34865	30828	3979	515	14.9	29	453	13.0				3	3	1		8	16	37	41	79	Yes.	Hyde.	Dr. J. Bennett		
Macclesfield	21797	33081	29634	3214	438	13.2	27	470	15.8				3	3			8	16	48	45	102	Yes.	Macclesfield.	Dr. J. H. Marsh		
Stalybridge	26513	26156	23494	3132	369	15.6	33	573	15.8				10	4			2	16	61	47	137	Small-pox only, Hartshead.	Dr. W. J. Hancock			
	170488	173823	155485	15588	2965	15.3	150	2231	14.3				33	4	32	5	4	108	22	263	120					
<b>OTHER URBAN DISTRICTS.</b>																										
Alderley Edge	3143	3195	2866	678	34	19.6	2	39	10.1				1					1	31			Yes.	Monsall.	Dr. G. W. Dowling		
Alaage	2743	3127	2336	2241	49	17.3	5	38	14.9												1	20	Yes.	West Heath Joint.	Dr. H. F. Kingston	
Altrincham	17813	19492	17486	622	294	15.0	10	222	12.6				1				3	14	71	33	112	Yes.	Altrincham.	Dr. A. Golland		
Ashton-upon-Mersey	7934	7444	7037	1623	124	19.3	14	10	9.9								5	5	53	10	104	Yes.	Monsall.	Dr. C. J. Renshaw		
Higher Bebington	1689	1833	1644	659	32	17.4		29	17.6					1			3	193	5	136		Yes.	Wirral Joint.	Dr. Bicknell		
Lower Bebington	11403	14621	13115	1051	270	18.6	9	147	11.2				5	2	4		3	12	95	26	85	Yes.	Ditto.	Dr. Bicknell		
Bollington	5224	5018	4502	1291	49	9.7	2	60	13.3				3		2		5	99	9	183		Yes.	Macclesfield.	Dr. D. W. Main		
Bowdon	3944	3090	2778	850	24	7.7	2	20	9.3								1	32	4	166		Yes.	Altrincham.	Dr. M. Duggan		
Bredbury and Roundley	8083	9723	8722	3090	134	13.6	5	105	12.0									6	81	6	159	Yes.	Hyde.	Dr. F. Cant		
Bromborough	1974	2354	2148	1078	40	16.7		14	6.5				1				1	41	42	6	143	Yes.	Wirral Jt. and Pool Works.	Dr. Bicknell		
Baginbun	1488	1602	1437	2911	19	18.1	1	17	11.9											2	68	Yes.	West Heath Joint	Dr. P. M. Davidson		
Cheadle and Gatley	9913	10442	9838	5057	159	14.5	5	160	14.5									4	36	10	64	Yes.	Monsall and Small-pox Hospital.	Dr. J. H. Godson		
Comptrell	308	486	795	903	17	19.9		5	6.3													Yes.	Hyde.	Dr. C. H. Hibbert		
Ellesmere Port & Whiteby	10056	12234	10775	5151	297	24.2	10	122	11.1				13				2	17	178	25	84	Yes.	Wirral Joint	Dr. J. B. Yeoman		
Hale	8351	9944	8921	1288	111	12.1	6	78	8.7				1	4			1	6	60	7	61	Yes.	Monsall.	Dr. T. A. Rothwell		
Handforth	954	840	843	1311	12	12.7		8	9.4													No.		Dr. A. Nowell		
Hazel Grove and Bramhall	9631	10002	8773	5447	145	14.4	3	116	12.9								1	2	3	29	11	76	Yes.	Hyde.	Dr. Thos. Moore	
Hollingsworth	3580	3518	2319	2085	27	10.7		38	10.8				1	3			4	138	2	74		Small-pox, Mottram Moor.	Dr. R. Pomfret Wyld			
Hooton	6029	6253	5562	334	98	19.7	4	62	11.0													Yes.	Chester.	Dr. F. J. Butt		
Horlase and West Kirby	14029	14523	13150	3066	171	11.6	8	186	14.1				1	2	3		2	8	54	17	93	Yes.	Wirral Joint.	Dr. Bicknell		
Knutsford	5709	5289	4764	1700	73	13.7	5	66	13.8									1	18	6	82		Yes.	Monsall.	Dr. Blease	
Lymm	4989	5263	4721	4374	89	16.9	4	67	14.1									1	43	5	56	Yes.	Lymm.	Dr. Burrows		
Marple	6483	6777	6080	3055	60	11.8	3	75	11.3				1									Yes.	Hyde.	Dr. H. Burton		
Middlewich	4909	5343	4708	1082	119	22.2	4	69	14.3								2	37	14	117		Yes.	Northwich Joint and Marbury.	Dr. S. L. Melville		
Mottram	3049	2961	2547	1084	34	11.5	1	45	17.0													Yes.	Hyde and Small-pox, Mottram Moor.	Dr. G. J. Awhern		
