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WREXHAM
RURAL DISTRICT COUNCIL

ANNUAL REPORT

OF THE
Medical Officer of Health

FOR THE YEAR
1938

T. P. EDWARDS,
M.D., B.S. (Lond.), D.P.H. (Cantab).



To the Chairman and Members of
THE HEALTH COMMITTEE.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have the honour to present my 16th Annual Report on the Health and Vital Statistics of the Wrexham Rural District for the year ended 31st December, 1938.

According to the estimate of the Registrar General the population of the Wrexham Rural District has decreased by 340 as compared with the estimated population in 1937, and has now fallen below 60,000. The number of Births and the Birth Rate have diminished, but there is a substantial reduction in the number of Deaths and Death Rate. The number of women dying from Puerperal causes was doubled leading subsequently to an increase in the Maternal Mortality Rates, and there was also an increase in the number of infantile deaths giving an increase of 13.7 in the Infantile Mortality Rate per 1,000 total births.

Further work was carried out under the Housing Act, 1936, and up to the present we have made a substantial advance in the treatment of the unfit house, though there is still a large amount of work to be done. The standard of housing is rising in the area, and one cannot have too high a standard of fitness.

During the year the question of regionalisation of refuse removal was discussed and this is elaborated in fuller detail in this Report. Unfortunately, the parochial point of view was accepted, although one does consider that sooner or later regionalisation will have to take the place of parochialism.

It will be noticed in the Report that there have been a large number of Water samples taken during the year, and this indicates that we are taking every step to keep up the standard of purity of our water supply.

One satisfactory feature of the year was the diminution in the number of cases of Infectious Diseases, especially Diphtheria, and no doubt the immunisation of the public against this disease, and their better education, is having its effect.

During the year the following special reports were submitted to the Health Committee during the year, viz. :—

- (1) Special Report on the work of Refuse Removal in the Wrexham Rural District.
- (2) Pollution of the River Dee.
- (3) Housing Conditions in the Rural District, with special reference to overcrowding and slum clearance.

I would like to point out that the delay in the compilement of this Report has been partly due to the transfer of one member of our clerical staff to another department, his place being still vacant, and also due to the extra work which has been allotted to the department with regard to the medical branch of the Air Raid Precautions Scheme. Every endeavour, however, has been made to expedite its completion, but we as a Department have met with exceptional difficulties in the administration of our duties.

I wish to take this opportunity of acknowledging the efficiency of the work done by the Senior Sanitary Inspector, the four Divisional Sanitary Inspectors and my Clerk, and also the co-operation and assistance given to our Department by the Clerk to the Council, the Engineer, and the Rating Officer and their staffs during the year.

I have the honour to be, Ladies and Gentlemen,

Your obedient Servant,

T. P. EDWARDS,

Medical Officer of Health.

STAFF OF THE HEALTH DEPARTMENT.

*Medical Officer of Health and Medical Superintendent
of the Isolation Hospital.*

T. P. EDWARDS, M.D., B.S. (LOND.), D.P.H. (CANTAB).

Senior Sanitary Inspector

D. THOMAS, C.R.S.I., M.S.I.A., C.M.I.

Sanitary, Housing, and Petroleum Inspectors

T. OWEN JONES, C.R.S.I., M.S.I.A.

JOHN EVANS, C.R.S.I., M.S.I.A.

H. CECIL D. JONES, C.R.S.I., M.S.I.A.

STANLEY DAVIES, C.R.S.I., M.S.I.A., C.M.I.

Temporary Assistant Sanitary Inspectors

CALEB DAVIES, C.R.S.I., A.S.I.A.

D. BRYNMOR JONES, C.R.S.I., A.S.I.A.

D. RONALD GEORGE, C.R.S.I., A.S.I.A.

J. M. EDWARDS, C.R.S.I., A.S.I.A.

} Appointed during the year

Medical Officer's Clerk

CLIFFORD H. WATKIN.

Housing Clerk

CYRIL PARRY.

Engineer

D. E. EDWARDS, P.A.S.I.

Matron of the Isolation Hospital

MISS H. M. DAVIES, S.R.N.

Assistant Matron

MISS E. H. HUMPHREYS, S.R.N., S.C.M.

HEALTH COMMITTEE

Chairman—PROF. J. T. SHARE-JONES, D.V.Sc., F.R.C.V.S.

Vice Chairman—EDWARD WILLIAMS, ESQ., Broughton.

The Health Committee consists of the whole Council
(49 Members).

Clerk to the Council—G. VERNON PRICE, ESQ., F.C.I.S.

WREXHAM JOINT FEVER HOSPITAL COMMITTEE

Chairman—ALDERMAN E. A. CROSS, ESQ., J.P., M.B.E.

Vice-Chairman—DR. W. S. SPRENT,

1.—GENERAL STATISTICS.

Area (acres)	...	...	...	...	...	72,370
Population Estimated (Mid-Annual, 1938)	...	...	...	...	...	59,780
Number of inhabited houses (1/4/38)	...	...	...	...	...	16,307
Sum represented by a Penny Rate 1938—1939	...	...	...	...	£641/17/1	
Rateable Value (at 31/12/38)	...	...	...	...	£178,997	
Number of Parishes in the District	...	...	...	...	...	25

2.—EXTRACTS FROM VITAL STATISTICS.

		M.	F.	Total	
Births	... { Legitimate	454	464	918	Birth Rate 15.9 (England and Wales 15.1)
	... { Illegitimate	23	9	32	
	Total ...	477	473	950	

Still Births	... { Legitimate	23	15	38	Still Birth Rate 0.67 (England and Wales 0.60)
	... { Illegitimate	1	1	2	
	Total ...	24	16	40	

		M.	F.	Total
Deaths		403	363	766

Crude Death Rate ... 12.8 (England and Wales 11.6)

Comparability Factor ... 1.06

Adjusted Death Rate ... 13.57

Number of Women dying in, or in consequence of child-birth :—

1. From Puerperal Sepsis	...	1	} Total 4
2. From other Puerperal Causes	...	3	

Maternal Mortality :—

	Per 1000 Live Births	England and Wales	Per 1000 Total Births	England and Wales
Puerperal Sepsis	1.05	0.89	1.01	0.86
Other Puerperal Causes	3.15	2.19	3.03	2.11
Totals	4.20	3.08	4.04	2.97

Infantile Mortality :—	M.	F.	Total
Legitimate	33	27	60
Illegitimate	2	1	3
Total	35	28	63

Infantile Mortality Rates :—

Total Infantile Mortality Rate per 1000 Births	...	...	66.3
(England and Wales 53.0)			
Male Infantile Mortality Rate per 1000 Male Births	...	...	73.3
Female Infantile Mortality Rate per 1000 Female Births...	...	...	59.2
Total Legitimate Mortality Rate per 1000 Legitimate Births	...	...	65.3
Total Illegitimate Mortality Rate per 1000 Illegitimate Births	...	...	93.7

	M.	F.	Total
Deaths from Diarrhoea under 2 years	1	1	2

Diarrhoea Rate per 1000 Live Births :—2.1
(England and Wales 5.5).

WREXHAM RURAL DISTRICT COUNCIL.

<i>Parish</i>	<i>Acreage</i>	<i>Houses 1938</i>	<i>Popula- tion 1938</i>	<i>Rateable Value at 31/12/38</i>
				£
Abenbury ...	1,717	46	189	843
Allington ...	3,578	400	1,393	4,770
Bersham ...	1,784	1,217	4,280	10,449
Bieston ...	1,683	55	215	849
Broughton ...	1,089	1,721	6,377	14,341
Brymbo ...	2,543	1,110	3,858	10,514
Burton ...	2,869	198	751	3,909
Cefn ...	1,876	1,722	6,388	18,110
Erbistock ...	2,919	114	477	1,567
Erddig ...	287	10	41	324
Esclusham Above	3,953	123	491	5,982
Esclusham Below	1,640	667	2,516	9,673
Gresford ...	1,099	444	1,493	7,864
Gwersyllt ...	2,103	1,535	5,467	14,264
Holt ...	2,912	264	1,063	2,171
Isycoed ...	3,532	99	414	1,161
Llangollen Rural	9,953	691	2,546	8,284
Llantysilio ...	5,163	198	617	1,956
Llay ...	2,251	838	3,100	11,967
Marchwiell ...	3,389	181	767	3,884
Minera ...	1,393	346	1,181	3,229
Penycae ...	4,694	535	1,936	4,240
Rhosllanerchrugog	1,441	2,864	10,724	25,389
Ruabon ...	5,906	849	3,189	11,515
Sesswick ...	2,596	80	307	1,742
Total ...	72,370	16,307	59,780	178,997

BIRTHS AND BIRTH RATE.

TABLE I.

The following table gives a summary of the births registered according to the different parishes in the Wrexham Rural District. It will be noted that there are 74 inward transferable births.

PARISH	Males Legitimate	Males Illegiti'ate	Females Legitimate	Females Illegiti'ate	Total
<i>Inward</i>					
<i>Transferable</i> ...	30	12	29	3	74
Abenbury ...	2	—	1	—	3
Allington... ...	8	—	13	—	21
Bersham ...	32	—	29	1	62
Bieston ...	—	—	1	—	1
Broughton ...	51	1	41	—	93
Brymbo ...	22	2	34	1	59
Burton ...	2	—	2	—	4
Cefn ...	37	3	61	—	101
Erbistock ...	1	—	1	—	2
Erddig ...	—	—	—	—	—
Esclusham Above	4	1	2	—	7
Esclusham Below	26	—	23	—	49
Gresford ...	11	—	4	—	15
Gwersyllt ...	59	1	53	2	115
Holt ...	11	—	9	—	20
Isycoed ...	1	—	2	—	3
Llangollen Rural	8	—	16	—	24
Llantysilio ...	2	—	1	—	3
Llay ...	32	1	29	1	63
Marchwiell ...	3	—	5	—	8
Minera ...	9	1	7	1	18
Penycae ...	20	—	15	—	35
Rhos ...	68	1	68	—	137
Ruabon ...	13	—	16	—	29
Sesswick ...	2	—	2	—	4
Total ...	454	23	464	9	950

Births.

The total number of Births notified to me by the Registrars was 912, and of these 36 were outward transferable births and have to be deducted but there are 74 inward transferable births to be accounted for, so that the nett total number of births registered during the year was 950. This is a decrease of 57 compared with the nett total for 1937. It will be noted from Table 1 that I have inserted the inward transferable births *in toto*, seeing that we were not informed by the Registrar General—in the manner we are notified of inward transferable deaths—of the home addresses, and we cannot, therefore, allocate them to their appropriate parishes. This matter was discussed last year with the County Medical Officer, who wrote to the Registrar General drawing his attention to the usefulness of this information but we were informed that we could not be supplied with it.

The Illegitimate Births number 32 (23 male and 9 female) as compared with 46 for the previous year, and they represent 3.4 per cent of the total live births.

The Legitimate Male Births have decreased by 58, whereas the Legitimate Female Births have increased by 19, including of course the inward transferable births.

During the year 171 Births took place at the Ruabon Maternity Hospital as against 162 during 1937. Of this number, 135 were Rural District Cases and 36 belonged to other local authorities and the areas to which these 36 belong are referred to in Table 2.

Birth Rate.

The Birth Rate for the area was 15.9 as compared with 16.7 for the previous year and 16.0 for 1936 and 15.1 for England and Wales. Thus there has been a decrease of 0.8 per 1,000 population in the Wrexham Rural District and an increase of 0.2 per 1,000 population in England and Wales.

High Birth Rates are noticed in the Parishes of Gwersyllt, Llay, Esclusham Below, Holt and Penycae, but the Birth Rate in Esclusham Below and Llay has been high for a number of years. with reference to other parishes the Birth Rates are, with few exceptions, of an average though low Birth Rates are noticed in Bieston, Erbistock, Erddig, Isycoed, Llangollen Rural, Llantysilio, and Ruabon. All these latter named Parishes, with the possible exception of Ruabon, are agricultural though Ruabon also consists of a great number of agricultural properties.

TABLE II.

RUABON MATERNITY HOSPITAL BIRTHS.

Parish	Males		Females		Total
	Legit.	Illegit.	Legit.	Illegit.	
TOTAL R.D. ...	60	3	70	2	135
Abenbury ...	—	—	1	—	1
Allington ...	2	—	2	—	4
Bersham ...	8	—	10	1	19
Broughton ...	4	—	6	—	10
Brymbo ...	2	—	3	—	5
Burton ...	—	—	1	—	1
Cefn ...	10	1	11	—	22
Erbistock ...	—	—	1	—	1
Esclusham Below ...	2	—	2	—	4
Gresford ...	3	—	1	—	4
Gwersyllt ...	4	1	1	—	6
Isycoed ...	—	—	1	—	1
Llangollen Rural ...	5	—	7	—	12
Llantysilio ...	1	—	—	—	1
Llay ...	3	—	4	—	7
Marchwiell ...	1	—	2	—	3
Minera ...	2	1	3	1	7
Penycae ...	—	—	2	—	2
Rhosllanerchrugog ...	9	—	9	—	18
Ruabon ...	4	—	3	—	7
Abergele U.D. ...	2	—	1	—	3
Aled R.D. ...	1	—	—	—	1
Ceiriog R.D. ...	1	—	2	—	3
Cheshire C.C. ...	1	—	—	—	1
Colwyn Bay M.B. ...	1	—	—	—	1
Ellesmere Port U.D. ...	1	—	—	—	1
Hiraethog R.D. ...	1	—	1	—	2
Holywell U.D. ...	—	—	1	—	1
Hoole U.D. ...	1	—	—	—	1
Knutsford U.D. ...	—	—	1	—	1
Llangollen U.D. ...	3	1	—	—	4
Llanrwst U.D. ...	2	—	1	—	3
Manchester C.B. ...	1	—	—	—	1
Oldbury M.B. ...	1	—	—	—	1
Overton R.D. ...	—	—	1	—	1
Stockport C.B. ...	1	—	—	—	1
Wrexham M.B. ...	6	—	4	—	10
TOTAL EXTERNAL ...	23	1	12	—	36
GRAND TOTAL ...	83	4	82	2	171

Still Births.

The number of Still Births registered during the year was 40, or a decrease of 9 as compared with the number registered during the previous year. All, with the exception of 2, were in respect to illegitimate confinements and they consisted of 24 males and 16 females. The reduction of 9 are due to a reduction of 7 in the number of female still births and 2 in the number of male still births.

Still Birth Rate.

The Still Birth Rate per 1,000 population is 0.67 as compared with 1.08 for 1937 and 0.6 for England and Wales.

Deaths and Death Rates.

During the year there were 796 Deaths as compared with 830 during the previous year, or a reduction of 74. 8 Deaths occurred in the Wrexham Rural District which were in respect to persons ordinarily residing outside our District, but on the other hand there were 224 inward transferable deaths which consisted of Rural District residents who died in other areas.

Increases in the number of deaths have occurred in the following Parishes, viz. :—Broughton, Burton, Erddig, Esclusham Above, Holt, Isycoed, Llangollen Rural and Llay, whereas decreases have taken place in Abenbury, Allington, Bersham, Bieston, Brymbo, Cefn, Erbistock, Esclusham Below, Gresford, Gwersyllt, Marchwiel, Minera, Penycae, Rhos, and Ruabon Parishes. During the year we were notified of the 264 deaths which occurred in the Gresford Colliery Disaster during September, 1934, but these have not been included in the year's total number of deaths.

With reference to the Causes of Deaths, there were none from Measles or Scarlet Fever. There were 6 Deaths from Whooping Cough as compared with 3 during 1937 ; 14 Deaths from Diphtheria, as compared with 26 during 1937 ; 10 Deaths from Influenza as compared with 34 ; 35 Deaths from Respiratory Tuberculosis as compared with 32 during the previous year ; 9 from Non-Respiratory Tuberculosis as compared with 4 during 1937 ; 105 from Cancer as against 95 ; and 67 Deaths from Cerebral Haemorrhage as against 65 during the previous year. There were 181 Deaths from Heart Diseases, or a decrease of 56 as compared with the number of deaths from these diseases during the previous year, and Other Circulatory Diseases accounted for 32 deaths as against 28 during the previous year. The number of Bronchitis deaths have decreased by 3 ; the Pneumonia deaths have increased by 11 ; the deaths from Acute and Chronic

Nephritis have decreased by 7; and the number of deaths from Congenital Debility have increased by 3. Deaths from Puerperal Causes amounted to 4, one being from Puerperal Sepsis.

As regards the local incidence of deaths, there was an increase of 15 in the number of deaths in the Parish of Broughton; a decrease of 16 in the Parish of Cefn; a decrease of 11 in Esclusham Below; a decrease of 9 in Gresford; a decrease of 18 in Gwersyllt; and a decrease of 15 in the Parish of Ruabon. There was an increase of 6 in the number of deaths belonging to the Parish of Holt and of 5 in the number belonging to the Parish of Llangollen Rural. There was a decrease of 4 in the Parish of Rhos and of 2 in the Parish of Penycae, as compared with the number of deaths in these Parishes during the previous year. It does appear, therefore, that with a few exceptions the decrease in mortality was fairly uniform throughout the whole area.

Death Rate.

The Crude Death Rate is 12.8 as compared with 13.7 for 1937. The Comparative Mortality Factor is 1.06 and this brings the adjusted Death Rate to 13.57 as compared with 14.5 for 1937, and 11.6 for England and Wales.

It may be of interest to note the extremely high Death Rate in the Parish of Erddig, though the number of deaths only amounted to 2. High Death Rates are also noted in the Parishes of Isycoed and Llantysilio, both of them being agricultural parishes; on the other hand, low Death Rates are noted for the Parishes of Allington, Bieston, Esclusham Below, Llay, Marchwiell, and Minera.

Deaths from Malignant Diseases.

