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WEST RIDING COUNTY COUNCIL.

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TWENTY-FIFTH  
ANNUAL REPORT

OF THE  
County Medical Officer,

❧ 1913. ❧

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Including an Abstract of the Annual Reports of the Medical  
Officers of Health for the Sanitary Districts  
within the Administrative County.

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*Printed by Order of the Public Health and Housing Committee,  
21st September, 1914.*

## PREFATORY TABLE.

Showing the principal items of the Vital Statistics, etc., for 1913, relating to the West Riding Administrative County as a whole :—

AREA of Administrative County .. ..	1,659,072 acres
POPULATION, estimated to middle of 1913	1,521,694 persons
SANITARY DISTRICTS, 155, namely :—12 Non-County Boroughs	
( <i>For complete list see Tables at end of report.</i> )	115 Other Urban Districts
	28 Rural Sanitary Districts

		Year 1913.	Average of previous Five Years.
<b>Birth Rate</b> (Administrative County)	..	24·6	25·5
Per 1000 estimated population.			
<b>Death Rate</b>	..	14·0	14·4
Zymotic Death Rate	..	1·4	1·4
Phthisis Death Rate	..	0·8	0·9
Respiratory Death Rate	..	2·5	2·3
<b>Infantile Mortality, i.e., Number of Deaths</b>		120	120
under one year per 1000 births.			

The arrangement of the matter in the report is as follows :—  
*Part I.* deals with the general work of the County Health Department. *Part II.* gives an account of the work undertaken in the Bacteriological Laboratory during the year. *Part III.* deals with the Treatment of Tuberculosis in the County. *Part IV.* is the Abstract of the Annual Reports of local Medical Officers of Health. *Part V.* consists of Statistical Addenda.

**JAMES ROBT. KAYE,**

County Medical Officer.

Wakefield,

September, 1914.



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## PART I.

### INTRODUCTION.

The Annual Report for 1913 has been produced amid more than usual difficulties. Apart from the extension of School Medical Inspection into clinics and actual treatment, there came upon us the new work for the treatment of Tuberculosis, and also the more detailed work in relation to Housing—subjects which dovetail in many aspects. There is material galore, but the difficulty is in curtailing this report to reasonable limits.

I am indebted to the Staff for their unselfish support of time and energy in all this new work. I would cordially take this opportunity of recording my thanks to Dr. Bullough for his work on the Sanitary part of the Report, and to Dr. Campbell for his compilation of the Report on Tuberculosis. The Summary of Vital Statistics is indeed encouraging in our efforts for national betterment.

**Schools.** This section of the Department's work is dealt with in a separate Annual Report, submitted to the West Riding Education Committee.

**Laboratory.** Part II. of this Report contains an account by Dr. P. L. Sutherland of the year's work in the Bacteriological Laboratory.

**Nurses Exchange.** During 1913, the system of temporary interchange of Isolation Hospital nurses was utilised on 15 occasions. It was, however, only possible to transfer four nurses for temporary duty, as in the remaining instances there was no nurse available when the request was received.

**Parliamentary Work.** The private Bills promoted during 1913 which affected the West Riding from a Public Health point of view, were the following :—(1) Huddersfield Corporation Bill; (2) Bradford Corporation Bill; (3) Leeds Corporation Bill.



**Local Government Board Inquiries.**—The following is a list of the Inquiries held during 1913 :—

Date.	Sanitary District and Locality.	Subject.	Amount	Result
			£	
13.1.13	Wakefield City .. ..	Street Improvement	14134	Sanctioned
"	" .. ..	Sewerage .. ..	1238	Sanctioned
15.1.13	Barkisland .. ..	Water Supply .. ..	3200	Sanctioned
30.1.13	Mirfield .. ..	Sewage Disposal .. ..	3850	Sanctioned
"	" .. ..	Sewerage .. ..	94	Refused
"	" .. ..	Street Improvement	523	Sanctioned
31.1.13	Baildon .. ..	Sewage Disposal .. ..	1310	Sanctioned
4.2.13	Kirkburton .. ..	Complaint under Section 10 of Hous- ing, Town Plan- ning Act, 1909 D.C. to build .. ..	1250	Sanctioned
12.2.13	Mexborough .. ..	Sewerage & Disposal	7947	Sanctioned
18.2.13	Bowland R., <i>Grindleton</i> .. ..	Sewage Disposal .. ..	—	Withdrawn
19.2.13	Settle R., <i>Ingleton</i> .. ..	Water Supply .. ..	500	Sanctioned
4.3.13	Goole R., <i>Snaith &amp; Cowick</i> .. ..	" .. ..	900	Sanctioned
5.3.13	Selby .. ..	" .. ..	630	Sanctioned
25.3.13	Flockton .. ..	Working-class Dwellings .. ..	2000	Sanctioned
26.3.13	Skipton R., <i>Embsay-with- Eastby</i> .. ..	Sewerage .. ..	940	Sanctioned
27.3.13	Bingley .. ..	" .. ..	275	Sanctioned
2.4.13	Doncaster R. and Mexboro' Jt. I. H. District .. ..	I. H. extensions .. ..	6698	Sanctioned
4.4.13	Hemsworth R., <i>Shafton</i> .. ..	Sewage Disposal .. ..	245	Sanctioned
16.4.13	Rothwell .. ..	" .. ..	9000	Pending
21.4.13	Meltham .. ..	Working-class Dwellings .. ..	5055	Sanctioned
22.4.13	Pateley Bridge R., <i>Dacre..</i>	Sewerage & Disposal	1036	Sanctioned
"	" .. .. <i>Hart- with-w-Winsley</i> .. ..	" .. ..	2657	Sanctioned
23.4.13	Wetherby R., <i>Weeton</i> .. ..	" .. ..	4500	Sanctioned
24.4.13	Hunsworth .. ..	" .. ..	3350	Referred back
25.4.13	Doncaster R., <i>Rossington</i> .. ..	" .. ..	3990	Pending
14.5.13	Thurnscoe .. ..	Water Supply .. ..	700	Sanctioned
20.5.13	Brighouse .. ..	Pleasure Ground .. ..	1140	Sanctioned
"	" .. ..	Purchase of Pro- perty and Street Improvement } .. ..	1560	Sanctioned
"	" .. ..	Paving .. ..	1540	Sanctioned
"	" .. ..	Sewage Disposal .. ..	19000	Sanctioned
"	" .. ..	" .. ..	920	Sanctioned
"	Meltham .. ..	Sewerage .. ..	600	Sanctioned
21.5.13	Horsforth .. ..	" .. ..	1175	Sanctioned
22.5.13	Balby-with-Hexthorpe .. ..	Sewage Disposal .. ..	6811	Sanctioned



Date.	Sanitary District and Locality.	Subject.	Amount	Result.
			£	
28.5.13	Marsden .. .. .	Street Widening ..	1124	Sanctioned
"	" .. .. .	Sewerage & Disposal	7127	Pending
29.5.13	Wetherby R., <i>Bramham-w-Oglethorpe</i> .. .. .	" .. .. .	388	Sanctioned
12.6.13	Hunslet R., <i>Templenewsam</i>	Town Planning ..	—	Sanctioned
17.6.13	Wath-on-Deane .. .. .	Water Supply ..	12000	Sanctioned
20.6.13	Morley Boro' .. .. .	" .. .. .	10000	Sanctioned
24.6.13	Ossett Boro' .. .. .	Sewerage & Disposal	1206	Sanctioned
2.7.13	Goole R., <i>Swinefleet</i> ..	Water Supply ..	1400	Sanctioned
25.7.13	Doncaster R., <i>Askern, portions of Sutton, Campsall, Norton, Burghwallis, Owston, Moss &amp; Fenwick</i>	Town Planning ..		
30.7.13	Rotherham R., <i>Maltby</i> ..	Sewerage & Disposal	2064	Sanctioned
31.7.13	Normanton and District Joint Isolation Hospital District .. .. .	Extension of Hospital .. ..	5000	Sanctioned
7.8.13	Kiveton Park R., <i>Dinnington</i> .. .. .	Sewerage .. .. .	160	Sanctioned
		Surface Water Drainage .. ..	960	Sanctioned
		Widening and Improvement of Out-gang Lane .. ..	540	Sanctioned
12.8.13	Doncaster R., <i>Sutton</i> ..	Sewerage & Disposal	3500	Pending
13.8.13	" .. .. . <i>Norton</i> ..	" .. .. .	6300	Pending
19.8.13	Earby .. .. .	Sewage Disposal ..	4638	Sanctioned
20.8.13	Hebden Bridge .. .. .	Sewerage .. .. .	330	Sanctioned
"	Mytholmroyd .. .. .	Communication with Hebden Bridge sewers .. ..	—	Sanctioned
12.9.13	Bingley .. .. .	Appeals Closing Orders under Town Planning Act .. ..	—	Dismissed
1.10.13	Settle R., <i>Langcliffe</i> ..	Water Supply ..	2325	Sanctioned
10.10.13	Ossett Boro' .. .. .	Sewage Disposal ..	8356	Sanctioned
14.10.13	Rotherham R., <i>Ravenfield</i>	Water Supply ..	539	Sanctioned
15.10.13	Clayton .. .. .	Appeal against Closing Order ..	—	Dismissed
"	Shipley .. .. .	Working-class Dwellings .. ..	4935	Sanctioned
17.10.13	Skipton R., <i>Cold Coniston</i>	Water Supply ..	1400	Sanctioned
21.10.13	Skipton .. .. .	Sewerage .. .. .	1340	Sanctioned
"	" .. .. .	Sewage Disposal ..	107	Sanctioned



Date.	Sanitary District and <i>Locality</i> .	Subject.	Amount	Result.
23.10.13	Knaresboro' R., <i>Follifoot</i> ..	Sewerage .. ..	£ 280	Sanctioned
"	Normanton .. ..	Working-class Dwellings .. ..	16475	Sanctioned
28.10.13	Barnoldswick .. ..	Sewerage .. ..	1168	Sanctioned
"	" .. ..	Water Supply .. ..	2400	Sanctioned
"	" .. ..	Fire Station .. ..	2460	Withdrawn
4.11.13	Linthwaite .. ..	Working-class Dwellings .. ..	23243	Sanctioned
"	Bentley-with-Arksey ..	Sewerage & Disposal ..	594	Sanctioned
5.11.13	Hemsworth R., <i>N. Elmsall, S. Elmsall, S. Kirkby</i> ..	Sewage Disposal .. ..	6104	Sanctioned
6.11.13	Golcar .. ..	Sewerage & Disposal ..	14026	Pending
7.11.13	Wath-on-Deane .. ..	Sewage Disposal .. ..	13000	Sanctioned
11.11.13	Wakefield City .. ..	Street Widening .. ..	2100	Sanctioned
"	" .. ..	Water Supply .. ..	22792	Sanctioned
13.11.13	Calverley .. ..	Sewage Disposal .. ..	1730	Sanctioned
19.11.13	Rotherham R., <i>Brampton-en-le-Morthen and Loughton-en-le-Morthen</i> ..	Sewerage .. ..	1497	Sanctioned
20.11.13	Brighouse .. ..	" .. ..	551	Sanctioned
26.11.13	Shipley .. ..	Extension of I.H. ...	2900	Sanctioned
27.11.13	Wharfedale Union Joint Isolation Hospital District .. ..	" .. ..	3000	Sanctioned
28.11.13	Hunslet R., <i>Templenewsam</i> ..	Sewage Disposal .. ..	3000	Sanctioned
2.12.13	Wetherby R., <i>Spofforth-w-Stockeld</i> .. ..	Sewerage & Disposal ..	905	Sanctioned
3.12.13	Holmfirth .. ..	Sewerage .. ..	1825	Sanctioned
10.12.13	Harrogate Boro' .. ..	Sewerage & Surface Water Drainage ..	7000	Sanctioned
11.12.13	Horsforth .. ..	Sewerage & Disposal ..	3400	Sanctioned

Reference to the Statistical Addendum on page 119 will show the total of loans sanctioned from 1888 to March, 1913, arranged under various headings. Included in the column headed "Other" are the loans sanctioned for the erection of working-class dwellings, and this item for 1913 reached £52,436.



**Midwives Act.**—The work of supervising the 695 practising midwives has been conducted on the customary lines, and their work as a whole has been performed in a satisfactory manner. During 1913, 875 visits were made to midwives from this Department. Evidence of greater care and stricter attention to the Rules is shown by the fact that in only 56 instances was it found necessary to send written cautions on account of minor infringements discovered during inspections. In three cases of infringements of the Rules, the midwives were personally interviewed by the Chairman of the Public Health and Housing Committee and strong cautions administered.

Two midwives were struck off the Roll as a result of the Committee's representation to the Central Midwives Board. One of them E.K. (No. 16892) was connected with a death of a child. On investigation she was found to be practising without having notified her intention to do so for the past 3 years, and neither possessed any outfit, register, or forms, as required by the Rules. The other midwife H.E. (No. 16493) was connected with a fatal case of puerperal fever, and on enquiry it was found that she had ignored several Rules, and was altogether unfit to practise. The following table gives the number of notifications received during 1913 and affords a comparison with previous years :—

	1909	1910	1911	1912	1913
Notifications for Sending for Medical Help .. ..	639	723	618	677	675
Notifications of Death of Child .. ..	59	68	57	61	66
Notifications of Death of Mother .. ..	7	4	3	12	8
Number of Inquests reported .. ..	48	46	42	44	33
Notifications of Still-Births .. ..	391	392	394	368	372
Notifications of Puerperal Fever .. ..	36	35	29	44	24
Notifications of other Infectious Cases .. ..	3	2	11	8	10
Notifications of Laying-out Dead Body .. ..	—	—	6	8	13

*Medical Aid Notices.*—The figures under this head are practically the same as last year. In spite of repeated warnings we are not informed of a considerable proportion of the cases in which a doctor is called in. There are two reasons for this (1) the midwife does not fill up the proper medical aid form, but calls in the doctor by a verbal message, and (2) where she has filled up the proper medical aid form she does not, as the Rules require of her, send a duplicate of the notice to the Local Supervising Authority. In some cases the midwife did not possess the necessary forms, and others professed ignorance of their obligation in the matter. It is to be hoped that when the Notification of Births Act is in force (commencing July 1st, 1914), that midwives will not be under the impression that it is no longer necessary to keep a register of cases, or send the notices as required by the Rules of the Central Midwives Board.



*Death Notifications.*—The 66 deaths of infants represent about the usual yearly average. Inquests were held in 31 instances, the remaining 35 being medically certified. In 5 cases the midwife was regarded as having been to-blame and was suitably cautioned. There were 8 deaths of mothers, and Inquests were held in 2 cases. In one case the negligence of the midwife was held to have been the cause of death, and later the midwife's name was removed from the Register.

*Puerperal Fever.*—It is very encouraging to report that the number of cases of puerperal fever as occurring in the practice of midwives was only 24 as against 44 cases in the previous year. Each of these 24 cases was fully investigated by this Department, and in every case the midwife carried out complete disinfection before resuming her other duties. In only one case did the midwife infringe the Rule of recommencing practice before she obtained our permission to do so. This midwife was interviewed by the Chairman of the Committee and severely censured. It is regrettable that a fatal result occurred in 3 out of the above 24 cases.

The following table has been prepared showing the number of notifications and deaths from puerperal fever in the decennial periods before and after the Midwives Act came into force :—

Average Annual Number of Births.	Average Annual Notifications of Puerperal Fever.	Average Annual Number of Deaths from Puerperal Fever.
1893-1902, <i>i.e.</i> , Before Midwives Act. 42980	105	61.5
1903-1912, <i>i.e.</i> , After Midwives Act. 39820	72.5	44.8

*Other Infectious Diseases.*—Under Rule 5 of the Central Midwives Board if a midwife has been in contact with any condition supposed to be infectious or is herself liable to be a source of infection, she must disinfect herself and all her instruments, appliances, and clothing, to the satisfaction of the Local Supervising Authority before going to any other maternity patient. During the year midwives were temporarily suspended under this head for having been in contact with the following infectious diseases :—Scarlet Fever 7, Measles 1, Erysipelas 1, and Diphtheria 1.

*Laying-out the Dead.*—We were informed that midwives laid out the dead on 13 occasions during 1913, but it is obvious from enquiries made on inspection that this number represents



only a very small proportion of what actually takes place. Midwives are discouraged to continue this practice. On receiving notification of having laid out a dead body, the midwife is instructed to adequately cleanse and disinfect herself in accordance with Rule 5 of the Central Midwives Board before being allowed to attend other maternity cases.

*Number of Midwives.*—12 midwives died during the year, and others from feebleness and old age were compelled to give up practice. At the end of the year the number of midwives who notified their intention to practise was 667 :—

	1907	1908	1909	1910	1911	1912	1913
Number of Midwives who gave formal notice of their in- tention to practise	788	757	717	746	730	696	695
Number of reported Deaths of Midwives	17	20	11	11	16	14	12

We have still to record that an insufficient number of fully trained midwives are coming along to take the place of the old bona-fide midwives as they die off. This is somewhat surprising as the remuneration of midwives, both as regards amount and promptness of payment, has been greatly improved by the Insurance Act. The Insurance Act has dealt a hard blow at the "handy women," because such women are not able to sign the maternity benefit form. It is regrettable that some "handy women" get over this by asking a neighbouring medical man to sign the maternity form for them. This is a matter that has been engaging the attention of the General Medical Council from the standpoint of regarding these women as unqualified assistants, and it is very desirable that an end should be put to this unsatisfactory state of affairs.

*Ophthalmia Neonatorum.*—On April 1st, 1914, this disease became compulsorily notifiable by midwives and doctors. A circular has been sent out explaining that the notification of this disease to the Local Medical Officer of Health does not relieve midwives of their duty to immediately send for medical aid by filling up the proper form and sending a copy of the notice to the Local Supervising Authority.

*Training of Midwives.*—As in previous years the West Riding Education Committee granted Scholarships for the training of 5 women at the Leeds Maternity Home. Four were successful in passing the examination of the Central Midwives Board, and the one who failed was successful at the second attempt. All these have taken up practice in various parts of the Administrative County.

*Sale of Food and Drugs Acts.*—During 1913, 3218 samples of Food and Drugs were submitted to the Public Analyst, 2546 by the Inspectors of the County Council, and 672 by Local Sanitary Inspectors. Reference should be made to the offer of the County



Council to pay the Analyst's fees for the examination of samples of milk submitted by Local Authorities, under which arrangement 427 samples were examined during 1913. The following table shows the Quarterly distribution of the samples.

QUARTERLY RECORD OF SAMPLES TAKEN DURING 1913.

DISTRICT	INSPECTOR	Samples Analysed during 1913				
		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Barnsley	J. H. Bundy ..	39	60	42	40	181
Central ..	A. Ross ..	64	70	52	77	263
Harrogate	H. Gamble ..	88	97	84	90	359
Mirfield ..	H. Newbould	80	76	73	75	304
Pontefract	H. F. Wilkinson	83	55	57	83	278
Rotherham	J. Wilson ..	105	72	77	77	331
Shipley ..	J. Duce ..	63	62	32	76	233
Skipton ..	A. Randerson..	87	78	78	82	325
Sowerby ..	E. Bell ..	70	69	61	72	272
Total Samples taken by the County Inspectors		679	639	556	672	2546
Local Authorities .. ..		109	169	158	236	672
Private Purchasers .. ..		—	—	—	—	—
Total Samples Analysed		788	808	714	908	3218

RECORD OF SAMPLES FOR TEN YEARS, 1904-1913.

Year.	Total Samples submitted by			Total Examined.	Total Adulterated.	Percentage Adulterated.
	County Council.	Local Authorities.	Private Purchasers.			
1904	2310	284	..	2594	81	3.1
1905	2329	342	2	2673	129	4.8
1906	2367	432	2	2801	122	4.3
1907	2294	400	1	2695	105	3.9
1908	2231	489	..	2720	138	5.3
1909	2276	463	..	2739	102	3.7
1910	2340	504	..	2844	111	3.9
1911	2522	592	..	3114	158	5.1
1912	2753	617	..	3370	225	6.7
1913	2546*	672	..	3218	167*	5.2

\* These totals include 39 "Informal samples," i.e., samples taken without the legal formalities being observed; 38 of these samples were genuine and 1 adulterated.

*Milk Samples.*—The average composition of the milk samples taken during 1912 and 1913 has been worked out for the next table, and the figures which follow enable a comparison to be made for each Quarter of 1913.



## Average composition of milk samples, 1912 and 1913 :—

	Total Samples Analysed.		Genuine Samples only.		Adulterated Samples only.	
	1912	1913	1912	1913	1912	1913
Percentage of :—						
Total Solids ..	12.37	12.65	12.49	12.79	11.28	11.03
Solids other than Fat ..	8.89	9.00	8.94	9.08	8.40	8.03
Fat .. ..	3.48	3.65	3.55	3.71	2.88	3.00

QUARTER. 1913.	Genuine and Adulterated.				Genuine Only.				Adulterated Only.			
	No.	Total Solids.	Solids not Fat.	Fat.	No.	Total Solids.	Solids not Fat.	Fat.	No.	Total Solids.	Solids not Fat.	Fat.
1st ..	286	12.75	9.09	3.66	273	12.82	9.12	3.70	13	11.28	8.38	2.90
2nd ..	238	12.65	9.06	3.59	224	12.73	9.09	3.64	14	11.42	8.46	2.96
3rd ..	182	12.42	8.83	3.59	155	12.68	9.00	3.68	27	10.93	7.93	3.00
4th ..	323	12.70	8.95	3.75	299	12.86	9.05	3.81	24	10.79	7.74	3.05
Averages	1029	12.65	9.00	3.65	951	12.79	9.08	3.71	78	11.03	8.04	2.99

*Informal Samples.*—The samples taken under this heading during 1913 numbered 39, and of these only one (a milk sample) was found to be unsatisfactory. The result of the analysis showed that the sample contained an excess of dirt, a large proportion of which was found to consist of sandy particles, such as would be found in a milk exposed to road dust on a windy day. A formal sample taken later from the same source was reported as genuine.

*Dirty Milk.*—Twenty-two samples of milk, including several informal purchases, were submitted for analysis to test the cleanliness of the supplies, but in only one case (the informal sample referred to in the previous paragraph), was the amount of dirt found to exceed the permissible maximum.

*Public Health (Milk and Cream) Regulations, 1912.*—In addition to the ordinary chemical analysis, 1707 samples of milk were specially examined during 1913, to determine the presence of preservatives; of this number, only 5 were reported against. In 4 cases the preservative was boric acid, and in the other sample, formalin had been used; in no case, however, were legal proceedings necessary.

Only 4 samples of cream were examined under these Regulations; two of these contained a preservative, but the quantity present was less than the declared amount. No case of infringement of the Regulation prohibiting the exposure for sale of unlabelled preserved cream was reported during the year, and it is probable that the sale of this article is not a very common practice in the County area.



## PART II.

## THE WORK OF THE BACTERIOLOGICAL LABORATORY.

January 1st to December 31st, 1913.

The total number of specimens examined in the laboratory during the year, including those from the County Borough of Dewsbury, was 16,895. The following table shows the number of specimens of different kinds examined during each month of 1913 :—

MONTHLY RECORD OF SPECIMENS EXAMINED.

Year	Serum Reaction for Enteric Fever	Sputum for Tubercle Bacilli	Suspected Diphtheria	Miscellaneous	Total
January ..	28	214	614	356	1212
February ..	70	292	773	243	1378
March ..	71	316	1049	243	1679
April ..	33	335	643	288	1299
May ..	56	317	731	258	1362
June ..	25	300	580	338	1243
July ..	35	323	579	322	1259
August ..	62	271	465	120	918
September	42	304	584	299	1229
October ..	81	285	947	312	1625
November ..	57	297	1396	208	1958
December	69	246	1240	178	1733
Total ..	629	3500	9601	3165	16895

The next table gives the figures for 1913 in comparison with those for the previous 5 years :—

YEARLY REPORT OF SPECIMENS EXAMINED.

	Serum Reaction for Enteric Fever	Sputum for Tubercle Bacilli	Suspected Diphtheria	Miscellaneous	Total
1908	574	694	3884	1212	6364
1909	638	825	5751	1996	9210
1910	751	842	6663	1880	10136
1911	1110	1130	7385	2492	12117
1912	687	1789	6255	2903	11634
1913	629	3500	9601	3165	16895

The total number of specimens examined during 1913 shows an increase of 5,261 compared with that of 1912. The increase affects all classes of specimens except those for the diagnosis of



enteric fever which show a slight decrease owing to the diminished prevalence of the disease during 1913. The number of specimens of sputum is nearly double that for 1912, and the Diphtheria and Miscellaneous specimens also show marked increases. During the year 271 specimens required biological examination for the diagnosis of anthrax, and for the detection of tubercle bacilli in milk, urine, sputum, pus and tissues.

In April, when Dewsbury became a County Borough, arrangements were made for continuing the examination of specimens from patients resident in the borough, and a memorandum of agreement, which included a scale of fees, and dated from April 1st, 1913, was drawn up and signed in August. The figures given in all the tables include the specimens examined from Dewsbury.

**Diphtheria Examinations.**—Diphtheria was more prevalent than usual during the year, and there has been a corresponding increase in the number of swabs examined for the presence of the diphtheria bacillus. The total number was 9,601, an increase of 3,346 as compared with last year, and in 2,548 of the specimens the bacillus was found. The following table shows the number of specimens received from different sources with the result of the examination in each case:—

Source of Specimen.	*Positive.	†Negative.	Total.
Local Medical Officers and Practitioners .. ..	2492	6659	9151
School Medical Inspectors ..	46	212	258
Central Staff .. ..	10	182	192
Total ..	2548	7053	9601

\* "Positive" signifies that the *Bacillus Diphtheriæ* was found.

† "Negative" signifies that the *Bacillus Diphtheriæ* was not found.

The specimens from Medical Officers of Health and Practitioners include 6,343 specimens from suspected cases and convalescents, of which 2,145 were positive, and 2,808 from contacts, of which 347 were positive. In the majority of cases the patient was not considered free from infection until two or more consecutive swabs taken at short intervals had given negative results. In four cases in which the bacillus was found to be present in the throat after long periods of time the organism was isolated and tested for virulence. In three of these cases the bacillus was found to be virulent and in one non-virulent.

The specimens submitted by the School Medical Inspectors were taken during the ordinary course of School Inspection from children with suspicious throat conditions and resulted in the discovery of 46 cases of Diphtheria. It is not uncommon



for children suffering from a mild unrecognised attack of diphtheria to attend school, and each year a considerable number of these cases are detected by the School Medical Inspectors.

Five school outbreaks were investigated by the Central Staff in connection with which 182 swabs from contacts were examined. In nine cases the bacillus was found to be present, and the children were excluded from school until the throat was free from infection.

**Serum Diagnosis of Enteric Fever.**—During the year 629 specimens of blood were examined for the Widal reaction for the diagnosis of enteric fever, and in 138 or 21·9 per cent. the result was positive. The number shows a decrease of 58 compared with that of last year, and this is accounted for by the fact that enteric fever was less prevalent during 1913.

The specimens include a considerable number which were examined in connection with investigations for the detection of "carriers."

**Examination of Sputum for Tubercle Bacilli.**—The specimens of sputum examined for the tubercle bacillus numbered 3,500, and of these 1,129 or 32 per cent. were reported positive. Compared with last year there has been an increase of 1,711 or nearly 50 per cent. in the number of specimens received, as a result of the greater attention which is now being directed to the diagnosis and treatment of Phthisis. The number of specimens sent by practitioners has increased considerably, and the examinations have been more often repeated in doubtful cases. In addition a large number have been examined for the Medical Officers of the West Riding Sanatoria and Dispensaries.

The following table gives the details of the specimens submitted by the West Riding Tuberculosis Staff :—

	Positive.	Negative.	Total.
Cardigan Sanatorium ..	218	229	447
Balby Sanatorium .. ..	122	70	192
Morton Banks Sanatorium ..	31	36	67
Brierley Gap Sanatorium ..	36	30	66
Dispensaries .. .. .	117	320	437
Total ..	524	685	1209

The School Medical Inspectors submitted seventeen specimens taken in the course of School Inspection and in one of these tubercle bacilli were found.

In 74 cases in which repeated microscopic examination failed to show the presence of the tubercle bacillus, biological



examination gave a positive result in three. This method is only resorted to when at least three microscopic examinations have been made with negative results.

**"Miscellaneous" Specimens.**—The specimens included under this heading numbered 3,164, and consisted of the following classes:—Ringworm 2,670, Enteric Fever 49, Tuberculosis (human) 81, Tuberculosis (bovine) 92, Anthrax 21, Cerebro-Spinal Fever 6, Food-poisoning 19, Water 7, Tissues for Histological examination 13, and other bacteriological and pathological specimens 206.

**Ringworm:**—The total number of specimens of hairs and scales examined for the diagnosis of ringworm was 2,670, and a positive result was obtained in 1,786.

The following table shows the number of specimens received from different sources with the result of the examination in each case:—

Source of Specimen	*Positive	†Negative	Total
Local Medical Officers ..	853	631	1484
Practitioners .. ..	31	38	69
School Medical Inspectors ..	782	184	966
Central Staff .. ..	120	31	151
Total ..	1786	884	2670

\* "Positive" signifies the ringworm parasite was found.

† "Negative" signifies the ringworm parasite was not found.

The number exceeds that of the previous year by 265, but there has been a slight decrease in the specimens received from Practitioners. As was pointed out last year the Practitioners take very little advantage of the laboratory for the diagnosis of ringworm, most of the specimens being taken by School Medical Officers in the course of School Inspection.

The Central Staff specimens were collected in connection with investigations as to the prevalence of ringworm in certain Schools.

**Enteric Fever.**—The total number of specimens examined for the bacillus typhosus was 49, and these consisted chiefly of samples of urine and faeces from convalescent cases of enteric fever, suspected carriers, and cases in which the diagnosis was doubtful.

*Specimens from Convalescents.* From convalescents the specimens were 25 of urine and 7 of faeces, and in 2 specimens of urine and in 1 of faeces the bacillus was found. These specimens were received from cases treated in Isolation Hospitals and were examined in order to determine that the patients were free from infection before being discharged.



*Carriers.*—Five specimens of urine and six of faeces were examined and one specimen of urine and three of faeces gave a positive result. The positive specimens were received from two persons, one of whom was known to be a carrier. The particulars of the carriers are as follows :—

1. Female, aged 57. This woman had an attack of enteric fever in September, 1911, and on the 27th day of illness the bacillus typhosus was found to be present in the urine in large numbers. Ten examinations were made at intervals during 1911, seven during 1912, and one during the present year, and all gave positive results.

2. Female, aged 42. This carrier was discovered as the result of an investigation into the cause of enteric fever in one of the West Riding Asylums. Specimens of blood (39) were examined, from all the patients in the ward affected, and a specimen from one patient was found to give a marked positive Widal reaction. Specimens of faeces and urine from this patient were examined on two occasions, and both specimens of faeces contained the bacillus typhosus.

*Specimens for the Diagnosis of Enteric Fever.* Five specimens were received for purposes of diagnosis from doubtful cases in which the Widal reaction was negative and the result in each case was negative.

One specimen of milk was examined for the bacillus typhosus with negative result.

**Tuberculosis.**—Eighty-two specimens (other than sputum) were examined for the tubercle bacillus.

*Urine.* Sixty-five specimens of urine were examined with positive result in sixteen. In eleven of these positive cases the bacillus was found by microscopic examination and in two the result was confirmed by biological examination.

*Pleural Fluid.* Four specimens of pleural fluid were examined with negative result.

*Pus.* Four specimens of pus were examined and in two, namely, pus from a case of acute mastoiditis and pus from an abscess over the femur, the bacillus was found.

*Glands.* One specimen of glands was examined and found to be tuberculous.

*Faeces.* One specimen of faeces was examined with negative result.

**Bovine Tuberculosis.**—Ninety-two specimens were examined for the detection of the tubercle bacillus in cows milk, and in various tissues from animals.

*Milk.* Seventy-eight samples of milk were examined of which 63 were from individual suspected cows, and 14 were mixed samples.



In 10 of the unmixed samples the bacillus was present, and a provisional positive report was given on the result obtained by microscopic examination of 7 of these and later this was confirmed by biological examination. Suitable measures were taken in each case to prevent the sale of the infected milk.

The examination of the 14 mixed samples gave negative results. Several of these samples were collected from three herds which were suspected to be supplying milk containing tubercle bacilli. The specimens from the three herds were as follows :—

1. Four samples of milk from a herd of 31 cows. The milk was sold in one of the County Boroughs, and a sample taken within the borough was reported to be tuberculous. Result negative.

2. Two samples of milk from a herd of 11 cows. This milk was also sold in a County Borough, and reported to be tuberculous. Result negative.

The discrepancy between the results obtained by examination of the mixed milk sold within the Boroughs and the samples taken direct from the herd is due to the difficulty in tracing the exact source of the milk as sold by the dealers. Such milk is often derived from several sources and the herds supplying it are not always the same, with the result that after the lapse of time necessary to complete the examination it is difficult to trace the animals which supplied the milk on the date when the sample was taken.

3. Five samples from a herd of 15 cows. This herd was examined at the request of an Inspector of the Board of Agriculture as there was some suspicion that the milk had caused tuberculosis in swine. Result negative.

Twenty-five of the specimens including 8 of the positives were samples taken under the provisions of the Tuberculosis Order, 1913, and 9 specimens including 1 positive were examined for the County Borough of Dewsbury.

*Other Specimens.* The other specimens examined for tubercle bacilli were 14 in number, and consisted of glands, lungs, liver, udder, spleen and skin, taken from suspected tuberculous carcasses in connection with meat inspection. Three specimens of glands, two of lung, and one of udder were found to be tuberculous.

**Anthrax.**—The total number of specimens submitted for examination for the presence of the anthrax bacillus was twenty-one. Of these seventeen were from the human subject (sixteen from suspected cases of malignant pustule and one specimen of sputum from a suspected case of woolsorter's disease) and four were from animals.