Nantwich	7815	7942	6317	703	124	17.3	6	112	17.7								2	6	46	7	57	Yes.	Wirral Joint.	Dr. Bicknell		
Neston and Parkgate	4596	4721	4235	3267	88	18.6	8	45	10.6				1	1				6	16	76	28	76	Yes.	Northwich Joint and Marbury.	Dr. H. E. Gough	
Northwich	18151	20518	18676	1998	366	17.3	20	350	13.3								6	19	101	10	147	Yes.	Runcorn.	Dr. H. E. Annett		
Runcorn	17353	18737	16863	1275	400	21.2	6	253	15.9				1	5	7			6	19	101	10	147	Yes.	Monsall.	Dr. H. E. Annett	
Sale	13014	16832	15100	2006	285	16.9	18	240	12.3								3	9	33	17	59	Yes.	Northwich Joint and Marbury.	Dr. H. E. Annett		
Sandbach	5728	6170	5535	2394	128	19.6	10	79	14.2				1	2				2	32	6	48	Yes.	West Heath Jt. & Archid for Small-pox.	Dr. R. Riddell		
Tarporley	3004	2694	2368	6195	41	15.5	2	29	12.3				1					2	75	2	97	Yes.	Chester.	Dr. W. E. Burton		
Widneslow	8153	8515	7641	5090	101	11.8	6	93	11.7									2	35	4	39	Yes.	Monsall.	Dr. A. Byers		
Winsford	10770	11106	10444	3779	212	18.9	13	148	14.7				1				1	1	40	30	141	Yes.	Davenham and Marbury.	Dr. Picton		
Windsley cum Whaley	1659	1700	1525	1923	18	10.5		13	8.5													Yes.	Hyde and High Peak.	Dr. F. G. Allan		
	24085	26446	23024	80732	4270	16.1	199	3014	12.6				31	4	37	44	4	42	162	61	481	112				
<b>RURAL DISTRICTS</b>																										
Bucklow	22668	22438	20219	57656	339	11.6	15	217	10.7								2	1	4	17	23	79	Yes.	Monsall.	Dr. Blease	
Chester	12447	12801	10783	34566	169	11.0	9	194	12.4									2	3	24	16	94	Yes.	Chester.	Dr. W. E. Burton	
Conington	12821	13824	12401	40123	361	18.3	13	144	11.6				1				2	5	36	22	84	Yes.	West Heath Joint.	Dr. C. H. Wentworth-Bennet		
Dingley	2058	3184	2886	2460	39	10.0	1	33	11.5													1	31	Yes.	Hyde.	Dr. G. B. Pemberton
Macclesfield	16626	16745	15621	79435	245	14.6	9	187	12.4									2	4	22	14	37	Yes.	Macclesfield and Higher Sutton	Dr. R. Proudfoot	
Malpas	4643	4833	4337	21406	72	14.8	7	49	11.2									1	20	3	41	Yes.	Chester.	Dr. W. E. Burton		
Nantwich	24995	26360	23647	28467	409	15.5	31	307	12.9				5	1	2		1	9	34	32	78	Yes.	Nantwich Joint and Small-pox.	Dr. R. T. Turner		
Northwich	22270	20333	18154	54508	471	16.9	35	219	11.5								2	5	12	46	32	67	Yes.	Northwich Joint.	Dr. H. E. Gough	
Runcorn	28216	29103	26123	69139	465	15.9	17	213	11.9				4				4	13	44	37	79	Yes.	Dutton, Moore (Small-pox).	Dr. Bennett		
Tarvin	1317	13870	12178	68874	233	16.4	10	167	13.7								2	1	5	15	67	Yes.	Chester.	Dr. W. E. Burton		
Widneslow	8153	8515	7641	5090	101	11.8	6	93	11.7													Yes.	Mottram Moor.	Dr. G. J. Awhern		
Wirral	18022	18676	17651	36635	329	16.7	22	194	10.9				1	4			1	6	30	15	54	Yes.	Wirral Joint.	Dr. Bicknell		
	183848	190108	170648	544503	3035	15.9	170	2030	11.9				12	5	16	7	3	19	61	32	217	71				
Administrative County	597771	627777	562952	640823	9970	15.8	519	7278	12.8				76	13	85	56	11	91	333	13	861	86				



CANTON DISTRICT					Total
Ward	Population	Area	Value	Ward	
1	11,000	1.00	100,000	1	11,000
2	12,000	1.00	120,000	2	12,000
3	13,000	1.00	130,000	3	13,000
4	14,000	1.00	140,000	4	14,000
5	15,000	1.00	150,000	5	15,000
6	16,000	1.00	160,000	6	16,000
7	17,000	1.00	170,000	7	17,000
8	18,000	1.00	180,000	8	18,000
9	19,000	1.00	190,000	9	19,000
10	20,000	1.00	200,000	10	20,000