During the year there were 105 deaths from Cancer and Sarcoma, this being an increase of 10 over the deaths from these diseases during 1937.

The ratio of deaths from Cancer to the total number of deaths is 1 : 7.3, as compared with 1 : 8.7 for the previous year, so that the ratio has increased.

The Malignant Diseases Death Rate per 1,000 population is 1.7 as compared with 1.5 for the previous year.

It may be of interest to note that of the 105 deaths 29 occurred in the Parish of Rhos; 14 in Cefn; 11 in Brymbo; and 8 each in the Parishes of Broughton and Gwersyllt. There were 7 Parishes in which there were no deaths from these diseases.

DEATHS FROM MALIGNANT DISEASES.

					Males	Females	Total
Cancer.							
Mouth	...	...	...	...	2	—	2
Throat	...	...	...	...	—	2	2
Colon ...	...	...	...	...	6	6	12
Prostate	...	...	...	...	5	—	5
Uterus	...	...	...	...	—	7	7
Stomach	...	...	...	...	15	17	32
Rectum	...	...	...	...	8	3	11
Ovary	...	...	...	...	—	2	2
Bladder	...	...	...	...	2	—	2
Breast...	...	...	...	...	—	7	7
Pancreas	...	...	...	...	1	—	1
Liver	...	...	...	...	1	3	4
Cerebral Tumour	...	...	...	...	2	1	3
Tongue	...	...	...	...	2	—	2
Kidney	...	...	...	...	1	1	2
Larynx	...	...	...	...	2	1	3
Oesophagus	...	...	...	...	1	—	1
Lung ...	...	...	...	...	2	—	2
Others	...	...	...	...	2	1	3
Sarcoma	...	...	...	...	—	2	2
Total					52	53	105

Infantile Mortality.

The number of children dying under one year of age was 63, as compared with 53 during 1937 ; thus there has been an increase of 10. 60 were of legitimate birth and 3 were illegitimate birth. 35 were males and 28 were females. As regards the local incidence of infantile deaths, 12 occurred in the Parish of Gwersyllt, 11 in Rhos, 8 in Llay, 6 in Broughton and 5 each in Brymbo and Cefn. There were no infantile deaths in 8 Parishes, the majority of which, however, were agricultural. Increases in these deaths have taken place in the Parishes of Broughton, Cefn, Gwersyllt, Llay, Penycae and Rhos, although the increases only amounted to one or two.

Of the total number of infantile deaths belonging to our district, 9 occurred in Croesnewydd Hospital ; 8 in the War Memorial Hospital ; 2 in the Isolation Hospital ; and 4 in the Ruabon Maternity Hospital. 4 infantile deaths belonging to other districts also took place in the Ruabon Maternity Hospital.

It is of interest to note that of the 63 deaths 32 were neonatal, by which term it is meant that death took place within one month of time of birth.

Infantile Mortality Rate.

The Infantile Mortality Rate per 1,000 total births was 66.3, as compared with 52.6 for 1937 and 53.0 for England and Wales.

With reference to the local incidence, the infantile death rate has increased in Erbistock (the 2 births resulting in 2 deaths), and Llantysilio (3 births resulting in 2 deaths). Higher death rates are also noted in Brymbo, Gwersyllt, Marchwiell, Penycae, Rhos and Ruabon Parishes.

Maternal Mortality.

Four maternal deaths occurred in consequence of child-birth ; one being from Puerperal Sepsis and the remaining 3 from other Puerperal Causes. This is an increase of two over the number of maternal deaths for the previous year.

Maternal Mortality Rate.

The Maternal Mortality Rate per 1,000 live births was 4.2 as compared with 1.9 for 1937. The corresponding rate for England and Wales was 3.08. The rate per 1,000 total births was 4.04 as compared with 1.8 for 1937 and 6.7 for 1936, and 2.99 for England and Wales.

	Per 1,000 Live Births	England and Wales	Per 1,000 Total Births	England and Wales
Puerperal Sepsis	1.05	0.89	1.01	0.86
Other Puerperal Causes ...	3.15	2.19	3.03	2.11
Total	4.20	3.08	4.04	2.97

Zymotic Diseases and Death Rate.

The above term is applied to the seven principal zymotic diseases, namely, Smallpox, Scarlet Fever, Whooping Cough, Enteric Fever, Measles, Diarrhoea, and Fever.

The number of deaths from these diseases was 8, as compared with 4 during the previous year. The Death Rate per 1,000 population was 0.13 as compared with 0.06 for the previous year.

The following table gives the Causes of Deaths of persons in the Wrexham Rural District for the year 1938.

CAUSES OF DEATH.					All Ages.		Total.
					Males.	Females	
1	Typhoid & Paratyphoid Fevers				—	—	—
2	Measles	...	...	...	—	—	—
3	Scarlet Fever	...	...	...	—	—	—
4	Whooping Cough	...	...	...	5	1	6
5	Diphtheria	...	...	...	5	9	14
6	Influenza	...	...	...	6	4	10
7	Encephalitis Lethargica	...	...	...	—	—	—
8	Cerebro-spinal Fever	...	...	...	—	—	—
9	Tuberculosis of respiratory system				23	12	35
10	Other Tuberculosis	...	...	...	4	5	9
11	Syphilis	...	...	...	1	1	2
12	General paralysis of the insane, tabes dorsalis				—	—	—
13	Cancer	...	...	...	52	53	105
14	Diabetes	...	...	...	5	3	8
15	Cerebral Haemorrhage, etc.	...	...	...	32	35	67
16	Heart Disease	...	...	...	92	89	181
17	Aneurysm	...	...	...	—	—	—
18	Other circulatory diseases	...	...	...	22	10	32
19	Bronchitis	...	...	...	20	10	30
20	Pneumonia (all forms)	...	...	...	28	20	48
21	Other respiratory diseases	...	...	...	2	3	5
22	Peptic Ulcer	...	...	...	3	1	4
23	Diarrhoea (under 2 years)	...	...	...	1	1	2
24	Appendicitis	...	...	...	2	2	4
25	Cirrhosis of Liver	...	...	...	1	—	1
26	Other diseases of Liver, etc.	...	...	...	1	2	3
27	Other digestive diseases	...	...	...	7	8	15
28	Acute and Chronic Nephritis	...	...	...	11	11	22
29	Puerperal Sepsis	...	...	...	—	1	1
30	Other Puerperal Diseases	...	...	...	—	3	3
31	Congenital debility, premature birth, malformations, etc.				22	15	37
32	Senility	...	...	...	8	15	23
33	Suicide	...	...	...	1	3	4
34	Other Violence	...	...	...	19	12	31
35	Other defined diseases	...	...	...	25	32	57
36	Causes ill-defined or not known				5	2	7
	Diarrhoea (2 years and over)				—	—	—
	Totals				403	363	766

Special Causes (included in No. 35 above) :—

Small Pox	...	...	...	...	—	—	—
Poliomyelitis	...	...	...	...	—	—	—
Polioencephalitis	...	...	...	...	—	1	1

TABLE IV.

Analysis of the Vital Statistics of the Wrexham Rural District for the year 1938, arranged according to Parishes.

PARISH.	Estimated Population.	Births.			Birth-rate per 1,000 Living.	Deaths.	Death-rate per 1,000 Living.	Deaths under 1 year of age.	Infantile death rate per 1,000 births.	Deaths from Tuberculosis.	Deaths from Cancer.	Deaths from Pneumonia.	Deaths from Infectious Diseases.			
		Males.	Females.	Total.									Diphtheria.	Scarlet Fever.	Enteric Fever.	Erysipelas.
<i>Inward Transferable Births</i>																
Abenbury	189	42	32	74	15.9	2	10.58	—	—	—	—	—	—	—	—	—
Allington	1,393	2	1	3	15.07	9	6.5	—	—	—	1	—	—	—	—	—
Bersham	4,281	32	30	62	14.5	61	14.2	1	16.1	1	2	4	—	—	—	—
Bieston	216	—	1	1	4.6	1	4.6	—	—	—	—	—	—	—	—	—
Broughton	6,378	52	41	93	14.6	93	14.6	6	64.5	4	8	1	2	—	—	—
Brymbo	3,859	24	35	59	15.3	62	16.1	5	84.9	1	11	5	2	—	—	—
Burton	752	2	2	4	5.3	12	15.9	—	—	—	2	7	2	—	—	—
Cefn	6,389	40	61	101	15.8	92	14.4	5	49.5	15	14	1	—	—	—	—
Erbistock	478	1	1	2	4.1	6	12.5	2	1000.0	—	—	—	—	—	—	—
Erdig	42	—	—	—	—	2	47.6	—	—	—	—	—	—	—	—	—
Esclusham Above	492	5	2	7	14.2	8	16.0	—	—	—	2	1	—	—	—	—
Esclusham Below	2,517	26	23	49	19.4	22	8.7	1	20.4	2	3	1	—	—	—	—
Gresford	1,494	11	4	15	10.0	24	16.0	1	60.6	—	3	2	—	—	—	—
Gwersyllt	5,468	60	55	115	21.0	68	12.4	12	104.3	3	8	4	1	—	—	—
Holt	1,064	11	9	20	18.9	15	11.3	1	50.0	—	3	1	—	—	—	—
Isycoed	415	1	2	3	7.2	9	21.7	—	—	1	—	—	—	—	—	—
Llangollen Rural	2,547	8	16	24	9.4	35	13.7	1	41.6	2	4	4	1	—	—	—
Llantysilio	618	2	1	3	4.8	13	21.03	2	666.6	—	4	3	—	—	—	—
Llay	3,101	33	30	63	20.3	31	9.9	8	127.0	2	2	2	1	—	—	—
Marchwiel	768	3	5	8	10.4	4	5.2	1	125.0	—	—	1	—	—	—	—
Minera	1,182	10	8	18	15.2	8	6.8	1	55.5	1	1	—	—	—	—	—
Penycae	1,937	20	15	35	18.1	23	11.8	3	85.7	1	1	1	—	—	—	—
Rhos	10,724	69	68	137	12.7	132	12.3	11	80.3	8	29	5	2	—	—	—
Ruabon	3,189	13	16	29	9.09	34	10.5	2	72.1	3	7	—	1	—	—	—
Sesswick	307	2	2	4	13.03	—	—	—	—	—	—	—	—	—	—	—
TOTALS	59,780	477	473	950	15.9	766	13.57	63	66.3	44	105	48	14	—	—	—

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS AND OTHER DISEASES.

During the year 605 cases of infectious and other notifiable diseases were notified during the year as compared with 751 during 1937 ; thus there has been a decrease of 146.

The notifications of Diphtheria amounted to 225 as against 401 during the previous year, or a diminution of 176. Of this number, however, 5 were admitted to the Isolation Hospital as observation cases and 8 were later found out to be suffering from Tonsillitis. These cases were notified as Diphtheria by the general practitioners.

149 cases of Scarlet Fever were notified as against 166 during 1937, or a diminution of 17. One case of Paratyphoid Fever was notified and 36 cases of Erysipelas ; the number of Erysipelas cases has increased by 12, compared with that for the previous year. 9 Cases of Puerperal Pyrexia were notified during the year as compared with 12 during the previous year. 67 cases of Pneumonia were notified as compared with 60 during 1937.

With reference to Tuberculosis, 116 cases were notified during the year as new cases. 83 were pulmonary cases and 33 were non-pulmonary. It will be seen that there has been an increase of 29 in the number of Tuberculosis cases as compared with the number of cases notified during 1937.

Of the 605 cases of notifiable diseases 369 were admitted to the Isolation Hospital, Wrexham, 135 being Scarlet Fever cases and 210 being Diphtheria cases.

Scarlet Fever.

149 cases were notified during the year as compared with 166 during 1937, or a reduction of 17. Of these cases 94 were between the ages of 5 and 15 years as compared with 196 during the previous year. It may be of interest to note that 69 cases occurred between the ages of 5 and 10 years ; 11 cases occurred between 2 and 3 years of age ; 16 cases between 3 and 4 years of age ; and 10 cases between 4 and 5 years of age, so that in these three groups 37 cases were notified as compared with 47 during the previous year. There was a very marked reduction in the number of cases between 4 and 5 years of age, the number being 10 as compared with 23 during 1937. Between the ages of 3 and 15 years 120 cases were notified as against 147 during the previous year. This figure represents 80.5 per cent of the total number of Scarlet Fever Cases, as compared with 88.4 per cent of the cases notified during 1937.

It is satisfactory to note that there were no deaths from this disease during the year. With reference to the local incidence of infection, 29 cases occurred in Gwersyllt ; 19 in Brymbo ; 17 in Broughton ; 14 each in Cefn and Rhos ; and 13 each in Llay and Bersham. There was a decrease of 9 in the number of cases occurring in the Parish of Rhos ; a decrease of 14 in the number of cases from Gwersyllt ; a decrease of 7 each in the cases notified from Brymbo and Broughton, as compared with the corresponding totals in 1937. On the other hand, however, there was an increase of 10 in the number of cases from Bersham, and an increase of 8 each in the Parishes of Esclusham Below and Llay. Ten agricultural parishes were entirely free from infection.

The case rate per 1,000 population was 2.5 as compared with 2.7 in 1937 ; the case rate for England and Wales was 2.41.

I have already indicated that there were no deaths from Scarlet Fever during the year. This should be compared with a death rate of 0.01 for England and Wales.

No applications were received for the performance of the Dick Test or for immunisation against Scarlet Fever during the year. Of the 147 cases notified, 31 occurred in Council Houses, and 28 of these were admitted to the Isolation Hospital. 7 of these cases came from the Parish of Gwersyllt ; 6 from the Parish of Llay ; only 2 from Rhos ; 22 from Broughton ; 3 from Bersham ; 4 from Broughton ; and only one from the Parish of Cefn. The number of cases notified from Council Houses during 1938 was identical with that for the previous year, though there was a large reduction of over 50 per cent in the number of cases from Gwersyllt, and an increase of 5 in the number from Llay.

Diphtheria.

The total number of cases notified as suffering from this disease, during the year, was 225 as compared with 401 during the previous year. Thus there has been a reduction of 176 in the number of cases.

It is of interest to note that, since May, 1938, the Diphtheria cases were very much fewer in number than they had been for very many years and it does appear that we have entered into a period of relative immunity which may be partly due to the increasing resistance of susceptible persons against infection, but it is my opinion that the greater factor responsible for this decrease has been the steady campaign which has been carried out for the immunisation of all children against this disease.

Arrangements were made for the immunisation of children under 5 years of age to be carried out at the various Maternity and Child Welfare Clinics established by the Denbighshire County Council.

Of the 225 cases notified, the greatest incidence was in the Parish of Cefn, namely 48, where, however, there has been a reduction of 10 in the number of cases as compared with the number notified during the previous year. It is satisfactory to note that, whereas during 1937 there were 106 cases in Gwersyllt only 27 were notified during 1938. 31 cases were notified from Llay as compared with 78 during the previous year; 20 from Broughton as compared with 33; 15 from Brymbo as compared with 22; 7 from Esclusham Below as against 17; and 11 from Ruabon as compared with 27. There was an increase from 12 to 38 in the number of cases from Rhos. It would thus appear that, with the exception of Rhos, and one or two other smaller parishes, the incidence was very much lower during the year as compared with the previous year.

Of the total number of Diphtheria cases notified 42 were from Council houses, and all of them were admitted to the Isolation Hospital. 12 cases came from Council houses in Cefn; 9 from Gwersyllt, and 4 each from Esclusham Below, Llay, Penycae and Rhos. During the previous year 87 cases were notified from Council houses and, although there was an increase of 11 in the cases from Council houses in Cefn, it is satisfactory to note that there were 21 fewer cases from Gwersyllt Council houses and 17 fewer cases from Llay Council houses.

As regards age incidence, 80 cases were between 5 and 10 years of age; and 49 between 10 and 15 years of age, so that between the ages of 5 and 15 years less than 50 per cent of the total number of cases occurred, as compared with the corresponding number of cases during the previous year. It is of interest to note that 27 cases were notified between 20 and 35 years, but these were chiefly young adults aged between 20 and 25 years. There were no cases amongst children under 2 years of age, and only 35 cases between 2 and 5 years, as compared with 63 during the previous year. One must regard this state of affairs as very satisfactory, although there is still room for improvement.

Of the 225 cases notified, 223 were admitted to the Isolation Hospital, but these included 5 observation cases and 8 cases which were in reality suffering from Tonsillitis, so that the actual number of cases admitted to the Hospital was 210.

Out of the total number of cases notified there were 14 deaths, 5 being males and 9 being females, as compared with 26 deaths during the previous year. All of these deaths occurred in the Isolation Hospital.

Taking 225 as the total number of cases notified, the case rate per 1,000 population was 3.8 as compared with 6.4 for 1937. The annual death rate per 1,000 population was 0.23 as compared with 0.43 for the previous year and 0.07 for England and Wales.

Immunisation against Diphtheria.

During the year, 188 cases were fully immunised against Diphtheria, and an additional one completed from the previous year, making a total of 189. In addition to these, 8 other cases were partly immunised during the year and at the end of the year 4 cases had not been completed. 5 Schick Tests were performed during 1938 and all were negative.

The importance of this form of preventive medicine cannot be too strongly emphasised, seeing that it does protect children at their most susceptible age against one of the dangerous, if not the most fatal diseases of childhood.