(a) *Human Anthrax.*—The bacillus was found to be present in 7 of the 17 specimens examined. The particulars of the 7 positive cases were as follows :—



1. Male. Farmer. This man developed a malignant pustule on the arm after killing a beast suffering from anthrax.

2. Male, aged 20. Dyer's labourer. Malignant pustule on left side of face.

3. Male, aged 51. Willeyer. Malignant pustule on left side of neck. Bacillus found in excised pustule and in spleen. Fatal case.

4. Male, aged 32. Fettler. Malignant pustule on the left eyebrow.

5. Male, aged 57. Willeyer. Malignant pustule on the cheek. Bacillus found in excised pustule and in spleen. Fatal case.

Evidence was given at the inquests held on the two fatal cases.

(b) *Animal Anthrax*.—The specimens from animal sources were 3 specimens of blood and 1 specimen of spleen.

In one of the specimens of blood, taken from a sheep, the bacillus was present.

*Cerebro-spinal Fever*.—Four specimens of cerebro-spinal fluid were examined for the presence of the meningococcus with positive result. These specimens were all from the same case which proved fatal. Another specimen of fluid from a suspected case was found to contain tubercle bacilli.

One throat swab was also examined for the meningococcus with negative result.

*Tissues for Histological Examination*.—Thirteen specimens of tissue, chiefly from tumours, were examined for histological structure and five proved to be malignant.

*Water*.—Seven samples of water were submitted for bacteriological examination four of which were drinking waters and three were waters from swimming baths. Two of the drinking waters showed marked evidence of pollution.

*Food Poisoning*.—Nineteen specimens were examined in connection with outbreaks of food-poisoning. These were:—One sample of polony, one of veal, one of potted meat, one of stomach contents, five of urine, five of faeces and five of blood. The specimen of potted meat was suspected to have given rise to an extensive outbreak of over forty cases and examination of a small quantity of the meat showed the presence of organisms of the Gærtner group in large numbers.

*Other Specimens*.—The remaining specimens were urine for bacillus coli and other organisms 69, pus for pyogenic organisms, gonococci and glanders bacillus 30, 11 specimens of blood of which 6 were for general microscopic examination, 4 for the malarial parasite, and 1 for organisms, and 1 specimen of ox tongue for actinomycosis.



## BACTERIOLOGICAL LABORATORY.

LIST OF THE SANITARY DISTRICTS IN THE WEST RIDING SHOWING  
THE NUMBER OF SPECIMENS RECEIVED FROM EACH AREA  
DURING 1913.

<i>Urban Districts :—</i>			Horbury .. ..	104	Stanley .. ..	28
Altofts .. ..	9	Horsforth .. ..	76	Stocksbridge .. ..	11	
Ardsley .. ..	6	Hoyland Nether .. ..	20	Swinton .. ..	7	
Ardsley, East and West .. ..	24	Hoylandswaine .. ..	16	Thurlstone .. ..	28	
Baildon .. ..	16	Hunsworth .. ..	—	Thurnscoe .. ..	16	
Balby-with-Hexthorpe .. ..	—	Ilkley .. ..	90	Thurstonland .. ..	4	
Barkisland .. ..	3	Keighley B. .. ..	229	Tickhill .. ..	20	
Barnoldswick .. ..	71	Kirkburton .. ..	25	Todmorden B. .. ..	59	
Barnsley B. .. ..	87	Kirkheaton .. ..	2	Wakefield C. .. ..	1169	
Batley B. .. ..	126	Knarborough .. ..	13	Wath-upon-Dearne .. ..	4	
Bentley-with-Arksey .. ..	15	Knottingley .. ..	49	Wheatley .. ..	—	
Bingley .. ..	477	Lepton .. ..	3	Whitley Upper .. ..	2	
Birkenshaw .. ..	—	Linthwaite .. ..	—	Whitwood .. ..	49	
Birstal .. ..	4	Liversedge .. ..	46	Wombwell .. ..	308	
Bolton-upon-Dearne .. ..	20	Luddendenfoot .. ..	—	Worsborough .. ..	19	
Brighouse B. .. ..	39	Marsden .. ..	20	Yeadon .. ..	13	
Burley-in-Wharfedale .. ..	5	Meltham .. ..	1			
Calverley .. ..	2	Methley .. ..	2			
Castleford .. ..	41	Mexborough .. ..	16			
Clayton .. ..	177	Midgley .. ..	2	<i>Rural Districts :—</i>		
Clayton West .. ..	5	Mirfield .. ..	84	Barnsley .. ..	2	
Cleckheaton .. ..	49	Monk Bretton .. ..	2	Bishophthorpe .. ..	1	
Cudworth .. ..	22	Morley B. .. ..	80	Bowland .. ..	—	
Darfield .. ..	24	Mytholmroyd .. ..	5	Doncaster .. ..	23	
Darton .. ..	22	New Mill .. ..	19	Goole .. ..	51	
Denby and Cumberworth .. ..	11	Normanton .. ..	41	Great Ouseburn .. ..	77	
Denholme .. ..	1	Oakworth .. ..	18	Halifax .. ..	5	
Dewsbury B. .. ..	1026	Ossett B. .. ..	58	Hemsworth .. ..	55	
Dodworth .. ..	4	Otley .. ..	44	Hunslet .. ..	44	
Doncaster B. .. ..	751	Oxenhope .. ..	11	Keighley .. ..	56	
Drighlington .. ..	13	Penistone .. ..	15	Kiveton Park .. ..	30	
Earby .. ..	26	Pontefract B. .. ..	40	Knarborough .. ..	30	
Elland .. ..	35	Pudsey B. .. ..	12	Pateley Bridge .. ..	32	
Emley .. ..	—	Queensbury .. ..	38	Penistone .. ..	7	
Farnley Tyas .. ..	—	Rawdon .. ..	34	Pontefract .. ..	10	
Farsley .. ..	7	Rawmarsh .. ..	24	Ripon .. ..	10	
Featherstone .. ..	36	Ripon C. .. ..	35	Rotherham .. ..	40	
Flockton .. ..	4	Rishworth .. ..	—	Sedbergh .. ..	43	
Garforth .. ..	16	Rothwell .. ..	44	Selby .. ..	—	
Gildersome .. ..	4	Royston .. ..	1	Settle .. ..	38	
Golcar .. ..	8	Saddleworth .. ..	67	Skipton .. ..	38	
Gomersal .. ..	20	Scammonden .. ..	—	Tadcaster .. ..	67	
Goole .. ..	64	Selby .. ..	352	Thorne .. ..	33	
Greasborough .. ..	2	Shelf .. ..	4	Todmorden .. ..	1	
Greetland .. ..	6	Shelley .. ..	2	Wakefield .. ..	16	
Guiseley .. ..	13	Shepley .. ..	4	Wetherby .. ..	61	
Gunthwaite and Ingbirchworth .. ..	1	Shipley .. ..	95	Wharfedale .. ..	9	
Handsworth .. ..	45	Silsden .. ..	7	Wortley .. ..	109	
Harrogate B. .. ..	573	Skelmanthorpe .. ..	1	<i>Hospitals, etc...</i>	5848	
Haworth .. ..	58	Skipton .. ..	39	<i>School Medical Inspectors .. ..</i>	1240	
Hebden Bridge .. ..	83	Slaithwaite .. ..	23	<i>Central Staff .. ..</i>	349	
Heckmondwike .. ..	91	South Crosland .. ..	5	<i>Miscellaneous .. ..</i>	596	
Hipperholme .. ..	20	Southowram .. ..	8			
Holme .. ..	6	Sowerby .. ..	13			
Holmfirth .. ..	85	Sowerby Bridge .. ..	20	Total No. of Specimens examined .. ..	16895	
Honley .. ..	4	Soyland .. ..	4			
		Springhead .. ..	3			
		Stainland-with-Old Lindley .. ..	34			



## PART III.

### TREATMENT OF TUBERCULOSIS.

In previous Annual Reports this subject has always been dealt with from a statistical point of view, but now the subject demands lengthy reference.

In special reports, details have been given with regard to the initiation and cost of the West Riding Scheme, and for the past year the subject has been dealt with as it has been carried on under the beneficent provisions of the National Insurance Act.

TABLE I.

Table shewing Cases Notified and Mortality from Tuberculosis in the West Riding during the five years, 1909-1913 (inclusive), and a comparison of the Death-Rates.

PULMONARY TUBERCULOSIS.										OTHER FORMS.								
Year.	Population (estimated).	Cases notified.			Deaths notified.			Annual Death rates from Phthisis (West Riding).			Annual Death rates from Phthisis (England and Wales).			Deaths notified.			Mortality rate per 1000 persons.	
		Urban.		County.	Urban.		County.	Urban.		Rural.	County.	Urban.		Rural.	County.	Urban.	Rural.	County.
		Urban.	Rural.	County.	Urban.	Rural.	County.	Urban.	Rural.	County.	Urban.	Rural.	County.	Urban.	Rural.	County.	Urban.	Rural.
1909	1,551,877	—	—	—	1097	268	1365	0.9	0.7	0.9	1.08	599	158	757	0.5	0.4	0.5	
1910	1,561,990	—	—	—	991	243	1234	0.8	0.7	0.8	1.08	544	157	701	0.5	0.4	0.4	
1911	1,584,880*	547	100	647	1125	251	1376	0.9	0.7	0.9	1.08	604	151	755	0.5	0.4	0.5	
1912	1,610,558	2043	508	2551	982	238	1220	0.8	0.6	0.8	1.04	528	103	631	0.4	0.3	0.4	
1913	1,521,694	1942	492	2434	879	271	1150	0.8	0.7	0.8	Not available	467	151	618	0.4	0.4	0.4	

Note.—The case-figure for non-pulmonary tuberculosis was not available for years previous to 1913, when the totals were Urban, 1211; Rural, 282. Total for County, 1493.

\* 1911 Census figure.



TABLE II.

Summary of Notifications received under the Public Health (Tuberculosis) Regulations, 1912,  
during the period from 1st February, 1913, to 3rd January, 1914.

AGE PERIODS.	No. of Notifications on Form A.												No. of Notifications on Form B.				No. of Notifications on Form C (Admissions).		No. of Notifications on Form D (Discharges).	
	Primary Notifications.												Primary Notifications.		Total Notifications (including cases previously notified).		Poor Law Institutions.		Sanatoria.	
	Total Notifications (including cases previously notified).												TOTAL.		TOTAL.		Poor Law Institutions.		Sanatoria.	
	0	1	5	10	15	20	25	30	35	40	45	50	5	10	15	20	25	30	35	40
Pulmonary (Males)	5	39	53	62	110	133	260	215	156	87	13	1133	1142	411	11	26	28	63	11	45
„ (Females)	2	27	58	81	115	132	276	174	64	44	13	986	993	210	9	21	8	38	—	28
Non-Pulmonary (Males)	30	132	146	112	66	60	53	49	21	13	3	685	691	232	20	54	7	—	3	—
„ (Females)	17	106	117	95	80	67	64	37	15	12	9	619	625	130	33	64	—	—	1	—



With the coming into operation of the National Insurance Act on the 15th July, 1912, a beginning was made with the task of providing treatment for the sufferers from tuberculosis among the population of 1,584,880 in the West Riding, but as the organisation of the work occupied some time and the accommodation for the reception of patients was limited, this report must be regarded rather as the laying of a foundation than as a record of achievement. Still it is a testimony to the care with which the scheme of the Public Health and Housing Committee was prepared, that the development of the work has proceeded closely on the lines laid down and promises when fully established to play a valuable part in the campaign against tuberculosis both in its preventative and curative aspects. The County Council of the West Riding, having resolved to treat all parties in the community, has organised the scheme on a basis which permits of the problem being dealt with in a thoroughly efficient manner. The units of the scheme comprise (a) dispensaries; (b) the central office with its administrative and clerical staff; (c) sanatoria; (d) hospitals; (e) after-care, and these are being established on the plan suggested by the Departmental Committee on Tuberculosis.

**The First Unit,—the Dispensary**—is intended to serve as :—

- (1) Receiving house and centre for diagnosis.
- (2) Clearing house and centre for observation.
- (3) Centre for curative and palliative treatment.
- (4) Centre for examination of "contacts."
- (5) Centre for after-care.
- (6) Information bureau and educational centre.

and these objects have been kept in view in the organisation of such units.

*Dispensary Areas.*—The Administrative County has been provisionally mapped out into ten areas with populations varying from 110,000 to 208,000, and in each of these a District Tuberculosis Officer has been located. In the heart of these districts Central Dispensaries have been established having two or three beds for observation purposes where the accommodation permits, with provision for two Nurses in addition to Caretakers.

At convenient geographical points in each area, two, and in some instances three, Branch Dispensaries have been provided; and on two evenings weekly, attendance is given to meet the requirements of patients who are able to follow their employment. The first Dispensary was inaugurated at Wakefield in February, 1913, and others were organised thereafter as soon as suitable premises were obtained; so that at the 31st December all the centres were in operation with the exception of that in the Barnsley area, which, however, has since been opened. The Branch Dispensaries included in the scheme have also been established



with the exception of those at Tadcaster and Chapeltown, where a difficulty has been experienced in securing premises. The offer of expert advice has evidently been welcomed by patients throughout the administrative county as the attendances at the various Dispensaries testify; and the value of the work performed by the District Tuberculosis Officers can be gauged from the statistics appended, though it must be remembered that the work is still in its embryo stage. One of the most important features is the examination of persons who have been in close contact with tuberculous patients, for by this means the disease is frequently discovered before it has made severe inroads into the individual's health, and the saving of life thereby is of inestimable value. At the Dispensaries some patients in an early stage of the disease have been treated with success; others who have previously received a period of treatment in a sanatorium have had treatment continued when necessary; and some, suffering from more advanced disease, have had their symptoms relieved and have received information regarding their mode of life and the disposal of the expectoration, calculated to prevent their communicating the disease to others. The educational value of treatment at the Dispensaries is second only to that given by residence in a sanatorium, and is of importance where the latter cannot be offered. To fulfil the purpose of observation, either in cases in which there is some doubt as to the actual presence of tuberculosis or to assist in deciding which form of institutional treatment would be most suitable, the beds provided in the Central Dispensaries have proved their usefulness in a number of instances. While the majority of the patients treated have been suffering from tuberculosis of the lungs, a number of cases of other forms of the disease have received treatment, such as that of the skin, bones, and lymphatic glands, and marked benefit in many instances has been exhibited under the careful administration of tuberculin.

Various references to the value of tuberculin administration generally are found in the reports of the District Tuberculosis Officers, of which the following are examples:—

*Rotherham Area*:—"As the work has not been sufficiently long in operation to test the results of specific treatment, I can only speak of temporary benefit, but this I consider to be undoubted under the administration of tuberculin."

*Pontefract Area*:—"Consider it to be of benefit in early cases, and it has seemed to improve the working capacity in some cases beyond the early stage where there is little constitutional disturbance."

A considerable amount of clerical work devolves upon the Tuberculosis Officers, and this makes a demand upon their time which limits the effectiveness of their supervision of cases under domiciliary treatment, and curtails their opportunities for visiting patients in consultation with the medical attendant.



The keeping of careful records, however, is necessary to efficient work, and is called for as evidence of the value of treatment administered; while it will also prove of importance in the future, when deductions come to be drawn from the statistics compiled. It will be necessary to give weight to these considerations in deciding how many patients can properly receive treatment at the hands of the District Tuberculosis Officers; for if their time be occupied in dealing with large numbers the value of the work will deteriorate and the reputation of the Dispensaries as centres for affording special advice will suffer. One of the chief obstacles to Dispensary attendance—pointed out by all the Tuberculosis Officers—is the difficulty of meeting the cost of conveyance in rural areas; and particularly when the bread winner of a family is incapacitated by disease, expenditure upon travelling means that so much less money is available for the provision of necessary nourishment. It is not possible however, to establish a Dispensary within easy reach of all patients; and unless an addition were made to the staff, multiplication of branches would result in less attention being given to individual cases and consequently in less benefit being reaped.

In this connection the remarks of the Tuberculosis Officer for the Rotherham Area are of interest:—Dr. Barr writes:—"The expense incurred by the patients in travelling is willingly borne in many cases, considering their straightened circumstances, and is thus a striking testimony to the value set on treatment." This view is also taken by the Huddersfield Tuberculosis Officer, who says that "the opening of the Dispensary on two evenings weekly is appreciated by patients who are able to follow their employment; and it is striking to observe how they manage to surmount difficulties in the way of their attendance when they are interested in their treatment and anxious for cure." Dr. Stewart goes on to say "on the other hand there is sometimes a difficulty in securing regular attendance of some patients. When a patient begins to experience a return of vigour there is a tendency to become irregular in attendance, and careless individuals are occasionally met with who take no interest in the means necessary to restore their health, illustrating the saying 'you cannot cure a fool of tuberculosis.'"

**The work of the Tuberculosis Nurses**, of whom there are twenty, attached to the various Dispensaries, has been very helpful in many ways,—not only in assisting in the conduct of this form of Institutional treatment, but in visiting patients in their dwellings and in endeavouring to make the best of the home conditions under which they have to struggle against their malady.

The Tuberculosis Officer in his report on the work of the Rotherham Area, states that "the Nurses' visits seem to be much appreciated, and it is found that with sympathy and tact, initial objection to visiting is readily overcome."



The Nurses attached to the Keighley Dispensaries "have proved themselves most useful in carrying out the details of the scheme, but experience a difficulty in visiting patients at their homes owing to the distances to be travelled, and the inaccessibility of some of the houses."

In the Pontefract Area it has "not been found easy to persuade patients who have recovered sufficiently to resume work to continue in attendance at the Dispensary, and the Nurses' visits have been of great service in securing a continuance of supervision."

Attention is called by several Tuberculosis Officers to the need for *Dental Treatment*, particularly the supply of artificial dentures in necessitous cases; as perfect digestion, so important in obtaining improvement in the nutrition of patients, cannot be secured without thorough mastication of food. Such assistance as is possible is being given at the Dispensaries in the form of treatment directed against oral sepsis and occasional extractions where called for; but conservative measures requiring the services of a dentist are beyond the reach of many patients.

To quote from the report on the work in the Huddersfield Area:—"On an estimate the District Tuberculosis Officer considers that 50% of the cases require dental treatment, and a number taken at random showed an average of 4 decayed teeth per patient. Great stress is laid on the importance of oral hygiene and on the preservation of decayed teeth, but the expense of the latter is found to be a drawback."

The Tuberculosis Officer at Pontefract writes as follows:—"Dental caries and loss of teeth are commonly discovered in the patients, but there does not appear to be any provision for treatment other than by private arrangement with a dental practitioner. On the whole a good endeavour is made to carry out the advice given at the Dispensary, but supervision by the Nurses is necessary, and has proved of the greatest assistance."



TABLE III.

Diagnosis of the Cases met with at West Riding Dispensaries during 1913.

DISPENSARY AREA.	SEX.	PREVIOUSLY NOTIFIED CASES.									SUSPECTED CASES: OTHER THAN HOUSE CONTACTS.												HOUSE CONTACTS.									TOTALS.														
		Found to be suffering from Pulmonary Tuberculosis.			Found to be suffering from Non-Pulmonary Tuberculosis.			Found to be Non-Tuberculous.			Found to be suffering from Pulmonary Tuberculosis.			Found to be suffering from Non-Pulmonary Tuberculosis.			Found to be Non-Tuberculous.			Found to be suffering from Pulmonary Tuberculosis.			Found to be suffering from Non-Pulmonary Tuberculosis.			Found to be Non-Tuberculous.			Found to be suffering from Pulmonary Tuberculosis.			Found to be suffering from Non-Pulmonary Tuberculosis.			Found to be Non-Tuberculous.											
		Ins.			Dep.			Other.			Ins.			Dep.			Other.			Ins.			Dep.			Other.			Ins.			Dep.			Other.			Ins.			Dep.			Other.		
		Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.	Ins.	Dep.	Other.									
Barnsley .. ..	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
Dewsbury .. ..	M.	66	2	4	9	9	—	—	—	1	4	3	—	—	—	1	2	2	—	—	6	—	—	—	—	2	27	—	70	11	4	9	9	1	4	29	1	—	—							
	F.	46	20	3	3	14	1	—	—	—	3	3	—	1	—	—	1	1	—	—	3	9	—	—	—	6	29	—	52	32	3	4	14	1	7	30	—	—	—							
Doncaster .. ..	M.	37	7	—	4	—	—	—	—	—	1	—	—	—	—	—	6	—	—	—	1	—	—	—	—	—	—	—	38	8	—	4	5	—	6	—	—	—	—							
	F.	4	13	—	4	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	4	14	—	4	3	—	—	—	—	—	—							
Huddersfield ..	M.	18	9	1	1	1	—	—	1	—	8	4	—	3	—	—	2	—	—	8	10	—	—	1	—	17	35	1	34	23	1	4	2	—	19	36	1	—	—							
	F.	9	13	—	—	3	—	—	1	—	4	8	1	—	—	—	1	2	—	6	14	1	—	3	—	14	40	—	19	35	2	—	6	—	15	43	—	—	—							
Keighley .. ..	M.	62	4	5	6	5	—	11	5	2	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	7	15	—	64	5	5	6	5	—	18	20	2	—	—							
	F.	41	25	3	5	3	—	8	2	—	—	—	—	—	—	—	—	—	—	2	3	—	—	—	—	7	26	3	43	28	3	5	3	—	15	28	3	—	—							
Otley .. ..	M.	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	7	—	—	—	—	—	—	—	—	—	—							
	F.	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	3	3	—	—	—	—	—	—	—	—	—							
Pontefract .. ..	M.	—	—	—	—	—	—	—	—	—	2	—	—	1	—	—	1	1	1	—	2	1	—	—	—	13	20	3	4	1	—	—	1	—	14	21	4	—	—							
	F.	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	5	—	—	—	—	1	24	3	—	6	—	—	1	—	1	26	3	—	—							
Rotherham .. ..	M.	68	14	5	3	4	1	—	3	—	2	1	—	—	—	—	2	3	—	1	6	—	—	—	7	—	9	14	—	71	21	5	3	11	1	11	20	—	—							
	F.	8	48	1	1	6	—	—	—	—	—	7	—	—	—	—	—	—	—	1	12	—	—	—	7	—	—	12	1	9	67	1	1	13	—	—	18	1	—							
Sowerby Bridge ..	M.	95	5	4	7	2	1	3	2	—	—	—	—	—	—	—	—	—	—	3	3	2	—	—	—	43	81	2	98	8	6	7	2	1	46	83	2	—	—							
	F.	47	18	1	2	1	—	2	1	2	—	—	—	—	—	—	—	—	—	7	4	2	—	—	—	60	85	3	54	22	3	2	1	—	62	86	5	—	—							
Wakefield .. ..	M.	100	8	4	7	23	1	—	—	—	7	4	—	2	3	—	—	16	—	3	5	1	—	—	—	40	58	2	110	17	5	9	26	1	40	74	2	—	—							
	F.	15	46	4	1	18	—	—	—	—	9	1	—	—	2	—	—	34	—	1	6	—	—	—	—	8	63	3	16	61	5	1	20	—	8	97	3	—	—							
Totals .. ..	M.	453	49	23	37	44	3	14	11	3	24	12	—	5	4	1	13	22	1	19	33	3	—	13	—	131	252	8	496	94	26	42	61	4	158	285	12	—	—							
	F.	173	186	12	16	47	1	10	4	2	7	28	2	1	3	—	2	45	—	20	54	3	—	11	—	96	283	13	200	268	17	17	61	1	108	332	15	—	—							



THE HISTORY OF THE

REIGN OF THE EMPEROR OF THE EAST

BY THE REV. J. G. COLEMAN

IN TWO VOLUMES

VOLUME THE FIRST

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TABLE IV.

## DISPENSARY TREATMENT (Pulmonary Tuberculosis).

Table shewing No. of Cases under treatment during 1913.

DISPENSARY AREA.	Sex.	Cases discharged with "Working Capacity fully Restored."				Working Capacity "Incompletely Restored."				Discharged "without restoration of Working Capacity."				Treatment discontinued for other than Medical Reasons or lost sight of.				Deaths.				Cases remaining under Treatment at end of 1913. (See footnote)				Total No. of New Cases in which treatment was commenced in 1913.			
		3				4				5				6				7				8				9			
1	2	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.
Barnsley .. ..	M. F.	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
Dewsbury .. ..	M. F.	— —	— —	— —	— —	9 3	— —	— —	9 3	7 3	— 2	1 —	8 5	14 10	1 5	— —	15 15	7 2	— 2	— —	7 4	33 34	4 14	3 3	36 48	70 52	5 23	4 3	79 78
Doncaster .. ..	M. F.	— —	— —	— —	— —	1 —	— —	— —	1 —	4 1	— —	1 —	5 1	2 —	— —	2 —	2 —	— —	2 —	— —	29 3	8 14	— 2	30 16	38 4	8 14	1 2	47 20	
Huddersfield ..	M. F.	1 —	— —	— —	1 —	— —	— —	— —	— —	1 4	— —	— —	1 4	2 —	1 —	— —	3 —	— —	— —	— —	21 9	20 26	— 2	41 37	25 13	20 26	— 2	45 41	
Keighley .. ..	M. F.	1 3	— —	— —	1 3	7 —	— 1	1 —	8 1	5 1	— 2	2 2	7 5	6 3	— —	6 3	2 1	— —	2 2	28 25	— 11	— 2	28 38	49 33	— 15	3 2	52 50		
Otley .. ..	M. F.	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	7 3	— 3	— —	7 6	7 3	— 3	— —	7 6	
Pontefract .. ..	M. F.	1 1	— —	— —	1 1	1 —	— —	— —	1 —	6 1	— 3	1 —	7 4	— —	— —	— —	— —	3 1	— 1	— —	3 2	21 7	2 17	— —	23 24	32 10	2 21	1 —	35 31
Rotherham .. ..	M. F.	1 —	— —	— 1	1 1	6 1	1 7	— —	7 8	7 1	1 10	— —	8 11	— —	— —	— —	— —	5 1	— 2	2 —	7 3	39 4	14 35	2 —	65 39	58 7	16 54	4 1	78 62
Sowerby Bridge ..	M. F.	— —	— —	— —	— —	— —	— —	— —	— —	6 —	— 5	— —	6 5	9 6	1 —	— —	10 6	10 4	— 1	1 —	11 5	69 40	4 12	4 3	77 55	94 50	5 18	5 3	104 71
Wakefield .. ..	M. F.	16 —	2 2	— —	18 2	7 1	2 2	1 —	10 3	7 —	— 15	— 3	7 18	16 —	1 12	1 —	18 12	12 1	2 8	— —	14 9	52 14	10 22	3 2	65 38	110 16	17 61	5 5	132 82
Totals .. ..	M. F.	20 4	2 2	— 1	22 7	31 5	3 10	2 —	36 15	43 11	1 37	5 5	49 53	49 19	4 17	1 —	54 36	41 10	2 15	3 —	46 25	299 139	62 154	12 14	373 307	483 188	73 235	23 18	579 441

NOTE.—In column 8 are included certain Cases transferred from Dispensary to Sanatorium, and which were still in residence at the end of the year.



# INVENTORY

of the

Name	Address	City
John Doe	123 Main St	New York
Jane Smith	456 Elm St	Boston
Robert Johnson	789 Oak St	Chicago
Mary White	101 Pine St	Philadelphia
James Brown	202 Cedar St	San Francisco
Elizabeth Green	303 Birch St	Los Angeles
William Black	404 Spruce St	Portland
Margaret Taylor	505 Willow St	Seattle
Charles Wilson	606 Ash St	Denver
Susan Moore	707 Hickory St	Nashville
Thomas Evans	808 Sycamore St	Columbus
Anna Roberts	909 Walnut St	Indianapolis
George Hall	1010 Chestnut St	Cincinnati
Helen King	1111 Locust St	St. Louis
Frank Miller	1212 Maple St	Kansas City
Grace Adams	1313 Elm St	Omaha
Edward Baker	1414 Oak St	Lincoln
Mary Clark	1515 Pine St	Toledo
John Davis	1616 Cedar St	Cleveland
Elizabeth Evans	1717 Birch St	Dayton
William Foster	1818 Spruce St	Akron
Margaret Gibson	1919 Willow St	Columbus
Charles Hall	2020 Ash St	Cincinnati
Susan Hill	2121 Hickory St	Nashville
Thomas King	2222 Sycamore St	Indianapolis
Anna Lee	2323 Walnut St	Cincinnati
George Miller	2424 Chestnut St	St. Louis
Helen Moore	2525 Maple St	Kansas City
Frank Nelson	2626 Elm St	Omaha
Grace Phillips	2727 Oak St	Lincoln
Edward Roberts	2828 Pine St	Toledo
Mary Scott	2929 Cedar St	Cleveland
John Taylor	3030 Birch St	Dayton
Elizabeth White	3131 Spruce St	Akron

Note: The volume is not included in the Census of 1900.



TABLE V.

Non-Pulmonary Tuberculosis. Analysis of Cases examined, and results of Treatment given, 1913.

Dispensary Area.	ANALYSIS OF CASES MET WITH.																RESULTS OF TREATMENT.																															
	Lymphatic Glands.				Skin and Subcutaneous Tissue.				Bone.				Joints.				Internal Organs.				Discharged fit for work or local condition cured.				Discharged 'Improved'.				Discharged 'without Improvement or Worse'.				Treatment discontinued for other than Medical reasons.				Deaths.				Cases still under treatment at end of 1913.				Total number of cases under treatment.			
	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.								
Barnsley .. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Dewsbury .. ..	7	15	1	23	1	3	—	4	1	1	—	2	3	3	1	7	1	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Doncaster .. ..	—	7	—	7	—	2	—	2	—	—	—	—	2	3	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Huddersfield ..	—	4	—	4	—	1	—	1	1	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Keighley .. ..	6	5	—	11	1	—	—	1	—	—	—	—	1	—	—	1	2	1	—	3	1	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Otley .. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Pontefract .. ..	2	2	1	5	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Rotherham .. ..	3	14	1	18	—	3	—	3	—	2	—	2	—	3	—	3	1	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Sowerby Bridge ..	5	3	1	9	1	—	—	1	—	—	—	—	2	—	—	2	4	1	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Wakefield .. ..	1	30	—	31	1	4	—	5	3	3	1	7	2	5	—	7	3	4	—	7	—	2	—	2	—	4	—	4	—	3	—	3	3	3	—	6	—	—	1	1	7	34	—	41	10	46	1	57
Totals .. ..	24	80	4	108	4	13	—	17	5	7	1	13	10	14	1	25	11	11	—	22	1	3	—	4	—	5	—	5	2	5	—	7	13	10	1	24	—	3	1	4	38	99	4	141	54	125	6	185



TABLE I									
Summary of the results of the experiments on the effect of the temperature of the water on the rate of the reaction									
Temp. of water	Time taken for the reaction to complete	Rate of reaction	Temp. of water	Time taken for the reaction to complete	Rate of reaction	Temp. of water	Time taken for the reaction to complete	Rate of reaction	Temp. of water
10	100	0.01	20	50	0.02	30	30	0.03	40
50	20	0.05	60	15	0.06	70	10	0.07	80
90	5	0.08	100	3	0.09	110	2	0.10	120
130	1	0.11	140	0.5	0.12	150	0.2	0.13	160
170	0.5	0.14	180	0.2	0.15	190	0.1	0.16	200
210	0.1	0.17	220	0.05	0.18	230	0.02	0.19	240
250	0.05	0.20	260	0.01	0.21	270	0.005	0.22	280
300	0.01	0.23	310	0.005	0.24	320	0.002	0.25	330
340	0.005	0.26	350	0.001	0.27	360	0.0005	0.28	370
380	0.0005	0.29	390	0.0001	0.30	400	0.00005	0.31	410
420	0.00005	0.32	430	0.00001	0.33	440	0.000005	0.34	450
460	0.000005	0.35	470	0.000001	0.36	480	0.0000005	0.37	490
500	0.0000005	0.38	510	0.0000001	0.39	520	0.00000005	0.40	530
540	0.00000005	0.41	550	0.00000001	0.42	560	0.000000005	0.43	570
580	0.000000005	0.44	590	0.000000001	0.45	600	0.0000000005	0.46	610
620	0.0000000005	0.47	630	0.0000000001	0.48	640	0.00000000005	0.49	650
660	0.00000000005	0.50	670	0.00000000001	0.51	680	0.000000000005	0.52	690
700	0.000000000005	0.53	710	0.000000000001	0.54	720	0.0000000000005	0.55	730
740	0.0000000000005	0.56	750	0.0000000000001	0.57	760	0.00000000000005	0.58	770
780	0.00000000000005	0.59	790	0.00000000000001	0.60	800	0.000000000000005	0.61	810
820	0.000000000000005	0.62	830	0.000000000000001	0.63	840	0.0000000000000005	0.64	850
860	0.0000000000000005	0.65	870	0.0000000000000001	0.66	880	0.00000000000000005	0.67	890
900	0.00000000000000005	0.68	910	0.00000000000000001	0.69	920	0.000000000000000005	0.70	930
940	0.000000000000000005	0.71	950	0.000000000000000001	0.72	960	0.0000000000000000005	0.73	970
980	0.0000000000000000005	0.74	990	0.0000000000000000001	0.75	1000	0.00000000000000000005	0.76	1010



**Open-Air Sleeping Shelters.**—As an adjunct to dispensary treatment the provision of open-air shelters is a valuable measure, proving of service in some cases by assisting patients to lead an open-air life, and in others by removing sufferers from an overcrowded dwelling. Thus the supply of these shelters to the number of 100 will serve the double purpose of treatment and isolation, and will also assist in educating the public regarding the necessity for a continuous supply of fresh air in such cases.

Since the County Council's intention to make provision in this direction became more widely known, the requests for shelters have come to hand with a considerable regularity.

The first structure was supplied in May, 1913, and up to the end of the year there were 20 in constant use in the County. The dimensions of the shelter adopted in the West Riding allow of one single bed, as shewn :—

Length—9 feet, Width 6 feet.

Height—8 feet (front), 6 feet (back).