11	21,000	1.00	210,000	11	21,000
12	22,000	1.00	220,000	12	22,000
13	23,000	1.00	230,000	13	23,000
14	24,000	1.00	240,000	14	24,000
15	25,000	1.00	250,000	15	25,000
16	26,000	1.00	260,000	16	26,000
17	27,000	1.00	270,000	17	27,000
18	28,000	1.00	280,000	18	28,000
19	29,000	1.00	290,000	19	29,000
20	30,000	1.00	300,000	20	30,000
21	31,000	1.00	310,000	21	31,000
22	32,000	1.00	320,000	22	32,000
23	33,000	1.00	330,000	23	33,000
24	34,000	1.00	340,000	24	34,000
25	35,000	1.00	350,000	25	35,000
26	36,000	1.00	360,000	26	36,000
27	37,000	1.00	370,000	27	37,000
28	38,000	1.00	380,000	28	38,000
29	39,000	1.00	390,000	29	39,000
30	40,000	1.00	400,000	30	40,000
31	41,000	1.00	410,000	31	41,000
32	42,000	1.00	420,000	32	42,000
33	43,000	1.00	430,000	33	43,000
34	44,000	1.00	440,000	34	44,000
35	45,000	1.00	450,000	35	45,000
36	46,000	1.00	460,000	36	46,000
37	47,000	1.00	470,000	37	47,000
38	48,000	1.00	480,000	38	48,000
39	49,000	1.00	490,000	39	49,000
40	50,000	1.00	500,000	40	50,000
41	51,000	1.00	510,000	41	51,000
42	52,000	1.00	520,000	42	52,000
43	53,000	1.00	530,000	43	53,000
44	54,000	1.00	540,000	44	54,000
45	55,000	1.00	550,000	45	55,000
46	56,000	1.00	560,000	46	56,000
47	57,000	1.00	570,000	47	57,000
48	58,000	1.00	580,000	48	58,000
49	59,000	1.00	590,000	49	59,000
50	60,000	1.00	600,000	50	60,000
51	61,000	1.00	610,000	51	61,000
52	62,000	1.00	620,000	52	62,000
53	63,000	1.00	630,000	53	63,000
54	64,000	1.00	640,000	54	64,000
55	65,000	1.00	650,000	55	65,000
56	66,000	1.00	660,000	56	66,000
57	67,000	1.00	670,000	57	67,000
58	68,000	1.00	680,000	58	68,000
59	69,000	1.00	690,000	59	69,000
60	70,000	1.00	700,000	60	70,000
61	71,000	1.00	710,000	61	71,000
62	72,000	1.00	720,000	62	72,000
63	73,000	1.00	730,000	63	73,000
64	74,000	1.00	740,000	64	74,000
65	75,000	1.00	750,000	65	75,000
66	76,000	1.00	760,000	66	76,000
67	77,000	1.00	770,000	67	77,000
68	78,000	1.00	780,000	68	78,000
69	79,000	1.00	790,000	69	79,000
70	80,000	1.00	800,000	70	80,000
71	81,000	1.00	810,000	71	81,000
72	82,000	1.00	820,000	72	82,000
73	83,000	1.00	830,000	73	83,000
74	84,000	1.00	840,000	74	84,000
75	85,000	1.00	850,000	75	85,000
76	86,000	1.00	860,000	76	86,000
77	87,000	1.00	870,000	77	87,000
78	88,000	1.00	880,000	78	88,000
79	89,000	1.00	890,000	79	89,000
80	90,000	1.00	900,000	80	90,000
81	91,000	1.00	910,000	81	91,000
82	92,000	1.00	920,000	82	92,000
83	93,000	1.00	930,000	83	93,000
84	94,000	1.00	940,000	84	94,000
85	95,000	1.00	950,000	85	95,000
86	96,000	1.00	960,000	86	96,000
87	97,000	1.00	970,000	87	97,000
88	98,000	1.00	980,000	88	98,000
89	99,000	1.00	990,000	89	99,000
90	100,000	1.00	1,000,000	90	100,000
91	101,000	1.00	1,010,000	91	101,000
92	102,000	1.00	1,020,000	92	102,000
93	103,000	1.00	1,030,000	93	103,000
94	104,000	1.00	1,040,000	94	104,000
95	105,000	1.00	1,050,000	95	105,000
96	106,000	1.00	1,060,000	96	106,000
97	107,000	1.00	1,070,000	97	107,000
98	108,000	1.00	1,080,000	98	108,000
99	109,000	1.00	1,090,000	99	109,000
100	110,000	1.00	1,100,000	100	110,000
101	111,000	1.00	1,110,000	101	111,000
102	112,000	1.00	1,120,000	102	112,000
103	113,000	1.00	1,130,000	103	113,000
104	114,000	1.00	1,140,000	104	114,000