A large amount of discussion took place during the year with reference to a fuller campaign for immunisation, and in this connection representatives of the Denbighshire County Council and the Wrexham Rural District Council met in order to provide further facilities for the administration of this important work. The County Council were of the opinion that we should immunise the school children at the Elementary Schools and their point of view was that this work came under the category of prevention against the incidence of infectious diseases. It was at once pointed out that it was impossible for me to afford the time necessary to undertake this work in all the elementary schools in the District, and it was suggested that this work should be carried out by the School Medical Staff, but the Denbighshire County Council Education Authority, in the first instance, were not agreeable to this policy. The matter was discussed fully by our local authority and it was later pointed out that, if we were to undertake the work ourselves, it would be necessary to appoint additional medical staff on a temporary basis, and it was suggested that if the personnel of our department was increased the staff in charge of the immunisation service should hold office for one year. It was, however, decided to make further representations to the Denbighshire County Council regarding this matter, and after further discussions the County Council agreed to undertake this

work through their School Medical Service (provided the charges for this service were borne by the Wrexham Rural District Council) seeing that the County Council were on the point of appointing an additional member to their Public Health and School Medical Staff. On the other hand it was agreed that I should carry on the immunisation work in the Secondary Schools.

It has to be pointed out that the Denbighshire County Council are immunising children of pre-school age at the Maternity and Child Welfare Centres though we have had no figures supplied to us as to the number of Rural District cases that have been immunised under this scheme. One of the conditions of the new arrangement is that we should be informed every quarter of the number of children immunised by them.

Taken as a whole this scheme appears to be a satisfactory one, seeing that even if the Rural District appointed extra medical assistants for one year it may be found necessary, at the end of that period, to extend their period of service. It may be that, at first, certain parents would be unwilling to have their children immunised owing to their prejudicial frame of mind, others also would no doubt refuse owing to the activities of the anti-vivisection party but undoubtedly this prejudice would in time diminish seeing that the influence of other parents could have a stronger influence upon them.

It may be of interest to note that of the cases of Diphtheria, very few if any had been immunised, and if they had been, their infection was only of a mild nature.

I have already pointed out the very large and continued decrease in the number of cases since last May, and this satisfactory state of affairs has lasted well into 1939—up to the end of the preparation of this Report—and there is every indication that it will continue to be satisfactory for quite a long period. This satisfactory state of affairs is a very potent argument, and valuable evidence, in favour of immunisation and should convince the most ardent anti-vaccinationist as to the value, if not the necessity, of protecting the youth of the country especially at a time when it is essential to conserve all our man-power in order to deal effectively with any emergencies that may arise. One feels certain that had there been a greater insistence upon immunisation there would have been fewer deaths at the Isolation Hospital than there were, and it has already been pointed out that the Diphtheria death rate in our area is higher than that for the whole kingdom, in fact, three times as high, although there was an improvement in the state of affairs during last year.

Compared with the value of human life and the avoidance of suffering caused by complications, the cost of immunisation is negligible, and the total cost borne upon our Council, without any remuneration from the parents, can be regarded as an example of some form of insurance.

Enteric Fever (including Paratyphoid).

One case of Paratyphoid Fever was notified during the year, and was admitted to the Isolation Hospital. The patient had been suffering from gastro-intestinal disturbances and diagnosis was confirmed by a blood test performed through the Public Health Department.

This case was an interesting one seeing that when it was admitted to hospital inquiries at the home did not reveal any condition which could have caused this infection, and a sample of water proved to be quite satisfactory and this could be excluded as a possible source of infection. It was only after three or four weeks after the patient was admitted to the hospital that it became known that the patient had consumed a tin of sardines, and that no one else in the family had shared it with her, although a dog who had presumably eaten any remains also showed signs of indisposition. It seems practically certain that this tin of sardines must have been infected with Para B., though it was obviously impossible to obtain a sample for analytical purposes seeing that the contents of the tin had been consumed nearly a month previous to these facts becoming known.

Encephalitis Lethargica.

No cases were notified during the year.

Erysipelas.

36 cases were notified during the year as compared with 24 during 1937. 9 of these cases were admitted to the Isolation Hospital and all recovered. 14 of these cases came from the parish of Rhos, 8 from Cefn, and 6 from Llay.

Measles.

Measles is not a notifiable disease in our district, and there were no deaths.

Influenza.

10 deaths occurred during the year, 6 being males and 4 being females, as compared with a total of 4 deaths during the previous year.

The death rate per 1,000 population was 0.15 as compared with 0.55 for 1937 and 0.11 for England and Wales.

Whooping Cough.

6 cases suffering from this complaint died during the year as against 3 during 1937. The death rate per 1,000 population was 0.1 as compared with 0.4 in 1937 and 0.03 for England and Wales.

Cholera and Dysentery.

No cases were notified during the year.

Smallpox.

No cases were notified during the year.

Poliomyelitis.

No cases were notified during the year.

Polio-Encephalitis.

2 cases suffering from this disease were notified during the year, but one of these had actually died previous to notification.

Puerperal Pyrexia.

9 cases were notified during the year as compared with 12 during 1937. The case rate per 1,000 population was 0.15 as compared with 0.19 in 1937. The case rate per 1,000 total births was 9.09 as compared with 11.3 in 1937 and 14.42 for England and Wales.

The Maternal Mortality rates will be found in the vital statistics given in page 4.

Pneumonia.

During the year 67 cases were notified as compared with 60 during 1937. The case rate per 1,000 population was 1.3 as compared with 0.9 in 1937 and 1.1 for England and Wales.

Of the total number of cases notified 26 occurred in Cefn, 9 each in Gwersyllt and Rhos, 7 in Ruabon, and 5 in Llay. 16 of these cases were notified from Council houses, and of these 7 were from Cefn, 3 from Gwersyllt, 2 from Rhos, and one each from Ruabon and Llay.

There were 48 deaths from this disease, 7 of which took place in Cefn, 5 each in Brymbo, Rhos, and Ruabon, and 4 each in Bersham, Gwersyllt and Llangollen Rural.

The question of notifying cases of Pneumonia has been discussed in previous reports and was also dealt with during the year by the Health Committee, when it was pointed out that the

medical practitioners in Cefn notified their cases very satisfactorily though practitioners in other parishes were not carrying out their statutory obligations as they should do. This fact is very markedly borne out if one compares the table of the local incidence of this disease with that of the deaths. There were 4 deaths from Pneumonia in Bersham but only one notification was received. In Brymbo no cases were notified but there were 4 deaths, and in this particular case the attention of the Health Committee was drawn to the fact that the medical practitioner in this parish is extremely remiss in his notifications, although there was some improvement during last year, due no doubt to the fact that he had received a letter from our local authority drawing his attention to his laxity in carrying out his duties in this respect. One case was notified in Gresford but there were 2 deaths. In Holt no cases were notified but one death occurred during the year. In Llangollen Rural parish 3 cases were notified but there were 4 deaths, and in the parish of Marchwiell there were no cases notified but one death was registered.

Judging from these facts one would have expected the number of notifications to have been much higher than it actually was, seeing that it is a well-known fact that all cases of Pneumonia do not die and thus a few cases, at least, would have recovered in every locality where the disease was prevalent.

Anthrax.

Two cases of anthrax in bovine animals were notified during the year by the Police authorities and confirmed by the veterinary officers, and although a few more notifications were received they were all accompanied by a cancellation form.

No cases of anthrax in human beings were notified during the year.

Ophthalmia Neonatorum.

Three cases were notified during the year. This disease is, in the first instance, notified direct to the County Medical Officer who ultimately forwards us supplementary copies of the notifications.

Prevention of Blindness.

It was not found necessary to take any action under Section 176 of the Public Health Act, 1936, with reference to the prevention of blindness or for the treatment of persons suffering from any disease or injury to the eyes.

TABLE V.

Table of Infectious and other Diseases notified and removed to the Isolation Hospital from Council Houses in the Wrexham Rural District during the year 1938.

Parish	Notified					Removed to Hospital				
	Diphtheria	Scarlet Fever	Erysipelas	Pneumonia	TOTAL	Diphtheria	Scarlet Fever	Erysipelas	Pneumonia	TOTAL
Bersham ...	1	3	—	—	4	1	2	—	—	3
Broughton ...	—	2	1	—	3	—	2	—	—	2
Brymbo ...	3	4	1	—	8	3	4	1	—	8
Cefn ...	12	1	—	7	20	12	—	—	—	12
Esclusham										
Below ...	4	4	—	1	9	4	4	—	—	8
Gresford ...	—	1	—	1	2	—	1	—	—	1
Gwersyllt ...	9	7	—	3	19	9	6	—	—	15
Llangollen										
Rural ...	—	—	—	1	1	—	—	—	—	—
Llay ...	4	6	2	—	12	4	6	2	—	12
Penycae ...	4	—	—	—	4	4	—	—	—	4
Rhos ...	4	2	4	2	12	4	2	—	—	6
Ruabon ...	1	1	—	1	3	1	1	—	—	2
Total	42	31	8	16	97	42	28	3	—	73

TABLE VI.

Prevalence of and Control over Infectious Diseases.*Notifiable Diseases during the Year.*

DISEASES.				Total cases Notified.	Cases admitted to Hospital	Total Deaths.
Small Pox	...	...	...	—	—	—
Diphtheria	...	...	...	225*	223*	14
Scarlet Fever		...	...	149	135	—
Enteric Fever (including Paratyphoid)				1	1	—
Puerperal Pyrexia	...	...		9	—	4
Pneumonia	...	...	...	67	1	48
<i>Other diseases generally notifiable</i>						
Encephalitis Lethargica			...	—	—	—
Polio-Encephalitis	...	...		2	—	1
Erysipelas	...	...	...	36	9	—
Acute Poliomyelitis	...	...		—	—	—
Tuberculosis	...	...	...	116	—	—
Total				605	369	111

* These figures include 5 observation cases and 8 cases of Tonsilitis which were notified to us as Diphtheria by the medical practitioner.

TABLE VII

The cases of Tuberculosis notified during the year.
Arranged according to ages,
also Total Deaths according to age.

AGE PERIODS.				NEW CASES.				DEATHS.			
				Pulmon-ary. M. F.		Non-Pul-monary. M. F.		Pulmon-ary. M. F.		Non-Pul-monary. M. F.	
YEARS											
0—1	...	...	...	—	—	—	2	—	—	—	2
1—5	...	...	...	—	—	1	5	—	—	2	2
5—10	...	...	...	1	—	5	5	—	—	—	—
10—15	...	...	...	2	3	2	—	1	2	—	—
15—20	...	...	...	6	8	2	—	3	—	—	—
20—25	...	...	...	7	8	2	—	2	3	—	1
25—35	...	...	...	13	10	2	5	7	3	1	—
35—45	...	...	...	5	6	—	1	4	—	—	—
45—55	...	...	...	7	—	—	—	—	—	1	—
55—65	...	...	...	4	3	1	—	6	4	—	—
65 and upwards	...	...	...	—	—	—	—	—	—	—	—
Totals				45	38	15	18	23	12	4	5

Tuberculosis.

On the 31st December, 1937 there were 955 cases on the registers, including 672 pulmonary cases and 283 non-pulmonary cases.

In my last Annual Report I dealt in full with certain discrepancies between the registers of our Health Department, those of the County Health Department, and those of the Tuberculosis Physician. During the year these discrepancies were attended to and at the end of the year there were only 699 cases on our registers, of which 479 were Pulmonary and 220 were Non-Pulmonary. The work of revision has not yet been completed, however, and there are still 396 cases which have to be investigated and this work is being carried out at the present time. It may be stated that, during the quarter ended 31st March, 1939, 176 cases were struck off the register, thus leaving 220 cases remaining to be traced.

During the year 116 new cases were notified, including 83 Pulmonary and 33 Non-Pulmonary. 60 cases were male, including 45 Pulmonary and 15 Non-Pulmonary cases, and 56 were female, including 38 Pulmonary and 18 Non-Pulmonary.

The greatest incidence of the disease was amongst persons between the ages of 35 and 45 years, where there were 30 cases ; 23 of which were Pulmonary and 7 Non-Pulmonary. 17 cases were between the ages of 20 and 25 years (15 Pulmonary and 5 Non-Pulmonary), and 16 cases were between the ages of 15 and 20 years, including 14 Pulmonary.

The fullest co-operation exists between the Tuberculosis Physician and our Department, and every step is taken, after the admission of patients to sanatoria and after death, to have the homes disinfected. Steps are also taken for the abatement of any sanitary defects which may be present in these houses. In such cases the bedding is thoroughly disinfected at the Isolation Hospital, where the necessary apparatus is kept. Certain cases of Tuberculosis have been granted the tenancy of council houses and one must appreciate the sympathetic attitude of the Housing Estates Committee with reference to the allocation of houses for these families, whenever these cases are brought to our notice as requiring alternative accommodation.

During the year a commission of inquiry was held with reference to the incidence of Tuberculosis in Wales under the presidency of Mr. Clement Davies, K.C., who was assisted by Dr. Coutts of the Ministry of Health. This was a lengthy inquiry, and it was soon found that in dealing with the question of Tuberculosis one could

not divorce the administration of the local authorities, especially in reference to health conditions, from the question of the incidence of this disease. The Committee had to take into consideration the steps which were being taken to prevent infection in Wales, and the findings of the Committee have recently been published. From this Report one finds that, as far as many local authorities are concerned, there is ample room for improvement with regard to the administration of Public Health services especially in relation to sanitation and the housing conditions of the districts concerned. Several local authorities were criticised in this respect, but one is pleased to state that no criticism was made of the administration of these services by the Wrexham Rural District Council.

It has to be pointed out that, for many reasons, the administration of the Housing and Public Health Acts in our district is a very much more difficult matter than that of a compact municipality or County Borough. Many aspects of Public Health administration were discussed during the inquiry such as housing (including action taken under Slum Clearance Schemes and the abatement of overcrowding) ; the inspection of farms and dairies ; the sampling of milk, and meat inspection.

Evidence was given, on behalf of the Rural District Councils of North Wales by our Chairman, Alderman E. A. Cross, and evidence was submitted that as far as our district was concerned a great deal of useful work was being carried out under the categories mentioned above.

During the year a large amount of work was done under the Housing Act, 1936, especially regarding the demolition of unfit houses and in quite a number of cases of families infected with Tuberculosis there was definite evidence that the housing conditions under which they were living were detrimental to their health. These cases were not only living in unfit houses but under conditions of grave overcrowding and—as I have previously stated—a certain number of these cases were transferred to council houses where their environmental conditions would be greatly improved.

The question of allocating council houses to families suffering from Tuberculosis other than those living in condemned houses has also been attended to and, as I have already indicated, the appropriate committee adopted a sympathetic attitude towards these cases.

Of the 116 new cases notified, 55 were notified by medical practitioners and 61 were notified by the Tuberculosis Physician, who also confirmed the majority of those notified by the practitioners.

I need hardly repeat my expression of appreciation of the co-operation of the Tuberculosis Physician and his staff with our department: I need only refer to the fact that they are always willing to assist us whenever such assistance is required.

Public Health (Prevention of Tuberculosis) Regulations, 1925.

It was not found necessary to take any action under the above-named Regulations, and no notices were served under Article 5, and no compensation was paid.

Public Health Act, 1936, Section 172.

No action was taken during the year with reference to this section.

TABLE VIII.

Table showing cases of Ophthalmia Neonatorum notified during the year.

	CASES.			Vision Unimpaired.	Vision Impaired.	Deaths.	Total Blindness.
	Notified.	Treated.					
		At Home.	In Hospital				
OPHTHALMIA NEONATORUM.	3	—	3	3	—	—	—

TABLE IX.

**NUMBER OF INFECTIOUS AND OTHER NOTIFIABLE
DISEASES NOTIFIED DURING THE YEAR.**

Arranged according to age.

Disease.	Under 1 year.	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 and upwards	TOTAL.
Diphtheria	...	...	7	15	13	80	49	24	27	9	1	...	225
Scarlet Fever ...	2	1	11	16	10	69	25	6	9	...	...	...	149
Erysipelas	...	...	...	...	...	...	...	1	4	10	16	5	36
Enteric Fever ... (includ'g Paratyphoid)	...	...	...	...	...	...	...	...	1	...	...	...	1
Puerperal Pyrexia ...	...	...	...	...	...	..	...	...	8	1	...	...	9
Pneumonia	1	2	2	1	2	10	3	4	12	12	13	5	67
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...
Encep'litis L'argica ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polio- Encephalitis ...	...	...	...	...	...	1	...	1	...	...	...	...	2
<i>Tuberculosis</i>													
Pulmonary	...	...	...	...	...	1	5	14	38	11	14	...	83
Non-Pulmonary ...	2	1	5	...	...	10	2	2	9	1	1	...	33
Totals...	5	4	25	32	25	171	84	52	108	44	45	10	605

VACCINATION RETURNS.

The following figures relating to Vaccination against Smallpox were kindly supplied to me by Dr. H. Arwel Thomas, County Medical Officer of Health. It should be noted that this Table is in relation to the Rural District and Borough of Wrexham.

	1936	1937	1938
Total Births	1412	1356	1381
Successfully Vaccinated	247	235	425
Insusceptible	3	—	1
Conscientious Objectors	945	920	923
per cent	66.9	67.8	66.8
Died Unvaccinated	79	62	66
Postponed by Medical Certificate	39	37	45
Removed	76	85	108
Unaccounted for	26	17	23

ISOLATION HOSPITAL.

The Isolation Hospital is under the jurisdiction of the Wrexham Rural District Council, but is administered by the Joint Fever Hospital Committee. The Local Authorities contributing to the upkeep of the Hospital, and those which are represented on the Joint Fever Hospital Committee are as follows ; Wrexham Rural District Council, Wrexham Borough Council, Llangollen Urban District Council, Overton Rural District Council, Hiraethog Rural District Council, Ruthin Borough Council, and Ruthin Rural District Council.

On the 1st January, 1938 there remained in the Isolation Hospital 68 cases, including 26 of Scarlet Fever, 39 of Diphtheria, one Erysipelas, and 2 of Tonsillitis. Of these, 45 came from the Wrexham Rural District ; 18 from the Borough of Wrexham ; 2 from Ruthin Rural District ; 2 from Edeyrnion Rural District ; and one from Hiraethog Rural District.