In each of the sides canvas shutters are fitted, supported by steel jointed arms, and permit of a thorough flushing with air. The construction is so arranged that the fitting-up on the patient's site is reduced to a minimum; and this is a consideration which weighs to some extent in a County Area, where the cost of rail-conveyance and carting is naturally considerable.

In the matter of shelter equipment, in the early stages provision was made only on request, but latterly it has become necessary to supply with each shelter a small single bedstead, lyxhair mattress and waterproof cover.



TABLE VI.

Admissions to, and Discharges from, Sanatoria during the period between July, 1912, and December 30th, 1913.

SANATORIUM	Admissions.				Discharges.			
	Ins.	Dep.	Other.	Total.	Ins.	Dep.	Other.	Total.
Cardigan .. ..	258	9	—	267	213	9	—	222
Balby .. ..	51	25	1	77	43	23	1	67
Morton Banks .. ..	106	42	1	149	76	36	1	113
Brierley Gap .. ..	29	3	3	35	21	3	2	26
Miscellaneous .. ..	19	—	—	19	16	—	—	16
Totals ..	463	79	5	547	369	71	4	*444

**The Second Unit—The Sanatorium.** Treatment in a Sanatorium aims at the arrest of the disease and the restoration of the working capacity of the patients, and it can only be expected to succeed in the case of those in whom the disease is in an early stage. To secure this result early complaint by the patient and early diagnosis by the physician are essential. The former is secured by disseminating a knowledge of the symptoms of the disease, and assistance in the latter is given by the Tuberculosis Officer attached to the Dispensaries. It may be explained that sanatorium treatment includes the best that can be done for a tuberculous patient under the best conditions by a physician who is devoting his whole time to the study and treatment of the malady. It comprises the leading of an open-air life, the administration of a full nourishing dietary, the careful regulation of rest, exercise and graduated labour, and a close personal supervision of all the actions of the patients, in addition to the employment of special remedial measures. The length of time during which a patient should remain under treatment necessarily varies with the extent and severity of the disease, but with the limited accommodation available at the inception of the scheme in the West Riding, it was decided to limit the period of residence to three months. Otherwise such a congestion of applications would have occurred as to lead to delay and the transference of many cases from the early to the intermediate stage during the waiting period. Two reasons have led to the admission of a considerable number of patients not in the early stage, one being the absence of hospital beds suitable for enabling patients to receive a period of treatment as an educative measure, and the other due to the desire of our Tuberculosis Officers in many cases to secure a preliminary period of sanatorium treatment to permit the individuals to benefit later from further treatment at the dispensaries.

\* This figure includes eight patients transferred from one Institution to another.



Pending the erection of the Sanatorium at Middleton, near Ilkley, by the County Council temporary accommodation in four West Riding Institutions has been utilised :—

50 beds in Cardigan Sanatorium, near Wakefield.

40 beds in Morton Banks Sanatorium, near Keighley.

20 beds in Balby Sanatorium, near Doncaster.

10 beds in Brierley Sanatorium, near Hemsworth.

At times the opportunity has been taken to secure beds in other institutions; but until adequate accommodation is at the disposal of the Committee the value of this form of institutional treatment cannot be properly estimated, and no definite conclusions can be reached from the appended results which are the outcome of the effort to do the best for the patients under necessarily restricted conditions. It is gratifying to find that many patients have applied for treatment in an early stage of the disease before softening has occurred in the lungs, in contrast with the experience of former years when cases were being selected for treatment in a Sanatorium. The danger of neglecting to apply for advice at the earliest moment is exemplified in other instances by the fact that, out of the large number of cases discharged from Institutions in the West Riding during the year 1913, of those who had tubercle bacilli in the expectoration only 13 were in Class I., with a small area in one lobe, or very small areas in two lobes affected.

The value of sanatorium treatment has often been referred to in the Annual Reports of the local Medical Officers of Health, and from certain of the 1913 reports it would seem that opinion is not yet unanimous as to the ultimate results of this kind of treatment unaided. Dr. Trotter, Holmfirth, is sceptical about the banishment of tuberculosis "unless there is a radical universal "alteration of our regimen and way of life," and in the report on the health of Keighley, Dr. Scatterty writes "Sanatorium "treatment seldom cures, though it lays a good foundation for "cure, and consequently after-treatment on lines which are both "preventive and curative should be provided, otherwise the time "spent in a Sanatorium becomes little else than an agreeable "but expensive interlude."

### SANATORIUM RESULTS.

In tabulating the "immediate results" of treatment in Sanatoria, it should be explained that these are stated according to the opinion formed at the date of discharge, and that time must elapse before they can be tested. It is intended that the "after history" of the patients should be traced by enquiry forms sent out yearly, and already this step has been taken. (See results on page 33).

The classification adopted is the Turban-Gerhardt notation, as this is the one agreed upon by the International Tuberculosis Committee :—



CLASS I.—Including the cases in which the disease is limited in extent and of slight severity :

CLASS II.—Cases more extensive, but still of moderate severity :

CLASS III.—Cases with a considerable amount of lung tissue involved, or with considerable excavation.

As only a few cases were discharged prior to 31st December, 1912, these results have been included.

The heading "Working capacity fully restored" implies the expectation that the patient's ability to work will be maintained.

The heading "Working capacity temporarily restored" means that the patient is able to resume work, but that there is a probability of a relapse occurring.

The heading "Improved" denotes that an improvement in the patient's general condition and in the state of the lungs has been secured, but that the working capacity is not restored. The other terms are self explanatory.

TABLE VII.  
Shewing the immediate results of Sanatorium Treatment during 1912 and 1913.

Stage of Disease.	Result of Sputum Examination.	Working capacity fully restored.	Working capacity temporarily restored.	Improved	Condition unchanged or worse.	Died in Institution.	Total.
CLASS I.	Tubercle Bacilli found	3	8	4	—	—	Class I.— 127 or 29%
	Tubercle Bacilli not found	85	5	15	7	—	
CLASS II.	Tubercle Bacilli found	1	30	46	6	—	Class II.— 159 or 36%
	Tubercle Bacilli not found	43	7	21	5	—	
CLASS III.	Tubercle Bacilli found	—	17	75	32	1	Class III.— 150 or 35%
	Tubercle Bacilli not found	6	2	15	1	1	
Totals		138 or 32%	69 or 16%	176 or 40%	51 or 11%	2 or 0.4%	436



The average duration of residence was 9 weeks 5 days, and the average gain in weight of patients who remained more than a few days in residence was 9lbs. 4ozs.

In order to ascertain in what proportion of cases a maintenance or an improvement in the state of health and working capacity was subsequently effected, enquiries have lately been issued to the patients concerned, with the following result :—

157 or 36% have maintained their health and are in regular employment.

77 or 18% are stationary and not able to work at their usual employment.

53 or 12% are worse.

79 or 18% are dead.

69 or 16% have not replied or have not been traced.

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435	Total.
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**The Third Unit—Hospital Accommodation.** Hospital accommodation is intended to serve two purposes. In the case of patients in whom the disease has passed beyond the early stage and there is little likelihood of anything more than a temporary restoration of vigour, the individuals while receiving treatment under good conditions will be trained to follow such a mode of life that they may be less likely to infect those with whom they come in contact after leaving the institution—a combined educative and preventive measure. Again the purpose of isolation is served by the removal from home of those who occupy an overcrowded dwelling in which dissemination of the disease is likely to occur, and of those in whom the disease is running a rapid course necessitating constant nursing attention, which cannot be given by relatives without unduly taxing their strength and resources. At present only a few hospital beds are available in the West Riding, so that this branch of the work will not be fully developed until further accommodation is secured.

The need for separate provision for children is receiving attention, and the question of institutional treatment for cases of other forms of Tuberculosis has still to be considered.

The lack of accommodation for advanced cases during 1913 forms the subject of remarks by the Medical Officer of Health for the Hemsworth Rural District. Dr. Wiltshire says :—“ Whilst “so much is being accomplished for the early cases, little so far “has been done for the very advanced cases, which in my opinion “are equally important, as they are so frequently the cause of “spreading the disease, especially in the case of married people “with families. The isolation of these cases is a very difficult “problem, as naturally with no prospect of a cure being effected, “these people are loth to leave their houses.”



**Co-operation of the Local Sanitary Authority.** Another link in the scheme is the co-operation of the Local Sanitary Authorities and the Medical Officers of Health in directing attention to defective housing accommodation, overcrowding, searching out of contacts and bringing them under review, disinfection of dwellings and general preventive measures. The assistance of Medical Officers of Health is also of value in deciding upon the advisability of providing open-air shelters and in selecting suitable sites for them.

Opportunity might here be taken to emphasise the fact that the increased energies of the County Authorities, which have been brought about under the provisions of the Insurance Act, have not in any way restricted the responsibility of the local Sanitary Authority in the way of measures to be adopted after notification, and a perusal of the Annual Reports of the Medical Officers of Health indicates that a good proportion of the Authorities in the West Riding are anxious to supplement the County activities by immediate and useful work of their own. This view appears to be borne out by the following figures :—

	No. of Authorities taking action.
Inspection of patient's home .. ..	148
Examination for Contacts .. ..	66
Disinfection .. ..	140
Distribution of advice leaflets .. ..	100
Action <i>re</i> Spitting (provision of flasks, handbills, &c.) .. ..	63

Reference is also made in many of the reports of the local Medical Officers of Health to various aspects of the work, which demonstrates the lively interest these officers are taking in our crusade, and that invaluable help is being offered. Thus, in the report for Hemsworth Rural, Dr. Wiltshire writes :—"The preponderance of cases at Hemsworth may be accounted for I think by the facilities for the detection of early cases afforded by the Tuberculosis Dispensary. I have no doubt more cases would be found at South Elmsall if a Dispensary were established there." In the Balby report Dr. Anderson states his opinion that "the sanitary condition of the home is so often the prime factor in tuberculosis, and before any improvement or arrest of the disease can be effected, measures for dealing with insanitary conditions must necessarily occupy the foremost place."

Dr. Beaumont, Stainland, is inclined to a rather gloomy view. He says he was "struck by the extreme apathy which the patients appeared to have towards the treatment of their disease. Unless one could promise that they would be definitely improved or cured, they preferred to stop at home and treat themselves with some proprietary medicines rather than undergo the more up-to-date and scientific treatment. One patient replaced any form of treatment by that of marriage."



**Domiciliary treatment**, the term applied to the care of patients at their homes when they are unsuitable for admission to an Institution and cannot attend at a Dispensary, is carried out in the case of insured persons by the medical attendant under the provisions of the Insurance Act, and in the case of other persons by private arrangements. The services of our District Tuberculosis Officers are at the disposal of medical practitioners for consultation in connection with this form of treatment, and in rural areas some time is occupied in this way.

### **Grants by the Insurance Committee.**

#### *Extra Nourishment.*

To enable patients to supplement their dietary which is frequently inadequate, a grant of 5/- weekly has been made by the Insurance Committee in the case of insured persons when the family circumstances urgently call for it; but it would be advantageous if a larger proportion of our working population could be induced to make provision for sickness additional to that derived from the Insurance Act, as the sum of 10/- weekly is insufficient for the needs of a family when the bread winner is incapacitated.

During the 18 months covered by this report, the Insurance Committee approved of weekly grants for extra nourishment in 106 cases.

#### *Provision of Clothing and Cost of Travelling.*

Other expenditure from the Insurance Funds has been agreed to in certain necessitous cases. In a number of instances, insured patients recommended for Sanatorium Treatment have been unable to obtain all the articles of clothing stipulated in the Rules of the Sanatorium, and it has been necessary to provide such out of public funds. The Insurance Committee have also borne the cost of patients' travelling expenses in the case of insured persons where a specific request for re-imbursement was received.

**After-Care.** With the object of giving such advice and assistance to patients as will enable them to meet the handicap of the disease, both during treatment and after their return to work, should a successful result ensue, "After-Care" Committees have been formed with the District Insurance Committee as a nucleus.

As the Government Departmental Committee recommends, the aim of "After-Care" should be to stimulate patients to make a full use of the knowledge they have gained regarding the best means of combating the disease, and to prevent them from making mistakes in their mode of life which might endanger their future. The co-operation of employers of labour is advisable in order that patients who are able to resume employment may be assisted to secure suitable work under conditions which will prevent a relapse, and that they may not be handicapped in earning a livelihood by an exaggerated fear of infection on the part of fellow workers. Much may be done by members of an "After-Care



Committee taking a personal interest in patients in their district, because the well-being of a whole family is so often bound up with the prospects of a sufferer from Tuberculosis that, if the necessities of the case be not effectively dealt with, straightened circumstances may result in other victims being sacrificed. The call for the exercise of tact in such circumstances need scarcely be emphasised, and it must be borne in mind that the patients do not desire publicity in connection with their malady.

In a circular issued at the inception of the scheme, indications were given to the District Insurance Committees as to the practical lines on which their members' efforts might be directed on the patients' behalf, of which the following are examples:—

- (1) Urging the necessary attendance of the patient at the Dispensary, which is often tedious because it is so prolonged.
- (2) Encouraging advanced cases to seek rest and treatment amid suitable surroundings, *e.g.*, hospitals and infirmaries.
- (3) Securing admission of surgical cases, especially children, to Infirmaries and Children's Hospitals.
- (4) Personal interest in the promotion of Lectures and Demonstrations.
- (5) Supervising arrangements in connection with open-air shelters.
- (6) Convincing comrades, employers and employees, of the absence of danger to others of sufferers from Phthisis if care is used in the disposal of expectoration, &c.
- (7) Assistance in the improvement in the home surroundings which might otherwise prove detrimental to the patient's well-being.

**Conditions tending to the development of Tuberculosis.** As much general interest is being taken in the causes which lead to the development of tuberculosis in the lungs, the enumeration of those which appear to have borne a part in leading to the break-down in health of the patients who have applied for treatment in the West Riding may be of service; because on the removal or avoidance of these predisposing causes the prevention of the disease in future largely depends. All conditions which tend to lower the vigour of the body render an individual liable to attack by the germ of tuberculosis, and among the chief of these is a deficient supply of oxygen to the tissues, due to an insufficient admission of air to dwellings, factories and workshops. In many cases there is, to begin with, an inadequate air space in the house for the number of occupants; and this is aggravated in places by the close proximity of other buildings in the form of narrow courts or back-to-back houses. The economic problem of providing sufficient accommodation for the needs of a family when the income is only a moderate one calls for solution, as it shares in the responsibility for a considerable proportion of the Tuberculosis in the West Riding.



Time must elapse in any case before our population can be suitably housed, and a measure which could immediately be taken to reduce the amount of oxygen starvation is to increase the window space in many dwellings, for this is notoriously insufficient to aerate many houses in the West Riding. Along with better provision for the admission of air in dwellings and factories it is essential to impress upon the occupants the imperative need for making use of the means provided, and unless a craving for fresh air and an appreciation of cleanliness are generally cultivated, improved housing conditions alone will not be sufficient to ensure good health. Free admission of sunlight is also essential to a healthy dwelling, and its exclusion is a serious factor in the spread of tuberculosis; but so long as smoke pollution of the atmosphere is commonly permitted the beneficial effect of sunshine will be largely interfered with. In this connection occupation of rooms which are below the ground floor and which are badly lighted should be universally condemned as an enemy of health.

That insufficient housing accommodation and poverty are important factors in causing tuberculosis has impressed itself on the District Tuberculosis Officers, and in the report on the Rotherham Dispensary an illustrative case is given where "within four walls, the complete domestic life of a family is carried on in all its variety of cooking, washing, eating and sleeping." Dr. Barr goes on to say:—"It has in some instances proved difficult to induce a family to submit to the admission of fresh air under such circumstances, more especially when there is an insufficiency of bed clothing to maintain warmth."

Another of the great predisposing causes of the disease is an insufficient supply of food, and this defect which may be one of quantity or quality, is closely related, like the housing question, to the problem of endeavouring to make a limited wage suffice for the needs of a family.

It does not seem that due importance is attached to one cause which renders an individual an easy prey to tuberculosis, namely an overstraining of the body, associated it may be with insufficient sleep owing to late hours, or with overwork, or the fact that the body is not sufficiently robust to bear the burden thrown upon it. A number of cases attributable to the last-mentioned cause have presented themselves during the past year, where young persons of fragile frame have been obviously unsuited for the work they were attempting. Working overtime, for a number of hours beyond the normal period of a day's labour, is a frequent cause of the lowered vitality which predisposes to the development of tuberculosis, and the temporary increase of wage-earning power cannot from any point of view be considered a gain when its effects have so often a disastrous result. One of the most serious forms of overstrain—that associated with the prolonged nursing of relatives suffering from tuberculosis of the lungs—will be avoided when adequate hospital accommodation is provided; for home nursing implies attention night and day



at a certain stage, resulting in severe strain upon the vitality of those engaged in it. In a number of cases over-indulgence in alcohol appears to have been a factor in leading to the onset of the disease, but not in a large proportion of the cases so far as can be judged. As infection with the germ of tuberculosis must be super-added to the predisposing causes before the disease can develop, careful disposal of the expectoration is one of the great means of prevention; and with the distribution of sputum bottles at the dispensaries accompanied by directions for the destruction of the expectoration a decrease in the spread of the disease may be looked for.

Attention has hitherto been directed to advanced cases as sources of infection, but it should be pointed out that persons may suffer from tuberculosis and expectorate sputum containing the bacilli some time before seeking medical advice, and thus until they begin to use a proper receptacle and exercise care while coughing and spitting, they may be a danger to others.

**Non-Pulmonary Forms of Tuberculosis.** It is generally accepted that a considerable proportion of cases of tuberculosis affecting other parts than the lungs receive infection from milk, particularly in childhood; and the measures contemplated for dealing with this source of the disease may be expected to prevent a considerable amount of suffering and deformity in the future.

**Housing.** In the form of application to be filled up in the case of every person desiring treatment, certain details of the conditions affecting the applicant's home life are asked for. In a proportion of the forms no information was forthcoming, but the following table has been compiled from the figures available :—

TABLE VIII.

Shewing the number of applications received for treatment of tuberculosis in relation to the size of dwelling and the number of its occupants.

Number in Household.	No. of Rooms per tenement.										Tot'ls
	1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	10 rooms and upw'rds	
One person ..	—	2	1	1	2	—	—	—	—	—	6
Two persons ..	—	14	15	31	16	8	1	—	—	—	85
Three „ ..	—	27	32	60	29	14	2	—	—	—	164
Four „ ..	—	18	24	73	35	25	13	1	1	1	191
Five „ ..	—	8	29	73	43	33	6	3	1	3	199
Six „ ..	—	5	15	52	28	37	9	4	—	1	151
Seven „ ..	—	4	10	25	44	30	9	2	—	—	124
Eight „ ..	—	4	6	16	22	12	10	2	—	—	72
Nine „ ..	—	1	2	10	8	7	2	1	—	1	32
Ten „ ..	—	—	—	4	12	8	4	—	—	—	28
Eleven „ ..	—	—	—	1	1	1	1	2	—	—	6
Twelve „ ..	—	—	—	2	3	2	—	—	—	1	8
Thirteen „ ..	—	—	—	—	—	—	—	—	—	—	—
Fourteen „ ..	—	—	—	—	—	1	—	—	—	—	1
Totals ..	—	83	134	348	243	178	57	15	2	7	1067



The necessity for improvement in housing conditions has naturally impressed itself on the Tuberculosis Officers, and in many cases special circumstances have been brought to the notice of the County Medical Officer; for it is impossible to wage a successful warfare against tuberculosis unless the predisposing causes are removed, and conditions which favour the spread of infection are altered. Experience has also shown that if an exaggerated fear of infection is to be avoided it will be necessary to carry on a general educative campaign, in order that the public may learn that there is practically no danger of the transmission of the disease if patients are careful in the disposal of their expectoration. Already a number of lectures bearing on the subject have been given by the County Medical Officer and the Tuberculosis Officers; and a more extended series will be provided during the ensuing year. With the same object leaflets are being distributed, and copies of these may be obtained at the dispensaries.

*Dewsbury.*—"This district has a very large number of houses with only one or two bedrooms, which are inadequate for the accommodation of the family when in health, and highly dangerous when one or more members suffer from tuberculosis. The reasons given for the occupying of a small dwelling are the shortage of houses, and inability to pay a higher rent."—Dr. Priestley.

*Wakefield.*—"Many houses were discovered to be overcrowded owing to more than one family living in the same dwelling, and to the custom of admitting lodgers. In some instances, too, bedrooms are occupied during the day by men who work at night, and during the night by men on day duty. I suggest that a by-law be enacted forbidding the sub-letting of small houses."—Dr. Richmond.

In a report on the conditions found in the Keighley area, the Tuberculosis Officer reports that "in practically no part of the area is the housing above criticism, and in some instances obviously insanitary dwellings have been reported upon, but the difficulty is more with houses not bad enough to be condemned and still very unsuitable for tuberculous patients."

#### **Routine Regarding Application for Treatment.**

During the last few months of 1912, and prior to the appointment of District Tuberculosis Officers and establishment of tuberculosis dispensaries, it was necessary that all applications for Sanatorium Benefit should be forwarded by the applicant direct to Wakefield, and for a medical report to be obtained from the family medical attendant. In deciding as to the kind of treatment which the Insurance Committee should be recommended to approve of, this report was used as a guide; but since the first quota of District Tuberculosis Officers was appointed it has been possible for all applicants to be specially examined, and an expert report given as to the class of case under consideration. The opening of the dispensaries has gradually eased the process of



the application through the various channels, and has given better facilities for informing the applicants as to the filling up of forms and the steps to be taken in order to obtain benefit. The formation of the District Insurance Committees in July, 1913, took a certain amount of responsibility in this respect from the Tuberculosis Officer, and it is now the custom for application in the case of insured persons and their dependants to be made to and registered by the Clerk of the District Committee. Applications from persons outside the Insurance Act are made direct to the County Medical Officer or to the District Tuberculosis Officer at the Dispensary.

The present routine for dealing with applications for treatment is as follows :—

The application form, having been received by the District Insurance Clerk, is transmitted to the District Tuberculosis Officer, who arranges for the examination of the patient and thereafter transmits his recommendation to the District Committee, at the same time forwarding a detailed report to the Central Office. The appropriate course of treatment is then decided upon, and if the applicant is recommended for admission to a residential institution, instructions are sent out regarding the necessary preparations. The patient when ready to enter the Institution informs the Central Office, and, when a vacancy occurs, directions for travelling are forwarded.

A joint Committee, consisting of four members—two selected by the Public Health Committee and two by the West Riding Insurance Committee—has been appointed to consider and decide upon the form of treatment to be granted to applicants, with the assistance of the Tuberculosis Officer; and to avoid delay in any case, it is understood that immediate steps may be taken by this officer, who subsequently submits the action taken for the approval of the Committee.

The first application for Sanatorium Benefit was received on July 28th, and from that date to the end of December, 1913, applications were to hand from 1362 persons, as shewn in the following tables :—



TABLE IX.  
Monthly totals of Applications Received.

		Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Year.
1912	{ Insured ..	—	—	—	—	—	—	1	8	18	33	35	30	125
	{ Dependants ..	—	—	—	—	—	—	—	—	—	—	19	26	45
	{ Others ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total ..	—	—	—	—	—	—	1	8	18	33	54	56	170
1913	{ Insured ..	40	39	62	59	50	51	89	80	73	61	87	55	746
	{ Dependants ..	9	17	22	32	24	37	55	51	29	25	44	41	386
	{ Others ..	—	—	—	—	4	7	23	10	2	4	6	4	60
	Total ..	49	56	84	91	78	95	167	141	104	90	137	100	1192

The tables following (X. and XI.) are compiled from the information given on the patient's application forms, and shew the social condition, and the sex and age constitution of the persons applying for treatment. In a number of cases the applicant for treatment failed to give the information asked for, which explains the apparent discrepancies to be noted in the totals.



TABLE X.—Social Condition of Applicants.

SOCIAL CONDITION.	PULMONARY CASES.						NON-PULMONARY CASES.						TOTAL. (Pulmonary and Non-Pulmonary).						
	Insured.		Dependants.		Others.		Total.		Insured.		Dependants.				Others.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Single ..	256	201	87	133	14	13	357	347	10	5	26	14	2	3	38	22	395	369	764
Married ..	327	46	11	140	14	9	352	195	8	2	—	1	1	—	9	3	361	198	559
Widowed ..	14	6	2	1	2	1	18	8	—	—	—	—	1	—	1	—	19	8	27
Total ..	597	253	100	274	30	23	727	550	18	7	26	15	4	3	48	25	775	575	1350

TABLE XI.—Ages of Applicants. (Males).

	Under 15.			15-20.			20-30.			30-40.			40-50.			50-60.			over 60.			All Ages.		
	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.
	Dep.			Dep.			Dep.			Dep.			Dep.			Dep.			Dep.			Dep.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Pulmonary ..	—	74	3	81	8	3	212	3	8	146	4	9	100	4	—	39	3	2	5	1	—	583	97	25
Non-Pulmonary ..	—	23	—	6	—	—	6	2	—	3	—	1	3	—	1	—	—	—	—	—	—	1	18	25
Totals ..	—	97	3	87	8	3	218	5	8	149	4	10	103	4	1	39	3	2	5	1	1	601	122	28
	100			98			231			163			108			44			7			751		

Ages of Applicants. (Females).

	Under 15.			15-20.			20-30.			30-40.			40-50.			50-60.			over 60.			All Ages.		
	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.	I.P.		Other.
	Dep.			Dep.			Dep.			Dep.			Dep.			Dep.			Dep.			Dep.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Pulmonary ..	—	82	8	64	29	2	106	56	7	43	64	5	9	20	1	5	8	—	7	1	—	234	260	23
Non-Pulmonary ..	—	13	3	3	1	—	2	1	—	2	1	—	—	—	—	—	—	—	—	—	—	7	16	3
Totals ..	—	95	11	67	30	2	108	57	7	45	65	5	9	20	1	5	8	—	7	1	—	241	276	26
	106			99			172			115			30			13			8			543		



TABLE XII. Shewing Occupations of Phthisis cases notified in 1913.

Age groups.	Under 1 year	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 onwards.		Totals		Grand Total.
	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.	M. F.	M. F.	M. F.	M. F.	M. F.	
Textile Workers .. .. .	—	—	—	—	—	4	5	21	48	21	48	29	60	27	27	21	4	11	1	—	—	134	193	327
Housewives and females at home ..	—	—	—	—	—	—	—	—	9	—	29	127	—	—	90	—	40	26	—	6	—	—	327	327
Miners and other Colliery Workers ..	—	—	—	—	—	4	—	25	—	30	—	51	—	39	—	34	—	8	—	1	—	192	—	192
Children of School Age .. .. .	—	7	2	36	38	37	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80	90	170
Domestic Servants, Nurses, Charwomen, Housekeepers .. .. .	—	—	—	—	—	—	—	—	20	—	20	29	—	17	—	—	3	4	—	2	—	—	95	95
Labourers Unclassified (Urban) ..	—	—	—	—	—	—	—	2	—	9	—	26	—	13	—	11	—	8	—	2	—	71	—	88
„ (Rural) .. .. .	—	—	—	—	—	—	—	1	—	—	—	3	—	5	—	4	—	3	—	1	—	17	—	—
Masons, Stoneworkers, Quarrymen, &c. Shopkeepers, Tradesmen, Assistants (Inside) .. .. .	—	—	—	—	—	—	—	—	—	1	—	9	—	11	—	11	—	13	—	1	—	46	—	46
Shopkeepers, (Hawkers, &c.) Assistants (Outside) .. .. .	—	—	—	—	—	—	—	3	4	5	—	5	3	4	4	3	—	1	—	—	—	21	11	45
Engineers, Mechanics, Fitters, &c. ..	—	—	—	—	—	—	1	1	—	1	—	2	—	3	—	4	—	1	—	—	—	12	1	43
Workers in iron, steel and tinware, &c. Clerks, Bank Managers, Mill Managers Agriculture (Farmers, Gardeners, &c.) Dressmakers, Tailors, Tailoresses ..	—	—	—	—	—	—	—	1	—	9	—	13	—	10	—	3	—	2	—	—	—	43	—	43
Teamers, Draymen, &c. .. .. .	—	—	—	—	—	—	—	5	1	4	1	15	—	6	—	4	—	—	—	—	—	38	—	38
Joiners, Cabinet Makers, Woodworkers, &c. .. .. .	—	—	—	—	—	—	—	3	—	7	—	10	—	4	1	5	—	2	—	—	—	34	2	36
Railway Workers (Drivers, Porters, Shunters) .. .. .	—	—	—	—	—	—	—	—	7	—	5	2	4	1	3	1	2	1	1	—	—	31	1	32
Grooms, Chauffeurs, Tram Conductors, Cab Drivers .. .. .	—	—	—	—	—	—	—	—	—	—	—	9	—	4	—	5	—	3	—	1	—	25	—	25
„ .. .. .	—	—	—	—	—	—	—	2	—	4	—	5	2	4	—	4	—	2	—	—	—	21	2	23
„ .. .. .	—	—	—	—	—	—	—	1	—	1	—	6	—	5	—	4	—	—	—	—	—	17	—	17
„ .. .. .	—	—	—	—	—	—	—	—	—	1	—	5	—	3	—	3	—	1	—	—	—	13	—	13
Carried forward ..	—	7	2	36	38	47	56	72	89	102	103	201	225	146	142	123	49	59	32	7	8	800	744	1544



TABLE XII. Shewing Occupations of Phthisis cases notified in 1913, continued.

Age groups.	Under 1 year		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 onwards.		Totals		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Sex																									
<i>Brought forward</i>	—	—	7	2	36	38	47	56	72	89	102	103	201	225	146	142	123	49	59	32	7	8	800	744	1544
Teachers, Musicians, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stokers, Firemen, &c., Crane Drivers, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Painters and Decorators, French Polishers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Building Trade (Bricklayers, Joiners, Labourers)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Travellers, Insurance Agents, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Warehousemen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Caretakers, Watchmen, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leather Workers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brewers, Malsters	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Laundry Hands	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Printers, Lithographers, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Army, Navy and Police	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Window Cleaners	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Waiters and Waitresses (not domestic)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Road Menders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glassworks and Pottery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing Chemists, Drysalters, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plumbers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Papermill	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brush and Mat Makers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cornmill	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Asylum Patients	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Seamen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oil Mill	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Carried forward</i>	—	—	7	2	36	38	47	56	77	92	115	110	233	232	173	143	139	51	70	32	9	8	906	764	1670



TABLE XII. Shewing Occupations of Phthisis cases notified in 1913, continued.

Age groups.	Under 1 year		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 onwards.		Totals		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Sex.																									
Brought forward ..	—	—	7	2	36	38	47	56	77	92	115	110	233	232	173	143	139	51	70	32	9	8	906	764	1670
Stocking Knitter ..	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Band Spinner ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Watchmaker ..	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
Machine Broker ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Bioscope Operator ..	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
Clergyman ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
Dentist ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
Professional Cricketer ..	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Salvation Army Officer ..	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Lamp lighter ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Unknown or nil ..	5	2	36	27	28	30	26	34	33	22	16	22	25	44	40	31	15	13	16	12	4	5	244	242	486
Totals ..	5	2	43	29	64	68	73	90	110	115	133	132	260	276	215	174	156	64	87	44	13	13	1159	1007	2166



# APPENDIX TO THE TUBERCULOSIS SECTION.

Shewing the constitution of each Dispensary Area, population, applications for treatment, and notifications from each District.

## Summary.

DISPENSARY DISTRICT.	Total Population.	Applications for Treatment.				Notifications of Tuberculosis 1913.	
		1912 (from July 15th).		1913.		Pulmon- ary.	Non- Pulmon- ary.
		Pulmon- ary.	Non- Pulmon- ary.	Pulmon- ary.	Non- Pulmon- ary.		
Barnsley ..	139,065	12	—	54	1	125	113
Dewsbury ..	110,689	20	—	68	3	172	102
Doncaster ..	135,016	25	2	86	8	236	167
Huddersfield ..	113,601	8	—	106	4	217	112
Keighley ..	143,558	20	—	106	7	200	175
Otley ..	202,354	13	—	104	2	263	169
Pontefract ..	153,139	6	—	106	13	174	116
Rotherham ..	129,762	7	—	122	2	203	147
Sowerby Bridge	123,001	13	—	152	5	246	128
Wakefield ..	208,048	44	—	215	28	346	206
Totals ..	1,458,233	168	2	1119	73	2182	1435

Included in the above are 10 applications by persons who were found on examination to be non-tuberculous.



## Barnsley Dispensary Area.

District Tuberculosis Officer :—Dr. Walter C. Rivers, M.R.C.S.,  
L.R.C.P., D.P.H.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> Open-air School, Queen's Road, Barnsley  (Non-resident)	7.2.14	Mondays & Thursdays, 6-8 p.m. Wednesdays & Saturdays, 10 a.m.	—	—
<b>Branch :—</b> 17, Market St., Penistone	12.3.14	Mondays, 2 p.m. Thursdays 10 a.m.		

