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9 JUL 1957

## **BOROUGH OF DENBIGH**

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# **ANNUAL HEALTH REPORT**

## **1956**

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### **Medical Officer of Health**

M. JONES ROBERTS, M.B., Ch.B., D.P.H.,

The Clinic, Middle Lane, Denbigh.

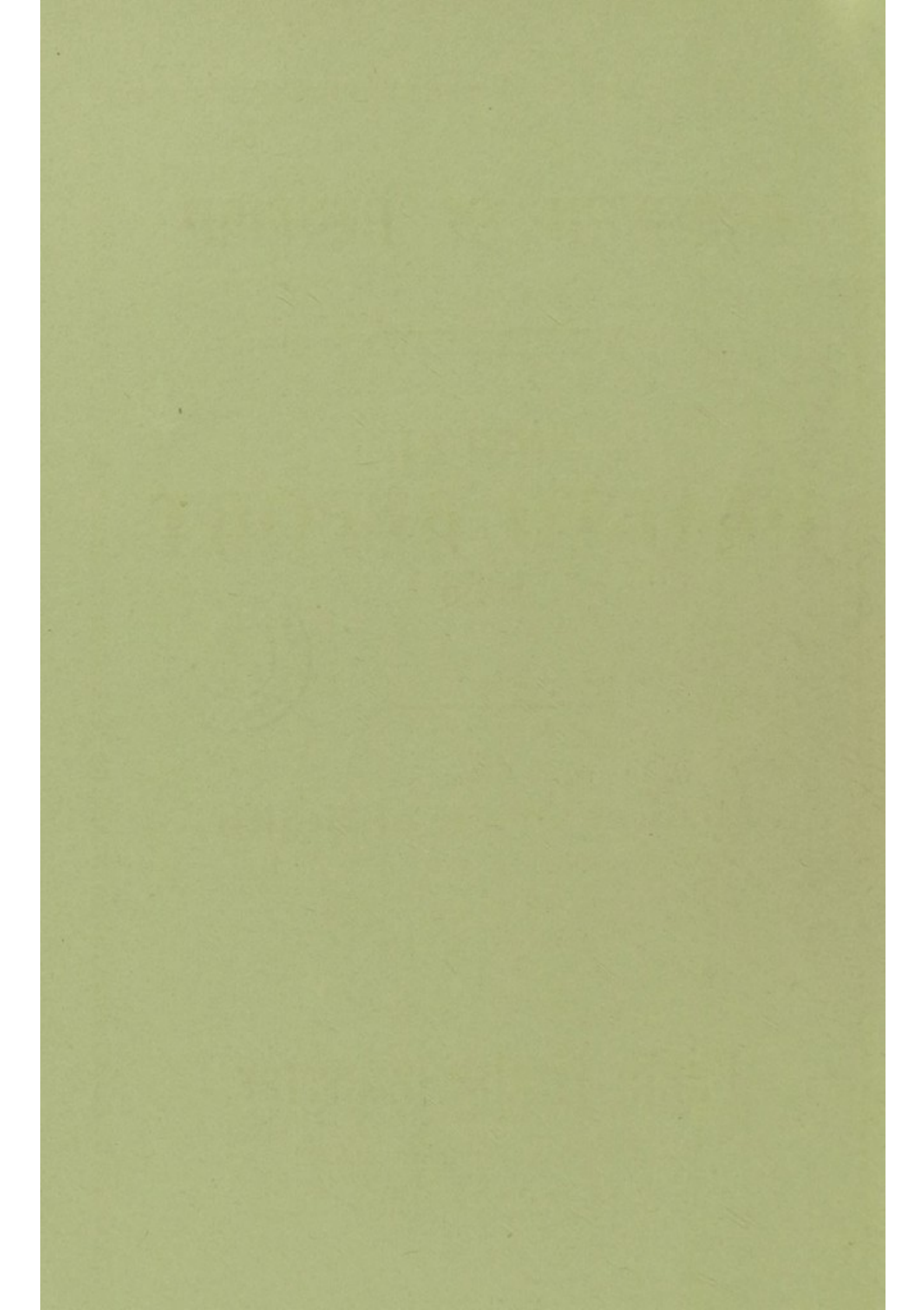
Tel. No. Denbigh 289.

### **Public Health Inspector**

TREVOR H. ALDRICH, A.R.San.I., M.S.I.A.,

Council Offices, Whitehall, Denbigh.

Tel. No. Denbigh 471/472.