During the year, 547 cases were admitted, as compared with 840 during the previous year and 904 during 1936. It is thus seen that there has been a steady decrease in the number of admissions during the last three or four years. Of the total number of admissions, 208 were suffering from Scarlet Fever ; 300 from Diphtheria ; one from Para-Typhoid (B) Fever ; 13 from Erysipelas ; and 13 from Tonsillitis. There were, in addition to these, 5 observation cases of Diphtheria. It should be stated that the majority of the cases of Tonsillitis were notified to the local authority as Diphtheria.

In addition to these cases, there was also one case of German Measles ; one case of Broncho Pneumonia ; one case of Meningitis ; one case of Quinsy ; and two observation cases of Cerebro-spinal Meningitis admitted to the Hospital.

373 of these admissions were from the Wrexham Rural District, as compared with 551 during 1937 ; 130 cases were admitted from the Borough of Wrexham, as compared with 226 during 1937, and 21 cases were admitted from the Ruthin Rural District as compared with 49 during the previous year. One case was from Llangollen Urban District ; 3 from Overton Rural District ; 6 from Ruthin Borough ; 5 from Hiraethog Rural District ; 6 from Edeyrnion Rural District ; and 2 from Hawarden Rural District.

557 cases were discharged during the year, and on 31st December, 1938 there were 34 cases remaining in hospital—23 Scarlet Fever cases, 10 Diphtheria cases, and one case of Tonsillitis. 21 of these cases were from the Wrexham Rural District ; 8 from the Borough of Wrexham, and 5 from Ruthin Rural District.

24 deaths occurred in the Isolation Hospital during the year. 22 were from Diphtheria, one from Meningitis, and one from Broncho-Pneumonia. 16 of the deaths were in reference to Wrexham Rural District cases and 6 were in reference to Wrexham Borough cases. One case of Diphtheria from Ruthin Borough, and one from Ruthin Rural District also died.

The Para-typhoid (B) case was an interesting one in that it was discovered, after the patient had been discharged, that she had been infected through eating tinned sardines.

It will be noticed that during the year 6 cases were admitted from Edeyrnion Rural District, but these cases are only admitted when there is accommodation available, care being taken that there will also be sufficient reserve accommodation for cases from local authorities represented on the Joint Fever Hospital Committee. A similar state of affairs occurred with the Hawarden Rural District from where 2 cases were admitted.

One very interesting fact revealed during the year was that from March onwards there was a very substantial reduction in the number of admissions. Of the total 547 admissions, 202 were during the first 3 months of the year, and during the remaining nine months the admissions were on four occasions, below 40 per month, and during no month of this period did the number of admissions exceed 43. The best month of the year, as far as the

number of admissions was concerned, was June when there were only 28. Taken as a whole, the cases admitted between April 1st and December 31st were of a mild character as indicated by 19 cases, namely, 5 observation Diphtheria cases, 13 Tonsillitis, and one of Quinsy, all of which were admitted as Diphtheria but were found upon admission, not to be suffering from this disease.

It is surprising how often cases of follicular Tonsillitis are mistaken for cases of Diphtheria, and although these cases clear up rapidly one has always to bear in mind the possibility of rheumatic complications which may follow.

I need hardly state that modern methods of treatment are continually being adopted and with very successful results. The Prontosil treatment of Scarlet Fever and Erysipelas is proving of great value and there were no deaths from these diseases during the year.

The question of Diphtheria is bound up by two factors. Firstly, the date of admission to hospital as compared with the stage of the disease, and in this connection it can be stated that quite a number of cases are admitted in a late stage and a certain number of these give us no possible chance of recovery and this is, in some cases, due to the delay on the part of the parents in obtaining medical advice. Secondly, the intensity of infection: some cases do improve for a day or two but fall back eventually owing to a most virulent type of infection.

During the year 1,952 swabs were examined as compared with 2,822 during 1937. Of these, 1,729 were negative and 223 were positive. 1,224 of these swabs were taken from patients whilst they were in the Isolation Hospital, this making an average of 4 swabs per patient. Of the total number of swabs examined, 343 came from the Wrexham Rural District (41 being positive); 311 from the Borough of Wrexham (17 being positive) and 74 from Overton Rural District (2 being positive). With reference to the swabs from the Overton Rural District, it is of interest to note that there was one patient who had been immunised against the disease during the year, and in certain cases repeated swabs were taken from patients by the Medical Officer of Health.

With reference to the nursing staff, one can only state that the work done by the Matron, Miss H. M. Davies, and the Assistant Matron, Miss E. H. Humphreys, and the work done by other members of the staff has been extremely satisfactory, due regard being paid to the emergency calls on their services which arise from time to time. The staff consists of the Matron, Assistant

Matron, three Sisters for day duty, one Supervising Sister for night duty, four Staff Nurses, four Assistant Nurses, and eight Probationer Nurses. One must acknowledge that the clinical experience of the Isolation Hospital is most invaluable in the training of Probationer Nurses.

One important feature of the hospital work is the fact there is a highly qualified Oto-rhino-laryngologist in Mr. A. D. Aiyar, who attends the hospital and sees any condition of the ear, nose and throat which may require attention, and I must acknowledge the great help that Mr. Aiyar gives in cases requiring special diagnosis and treatment.

As stated in my last Annual Report, there is still some doubt as to what is to happen to the Isolation Hospital seeing that the Denbighshire County Council have not yet completed their investigations, but it does appear that we will remain as we are, for some time at least.

During the latter months of the year one other important factor has come into the limelight with reference to the hospital, and that is the arrangements that will have to be made in order to deal with the evacuation of children from the areas which will be evacuated in the time of national emergency. It is estimated that some 7,000 to 8,000 children will be entering the Rural District if ever the occasion arises, and it will be necessary to make some preparations for the additional number of admissions to the hospital, which may accrue from the large influx of young population ; especially as the majority of the evacuees will be of a susceptible age (between 3 and 10 years).

During the year it was found necessary to purchase a new ambulance, and it is of interest to note that, both in the case of the Austin and Bedford vehicles, we have had a certain amount of trouble owing to the excessive wear of the rear tyres which are, it is stated, not heavy enough for the weight of the rear axles when loaded. It is unfortunate that this should occur on two occasions during recent years, and it does suggest that the makers of ambulances should have such details in mind during their construction.

Isolation Hospital Report for year ending 31st December, 1938

Particulars of Admissions, Discharges, etc.

	Wrexham Rur. Dist.	Wrexham Borough	Llangollen Urb. Dist.	Overton Rur. Dist.	Ruthin Borough	Ruthin Rur. Dist.	Hiraethog Rur. Dist.	Edeyrnion Rur. Dist.	Hawarden Rur. Dist.	TOTAL
Remaining in Hospital 31st December 1937..										
Scarlet Fever	20	6	0	0	0	0	0	0	0	26
Diphtheria	25	11	0	0	0	1	0	2	0	39
Erysipelas	0	1	0	0	0	0	0	0	0	1
Tonsillitis	0	0	0	0	0	1	1	0	0	2
Total	45	18	0	0	0	2	1	2	0	68
Admitted during the year.										
Scarlet Fever	135	53	1	2	1	10	5	0	1	208
Diphtheria	210	72	0	1	5	9	0	2	1	300
Observation Typhoid Fever ...	0	0	0	0	0	0	0	2	0	2
Typhoid Fever.....	1	0	0	0	0	0	0	0	0	1
Observation Diphtheria	5	0	0	0	0	0	0	0	0	5
Erysipelas	9	4	0	0	0	0	0	0	0	13
Tonsillitis	10	0	0	0	0	1	0	2	0	13
German Measles	0	0	0	0	0	1	0	0	0	1
Broncho-Pneumonia	1	0	0	0	0	0	0	0	0	1
Meningitis	1	0	0	0	0	0	0	0	0	1
Quinsy	1	0	0	0	0	0	0	0	0	1
Cerebro-spinal Meningitis (obs.)	0	1	0	0	0	0	0	0	0	1
Total	373	130	1	3	6	21	5	6	2	547
Discharged during the year.										
Scarlet Fever	142	53	1	2	1	6	5	0	1	211
Diphtheria	214	75	0	1	4	8	0	4	1	307
Observation Typhoid Fever ...	0	0	0	0	0	0	0	2	0	2
Typhoid Fever	1	0	0	0	0	0	0	0	0	1
Observation Diphtheria	5	0	0	0	0	0	0	0	0	5
Erysipelas	9	5	0	0	0	0	0	0	0	14
Tonsillitis	9	0	0	0	0	2	1	2	0	14
German Measles	0	0	0	0	0	1	0	0	0	1
Broncho-Pneumonia	0	0	0	0	0	0	0	0	0	0
Meningitis	0	0	0	0	0	0	0	0	0	0
Quinsy	1	0	0	0	0	0	0	0	0	1
Cerebro-spinal Meningitis (obs.)	0	1	0	0	0	0	0	0	0	1
Total	381	134	1	3	5	17	6	8	2	557
Remaining in Hospital 31st December, 1938.										
Scarlet Fever	13	6	0	0	0	4	0	0	0	23
Diphtheria	7	2	0	0	0	1	0	0	0	10
Tonsillitis	1	0	0	0	0	0	0	0	0	1
Total	21	8	0	0	0	5	0	0	0	34
Deaths during the year.										
Diphtheria	14	6	0	0	1	1	0	0	0	22
Meningitis	1	0	0	0	0	0	0	0	0	1
Broncho-Pneumonia	1	0	0	0	0	0	0	0	0	1
Total	16	6	0	0	1	1	0	0	0	24

Removed to the Isolation Hospital.

TABLE X.

NOTIFICATIONS.

PARISH.	Acute Polio-Encephalitis	Diphtheria	Scarlet Fever	Enteric Fever	Puerperal Pyrexia	Erysipelas	Encephalitis Lethargica	Pneumonia	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Cerebro-Spinal Fever	Dysentery	Malaria	Total	Diphtheria	Scarlet Fever	Erysipelas	Pneumonia	Enteric Fever (including Para-Typhoid)	Total
Abenbury	...	2	1	...	...	...	...	...	...	...	...	...	...	3	2	1	...	...	...	3
Allington	...	8	13	...	...	...	...	1	4	...	...	...	...	26	8	10	...	...	...	18
Bersham	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1
Birston	...	20	17	...	2	2	...	1	3	3	...	...	...	49	20	16	1	...	...	37
Broughton	...	15	19	...	...	...	...	...	4	2	...	...	...	40	15	19	...	...	...	34
Brymbo	...	5	...	1	...	...	...	2	1	...	...	...	...	9	5	...	...	...	...	5
Burton	...	48	14	...	1	8	...	26	17	4	...	...	...	118	47	11	...	...	...	58
Cefn	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erbistock	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erddig	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1
Esclusham Above	...	7	9	...	...	1	...	1	3	1	...	...	...	22	7	9	...	...	...	16
Esclusham Below	...	1	5	...	...	...	...	1	1	...	...	...	...	8	1	5	...	...	...	6
Gresford	...	27	29	...	2	...	...	9	5	5	...	...	...	78	27	26	...	...	...	53
Gwersyllt	...	1	1	...	...	...	...	...	...	1	...	...	...	2	...	1	...	...	...	1
Holt	...	...	3	...	...	...	...	...	...	1	...	...	...	4	...	...	...	...	...	...
Isycoed	...	4	...	...	...	2	...	3	11	3	...	...	...	23	4	2	1	1	...	7
Llangollen Rural	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Llantysilio	...	31	13	...	...	6	...	5	3	...	...	...	...	58	31	11	5	...	...	47
Llay	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...
Marchwiel...	...	...	1	...	...	...	...	...	1	1	...	...	...	2	...	1	...	...	...	1
Minera	...	6	4	...	...	1	...	2	5	2	...	...	...	20	6	4	...	...	...	10
Penycae	...	38	14	...	2	14	...	9	15	7	...	...	...	99	37	13	...	...	1	53
Rhosllanerchrugog	...	11	6	1	1	2	...	7	9	3	...	...	...	40	11	6	...	...	...	17
Ruabon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sesswick	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	2	225	149	1	9	36	...	67	83	33	...	...	...	605	223	135	9	1	1	369

Ambulance Facilities.

The Motor Ambulance travelled a distance of 11,745 miles during the year, as against 14,650 miles during 1937.

Disinfection of Infected Clothing.

During the year the following articles were disinfected at the Isolation Hospital, viz. :—

From Private Houses :—Sheets 34 ; Pillow Cases 115 ; Bed Spreads 30 ; Blankets 97 ; Mattresses 44 ; Other Clothing and Articles 131 ; Pillows 157 ; Beds 100 ; Bolsters 71 ; Counterpanes 48 ; Bolster Cases 65.

From Isolation Hospital :—Beds and Mattresses 387 ; Cots and Mattresses 80 ; Pillows 531. All patients' clothing upon discharge.

Laboratory Work.

Facilities are available for bacteriological examinations as follows :—

ISOLATION HOSPITAL LABORATORY. For Diphtheria swabs. This is the only public laboratory in the County of Denbighshire.

WELSH NATIONAL MEMORIAL ASSOCIATION. Examination of sputa in Tuberculosis cases. The laboratory is in Cardiff.

The examination of blood serum in cases of Typhoid Fever is undertaken by the Clinical Research Association, London.

Samples of Milk are sent for examination to the Pathological Department, Chester Royal Infirmary or the Pathological Department of the Wrexham War Memorial Hospital. In certain cases they are sent to the School of Agriculture, University College of North Wales, Bangor.

Samples of water for chemical and bacteriological examination, and serum for widal investigations are sent to the Clinical Research Association, London.

There are no facilities in Wrexham and district for the examination of pathological material other than bacteriological, except where such is undertaken at the Wrexham and East Denbighshire War Memorial Hospital by Mr. Ellis, or by Dr. Grace at the Chester Royal Infirmary.

Diphtheria Anti-toxin is supplied from the Isolation Hospital to Medical Practitioners on demand.

WORK DONE AT THE ISOLATION HOSPITAL LABORATORY DURING THE YEAR.

	Positive	Negative	Total
Throat swabs submitted by doctors	60	668	728
Throat swabs of Hospital patients	163	1061	1224
Total ...	223	1729	1952

Tuberculosis Clinic.

The Consultation Clinic under the control of the King Edward VII Welsh National Memorial Association is situated in Grosvenor Road, Wrexham. The Clinic is open on two days a week, though appointments may be made at other times.

Venereal Diseases.

The diagnosis and treatment of Venereal Diseases is now undertaken by the Denbighshire County Council. A clinic is open at the Wrexham and East Denbighshire War Memorial Hospital on two days a week.

Day Nurseries and School Clinics.

There are no Day Nurseries or School Clinics in the Rural District of Wrexham.

Hospital Accommodation.

(1) TUBERCULOSIS. There are beds available for Wrexham and District cases in the Sanatoria of the Welsh National Memorial Association at Talgarth (men); Llangwyfan (women and children); and Meadowslea Hospital (men and women).

The surgical and orthopaedic treatment of Tuberculosis is attended to at the Llangwyfan Sanatorium.

(2) INFECTIOUS DISEASES. The treatment of infectious diseases is carried out at the Wrexham Isolation Hospital, which is owned by the Wrexham Rural District Council. It is administered by a joint Committee of representatives from the following Local Authorities, viz.:—Wrexham Rural District Council, Wrexham Borough Council; Llangollen Urban District Council; Overton Rural District Council; Hiraethog Rural District Council; Ruthin Borough Council; Ruthin Rural District Council, for all of which authorities beds are available.

Based upon the Ministry of Health Regulation, as to cubicle space per bed, there is accommodation for 92 beds and also 12 cots.

(3) GENERAL (a) Wrexham and East Denbighshire War Memorial Hospital, 137 beds.

(b) Croesnewydd Hospital (under the control of the Denbighshire County Council) 168 beds and 4 cots.

(4) MATERNITY. Ruabon Maternity Hospital, 12 beds.

(5) SMALLPOX. A Hospital for the isolation and treatment of Smallpox cases is situated at Rhydtalog, in the County of Flint, under the administration of the Denbighshire County Council. 12 beds.

(6) ORTHOPAEDIC. The diagnosis and after-care treatment of Orthopaedic cases is carried out at the County Health Clinic, Grosvenor Road, Wrexham, supplemented by institutional treatment at the Orthopaedic Hospital, Gobowen, in conjunction with which there has been formed the Denbighshire Voluntary Orthopaedic Association, which has done excellent work in providing treatment and admission to the Hospital.

(7) ARTIFICIAL LIGHT CLINIC has been established at the local Tuberculosis Dispensary.

(8) PRIVATE NURSING HOMES. There are three Private Nursing Homes in the area, two of which at least take in Maternity cases.

Ambulance Facilities.

(1) INFECTIOUS CASES. Two Motor Ambulances; attached to the Wrexham Isolation Hospital, are available for the transport of cases suffering from Infectious Diseases.

(2) NON-INFECTIOUS AND CASUALTY CASES. Two motor ambulances attached to the local branch of the St. John Ambulance Corps, are available for the transport of casualty and non-infectious cases to and from the general hospitals in the district.

PUBLIC HEALTH OFFICERS OF THE WREXHAM RURAL DISTRICT COUNCIL.

Medical Officer of Health.

The Medical Officer of Health, Dr. T. P. Edwards, holds the appointments of M.O.H. for the Wrexham Rural District and Borough Councils, Medical Superintendent of the Isolation Hospital, and School Medical Officer for the Borough of Wrexahm. All his duties make a full-time appointment.

Sanitary Inspectors.

Mr. D. Thomas is the Senior Sanitary Inspector, and there are four Divisional Sanitary Inspectors, namely, Mr. T. Owen Jones for the Northern Division ; Mr. H. Cecil D. Jones for the Southern Division ; Mr. Stanley Davies for the Eastern Division ; and Mr. John Evans for the Western Division.