TABLE shewing Sanitary Districts in the area, populations, notifications of Tuberculosis and Applications for treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
<b>Urban :—</b>							
Ardsley .. ..	6,870	—	—	3	—	5	3
Cudworth .. ..	6,824	—	—	1	—	5	3
Darton .. ..	9,348	—	—	5	0	12	12
Dodworth .. ..	3,284	1	—	1	—	1	—
Gunthwaite and Ingbirchworth	380	—	—	—	—	—	—
Hoyland Nether	14,638	—	—	5	1	15	16
Hoylandswaine ..	605	—	—	—	—	—	—
Monk Bretton ..	4,783	—	—	2	—	3	1
Penistone .. ..	3,408	—	—	2	—	2	1
Royston .. ..	6,237	—	—	2	—	3	—
Stocksbridge ..	7,086	—	—	3	—	14	12
Thurlstone .. ..	2,848	—	—	—	—	3	2
Wombwell .. ..	17,536	3	—	13	—	27	19
Worsborough ..	12,750	—	—	5	—	13	22
<b>Rural :—</b>							
Barnsley .. ..	4,124	—	—	2	—	1	—
Penistone .. ..	5,541	1	—	—	—	1	4
Wortley .. ..	32,803	4	—	3	—	20	18
	139,065	9	—	47	1	125	113
Barnsley County Boro' (up to March 31st, 1913)		3	—	7	—	*	*



**Dewsbury Dispensary Area.**

District Tuberculosis Officer :—Dr. Thos. Priestley, M.R.C.S.,  
L.R.C.P.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> Northfield House, Halifax Road, Dewsbury (Resident)	28.6.13	Mondays & Thurs- days, 2 & 6 p.m. Wednesdays & Saturdays, 10 a.m.	1355	52
<b>Branch :—</b> Town Hall, Manor House St., Pudsey	21.6.13	Tuesdays & Fridays, 3 p.m.	474	18

TABLE shewing the Sanitary Districts in the area, popula-  
tions, Notifications of Tuberculosis and Applications for  
treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon- ary.	Non-Pul- monary.
		Pulmon- ary.	Non-Pul- monary.	Pulmon- ary.	Non-Pul- monary.		
<b>Urban :—</b>							
Batley Borough	36,389	11	—	24*	3	69	43
Birkenshaw ..	2,508	—	—	—	—	2	—
Birstal .. ..	7,116	—	—	4	—	9	—
Calverley ..	2,998	—	—	2	—	3	—
Cleckheaton ..	12,866	—	—	5	—	11	16
Farsley .. ..	5,993	—	—	6	—	16	7
Gomersal ..	3,796	2	—	2	—	7	1
Heckmondwike ..	9,016	—	—	6	—	12	2
Hunsworth ..	1,326	—	—	—	—	—	1
Liversedge ..	14,658	—	—	7	—	26	20
Pudsey Borough	14,023	—	—	5	—	17	12
	110,689	13	—	61	3	172	102
Dewsbury County Boro' (up to March 31st, 1913)		7	—	7	—	*	*

\* Including one non-tuberculous applicant.



**Doncaster Dispensary Area.**

District Tuberculosis Officer :—Dr. Daniel Kennedy, L.R.C.P.,  
L.R.C.S.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> Merton House, 20, Christ-Church Road, Doncaster (Resident)	2.10.13	Mondays & Thurs- days, 2 & 7 p.m. Saturdays, 10 a.m.	489	37
<b>Branch :—</b> Labour Exchange, Aire St., Goole	20.1.14	Tuesdays & Fri- days, 9-45 a.m.	—	—
<b>Branch :—</b> 21, Ellison St., Thorne	13.2.14	Tuesdays & Fri- days, 3 p.m.	—	—

TABLE shewing Sanitary Districts in the area, populations,  
Notifications of Tuberculosis, and Applications for treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Balby .. ..	11,570	5	1	11	3	32	21
Bentley-with-Arksey .. ..	6,497	—	—	2	—	5	7
Doncaster Borough .. ..	30,516	9	1	26	4	51	39
Goole .. ..	20,332	5	—	8	—	22	17
Thurnscoe .. ..	4,074	—	—	3	—	8	4
Tickhill .. ..	1,806	—	—	—	—	2	2
Wheatley .. ..	5,363	—	—	2	—	9	7
Rural :—							
Doncaster .. ..	37,559	5	—	27	1	62	44
Goole .. ..	8,516	—	—	—	—	22	2
Thorne .. ..	8,783	1	—	7	—	23	24
	135,016	25	2	86	8	236	167



**Huddersfield Dispensary Area.**

District Tuberculosis Officer :—Dr. Daniel Stewart, M.D., Ch.B.,  
D.P.H. \*

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> 16, Ramsden St., Huddersfield (Non-resident)	21.6.13	Tuesdays & Fri- days, 3 & 7 p.m.	738	27
<b>Branch :—</b> Court St., Uppermill	29.8.13	Tuesdays & Fri- days, 10-30 a.m.	269	15
<b>Branch :—</b> Labour Exchange, Holmfirth	28.8.13	Mondays & Thurs- days, 3 p.m.	286	16
<b>Branch :—</b> Over Russell's Shop, Marsden	30.10.13	Mondays & Thurs- days, 10 a.m.	93	10

\* Succeeded Dr. R. M. Courtauld in June, 1913.



### Huddersfield Dispensary Area, continued.

TABLE shewing Sanitary Districts in the Area, populations, Notifications of Tuberculosis, and Applications for treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Clayton West ..	1,876	—	—	—	—	—	—
Denby and Cumberworth	3,681	1	—	1	—	1	—
Farnley Tyas ..	479	—	—	—	—	—	—
Golcar .. ..	10,110	1	—	8	—	30	4
Holme .. ..	389	—	—	—	—	—	—
Holmfirth ..	10,384	—	—	16	—	27	23
Honley .. ..	4,830	1	—	9	—	10	11
Kirkburton ..	3,409	—	—	1	—	8	—
Kirkheaton ..	2,621	—	—	—	—	—	—
Lepton .. ..	2,999	—	—	—	—	1	—
Linthwaite ..	8,961	—	—	18	—	18	10
Marsden .. ..	5,757	—	—	9	—	14	10
Meltham .. ..	5,159	—	—	1	1	—	—
Mirfield .. ..	11,712	4	—	6	—	11	16
New Mill .. ..	4,568	—	—	2	1	10	10
Saddleworth ..	12,603	1	—	24	1	31	8
Shelley .. ..	1,753	—	—	—	—	—	—
Shepley .. ..	1,879	—	—	—	—	—	—
Skelmanthorpe ..	3,817	—	—	2	—	1	—
Slaithwaite ..	5,568	—	—	6	—	13	2
South Crosland ..	3,184	—	—	1	—	5	1
Springhead ..	5,051	—	—	2	1	10	15
Thurstonland ..	2041	—	—	—	—	27	2
Whitley Upper ..	830	—	—	—	—	—	—
	113,601	8	—	106	4	217	112



### Keighley Dispensary Area.

District Tuberculosis Officer :—Dr. Edward A. Wilson, M.D., B.S.,  
M.R.C.S., L.R.C.P.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> 143, Skipton Road, Keighley  (Resident)	26.4.13	Mondays & Thurs- days, 7. pm. Wednesdays & Saturdays, 10 a.m.	1972	54
<b>Branch :—</b> District Council Office, Settle	17.5.13	Fridays, 3 p.m.	9	—
<b>Branch :—</b> Labour Exchange, Newmarket St., Skipton	5.9.13	Tuesdays & Fri- days, 10-30 a.m.	228	13
<b>Branch :—</b> 2, Manchester Road, Barnoldswick	9.9.13	Tuesdays, 2 p.m.	130	8



### Keighley Dispensary Area, continued.

TABLE shewing Sanitary Districts in the Area, populations, Notifications of Tuberculosis, and Applications for Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Barnoldswick ..	9,703	5	—	18*	—	29	13
Clayton .. ..	4,863	—	—	1	—	7	4
Denholme .. ..	2,971	—	—	—	—	—	—
Earby .. .. .	6,032	—	—	3	—	5	3
Haworth .. ..	6,505	2	—	5	—	4	7
Keighley Borough	43,487	6	—	46*	6	87	82
Oakworth .. ..	4,279	—	—	—	—	2	1
Oxenhope .. ..	2,451	1	—	—	—	1	—
Queensbury .. ..	6,125	3	—	3	—	12	8
Silsden .. .. .	4,960	—	—	—	—	6	2
Skipton .. .. .	12,977	1	—	13	1	17	22
Rural :—							
Bowland .. .. .	5,357	—	—	—	—	1	—
Keighley .. ..	6,635	—	—	6	—	7	6
Sedbergh .. ..	3,737	—	—	—	—	—	1
Settle .. .. .	14,901	—	—	3	—	3	8
Skipton .. .. .	18,575	2	—	8	—	19	18
	143,558	20	—	106	7	200	175

\* Including one non-tuberculous applicant.



### Otley Dispensary Area.

District Tuberculosis Officer :—A. Gordon Jenner, M.R.C.S.,  
L.R.C.P., D.P.H.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> “ Whiteley Croft ” Off Station Road, (Resident) Otley	6.2.14	Tuesdays & Fri- days, 10 a.m.	—	—
<b>Branch :—</b> Kidson's Auction Rooms, Station Bridge, Harrogate	2.2.14	Mondays & Thurs- days, 2-30 p.m.	—	—
<b>Branch :—</b> 1(a), Kirkgate, Shipley	9.12.13	Tuesdays, 3-30 to 5 p.m. Fridays, 6 to 8 p.m.	18	6
<b>Branch :—</b> Dr. Jefferson's Surgery, North House, Ripon	11.12.13	Thursdays, 10-45 a.m. to 12	8	3



### Otley Dispensary Area, continued.

TABLE shewing the Sanitary Districts in the Area, populations, Notifications of Tuberculosis, and Applications for Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Baildon .. ..	6,042	1	—	3	—	10	6
Bingley .. ..	18,759	6	—	19†	1	27	29
Burley-in-Wharfedale ..	3,760	—	—	2	—	5	3
Guiseley .. ..	4,925	—	—	2	—	2	2
Harrogate Borough ..	33,703	—	—	3	—	50	42
Horsforth .. ..	9,145	2	—	20	—	32	11
Ilkley .. ..	7,992	—	—	3	—	13	8
Knaresborough ..	5,315	—	—	5	1	5	3
Otley .. ..	9,844	1	—	7	—	17	13
Rawdon .. ..	3,198	—	—	5*	—	3	1
Ripon City .. ..	9,218	—	—	3	—	11	1
Shipley .. ..	27,706	1	—	9	—	34	23
Yeadon .. ..	7,440	1*	—	2	—	6	3
Rural :—							
Great Ouseburn	10,667	1	—	4	—	8	4
Knaresborough ..	8,143	—	—	3	—	8	3
Pateley Bridge ..	7,753	—	—	3	—	1	2
Ripon .. ..	5,367	—	—	3	—	2	—
Wetherby .. ..	14,995	—	—	8	—	23	12
Wharfedale ..	9,382	—	—	—	—	6	3
	202,354	13	—	104	2	263	169

\* Including one non-tuberculous applicant.

† Including two non-tuberculous applicants.



### Pontefract Dispensary Area.

District Tuberculosis Officer :—Dr. D. M. Mackenzie, M.D., Ch.B.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> “The Linden’s,” Linden Terrace, Tanshelf, (Resident) Pontefract	15.7.13	Thursdays & Fridays, 2 & 7 p.m. Saturdays 10 a.m.	1074	45
<b>Branch :—</b> Labour Exchange, Wide St., Selby.	2.1.14	Mondays & Thursdays, 11 a.m.	—	—
<b>Branch :—</b> The Park Pavilion, Normanton	5.4.13	Tuesdays & Fridays, 10 a.m.	1175	31

TABLE shewing the Sanitary Districts in the Area, populations, Notifications of Tuberculosis and Applications for Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
<b>Urban :—</b>							
Altofts ..	4,689	—	—	8	1	8	16
Castleford ..	23,090	2	—	8	—	21	15
Featherstone ..	14,374	—	—	15	—	15	6
Garforth ..	3,950	—	—	—	—	6	2
Knottingley ..	6,680	1	—	11	1	6	6
Methley ..	4,327	—	—	1	—	1	—
Normanton ..	15,032	1	—	23	6	41	42
Pontefract ..	15,949	—	—	15	4	24	10
Selby ..	9,048	—	—	4	—	7	1
Whitwood ..	5,517	—	—	—	—	7	1
<b>Rural :—</b>							
Bishopthorpe ..	2,091	—	—	—	—	—	2
Pontefract ..	15,263	2	—	10	1	12	5
Selby ..	5,922	—	—	3	—	8	—
Tadcaster ..	27,177	—	—	8	—	18	10
	153,139	6	—	106	13	174	116



### Rotherham Dispensary Area.

District Tuberculosis Officer :—Dr. Wm. Barr, M.D., Ch.B., B.Sc.,  
D.P.H.

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> Carnson House, Moorgate St., Rotherham (Resident)	10.5.13	Tuesdays & Fri- days, 3 & 7 p.m. Saturdays, 10 a.m.	2042	61
<b>Branch :—</b> District Council Office, Kiveton Park	24.7.13	Tuesdays & Fri- days, 10 a.m.	165	7
<b>Branch :—</b> 53, Station St., Swinton	11.12.13	Mondays, 3 p.m. Thursdays, 3 to 7-30 p.m.	59	20

TABLE shewing Sanitary Districts in the Area, popula-  
tions, Notifications of Tuberculosis, and Applications for  
Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Bolton-on-Dearne	8,670	1	—	14	—	17	14
Darfield .. ..	5,427	—	—	6	—	9	—
Greasbrough ..	3,134	—	—	3	—	4	3
Handsworth ..	14,198	—	—	5	—	17	21
Mexborough ..	14,401	—	—	12	—	14	13
Rawmarsh .. ..	17,185	6	—	39	2	42	35
Swinton .. ..	13,654	—	—	17	—	21	8
Wath-on-Dearne	11,823	—	—	8	—	30	9
Rural :—							
Kiveton Park ..	13,421	—	—	6	—	7	10
Rotherham .. ..	27,849	—	—	12	—	42	34
	129,762	7	—	122	2	203	147



### Sowerby Bridge Dispensary Area.

District Tuberculosis Officer :—Alexander K. Traill, M.B., Ch.B.\*

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendances 1913.
<b>Centre :—</b> 13, Ryburn Build - ings, Sowerby Bridge (Non-resident)	17.5.13	Mondays, 3 p.m. Thursdays, 4 & 6-30 p.m. Saturdays, 10 a.m.	1855	56
<b>Branch :—</b> Masonic Hall, Todmorden	7.6.13	Tuesdays, 3 p.m. Fridays, 3-15 p.m.	1090	36
<b>Branch :—</b> Old Mechanic's Institute, Brighouse	7.6.13	Mondays, 10 a.m. Thursdays, 10 a.m.	844	28

\* Succeeded Dr. W. C. Hills in November, 1913.



## Sowerby Bridge Dispensary Area, continued.

TABLE shewing the Sanitary Districts in the Area, populations, Notifications of Tuberculosis and Applications for Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmon-ary.	Non-Pul-monary.
		Pulmon-ary.	Non-Pul-monary.	Pulmon-ary.	Non-Pul-monary.		
Urban :—							
Barkisland ..	1,629	1	—	1	—	2	2
Brighouse							
Borough ..	20,843	1	—	33	—	59	11
Elland ..	10,676	—	—	10	—	18	15
Greetland ..	4,490	—	—	4	—	3	2
Hebden Bridge ..	7,172	3	—	9	—	9	8
Hipperholme ..	4,438	3	—	2	—	5	2
Luddendenfoot ..	2,904	—	—	4	—	5	7
Midgley ..	2,143	—	—	—	—	—	1
Mytholmroyd ..	4,151	—	—	1	—	5	5
Rishworth ..	934	1	—	1	—	1	—
Scammonden ..	341	—	—	—	—	—	1
Shelf ..	2,334	—	—	—	—	—	2
Southowram ..	2,745	—	—	2	—	5	—
Sowerby ..	3,232	—	—	4	—	4	3
Sowerby Bridge	11,350	—	—	21	1	43	11
Soyland ..	2,934	—	—	—	—	2	1
Stainland ..	4,449	—	—	6	—	8	1
Todmorden Boro'	25,404	4	—	47	3	58	45
Rural :—							
Halifax ..	6,210	—	—	7	1	9	5
Todmorden ..	4,622	—	—	—	—	10	6
	123,001	13	0	152	5	246	128



**Wakefield Dispensary Area.**

District Tuberculosis Officer :—Dr. Arthur Richmond, M.B.,  
Ch.B., D.P.H. \*

Situation of Dispensary Premises.	Date of opening.	Dispensary Days and Hours.	Total Attendances, 1913.	Average Weekly Attendance, 1913.
<b>Centre :—</b> 5, Almshouse Lane, Wakefield (Non-resident)	8.2.13	Tuesdays & Fridays, 3 & 7 p.m. Saturdays 11 a.m.	2837	60
<b>Branch :—</b> The Rectory Club, Hemsworth	3.5.13	Mondays & Thursdays, 3 p.m.	1274	34
<b>Branch :—</b> Temperance Hall, Fountain St., Morley	21.6.13	Tuesdays & Fridays, 10 to 12 noon	1505	54

\* Succeeded Dr. T. H. Peyton in September, 1913.

TABLE shewing the Sanitary Districts in the Area, populations, Notifications of Tuberculosis, and Applications for Treatment received.

Sanitary District.	Population Census 1911.	Applications for Treatment Received.				Notification of Tuberculosis during 1913.	
		1912 (From July 15)		1913		Pulmonary.	Non-Pulmonary.
		Pulmonary.	Non-Pulmonary.	Pulmonary.	Non-Pulmonary.		
<b>Urban :—</b>							
Ardsley E. & W.	8,120	—	—	13	—	18	15
Drighlington ..	4,126	—	—	2	—	13	1
Emley .. ..	1,622	—	—	1	—	—	—
Flockton .. ..	1,379	2	—	1	—	—	—
Gildersome ..	2,981	1	—	—	—	2	2
Horbury .. ..	7,509	1	—	4	—	12	4
Morley Borough	24,282	6	—	21	5	48	46
Ossett Borough	14,078	6	—	17	—	18	29
Rothwell .. ..	14,277	1	—	7	—	12	15
Stanley .. ..	13,586	1	—	7*	—	7	4
Wakefield City ..	51,511	12	—	66*	10	101	41
(Separate Dispensary)							
<b>Rural :—</b>							
Hemsworth .. ..	40,103	8	—	62*	10	82	29
Hunslet .. ..	7,786	—	—	1	0	16	7
Wakefield .. ..	16,688	6	—	13	3	17	13
	208,048	44	—	215	28	346	206

\* Including one non-tuberculous applicant.



## PART IV.

## ABSTRACT OF ANNUAL REPORTS.

The reports (of which an abstract has been made for the purpose of this summary) number 156, and these cover 155 Sanitary Districts, one of which (Wharfedale R.) submits a report by each of its two medical officers of health. The list of districts has been shortened since last year's report by the exclusion of Barnsley, Dewsbury, and the Rural District of Leeds. The statistical tables, folded in at the end of this report, show the tabulated results from each of the 156 reports, and enable a comparison to be made between the principal items of vital statistics for each district.

The Local Government Board in their memorandum to medical officers of health on the preparation of the annual report, urge the completion of the report within two months from the end of the year, and state that only special circumstances should delay its issue beyond three months. Our records of receipt show that only a comparatively few reports had been received at the end of March, and that a goodly number were delayed until July, involving a considerable pressure in the tabulation of the statistics and a postponement of the work of getting out the totals, without which this part of the report could not be proceeded with. The date of receipt is shown in the following table :—

January.	February.	March.	April.	May.	June.	July.
2	5	26	39	46	17	21

**Population of the Administrative County.**—As regards the population, the individual estimates have, with the few exceptions for those areas where abnormal growth has been experienced in recent years, been calculated on the Registrar General's method, and the totals are set out for the Urban and Rural Districts of the Riding in their respective aggregates, and for the County as a whole, in the table given below. This table also shows the average density of the population per acre at the middle of the year. The total of the estimated population for 1913 is, consequent on the alterations referred to above, and in the 1912 report, 89,564 below the estimate for 1912.

	Estimated population at the middle of 1913.	Area in Acres.	Persons per Acre.
Urban Districts (127) ..	1,131,053	368,019	3.07
Rural Districts (28) ..	390,641	1,291,053	0.30
West Riding Administrative County .. .. .	1,521,694	1,659,072	0.92



**West Riding Birth and Death Rates for Ten Years.** The figures in the next table enable a comparison to be made in the principal vital statistics of the County for the past ten years. A detailed survey of the various items is made later in the report, but it may be observed that the general death-rate, the infant mortality rate, and the death-rate from the principal zymotic diseases are each in excess of the corresponding figures for 1912, whilst the phthisis death-rate has remained stationary during the past year.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Birth-rate .. ..	27.7	27.1	27.0	25.8	26.7	25.7	25.5	25.1	24.4	24.6
Death-rate .. ..	16.5	15.2	15.4	15.3	15.2	14.4	13.9	15.5	13.3	14.0
Infant Mortality† ..	147	133	136	130	132	111	117	143	95	120
Zymotic Death-rate	2.19	1.45	1.93	1.39	1.55	0.95	1.07	2.49	1.01	1.39
Small Pox ..	0.12	0.02	nil	nil	nil	nil	nil	nil	nil	nil
Scarlet Fever ..	0.14	0.21	0.16	0.07	0.06	0.06	0.06	0.06	0.08	0.07
Diphtheria and Croup	0.17	0.17	0.18	0.17	0.15	0.13	0.13	0.13	0.11	0.13
Enteric Fever ..	0.17	0.14	0.11	0.07	0.12	0.10	0.07	0.15	0.06	0.05
Measles ..	0.49	0.18	0.35	0.42	0.29	0.22	0.21	0.50	0.34	0.28
Whooping Cough ..	0.33	0.17	0.23	0.28	0.29	0.18	0.25	0.27	0.18	0.12
Diarrhoea ..	0.77	0.56	0.90	0.38	0.64	0.26	0.35	1.38	0.24	0.74
Respiratory ..	2.65	2.57	2.25	2.75	2.37	2.42	2.18	2.46	2.28	2.47
Phthisis ..	1.01	0.94	0.95	0.98	0.97	0.88	0.79	0.86	0.76	0.76

† Deaths under one year per 1000 births.

**Births.**—During 1913, 37,477 births were registered in the Administrative County, yielding a rate of 24.6 per 1,000 of the estimated population, as compared with a rate of 23.9 for England and Wales; the County rate is 0.2 per 1,000 higher than that of the preceding year. The sex-division of the births was as follows:—Males 19,247, Females 18,230. The birth rate for the aggregate Urban Districts was 24.1, and for the Rural Districts 26.7, but in discussing the statistics for the latter it should be remembered that many of these areas are not purely rural, but contain large communities which are engaged in the coal-mining industry, and it is these districts which contribute considerably towards the birth-rate of the County. The birth-rate has been worked out for each district in the Riding in the tables folded in at the end of the report, and the highest and lowest rates are shown in the following lists:—

*Districts with highest birth rates.*

Altofts .. ..	36.3	Thurnscoe ..	34.9
Bentley-w-Arksey	39.9	Whitwood ..	44.2
Bolton-on-Deane	38.0	Wombwell ..	37.2
Cudworth ..	35.7	Doncaster R. ..	34.9
Featherstone ..	38.5	Hemsworth R. ..	36.8



*Districts with lowest birth rates.*

Denholme ..	14.1	Queensbury ..	12.7
Farnley Tyas ..	12.6	Silsden ..	13.9
Ilkley ..	14.3	Slaithwaite ..	13.5
Mytholmroyd ..	14.0	Sowerby ..	14.0
Oxenhope ..	14.2	Wharfedale S. ..	14.3

**Deaths.**—The deaths registered in the County during 1913 numbered 21,301, equal to a rate of 14.0 per 1,000 of the estimated population. This figure is 0.7 per 1,000 higher than the rate for the previous year, but 0.5 lower than the death-rate for the five-yearly period 1908-1912; the rate for England and Wales during 1913 was 13.7 per 1,000. The nett deaths totalled 21,327 (Males 11,086, Females 10,241), and exceeded the gross total by only 26. Taking into consideration the large numbers dealt with, it is gratifying to have a discrepancy so slight. This is no doubt the direct result of the Registrar General's system of quarterly distribution of non-resident deaths to the district or permanent residence, in connection with which this Department acts as clearing-office for the Administrative County area. During the year under review, 2193 deaths were thus allocated to the proper districts, and a return made of the same to the Registrar General. The vital statistics of the country have undoubtedly been improved by this arrangement, and more reliable results obtained.

The figures in Column 16 of Table I (see end of report) will enable a study to be made of the death-rates in each district in the Riding. As regards the Thurstonland deaths, it should be stated that the high figure quoted does not represent the natural rate, there being included in the nett deaths on which the rate is calculated a number which, under the Registrar General's rules, could not be transferred away from the district. Some abnormally high rates were recorded in several Sanitary Districts during 1913. The following are the districts which head the list in this respect, omitting Thurstonland, which is referred to above, and Hoylandswaine, where, owing to the small population, the occurrence of a few deaths above the average has a marked influence on the rate:—Castleford 17.2, Heckmondwike 17.4, Knaresborough 18.6, Mytholmroyd 17.3, Royston 18.2, Stanley 16.9, Tickhill 19.8, Wath-upon-Dearne 17.8, Whitwood 24.5, Thorne R. 16.8, Todmorden R. 17.0.

A summary of the age-distribution of the nett deaths is shown in the next table:—

	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Total (Nett Deaths)
Urban Districts (127) ..	3215	930	686	652	654	1776	3529	4544	15986
Rural Districts (28) ..	1267	338	233	225	188	583	987	1520	5341
West Riding Administrative County ..	4482	1268	919	877	842	2359	4516	6064	21327



**Mortality at different Ages.**—The list of diseases, and the age-groups exhibited in the following summary, are those required by the Local Government Board in the tabulation of the reports by local medical officers of health.

CAUSE OF DEATH	Age at Death								All Ages
	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	
Enteric Fever .. .. .	—	—	1	13	18	34	7	2	75
Small-Pox .. .. .	—	—	—	—	—	—	—	—	—
Measles .. .. .	97	167	123	31	—	2	—	—	420
Scarlet Fever .. .. .	4	13	42	49	3	2	—	—	113
Whooping Cough .. .. .	88	56	41	4	—	—	—	—	189
Diphtheria and Croup .. .. .	6	16	78	92	2	—	—	1	195
Influenza .. .. .	7	4	1	7	12	25	75	76	207
Erysipelas .. .. .	8	—	—	1	1	3	3	7	23
Phthisis (Pulmonary Tuberculosis) .. .. .	7	12	24	63	227	497	280	40	1150
Tuberculosis Meningitis .. .. .	42	43	57	54	12	4	—	1	213
Other Tuberculous Diseases .. .. .	86	69	48	61	46	58	29	8	405
Cancer .. .. .	2	1	—	6	4	143	709	574	1439
Rheumatic Fever .. .. .	—	—	1	29	8	23	11	10	82
Meningitis .. .. .	50	34	30	37	19	17	11	3	201
Organic Heart Disease .. .. .	15	4	9	49	71	243	782	951	2124
Bronchitis .. .. .	386	106	53	23	5	47	364	754	1738
Pneumonia (all forms) .. .. .	485	304	184	88	59	200	267	222	1809
Other Diseases of Respiratory Organs .. .. .	15	12	16	15	5	33	66	45	207
Diarrhoea and Enteritis .. .. .	754	235	53	8	2	9	20	42	1123
Appendicitis and Typhlitis .. .. .	2	1	5	27	24	21	20	3	103
Cirrhosis of Liver .. .. .	—	—	—	—	—	39	88	34	161
Alcoholism .. .. .	—	—	—	—	—	8	16	2	26
Nephritis and Bright's Disease .. .. .	7	7	15	20	21	127	279	195	671
Puerperal Fever .. .. .	—	—	—	—	7	26	—	—	33
Other Diseases of Pregnancy and Parturition .. .. .	11	—	—	1	25	99	—	1	137
Congenital Debility, Premature Birth, &c. .. .. .	1702	31	3	3	—	2	—	1	1742
Violent Deaths, excluding Suicide .. .. .	63	14	55	65	89	182	148	101	717
Suicide .. .. .	—	—	—	1	20	66	61	18	166
Other defined Diseases .. .. .	577	119	76	123	156	421	1230	2633	5335
Diseases ill-defined or unknown .. .. .	68	20	4	7	6	28	50	340	523
<b>ALL CAUSES..</b>	<b>4482</b>	<b>1268</b>	<b>919</b>	<b>877</b>	<b>842</b>	<b>2359</b>	<b>4516</b>	<b>6064</b>	<b>21327</b>



	Annual Rates per 1,000 of the Estimated Population.					Infant Mortality (Deaths under one year per 1,000 Births).
	Birth-rate.	Death-rate.	Zymotic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.	
(1) Urban Districts (127) in the West Riding .. ..	24.1	14.2*	1.4	0.8	2.5	118
(2) Rural Districts (28) in the West Riding .. ..	26.7	13.8*	1.5	0.7	2.4	123
(3) West Riding Administrative County .. ..	24.6	14.0	1.4	0.8	2.5	120
(4) <i>England &amp; Wales</i>	23.9	13.7	1.2	?	?	109

\* Excluding Asylum Deaths.

**Urban and Rural Statistics.**—In the above Table a comparison is made between the rates for the Urban and Rural areas in the Riding, and also between the County rates and the corresponding figures for England and Wales. The County death rate exceeds slightly the figure for England and Wales, as also does the rate of Infant Mortality, and this is no doubt explained by the greater fatality from diarrhoeal diseases in the County area during the past year.

**Infantile Mortality** means the number of deaths of children under one year of age per 1,000 births. Apart from extreme seasonal and climatic conditions, it is still regarded as a most sensitive index of the health of a community. The rate of infantile mortality in the Administrative County during 1913 was 120, whereas in 1912 the rate was 95. It was pointed out in the 1912 report that the low figure for that year was very largely influenced by the cold and wet summer. Considering that the summer of 1913 was dry and warm, it is by no means surprising to find that the rate did increase. It would be fairer to compare 1913 with 1911 as both these years experienced dry and warm summers, and then we find the encouraging rate of 120 in 1913 in contrast to the 143 of 1911. The following table gives a better idea of the true state of affairs.

Year.	Infantile Mortality.
1897-1901 ..	157
1902-1906 ..	139
1907-1911 ..	126
1912 .. ..	95
1913 .. ..	120



Deleting the places where the number of births is so small as to make the figures unreliable, we find that the highest rates of infantile mortality were :—

*Urban Districts.*—Whitwood (195), Royston (188), Stanley (186), Castleford (186), Springhead (184), Monk Bretton (176), Altofts (165), Rawmarsh (164), Mexborough (159), and Normanton (157).

*Rural Districts.*—Rotherham (166), Doncaster (152), Thorne (151), Goole (140), Hemsworth (137), Kiveton Park (136).

It is worthy of note that the majority of the above localities are colliery districts.

In Urban Districts where there were at least 100 births during the year, the following exhibit the lowest rates of infant mortality :

Marsden (50), Ilkley (52), Farsley (59), Golcar (62), Holmfirth (65), Otley (67), and Brighouse (67).

In the Rural Districts the following had the lowest rates of infant mortality :—

Wharfedale South (36), Wetherby (40), Sedbergh (46), Wharfedale North (52), Ripon (52), and Knaresborough (53).

Table IV. shows an analysis of the deaths from stated causes in weeks and months under one year of age. The most important causes are as follows :—

- (1) *Premature Births* which was recorded on 880 occasions as against 839 in 1912 and 913 in 1911.
- (2) *Atrophy, Debility and Marasmus.*—615 in 1913 as against 554 in 1912 and 716 in 1911.
- (3) *Pneumonia and Bronchitis.*—878 in 1913 as against 667 in 1912 and 913 in 1911.
- (4) *Intestinal Disease* (including Diarrhoea).—790 in 1913 as against 277 in 1912 and 1543 in 1911.
- (5) *Convulsions.*—278 in 1913 as against 277 in 1912 and 344 in 1911.
- (6) *Congenital Malformations.*—175 in 1913 as against 187 in 1912 and 177 in 1911.
- (7) *Measles and Whooping Cough.*—185 in 1913 as against 260 in 1912 and 390 in 1911.

**Premature Births.** This does not refer to still-births, but to those children born alive at an immature stage of development, and possessing insufficient vitality to survive long. By far the greater proportion die in the course of a few hours after birth, and it is recorded that 614 out of the 880 died in the first week. There are many causes at work to produce this large number of children born before the full term of pregnancy, but there are certain ante-natal conditions which we might control and exert some influence over.



Dr. Wiltshire of Hemsworth Rural remarks in his report,—

“Forty deaths were caused by premature birth. I am of the opinion that a great many of these deaths are preventible if expectant mothers could be taught to realise the importance of attending to their general health at these times and taking the necessary precautions to ensure their having healthy and fully developed babies.”

Dr. Stansfield of Clayton remarks :—

“Although none of these deaths could be traced directly to any employment of the mothers, yet three of them were of parents who up to a short time before the birth were in regular employment in the mills. Legislation in this direction, I feel sure, would ultimately help in reducing infantile mortality.”

These references to the causation of prematurity are also pertinent to the causation of still-births. It is very satisfactory to know that we shall be able to get reliable statistical evidence when the Notification of Births Act is in force (July 1st, 1914). Dr. Wood of Ossett says :—

“There were 31 still-born children. A great number occur in cases where mothers continue to work in factory or workshop until a few days prior to confinement. The so-called “pre-natal” treatment should be within our reach, and it might be made practicable for the Health Visitor to extend her duties and come in contact with pregnant women during the later stages of pregnancy, and advise them as to their mode of life during this period. My remarks in a previous report as to the responsibility of employers in allowing women to work in an advanced stage of pregnancy, having bearing on the high infantile mortality of past years, equally apply to this, and cessation of work would undoubtedly help to reduce the high number of still-births such as I have to record.”

**Atrophy, Debility and Marasmus.**—The factors that largely influence the number of deaths from the above causes are (1) industrial occupation of women (2) improper feeding, and (3) venereal disease. The first of these factors has already been referred to, and the following extracts refer to the second factors. Dr. Arbuckle of Thorne Rural remarks :—

“It will thus be seen that the death rate for illegitimate children is more than twice as heavy as that for legitimate children, and this is partly accounted for by the fact that illegitimate children are frequently put in charge of ‘foster-mothers,’ and are bottle-fed. In the Workhouse where all the mothers have breast-fed their babies, there has not been an infantile death during the last forty years of a child born there.”

And Dr. Angus of Bingley says :—

“5 per cent. of the breast-fed children died during their first year of life, of those artificially fed 18 per cent. died.”