105	115,000	1.00	1,150,000	105	115,000
106	116,000	1.00	1,160,000	106	116,000
107	117,000	1.00	1,170,000	107	117,000
108	118,000	1.00	1,180,000	108	118,000
109	119,000	1.00	1,190,000	109	119,000
110	120,000	1.00	1,200,000	110	120,000
111	121,000	1.00	1,210,000	111	121,000
112	122,000	1.00	1,220,000	112	122,000
113	123,000	1.00	1,230,000	113	123,000
114	124,000	1.00	1,240,000	114	124,000
115	125,000	1.00	1,250,000	115	125,000
116	126,000	1.00	1,260,000	116	126,000
117	127,000	1.00	1,270,000	117	127,000
118	128,000	1.00	1,280,000	118	128,000
119	129,000	1.00	1,290,000	119	129,000
120	130,000	1.00	1,300,000	120	130,000
121	131,000	1.00	1,310,000	121	131,000
122	132,000	1.00	1,320,000	122	132,000
123	133,000	1.00	1,330,000	123	133,000
124	134,000	1.00	1,340,000	124	134,000
125	135,000	1.00	1,350,000	125	135,000
126	136,000	1.00	1,360,000	126	136,000
127	137,000	1.00	1,370,000	127	137,000
128	138,000	1.00	1,380,000	128	138,000
129	139,000	1.00	1,390,000	129	139,000
130	140,000	1.00	1,400,000	130	140,000
131	141,000	1.00	1,410,000	131	141,000
132	142,000	1.00	1,420,000	132	142,000
133	143,000	1.00	1,430,000	133	143,000
134	144,000	1.00	1,440,000	134	144,000
135	145,000	1.00	1,450,000	135	145,000
136	146,000	1.00	1,460,000	136	146,000
137	147,000	1.00	1,470,000	137	147,000
138	148,000	1.00	1,480,000	138	148,000
139	149,000	1.00	1,490,000	139	149,000
140	150,000	1.00	1,500,000	140	150,000
141	151,000	1.00	1,510,000	141	151,000
142	152,000	1.00	1,520,000	142	152,000
143	153,000	1.00	1,530,000	143	153,000
144	154,000	1.00	1,540,000	144	154,000
145	155,000	1.00	1,550,000	145	155,000
146	156,000	1.00	1,560,000	146	156,000
147	157,000	1.00	1,570,000	147	157,000
148	158,000	1.00	1,580,000	148	158,000
149	159,000	1.00	1,590,000	149	159,000
150	160,000	1.00	1,600,000	150	160,000
151	161,000	1.00	1,610,000	151	161,000
152	162,000	1.00	1,620,000	152	162,000
153	163,000	1.00	1,630,000	153	163,000
154	164,000	1.00	1,640,000	154	164,000
155	165,000	1.00	1,650,000	155	165,000
156	166,000	1.00	1,660,000	156	166,000
157	167,000	1.00	1,670,000	157	167,000
158	168,000	1.00	1,680,000	158	168,000
159	169,000	1.00	1,690,000	159	169,000
160	170,000	1.00	1,700,000	160	170,000
161	171,000	1.00	1,710,000	161	171,000
162	172,000	1.00	1,720,000	162	172,000
163	173,000	1.00	1,730,000	163	173,000
164	174,000	1.00	1,740,000	164	174,000
165	175,000	1.00	1,750,000	165	175,000
166	176,000	1.00	1,760,000	166	176,000
167	177,000	1.00	1,770,000	167	177,000
168	178,000	1.00	1,780,000	168	178,000
169	179,000	1.00	1,790,000	169	179,000
170	180,000	1.00	1,800,000	170	180,000
171	181,000	1.00	1,810,000	171	181,000
172	182,000	1.00	1,820,000	172	182,000
173	183,000	1.00	1,830,000	173	183,000
174	184,000	1.00	1,840,000	174	184,000
175	185,000	1.00	1,850,000	175	185,000
176	186,000	1.00	1,860,000	176	186,000
177	187,000	1.00	1,870,000	177	187,000
178	188,000	1.00	1,880,000	178	188,000
179	189,000	1.00	1,890,000	179	189,000
180	190,000	1.00	1,900,000	180	190,000
181	191,000	1.00	1,910,000	181	191,000
182	192,000	1.00	1,920,000	182	192,000
183	193,000	1.00	1,930,000	183	193,000
184	194,000	1.00	1,940,000	184	194,000
185	195,000	1.00	1,950,000	185	195,000