Temporary Assistant Sanitary Inspectors.

One Assistant Sanitary Inspector is employed as assistant to the Senior Sanitary Inspector with reference to the detailed work carried out under the Housing Act, 1936, with special reference to clearance areas and individual unfit houses.

In addition to the above-mentioned assistant, two other pupils were successful during the year in obtaining the Certificate of the Royal Sanitary Institute and they were also retained as Assistant Sanitary Inspectors on a temporary basis. During the later months of the year, however, one was successful in obtaining an appointment as Sanitary Inspector under another local authority.

Pupils.

Another pupil in our department was also successful in obtaining his Sanitary Inspector's Certificate under the Royal Sanitary Institute, but as he is under 21 years of age, he has to wait until he attains that age before receiving same.

Clerical Staff.

There are two Clerks in our department: one is in charge of the general clerical work, and the other in charge of the clerical work connected with the duties of the Senior Sanitary Inspector.

SUMMARY OF NURSING ARRANGEMENTS.

Hospital and other Institutions available for the District.

Professional Nursing.

(a) GENERAL. Voluntary Nursing Associations are established in the larger Parishes of the Rural District, with the object of providing one or more nurses for the home visiting of the sick, infectious diseases being excluded. The areas possessing voluntary Nursing Associations, with the number of nurses employed by each is as follows, viz. :—

Brymbo	...	...	1	Holt...	...	...	1
Broughton	...	...	2	Llay	...	...	2
Bwlchgwyn	...	...	1	Penycae	...	...	1
Cefn	...	...	2	Rhos	...	...	1
Coedpoeth and Minera	...	...	1	Rossett	...	...	1
Esclusham Below	...	...	1	Ruabon	...	...	1
Gwersyllt	...	...	1	Trefor, Garth and	...	...	
Gresford	...	...	1	Froncysyllte	...	...	1

(b) INFECTIOUS DISEASES. There are no arrangements, either voluntary or official, for the Nursing of cases of Infectious disease in the home, except as may be decided in emergencies by the District Council.

Midwives.

There are 41 midwives practising in the Rural District. They are under the control of the Denbighshire County Council.

Health Visitors.

There are 7 Health Visitors and one School Clinic Nurse employed in the Rural District on Maternity and Child Welfare and School Medical work. They are under the control of the Denbighshire County Council.

CLINICS & TREATMENT CENTRES.

Maternity and Child Welfare Clinics.

These are established at the following villages in our area :—

Brymbo.	Coedpoeth.	Rhos.
Broughton.	Llay.	Southsea.
Cefn.	Rhosrobin.	Rhostyllen.

SANITARY CIRCUMSTANCES OF THE AREA. WATER SUPPLY.

There are four Water Companies in the area, one Town Trust, and two other concerns provided and maintained by the local authority itself.

Naturally, in such a large area as ours—especially since its extension in 1935—the question of Water supply is necessarily complicated, and one does strongly hold in mind the opinion that the various concerns connected with this branch of public health should be under one control, though naturally the water companies would be averse to such a scheme being adopted.

During the year 22 samples of water were taken from the water supplies in the Rural District; 12 from the supplies of the Water Companies, and 10 others from wells and spouts. In addition to these, however, two other samples of water were taken from a stream which was proposed to be used for drinking purposes. Hence the total number of water samples taken was 24.

During the Springtime and also in September very little rain fell, otherwise the rainfall was fairly uniform throughout the year.

Wrexham and East Denbighshire Water Company.

No samples of water were taken from the supplies of this Company during the year. All samples taken during previous years have been of an exceptionally high standard of purity, and we are convinced that the Company is doing everything in their power to keep up the excellent standard which they have attained in their supplies.

During the year a great deal of work was carried out to increase their water supply from Ty Mawr Reservoir, though there is still some work to be completed at Pant Glas.

I have already indicated that this work is being carried out in collaboration with the Ruabon Water Company, and it is only the excess water which is not required by the latter which is to be stored at this reservoir.

Brymbo Water Company.

Two samples of water were taken during the year from the supplies of this Company. The first one was satisfactory but the second—taken four months later—contained a few B. Coli. The water on both occasions, however, was regarded by the analyst as fit for drinking purposes.

During the year a large amount of discussion took place at the meeting of the Health Committee due to the lack of pressure in certain houses supplied by this concern.

The Denbighshire County Council have been busily engaged in widening Hill Street, the main road through Broughton, and when certain water mains were taken up they were found to be occluded and were replaced by new ones. The complaints re shortage of water were received from house-holders living in Broughton and Coedpoeth, and a tour of inspection was made by the health officials together with the Engineer, and we could not detect any signs of shortage except those due to the service pipes being of small calibre, and one could not blame the Company for any lack of pressure to these houses.

Certain members of the Health Committee referred to the fact that, many years ago, the Brymbo Water Company was allowed to increase its water rates on the understanding that they were to improve their mains service and the allegation is that this condition has not been adhered to.

Representations have been made to the Company, acting upon instructions of the Health Committee, to expose the mains in certain of these areas in order to detect whether they are functioning properly, but up to the present this permission has not been granted. The Company point out that in certain of these areas some defects were found by their own staff and were at once corrected.

During the year the Company have built additional filtration works in the Nant y Ffrith Valley, and during our recent inspection of the water sheds with the Company's officials one could not detect any condition which required attention.

Ruabon Water Company.

Four samples of water were taken during the year. One sample, taken in March, was found to be very satisfactory but in two of the samples—one taken the previous month and another taken in September, the reports were not so good. They were, however, regarded as satisfactory by the analyst. These reports indicate some adventitious pollution other than excremental. The fourth sample was taken with reference to a case of Paratyphoid Fever already referred to earlier on in this report. This sample was taken immediately the patient was admitted to the Isolation Hospital and the report stated that the water was reasonably safe for drinking purposes but not entirely satisfactory. The analyst suggested that the filters were not acting as well as they should. The bacterial count in this sample was extremely low though *B. Coli* and *Streptococci* were found to be present.

Since this sample was taken visits have been made to these works and on no occasion was there any obvious source of pollution present in the gathering ground but naturally one cannot follow the water through the battery of sandy filters.

The Company was advised to take samples of the water before and after it entered the filters.

Cefn Water Company.

Three samples of water were taken during the year from the water supplies of this Company.

One of the samples taken from the top of Cefn, was found to be excellent in quality. A sample taken from the Trevor end of the parish shewed the presence of B. Coli and B. Coli aerogenes, but the water was regarded fit for drinking purposes.

The third sample was taken from Quarry Place, Newbridge, and resulted in a lengthy controversy affecting our Council, the Parish Council, and the Cefn Water Company. The analyst found B. Coli and Streptococci present in 1 c.c. and the bacterial count was relatively high. The analyst was of the opinion that the sample was taken from the raw water before chlorination, and that the water could not be regarded as satisfactory for drinking purposes. It has, however, to be pointed out that the water is subjected to a continuous process of chlorination and we have no evidence that this process was interrupted at any time.

Certain works were carried out by the Company in this locality, and a sample taken from the same locality in the early months of 1939 shewed that the water was satisfactory.

A visit has also been paid to the gathering ground, reservoir, and the chlorination plant of this Company, and we health officials were struck by the large amount of detailed work that had been carried out during the last year or two with a view of preventing any pollution of the water, and safeguarding the passages to the reservoirs.

One of the reservoirs has been entirely cleansed out and certain improvements were made to all of them.

Nothing has been done with reference to the purchase of this Company by our Council. This is a matter which has been discussed for very many years and, although the principle of purchase has been approved by the Council, no further action has been taken by the Council.

The Company have withdrawn any offer which they had previously made, and if this purchase is to be carried out it will

be necessary to enter into fresh negotiations. If it does materialise it will necessitate extensive construction work with reference to an increased storage of water, and the thorough modernisation of the mains throughout the district, and, undoubtedly, the cost of this modernisation would be more expensive than the purchase of the Company's undertaking.

Another matter is that if the Council do purchase this supply it will necessitate an increase in rates for the inhabitants, seeing that at the present moment the charges for water supply are based on a very old Act of Parliament and are absurdly low. I feel certain that the inhabitants, however, would be only too willing to pay an extra rate, provided they received the assurance that there would be a more plentiful supply of water of a consistently high standard of purity.

Holt Town Trust.

One sample of water was taken and was found, as usual, to be of an excellent standard of purity both chemically and bacteriologically.

Reference was made in my last Report to the complaints received of the insufficiency of the supply, due to the deposit of lime in the pipes. This matter was reported to the Holt Town Trust and was attended to. No further complaints of this nature have since been received.

Garth Water Supply.

One sample of water was taken from this locality and was found to be of excellent quality and with a very low bacterial count.

Froncysyllte Water Supply.

One sample was taken during the year and was found to be of excellent quality, with a low bacterial count and a moderate degree of temporary hardness.

Bryn Ddol Water Supply (Parish of Llantiyslio.)

Three samples were taken during the year with reference to a supply of water for this area.

One sample was found to be of excellent quality. The other two samples were taken from the Coed Drwg River: the first was taken during May and was found to be grossly polluted—the excremental matter being obviously derived from the neighbouring farms on the higher levels of the river. The second sample, taken during September, was found to be fit for drinking purposes though there was a certain amount of B. Coli present.

Schemes for the provision of a water supply for this hamlet have been prepared and submitted to the Council, but not one of them has been adopted owing to the large expense which would be incurred for the provision of a few houses. It was pointed out, however, that the population of this hamlet increases rapidly during the summer months due to the influx of holiday makers. The matter is still under consideration and there is no doubt that any scheme adopted will entail a great amount of expense due to the large amount of piping required to minimise the risks of pollution, one source of which is situated at a height of 900 feet above sea level, although the hamlet itself is only some 450 feet above sea level.

Erbistock Water Supply.

Three samples of water were taken from this parish; two from a well in Manley Hall and the other one from a water spout.

These waters were regarded as reasonably safe for drinking purposes.

A large amount of work has been done in this area to obtain a suitable supply of water for the inhabitants, and although the Council have agreed to a scheme it has not been proceeded with without first sending it up to the Denbighshire County Council with a view of obtaining a grant from it. So far, however, we have had no further communication regarding the matter.

The District Council is now in the course of erecting a few Council Houses in this Parish, and it is of interest to note that a large supply of water has been obtained with the assistance of a water diviner.

Isycoed Water Supply.

No sample of water was taken from this Parish during the year, but the scheme prepared for this locality has been submitted to the Denbighshire County Council but we have not yet received any further communication about the matter.

Bryn Rhug (well water).

A sample of water was taken from Bryn Rhug with a view of obtaining evidence in reference to the proposed demolition of eight houses in this locality under a slum clearance scheme.

The water was obtained from a well situated below some steps leading to the houses scheduled for demolition. It was found to be grossly polluted. These houses have since been demolished, after confirmation of the demolition orders by the Ministry of Health.

Afoneitha, Penycae (well water).

A complaint was received that sewage matter was entering a well at Afoneitha, in the Parish of Penycae. A sample of water from this well, however, was satisfactory and did not substantiate this complaint.

Eyton Water Supply (well).

A sample of water was taken from a well in Eyton and was found to be excellent in quality.

Nant Road, Coedpoeth (well).

A sample of water was taken from a well by the mountain-side and was found to be polluted. This well is situated in a wall immediately beneath a garden, and arrangements have been made for an extension of the Brymbo Water Company's mains to this locality.

Bwlchgwyn, Water Supply (Parish of Brymbo).

Two samples of water were taken during the winter months from a well at Mount Pleasant, Llanarmon Road, Bwlchgwyn and from Ffynnon y Ceirw, on the Bwlchgwyn to Brymbo Road. Both samples were polluted.

The Mount Pleasant well was closed and arrangements made for a supply of water to be obtained from the Brymbo Water Company to the houses affected.

The Ffynnon y Ceirw well is situated in a farm-yard and appropriate action has been taken.

ANALYST'S REMARKS.

**With reference to the Chemical and Bacteriological Analysis
given on pages 52—59.**

Brymbo Water Company's Supply (from Hill Street, Broughton).

—Sample 1.

From a consideration of the combined results the water may be considered satisfactory for drinking purposes.

Brymbo Water Company—Sample 2.

The sample contains a few B. Coli but from a consideration of the combined results we are of the opinion that this water is fit for drinking purposes.

Ruabon Water Company—Sample 3.

The sample contains a little brown deposit which on microscopical examination is seen to be composed of earthy matter together with infusoria flagellates, filamentous and other bacteria.

The chemical results show no evidence of pollution but the bacteriological results show a few organisms of excremental types to be present.

The water, however, is reasonably safe for drinking purposes but would appear to be imperfectly filtered at the present time.

Ruabon Water Company (Penycae Supply).—Sample 4.

The results show this water to be of very good quality and quite satisfactory for drinking purposes.

Ruabon Water Company.—Sample 5.

The chemical analysis shows that the sample is of an acceptable standard, the figures differing but little from the previous report (see sample 4) except in regard to the oxygen absorbed and the increase is probably due to some vegetable matter.

The bacterial counts are satisfactorily low and the few B. Coli present are not sufficient to be indicative of sewage pollution. There is also disproportion between these and the number of Streptococci present suggesting some adventitious source rather than excremental pollution as such.

Taking the combined results into consideration the water may be regarded as reasonably safe for drinking purposes.

Ruabon Water Company (Rhosmadoc Supply).—Sample 6.

The chemical results are much the same as usual but the bacteriological examination shows no improvement and it would appear that the filters are not acting as well as they should.

The water may be regarded as reasonably safe for drinking purposes, but it is not entirely satisfactory.

Cefn Water Company (Australia Terrace Supply)—Sample 7.

The chemical results do not show any definite evidence of animal pollution but the figure for Ammoniacal Nitrogen is slightly raised.

The bacteriological results show the presence of a few B. Coli but these are in such small numbers that the water may be regarded as reasonably safe for drinking.

Cefn Water Company (Crane Street Supply).—Sample 8.

The results show this water to be of very good quality and quite satisfactory for drinking purposes.

Cefn Water Company (Quarry Terrace Supply).—Sample 9.

The chemical results are satisfactory and do not differ much from those of sample 8.

In view of these chemical results and on comparison with the former report, it occurs to us that perhaps the bacteriological sample has been taken from the raw water before chlorination. Judged on the figures obtained for this part of the examination it could not be considered satisfactory for drinking in its present condition.

Holt Town Trust.—Sample 10.

The chemical analysis compares favourably with the previous sample (taken in 1937), and the combined chemical and bacteriological results show that the water is satisfactory for drinking.

Garth Water Supply.—Sample 11.

The results show this water to be quite satisfactory for drinking purposes.

Froncysyllte Water Supply.—Sample 12.

The results show this water to be safe for drinking purposes.

Bryn Ddol Water Supply (Parish of Llantysilio) Coed Drwg.

—Sample 13.

The sample contains a little vegetable matter in suspension.

The chemical results are passable for a river water, but undoubtedly more than traces of excremental matter are gaining access to the river as there is a considerable number of excremental organisms present.

The water is not safe for use in its present condition without treatment.

Bryn Ddol Water Supply (Coed Dwrg).—Sample 14.

The combined results show this water to be fit for drinking purposes; the few B. Coli present need not be regarded as of any serious importance in an open air supply such as this.

Bryn Ddol Water Supply (Rhos yn Wst).—Sample 15.

From a consideration of these results we are of the opinion that this water is quite satisfactory for drinking purposes.

Erbistock Water Supply (Manley Hall well).—Sample 16.

This water may be regarded as reasonably safe for drinking purposes.

Erbistock Water Supply (Manley Hall well).—Sample 17.

The results show this water to be satisfactory for drinking purposes.

We cannot account for the presence of the Streptococci and think they must be of extraneous origin.

Erbistock Water Supply (spout).—Sample 18.

This water, in its present condition may be regarded as safe for drinking purposes.

Bryn Rhug, Brymbo (well).—Sample 19.

The results show evidence of some pollution and the water cannot be regarded as satisfactory for drinking purposes.

Afoneitha, Penycae (well water).—Sample 20.

The combined results show no evidence of pollution and at the present time this water is safe for drinking purposes.

Eyton Water Supply (well water).—Sample 21.

The sample contains a little vegetable matter in suspension and this is shown in the high figures for Albuminoid Nitrogen and Oxygen absorbed.

The bacteriological result is satisfactory and there is no evidence of animal pollution.

The combined results show that the water is safe for drinking purposes.

Nant Road, Coedpoeth (well water).—Sample 22.

From a consideration of the above results we are of the opinion that this water is polluted and unfit for drinking purposes.

Mount Pleasant, Llanarmon Road, Bwlchgwyn (well water).

—Sample 23.

The sample has a deep brown colour.

From a consideration of the above results we are of the opinion that this water is polluted and unfit for drinking purposes.

Ffynnon y Ceirw, Bwlchgwyn (well water).—Sample 24.

From a consideration of the above results we are of the opinion that this water is polluted and unfit for drinking purposes.

WATER SUPPLY.
CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF WATER SAMPLES
TAKEN DURING 1938.