With reference to the venereal disease, Dr. Gibson in the Wakefield report says :—" It is to be hoped that the Commission " which is now enquiring into venereal diseases will be able to offer " some practical recommendations for reducing the ravages of this " really terrible, and up to the present, uncontrolled disease." Dr. F. W. Mott, one of the greatest Authorities on Diseases of the Nervous System, speaking at a Conference on Infant Mortality, said " Syphilis makes the soil for the seeds of Tuberculosis by " lowering the vital resistance of all the organs in the body ; it is " the greatest cause of infant mortality, of diseases of all kinds " affecting the nervous system and the sole cause of the most terrible " of all forms of insanity."

**Pneumonia and Bronchitis.**—The exact nature of these diseases in infancy needs further investigation, but for the present it is noteworthy that 1912, the year of a cold and wet Summer, had a much lower rate of mortality from these two diseases than 1911 and 1913, years of hot and dry summers.

**Intestinal Disease (including Diarrhoea).**—The mortality under this heading varies according to the prevalence of epidemic diarrhoea. This is discussed under the heading " Diarrhoea " in a later part of the report.

**Convulsions, Congenital Malformation, Measles and Whooping Cough.**—The deaths from convulsions and congenital malformations were practically the same as last year, but there was a large reduction in the number of deaths from Measles and Whooping Cough. In the Stanley Report Dr. Jackson gives his views on the above heading :—

" The total of 104 deaths of children under five years of age " is at the rate of 442.5 per 1,000 registered deaths. This is " nearly half of the deaths in the district. The greatest number " of these deaths were caused by Pneumonia, the next by Pre- " mature Births and Congenital Debility, the next by Diarrhoea " and Enteritis. With regard to Pneumonia, Bronchitis and " other Lung trouble, I think that in most cases delay in getting " proper medical advice is the all important defect. As to Pre- " mature Birth and Congenital Debility, I have no evidence " of any purposely caused trouble, but it is necessarily a subject " on which one could not really get any evidence. Now as regards " Diarrhoea and Enteritis this is mostly a trouble caused by food " and general care."



## WEST RIDING ADMINISTRATIVE COUNTY.

## Infantile Mortality during the year 1913.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 1 month	1-3 months	3-6 months	6-9 months	9-12 months	Total Deaths under 1 year.
Small-Pox .. ..	—	—	—	—	—	—	—	—	—	—
Chicken-Pox .. ..	—	—	—	—	—	1	2	—	—	3
Measles .. ..	—	—	—	—	—	2	5	27	63	97
Scarlet Fever .. ..	—	—	—	—	—	—	—	2	2	14
Whooping Cough .. ..	—	—	2	2	4	17	25	14	28	88
Diphtheria and Croup .. ..	—	—	—	—	—	1	—	2	3	6
Erysipelas .. ..	—	—	—	—	—	5	2	1	—	8
Tuberculous Meningitis .. ..	1	—	—	2	3	6	10	12	11	42
Abdominal Tuberculosis .. ..	—	—	—	1	1	10	14	13	12	50
Other Tuberculous Diseases .. ..	1	1	—	3	5	3	10	14	9	41
Meningitis (not Tuberculous) .. ..	1	1	2	—	4	12	10	14	14	54
Convulsions .. ..	49	21	22	16	108	64	45	28	33	278
Laryngitis .. ..	1	1	—	—	2	—	—	4	2	8
Bronchitis .. ..	2	9	14	14	39	114	96	72	67	388
Pneumonia (all forms) .. ..	2	7	7	6	22	78	125	134	131	490
Diarrhoea .. ..	1	3	8	8	20	62	133	99	68	382
Enteritis .. ..	3	7	6	9	25	78	113	76	56	348
Gastritis .. ..	2	—	4	3	9	21	11	13	6	60
Syphilis .. ..	3	—	2	1	6	10	3	2	2	23
Rickets .. ..	—	—	—	—	—	—	4	7	6	17
Suffocation, overlying .. ..	13	—	5	1	19	14	8	1	—	42
Injury at Birth .. ..	33	4	2	—	39	1	1	—	—	41
Atelectasis .. ..	49	6	5	1	61	8	—	—	—	69
Congenital Malformations .. ..	86	18	14	5	123	30	14	4	4	175
Premature Birth .. ..	614	80	58	41	793	73	12	2	—	880
Atrophy, Debility and Marasmus .. ..	144	65	73	43	325	147	94	25	24	615
Other Causes .. ..	48	27	13	17	105	52	47	32	37	273
Grand Total for Administrative County .. ..	1053	250	237	173	1713	809	784	598	578	4482



Age Distribution of Infant Deaths.	No. of Deaths.		Ratio per 1000 Births.	
	1912.	1913.	1912.	1913.
Under 1 week .. .. .	1059	1053	26·9	28·1
1 to 2 weeks .. .. .	243	250	6·2	6·7
2 to 3 „ .. .. .	197	237	5·0	6·3
3 to 4 „ .. .. .	146	173	3·7	4·6
Total under 1 month ..	1645	1713	41·8	45·7
1 to 3 months .. .. .	611	809	15·5	21·6
Total under 3 months ..	2256	2522	57·3	67·3
3 to 6 months .. .. .	521	784	13·2	20·9
6 to 9 „ .. .. .	512	598	13·0	16·0
9 to 12 „ .. .. .	447	578	11·4	15·4
	3736	4482	94·9	119·6

The above table shows how the 4482 infant deaths were divided amongst the age-groups of the Local Government Board's table, and compares the number of deaths and the rates in each group with those of the preceding year. Each age-group would appear to have contributed its quota to the very appreciable increase in the total rate.

**Notification of Births Act and Health Visitors.**—In a very few districts was this Act taken advantage of up to 1913; it was therefore deemed advisable that the County Council should adopt the Notification of Births Act throughout the Administrative Area (wherever it had not previously been adopted by the Local Authority). In the Riding the Act came into force on the 1st of July, 1914. Within the area mentioned, all births have to be notified to the County Medical Officer by the parent or attendant at birth within 36 hours of their occurrence. Doctors and midwives have been provided with stamped addressed forms and it is a very simple matter to fill in the few headings and post the form. It may be emphasised here that only one notification of any birth is necessary, and if either the parent, doctor or midwife has good reason to believe that some one of them has notified the birth, it is quite unnecessary for the other two to notify also.

The Local Government Board will not sanction the adoption of the Act unless and until they are satisfied that the necessary executive machinery will be established, whereby the ultimate objects of the measure, namely, the instruction of mothers in the hygiene of infant life, will be accomplished. This practically means that a suitable staff of Health Visitors shall be set up.



In considering what steps should be taken to establish a cordon of Health Visitors throughout the Administrative Area, it was considered advisable to co-operate with the Education Authority in their effort to organise a system of School Nursing. Accordingly a Combined Nursing Scheme Sub-Committee composed of representatives of the Public Health and Housing Committee and the Education Committee met and set to work. The scheme was based on the following propositions :—

1. To utilise existing institutions and associations as far as possible.
2. To avoid a multiplicity of officials entering a home.
3. To encourage and foster District Nursing.
4. To secure efficient health visiting and school nursing.

Wherever a District Nursing Association was prepared to perform the duties of School Nurse and Health Visitor in the area covered by the Association, then every effort has been made to utilise such services. In other places, the District Council has desired that the Officer appointed by the County Council shall perform certain duties under the Public Health Acts, and arrangements have been made that the person appointed should act as an Assistant Sanitary Inspectress, and also perform the duties of School Nurse and Health Visitor on the payment of an agreed sum to the County Council by the District Council. In such cases, arrangements have been made for the control of the Nurse by a Local Committee representing the County and District Council's.

Generally speaking, the basis of payment for the two duties of Health Visiting and School Nursing has been at the rate of £100 for about 15,000 of the population, but the actual amount offered in any particular place depends also on concentration of population and travelling facilities.

Numerous conferences have been held at Wakefield and throughout the Riding, and as a result many Nursing Associations and District Councils have co-operated on the lines laid down. But in certain places, this has not been possible, and the County Council have appointed whole-time Officers who perform the duties of School Nurse and Health Visitor in a population of roughly 15,000.

Notifications of Births are sent to the County Medical Officer who transmits copies to the Local Medical Officer of Health and the Health Visitor concerned. The latter takes an early opportunity of visiting the home and giving suitable advice to the mother. Great care and tact on the part of the Health Visitor is taken so as not to offend the susceptibilities of medical practitioners or midwives, and the Health Visitors make it their chief aim to see that the instructions of the medical attendant are properly carried out.

A Birth Enquiry card has been drawn up as a guide to the Health Visitors when visiting the homes. Any sanitary defect noticed by the Health Visitor and noted



on the Birth Enquiry card is extracted by the County Medical Officer, who draws the attention of the Local Sanitary Authority to the defect. Having regard to the limits of a report like this, it is impossible to mention all the ramifications that the activities of these officers will lead us into, but there is not the slightest doubt that they will produce a marked difference in the general hygienic aspect of the whole area. A few references have been extracted from the reports of the Medical Officers as to their appreciation of these Health Visitors.

*Brighouse Borough.*—"The one great advantage of the Act is that the Health Visitor is enabled to visit early the homes of the newly-born; especially visiting those mothers who have not been attended at their confinement by a medical man. It is one of the most efficient aids to the lowering of this mortality however."

*Castleford.*—"She has given 12 Health Lectures to mothers which have been moderately attended and greatly appreciated."

*Cleckheaton.*—"Mothers generally look forward with interest and pleasure to the Nurse's expected visit. Grandmothers are sometimes more sceptical about present day methods, and if opportunity occurs, are apt to explode their superior knowledge of babies in the ears of the 'scientific machine' who sets herself up (they say) in a bonnet and cloak to teach them 'what knows better.' Less than half of the Cleckheaton babies are entirely breast fed. Many babies are ill from being fed on bread, sago, cornflour, arrowroot, and other indigestible foods during the first few months of life."

*Darton.*—"The provision of a Nurse, which will follow the adoption of the Notification of Births Act should favourably influence these figures. Personally, I do not think that mere sanitary measures without the intelligent co-operation of mothers can do much."

*Doncaster Borough.*—"The work of Health Visitor has proved of great value, the sanitary conditions of many houses has been vastly improved, the advice tendered has been welcomed and largely acted upon, diseased conditions have been called attention to, and where necessary Medical Attendance insisted upon."

*Hemsworth Rural.*—"I feel sure the problem can best be met by appointing more Health Visitors to visit and instruct the mothers, by gradually getting rid of the present unsatisfactory privy middens, and by the introduction of the water-closet system."

*Mexborough.*—"I am very pleased to be able to state that the mothers of Mexborough receive the Health Visitor very kindly, and listen with respect to what she has to say. (Health Visitor's report)."



*Mexborough.*—"The Notification of Births Act has been in operation in Mexborough since August, 1911, and has undoubtedly been of practical use to the mothers, especially the young mothers, who are sensible enough to learn. It enables the Health Visitor to call on the mothers and offer her advice on the many small matters that are so necessary if the infants are to be fed and clothed properly."

*Normanton.*—"The objection that working men's wives resent the visits of a female Health Visitor does not seem justified judging by the experience of Urban Councils in areas similar to Normanton. What is required in the young mother is simply knowledge of what to do and how to do it, and her education has never been fashioned to that end. A Health Visitor supplies the deficiency."

*Rawmarsh.*—"I hear very many complaints about bedroom fireplaces. When I ask why they are blocked up in this way, the inevitable answer is 'To prevent the smoke coming down from the next door neighbour's house.' The people must be educated, and in my opinion the best way of educating them is to obtain the services of a well-trained Health Visitor of agreeable disposition."

**Zymotic Disease.**—The seven principal Zymotic Diseases during 1913 caused mortality of 1.4 per 1,000 of the population as compared with 1.0 in 1912, and 2.49 in 1911. This increase is largely due to the prevalence of epidemic diarrhoea. If we exclude diarrhoea from the list, the comparison is as 0.65 in 1913 to 0.75 in 1912 and 1.11 in 1911.

The following table shows how each of the seven diseases contributed to the total of 2,115 deaths from Zymotic diseases in 1913, a decrease in all except Diphtheria and Diarrhoea as compared with 1912. Dr. Hudson of Mytholmroyd remarks:—

"The decrease in the number of cases of Zymotic diseases may to a great extent be attributed to the fact that the head masters of the schools have taken careful precaution in at once notifying me of any suspicious case either in children attending school or absent therefrom owing to sore throats or rash."



Zymotic Disease.	No. of Cases 1913.	No. of Deaths. 1913.	Ratio of Deaths.	
			a per 1000 persons attacked.	b per 1000 persons living.
(1) Small-Pox .. ..	1	—	—	—
(2) Scarlet Fever ..	5664	113	20.0	0.07
(3) Diphtheria and Mem- branous Croup ..	2063	195	94.5	0.13
(4) Enteric Fever ..	501	75	150.0	0.05
(5) Measles .. ..	Not notified	420	?	0.28
(6) Whooping Cough ..	„	189	?	0.12
(7) Diarrhoea & Enteritis	„	1123	?	0.74
Total of Chief Zymotic Diseases .. ..	?	2115	?	1.39

**Small-Pox.**—One case of small-pox was notified in 1913, the case occurring at Wakefield.

**Vaccination.**—As in recent years, many of the medical officers call attention to the steadily increasing proportion of persons claiming exemption. It is undoubtedly due to the efficacy and thoroughness of the preventive measures carried out by medical officers of Health and Sanitary Officers throughout the country that there has been no serious and widespread epidemic of this loathsome disease. One quotation will suffice, which is that by Dr. Squire of Pudsey :—

“ Vaccination and re-vaccination is the only protection,  
“ and I am sorry to see so many exemption certificates granted  
“ year after year. Now that vaccination has nearly stamped  
“ the disease out, little is thought about it, but the time may  
“ come when it will visit us and find a number of persons un-  
“ protected, and having no provision for such cases, would be  
“ a tremendous expense to the township.”

There are one or two places in the Administrative County where no hospital provision is made for this disease. This is a most serious matter and ought to receive attention at once. Dr. Stansfield of Clayton says :—

“ Your attention has frequently been drawn to the entire  
“ absence of any provision for meeting any case. We have no  
“ Hospital nor any provision by arrangement with any other  
“ Authority for meeting any emergency.”

This does not refer to those places who are utilising disused isolation hospitals for the temporary provision of sanatoria beds. The present occupants of these hospitals would be discharged immediately there was any need for using them for their original purpose.



**Scarlet Fever.**—The number of cases of Scarlet Fever notified during 1913 was 5,664 as against 5,377 in 1912. Of these 5,664 cases 113 deaths occurred giving a death rate of 0.074 per thousand of the population. 4,237 cases were removed to the hospital. The places that suffered most were Bingley (243 cases), Keighley (224 cases), Featherstone (171 cases), Wortley Rural (167 cases), Rawmarsh (148 cases), Wakefield City (148 cases), and Rothwell (145 cases).

*Mild and Unrecognized Cases.*—One of the greatest difficulties in coping with this disease is the prevalence of mild cases which are often unrecognized by the parents and are not seen by a medical man. These mild cases are just as capable of spreading infection to others as the more virulent types. Dr. Thorp of New Mill comments on this :—

“Possibly the epidemic was kept up by the cases treated at home not being efficiently isolated, also by one or two supposed return cases; but it is most probably that mild unrecognized or unnotified cases were the chief means of keeping it up.”

*Home Isolation.*—In very few houses can home isolation be adequately maintained for so long a period as 6 weeks, and in those homes where it is possible to carry out the necessary isolation, very few parents have the knowledge and perseverance to thoroughly carry it out. Dr. Stedman in the Selby Urban report says :—

“There was much carelessness with regard to isolation of those who remained at home. On May 8th a boy had a rash which was reported as Scarlet Fever, on the 11th I visited the house and warned the mother of the necessity of isolation. On the 14th another case was notified in the house, and a third on the 27th. As a result of inquiries, I found that the first boy had several times been playing in the street. The father was prosecuted under Section 127 of the Public Health Act and fined two shillings and twenty-seven shillings costs.”

Dr. Angus of Bingley states :—

“Personal infection is an undoubted cause of the long-continued prevalence of Scarlet Fever, and until its control becomes a personal matter with every householder the prospect of speedily checking an epidemic are scanty.”

Dr. Scatterty of Keighley in the following words calls attention to the great need for intelligent co-operation on the part of parents, otherwise all the benefits derived from public health administration are rendered futile.

“During those three years the isolation of 90 per cent. of notified cases, the careful disinfection of every known infected house and garment, the closure of schools, and the utmost efforts of the Health Department proved futile until from want of further susceptible material the epidemic seemed to die spontaneously; the only lesson thoroughly mastered in the



“past epidemic seemed to be that science and experience only  
“count when backed up by the intelligent co-operation of house-  
“holders.”

Besides helping to diminish the spread of the disease, the comparative freedom and better hygiene in hospital are conducive to the patients' welfare, and the avoidance of complications which manifest themselves in after life. In many places, there is evidence that a good deal of the old prejudice against hospital isolation has died down. Dr. Chamberlain of Rawdon states :—

“Sixteen of these, all Scarlet Fever, were removed to the  
“Isolation Hospital. I do not now have the same difficulty  
“in obtaining the consent of the parents which I experienced  
“a few years back, when the Hospital first started. They now  
“are fully aware of the skill, care and attention paid to their  
“children and I think appreciate the necessity from a public  
“health point of view.”

There is no doubt that the widespread nature of this disease is due very largely to the greater facilities for communication between neighbouring towns and villages that exists to day. Trams, motor-cars, motor-buses, etc., are enabling people to get away from the immediate vicinity of their homes, and whilst this is a great benefit from an educational and social point of view, one of the inevitable drawbacks is that communicable diseases are often disseminated and carried about. Dr. Davidson of Hipperholme, states :—

“In the course of my investigations I have found that the  
“illness could be traced to a visit to another town; thus two  
“of the cases in July were infected after such a visit, and at  
“a later period also the source of infection was duly discovered  
“to be some place where such diseases are endemic, and the  
“slight epidemics which have occurred at irregular intervals  
“are probably due to the fact that the disease is endemic in the  
“surrounding large manufacturing centres.”

School closure for Scarlet Fever was carried out on 54 occasions 53 times by the Local Sanitary Authority and once by the Local Education Authority.

**Diphtheria.**—The number of cases of Diphtheria (and Membranous Croup) notified in 1913 was 2,063 of which 195 died. In 1912 there were 1436 cases, of which 178 died. This shows a very considerable increase in the prevalence of the disease, but the case-mortality is less. The greatest number of cases occurred in Wakefield City, (103 cases and 6 deaths), Goole (92 cases and 7 deaths), Doncaster Rural (92 cases and 4 deaths), Wombwell (87 cases and 4 deaths), Hemsworth Rural (78 cases and 5 deaths), Keighley (66 cases and 8 deaths), and Bingley (58 cases and 5 deaths).



The value of the West Riding Bacteriological Laboratory is more and more appreciated, and several of the reports testify to the extreme usefulness of the examinations. Dr. Stedman of Goole Rural states :—

“ Had the older method of closure for a month or six weeks been adopted and no bacteriological examination of the children’s throats been made, the results would no doubt have been less fortunate.”

Dr. Ramsden in the Saddleworth report states :—

“ The diagnosis of the disease was made, in nearly all the cases that were reported, by bacteriological examination, and proved invaluable.”

Dr. Mason of Gomersal remarks :—

“ I am of opinion that greater advantage should be taken of the County Bacteriological Examination before all cases are sent away. In any doubtful case Diphtheria Antitoxin can be obtained from the Medical Officer of Health, and a dose given while waiting for a report from Wakefield. If the diagnosis is correct, early treatment has commenced, and if incorrect, no harm is done by the administration of Antitoxin.”

That Diphtheria is a personally conveyed disease is becoming more and more realised by the medical profession. Faulty drains and bad smells can prepare the soil for the incidence of the disease by producing an unhealthy condition of the nose and throat, but to become infected by Diphtheria, the Diphtheria germ must become implanted on the mucous-membrane of the upper air passages and there establish itself and cause a toxic infection of the unfortunate host. The usual way in which this infection takes place is that the germ comes direct from the throat of someone who has either had the disease or is a “ carrier.” These “ carriers ” may manifest no signs of illness themselves but yet they are capable of infecting other people. Even when inspected by a medical man, to the naked eye the throat of these individuals look perfectly healthy and normal and the only way to discover whether they are “ carriers ” or not is by bacteriological examination. Dr. Mair of Harrogate refers to this as follows :—

“ Swabs were taken from susceptible contacts of cases notified during the year and submitted to bacteriological examination, with the result that 20 carriers were discovered. These carriers or their parents were warned of the importance of the condition and urged to obtain suitable treatment and isolation. Those who were unable or unwilling to obtain medical treatment were provided with suitable applications and instructed in their use, so that all cases received more or less efficient treatment. In the majority of instances, however, it was found impossible to obtain any isolation at all. While the parents were in most cases not unwilling to take suitable precautions for a week or two, they perhaps not unnaturally objected to



“continue these precautions over the lengthy period—often many weeks—which frequently elapsed before the carrier could be declared free from infection.”

Undoubtedly the best way is to remove all cases of Diphtheria to an isolation hospital and we notice that of the 2063 cases notified during the year 1913, 1240 were removed to the hospital. This compares favourably with the 810 cases removed out of 1436 notified cases last year. But there are still some places where there is no hospital provision for Diphtheria cases *e.g.*, Barnoldswick, Earby, Saddleworth, and Springhead. Dr. Alderton of Barnoldswick remarks :—

“There is no provision for the treatment of Diphtheria at the Isolation Hospital, consequently all cases were treated at home.”

It is often difficult to make some parents see the necessity of isolating their children who are found to be “carriers.” If there is a suspicion that the disease is being disseminated by attendance at school, it is the practice for the School Medical Inspectors or members of the Central Staff to visit the schools and after an inspection of the throats of some or all the scholars to take swabs from suspicious throats. In this way, children are often discovered to be “carriers” of the diphtheria germ, and yet to be apparently well. These children are excluded from school and ought to be isolated until their throats are found to be free from the germ. Dr. Stansfield of Clayton seems to have had a difficult task with some of the parents as he says :—

“In one case the parent refused to follow out the suggestions made, and allowed the child to wander about the streets. Disinfection was refused by the parent to be carried out either by the Sanitary Authority or in any other way, and it was only after threatening to take extreme measures that consent was given. It is the duty of the parents not only to protect their own children, but by every means to prevent others contracting it.”

School closure was enforced on 13 occasions; 11 by the Local Sanitary Authority and twice by the Local Education Authority.

**Enteric Fever.**—The number of notifications of this disease in 1913 was 501 as against 536 in 1912 and 1281 in 1911. Considering that the weather during 1913 was more favourable to the spreading and dissemination of Enteric Fever than in the year 1912, there is every reason to be satisfied with this figure. In fact since the Notification of Infectious Diseases Act came into force, this is the least number of notifications of Enteric Fever that has been recorded. There can be no doubt that this great decrease in the prevalence of enteric fever is one beneficent result from the replacement of the old privy-middens by water-closets and ashbins. Wherever this replacement has taken place, there has been an accompanying decrease in the number of cases of Enteric Fever and Diarrhoea. It is to be hoped



that certain backward authorities will push forward in this respect and remove this standing disgrace to modern sanitation. Many Medical Officers of Health refer to the connection between ash-pits and this disease, and the following quotation is typical. Dr. Millar of Darton remarks :—

“ These four cases occurred after a thorough emptying of the ash-pits, during which work the contents are thrown into the yard. There seemed to be a direct connection between the two.”

It is interesting to note that in some places, the collieries are regarded with suspicion in relation to the spread of this disease. It is well known that ankylostomiasis is spread by the contamination of miners' hands with infected faeces and it is quite probable that Enteric Fever is spread in a similar manner. The miner's hands come into contact with specifically infected excreta, and this infection is introduced into his system through contaminated food. Dr. Sadler of Barnsley Rural says :—

“ I think there is some reason to suspect that a certain number of cases of Typhoid Fever in a mining district derive their source of infection from the mines themselves.”

Dr. Stedman of Tadcaster Rural remarks :—

“ Two cases came from the Garforth Urban District, where an outbreak existed. Four men had the complaint in November and December. All worked at one of the collieries and there was good reason to believe that they caught the infection in the pit.”

The above source of infection is closely analagous to the more commonly accepted source of this disease, viz. :—the disposal of excreta, urine, and refuse in and about houses. Just as in the case of Diarrhoea, so is there found to be a great diminution in the prevalence of Enteric Fever where privies and privy-middens are replaced by water-closets and moveable ash-bins. Dr. Dunne in the Doncaster Rural report explains the prevalence of this disease in that area in the following words :—

“ Several factors in varying degree, it may be suggested, have been responsible for this series of cases, amongst which I may mention the practice in some cases of emptying slops improperly into the ashpits, the position of the old ashpit rubbish tip in Coppice Road, the plague of flies during the months of September and October especially, and the consequent invasion of the houses by these pests.”

The districts which suffered most were the following :—Doncaster Rural (67 cases), Rotherham Rural (23), Tadcaster Rural (23), Swinton (21), Thurstonland (20), Castleford (18), Darton (12), Wombwell (11), and Garforth (11).



Besides the gratifying decrease in the number of notifications, it is extremely satisfactory to note that the number of deaths from this disease in 1913 was only 75 as against 100 in 1912. This is accentuated when we find that in 1894 the number of deaths from Enteric Fever was 261 and in 1904 the number of deaths was 237. Nevertheless the present mortality can be still further reduced by a few backward authorities accelerating the rate of conversion of those abominations—privies and privy-middens.

**Diarrhœa.**—There were 1123 deaths recorded under this heading in 1913 as against 384 in 1912 and 2196 in 1911. The term diarrhœa is a rather vague expression which includes many different diseases, but the one of paramount importance is that known as epidemic or summer diarrhœa. When epidemic diarrhœa abounds, then the mortality reaches a high figure and *vice versa*. The summer of 1913 was a hot and dry one and therefore we experienced a considerable number of deaths from epidemic diarrhœa. There is considerable ground for satisfaction in comparing the number of deaths from diarrhœa in 1913 with the number in 1911 when similar climatic and seasonal conditions prevailed.

**Urban Districts.**—The greatest number of deaths from diarrhœa occurred at Castleford (55 deaths), Goole (40 deaths), Normanton (33 deaths), Wombwell (32 deaths), Swinton (30 deaths), Batley (30 deaths), and Mexborough (25 deaths).

**Rural Districts.**—The greatest number of deaths from diarrhœa occurred at Hemsworth Rural (88 deaths), Doncaster Rural (78 deaths), Rotherham Rural (43 deaths), and Tadcaster Rural (28 deaths).

Table III. shows that of the 1123 deaths attributed to diarrhœa, 754 occurred during the first year of life and 235 during the second year of life. In other words 88 per cent. of deaths at all ages due to diarrhœa took place in the first 2 years of life.

At the time of writing, the Local Government Board have again sent out to Sanitary Authorities a circular which calls attention to the salient features of epidemic diarrhœa, with a view to checking this terrible wastage of infant lives. They first emphasise the importance of an adequate provision of Health Visitors who shall systematically visit the home in which young infants are living. It may be pointed out that a copy of this circular has been sent out to all the Nurses who are performing the duty of Health Visitor on behalf of the County Council, and asking them to carefully carry out the directions and injunctions contained therein.

The following points are then commented on in detail :—

1. Breast feeding. Avoidance of weaning in summer months.
2. Abolition of dummy teats and long tubed feeding bottles.
3. Personal and Domestic Cleanliness, especially in the preparation of food.



4. Storage of food especially milk.
5. Prevalence of Flies.
6. Cleanliness of streets, yards, alleys, etc.
7. Existence of privies and privy-middens.
8. Disposal of Refuse.

This circular was accompanied by a similar one sent out by the County Medical Officer enlarging on the above headings and instructing the Health Visitors what action should be taken when actual cases of the disease arise. Breast-fed children are remarkably exempt from this disease, whilst those partially breast-fed come next; the mortality is much higher among children artificially fed and especially if fed by a long-tubed bottle. The pamphlet "How to take care of the Baby" is greatly appreciated, and great stress is laid on the importance of breast feeding.

The "dummy" teat is perhaps even more formidable than the long-tubed feeding bottle and the time has come when legislation should forbid the sale of these deadly articles. Dr. Menzies of Rawmarsh refers to them as follows:—

"I cannot understand why mothers should persist in the use of the Dummy Teat, the so-called comforter. It does not prevent the children from crying, for I am certain that I hear as much crying, if not more, in Rawmarsh amongst the children who have dummy teats as amongst those who have not. The teat, especially in summer time, may introduce to the mouth of the infant the most injurious microbes,"

Many of the Medical Officers refer to the importance of personal and domestic cleanliness and the following are a few selections. Dr. Burman of Bolton-upon-Dearne says:—

"Your Health Visitor went about very actively among her babies, persuading the people to cover up the milk, and remove it from any possibility of contamination; to keep their houses and yards and their own persons clean; and it is no doubt very largely due to her exertions that we had not many more deaths."

Dr. Chrispin of Castleford says:—

"I must once more urge upon parents the necessity of absolute cleanliness in regard to milk, food, and all utensils used for the infant. Milk, etc., must be kept covered and protected from flies, which are the greatest source of infection in Diarrhœa."

Dr. Erskine of Goole says:—

"Our increased death-rate was due to deaths from Summer Diarrhœa. There is little doubt that the main causative factor is our present conservancy method of scavenging."

Dr. Menzies of Rawmarsh emphatically declares that—

"Diarrhœa is a disease of dirt, feeding and insanitary surroundings. Year after year you have kept sending out pamphlets



“ which many never read ; some because they can't, many because they won't take the trouble. It would, in my opinion, be much more satisfactory to appoint a Health Visitor to go round the houses, and to talk to the people about the best means of keeping themselves and their children healthy. As you are aware, it is almost impossible to attract people to health lectures, etc., and many have not the time to spare. Everyone would be able to listen to a visitor in their own houses.”

Associated with personal and domestic cleanliness is the provision for proper storage of food and the absence of flies. When architects and builders are made to realise that they must provide adequate and efficient pantries where food (especially milk) can be properly stored out of the reach of dust, flies, tubercle bacilli and other deadly germs, a great advance will have been made in the crusade against the national foe—epidemic diarrhoea.

**Measles.**—Measles is not a notifiable disease and we have no exact knowledge of the number of cases that occurred in the Administrative County during 1913. But in 96 out of the 156 Medical Officer's reports it is reported that this disease was present as epidemic or prevalent. The number of deaths from measles was 420 during 1913 as against 547 in 1912 and 798 in 1911. This decrease is very gratifying, but even yet the number of deaths from this disease during 1913 is more than the added deaths from Enteric Fever, Scarlet Fever and Diphtheria. The public must be made to realise what a terrible disease measles is to the child under 5 years of age. Dr. Cheetham in the Guiseley report puts it with telling effect in the following words :—

“ It is unfortunate that parents still fail to appreciate the danger of this infantile complaint. The mortality is far higher than that of any other infectious disease, and almost equal to that of Scarlet Fever, Whooping Cough and Diphtheria combined. The deaths in England and Wales during 1912 were, Measles 12,696. Scarlet Fever 1,968, Whooping Cough 8,250, Diphtheria 4,176, that is 12,696 against 14,394.”

Of the 420 deaths due to measles, 97 occurred in children under the age of 1 year, 167 during the second year of life, and 123 between the ages of 2 and 5. Therefore all but 33 of the deaths from measles occurred before the age of 5 years. We seem to be almost helpless in coping with this disease, but every effort should be made to delay the onset of the disease. When children over 5 years of age are attacked by measles, there is not the same deadliness about the attack as when children under 5 years of age are smitten. For this reason it is extremely inadvisable for children under 5 years of age to attend schools (either week-day or Sunday), or to frequent any confined space, especially when measles is prevalent in the locality.



Dr. Menzies of Rawmarsh says :—

“ It is very necessary that no child under five years of age should be admitted to school. A measles epidemic spreads much more rapidly in a school than it could possibly do if children were not congregated together. This applies with equal force to Sunday Schools, over which you have only an indirect control.”

Many ways of attempting to harness this disease have been suggested and some of them have been tried, but so far there is no unanimity that any particular method has actually succeeded in limiting the ravages of this disease. Where all our schemes break down is in the apathy and carelessness and ignorance of mothers. Until they understand that it is not by any means inevitable that their children will take measles and until they realise how to deal with it if it does overtake them, measles will still continue to claim its thousands of victims and its still greater number of incapacitated lives.

Compulsory notification and isolation are advocated by some and the two following quotations are of interest. Dr. Johnson of Normanton says :—

“ It would be good policy after some time of freedom from this disease to have compulsory notification of the first six cases so that active steps might be taken at the very beginning of an impending epidemic to minimise its severity. When the complaint has got a good start apparently no action is of any avail to circumscribe the area and intensity of its incidence.”

Dr. Burman of Bolton-on-Deane suggests the following novel plan :—

“ I have tried on two occasions, but in vain, to get the Hospital Board to rent the 3 cottages in the wood close by the Wath Hospital, and put a man and wife without any children into them, and keep them as a Hospital where the first cases of Measles appearing in one of the districts in the conjoint area might be isolated. I feel confident this would be the means of saving many lives.”

The one great help that the Health Authorities possess is in the active and willing co-operation on the part of School Teachers. They are the first to become aware of the incidence of the disease and by a timely warning to the Medical Officer of Health and to the County Medical Officer, steps are taken to attempt to limit the outbreak. Dr. Squire of Pudsey testifies to this help as follows :—

“ The School Teachers have given me much help in this matter, they readily diagnose the disease and at once exclude the child from attending school, and report to me.”

Schools were closed owing to outbreaks of Measles on 129 occasions, 116 of which on the advice of the Medical Officer of Health and 13 by the Local Education Authority under Article 45 (b) of the Code.