*With the Compliments  
of the  
Medical Officer of Health*

With the Comments  
of the  
Medical Officer of Health



# **BOROUGH OF DENBIGH**

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BOROUGH OF DENBIGH

ANNUAL

# HEALTH REPORT

1956

Medical Officer of Health

M. JONES ROBERTS M.B. Ch.B. DPH

The Civic Centre, Denbigh

Denbigh, Denbighshire

Public Health Inspector

DAVID H. ALLEN M.B. Ch.B. DPH

The Civic Centre, Denbigh

Denbigh, Denbighshire



## TO THE MAYOR, ALDERMEN AND COUNCILLORS OF THE BOROUGH OF DENBIGH

Mr. Mayor, Ladies and Gentlemen,

I have pleasure in presenting to you the Annual Report on the health of the Borough during the year 1956.

During the year the Sanitary Inspectors (Change of Designation) Act, 1956, was passed. This provides that in future the Sanitary Inspector shall be designated Public Health Inspector.

A great deal of publicity has been given to the location of the District Medical Officer's office. This arose following my request for better office accommodation. At the present time, the office consists of one room at the County Health Clinic at Denbigh, which is also occupied by my clerk and this causes a great deal of inconvenience. It is most difficult to interview anyone, especially if the interview is of a confidential nature, discuss matters with other officials, write reports, etc., when the clerk is occupied in typing, answering telephone calls, etc. If there is a clinic, e.g. orthopaedic clinic, ophthalmic clinic, Welsh Board of Health clinic, dental clinic, etc., held in the premises, and a doctor occupies the room in which the one and only telephone extension is placed, everyone comes into the office to use the telephone and this makes it impossible for me to do any clerical work during office hours. A partition to divide the room into two would improve matters to a certain extent, but this would not be entirely satisfactory as it would make my office and the clerk's into very small rooms.

The location of the office is a matter entirely for the Western No. 2 District Health Committee to decide on, and Denbigh was chosen in the first instance as being the most central for the area, as Aled Rural District was then included in the Western No. 2 Health Area. Aled Rural District is now part of the Western No. 1 Health Area, thus Denbigh is no longer the centre of the area which covers Hiraethog Rural District, Llanrwst Urban District, Ruthin Rural District, Ruthin Borough and Denbigh Borough. Fifty per cent of my time is allocated to County Council duties with the County Health Department at Wrexham.

In the event of my clerk being away, no relief clerk is available. During 1956 she was away on holiday for over two weeks and sick leave for seven weeks during a period of three months. This meant that I had to do all the clerical work as well as my professional work. Had the office been in Ruthin, probably a clerk from the County Offices would have been available to assist with typing, answering the telephone, etc.



The Public Health Inspector and I would like to thank the Mayor and Members of the Council and the various Committees for their co-operation during the year and we would thank the other officials and members of the staff for their assistance at all times.

Yours faithfully,

M. JONES ROBERTS.

The Mayor of the Council and the Chairmen of the various Committees during the year were as follows:—

Mayor of the Borough:—

January—May, 1956—Ald. Mrs. Eunice Evans.

June—December, 1956—Ald. John Jones.

Chairmen of the Public Health Committee:—

January—May, 1956—Clr. T. J. Davies.

June—December, 1956—Ald. John Jones.

Chairmen of the Housing Committee:—

January—May, 1956—Clr. I. L. Watkins.

June—December, 1956—Clr. I. L. Watkins.

### General Statistics of the Borough

|  |             |
|--|-------------|
| Area of Borough .....  | 9,072 Acres |
| Registrar General's estimated population (mid 1956) .....                | 7,900       |
| Estimated number of occupied dwellings for the year<br>ending 1956 ..... | 2,155       |
| Rateable Value .....   | £73,268     |
| Sum represented by a penny rate .....                                    | £280        |

The estimated population of the Borough in 1956 was 7,900 compared with 7,910 in 1955, a decrease of 10.

The estimated number of occupied dwellings for the year ending 1956 was 2,155 compared with 2,130 in 1955, an increase of 25.

## DEATHS

Comparability Factor ..... 0.42

|  | England & Wales |       |       |
|--|-----------------|-------|-------|
|  | 1956.           | 1955. | 1956. |
| Crude death rate (per 1,000 population) .....          | 11.7            | 23.13 | 19.49 |
| Corrected death rate (per 1,000 population) .....      | —               | 18.73 | 8.18  |
| Still-birth rate .....                                 | 23.0            | 0.75  | 0.38  |
| Maternal Mortality rate .....                          | 0.56            | Nil   | Nil   |
| Infant Mortality rate<br>(per 1,000 live births) ..... | 23.8            | 8.93  | 17.24 |