	Brymbo Water Company (Sample No. 1)	Brymbo Water Company (Sample No. 2)	Ruabon Water Company (Sample No. 3)	Ruabon Water Company (Sample No. 4)	Ruabon Water Company (Sample No. 5)	Ruabon Water Company (Sample No. 6)	Cefn Water Company (Sample No. 7)
	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000
(1.) CHEMICAL.							
Total solids (dried at 120°C.) ...	9.5	5.0	10.5	13.0	11.0	11.5	17.0
Combined Chlorine (Cl.) ...	1.10	1.00	1.00	1.30	1.10	1.50	1.80
Equivalent to Sodium Chloride ...	1.82	1.65	1.65	2.15	1.82	2.48	2.97
Nitric Nitrogen (Nitrates) ...	0.02	0.02	0.04	0.03	0.02	0.04	Nil
Nitrous Nitrogen (Nitrites)...	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ammoniacal Nitrogen	0.0006	0.0004	0.0004	0.0010	0.0006	0.0006	0.0022
Albuminoid Nitrogen	0.0086	0.0048	0.0058	0.0044	0.0052	0.0080	0.0106
Oxygen absorbed in 4 hours at 27°C. ...	0.124	0.135	0.210	0.083	0.204	0.356	0.070
Lead or Copper ...	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Temporary Hardness	3.0	1.3	3.8	6.5	5.0	4.8	9.3
Permanent Hardness	2.0	1.0	2.5	2.5	1.0	2.8	2.8
Total Hardness ...	5.0	2.3	6.3	9.0	6.0	7.6	12.1

WATER SUPPLY.

CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF WATER SAMPLES TAKEN DURING 1938.

	Cefn Water Company Sample (No. 8)	Cefn Water Company (Sample No. 9)	Holt Town Trust (Sample No. 10)	Garth Water Supply (Sample No. 11)	Froncysyllte Water Supply (Sample No. 12)	Bryn Ddol Water Supply (Sample No. 13)	Bryn Ddol Water Supply (Sample No. 14)
	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000
(I.) CHEMICAL.							
Total solids (dried at 120°C)	15.5	13.0	42.0	16.0	27.0	11.5	11.0
Combined Chlorine (Cl.)	1.40	1.40	1.80	1.20	1.60	1.50	1.10
Equivalent to Sodium Chloride	2.31	2.31	2.97	1.98	2.64	2.48	1.82
Nitric Nitrogen (Nitrates)	0.04	0.03	0.02	0.02	0.02	0.03	0.02
Nitrous Nitrogen							
Nitrites	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ammoniacal Nitrogen	0.0004	Nil	0.0004	0.0004	0.0004	0.0008	0.0004
Albuminoid Nitrogen	0.0046	0.0026	0.0036	0.0004	0.0048	0.0080	0.0028
Oxygen absorbed in 4 hours at 27°C.	0.033	0.065	0.070	0.008	0.033	0.180	0.172
Lead or Copper	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Temporary Hardness	10.0	9.5	27.8	12.5	16.8	4.8	2.8
Permanent Hardness	2.8	1.0	4.3	1.5	3.0	2.5	1.0
Total Hardness	12.8	10.5	32.1	14.0	19.8	7.3	3.8

(II.) BACTERIOLOGICAL (Cultural and Microscopical).

Average number of organisms producing visible colonies on gelatine plates, incubated at 20°C. for 3 days ...	12 per c.c.	1,334 per c.c.	49 per c.c.	14 per c.c.	83 per c.c.	755 per c.c.	83 per c.c.
Average number of organisms producing visible colonies on agar plates, incubated at 37.5°C. for 3 days ...	3 per c.c.	180 per c.c.	7 per c.c.	5 per c.c.	8 per c.c.	86 per c.c.	61 per c.c.
B. Coli... ..	not found in 100 c.c.	present in 1 c.c.	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	present in 1 c.c.	present in 25 c.c.
Streptococci ...	not found in 30 c.c.	present in 1 c.c.	not found in 30 c.c.	not found in 30 c.c.	not found in 30 c.c.	present in 1 c.c.	not found in 30 c.c.
B. Welchii (spores) ...	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	present in 20 c.c.	not found in 100 c.c.

WATER SUPPLY.
CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF WATER SAMPLES
TAKEN DURING 1938.

	Bryn Ddol Water Supply (Sample No. 15)	Erbistock Water Supply (Sample No. 16)	Erdistock Water Supply (Sample No. 17)	Erbistock Water Supply (Sample No. 18)	Bryn Rhug Brymbo (Sample No. 19)	Afoneitha, Penycae (Sample No. 20)	Eyton Water Supply (Sample No. 21)
	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000
(I). CHEMICAL							
Total solids (dried at 120°C.) ...	15.0	40.0	42.0	33.0	14.0	28.5	49.0
Combined Chlorine (Cl.) ...	1.50	1.40	1.50	1.80	1.40	1.60	4.00
Equivalent to Sodium Chloride ...	2.48	2.31	2.48	2.97	2.31	2.64	6.60
Nitric Nitrogen (Nitrates) ...	0.46	0.52	0.58	0.88	0.24	0.04	0.04
Nitrous Nitrogen (Nitrites) ...	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ammoniacal Nitrogen	0.0006	0.0004	0.0004	0.0012	Nil	0.0004	Nil
Albuminoid Nitrogen	0.0070	0.0030	0.0024	0.0028	0.0040	0.0038	0.0122
Oxygen absorbed in 4 hours at 27°C. ...	0.010	0.030	0.038	0.041	0.029	0.062	0.031
Lead or Copper ...	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Temporary Hardness	8.5	26.0	25.5	15.5	5.0	16.5	39.0
Permanent Hardness	3.0	4.0	3.5	6.0	4.0	4.8	Nil
Total Hardness ...	11.5	30.0	29.0	21.5	9.0	21.3	39.0

II. BACTERIOLOGICAL (Cultural and Microscopical)

Average number of organisms producing visible colonies on gelatine plates, incubated at 20°C. for 3 days ...	22 per c.c.	36 per c.c.	21 per c.c.	47 per c.c.	2,230 per c.c.	11 per c.c.	44 per c.c.
Average number of organisms producing visible colonies on agar plates, incubated at 37.5°C. for 2 days ...	3 per c.c.	34 per c.c.	4 per c.c.	48 per c.c.	480 per c.c.	4 per c.c.	9 per c.c.
B. Coli... ..	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.	present in 5 c.c.	not found in 100 c.c.	not found in 100 c.c.
Streptococci ...	not found in 30 c.c.	not found in 30 c.c.	present in 10 c.c.	not found in 30 c.c.	not found in 30 c.c.	not found in 30 c.c.	not found in 30 c.c.
B. Welchii (spores) ...	not found in 100 c.c.	present in 100 c.c.	not found in 100 c.c.	present in 100 c.c.	present in 25 c.c.	not found in 100 c.c.	not found in 100 c.c.

WATER SUPPLY.

CHEMICAL AND BACTERIOLOGICAL ANALYSIS OF WATER SAMPLES

TAKEN DURING 1938.

	Nant Road, Coedpoeth (Sample No. 22)	Mt. Pleasant Bwlchgwyn (Sample No. 23)	Ffynon y Ceirw Bwlchgwyn (Sample No. 24)
	Parts per 100,000	Parts per 100,000	Parts per 100,000
(1). CHEMICAL			
Total solids (dried at 120°C.) ...	23.0	9.0	9.0
Combined Chlorine (Cl.) ...	1.30	1.50	1.20
Equivalent to Sodium Chlorine ...	2.15	2.48	1.98
Nitric Nitrogen (Nitrates) ...	0.02	0.04	0.04
Nitrous Nitrogen (Nitrites) ...	Nil	Nil	Nil
Ammoniacal Nitrogen ...	0.0004	0.0130	0.0004
Albuminoid Nitrogen ...	0.0064	0.0568	0.0054
Oxygen absorbed in 4 hours at 27°C. ...	0.087	0.740	0.074
Lead or Copper ...	Nil	Nil	Nil
Temporary Hardness ...	14.0	2.5	3.0
Permanent Hardness ...	4.0	2.0	4.0
Total Hardness ...	18.0	4.5	7.0

II. BACTERIOLOGICAL (Cultural and Microscopical).

Average number of organisms producing visible colonies on gelatine plates, incubated at 20°C. for three days			...	...	...	...	...	262 per c.c.	118 per c.c.	2800 per c.c.
Average number of organisms producing visible colonies on agar plates, incubated at 37.5°C. for two days			...	...	...	...	...	82 per c.c.	36 per c.c.	3090 per c.c.
B. Coli	...	...	...	...	...	...	...	present in 1 c.c.	present in 5 c.c.	present in 15 c.c.
Streptococci	...	...	...	...	...	...	...	present in 1 c.c.	not found in 30 c.c.	present in 2 c.c.
B. Welchii (spores)	...	...	...	...	...	...	...	not found in 100 c.c.	not found in 100 c.c.	not found in 100 c.c.

RIVERS AND STREAMS.

There are many rivers and streams in our area and a certain number of them flow past industrial concerns and are liable to pollution.

In certain localities groups of houses are situated on the river banks and the river forms an excellent receptacle for unwanted articles. Certain streams feed the various reservoirs of the neighbouring water companies, and have to be kept under constant supervision.

The chief source of complaints received during the year was the Hafod Colliery effluent, which enters a ditch which is itself a tributary of the Black Brook in Erddig Park. One complaint was received from a neighbouring farmer who stated that the effluent from this colliery was deleteriously affecting his cattle. Three samples of water were taken from the ditch and the analyst reported that there was no evidence of the water being injurious to cattle; in fact it was non-injurious. At the same time, an investigation was made of a farm, which was subsequently visited by a sub-committee, and it was found that an effluent from this farm was very much worse than that coming from the colliery and the farmer was instructed to improve the state of affairs. We have since received no complaints regarding the matter.

It may be pointed out here that the Hafod Colliery has erected new sedimentation tanks and it is doing all within its power to purify, as far as is possible, the trade effluent which it produces, and one must state in justice to the Company that the effluent, before it reaches the river, is very clear and shows no evidence of a noxious nature.

Two samples of water were taken from the Afongoch River, one from the effluent which enters it from the Johnstown Sewage Works, and the second from the lagoon immediately below the farm mentioned earlier on in this section, and there was nothing of interest indicated by the analyses, though there was a definite reaction for Tar acids in the sewage effluent. Complaints have been made that the sewage works in Johnstown were being affected by gross pollution from a furniture manufacturing company in the same locality, and the owner of this firm had his attention drawn to this fact and was instructed to take immediate steps to avoid this pollution.

Another complaint was that received from the Dee Catchment Board with reference to the state of the Trefynant Brook, Trevor, into which flows an effluent from the Monsanto Chemicals Company. This effluent was brown in colour and had a very

strong smell of carbolic. The chief reason why the Board complained about it was that a large amount of salmon and other fish were being affected from some form of pollution entering the River Dee. This matter was discussed by the Company concerned and also with the officials of the Dee Catchment Board with whom we have had every co-operation. A large amount of work was done in reference to this pollution, especially with a view of passing it through the sewage works in Cefn, and the engineering staff arranged for an extensive series of chemical investigations upon the matter, which was discussed with Ministry of Health Officials.

Another source of pollution remains with us, and that is the colliery spoil bank past which the River Gwenfro flows in Southsea. This river receives the effluent from the coal-washing plant of the Plas Power Coke Works. This effluent, unfortunately, enters the Borough of Wrexham, who are only too willing to put the blame of this pollution on the Wrexham Rural District Council. Any source of pollution in the Borough has been attended to.

Another important source of pollution was the accumulation of debris and trade refuse from the Brick Works in Trevor, and this affected the Trefynant Brook, in addition to the effluent from the chemical works. In addition to this trade refuse the same brook was polluted by ashes and other obnoxious material thrown into it by the tenants of houses, situated upon its banks, which had no system of refuse removal. The river has been thoroughly cleaned out, however, and the brick works have built a very strong retaining wall with a view of preventing the river banks being blocked by its trade refuse.

Another complaint was received from the Dee Catchment Board with reference to a refuse tip which was giving way, but it was found that the Rural District Council was not in any way interested in this site, seeing that the tip was a private one and the Council was therefore not responsible for this source of pollution.

I have already indicated, in dealing with water supply, the pollution from farms and the Coed Drwg River with reference to the supply of water to Bryn Ddol.

We have received no complaints from the piscatorial profession with reference to the River Alyn or any other fishing river.

One must make reference to the fact that Hafod Colliery have recently erected modern Pit-head Baths and the effluent from these baths is treated in a separate purification plant, and

we have received no complaints as to any harmful effluent coming therefrom. The Purification plant and Pit Head Baths were inspected by delegates to a sessional meeting of the Royal Sanitary Institute held in Wrexham in October, and everyone who saw them was very much impressed by the arrangements made by the colliery, which could only be regarded as a definite advance in public health.

At the present time another Pit-Head Baths is being erected in the Gresford Colliery, but the work has not yet been completed although every endeavour has been made to ensure that no pollution will be caused by its effluent.

ANALYST'S REMARKS WITH REFERENCE TO THE CHEMICAL ANALYSIS GIVEN ON PAGE 64.

Effluent, Hafod Colliery.—Sample 1.

The "strength" of this sample as calculated from the above data is found to be 15.0.

The sample contained a small amount of black sediment consisting almost entirely of carbonaceous material.

No grease was present. In addition to Lead and Copper we have also tested the sample for Arsenic with negative results.

No reaction could be obtained for Tar Acids and a negative result was also obtained for the presence of Thiocyanates.

Effluent, Hafod Colliery.—Sample 2.

The "strength" as calculated from the above data is found to be 2.5. This sample, therefore, shows 83 per cent purification over sample (1) see above remarks. No Tar Acids or Thiocyanates could be detected.

The sample contained practically no suspended matter.

The figures for this sample are lower than for sample (3), and it is obvious therefore that the entry of this effluent into the brook would not adversely affect the water of the river.

Stream below entrance of farm effluent.—Sample 3.

No Tar Acids or Thiocyanates could be detected in this sample.

There is a little suspended matter present but this appears to be chiefly vegetable matter.

This sample is grossly polluted, evidently by the sewage works mentioned on the label and we do not think the water is suitable for cattle.

Effluent, Johnstown Sewage Works.—Sample 4.

The sample contained a moderate amount of brownish coloured deposit. No Sulphuretted Hydrogen was present on arrival but this substance developed on incubation.

A definite reaction for Tar Acids was obtained. The figures are typical of a sewage effluent.

Lagoon, Afongoch River.—Sample 5.

The sample contained a considerable amount of a heavy black deposit. Only a slight reaction for Tar Acids was obtained and no Sulphuretted Hydrogen developed on incubation. The results show that the lagoon water contains a small proportion of sewage.

Afongoch River, below lagoon and farm effluent.—Sample 6.

The sample contains a small amount of brown deposit.

Practically no reaction was obtained for Tar Acids.

A slight reaction only for Sulphuretted Hydrogen was obtained after incubation.

The results this time are not so bad as on the last occasion (see sample 3), but the figures show marked evidence of sewage pollution.

**CHEMICAL ANALYSIS OF OTHER WATER SAMPLES
TAKEN DURING 1938.**

	Effluent— Hafod Colliery (Sample 1)	Effluent— Hafod Colliery (Sample 2)	Stream below entrance of farm effluent	Effluent— Johnstown Sewage Works	Lagoon— Afongoch river (Sample 5)	Afongoch river below lagoon & farm effluent (Sample 6)
	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000	Parts per 100,000
(1). CHEMICAL						
Total solids (dried at 120°C.) ...	27.0	28.5	5.20	11.5	3.80	5.90
Combined Chlorine (Cl.) ...	44.6	47.0	8.58	19.0	6.27	9.74
Equivalent to Sodium Chloride ...	0.64	1.00	0.66	0.10	0.10	0.44
Nitric Nitrogen (Nitrates) ...	traces present	traces present	traces present	marked reaction	Nil	traces present
Nitrous Nitrogen (Nitrites) ...	0.450	0.028	0.2650	5.686	0.080	1.394
Ammoniacal Nitrogen	0.030	0.021	0.0324	0.342	0.150	0.060
Albuminoid Nitrogen	0.523	0.123	0.132	1.420	0.843	0.315
Oxygen absorbed at once ...	1.398	0.260	0.280	3.590	2.075	0.700
Oxygen absorbed in 4 hours at 27°C ...	Nil	Nil	Nil	Nil	Nil	Nil
Lead or Copper ...						
Temporary Hardness						
Permanent Hardness						
Total Hardness ...						

RAINFALL IN 1938.

I am indebted to the Wrexham and East Denbighshire Water Company for the following information.

Month.	Total depth	Greatest Fall in 24 hours		No. of days with .01 or more recorded.	No. of days with .04 or more recorded.
	Inches.	Inches.	Date.		
January ...	4.74	0.85	14th	26	21
February...	1.23	0.56	26th	15	5
March ...	0.80	0.39	26th	11	5
April ...	0.29	0.10	23rd	5	2
May ...	3.12	0.66	27th	16	12
June ...	2.94	1.30	1st	21	8
July ...	3.92	0.93	6th	20	14
August ...	4.08	1.01	24th	17	13
September	1.39	0.34	30th	16	10
October ...	4.07	1.07	3rd	22	18
November	4.63	1.11	12th	20	16
December	4.01	0.55	9th	24	18
Total ...	35.22			213	142

Observations made at Packsaddle Reservoir,
Rhostyllen, Wrexham.

DRAINAGE AND SEWERAGE.

I have received from the Sanitary Engineer the following report with reference to the drainage and sewerage conditions of our district, and I would like to take this opportunity of thanking him for his readiness to supply us with this information year after year.

"The sewerage extension scheme for the drainage of the villages of Garth and Trevor in the Llangollen Rural Parish, was commenced and completed during the year 1938. The loan raised for the work was £10,000, and the works were carried out by contract."

"Small sewer extensions were carried out in the Parishes of Broughton and Rhos. This work was done by direct labour."

In my last Annual Report I dealt upon the necessity of establishing a sewerage scheme in some of the remote parts of our district. One scheme has been put in hand and this is referred to by the Engineer, namely the new sewer for Garth and Trevor Issa in the Llangollen Rural Parish.

Bwlchgwyn.

There is no sewerage scheme in this locality, and in such a residential area I think it necessary that some scheme should be adopted. It is true that the council houses have a small scheme of their own but there is, in this locality, a large amount of residential property which, in my opinion, should receive the benefits of modern amenities.

Minera.