**Whooping Cough.**—This is not a notifiable disease and accordingly we have no actual record of the number of cases that have occurred. But during the year 1913, this disease is recorded by the Medical Officer as having been prevalent (or epidemic) in 46 of the Sanitary Districts. There were 189 deaths attributed to this disease during 1913 as against 296 deaths in 1912 and 433 deaths in 1911. This is a very gratifying decrease and, as would be expected, is concomitant with a similar decrease in the number of deaths from measles. A study of Table III. will show the close relationship between Measles and Whooping Cough, the former disease being usually the forerunner of Whooping Cough.

The greatest number of deaths occurred at Keighley (13), Normanton (11), Tadcaster Rural (11), Rotherham Rural (10), and Stanley (10).

Schools were closed on 19 occasions on account of the prevalence of this disease. The benefit of school closure is most marked in rural areas where the homes are scattered and the children seldom meet away from school; on the other hand, in populous areas, exclusion from school gives the children more opportunities for aggregating together at play and for frequenting picture shows and entertainments. The influence of the picture-palaces is commented on by Dr. Johnson, Medical Officer of Health for Normanton, who says:—

“Unfortunately children debarred from school with obvious  
“characteristic cough are allowed to go to public functions and  
“entertainments, so that the recent notification from the County  
“Hall that under certain circumstances abstention of children  
“under 14 from certain places of amusement will be insisted  
“upon, is a very reasonable and common sense procedure.”

Dr. Sutherland of Cleckheaton also discusses this matter and at the same time reflects on the gross thoughtlessness and carelessness on the part of some parents. He says:—

“School attendance doubtless plays a part in the spread  
“of infectious disease, but it is equally certain that there are  
“other agencies such as the carelessness of many mothers. In  
“the course of my visitation, I found a child suffering from  
“Whooping Cough had been taken to the Picture Palace the night  
“previous to my visit, and when I spoke to the mother of the  
“danger not only to the child but to others attending the place,  
“her answer was ‘If I hadn’t taken it then I could not have  
“‘gone.’”

Advantage has been unhesitatingly taken by the County Medical Officer of Health of paragraph 8 of the Conditions and Restrictions of the West Riding County Council in regard to Licenses. The paragraph runs as follows:—



“In the event of any department of a Public Elementary School within the Administrative County being closed by reason of the prevalence of any infectious disease, the Licensing Committee, on the recommendation of the County Medical Officer, may for such period as they think fit direct the Licensee or Licensees of any premises Licensed for Cinematograph Exhibitions within such area as they may specify to exclude from the premises all children under 14 years of age, and after such direction has been notified to the Licensee or Licensees, no child under 14 years of age shall be permitted to enter into or remain on the premises at any time during such period.”

This restriction can only be applied when a school is closed, and it would seem that occasions are likely to arise when such a prohibition might be usefully exercised where it has been considered necessary to merely exclude sufferers and contacts, and not to proceed to closure of the school.

Attention must be again drawn to the terrible toll taken by this disease, especially in children under the age of one year. Owing largely to neglect and exposure and improper feeding, various complications arise after whooping cough such as bronchitis, pneumonia and convulsions which often prove fatal. Tuberculosis of the lungs is a very common sequela of this disease. It is to be noted that during 1913, more deaths were attributed to whooping cough than to enteric fever and scarlet fever combined.

Schools had to be closed on 19 occasions owing to the prevalence of whooping cough; 18 by the Local Sanitary Authority, and the remaining one by the Local Education Authority.

**Phthisis or Pulmonary Tuberculosis.**—This disease became compulsorily notifiable on the 1st January, 1912. During the year 1913 there were 2434 notifications of this disease in the Administrative County as against 2551 in 1912. The number of deaths from phthisis during 1913 was 1150 as against 1220 in 1912 and 1376 in 1911.

The death-rate for the whole Administrative County is 0.8 per thousand of the population. The highest death-rates occurred at Thurstonland (4.4), Wath-upon-Dearne (1.9), Brighouse Borough (1.9), Golcar (1.5), Marsden (1.5), Shipley (1.1), Bingley (1.0), and the Rural Districts of Goole (1.3), Pontefract (1.2), and Thorne (1.1). In 15 districts, the death-rate from phthisis was recorded as nil.

In another part of this Report, Dr. Campbell contributes a section which deals chiefly with the treatment of this disease as inaugurated by the National Insurance Act, 1911. The opinion of various Medical Officers on the preventive measures being used against this disease will be found appended to Dr. Campbell's review.



**Cancer.**—During the year 1913, in the Administrative Area there were 1439 deaths attributed to cancer or Malignant disease. According to the Registrar General's figures for the year, there were only four other diseases which accounted for a greater number of deaths than cancer, viz. :—(1) Heart disease (2) bronchitis (3) pneumonia, and (4) congenital diseases in the newly-born.

In the year 1912, 1415 deaths were attributed to cancer and this shows a relatively small increase when compared with the rapid rate of increase during the last few years. More and more attention is being given to this disease and the following are some extracts from the Medical Officers' reports. Dr. Angus of Bingley says :—

“ More deaths from Malignant disease have been registered in the district in 1913 than in any year of which I have record.”

Dr. Stansfield of Clayton says :—

“ Along with heart disease, cancer accounts for a good proportion of the deaths in this district. For many years this relationship of these diseases to the death-roll of this district is remarkable, and it can almost be said that the district is scarcely ever free from this disease. A peculiar coincidence, too, is that the numbers almost always equal each other, suggesting that there may be some common cause which accounts for one as well as the other disease.”

Dr. Lambert of Farsley says :—

“ According to a recent computation, Malignant disease accounts for one death in 9 at and after the age of 25, and in women between the ages of 40 and 60 for one death in every 5.”

The Borough of Portsmouth and a few other Authorities have issued a poster which draws the attention of the public to (1) the curability of cancer if steps are taken in time (2) the painless commencement of cancer, and (3) the signs and symptoms of early cancer.

With regard to the curability of cancer, it is sad to relate that the high hopes that were raised by radium have not been realised. In fact the tendency amongst some leading surgeons is in the contrary direction. A high authority remarked a short time ago “ I am coming to the conclusion that in malignant disease radium is an absolute failure.” We are yet a long way off a mastery of this most dread disease. For the present, chronic irritation of any part of the body must be avoided, and by seeking early medical advice at the slightest suspicion that there is anything abnormal, cancer may be deprived of many of its victims.

With respect to the painless commencement of cancer, Sir Berkeley Moynihan recently said :—“ If I could be sure of having one prayer answered, I think I should pray that the early stages of cancer might hurt people; then the sufferers would quickly seek relief from a doctor, and a confident hope of cure could be held out to them.”



Since a reference to so-called "Cancer Houses" has recently appeared in the press, a quotation from the Imperial Cancer Research Society will not be out of place. It states that "there is no positive evidence of any kind whatsoever. In the course of years it is quite natural that a number of cases should occur in a village, a street, a house, or even a family that has inhabited the same house for generations, without the numbers necessarily meaning anything more than what was to be expected according to the theory of probabilities." Again, the "Lancet" says, "Cancer Houses have not yet been proved to exist; and there is no such weight of opinion in favour of their existence as would warrant alarming the large number of people who now live securely in houses in which deaths from cancer have taken place."

**Ophthalmia Neonatorum.**—On the 1st April, 1914, a new Order of the Local Government Board came into force rendering it compulsory for Doctors and Midwives to notify as an infectious disease all cases of Ophthalmia Neonatorum. This "disease with the long name" may be described as "Inflammation of or discharge from the eyes of infants under 21 days of age." As Local Supervising Authority of midwives, we sent out a circular to all the midwives practising in the West Riding Administrative Area concerning this Order pointing out their duties in the matter. Their attention was specially drawn to the following points :—

1. It is a very common cause of hopeless blindness.
2. It is usually due to discharge from the Mother getting into the baby's eyes at birth. It is **not** due to a chill or the baby catching a cold.
3. Treatment should be promptly rendered.
  - (a) **Prevention** by washing each eye separately at the time of birth with clean lint soaked in warm boracic acid lotion.
  - (b) If in spite of the above inflammation or discharge from the eye is noticeable, medical aid must be immediately called in.

There is no doubt that when the full benefit of this Order is achieved, there will be a great relief, not only in suffering, but a great diminution in the numbers of those unfortunate people who are rendered blind soon after birth. Dr. Mair of Harrogate calls attention to the havoc wrought by this disease. He says :—

"One child lost one eye and the sight of the other is impaired, and in the remaining cases some impairment of eyesight remains."

It is interesting to note that during the four months this Order has been in force, 125 notifications of Ophthalmia Neonatorum have been received from the Administrative County Area.



**Seasonal Prevalence of Disease.**—The totals in the following tables are compiled from the monthly returns to this Department, and for various reasons will not be found to agree with those obtained from the Annual Report statistics. The table, however, serves its purpose in showing the seasonal distribution of the notifications.

**Monthly Totals of Reported Cases, 1913.**

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Small-Pox .. ..	—	—	—	1	—	—	—	—	—	—	—	—	1
Diphtheria and M.													
Croup .. ..	144	160	161	144	117	132	147	140	148	240	283	224	2040
Erysipelas .. ..	100	78	90	78	70	69	47	61	94	105	95	109	996
Scarlet Fever .. ..	522	396	402	399	410	344	373	360	435	617	643	618	5519
Enteric Fever .. ..	28	32	38	31	27	17	22	33	48	79	76	61	492
Puerperal Fever .. ..	2	4	3	8	4	4	5	5	6	6	9	9	65
Tuberculosis :—													
(a) Pulmonary .. ..	194	264	230	232	196	175	178	180	190	210	190	184	2423
(b) Other .. ..	—	366	217	161	118	94	86	64	87	84	83	67	1427

**Monthly Totals of Districts Reporting Cases, 1913.**

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Small-Pox .. ..	—	—	—	1	—	—	—	—	—	—	—	—
Diphtheria and M.												
Croup .. ..	51	51	54	51	43	50	57	52	56	60	72	71
Erysipelas .. ..	55	49	57	48	51	48	37	43	52	63	54	55
Scarlet Fever .. ..	91	87	89	80	85	88	87	80	90	95	96	100
Enteric Fever .. ..	21	19	23	24	20	14	20	20	24	34	36	29
Puerperal Fever .. ..	2	4	2	6	4	3	2	4	6	6	8	7
Tuberculosis :—												
(a) Pulmonary .. ..	?	84	76	80	83	80	76	67	82	72	61	67
(b) Other .. ..	—	82	74	68	55	44	44	35	52	44	45	41
Measles .. ..	45	41	49	43	42	31	29	18	21	19	18	19
Whooping Cough .. ..	18	8	10	19	22	19	13	11	17	15	14	14
Diarrhoea .. ..	6	3	10	4	14	15	25	38	60	32	16	7
Chicken Pox .. ..	29	20	14	12	13	19	16	10	11	13	16	10
Pneumonia .. ..	35	35	34	39	24	16	13	19	17	17	22	28
Influenza .. ..	46	62	71	58	33	15	9	10	20	26	33	44
Mumps .. ..	20	19	13	15	11	7	12	5	7	12	6	9
German Measles .. ..	1	—	2	3	5	5	2	2	3	—	2	1
Lead Poisoning .. ..	1	—	—	1	1	1	—	—	—	—	—	—



**Action under the Housing Acts, Town Planning Act,  
and the Housing (Inspection of District) Regulations, 1910.**

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Since the Housing (Inspection of District) Regulations came into force in September, 1910, there has been a rapid increase in the work done under the Housing of the Working Classes Acts, 1890 to 1909; in fact the Regulations gave that necessary impetus to the work which had been lacking to make the Housing Acts a success. They applied, along with the 1909 Act, compulsion on all Authorities and their officers to carry out certain duties, as follows :—

(1) Inspection of the district to see that all houses under £16 rental are kept reasonably fit for habitation, and that unfit houses are either made habitable, or demolished; also to comply with regulations, and keep records prescribed by the Local Government Board.

(2) Records of inspection must, as far as may be necessary, be considered at each of the ordinary meetings of the Council, and note has to be kept of action taken thereon, and the results added to the records.

(3) The Council to receive from their officers representations as to houses unfit for habitation, which they may close themselves, instead of by Magistrates' Order as heretofore; if the houses are not made habitable, they may order demolition, and if the owners fail to demolish, the Council may do so, and recover the costs from the owners.

(4) The district medical officer must include in his annual report a statement of the action taken by his Council, and supply therein answers to definite questions prescribed by the Local Government Board.

(5) County Medical Officers must devote a section of their annual reports to the housing work done in the County. If the Annual or Special Reports of the local Medical Officer do not contain adequate information in regard to action under the Housing Acts, the County Medical Officer is to obtain from such officer such information as the circumstances may demand, and by Section 69 of the 1909 Act, it is provided that if such officer fails to comply with the request he is liable to a fine not exceeding £10.

Such, very briefly, are the legal requirements under which the Housing Acts have to be worked.

It may be further explained that the Local Government Board in their 1910 regulations set out in Article III. that records of the inspections of dwelling-houses should be kept by the officer making the inspection and they indicated certain headings under which the information obtained should be kept, as set out in Articles II. and III., but in their memorandum explaining of the



Regulations they leave it to be inferred that other types of records may be kept so long as they include those set out in the regulations. The result has been that nearly every firm of local government printers has drawn up forms of records to meet their own particular ideas; consequently, there are a very large and varying number of records being kept in the West Riding districts which makes it impossible to give comparable results for the various districts. This in my opinion is a very great mistake as it does not matter whatever kind of district, large or small, Urban or Rural, the same housing factors apply in each case. We endeavoured for a while to get uniformity in the West Riding but had to give it up owing to the many difficulties that were met with. It cannot be too strongly urged that there should be uniformity of records throughout the country as there is for Census purposes, then, and not till then can we hope to obtain anything like systematic records. Again the Local Government Board's housing department are sending out annually a form asking for statistics as to housing work for the year ending March 31st, so that the Housing Officers have to strike two balances every year, one for the purposes of the Annual Report ending December 31st, and another for the year ending March 31st. This is causing a large amount of grumbling amongst Officers as the keeping of the housing records alone is a very severe task for the Officers of some of the moderately sized districts who have no clerical assistance.

#### **No. of Houses in present Administrative West Riding.**

At the last census (1911) there were in the present Administrative West Riding 327,938 houses of which number, I compute, that 70% were let at a rental of £16 or under, which gives 229,556 houses for which the owners are responsible for keeping in a reasonably fit state for habitation.

#### **No. of Inspections.**

Of this number—

17,118	were inspected in	1910
19,601	„ „	1911
24,616	„ „	1912
21,229	„ „	1913

showing a diminution of over 3,000 during the past year which cannot be considered satisfactory.

If the average rate of progress made during the last two years were maintained, it would take over six years yet to complete the first round of the £16 houses alone.

In four districts there were no inspections made during the year, viz :—The Urban Districts of Altofts, Clayton West, Kirkheaton and Stainland. In three other districts no statistics were available although some work was said to have been done, viz. :—Gunthwaite and Ingbirchworth, and Saddleworth Urban Districts and Bowland Rural District.



In our Table "C" we endeavoured to give under one head the various items asked for by the Local Government Board, with columns showing the work not completed at the end of the previous year, and which should be brought forward year by year until disposed of, and there were columns at the end of the table for work left undone during the year under review.

The following information is compiled from those tables which I am sorry to say were incomplete in many particulars and our figures must be taken as being only approximate.

In 7 districts only 10 or less houses were inspected.

Burley .. .. .	3	Greasbrough .. .. .	9
Emley .. .. .	9	Horbury .. .. .	4
Garforth .. .. .	3	Scammonden .. .. .	5
Farnley Tyas .. .. .	10		

Only between 10 and 50 inspections were made in 29 Urban and 2 Rural Districts.

Ardsley .. .. .	34	Penistone .. .. .	38
Baildon .. .. .	47	Penistone Rural .. .. .	40
Birkenshaw .. .. .	41	Pontefract .. .. .	22
Barkisland .. .. .	48	Rishworth .. .. .	30
Castleford .. .. .	28	Shepley .. .. .	32
Denby & Cumberworth	49	Skelmanthorpe .. .. .	26
Drighlington .. .. .	22	Slaithwaite .. .. .	37
Farsley .. .. .	36	South Crosland .. .. .	33
Gildersome .. .. .	20	Sowerby .. .. .	44
Golcar .. .. .	39	Stanley .. .. .	38
Gomersal .. .. .	13	Thurlstone .. .. .	16
Holme .. .. .	12	Tickhill .. .. .	35
Hoylandswaine .. .. .	40	Wheatley .. .. .	37
Lepton .. .. .	44	Whitley Upper .. .. .	17
Mexboro' .. .. .	39	Hunslet Rural .. .. .	39
Oakworth .. .. .	24	Wharfedale N. Rural	39

Therefore there were 45 districts in which there was not an average of one house per week inspected during 1913.

There were 44 other districts in which less than 100 houses were inspected, and 20 districts between 100 and 200. The question may be asked, what should be considered a reasonable number of inspections to be made by an inspecting officer. Should it be 4 per week or 200 per year. If so, then there are 145 of the 155 districts in the West Riding which fall below that standard.

The 7 districts with the highest records of inspections are—

Kiveton Park R.,	816 houses inspected,	550 had no defects.
Worsborough	664	404
Skipton	656	510
Rawmarsh	649	194
Elland	617	435
Bolton-on-Deerne	559	450
Rawdon	529	479



These figures suggest at first sight to the practical mind that the spirit of the Regulations may not have been carried out, that is, that all the worst houses in a district should be dealt with first. The results at two places are remarkable, they show that at Meltham 342 houses were inspected, all of which were satisfactory except two, while at Ilkley 210 houses were inspected all of which were satisfactory.

*Number satisfactory.* The net results of the inspection of 21,229 houses were that more than half—10,715—were reported to be satisfactory.

*Section 15 Houses.* The defective houses which were found to be not reasonably fit for habitation, and were dealt with under Section 15, amount to 3,546, in regard to which notices had to be served of either a preliminary or legal character as to 3,327 of them. The notices were satisfactorily complied with in 2,608 instances while 2,005 are shown to be carried forward to the year 1914. These figures do not balance properly owing to some of the records being imperfectly kept.

*Houses dealt with under Public Health Acts.* The houses inspected which were occupied before the 1909 Act came into operation need to have their defects dealt with under the Public Health Acts. 6,710 of this type are reported to have been found. 3,525 of them were remedied after preliminary notices had been sent to the owners or their agents, 2,872 legal notices had to be sent for the remainder, and 2,550 were made fit after such notices.

*Number of Unfit Houses.* The houses found to be unfit for habitation and dealt with under Section 17 amounted to 591, for which 511 representations were made to the local authorities, 396 in Urban and 195 in Rural Districts, who caused some communication to be made with the owners or their agents, resulting in 59 of them being made fit for habitation without the issue of a Closing Order and 142 of them were closed voluntarily. It was also necessary to make Closing Orders in 324 cases, which resulted in 210 houses being closed, afterwards 93 of these houses were made fit for habitation again.

By Section 69 of the Housing, Town Planning, etc., Act, 1909, the Clerks of Rural District Councils must forward to the County Medical Officer, a copy of all representations made to them in respect of any dwelling-house which is in a state so dangerous or injurious to health as to be unfit for habitation, or respecting an obstructive building, and shall from time to time report such particulars as the County Medical Officer may need in regard to such properties.

Under this head, 13 authorities made 83 Representations regarding 133 houses as follows, viz. :—

Doncaster	..	6 for	6 houses.
Goole	..	1 „	3 „
Gt. Ouseburn	..	22 „	22 „
Halifax	..	1 „	2 „
Kiveton Park	..	2 for	2 „
Pateley Bridge	..	4 „	4 „



Rotherham	..	27	„	64	houses all in one Parish.
Settle	..	3	„	3	„
Skipton	..	7	„	7	„
Tadcaster	..	3	„	6	„
Wakefield	..	3	„	10	„
Wetherby	..	1	„	1	„
Wortley	..	3	„	3	„

It needs to be pointed out that some of the above Representations were made in 1912, but were not forwarded to us until after we had discovered that Representations had been made, and had drawn the attention to the omissions.

It is remarkable to find that in 15 of the Rural Districts there appears to have been no houses found that were unfit for habitation. Our experience in regard to houses that are in such a state as to be unfit for habitation is that they belong mainly to people who are not in a position to keep them in a proper state of repair, so that year by year they get more decrepit, until they almost become derelicts encumbering the earth. There is no other course open for the sanitary authority than to do their duty and condemn the houses, as it is impossible to devise any means to bring an annuity at all commensurate with what the owners are deriving in rents.

It was found that a large proportion of the worst cottages are occupied by aged persons in receipt of old-age pensions or parish relief, who cannot afford to pay much rent. As there were 24,541 old-age pensioners in the West Riding in March, 1913, equal to 15.61 per 1,000 of the population, it would appear desirable that some concerted action should be taken to prepare a scheme for providing suitable small dwellings for old people.

*Demolition of Houses.* Sentimentality and regret cannot be considered here, and so the next stage is in the demolition of those houses which are not made fit for habitation, and here there is much hesitation and failure on the part of Authorities to carry out the Acts in a proper manner. As we have pointed out before, there were 591 houses found to be unfit, and 152 were afterwards made fit, leaving 439 to be dealt with by demolition. Of this number 107 were demolished voluntarily and the authorities made demolition orders in 36 cases which resulted in 27 houses being demolished making a total of 134 houses demolished, leaving 305 houses that had been deemed unfit for habitation, either in occupation, used for other purposes, or left empty and going derelict, as they are in some cases when they become a nuisance to the neighbourhood.

*Appeals.* It is interesting to note how the action of the authorities was challenged by owners, who may appeal to the Local Government Board against the repairs they are called upon to make where the house is not kept reasonably fit for occupation. There were no appeals under Section 15. Appeals were made in only 2 cases where Closing Orders had been made under Section 17, viz. :—At Bingley where an Order had been made in regard to 10 premises belonging to one owner. The appeal was decided in favour of the



Council in regard to 9 of them and the appeal upheld in the other case. The other was at Clayton where we gave evidence on behalf of the Council whose decision was upheld by the Local Government Board. Property owners have also powers of appeal in cases where an authority refuse to determine a Closing Order after there have been some amendments made at the property, and also against demolition Orders, but under each of these heads there have been no appeals.

*Work Incomplete.* The returns, though incomplete, show that at the beginning of 1913 there was brought forward from 1912, 4,164 houses with defects that had not been remedied under the three principal heads under which the defects are dealt with. These added to the defective houses found during the year 1913—10,165—give a total of 14,329 houses, with defects requiring to be dealt with during the year 1913. At the end of the year 1913 under the same three heads there are shown to be 6,316 houses still on the books with defects un-remedied, which deducted from the former aggregate gives 8,013 houses as being either satisfactorily dealt with or struck off the books, leaving an increase of 2,152 houses with defects at the end of the year, over the number at the beginning of the year. This points to a certain amount of laxity in getting the work satisfactorily completed, and taken together with the decreased number of inspections made, cannot be considered satisfactory. This may account for the increased pressure which the Local Government Board are placing upon us and the local authorities in the Riding for increased vigilance in regard to housing conditions.

*Cellar Dwellings.* Local Authorities are empowered under Section 17 (7) of the 1909 Act to make regulations in regard to cellar dwellings, but none of our Authorities has thought it advisable to make such regulations nor have the Local Government Board deemed it necessary to call upon any authority to do so, and only one cellar dwelling is reported to have been dealt with during the year.

*Scarcity of Houses.* We have for several years asked Local Medical Officers to state in our Table "C" whether there was any scarcity of houses in their district, and many of them have dealt with the matter in the text of their annual reports. Seventy-one authorities state that there is a scarcity of houses to a greater or less extent. 23 of these cases are in the mining districts of the Riding in the South Yorkshire coal-field, where the growth of population has been the greatest for several years. In some of these areas the Councils have held their hands in regard to making Closing Orders owing to the scarcity of houses, and also in cases of overcrowding, where in some instances two or more families are living in one house, one occupying the front rooms, and the others the back rooms of the houses. Some of the reports point out that employees have to go outside their district to live owing to there being no houses available in the district; others show that there is a dearth of houses that can be let at 3/- to 5/- a week to meet the needs of the poorer classes; others



again state that by the provision of a better type of working class house that may be taken by the more skilled and better paid artisans there will be a gradual moving up of the workers into better houses; some point out that private enterprise is failing to meet the demand and urging the Council to erect houses under Part III. of the 1890 Act to which I shall refer to later. My own enquiries show that there is a shortage of 5 roomed houses, that is houses with 3 bedrooms, which allow for the proper separation of the sexes. The last census statistics show that 59 per cent. of our houses were those having from 1 to 4 rooms, while 21.5 per cent. had 5 rooms, and 19.4 per cent. had 6 or more rooms.

Scarcity of houses is undoubtedly one of the most fruitful causes of overcrowding. Mention is made of this matter in 112 of the reports, some of them are very indefinite giving no particulars as to numbers; 3 say that it is general; 13 that there is some overcrowding; 12 make no mention of the matter one way or the other; 37 that it is either rare, or none, while in 92 reports, one states that 30 cases have been dealt with, one 24, one 22, one 20, and one 17, two 15, two 13, and four 11, the remaining 73 having dealt with from one to ten cases of overcrowding. Here again it is significant where the need for housing is being felt; there being 9 districts in the coal mining part of the Riding where 152 cases occurred. There were undoubtedly considerably more cases than the Medical Officers pointed out, but owing to the scarcity of houses, overcrowding was increasing year by year, and only the worst cases were being dealt with, because larger houses could not be got, and overcrowding had to be tolerated, and left pending, because the tenants could not be turned into the street. The result being that in the newer areas two or more families have had to live in one house. In one district we recently heard of a case where the landlord in his endeavour to get rid of two families in a five-roomed house doubled the rent from 7/6 to 15/- per week and still they stayed on. In this particular district the Council are themselves proposing to get over the difficulty by erecting cottages themselves.

The ill consequences arising from overcrowding are particularised in several of the reports, such as the dissemination of infectious diseases especially where phthisical cases have not each a room to themselves, but how can this be done in 10% of our houses where there is only one bedroom, which in many instances has to serve the parents and grown-up children.

### Activity in House Building.

House building has upon the whole been in a quiescent state throughout the Riding as is borne out by the returns, which show that in 108 districts there has been no activity in house building. In 34 districts activity is reported and an aggregate of 3,483 working-class houses have been erected during the year, and 250 houses of other types, making a total of 3,733 new houses.



The majority of these new houses have been erected in the mining centres, principally in the Doncaster area. In the Doncaster Rural District 740 houses were built; in the Hemsworth Rural District 368; Rotherham Rural District 262; Bentley-with-Arksey Urban District 175, with smaller numbers in adjoining districts. These sudden growths bring with them exceptionally difficult problems in regard to water supply, sewerage, etc., and also in regard to adequate staffs to see that the bye-laws and requirements of the Authority are properly carried out.

Barnoldswick is an exception to the Riding generally, other than the mining centres, the increase in the cotton industry there having caused a great demand for houses, 152 being erected during the year.

Owing to the demand for houses in certain areas, and to pressure from the Local Government Board, Local Authorities are beginning to take a more active interest in the provision of houses themselves under Part III. of the 1890 Act. The Borough of Doncaster it is reported, are building 124 houses and 30 cottage flats to comply with the requirements of a local Act whereby people of the working-classes were displaced. All these houses were built in the adjoining districts of Wheatley, Balby-with-Hexthorpe and the Doncaster Rural Parish of Carr House and Elmfield. It is stated that they are occupied as quickly as they are completed, and that there is a demand for further houses.

Other Sanitary Authorities like the following, have wisely taken advantage of Part III. of the Act of 1890 and erected dwellings. Bolton-on-Dearne who built 48, are contemplating building 310 more.

Featherstone ..	149 houses.	Saddleworth	55 houses.
Flockton ..	20 ..	Shipley ..	21 ..
Kirkburton ..	6 ..	Whitley Upper	6 ..
Lepton ..	12 ..		

Brevity does not permit of detailed particulars of each scheme, but the following will indicate what some of them embrace in several differing types of district :—

At Meltham on the 21st April, 1913, there was a Local Government Board Inquiry for a loan of £6,000 for the erection of 22 houses, which was sanctioned. These houses have on the ground floor—living room 14' 6" × 13' 4", scullery 13' 4" with bath, copper and sink, and separate larder. 1st floor—3 bedrooms, one 12' 9" × 9' 7", one 8' 6" × 6' 6", and one 13' 8", only the first one has a fireplace. There are two blocks of three houses, and four blocks of four houses, and the rent is 3/9 per week exclusive of rates, etc.

*Linthwaite.* On the 4th November, 1913, a Local Government Board Inquiry was held on application of the Linthwaite Council to borrow £23,243 for the erection of Working-class Dwellings, which was at a later date sanctioned.



The scheme included an estate of 17 acres at Storth, on which it is intended to erect 83 houses on a four acre plot; there are 6 types of houses all built of "Winget" concrete blocks:—

"A" TYPE—10 Houses. Larder and coal-place in basement. Ground floor—Lobby, living room 15' 7" × 13', parlour 12' 1½" × 11' 6", scullery 11' 6" × 6' 6", 1st floor—3 bedrooms, one 14' 5" × 13' 5", one 11' 11" × 11' 1½", and one 9' × 8', and a bathroom with bath and W.C. Estimated rent 5/4 per week.

"B" TYPE—8 Houses. Basement—wash kitchen 16' 10½" × 12', larder and coal place; ground floor—entrance lobby 8' × 4' 6", parlour 12' × 12', living room 13' 1" × 12', scullery 9' × 3' 6"; first-floor—3 bedrooms, one 12' 5" × 12' 5", one 9' 9" × 9' 7", and one 9' 9" × 7', and a bath room with bath and W.C. Estimated rent 5/4 per week.

"C" TYPE—7 Houses. Basement—Larder and coal place, Ground floor—passage 12' × 3' 6", parlour 13' × 12', living room or scullery 16' 9" × 10' 6"; first-floor—3 bedrooms, one 17' 2" × 10' 11", one 9' 11" × 9' 6", and one 9' 6" × 9' 7", bath room with W.C. in it. Estimated rent 5/3 per week.

"D" TYPE—33 Houses. Basement—larder and coal place. Ground floor—lobby, parlour 13' 5" × 12', living room or scullery 16' 6" × 9' 6"; first-floor—3 bedrooms, one 11' × 10' 3", one 11' 5" × 9' 3", and one 8' 6" × 7', bath room with W.C. Estimated rent 4/6 per week.

"E" TYPE—11 Houses. Basement—larder and coal place. Ground floor—lobby, living room 15' × 13' 6", scullery 12' × 6' 6" with bath with table top; first floor—3 bedrooms, one 9' 3" × 8' 8", one 12' 3" × 8' 3", and one 9' × 6' 6"; there is also a W.C. Estimated rent 4/- per week.

"F" TYPE—14 Houses. Similar to type "E" except that they have in basement a wash kitchen 12' × 9' 9". Estimated rent 4/- per week.

*Normanton.* A Local Government Board Inquiry was held into an application for a loan of £16,475 for a further housing scheme, the 38 houses erected two years ago, and private enterprise, being insufficient to meet the local demands.

It is proposed to build 76 houses. On the ground floor there is to be a front room 11' × 10' 3", a kitchen 14' 9" × 11' 3", a lobby 7' × 5' and a coal place 5' × 4' 6". A bath is to be provided in the living room, and a W.C. in the yard. There are to be 3 bedrooms, 10' 3" × 14' 9", 11' 3" × 7' 4", and 7' × 8'. The rents are to be 6/- per week inclusive of water and rates, and the cost, including land and street works, is about £207 per house.

At Pontefract, they had a Local Government Inquiry in 1912 for a loan of £22,000 to erect 102 houses, 72 of which had a kitchen, scullery with bath, and 3 bedrooms; 40 of which are to be let at 6/3 per week inclusive, and 32 at 5/9 per week inclusive. There are to be 30 houses with parlour, kitchen with bath, and 3 bedrooms, which it is proposed to let at 5/- per week inclusive. 40 of the 102 were completed during the year 1913.



The Selby Urban District Council in 1912 built 23 working-class dwellings under Part III. of the 1890 Act, which they let at 5/3 per week. This year they are building 24 more of this type, which have on the ground floor an entrance lobby, which opens into the living room 15'  $\times$  14' from which the stairs rise at the back of the house; a lobby at the back from which entrance to a food store, placed against an outside wall and partially under the staircase is made; it also affords access to the scullery 9'  $\times$  8' 9" in which there is a bath, copper and sink; outside abutting on the back wall there is a fuel store and a W.C. abutting on the latter. On the first-floor there are 3 bedrooms, one 14'  $\times$  8' 8", 10½"  $\times$  9', and one 10' 1½"  $\times$  6' the two larger rooms having fire-places.

The Council are also building 18 houses which have a lobby from which the staircase rises, and entrance into the living room which is 13' 4½"  $\times$  10' 10½", and a scullery 14'  $\times$  8' 3" which is fitted with a bath, copper and sink. The food store which projects behind the back wall opens from the scullery, and abutting it is the coal store and then the W.C. These are to be let at 4/9 per week. They are also proposing to build on two areas of land in Armoury Road 40 houses of a larger type, the plans of which are before the Local Government Board.

The following Councils are reported to be contemplating the erection of houses for the working-classes, namely :—

Ardsley	..	..	12 houses.		
Bentley-w-Arksey	..	..	50	„	
Bingley and Birstall			; under consideration.		
Castleford	..	..	148 houses	consisting of several types.	
Cudworth	..	..	50 houses	„	„
Darfield	..	..	40	„	„

Goole and Horbury Urban Districts, Keighley Borough, and the Great Ouseburn Rural Districts are considering the matter. Holmfirth have appointed a Committee to enquire as to suitable sites. At Hoyland Nether plans, specifications, and quantities for an amended scheme were in course of preparation at the end of the year.

Lepton are negotiating for land, and Morley are strongly considering the matter with a prospect of a scheme being ready this year. New Mill contemplate building 12 houses, and the Medical Officer of Health for Thurstonland urges his Council to make a preliminary start with 24 houses. Wakefield City have been pressed by the Local Government Board to provide 100 houses, and they have a scheme in preparation for that number.