The causes of death are shown in the following table with the number of deaths for 1955 shown for comparison:—

|   | 1955<br>Total. | Total. | 1956<br>Males. | Females. |
|---|----------------|--------|----------------|----------|
| Poliomyelitis .....                             | —              | —      | —              | —        |
| Tuberculosis—Respiratory .....                  | 3              | 4      | 2              | 2        |
| Tuberculosis—Other .....                        | 1              | —      | —              | —        |
| Syphilitic Diseases .....                       | 1              | —      | —              | —        |
| Diphtheria .....                                | —              | —      | —              | —        |
| Whooping Cough .....                            | —              | —      | —              | —        |
| Meningococcal Infections .....                  | —              | —      | —              | —        |
| Measles .....                                   | —              | —      | —              | —        |
| Other infective and parasitic diseases          | 1              | 2      | 2              | —        |
| Malignant Diseases:                             |                |        |                |          |
| Stomach .....                                   | 5              | 6      | 4              | 2        |
| Lungs, Bronchus .....                           | 1              | 2      | 1              | 1        |
| Breast .....                                    | 3              | 2      | —              | 2        |
| Uterus .....                                    | 3              | 1      | —              | —        |
| Other .....                                     | 15             | 8      | 3              | 5        |
| Total Cancer Deaths .....                       | 27             | 19     | 8              | 1        |
| Leukaemia .....                                 | 2              | 1      | —              | 1        |
| Diabetes .....                                  | 2              | —      | —              | —        |
| Vascular lesions of the nervous<br>system ..... | 21             | 12     | 5              | 7        |
| Coronary Diseases .....                         | 18             | 19     | 11             | 8        |
| Hypertension with heart diseases ...            | 4              | 9      | 7              | 2        |
| Other heart diseases .....                      | 62             | 41     | 16             | 25       |
| Other circulatory diseases .....                | 3              | 4      | 2              | 2        |
| Influenza .....                                 | —              | —      | —              | —        |
| Pneumonia .....                                 | 4              | 8      | 7              | 1        |
| Bronchitis .....                                | 5              | 1      | 1              | —        |
| Other respiratory diseases .....                | 1              | 3      | 3              | —        |
| Ulcer of stomach, etc. ....                     | 1              | 2      | 2              | —        |
| Gastritis, diarrhoea, etc. ....                 | —              | —      | —              | —        |
| Nephritis, nephrosis, etc. ....                 | 2              | 4      | 3              | 1        |
| Prostatic Hyperplasia .....                     | 3              | 2      | 2              | —        |
| Maternal causes .....                           | —              | —      | —              | —        |
| Congenital malformations .....                  | 2              | —      | —              | —        |
| Other defined and ill-defined diseases          | 14             | 19     | 5              | 14       |
| Motor vehicle accidents .....                   | 1              | —      | —              | —        |
| All other accidents .....                       | 3              | 3      | 1              | 2        |
| Suicide .....                                   | —              | 1      | —              | 1        |
| Homicide .....                                  | 2              | —      | —              | —        |
| ALL CAUSES .....                                | 183            | 154    | 77             | 77       |



The deaths occurred in the following age groups:—

|                         |                               |
|-------------------------|-------------------------------|
| Under 1 year .....      | 2 (1 Male and 1 Female).      |
| 1—10 years .....        | Nil.                          |
| 10—20 years .....       | 2 (Males).                    |
| 20—30 years .....       | 1 (Male).                     |
| 30—40 years .....       | 1 (Female).                   |
| 40—50 years .....       | 9 (5 Males and 4 Females).    |
| 50—60 years .....       | 25 (13 Males and 12 Females). |
| 60—70 years .....       | 30 (18 Males and 12 Females). |
| 70—80 years .....       | 52 (23 Males and 29 Females). |
| 80—90 years .....       | 29 (12 Males and 17 Females). |
| 90 years and over ..... | 3 (2 Males and 1 Female).     |

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Total 154 (77 Males and 77 Females).

The number of deaths during the year was 154 compared with 183 in 1955. Of these, 114 occurred in persons aged 60 years and over. The death rate has decreased from 18.73 in 1955 to 8.18 in 1956 and this compares with 11.7 for England and Wales.

Eighty-nine of these deaths (47 Males and 42 Females) occurred at the North Wales Hospital, Denbigh.

Deaths from tuberculosis numbered 4 compared with 3 in 1955.

No cases of non-pulmonary tuberculosis died compared with 1 case during the previous year.

There were 19 deaths due to cancer compared with 27 in 1955. Two of these were due to cancer of the lungs.

Deaths due to vascular lesions, lesions of the heart and other circulatory diseases amounted to 85 compared with 108 during the previous year. Of these, 19 deaths were due to coronary diseases compared with 18 in 1955.

Eight deaths were due to pneumonia compared with 4 in the previous year, but only one death was due to bronchitis compared with 5 in 1955. There were no deaths from any of the other notifiable infectious diseases.

There were no deaths due to road accidents. Three deaths were due to other accidents, the causes being as follows:—

One person aged 92 years died from shock following a fractured femur caused by a fall indoors.