A Maternity Home is being built in this locality and the sewer is being extended to this part of the Parish. It is to be hoped that this extension will only be the first instalment of a scheme which should be more extensive than it is at the present time.

Marchwiell.

Certain properties in this Parish, especially council houses, are already connected to the Wrexham Corporation Sewage Farm at Five Fords, but I am given to understand that the Borough Council raise no objection to receiving the whole sewerage from this Parish provided equitable terms are arranged.

A certain amount of housing development is taking place in Marchwiell, especially towards Wrexham and in my opinion the

time is long overdue when the whole village should receive the benefits of a modern drainage system.

Holt.

Here again there is room for improvement, and as the Wrexham Rural District Council is considering the erection of council houses to replace dwellings scheduled for demolition the time is nigh for this Parish to be adequately sewered.

SANITARY ACCOMMODATION.

During the year two new cesspools were erected and one emptied upon notice. 224 new drains were laid to old premises, and 306 repaired.

12 house drains were disconnected from the road drains, and 6 septic tanks and filter beds were constructed and 25 inspection chambers provided.

284 new water closets were provided and 59 old ones repaired, 185 old water closets were furnished with new flushing cisterns, and 179 privies were converted into water closets. 13 new earth closets were provided in places where there were no sewerage facilities. 178 deep privy middens were abolished and 7 privies repaired.

The above indicate the amount of work that has been carried out by the department in dealing with sanitary conveniences, and it is of interest to note the large number of deep privy middens abolished and also the number of privies converted into water closets. Another satisfactory feature is the number of old water closets furnished with flushing cisterns.

SCAVENGING.

The question of Scavenging in our district has received ample discussion, and certain changes have taken place in the methods adopted.

There are many methods of scavenging adopted in our area ; some by direct labour, others by contract, but it does not appear that eventually all the parishes will be dealt with by direct labour.

The work in Gwersyllt, by direct labour, has proved to be an improvement upon the old system of contract, and during the year arrangements were made to annex the neighbouring Parish of Llay to Gwersyllt for this purpose.

Discussions took place with reference to a system of direct labour being adopted on a more extensive scale and this was carried out during 1939 as far as the Parishes of Rhos and Cefn are concerned.

During the year I was asked to submit a special report on the systems of scavenging operative in our Rural District, and in it I pointed out the various methods at present in vogue and I recommended that the whole work should be carried out by the Council itself on a regional basis.

One important point in my report was the fact that in regard to scavenging the parochial spirit is too rampant. In certain parishes the work of refuse removal is not undertaken, namely, Abenbury, Beiston, Erddig, Esclusham Above, Minera, Sesswick, Isycoed, the greater portion of Llangollen Rural Parish, and also Llantysilio. All of these parishes are largely agricultural. On the other hand, various schemes of refuse removal are in operation in the following parishes, Allington, Bersham Broughton, Brymbo, Burton, Cefn, Esclusham Below, Gresford, Gwersyllt, Holt, a portion of Llangollen Rural, Marchwiel, Penycae, Rhos, and Ruabon. A statement was then made as to the number of houses from which refuse removal was undertaken, and also the cost of this work. It is surprising to note the great variation in the costs of refuse removal in the different parishes. In the 15 parishes in which this work is undertaken 13,930 houses were attended to. It was also pointed out that in certain parishes the cost was absurdly high, whereas in others it was very low. I also pointed out that the contract system was by no means satisfactory, especially during the last few months of the tenure of the contract, when some of the contractors were very lax in carrying out their duties. Reference was made to the insecurity attached to this work seeing that the contractors had to supply their own equipment and that they had to send in estimates every two years, with no certainty that they would have the contract for the succeeding period.

The remainder of the report referred to certain recommendations, on a regional basis, for the grouping together of certain parishes with a view of obtaining greater efficiency at a lower cost, and with a better system of tipping, whereby a tip in one area could be utilised for another parish.

It has to be remembered that it is becoming increasingly difficult to obtain refuse tips in certain parishes, and that in some of them the tips are reaching their complement of accommodation.

The following amalgamations were recommended, viz. :—

- (a) Parishes of Allington, Burton, Gresford, Gwersyllt and Llay.
- (b) Parishes of Penycae, Rhos, Ruabon, and a portion or whole of Marchwiell.
- (c) Parishes of Llangollen Rural, Cefn—though it was considered advisable to recommend that the Froncysyllte part of the former, situated on the southern side of the River Dee, should remain a separate entity.
- (d) Parishes of Brymbo and Broughton.
- (e) Parishes of Bersham, Esclusham Above, Esclusham Below and Minera with the Bwlchgwyn portion of Brymbo Parish. It was also pointed out that a portion of Esclusham Below could be satisfactorily annexed to the Rhos area.
- (f) Parish of Holt.
- (g) Parish of Marchwiell—in the event of it not being included in group (b).

This report was referred to a special sub-committee and, unfortunately, parochial considerations arose and it was decided not to approve of it. I do feel, though, that sooner or later the Wrexham Rural District Council will have to consider this matter more seriously and with a more sympathetic spirit.

With reference to the above-named recommendations, one point raised was that we could use controlled tipping under modern methods.

One feels certain that a regional scheme of this nature, carried out by the Council, would be a definite advance in public health and would lead to greater efficiency and, taken as a whole, would be of financial profit.

During the year, representations were made to the department by the Minera Parish Council with reference to the utilisation of a disused quarry for tipping purposes. This quarry is situated in the centre of the Parish and would be an ideal site, provided there was no circumstance which would militate against its adoption for this purpose.

The health officials met the Parish Council on the spot and it was pointed out to us that in a certain part of the quarry there were two or three pools of water, and also water in the "caves". It was pointed out that, in the lower end of the parish, there were

a few houses dependent for their water supply upon a spout which discharged into a neighbouring river and, in the opinion of certain members of the Parish Council, there was an underground connection through the free stone between the disused quarry and the locality where the spring was situated. In order to ascertain whether there was such a connection drain testing powder was liberally thrown into these pools and during an inspection twenty-four hours later, there was no evidence of any such connection but within thirty hours the stones of the brook into which the spring entered were found to be definitely tinged with the drain tracing pigment, and it is of interest to note that when we visited this locality nine months after the test was carried out the pigment was still present on the stones, and I need hardly state that a large number of these were taken to the department for instructing the pupils, especially those who were studying for the Sanitary Inspector's Examination.

This test indicated quite clearly that any refuse dumped into the quarry would be a source of pollution to the water supply of these houses, and the health officials had no alternative but to recommend that this site be not utilised for the tipping of refuse.

WATER SUPPLY.

69 old premises were supplied with water, and 8 service pipes were repaired. 96 premises were supplied with taps in the back kitchen.

SANITARY INSPECTION OF DISTRICT.

In January, 1939, Mr. John Evans, Sanitary Inspector for the Western Division died, and although every endeavour has been made to obtain full information of the work he carried out we have not been able to obtain the fullest detailed information required for these tables.

Work done by the Health Department during 1938.

HOUSING.		Divisions				TOTAL
		North.	South.	East.	West.	
Number of houses	inspected under Housing Act, 1936 ...	...	...	...	...	454
"	" dealt with under Part 3, Housing Act, 1936 ...	...	...	...	...	240
"	" dealt with under Section 11, Housing Act, 1936 ...	...	...	...	...	128
"	" dealt with under Section 12, Housing Act, 1936 ...	...	...	...	...	37
"	" completed under Section 9, Housing Act, 1936 ...	...	...	...	...	798
"	" demolished ...	...	...	...	...	136
"	" reconstructed or rendered fit, in respect of which undertakings were accepted ...	...	...	...	...	14
Number of visits and inspections ...		...	...	...	...	2427

(The above work was carried out by the Senior Sanitary Inspector.)

Total Number of houses inspected under the Public Health and Housing Acts ...	...	...	...	...	...	1980
Total Number of inspections made for the purpose ...	...	...	...	...	...	5410

DWELLINGS

No. of Houses re-roofed ...	...	40	...	8	...	12	...	17	...	77
" " repaired, roofs, walls, &c. ...	...	210	...	117	...	33	...	176	...	536
" " furnished with eaves gutters and downspouts ...	...	60	...	39	...	29	...	22	...	150
" " otherwise treated to prevent dampness ...	...	35	...	31	...	265	...	6	...	337
" " provided with more light and ventilation ...	...	13	...	21	...	26	...	9	...	69
" " cleansed (on notice) ...	...	2	...	—	...	—	...	—	...	2
" " in which defective floors were renewed ...	...	112	...	42	...	88	...	29	...	271
" " provided with new pavements in back yards ...	...	84	...	18	...	36	...	8	...	146
" " in which old pavements were repaired ...	...	24	...	17	...	17	...	—	...	58
" " in which cellar floors were renewed ...	...	—	...	—	...	—	...	—	...	—
" " food stores provided ...	...	64	...	14	...	10	...	—	...	88
" " new kitchen grates and washing boilers provided ...	...	38	...	48	...	21	...	16	...	123
" " new kitchens built ...	...	3	...	—	...	—	...	2	...	5
" " wash-houses built ...	...	2	...	4	...	11	...	—	...	17

DRAINAGE.

No. of new cesspools constructed ...	...	1	...	—	...	1	...	—	...	2
" cesspools repaired ...	...	—	...	—	...	—	...	—	...	—
" cesspools emptied on notice ...	...	—	...	1	...	—	...	—	...	1

	North.	South.	East.	West.	TOTAL
No. of kitchen sinks provided ...	51	14	16	11	92
„ new drains laid to old premises ...	120	46	44	14	224
„ drains repaired ...	15	35	249	7	306
„ house drains disconnected from road drains	6	6	—	—	12
„ new slop gullies constructed ...	18	29	4	7	58
„ old slop gullies repaired ...	11	—	—	1	12
„ septic tanks and filter beds ...	3	2	1	—	6
„ inspection chambers provided ...	—	25	—	—	25

SANITARY CONVENIENCES.

No. of waste pipes renewed ...	17	23	22	8	68
„ house drains trapped and ventilated ...	7	14	—	13	34
„ new water closets provided ...	114	57	91	22	284
„ old water closets repaired ...	9	42	2	6	59
„ old W. C's furnished with flushing cisterns ...	16	60	79	30	185
„ privies converted into water closets ...	114	25	31	9	179
„ new earth closets and privies ...	3	—	10	—	13
„ deep midden privies abolished ...	114	25	35	4	178
„ privies repaired ...	7	—	—	—	7
„ new ashpits provided ...	—	—	—	—	—
„ portable ashbins provided ...	342	385	50	48	825
„ new urinals ...	—	—	—	—	—
„ urinals repaired ...	—	—	—	—	—
„ ashpits repaired and covered ...	2	—	—	—	2

WATER SUPPLY.

No. of old premises supplied ...	24	15	7	23	69
„ service pipes repaired ...	6	2	—	—	8
„ old wells repaired and protected ...	—	—	2	—	2
„ old wells closed ...	3	—	—	—	3
„ premises supplied with taps in back kitchen	51	15	7	23	96

DAIRIES, COWSHEDS, and MILKSHOPS.

No. of persons on register on Dec. 31, 1938 ...	103	101	377	78	659
„ persons registered during year ...	1	—	6	—	7
„ persons discontinued ...	1	—	5	—	6
„ cowsheds repaired and improved ...	7	23	8	5	43
„ new cowsheds erected ...	2	2	4	—	8
„ visits and inspections ...	234	240	695	138	1307

SLAUGHTER HOUSES.

No. of slaughter houses registered during 1938...	—	—	—	—	—
„ slaughter houses on register ...	16	19	20	4	59
„ new slaughter houses erected ...	—	—	—	—	—
„ slaughter houses repaired ...	4	1	—	—	5
„ visits and inspections ...	464	1128	363	155	2110
„ slaughter houses discontinued ...	—	1	—	1	2

FACTORIES AND WORKSHOPS

No. of Workshops registered during 1938	—	2	—	—	2
„ workshops on register ...	77	61	55	62	255
„ workshops repaired ...	5	2	1	—	8
„ workshops cleansed (on notice) ...	7	5	2	2	16
„ new sanitary conveniences erected ...	1	2	—	—	3
„ visits and inspections ...	83	65	153	62	363

	North.	South.	East.	West.	TOTAL
SCHOOL HYGIENE.					
No. of schools cleansed	3 ...	— ...	2 ...	— ...	5
„ school renovated	— ...	— ...	1 ...	— ...	1
„ schools where sanitary fittings were improved	1 ...	1 ...	— ...	— ...	2
No. of schools where drainage was improved ...	1 ...	1 ...	— ...	— ...	2
„ schools where ventilation was improved	1 ...	— ...	— ...	— ...	1

QUARRY FENCING ACT, 1887

No. of dangerous quarries fenced	3 ...	— ...	— ...	— ...	3
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COMMON LODGING HOUSES.

No. of premises on Register	— ...	— ...	— ...	1 ...	1
„ visits and inspections	— ...	— ...	— ...	7 ...	7

REFUSE REMOVAL.

No. of houses from which refuse was removed ...	4957...	4437...	3763...	1739...	14896
„ offensive accumulations removed upon notice — ...	15...	34...	7...		56
„ nuisances arising from keeping animals abated	— ...	1...	2...	—...	3

CLERICAL WORK.

No. of intimatatory notices issued	375 ...	677...	218...	129 ..	1399
„ intimatatory notices complied with ...	364 ...	590...	212...	84...	1250
„ statutory notices issued	215 ...	190...	18...	12...	435
„ statutory notices complied with ...	200 ...	107...	18...	12...	337
„ Justices' orders applied for	— ...	— ...	— ...	— ...	—
„ Justices' orders granted	— ...	— ...	— ...	— ...	—
Total number of visits and inspections ...	2344 ...	4897...	3129...	1144...	11514
No. of houses disinfected... ..	113 ...	127...	102...	97...	439
„ schools disinfected	3 ...	2...	2...	—...	7

STRAWBERRY PICKING.

There is an extensive Strawberry Picking industry in the area, extending from Holt to Rossett. The conditions under which the labour exists are kept under observation by the Public Health Department which receives every co-operation from the owners of the strawberry fields. In the case of the most progressive farms medical attention is provided by the owner.

OFFENSIVE TRADES.

There are two Knackers' Yards in the Rural District, one at Ffrwd, in the Parish of Brymbo, and the other in the Parish of Marchwiell.

Both of these have been periodically inspected and are kept in a satisfactory condition.

BUG INFESTATION.

41 Council Houses were found to be infested, and disinfestation was carried out in all cases by the use of Zaldecide and Fumoids.

8 non-council houses were also found to be infested and all these were disinfested by the same methods.

The work of disinfestation is undertaken by the local authority, and one man is employed in charge of the work.

SMOKE ABATEMENT.

With reference to Smoke Abatement, the Council have made bye-laws and these have been submitted to the Ministry of Health for confirmation.

At the same time a number of protests were made by some industrial concerns concerned against their adoption. It was pointed out that, in certain trade processes, it is impossible to avoid a certain amount of smoke emission.

A report has been submitted to the Health Committee and a recommendation that the matter be discussed by the appropriate sub-committee, who will no doubt interview representatives of the industrial concerns objecting against their adoption.

SWIMMING BATHS AND POOLS.

There are no public or privately owned swimming baths in our district. No doubt a certain amount of swimming takes place in various rivers, but we have no control over such forms of recreation.

CAMPING SITES.

During the year five sites in our district were used for camping purposes, and the estimated maximum number of campers using them was 200.

No licences were granted during the year, but all the responsible persons were informed of the necessity of applying for same.

PREMISES AND OCCUPATIONS WHICH CAN BE CONTROLLED BY BYELAWS OR REGULATIONS.

With the exception of the Knackers' Yards there are no offensive trades in practice within the Rural District, nor are there any houses let in lodgings.

During 1938 one Common Lodging House in the Parish of Cefn was included in a clearance area, which has since been confirmed, and this house is now vacant and in the process of being demolished.

There are no underground sleeping rooms in our area, and it has not been found necessary to take any action under Section 18 (1) of the Housing Act, 1925.

CANAL BOATS.

The Shropshire Union Canal enters the Rural District at Cefn for a very short distance only. This extension was in the past used for the conveyance of materials to and from the important industries in this locality.

The Inspector for the Western Division acts as Canal Boats Inspector, but owing to the disuse of the canal there is no report to make.

SANITARY CONDITIONS OF SCHOOLS.

As regards school closure, at the present time the policy of the Board of Education is adhered to in not recommending closure except in extreme circumstances. Close co-operation takes place between myself and the County Medical Officer with reference to this branch of our work.

Schools closed on account of Infectious Diseases in the Wrexham Rural District during 1938.

School.	Period of closure.	Reason.
Abenbury Council	24th Jan.—4th Feb.	Whooping Cough
Erbistock C. of E.	11th Jan.—21st Jan.	do.
Erbistock C. of E.	24th June—8th July	Mumps.
Penylan Council	11th April—14th April	Influenza

TABLE XI.

MILK AND DAIRIES (AMENDMENT) ACT, 1932.

	Division				Total
	North.	South.	East.	West.	
No. of persons on register					
31st, December 1938	...103	... 101	... 377	... 78	... 659
No. of persons registered					
during the year	... 1	... —	... 6	... —	... 7
No. of persons discontinued	2	—	5	—	7

INSPECTION AND SUPERVISION OF FOODS. MILK SUPPLY.

At the end of the year there were 659 persons on our registers. 7 new persons were registered during the year and 7 discontinued. 43 cowsheds were repaired and improved and 8 new ones were erected. 1,307 visits and inspections were paid with reference to this sphere of public health administration.

Samples of milk were repeatedly taken and sent to the Wrexham and East Denbighshire War Memorial Hospital (Pathological Department) for bacteriological examination. Samples for the examination of fat content and for other special analyses were sent to the Chester Royal Infirmary.