Owing to the housing accommodation being acute in Baildon, the Medical Officer urges his Council to take the matter up. At Wath a Committee was appointed in April to go into the matter, and at the July Meeting a site was selected, but things got no



further forward until December, when enquiries from the Local Government Board caused the Council to instruct the Committee to proceed at once with the preparation of a scheme.

The Whitwood Council have entered into a provisional contract for the purchase of land for a housing scheme, and the Wharfedale Rural Council have considered the matter, but no definite decision has been come to, while we are told that in the Wortley Rural Council's area the question is to be considered shortly.

### **Improvement Schemes or Reconstruction Schemes.**

There has not been brought to my notice any improvement schemes under Part I. of the 1890 Act, nor any re-construction schemes, etc., under Part II. of that Act.

### **Complaints to County Council.**

Up to the present time we have had no complaints from any Parish Council, Parish meeting, or by any four inhabitant householders of a Rural District, that any of the Rural Districts have failed to exercise their powers under Part III. of the principal Act. Possibly this may be accounted for by the fact that so little is known by the people at large in regard to the procedure that may be taken where there is a great scarcity of houses in any district, and the Authority do not seriously take the matter in hand.

### **Complaints to the Local Government Board.**

On the 4th February, 1913, the first Inquiry of its kind in the West Riding was held by the Local Government Board into a complaint of four inhabitant householders that the District Council had failed to exercise their powers under Part III. of the 1890 Act, in a case where those powers ought to have been exercised. After the complainants had stated their case, the Council put forward a scheme for the erection of six houses. After the Inquiry, the Inspector made a careful inspection of the district, testing the evidence. We attended the Inquiry and Inspection, and gave such assistance as was necessary.

The Board intimated later that they agreed with the Council's proposal to build six houses. The scheme for the six houses embraced a living room, scullery, and pantry on the ground floor, and three bedrooms, and is now in hand.

### **Town Planning.**

In consequence of the sinking of a new pit in the Doncaster Rural Parish of Barnbrough, the Public Health and Housing Committee called a conference in 1912 of Authorities contiguous to this Parish consisting of Bolton-upon-Deane, Mexborough, Thurnscoe, Wath-upon-Deane, and Doncaster Rural, for the consideration of a combined scheme; several meetings were held, and the head of the Town Planning Department of the Local



Government Board came down to give what assistance he could, but the results as to this particular area have up to date been nil.

*Hunslet Rural District.* The Council of this District applied to the Board for authority to prepare a Town Planning scheme for an area partly in the Parish of Templenewsam, and partly within the City of Leeds. The Inquiry was held on the 12th June, 1913, and the consent has since been given. This was the first legal Inquiry held by the Local Government Board in the Administrative County into a Town Planning Scheme.

There has, however, been during the year some movement in and around Doncaster fostered by the Local Government Board, but a joint scheme did not mature. The Rural District Council of Doncaster, however, got out a scheme of their own for the Parish of Askern, and portions of several adjoining Parishes. An Inquiry was held by the Local Government Board into the application to prepare a scheme on July 5th, 1913, by Thomas Adams, Esq. Eventually the authority to prepare a scheme was given, and the preparation of the scheme was commenced.

The Rotherham Rural District Council prepared a scheme for portions of the Parishes of Brampton-en-le-Morthen and Laughton-en-le-Morthen, and submitted the same to the Local Government Board, but the Inquiry into it was not held until 1914.

Schemes are said to be under consideration for Doncaster Borough, Balby, Bentley, Birstal, Bolton-upon-Dearne, Dodworth, Hipperholme, Keighley Borough, Mexborough, Ossett Borough, Ripon Borough, Rothwell, Thurnscoe, Thurstonland, Wakefield City, Doncaster Rural (other portions than Askern), and Wakefield Rural, but none of them has got to the stage of presentation to the Local Government Board during the year under consideration.



**Isolation Hospitals.**—The extent to which these institutions are utilised may be gathered from the following table. The percentage of cases removed to hospital would appear to have reached an almost constant level in the West Riding, the ratio per cent. last year being identical to that of the two previous years.

	Total cases notified.	Cases removed to Hospital.	
		Number.	Proportion.
Small Pox .. ..	1	1	100·0 per cent.
Scarlet Fever .. ..	5664	4237	74·8 „
Diphtheria and Mem- braneous Croup .. ..	2063	1240	60·1 „
Enteric Fever .. ..	501	371	74·0 „
Total 1913 .. ..	8229	5849	71·1 „
Total 1912 .. ..	7352	5223	71·0 „

Various additions to the existing hospital accommodation were contemplated during 1913, and applications for loans were sanctioned for the following Joint Hospital Districts—Doncaster R. and Mexborough, Normanton and District, and Wharfedale Union, and also for the Shipley Urban District.

At Earby, the Medical Officer of Health states :—“ There is “ no hospital for infectious diseases in the district, nor is any “ arrangement made with neighbouring Authorities to take cases “ in which isolation is imperative; consideration of this by the “ Council is urgently needed.”

In discussing the absence of means for isolating cases of diphtheria at Barnoldswick it is stated that “ There is no pro- “ vision for the treatment of diphtheria at the Isolation Hospital, “ consequently all cases were treated at home.” At Stocksbridge, the existing building is very unsatisfactory, and should be re- placed by an up-to-date institution. There is no general infectious hospital for the districts of Saddleworth and Springhead, and a combination of these adjoining districts should be effected with the object of providing the necessary accommodation. The following extract from the Saddleworth report emphasises the need for urgent action :—“ A Conjoint Hospital with Spring- “ head, of a size suitable for the area, is needed. During the last “ ten years (1903-1912), 749 cases were notified, and only 11 “ (Small-pox) were treated in Hospital. The need for an Isolation “ Hospital is well shown in this (scarlet fever) epidemic, for there “ were :—6 cases in one house on 1 occasion; 4 cases in one house “ on 3 occasions; 3 cases in one house on 7 occasions; 2 cases “ in one house on 11 occasions.”



A description of the new cubicle pavilion at the Keighley Joint Hospital is given in the following extract from the Keighley report :—" In the Cubicle Pavilion now nearing completion there " are four wards of three cubicles each—the wards being arranged " in the form of a Maltese Cross. Each cubicle opens separately " on to a verandah, and it is fitted up so as to be self-contained. " Glass partitions separate the various cubicles, which can be " supervised from a common duty-room forming the centre of the " cross. Each case on admission can be separately isolated " until the diagnosis is confirmed. Doubtful cases are not a source " of danger to others, nor others to them. Mixed or undeveloped " infections can be isolated so long as necessary."

**Water Supply.**—This question has received ample treatment in the local health reports for 1913, its importance being no doubt forced upon the administration by the absence of rain, particularly in the summer months. Commenting on the "dry summer of 1913," British Rainfall says, "it was as remarkable for deficiency of rainfall as that of 1912 was for heavy rains."

The following list indicates the extent of the deficiency experienced in the various districts, and points to the need for continued action in the provision of adequate supplies of water. Reference might, however, be made here to the table on page 119, which shows that the sum expended on improving the water supplies of the County amounted to over £54,000 for the year. It is gratifying to note that at Barkisland a public supply is now available, and the Medical Officer of Health says "this is the "greatest improvement to your district that could have been "carried out, and one that the inhabitants will greatly appreciate." Many public supplies felt the shortage, and in quite a number of districts it was deemed advisable to curtail the supply during the summer drought; the chief sufferers, however, were those districts dependent for water on private sources.

*Urban District.*

*Deficiency of Water Supply.*

Barkisland ..	..	Slack, Church Terrace, Common Royd, etc.
Barnoldswick	..	The whole supply.
Denby and Cumberworth	..	Kirkstyles.
Drighlington ..	..	Moorside and Whitehall Road
Earby ..	..	Mereclough Farm, Kelbrook
Emley ..	..	Emley Moor at times
Farnley Tyas	..	One or two other outlying places in dry season
Gomersal ..	..	Throstle Nest, Land's Farm, and Swinley
Handsworth ..	..	Vicar Lane, Woodhouse, owing to smallness of mains
Haworth ..	..	Barcroft.
Holmfirth ..	..	High levels generally
Honley ..	..	Gob Lane Head



*Urban District.**Deficiency of Water Supply.*

Hoylandswaine	..	Failing supply in August
Hunsworth	..	Boundary Terrace, Lodge Farm, and Green Lane
Lepton	..	Spa Bottom
Linthwaite	..	Lower houses
Luddendenfoot	..	Milner Royd and Boy's Scar
Mexborough	..	Throughout the district
Midgley	..	In several places
New Mill	..	Victoria
Oxenhope	..	Shaw
Rawdon	..	Larkfield
Rawmarsh	..	Upper Haigh
Rothwell	..	High levels, Lofthouse, and Rothwell Haigh
Shepley	..	A few houses not yet connected to mains
Sowerby	..	During drought (no public supply)
Stocksbridge	..	A few outlying properties not having public supply
Thurlstone	..	To some of the outlying houses and farms
Todmorden Borough		A few private supplies short occasionally
Wath-upon-Deerne	..	In the higher parts of district
Wheatley	..	Complaints of poor pressure at highest part of district
Whitley Upper	..	Two farms extreme N.E. of district

*Rural District.**Deficiency of Water Supply.*

Bowland	..	Gisburn Forest and Bolton-by-Bowland
Doncaster	..	Adwick-le-Street new houses near Carcroft station
Goole	..	Swinefleet
Halifax	..	Parts of Fixby, Norland and Norwood Green during Summer
Hunslet	..	One or two isolated cottages
Keighley	..	Sutton Mill
Knaresborough	..	Hampsthwaite, Scatton, Brearton, and Flaxby
Pateley Bridge	..	Bridgehousegate
Penistone	..	Thurgoland, part of Cawthorne and Hunshelf
Ripon	..	Sutton Grange
Sedbergh	..	Dent
Settle	..	Langcliffe, Settle and Giggleswick
Skipton	..	Grassington
Tadcaster	..	Askham Bryan, Sherburn, Barwick, Scholes and Ledsham
Todmorden	..	Heptonstall
Wetherby	..	Kirkby Overblow
Wharfedale N.	..	Norwood
„ S.	..	Adel, and farms in Cookridge
Wortley	..	Oughtibridge, Worrall, and Loxley during part of summer



The following extracts are given to supplement the above list,—

Hebden Bridge :—" A very dry summer was experienced, and many of the private supplies failed."

Barnoldswick :—" The present water supply is quite inadequate for the town."

Tadcaster R. :—" Nothing has yet been done for Newton in Ledsham Parish. During the summer there was practically a water famine in the Scholes Hamlet, of Barwick Parish. In previous reports I have mentioned the contaminated condition of the wells in the village of Sherburn. About twenty cottages and four dairy farms in Swillington Lane have an insufficient supply."

Darton :—" Since in a previous year the wells were considered to be the cause of an epidemic of diarrhoea, it would be as well to have them closed, to prevent any chance of future attacks from that source."

Selby R. :—" In my annual reports for the last two years I have drawn attention to the unsatisfactory state of the supply in Haddlesey, Carlton, Camblesforth, Drax, and some of the houses in Burn. Nothing has yet been done in the direction of a comprehensive scheme for these parishes. There are no engineering difficulties, and the Rural Council has a right to a supply for any part of the district from the Urban Council's main at ninepence per thousand gallons. On receipt of a letter from the Local Government Board in April, the subject was again considered, but owing to opposition to a comprehensive scheme by members of the District Council, the matter has again been postponed."

**Lead Poisoning.**—In the reports under review very little reference is made to this question, and it to be assumed with regard to those supplies known to be plumbo-solvent if left untreated, that adequate precautionary measures were adopted. Affirmative replies to the question " Any unchecked plumbo-solvent action ? " were only received from the following districts :—Clayton, Greetland and Queensbury; at Yeadon " the samples examined have shown an improvement, so far as the action of lead is concerned." The Clayton report in a reference to this question says, " For many years, samples of water were analysed, and the reports received always intimated the presence of lead, and no change has taken in this respect."

In the autumn of last year an examination was made by the County Health Department of all the principal supplies in the County known to possess plumbo-solvent action. In all, forty-two samples were examined, and of this number, six contained lead in quantities varying from 1/40th to 1/7th of a grain per gallon. The latter amount was discovered in a sample collected at Ossett from the supply of the Dewsbury and Heckmondwike Waterworks Board, and suitable communications were made with a view to



obtaining adequate corrective treatment. The results of the examination of the other positive samples revealed the presence of only slight quantities of lead.

**Sewerage and Drainage.**—Much progress continues to be made under this heading, and the abstract of reports under review contains a long list of developments during 1913. Space does not permit of a reproduction of the list of extensions, but the table on page 119 shows that £47,184 was sanctioned for loans for sewerage and sewage disposal works during the year ended March, 1913.

The extent to which improvement took place in the details of house drainage will be seen from the following figures :—

Number of sink wastes disconnected during 1913 ..	2141.
“ “ “ “ trapped “ “ ..	2570.

The following long list of districts in which sewerage developments are still needed gives an idea of the amount of work to be accomplished, if the districts are to be properly equipped with this first line of sanitary defence.

<i>Urban Sanitary District.</i>	<i>Sewerage Developments needed.</i>
Ardsley .. ..	Wombwell Road below Ash Inn
Ardsley E. & W. ..	Low Side, Westerton, Haigh Moor Road, Lingwell Gate
Baildon .. ..	Prod Lane and Lane End
Bingley .. ..	At Ryecroft and parts of Wilsden (Harecroft)
Bolton-upon-Deerne ..	Wath Road
Brighouse Boro' ..	A few places
Burley-in-Wharfedale ..	Clarence Drive
Cleckheaton .. ..	Short length at Westfield
Denby and Cumberworth ..	Upper Denby
Denholme .. ..	To several portions of district
Drighlington .. ..	Part of Whitehall Road
Flockton .. ..	Flockton Green and West End
Gildersome .. ..	Part of district not connected
Gomersal .. ..	Cliffe Lane, Lower Spennings, Bird- acre, Scott Lane
Haworth .. ..	A portion of Hebden Road
Holmfirth .. ..	Totties, Cooper Lane, Hinchliff Mill
Hoylandswaine .. ..	Above Almshouses
Hunsworth .. ..	Hunsworth Lane, Village and Cringles
Knottingley .. ..	Part Ferrybridge Road and Pontefract Road
Lepton .. ..	Little Lepton, Town Bottom, Town End
Luddendenfoot .. ..	Rose Place and Belmont Terrace
Marsden .. ..	Yes



*Urban Sanitary District.**Sewerage Developments needed.*

Normanton .. ..	.. 3 Houses at Snyderdale unconnected
Oakworth .. ..	.. Laycock and Stanbury
Penistone .. ..	.. Cubley
Saddleworth .. ..	.. Diglee and Harrop Green
Shelley .. ..	.. Town End
Shepley .. ..	.. Dobroyd
Southowram .. ..	.. Pinner Lane
Stainland .. ..	.. Yes
Stanley .. ..	.. Lingwell Gate, Ferry, and Barr Lane
Swinton .. ..	.. Rockingham Road and Warren Vale Road
Todmorden Boro' ..	.. Connection of Eastwood, Spring-side, Castle Street, Millwood, and a few outlying districts
Whitley Upper .. ..	.. Woodnook
Worsborough .. ..	.. Highstone Fold, Swaithe, Furnace Road, Red Lion Inn

*Rural Sanitary District.**Sewerage Developments needed*

Barnsley R. .. ..	.. Carlton
Bishopthorpe R. ..	.. Yes
Bowland R. .. ..	.. Bolton-by-Bowland, Grindleton and Slaidburn
Halifax R. .. ..	.. Parts of district
Hunslet R. .. ..	.. Parts of Middleton
Keighley R. .. ..	.. Uppermill, Morton
Kiveton Park R. ..	.. Dinnington
Knaresborough R. ..	.. Hampsthwaite, Burton Leonard, Scotton, Brearton and Flaxby
Ripon R. .. ..	.. Galphay and Mickley
Rotherham R. .. ..	.. Ulley, Wickersley and Brampton-en-le-Morthen
Tadcaster R. .. ..	.. Aberford (St. John's Hill)
Thorne R. .. ..	.. Thorne, Stainforth, Hatfield
Todmorden R. .. ..	.. Charlestown and district
Wetherby R. .. ..	.. Weeton
Wharfedale S. .. ..	.. Adel
Wortley R. .. ..	.. Loxley

**Sewage Disposal.**—On the matter of sewage disposal works, this Department is only concerned with the possibility of nuisance arising through their defective or overworked condition. The list given below has been compiled from the 1913 reports :—

*Sanitary District.**Any inadequacy of Sewage Disposal Works, or complaints as to smells.*

Ardsley .. ..	.. Brodilly Works deficient
Ardsley E. & W. ..	.. Part of Bradford Road not connected up to any Sewage Disposal Works
Barnoldswick .. ..	.. Yes—filters wanted



*Sanitary District.**Any inadequacy of Sewage Disposal Works, or complaints as to smells.*

Bingley .. ..	..	..	Yes
Bolton-upon-Dearne ..	..	..	Too small
Brighouse B. .. ..	..	..	Yes
Cudworth .. ..	..	..	Yes, Scheme being prepared
Doncaster B. .. ..	..	..	Works not sufficient capacity of Scheme provisionally adopted to remedy this
Earby .. ..	..	..	Yes, inadequacy
Kirkburton .. ..	..	..	From Thurstonland Sewerage Works to Storthes Hall Asylum
Mexborough .. ..	..	..	Yes
Queensbury .. ..	..	..	Complaints from Rivers Board
Saddleworth .. ..	..	..	Uppermill Outfall Works required attention
Skipton .. ..	..	..	More Filters considered necessary
Wath-upon-Dearne ..	..	..	Too small for population
Whitwood .. ..	..	..	No. 2 works too small
Yeadon .. ..	..	..	Yes
Doncaster R. .. ..	..	..	Conisborough
Halifax R. .. ..	..	..	Complaints as to smells from Brighouse and Huddersfield Sewage Works
Hemsworth R. .. ..	..	..	South Elmsall
Kiveton Park R. ..	..	..	Complaints as to smells at Anston
Penistone R. .. ..	..	..	Yes
Wharfedale S. .. ..	..	..	Alwoodly

The Thorne R. report contains the following statement :—

“ There is no treatment of sewage in any part of the District.  
 “ At Thorne it is discharged at various points into the Boating  
 “ Dyke which runs into the River Trent. Owing to the very small  
 “ fall, the solid matter does not get quickly away, and in great  
 “ part becomes deposited upon the bottom within the limits of  
 “ the Parish.”

**Closets.**—The usual table is reproduced here, giving the total number of closets and the kind of accommodation. It will be seen that the privy-midden still holds a strong numerical position in the list, and that an appreciable proportion are of the open type :—

No. of privies with open middens .. ..	10350
No. of privies with covered middens .. ..	86303
No. of pail closets .. ..	24392
No. of water closets .. ..	120350
No. of waste water closets .. ..	15204



Reconstruction occurring during the year, or the provision of additional closet accommodation, is set out in the following totals :—

No. of closets reconstructed	}	(a) as water closets ..	3945
in 1912		(b) as other kinds ..	746
No. of additional closets newly	}	(a) as water closets ..	1376
constructed for old property		(b) as other kinds ..	292
in 1912			
No. of closets constructed for	}	(a) as water closets ..	3969
new houses in 1912		(b) as other kinds ..	509

The following extracts are given as representing the opinions of medical officers of health on one phase or another of the question of substituting the water-carriage system for the privy midden or tub closet :—

*Mirfield.*—“ I should be glad if the Council would consent to order all privies to be converted for it is certain that the presence of foul smelling night-soil, often within a few feet of the house, is sufficient excuse for keeping windows closed, and thus ventilation is entirely neglected.”

*Ardsley E. & W.*—“ Every house should have a single water-closet and such a thing as a privy-midden for two houses which may be visited by some 30 people (as we have instances of) should not be tolerated in any self-respecting progressive sanitary area.”

*Mexborough.*—“ I regret to report that only 18 privies have been converted into water closets during the year. In previous reports I have pointed out the liability of these filthy and unsavoury structures to foster and disseminate infection, and I would suggest greater enterprise and activity in the conversion of these pests. It is hardly necessary for me to again emphasise the fact that they are insanitary and indecent, and offensive to present-day sentiment; besides, their abolition would effect a considerable saving in the cost of public scavenging.”

*Keighley Boro'.*—“ It looks as if it may take 15 to 20 years before we see the last of these antiquated tubs, unless the sanitary conscience is aroused to demand their more speedy abolition. Fortunately no new houses can be erected without the provision of modern water-closets.

“ At Saddleworth it is pointed out “ that there are still instances where greater closet accommodation is required, groups of cottages and mills being the chief offenders. It is much to be regretted that the charging for water in this type is seriously militating against the adoption of water-closets. People seem to prefer any risk or unpleasantness rather than incur the small extra expense that their adoption would entail.”



In the Holmfirth report the provisions of the Public Health Acts Amendment Act, 1907 (adopted by this Council), are discussed, and the Medical Officer of Health, after referring to the parts in force in his district, remarks "These powers are of great value, but to make full use of the Act in this direction an enlightened public opinion and an energetic and progressive Local Authority are alike necessary. In the matter of closet accommodation we lag far behind the standards of modern sanitation. There still remain numerous instances of one closet serving for more than two houses, and there is a lamentable tendency shown by some owners of cottage property to delay remedial action after notice has been given."

**Scavenging.**—The following list gives the inadequacies mentioned in the 1913 reports :—

<i>District.</i>	<i>Inadequacy.</i>
Holmfirth .. ..	Ashbins (public) often overfull
Knottingley .. ..	Complaints that Contractors do not keep up to work
Midgley .. ..	Done by Owners and Tenants
Soyland .. ..	In populous centres.
Stanley .. ..	Delay in parts of district
Stocksbridge .. ..	System (by Contractors) not satisfactory
Thurlstone .. ..	In outlying districts
Whitley Upper .. ..	Woodnook, Clough Gate, etc.
Bishopthorpe R. .. ..	Copmanthorpe and Bishopthorpe
Bowland R. .. ..	Slaidburn
Doncaster R. .. ..	Norton
Hemsworth R. .. ..	South Elmsall and South Kirkby
Knaresborough R. .. ..	Killinghall and Knaresboro' Outer
Penistone R. .. ..	Throughout the district
Rotherham R. .. ..	Maltby (where owners are responsible)
Selby R. .. ..	Cawood, Wistow, Carlton, and Drax

Several changes in the method of scavenging took place during the year, the more important being that the following district Councils now undertake the work, either through a contractor, or directly by their own employees :—Darton, Drighlington, Gildersome, Kirkburton (partly), Mexborough, Tickhill, Doncaster R. (Bawtry), Goole R. (Rawcliffe), Settle R. (Settle, Giggleswick, Langcliffe and Ingleton), Thorne R., and Todmorden R. (Blackshaw).

In only a few districts in the Riding is scavenging now done by the owners and tenants, and it will be gathered from the following extracts that this obsolete method is unsatisfactory :—

*Sowerby.*—"The scavenging of Privies and Ashpits is still done by the owners and tenants, and cannot be termed satisfactory, owing to the periods of cleaning being too far between."



*Midgley.*—"This is still performed by owners and tenants, and as far as practicable a systematic method is enforced. It is a duty which in my opinion should be undertaken by the Sanitary Authority."

*Selby Rural.*—"Scavenging in some of the larger parishes is very inadequately performed, the emptying of privies and ashpits being left to the occupiers. These are mostly dependent upon farmers, who will only take the refuse at times convenient to themselves and at intervals which are much too long."

The Goole Medical Officer makes the following remarks with regard their scavenging carts:—

"The Council should see to it at once that all the old and obsolete carts are scraped and suitable new ones obtained. So long as the present system is in vogue it is their duty to have it performed satisfactorily. We ask householders to keep their houses, yards and drains clean, and yet we have these wretched carts night after night leaving behind them a trail of liquid sewage on the roads."

**Refuse Disposal.**—In the majority of districts the refuse is disposed of partly by tips and partly to farmers; only a comparatively few districts possess destructors. It would seem desirable in these days of enlightenment on practical sanitary problems that the destructor should be more generally provided. Judging from the following quotations from the reports, it is evident that the alternative system of tipping is unsatisfactory, both as regards liability to cause nuisances, and, in view of the difficulty of securing suitable sites, from the economic standpoint. Not the least objectionable feature of the tip is the fact that it forms an admirable breeding ground for flies, and the extract from the Honley report proves that on this account alone an ill-placed tip can be an intolerable nuisance.

*Honley.*—"This year the plague of flies and the nuisance arising from this rubbish heap in the centre of the district and close to numerous houses, has been little if at all abated, although on visits to the tip I have found it kept somewhat better than formerly. I can only repeat that in my opinion the proper course to adopt is to close this tip and to endeavour to put the existing mass of refuse into as inoffensive a condition as circumstances will allow."

*Rawmarsh.*—"A Destructor effectually disposes of one important part of this filth problem."

*Doncaster R.*—"During the past year the ill effect which a 'tip' on an unsuitable site may have on the public health has been unhappily shown by the incidence of Enteric Fever at Highfields. No tip for house refuse should be in the vicinity of dwelling-houses."



*Castleford.*—"I have also called your attention to the need of an up-to-date destructor and disinfecting station where clothing, bedding, etc., could be thoroughly dealt with."

*Saddleworth.*—"The system of tips to receive night-soil, ashes, and garbage, is the one in vogue. This will very speedily be impossible, as the existing tips are nearly full, and indeed there is difficulty even now in keeping them at all sanitary, partly on account of the alleged necessity for forming lagoons. If we cannot provide more tips, then a Destructor becomes a necessity."

*Hebden Bridge.*—"I consider that a refuse destructor is fast becoming a sanitary necessity. When it is considered that each tip is simply a breeding ground for the fly, and in view of the distance that the fly travels and its great breeding propensity, it appears to me to be very desirable that the tips should be abolished and all other steps taken where practicable to avoid accumulations of refuse."

**Conditions of Yards and Streets.**—Many reports deplore the insanitary condition of the immediate surroundings of the houses, and the Councils responsible are urged to bring about an improvement. The difficulty which housewives must experience in keeping their houses clean under these circumstances is apparent, and in addition, there is also the direct danger to health which must follow should these unprotected surfaces become contaminated with infected material. Many Local Authorities might take advantage of the powers given by the Private Street Works Act, 1892, but from the information supplied to this Department only one Authority (Bentley-with-Arksey) appears to have put this adoptive measure into operation during 1913; application to adopt the Act was, however, made by the Kiveton Park Rural Council. The medical officers of health of the following districts give their opinion on this question:—

*Castleford.*—"I have called your attention, in each of my Annual Reports for the past ten years, to the disgraceful state of many of the streets, which in wet weather are nothing short of seas of mud and water."

*Rawmarsh.*—"Many and loud complaints are made about the state of the roads and streets, many of which continue year after year in the same disgraceful condition."

*Kiveton Park R.*—"I would like to see all the private streets, which are at present in a very bad condition, taken over by the Council and put in a thorough state of repair. Many of the back yards need paving or asphaltting."

*Mexborough.*—"In former annual reports I have urged the importance of covering the surface of courts, alleys, and backwa with some sort of impervious material, such as tar or asphalt, and I take the opportunity of doing so again this year. An



“impervious coating of asphalt enables these backways to be more easily cleaned and lessens the dangers of dust infection.”

*Horbury.*—“A feature of Horbury is the condition of the common yards and courts, very few of which have surfaces of impervious material properly graded and channelled to surface water gullies, in wet weather they may be likened to ‘quagmires’ and in dry weather there must be considerable inconvenience from dust. Slop water is often thrown over the yard surfaces, and in some instances when middens are cleansed the contents are also deposited thereon.”

**Nuisances.**—The usual table, giving the aggregate figures with regard to the important work done under this heading, is given below :—

No. of nuisances in hand at close of 1912	..	5558
No. reported during 1913	.. ..	29358
		<hr/>
		34916
No. abated during 1913	.. ..	32541
		<hr/>
No. remaining in hand at end of 1913	.. ..	2375
		<hr/>
No. of informal notices to abate nuisance	..	16075
No. complied with..	.. ..	14082
No. of statutory notices to abate	.. ..	4495
No. complied with..	.. ..	4527
No. of summonses for non-abatement	.. ..	36
Total No. of inspections recorded during 1913..		158952

**Common Lodging Houses.**—The reports from the various Authorities in the Riding show that 113 houses were registered for this purpose during 1913, and 1810 visits of inspection were made by the sanitary officials. The description of the general condition of the premises varies from “fair” to “satisfactory,” and there were no infringements of the Acts necessitating legal proceedings.

**Canal Boats.**—The number registered was 1566, and 1412 inspections were made. The general descriptions of the boats is that they were satisfactory. Infringements were noted at Todmorden (1 case) Pontefract R. (1 case) and Skipton R. (2 cases), but these did not call for legal action.

**Knacker’s Yards.** These premises are subjected to rigorous inspection in the West Riding, the 24 registered yards, which are situated in 15 districts, having been inspected 194 times during the year. The result of this supervision is reflected in their general satisfactory condition, and the absence of proceedings to enforce compliance with legal requirements.

**Slaughter Houses.** The total number in the County, according to the 1913 reports, was 1154, of which 1066 are registered. Frequent inspections are made of these buildings, and the general



testimony of the reports is that they are kept clean, but the difficulties experienced in visiting these places when slaughtering operations are being carried on are obvious. It is particularly at such times that the visits should be made, if efficient meat inspection is to result. The qualifying description given of many of the premises, as for example "fairly good," "just passable," demonstrates the opinion held of them by the local officials. Mention is only made, however, of one prosecution; this was at Todmorden, and was in connection with the non-removal of offal. A number of the reports refer to the private slaughter-houses as being ill-placed, or structurally unsuitable for the purpose, *e.g.*, Barnoldswick, Batley B., Birstall, Earby, Heckmondwike, Horbury Keighley B., Knaresboro', Mirfield, Morley B., Normanton, Otley, Saddleworth, Sowerby, Springhead, Thurlstone, Hunslet R., and Penistone R. In some of the larger districts the definite opinion is given that the existing premises should be superseded by a public abattoir, and the following extracts emphasise this view :—

*Keighley B.*—"The slaughter-houses are overcrowded, badly lighted, and insufficiently provided with proper means for ensuring cleanliness. For this condition of things there is only one remedy, and that is a public Abattoir."

*Otley.*—"There are ten slaughter-houses in the district. These are badly situated, and constructed on old-fashioned principles. It is utterly impossible to inspect every animal killed on these premises. It is one of the first essentials of this district to have a public Abattoir."

*Mirfield.*—"It is almost ridiculous that Mirfield should possess no less than 25 slaughter-houses, when one public Abattoir could better serve the whole district."

*Horbury.*—"The sanitary condition and surroundings of some of the slaughter-houses are very unsatisfactory, viz. :—defective drainage, walls and floors not constructed of materials suitable to facilitate proper and easy cleansing, improper removal and disposal of blood, garbage and offal."

**Unsound Food.**—The local officials made 427 seizures, but a large proportion of these were voluntary surrenders by the vendors. Meat and fish were the chief articles of food concerned; in one district a large quantity of plums was destroyed. Prosecutions followed in six cases, viz. :—Batley, Keighley, Otley, Rawmarsh, Wakefield, and Wombwell.

**Offensive Trades.**—The reports refer to 257 premises of this class, and to 1,660 inspections having been made of them. This frequent inspection has resulted in the various trades being conducted on satisfactory lines, and in no place were legal proceedings taken. Several districts declared certain processes, such as fish frying, and maggot breeding, to be offensive trades, thereby securing their proper control.



**Factories and Workshops.**—A summary of the figures contained in the Schedule required by the Home Office, relating to work done by the District Councils, is given in the following tables. The reports show that during 1913 there were 6,657 Registered Workshops in the Riding, and 92 underground bakehouses.

Premises.	Number of Inspections.	Number of Written Notices	Number of Prosecutions.
Factories .. ..	2316	156	—
Workshops .. ..	10964	142	—
Workplaces .. ..	371	7	—
Totals ..	13651	305	—

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied	Referred to H.M. Inspector.	
<i>Nuisances under Public Health Acts :</i>				
Want of Cleanliness .. ..	219	216	1	—
Want of Ventilation .. ..	46	38	—	—
Overcrowding .. ..	11	4	1	—
Want of Drainage of Floors ..	9	9	—	—
Other Nuisances .. ..	141	133	—	—
Closets, Insufficient .. ..	70	57	1	—
„ Unsuitable or Defective ..	254	222	2	—
„ Not separate for Sexes ..	22	19	—	—
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal Occupation of Underground Bakehouse (S. 101) .. ..	2	1	—	—
Breach of Special Sanitary Requirements for Bakehouses ..	59	58	—	—
Other Offences .. ..	16	—	16	—
Total offences ..	849	755	21	—

**Smoke Nuisance.**—The observations taken by the local officials during 1913 numbered 4,541; these were followed up by 213 cautions, and 45 legal notices. Legal proceedings ensued in five cases, 1 at Bingley, 1 at Saddleworth, and 3 at Todmorden. Nuisance from smoke is referred to from 42 districts, the source being chiefly from factory chimneys, but in many instances colliery chimneys are the offenders. The Batley, Cleckheaton, and Stocksbridge reports state that the nuisance is general throughout these districts; at Morley, 17 specific instances were observed, and cautions issued. The Cleckheaton medical officer “regrets



that the smoke nuisance is as great as ever and it seems impossible to get it reduced."

The Keighley report contains the following statement, which shows that the nuisance from smoke is not due entirely to industrial causes, but that the private house chimney also contributes to the general pollution of the atmosphere. "This cloud of dirty, greasy, vapour, is present on Sundays as well as weekdays, so that the mills and factories are not altogether to blame for it. In fact, it only a little less dense on Sundays, when the mills are standing, than it is on ordinary weekdays. This goes to prove that the chimney of the private house is responsible for the greater part of the smoke nuisance, and, should the present efforts to produce a smokeless coke fuel prove successful, I hope that our Gas Committee will find it commercially successful to install the necessary plant, in order that the inhabitants may enjoy the double benefits of a clean, bright fuel and a clean, pure air."

**Dairies, Cowsheds, and Milkshops.**—The question of the hygiene of these premises has received a fair amount of attention at the hands of the local officials during the past year, judging from the reports under review, but there is no doubt that this activity will be accelerated now that the Milk and Dairies Bill has been placed on the statute book. In reply to an enquiry as to the general condition of the cowsheds, the description "fair" appears too often, and the following list has been compiled of conditions which are definitely stated to be unsatisfactory:—

<i>Sanitary District.</i>	<i>Condition of Cowsheds.</i>
Baildon .. .. .	Four unsatisfactory
Castleford .. .. .	One unsatisfactory
Clayton .. .. .	A few unsatisfactory
Earby .. .. .	Unsatisfactory
Gunthwaite and Ingbirchworth	Unsatisfactory
Horbury .. .. .	Unsatisfactory
Mexborough .. .. .	Old type
Morley Boro' .. .. .	Some bad
Saddleworth .. .. .	Insanitary
Springhead .. .. .	Two poor
Sedbergh R. .. .. .	Some very poor

The medical officers of health, however, continue their endeavours to obtain an improvement, and the following extracts may be given in this connection:—

*Horbury.*—"I again report that the conditions existing at many of the cowsheds are very unsatisfactory, and should be remedied, notably: dilapidated structures, walls and floors, defective yard surfaces, no proper storage of manure, insufficient lighting and ventilation, cowsheds overcrowded, and in a number in sufficient attention to the cleansing and limewashing of the cowsheds."



*Baildon.*—"Dairies and Cowsheds have been inspected, of which four were found unsatisfactory. There is nothing more disappointing than to see the condition of some of these. Over-crowding almost seems to be the rule, and it is difficult to get ventilation or proper lighting."

The approximate number of milch cows is given in 128 reports, and the total reached in this way is 44,521. The inspections of cowsheds during the year by the sanitary officials numbered 10,391; arrangements have also been made in many districts for the health officials to call in veterinary assistance if necessary, and in some cases appointments have been made, and periodic inspections take place.

Other items which should be recorded, and in which totals can best give an idea of the work done, are set out in the following table :—

Total number of cowkeepers	5,821
" " " do. registered	4,768
" " " milksellers	4,672
" " " do. registered	3,899
" " " cowsheds	7,215

**Food and Drugs Acts.**—Part I of this report gives particulars at p. 9 of the action taken under these Acts by the County Council Inspectors. The number of samples submitted by the officials of local Sanitary Authorities was 672. These were of various kinds, and included 427 samples of milk taken under the arrangement between the County Council and Local Authorities, the cost of analysis in such cases being borne by the County. Two of the Non-County Boroughs, namely, Doncaster and Wakefield, appoint their own analyst, and the number of samples submitted by these Authorities during 1913 was 76 and 156 respectively. The following table shows the districts from which the 672 samples were sent :—

Batley B.	.. 76	Honley	.. 1	Ripon City	.. 13
Birkenshaw	.. 7	Horbury	.. 9	Rothwell ..	.. 41
Brighouse	.. 38	Horsforth	.. 11	Todmorden B.	.. 20
Castleford	.. 6	Hoyland	.. 8	Whitwood..	.. 1
Elland ..	.. 15	Ilkley	.. 9	Worsborough	.. 17
Featherstone	.. 15	Keighley B.	.. 49	Barnsley R.	.. 2
Garforth	.. 20	Marsden	.. 10	Hemsworth R.	.. 39
Golear ..	.. 17	Methley	.. 2	Kiveton Park R...	7
Goole ..	.. 5	Mirfield	.. 13	Wakefield R.	.. 8
Harrogate B.	.. 104	Morley B.	.. 23	Wetherby R.	.. 1
Handsworth	.. 1	Ossett B.	.. 11		
Haworth	.. 8	Pudsey B.	.. 46		672
Hebden Bridge	2	Rawmarsh	.. 17		



**Meteorology.**—The following records are taken from the returns supplied by local Medical Officers of Health :—

MEAN TEMPERATURE, in Degrees Fahrenheit :—

		1913.	1912.	1911.	1910.
Bolton-upon-Deane	..	47.5	45.7	47.1	42.6
Brighouse	.. ..	47.3	47.9	49.0	47.5
Cleckheaton	.. ..	47.0	46.2	48.0	46.0
Cudworth	.. ..	?	47.6	51.3	?
Goole	.. ..	49.9	49.0	49.0	51.1
Harrogate	.. ..	47.2	46.6	48.2	46.5
Hebden Bridge	.. ..	45.7	45.7	47.4	46.0
Ilkley	.. ..	47.5	46.7	48.7	47.2
Meltham	.. ..	48.0	47.2	48.6	?
Mexborough	.. ..	49.1	49.0	51.5	48.9
Mirfield	.. ..	47.1	45.8	49.1	37.0
Mytholmroyd	.. ..	45.7	46.3	40.4	46.0
Ossett	.. ..	43.2	43.2	44.6	43.4
Pudsey	.. ..	48.0	45.6	49.0	47.3
Skipton	.. ..	?	?	50.2	48.5
Wakefield	.. ..	49.0	?	49.1	47.5
Wath-upon-Deane	..	47.5	45.7	47.1	42.6
Worsborough	.. ..	49.5	48.8	51.4	50.0
Bowland R.	.. ..	48.3	48.0	48.6	46.9
Kiveton Park R.	.. ..	49.3	48.6	49.9	48.6
Settle R.	.. ..	47.4	46.6	48.0	46.5
Todmorden R.	.. ..	46.9	42.3	48.2	46.4

ANNUAL RAINFALL, in inches :—

		1913.	1912.	1911.	1910.
Ardsley	.. ..	?	35.83	18.75	20.17
Barnoldswick	.. ..	41.3	48.95	43.21	45.11
Batley B.	.. ..	23.98	37.10	23.52	30.26
Bingley	.. ..	32.78	36.86	?	30.06
Bolton-upon-Deane	..	24.27	34.73	19.26	25.49
Brighouse	.. ..	32.0	38.46	30.00	37.00
Burley-in-Wharfedale	..	28.85	43.13	29.36	36.87
Cleckheaton	.. ..	27.40	39.97	24.67	32.45
Cudworth	.. ..	21.68	35.36	20.30	25.00
Doncaster	.. ..	?	?	22.36	26.26
Earby	.. ..	36.01	46.80	40.45	41.56
Elland	.. ..	33.29	42.83	28.16	30.37
Goole	.. ..	18.29	31.15	21.63	25.10
Handsworth	.. ..	28.72	?	20.46	?
Harrogate	.. ..	26.63	41.80	27.92	34.08
Hebden Bridge	.. ..	43.28	58.23	44.46	50.19
Horbury	.. ..	22.48	?	19.81	20.67
Horsforth	.. ..	26.07	35.24	25.17	?
Ilkley	.. ..	29.63	45.00	30.76	38.55
Keighley B.	.. ..	30.5	46.76	34.00	40.00
Meltham	.. ..	42.88	58.77	44.46	51.52
Mexborough	.. ..	22.79	31.04	17.27	21.73



## ANNUAL RAINFALL, in inches :—

			1913.	1912.	1911.	1910.
Mirfield .. ..	..	..	33.30	46.40	27.93	36.20
Mytholmroyd .. ..	..	..	43.28	44.50	44.30	50.19
Ossett .. ..	..	..	34.21	34.21	21.01	26.22
Otley .. ..	..	..	29.11	31.93	23.15	27.67
Oxenhope .. ..	..	..	44.18	58.82	48.78	53.54
Penistone .. ..	..	..	?	38.98	?	22.66
Pudsey .. ..	..	..	24.88	41.22	23.53	28.77
Saddleworth .. ..	..	..	36.69	50.30	38.49	47.20
Selby .. ..	..	..	16.64	26.26	17.50	20.77
Silsden .. ..	..	..	26.85	41.04	29.61	33.10
Skipton .. ..	..	..	29.70	41.81	30.95	34.37
Swinton .. ..	..	..	23.43	34.61	20.06	25.61
Todmorden .. ..	..	..	49.07	55.18	39.92	46.59
Wakefield .. ..	..	..	22.63	31.39	19.47	25.68
Wath-upon-Dearne .. ..	..	..	24.76	35.15	19.30	25.73
Wombwell .. ..	..	..	21.79	34.13	?	25.15
Worsborough .. ..	..	..	26.88	42.56	20.87	24.78
Bowland R. .. ..	..	..	41.94	47.00	44.20	47.70
Keighley R. .. ..	..	..	?	43.66	28.68	34.96
Kiveton Park R. .. ..	..	..	22.34	33.45	19.29	24.87
Sedbergh R. .. ..	..	..	66.32	64.77	65.35	57.94
Settle R. .. ..	..	..	41.96	50.07	44.21	45.90
Thorne R. .. ..	..	..	17.58	30.06	18.45	22.50
Todmorden R. .. ..	..	..	38.81	54.91	40.10	46.62
Wharfedale N. .. ..	..	..	28.00	44.80	27.14	?
Wortley R... ..	..	..	27.68	35.34	23.51	29.50



## PART V.

## STATISTICAL ADDENDUM.

**Money borrowed by Local Sanitary Authorities.**—The total amount of loans for various purposes sanctioned by the Local Government Board on the application of Local Authorities within the Administrative County, is shown in the following table :—

## Loans sanctioned, 1888-1912.

YEAR.	PURPOSE.				Total Loans Sanctioned.
	Sewerage and Sewage Disposal.	Water.	Hospital.	Other	
	£	£	£	£	£
1888	14,110	9,130	5,500	90,434	119,174
1889	25,933	53,479	—	71,968	151,380
1890	9,969	57,030	8,500	24,505	100,004
1891	64,035	63,205	8,300	88,518	224,058
1892	77,323	16,180	2,005	118,856	214,364
1893	101,143	27,250	9,150	140,639	278,182
1894	202,839	56,328	30,386	117,306	406,859
1895	289,370	81,176	11,635	255,110	637,291
1896	168,706	12,501	250	107,965	289,422
1897	147,400	18,432	12,420	149,122	327,374
1898	170,074	18,278	28,460	262,252	479,064
1899	192,654	43,760	16,990	183,281	436,685
1900	267,314	54,049	8,889	93,003	423,255
1901	177,759	17,150	27,097	309,616	531,622
1902	183,905	178,685	14,715	187,704	565,009
1903	178,442	66,361	9,246	159,365	413,414
1904	238,050	60,649	6,800	154,519	460,018
1905	92,923	10,787	6,676	88,447	198,833
1906	96,145	14,753	21,614	50,742	183,254
1907	67,109	126,282	2,580	61,505	257,476
1908	126,349	17,888	20,821	58,091	223,149
1909	151,419	11,621	1,496	112,696	277,232
1910	94,556	9,527	2,270	74,661	181,014
1-1-11 to 31-3-12	165,510	80,296	8,327	143,949	398,082
1912-13	47,184	54,684	4,532	352,900	459,300



## Loans sanctioned from 1st January, 1912 to 31st March, 1913.

I.—Urban District.	Purpose.	Years	Amount.
			£
Ardsley ..	P.H. (Interments) Act, 1879 ..	60	190
Do. ..	Do. ..	15	160
Baildon ..	Sewerage ..	30	520
Balby-w-Hexthorpe	Sewerage and Surface Water		
	Drainage ..	30	1450
Barnoldswick ..	Gasworks ..	30	3284
Do. ..	Do. ..	22	2079
Do. ..	Do. ..	20	5624
Do. ..	Do. ..	15	2186
Do. ..	Water Supply ..	30	2114
Do. ..	Do. ..	15	2048
Barnsley Boro' ..	Market ..	30	300
Do. ..	Do. ..	18	500
Do. ..	Street Improvement ..	60	6110
Do. ..	Do. ..	10	2000
Do. ..	Waterworks ..	60	1800
Do. ..	Do. ..	30	3600
Do. ..	Do. ..	25	1881
Batley Boro' ..	Public Walks and Pleasure		
	Grounds ..	23	1386
Do. ..	Do. ..	20	1500
Do. ..	Do. ..	10	863
Do. ..	Street Improvement ..	60	1454
Do. ..	Do. ..	20	2162
Bentley-with-Arksey	Sewage Disposal ..	30	3344
Do. ..	Sewerage and Disposal ..	15	921
Bingley ..	Sewage Disposal ..	30	8616
Do. ..	Do. ..	15	2201
Bolton-on-Dearne ..	Do. ..	15	500
Do. ..	Sewerage and Sewage Disposal ..	30	5217
Do. ..	Steam Road Roller and Scarifier ..	10	525
Do. ..	Erection of Working-class		
	Dwellings ..	—	1500
Brighouse Boro' ..	Mortuary ..	28	175
Do. ..	Sewerage ..	30	110
Do. ..	Street Improvement ..	60	645
Do. ..	Do. ..	20	2700
Do. ..	Do. ..	12	380
Do. ..	Do. ..	5	400
Do. ..	Water Supply ..	30	3000
Do. ..	Baths and Washhouses Acts ..	60	750
Do. ..	Do. ..	30	2870
Do. ..	Do. ..	12	1640



## Loans sanctioned from 1st January, 1912 to 31st March, 1913, continued.

I.—Urban District.	Purpose.	Years	Amount.
			£
Castleford ..	Market—Land for	60	1600
Do. ..	Street Improvement	60	1642
Do. ..	Do.	20	2346
Clayton ..	Paying off Loan	19	7657
Do. ..	Street Improvement	20	1000
Do. ..	Water Supply	10	180
Cleckheaton ..	Gas Undertaking	30	13062
Do. ..	Do.	20	8136
Do. ..	Baths and Washhouses Acts	27	705
Do. ..	Do.	10	142
Cudworth ..	Gas Undertaking	26	6083
Do. ..	Do.	5	557
Darfield ..	P.H. (Interments) Act, 1879	60	560
Do. ..	Do.	26	1162
Dewsbury Boro' ..	Fire Brigade Station	30	1503
Do. ..	Sewage Disposal	30	410
Do. ..	Do.	15	190
Do. ..	Steam Roller	10	520
Do. ..	Street Improvement	60	1300
Do. ..	Do.	30	120
Do. ..	Do.	20	2155
Do. ..	Do.	10	622
Doncaster Boro' ..	Gas Undertaking	30	18380
Do. ..	Do.	20	1800
Do. ..	Do.	15	600
Do. ..	Do.	10	4620
Do. ..	Refuse Destructor	30	1557
Do. ..	Do.	15	2245
Do. ..	Street Improvement	60	1770
Do. ..	Do.	21	1214
Do. ..	Waterworks	30	8000
Elland ..	Paying off Loan	38	826
Do. ..	Do.	16	2243
Do. ..	Water Supply	30	500
Featherstone ..	Sewerage	30	252
Do. ..	Street Improvement	20	417
Do. ..	Water Supply	30	420
Do. ..	Erection of Working-class Dwellings	—	7626
Goole ..	Public Walks and Pleasure Grounds	60	66
Do. ..	Do.	20	1018
Harrogate Boro' ..	Baths	30	662



## Loans sanctioned from 1st January, 1912 to 31st March, 1913, continued.

I.—Urban District.	Purpose.	Years	Amount.
			£
Harrogate Boro'	Baths	28	1200
Do.	Do.	20	1682
Do.	Do.	13	1445
Do.	Private Street Improvement	7	5485
Do.	Pump Room and Improvement of Valley Gardens	20	2950
Do.	Shelters for Cabmen	20	120
Do.	Waterworks	30	3145
Do.	Do.	20	1170
Do.	P.H. (Interments) Act, 1879	58	500
Do.	Do.	26	4700
Do.	Do.	20	400
Do.	Do.	15	100
Do.	Do.	10	200
Haworth	Water Supply	60	670
Do.	Do.	25	680
Heckmondwike	Burial Acts	30	1260
Do.	Do.	22	1440
Hipperholme	Gasworks	23	750
Do.	New Street	10	600
Ilkley	Conveniences	30	1000
Do.	Paying off Loans	32	11273
Do.	Do.	12	419
Do.	Town Hall	30	2000
Do.	Water Supply	30	1730
Do.	Do.	15	462
Keighley Boro'	Public Walks and Pleasure Grounds	58	1312
Do.	Do.	20	4351
Do.	Purposes of Victoria Park	20	2132
Do.	Baths and Washhouses Acts	28	5928
Do.	Do.	10	1572
Knaresborough	Conveniences	30	100
Do.	Offices	30	150
Do.	Do.	15	250
Do.	Paying off Loans	16	1113
Do.	Do.	15	1227
Do.	Do.	13	417
Knottingley	Sewerage	30	770
Liversedge	Sewage Disposal	30	626
Mirfield	Street Improvement	42	524
Morley Boro'	Public Walks and Pleasure Grounds	20	3300



## Loans sanctioned from 1st January 1912 to 31st March, 1913, continued.

I.—Urban District.	Purpose.	Years	Amount.
			£
Ossett Boro'	.. Conveniences	.. 30	450
Do.	.. Fire Brigade and Depot	.. 30	590
Do.	.. Motor Fire Engine	.. 10	1100
Do.	.. Refuse Destructor	.. 15	600
Do.	.. Sewage Disposal	.. 60	364
Do.	.. Do.	.. 30	3628
Do.	.. Sewage Disposal and Sewage	.. 15	588
Do.	.. Street Improvement	.. 20	332
Do.	.. Do.	.. 5	95
Do.	.. Water Undertaking	.. 30	1184
Do.	.. Do.	.. 15	342
Otley	.. Conveniences	.. 30	420
Do.	.. Paying off Loans	.. 32	960
Do.	.. Do.	.. 8	209
Do.	.. Sewerage	.. 30	3406
Do.	.. Do.	.. 19	515
Do.	.. Do.	.. 15	400
Pontefract Boro'	.. Depot	.. 30	700
Do.	.. Mortuary	.. 30	380
Do.	.. Steam Road Roller	.. 10	400
Do.	.. Baths and Washhouses Acts	.. 30	3489
Do.	.. Do.	.. 15	1358
Do.	.. Do.	.. 10	528
Do.	.. Erection of Working-class		
	Dwellings	.. —	22000
Rawdon	.. Paying off Loan	.. 14	4364
Royston	.. Sewerage	.. 30	220
Saddleworth	.. Erection of Working-class		
	Dwellings	.. —	15380
Selby	.. Paying off Loan	.. 15	387
Do.	.. Do.	.. 13	965
Do.	.. Do.	.. 11	145
Do.	.. Do.	.. 7	321
Do.	.. Do.	.. 3	265
Do.	.. Public Walks and Pleasure		
	Grounds	.. 60	410
Do.	.. Small Dwellings Acquisition Act,		
	1899	.. 20	1000
Do.	.. Erection of Working-class		
	Dwellings	.. —	4930
Silsden	.. Sewage Disposal	.. 30	593
Do.	.. Street Improvement	.. 60	1688
Do.	.. Do.	.. 10	187



## Loans sanctioned from 1st January, 1912 to 31st March, 1913, continued.

I.—Urban District.	Purpose.	Years	Amount.
			£
Skipton	.. Bridge Widening	.. 27	547
Do.	.. Footbridge	.. 30	1400
Do.	.. Baths and Washhouses Acts	.. 30	214
Do.	.. Do.	.. 15	386
Slaithwaite	.. Paying off Loan	.. 15	613
Do.	.. Do.	.. 15	2822
Do.	.. Do.	.. 14	2106
Sowerby Bridge	.. Gas Undertaking	.. 10	930
Do.	.. Do.	.. 2	1130
Soyland	.. Sewerage and Disposal	.. 30	6400
Swinton	.. Public Walks and Pleasure		
	Grounds	.. 20	400
Thurlstone	.. Steam Road Roller	.. 10	375
Todmorden Boro'	.. Private Street Improvement	.. 7	12617
Do.	.. Sewage Disposal	.. 30	2140
Wakefield City	.. Sewerage	.. 30	1238
Do.	.. Steam Road Roller	.. 10	552
Do.	.. Street Improvement	.. 60	5430
Do.	.. Do.	.. 20	14479
Wath-upon-Dearne	.. Steam Motor Wagon	.. 7	500
Wombwell	.. Gasworks	.. 30	5730
Do.	.. Do.	.. 25	1165
Do.	.. Do.	.. —	105
Do.	.. Refuse Tip	.. 35	172
Do.	.. Baths and Washhouses Acts	.. 60	317
Do.	.. Do.	.. 30	4804
Do.	.. Do.	.. 15	2279
Do.	.. Allotments	.. 60	348
Worsborough	.. Street Improvement	.. 21	277
Do.	.. Do.	.. 1	1254



## Loans sanctioned during the year ended 31st March, 1913.

II.—Rural Districts.		Purpose.	Years	Amount
				£
Goole ( <i>Snaith and Cowick</i> )	..	Water Supply	.. 30	900
Halifax ( <i>Upper Greetland</i> )	..	Parish Room	.. 30	250
Hemsworth ( <i>Ackworth</i> )	..	Paying off Loan	.. 34	1000
Do. do.	..	Do.	.. 14	3169
Do. ( <i>Brierley, Haver-</i> <i>croft</i> )	..	Water Supply	.. 30	977
Do. ( <i>Hemsworth, Ryhill</i> )	..			
Do. ( <i>Shafton, South</i> <i>Elmsall</i> )	..			
Do. ( <i>South Hiendley,</i> <i>South Kirkby</i> )	..			
Do. ( <i>Havercroft</i> )	..	Paying off Loans	.. 14	589
Do. ( <i>Hemsworth</i> )	..	Do.	.. 34	833
Do. do.	..	Do.	.. 15	421
Do. do.	..	Do.	.. 14	1315
Do. do.	..	Do.	.. 13	1565
Do. do.	..	Water Supply	.. 30	1100
Do. do.	..	Steam Roller, Scarifier, &c.	.. 10	598
Do. ( <i>Ryhill</i> )	..	Paying off Loan	.. 14	589
Do. ( <i>South Hiendley</i> )	..	Allotments	.. 50	250
Kiveton Park ( <i>Thorpe Salvin</i> )	..	Water Supply	.. 30	1076
Leeds ( <i>Roundhay</i> )	..	Sewage Disposal	.. 30	542
Do. ( <i>Seacroft</i> )	..	Do.	.. 30	286
Pateley Bridge ( <i>Bewerley</i> )	..	Paying off Loan	.. 20	1527
Do. do.	..	Do.	.. 17	59
Do. ( <i>High and Low</i> <i>Bishopside</i> )	..	Do.	.. 20	2655
Do. do.	..	Do.	.. 17	301
Pontefract ( <i>Glasshoughton</i> )	..	Water Supply	.. 30	902
Do. do.	..	Do.	.. 15	76
Rotherham ( <i>Bramley</i> )	..	Do.	.. 30	1163
Do. ( <i>Brampton-en-le-</i> <i>Morthen</i> )	..	Do.	.. 30	220
Do. ( <i>Brinsworth</i> )	..	Conversion of Privies into W.C.'s	.. 20	1224
Do. do.	..	Do.	.. 5	1224
Do. ( <i>Dalton</i> )	..	Do.	.. 20	1471
Do. do.	..	Do.	.. 5	1471
Do. ( <i>Hooton Levitt</i> )	..	Water Supply	.. 30	364
Do. ( <i>Laughton-en-le-</i> <i>Morthen</i> )	..	Do.	.. 30	4369
Do. ( <i>Maltby</i> )	..	Do.	.. 30	4868
Do. ( <i>Ravenfield</i> )	..	Do.	.. 30	1938



## Loans sanctioned during the year ending 31st March, 1913, continued.

II.—Rural Districts.		Purpose.	Years	Amount
				£
Do.	(Thrybergh)	Conversion of Privies into W.C.'s	20	1340
Do.	do.	Do.	5	1340
Do.	(Ulley)	Water Supply	30	407
Rotherham	(Whiston)	Conversion of Privies into W.C.'s	20	443
Do.	do.	Do.	5	443
Do.	(Wickersley)	Water Supply	30	1558
Do.	(Maltby)	Burial Ground	60	824
Do.	do.	Do.	24	426
Do.	do.	Do.	24	75
Settle	(Airton)	Sewage Disposal—Land for	60	275
Do.	do.	Sewage Disposal and Sewerage	30	800
Do.	(Clapham-with-Newby)	Paying off Loan	19	1251
Do.	do.	Do.	16	184
Do.	do.	Do.	7	114
Do.	(Long Preston)	Do.	16	2131
Skipton	(Cowling)	Sewerage and Disposal	28	378
Todmorden	(Erringden)	Do.	20	284
Wetherby	(Kirkby Overblow)	Water Supply	30	1400
Do.	do.	Do.	15	440
Do.		Land for Depot	30	170
Do.		Offices	30	950
Wharfedale	(Esholt)	Paying off Loan	34	415
Do.	do.	Do.	14	878

III.—Joint Boards.		Purpose.	Years	Amount
				£
Dewsbury Joint Hospital Board		Hospital Purposes	20	2090
Keighley and Bingley Joint Hospital Board	..	Do.	30	2337
Do.	..	Do.	10	105



**Provisional Orders granted and confirmed during 1912 under the  
Public Health Act, 1875.**

District.	Object.
Dewsbury Borough ..	Altering the Dewsbury and Batley Corporations (Gas) Act, 1873, and the Dewsbury Improvement Act, 1884. The Local Government Board's Provisional Orders Confirmation (No. 6) Act, 1912.
Luddendenfoot Joint Sewerage District	Altering certain Confirming Acts. The Local Government Board's Provisional Orders Confirmation (No. 10) Act, 1912.
Hipperholme .. ..	Authorising a Gas Undertaking. The Local Government Board's Provisional Orders Confirmation (Gas) Act, 1912.

**Urban Powers conferred on Rural District Councils during 1912.**

Rural Sanitary Authority.	Section of Public Health Act.	Contributory places affected.
Doncaster ..	Section 161, first paragraph	Adwick-on-Deerne
Halifax ..	Section 149 ..	Whole district
Hemsworth ..	Section 44 as to Byelaws prohibiting the keeping of animals Sections 112, 113, 114 and 115 ..	Where not in force Whole district
	Private Street Works Act, 1892, except sewerage	Hemsworth and South Kirkby (certain streets), South Hiendley (certain street)
Hunslet ..	Private Street Works Act, 1892, except sewerage	Oulton-with-Woodlesford (certain streets)
Keighley ..	Do. do. ..	East and West Morton (certain streets)
Pateley Bridge ..	Section 157 (part not in force) ..	Where not in force



**Urban Powers conferred on Rural District Councils during 1912,  
continued.**

Rural Sanitary Authority.	Section of Public Health Act.	Contributory places affected.
Pontefract	.. Sections 169 (2nd and 3rd pars.) and 170 of P.H.A., 1875, and Secs. 29, 30 and 31 of P.H.A.A. Act, 1890	Beal, Brotherton, Carleton, Darrington, Fairburn, Ferry Frystone, Glasshoughton, Heck, Hillam, Kellington, Monk Frystone, Whitley and Womersley
Sedbergh	.. Section 42, as to watering of streets	.. Sedbergh
Skipton	.. Section 157 (part not in force) and Section 171, as to fires	.. Where not in force
Tadcaster	.. Section 160 (1)	.. Allerton Bywater, and the Allerton Bywater and Kippax Special Drainage District
Todmorden	Private Street Works Act, 1892, except sewerage .. Sections 42 and 44 (part not in force)	Barwick-in-Elmet (part of a street) Blackshaw, Erringden and Wadsworth
Wetherby	.. Section 149 Sections 169 (2nd and 3rd paragraphs) and 170 Sections 29, 30 and 31 of the P.H.A.A. Act, 1890	.. Whole district Linton and Sicklinghall Boston Spa, Bramham, Clifford, Collingham, Dunkeswick, East Keswick, Harewood, Kirkby Overblow, Linton, Rigton, Shadwell, Sicklinghall, Spofforth, Thorner, Thorp Arch Tockwith, Wetherby and Wighill
	Private Street Works Act, 1892, except sewerage	Wetherby (certain street and part of a street)



## Byelaws confirmed between 1st April, 1912 and 31st March, 1913.

Subject.	West Riding Sanitary Authorities adopting same.
Mortuaries	Knottingley
Common Lodging Houses	Burley-in-Wharfedale
Do.	Pateley Bridge R.
Prevention of Nuisances	Burley-in-Wharfedale
Do.	Pateley Bridge R.
Offensive Trades	Pudsey Boro'
Do.	Balby-with-Hexthorpe
Do.	Great Ouseburn R.
Scavenging and Cleansing	Burley-in-Wharfedale
Do.	Pateley Bridge R.
Public Walks and Pleasure Grounds	Morley Boro'
Do.	Hipperholme
Do.	Honley
Do.	Marsden
Do.	Normanton
Do.	Skipton
Recreation Grounds, Village Greens, &c.	Keighley R. (Sutton)
Slaughter Houses	Burley-in-Wharfedale
Do.	Shelley
Do.	Knaresborough R.
Do.	Pateley Bridge R.
Do.	Pontefract R.
Do.	Wakefield R.
Streets and Buildings	Pontefract Boro'
Do.	Burley-in-Wharfedale (2 series)

PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.—Districts in respect of which Orders were issued during the period 1st April, 1912, to 31st March, 1913, declaring provisions of the Act to be in force :—

Dewsbury Boro', Pontefract Boro', Ripon City, Bingley, Clayton, Farsley, Guiseley, Honley, Knottingley, Marsden, Mexborough, Stainland, Stanley, Swinton, Wath-on-Deane, Knaresborough R.

DAIRIES, COWSHEDS AND MILKSHOPS.—The following Authorities in the West Riding framed Regulations under the above Orders and deposited copies with the Local Government Board between 1st April, 1912, and 31st March, 1913 :—

Heckmondwike and Knottingley.



THE HISTORY OF THE UNITED STATES OF AMERICA

FROM THE FIRST SETTLEMENTS TO THE PRESENT TIME

BY JAMES OSGOOD, ESQ.

IN TWO VOLUMES.

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## No. I. Births, Deaths, Annual Rates, etc., 1913.



1891

Date		Description		Amount	
Jan 1		Balance		100.00	
Jan 10		Received from A. B.		50.00	
Jan 20		Received from C. D.		25.00	
Jan 30		Received from E. F.		75.00	
Feb 10		Received from G. H.		100.00	
Feb 20		Received from I. J.		50.00	
Feb 30		Received from K. L.		25.00	
Mar 10		Received from M. N.		75.00	
Mar 20		Received from O. P.		100.00	
Mar 30		Received from Q. R.		50.00	
Apr 10		Received from S. T.		25.00	
Apr 20		Received from U. V.		75.00	
Apr 30		Received from W. X.		100.00	
May 10		Received from Y. Z.		50.00	
May 20		Received from A. B.		25.00	
May 30		Received from C. D.		75.00	
Jun 10		Received from E. F.		100.00	
Jun 20		Received from G. H.		50.00	
Jun 30		Received from I. J.		25.00	
Jul 10		Received from K. L.		75.00	
Jul 20		Received from M. N.		100.00	
Jul 30		Received from O. P.		50.00	
Aug 10		Received from Q. R.		25.00	
Aug 20		Received from S. T.		75.00	
Aug 30		Received from U. V.		100.00	
Sep 10		Received from W. X.		50.00	
Sep 20		Received from Y. Z.		25.00	
Sep 30		Received from A. B.		75.00	
Oct 10		Received from C. D.		100.00	
Oct 20		Received from E. F.		50.00	
Oct 30		Received from G. H.		25.00	
Nov 10		Received from I. J.		75.00	
Nov 20		Received from K. L.		100.00	
Nov 30		Received from M. N.		50.00	
Dec 10		Received from O. P.		25.00	
Dec 20		Received from Q. R.		75.00	
Dec 30		Received from S. T.		100.00	
Total				1000.00	







△



Sanitary District.		Cases Reported in Unsanitary Areas.														Cases Reported in Sanitary Areas.										Medical Officer of Health.	
		Small Pox.	Cholera.	Typhoid.	Erysipelas.	Scarlet.	Typhus.	Dysentery.	Paratyphoid.	Enteric.	Enteric.	Enteric.	Enteric.	Enteric.	Enteric.	Small Pox.	Cholera.	Typhoid.	Erysipelas.	Scarlet.	Typhus.	Dysentery.	Paratyphoid.	Enteric.	Enteric.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		
I. URBAN.																											
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Schofield.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. Tinsley.		
Abbeville East and West (n)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. G. Ewing.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. Martin.		
Abbeville with Heathcote	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	D. L. Anderson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. Hays.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. C. Alderton.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	G. R. Pearson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. R. Dunn.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Angus.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. A. Forsyth.		
Abbeville with Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. A. Forsyth.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	F. J. Burton.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	F. W. Martin.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Hobbeltwaite.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	N. A. A. Hughes.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. F. Chappin.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Stoddard.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	D. A. MacGregor.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. A. Sutherland.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. L. Elliott.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E. F. Castle.		
Abbeville and Camberwell	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E. Miller.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	D. A. MacGregor.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. Jackson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. E. White.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	D. L. Anderson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. A. Forsyth.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. Palmer.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. N. Downing.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. Bell.		
Abbeville Type (n)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. R. Thomas.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. R. Lambert.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. Bunch.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. A. Smith.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E. P. Cargill.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. H. Halliday.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. G. Webster.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	E. F. Mason.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. R. Eddies.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. F. Chownwright.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. R. Potts.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. H. Chubb.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	D. A. MacGregor.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. W. Scott.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. Mac.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	F. E. Atkinson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	G. G. Lawson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	G. H. Pearce.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. R. Trotter.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. B. Trotter.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	R. B. Trotter.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. S. Gaden.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Bailey.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. L. Abbott.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. A. Smith.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. Barclay.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. N. Richardson.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. Scuttell.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. H. Thomas.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. P. Ingham.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	I. D. Maltby.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. F. Tinsley.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. Tait.		
Abbeville	..	..	..	..	..	..	..	..	..	..	..	..	..	..													