During the year 638 samples of milk were taken as compared with 540 during 1937. Of these, 595 were accredited milk samples as compared with 514 for the previous year, and 43 were samples of T.T. milk, as compared with 26 for 1937. Of the total number of samples taken, 596 were good, 28 fair, and 14 were bad. This gives some idea of the high standard of purity of the milk produced in our district, which is pre-eminently a milk-producing area. In addition to the above samples, 157 were taken with reference to Tuberculosis, and, of these, 149 were negative and 8 were positive. With reference to the 8 farms from which the latter-named samples were taken, our observations were immediately forwarded to the County Medical Officer for his attention.

Pasteurised Milk is produced at the Cefn Co-operative Society Dairy, Rhosymedre, which is kept under constant supervision and is regularly inspected by us. Owing to certain complaints made by the Borough Council in respect to milk provided for school children, representations were made to the Company, who have still further modernised their plant and have also affected certain alterations in their staff.

There was evidence of a lack of efficient supervision, in that the temperature charts were not filled up properly owing to a breakdown in the machinery, so that there was no statistical control over the process of Pasteurisation. This has been remedied, however, and the plant is now working in an efficient manner.

MILK SAMPLES TAKEN DURING 1938.

		Good	Fair	Bad	Total
Accredited Milk	...	555	26	14	595
T. T. Milk	...	41	2	—	43
Total	...	596	28	14	638

Number of milk samples taken for tubercle bacilli—157.
Negative—149. Positive—8.

FOOD AND DRUGS (ADULTERATION) ACT, 1928.

Particulars of samples taken under the above Act, in the Wrexham Rural District, during the year ended 31st December, 1938. by the Inspectors of the Denbighshire County Council.

Article	No. taken	Genuine	Not Genuine	Observations
Milk	80	75	5	Two Prosecuted. Three slightly below Standard.
Butter	4	3	1	Small excess water.
Sausage	4	4	—	
Brandy	4	3	1	Small excess water.
Ground Rice ...	1	1	—	
Flour	1	1	—	
Corned Beef ...	1	1	—	
Tinned Peas ...	1	1	—	
Spirit of Nitre ...	2	1	1	Slightly below Standard
Tincture of Iodine ...	1	1	—	
Paregoric Elixer ...	1	1	—	
Custard Powder ...	1	1	—	
Honey	1	1	—	
Cream of Tarter ...	1	1	—	
Jam	1	1	—	
Camphorated Oil ...	1	1	—	
Total	105	97	8	

MEAT INSPECTION.

The total number of carcasses examined during the year was 16,507. Cattle, excluding cows—1,204; cows—519; calves—216; sheep and lambs—13,729; pigs—2,840. This is an increase of 867 over the number of carcasses inspected during the year 1937.

69 carcasses were condemned as unfit for human consumption, 17 of which were tubercular. 870 sections or organs of carcasses were also condemned, of which 242 were tuberculous.

The following table gives full particulars as asked for by the Welsh Board of Health, viz. :—

TABLE XII.

**Carcases Inspected and Condemned.
during 1938.**

	Cattle excluding Cows		Cows	Sheep and Calves	Lambs	Pigs	Total
Number killed (if known)—Unavailable							
Number inspected	...	1204	519	216	13728	2840	16507
<i>All diseases except Tuberculosis</i>							
Whole carcases condemned ...	...	3	2	—	8	39	52
Carcases of which some part or organ was condemned ...	...	34	—	—	579	15	628
Percentage of the num- ber inspected affected with disease other than tuberculosis ...	...	3.07	0.38	—	4.27	1.9	
<i>Tuberculosis only</i>							
Whole carcases condemned ...	...	9	5	—	—	3	17
Carcases of which some part or organ was condemned ...	...	15	39	—	—	188	242
Percentage of the num- ber inspected affected with tuberculosis ...	...	2.0	8.47	—	—	6.72	

SLAUGHTER HOUSES.

During the year 5 Slaughter Houses were repaired. At the end of the year the number of Slaughter Houses on our registers was 59. 2,110 visits and inspections were carried out by the Meat Inspectors. It should be pointed out that the work of Meat Inspection is carried out by the four Divisional Sanitary Inspectors, and the Senior Sanitary Inspector.

In an area such as ours reference is continually made that the standard of meat is high, this statement being based upon the amount of meat condemned.

It does appear, however, that there are too many slaughter Houses in our district and one feels certain that the work of Meat Inspection would be greatly facilitated if regional slaughter houses were agreed to. When one considers that there are 59 Slaughter Houses in our area and that meat is continually being produced in them, it does indicate that there is a large amount of work to be done in this branch of public health administration. It may be that the policy of the Government may lead to alterations which will necessitate the closing down of private slaughter houses.

NUTRITION.

No special investigation has been made on the subject of nutrition, and it has not been found possible to arrange lectures or the exhibition of films dealing upon this matter for the benefit of the public.

SHELL FISH AND MOLLUSCA.

There are no shell fish beds or layings in our area.

OTHER FOODS.

Bakehouses and other premises where foods are manufactured prepared, stored or exposed for sale, or intended for sale, are kept under observation by the four Divisional Sanitary Inspectors.

HOUSING.

During the year 1,980 houses were inspected and 5,410 visits and inspections were made. Of these, 454 of the houses were inspected by the Senior Sanitary Inspector in reference to slum clearance schemes and individual unfit houses, and the total number of inspections made was 2,427.

153 houses were built by private enterprise and 420 houses were built by the Wrexham Rural District Council, making a total of 573 built during the year as compared with 435 during 1937 and 278 during 1936.

The houses built by private enterprise and those built by the Council are allocated to their respective Parishes in the following table, viz. ;—

TABLE XIII.

Parish	Private Enterprise	Council Houses	Total
Abenbury ...	—	—	—
Allington ...	2	—	2
Bersham ...	11	—	11
Broughton ...	2	76	78
Brymbo ...	4	110	114
Burton ...	2	—	2
Cefn ...	22	88	110
Erbistock ...	1	6	7
Esclusham Above ...	3	—	3
Esclusham Below ...	12	—	12
Gresford ...	5	—	5
Gwersyllt ...	5	34	39
Holt ...	3	—	3
Llay ...	3	—	3
Marchwiell ...	3	—	3
Minera ...	1	—	1
Penycae ...	8	—	8
Rhos ...	54	106	160
Ruabon ...	9	—	9
Sesswick... ...	9	—	9
Total ...	153	420	573

It will be noticed from the above table that private enterprise has been fairly active throughout the area, and that more than one-third of the houses erected were in the Parish of Rhos. 22 houses were built in the Parish of Cefn.

As regards Council houses, the programme included six Parishes, namely, Broughton, Brymbo, Cefn, Erbistock, Gwersyllt, and Rhos. The 420 houses built by the Council were erected for the alternative accommodation of persons displaced from unfit houses, although in the Parish of Erbistock this was not the case. The six houses were erected for agricultural workers.

Housing Act, 1936.

During the year action under the Housing Act, 1936 was continued and one must appreciate the work done by the visiting sub-committee in paying so many visits to the houses scheduled

for demolition. During the year 454 houses were inspected under this Act by the Senior Sanitary Inspector, and 1,203 houses, in all, have been dealt with under the various sections of this Act.

136 houses were demolished and 14 houses were reconstructed or rendered fit with reference to undertakings which were accepted by the Council. There were two Ministry of Health Inquiries held during the year, one for opposed areas when 55 houses were dealt with, and the other for opposed areas involving 70 houses. Four clearance areas were included in the first inquiry and 16 in the second. In addition to these houses, 165 individual unfit houses were dealt with during the year and an additional 39 were inspected by the visiting sub-committee. 96 demolition orders were issued during the year and 24 houses were demolished in pursuance of these orders. 37 Clearance Orders were issued during the year.

In my previous Reports I have referred on more than one occasion to the inter-relationship of the unfit house and overcrowding, and it is of interest to note that 50 cases of overcrowding were relieved through the displacement of persons previously dwelling in condemned houses, and these cases affected 301 persons.

The above figures give some indication of the work that has been done in demolishing unfit houses, or, alternatively having them extensively repaired and improved whenever the Council deem it advisable. It must, however, be pointed out that there are still a large number of houses to be dealt with, approximately 1,000, and these are being attended to in conjunction with the construction of new houses for the accommodation of the families living therein. One must bear in mind that the process of building houses is a lengthy one due to the difficulty experienced in obtaining suitable sites and the avoidance of transferring persons from one part of the parish to another, as far as is possible as it gives rise to problems, some of which have been discussed in the Council meetings during the year. For example the ecclesiastical authority complain that if the process of slum clearance continues it will have a very marked effect upon the attendance to certain places of worship, and there seems to be no provision near the new council houses for religious observances. It may be taken that, as a whole, the moral and social standard of the displaced families is improved by their transfer to better housing conditions, but even so there is an instinctive necessity for religious observance which could only be regarded even as a higher standard than that of moral improvement. Another argument put forward is the fact that the school attendances in certain schools would be deleteriously affected by these transfers,

and on the other hand a school situated in close propinquity to a new housing estate may become overcrowded.

It is our experience in the displacement of families from unfit houses to a better class of houses that there is a definite improvement in the standard of living, though it has to be pointed out that this would have a much greater effect upon the younger generation who would, as time goes on, tend to forget the unsatisfactory conditions under which they lived formerly, unless such condition had made an indelible impression upon their minds. It is argued that the rental of the new houses is greater than that for the old ones, but we have ample experience to show that the increase in the rental could be paid by the average tenant.

Under the conditions of the unfit houses it was difficult to have satisfactory food preparation and storage, and we have had many cases of persons who have been displaced stating that they have saved money owing to the better cooking facilities, and due to this economy they have not only been able to pay the excess rental, but have improved their financial resources. Under the old conditions, too great a resource was made to tinned food which, after all is a more expensive way of living than utilising fresh foods which would be of more nutritional value.

Though a large amount of work has been done, a great deal still requires to be carried out. Our attention has been drawn by more than one Ministry of Health Inspector to the fact that the standard of housing in our area is far too low, and we have repeatedly been asked why certain houses were excluded from clearance areas.

It is a difficult matter to bring an unfit house to a reasonable standard, due regard being paid to the financial commitments thereby involved, especially if the house is occupied by the owner.

It may be argued that, at the present time, we are dealing primarily with the worse cases and this indicates that the standard of housing is automatically rising, and that the house which would in previous years be regarded as fit would in the course of a few years be below the border line and would have to be attended to.

It has, however, to be pointed out that owing to the work carried out under Section 9 of the Housing Act, 1936, the standard of houses requiring attention has been raised by the willingness of owners to comply with the housing notices served upon them.

During the year a Special Report dealing on the housing conditions of our district was submitted to the Health Committee, and the following table extracted therefrom indicates the number

of houses remaining to be dealt with, and also those already dealt with out of the 1,425 houses which were referred to in my previous Annual Report.

TABLE XIV.

Parish	Houses remaining to be dealt with				Houses already dealt with		
Allington	...	...	29	...	...	...	—
Bersham	...	...	76	...	...	...	8
Bieston	...	...	2	...	...	...	—
Broughton	...	...	223	...	...	...	95
Brymbo	...	...	63	...	...	...	42
Cefn	...	...	176	...	...	...	84
Erbistock	...	...	4	...	...	...	—
Esclusham Above	...	...	15	...	...	...	1
Esclusham Below	...	...	17	...	...	...	1
Gresford	...	...	11	...	...	...	—
Gwersyllt	...	...	43	...	...	...	18
Holt	...	...	21	...	...	...	—
Isycoed	...	...	1	...	...	...	—
Llangollen Rural	...	...	36	...	...	...	—
Llantysilio	...	...	12	...	...	...	—
Llay	...	...	9	...	...	...	1
Marchwiell	...	...	9	...	...	...	2
Minera	...	...	45	...	...	...	—
Penycae	...	...	80	...	...	...	9
Rhos	...	...	182	...	...	...	109
Ruabon	...	...	10	...	...	...	—
Total	...	1,055	...	...	...	...	370

Housing (Rural Workers) Act, 1931.

I have already indicated that in the Parish of Erbistock 6 houses have been erected for the accommodation of agricultural workers. It is estimated that 66 houses are required, under the above-named Act, for the agricultural workers in our area who are now living in houses classified as unfit. The following table gives particulars of their allocation, viz. :—

Holt	...	...	...	24
Erbistock	...	...	...	14
Isycoed	...	...	...	12
Marchwiell	...	...	...	4
Minera	...	...	...	8
Esclusham Above	...	...	...	4
				—
				66
				—

With reference to this Act a conference was held with the Denbighshire County Council, in order to deal with this type of house, and certain recommendations were agreed upon.

One great difficulty in dealing with the agricultural workers is the difficulty of obtaining suitable sites at a reasonable price, and a further difficulty arises due to the insistence of the County Council upon the strict observation of their requirements with reference to ribbon development. This may mean the necessity of purchasing a much larger area of land than would actually be required for the houses or, alternatively, only a certain number of the houses required in a certain locality could be built on a piece of land if this strict observation was rigidly enforced.

TABLE XIV.

**Total number of houses erected by the Council
up to 31st December, 1938.**

Parish						No. of houses.
Allington	...	...	...	...	...	110
Bersham	...	...	...	...	...	122
Broughton	...	...	...	...	...	215
Brymbo	...	...	...	...	...	194
Burton	...	...	...	...	...	4
Cefn	...	...	...	...	...	280
Erbistock	...	...	...	...	...	8
Esclusham Below	...	...	...	...	...	170
Gresford	...	...	...	...	...	36
Gwersyllt	...	...	...	...	...	444
Llangollen Rural	...	...	...	...	...	32
Llay	...	...	...	...	...	212
Marchwiel	...	...	...	...	...	26
Penycae	...	...	...	...	...	80
Rhosllanerchrugog	...	...	...	...	...	420
Ruabon	...	...	...	...	...	156
Total					...	2,509

TABLE XV.

	North.	South.	East	West	TOTAL
1. Inspection of dwelling houses during the year :—					
(1) (a) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts) ...	645	460	218	203	1526
(b) Number of inspections made for the purpose ...	1060	989	476	458	2983
(2) (a) Number of dwelling houses (including under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 ...	243	277	136	131	787
(b) Number of inspections made for the purpose ...	416	554	195	236	1401
(3). Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ...	—	—	—	—	—
(4). Number of dwelling houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects fit for human habitation ...	164	277	124	182	747
2. Remedy of defects during the year without service of formal notices :—					
Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their Officers ...	213	188	124	89	614
3. Actions under Statutory Powers during the year :—					
A.—Proceedings under sections 9, 10 and 16 of the Housing Act, 1936.					
(1). Number of dwelling houses in respect of which notices were served requiring repairs ...	—	71	—	—	71
(2). Number of dwelling houses which were rendered fit after service of formal notices :—					
(a). By Owners ...	—	7	—	—	7
(b). By Local Authority in default of Owners ...	—	—	—	—	—
B.—Proceedings under Public Health Acts.					
(1). Number of dwelling houses in respect of which notices were served requiring defects to be remedied ...	90	29	82	12	213
(2). Number of dwelling houses in which defects were remedied after service of formal notices :—					
(a). By Owners ...	72	21	79	12	184
(b). By Local Authority in default of Owners ...	—	—	—	—	—

TABLE XV.—continued.

	North	South	East	West	TOTAL
C.—Proceedings under Sections 11 and 13 of the Housing Act, 1936.					
(1). Number of dwelling houses in respect of which Demolition Orders were made ...	...	...	...	...	96
(2). Number of dwelling houses demolished in pursuance of Demolition Orders ...	...	...	...	...	24
D.—Proceedings under Section 12 of the Housing Act, 1936.					
(1). Number of separate tenements or underground rooms in respect of which Closing Orders were made ...	...	...	...	...	37
(2). Number of separate tenements or underground rooms in respect of which Closing Orders were determined the tenement or room having been rendered fit ...	...	...	...	...	—
Housing Act, 1936. (Part IV.) Overcrowding :—					
(a) 1. Number of dwellings overcrowded at end of the year ...	...	...	...	...	1091
2. Number of families dwelling therein ...	...	...	...	...	1091
3. Number of persons dwelling therein ...	...	...	...	...	5645
(b) Number of new cases of overcrowding reported during the year ...	...	...	...	...	17
(c) 1. Number of cases of overcrowding relieved during the year ...	...	...	...	...	50
2. Number of persons concerned in such cases ...	...	...	...	...	301
(d) Particulars of any cases in which dwelling houses have again become overcrowded after the Local Authority have taken steps for the abatement of overcrowding ...	...	...	...	...	—
(e) Any other particulars with respect to overcrowding conditions upon which the Medical Officer of Health may consider it desirable to report ...	...	...	...	...	—

FACTORY AND WORKSHOPS ACT, 1901 AND FACTORIES ACT, 1937.

1.—Inspection of Factories, Workshops and Workplaces. (for purposes of provisions as to Health).

Premises.	Inspections	Written Notices.	Occupiers Prosecuted.
Factories with mechanical power ...	97	—	—
Factories without mechanical power ...	179	29	—
Other premises ...	—	—	—
Total ...	276	29	—

2.—Defects found in Factories, Workshops and Workplaces.

Premises.	No. of Defects.	
	Found.	Remedied.
<i>Nuisances under the Public Health Acts:—</i>		
Want of cleanliness ...	17	17
Overcrowding ...	—	—
Unreasonable Temperature ...	—	—
Want of Ventilation ...	3	3
Want of drainage of floors ...	3	3
Other nuisances ...	—	—
Sanitary accommodation	insufficient	—
	unsuitable	—
or defective	6	6
	not separate for sexes	—
<i>Offences under the Factory and Workshops Acts:—</i>		
Illegal occupation of underground bakehouses (s. 101) ...	—	—
Other Offences ...	—	—
Total ...	29	29

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