One person aged 65 years died from cardiac failure due to shock



following a fracture of the spine and ribs due to a fall out of doors.

The third person died at the age of 74 years due to a fracture of the base of the skull following a fall downstairs.

### **Maternal Mortality**

There were no deaths due to maternal causes, thus giving a maternal mortality rate of NIL again this year compared with 0.56 for England and Wales.

### **Still-births**

The still-birth rate was 0.38 compared with 0.75 in 1955 and 23.0 for England and Wales.

The actual number of still-births was 3 compared with 6 the previous year.

### **Infant Deaths**

The infant mortality rate was 17.24 compared with 8.93 in 1955 and 23.8 for England and Wales.

The actual number of infant deaths was 2.

One death occurred in a baby aged 17 hours and the cause of death was 1 (a) Inanition (b) Prematurity. It appears that death was unavoidable in this case. This was the fourth pregnancy and the mother's health was not good, the previous baby having being still-born. The house was totally unfit for habitation, but the family has now been re-housed.

The second death was due to prematurity and the baby died at the age of 2 days. The Health Visitor stated that ante-natal supervision had not been good due to the fact that the expectant mother had not attended her own doctor regularly for this and had not attended a clinic either. Although the family live in a Council house, there is overcrowding here and two members suffer from tuberculosis.

## **BIRTHS**

Comparability Factor ..... 1.09

The actual number of births registered in the Borough during the year was 203 (106 Males and 97 Females), but of these only 116 (57 Males and 59 Females) related to residents compared with 112 (56 Males and 56 Females) in 1955.

These births were classified as follows:—

|                    | Males.    | Females.  | Total.     |
|--------------------|-----------|-----------|------------|
| Legitimate .....   | 52        | 55        | 107        |
| Illegitimate ..... | 5         | 4         | 9          |
| <b>Total</b> ..... | <b>57</b> | <b>59</b> | <b>116</b> |

|   | England and<br>Wales. | 1955. | 1956. |
|---|-----------------------|-------|-------|
| Crude birth rate (per 1,000 population) .....     | 15.7                  | 14.16 | 14.68 |
| Corrected birth rate (per 1,000 population) ..... | —                     | 15.51 | 16.00 |

### INFECTIOUS DISEASES

The following table shows the number of cases of infectious diseases notified during 1956 arranged in the various age groups. The number of cases notified during 1955 is given in the first column for comparison.

| Notifiable Disease.              | 1955 Total. | 1956 Total. | Under 1 year. | 1—5 years. | 6—15 years. | 16—25 years. | 26—45 years. | 46—65 years. | 65 years and over. | Ages unknown. | Number admitted to Hospital. |
|----------------------------------|-------------|-------------|---------------|------------|-------------|--------------|--------------|--------------|--------------------|---------------|------------------------------|
| Puerperal Pyrexia .....          | 1           | 1           | —             | —          | —           | —            | 1            | —            | —                  | —             | —                            |
| Whooping Cough .....             | 17          | 22          | 2             | 10         | 10          | —            | —            | —            | —                  | —             | —                            |
| Scarlet Fever .....              | —           | 1           | —             | —          | —           | —            | 1            | —            | —                  | —             | —                            |
| Measles .....                    | 11          | 8           | —             | 8          | —           | —            | —            | —            | —                  | —             | —                            |
| Pneumonia .....                  | 5           | 9           | —             | 1          | 1           | 2            | 1            | 4            | —                  | —             | 1                            |
| Dysentery .....                  | 4           | —           | —             | —          | —           | —            | —            | —            | —                  | —             | —                            |
| Enteritis .....                  | 4           | —           | —             | —          | —           | —            | —            | —            | —                  | —             | —                            |
| Erysipelas .....                 | 1           | 2           | —             | —          | —           | 1            | —            | —            | 1                  | —             | —                            |
| Food Poisoning .....             | 2           | —           | —             | —          | —           | —            | —            | —            | —                  | —             | —                            |
| Pulmonary Tuberculosis ...       | 22          | 9           | 1             | —          | 1           | 4            | 1            | 2            | —                  | —             | —                            |
| Non-Pulmonary Tuberculosis ..... | 1           | —           | —             | —          | —           | —            | —            | —            | —                  | —             | —                            |
| <b>Totals</b> .....              | <b>68</b>   | <b>52</b>   | <b>3</b>      | <b>19</b>  | <b>12</b>   | <b>7</b>     | <b>4</b>     | <b>6</b>     | <b>1</b>           | <b>—</b>      | <b>1</b>                     |

The total number of cases of infectious diseases (including tuberculosis) notified during the year was 52 compared with 68 cases notified in 1955.



There were 22 cases of whooping cough notified compared with 17 cases in 1955. The majority of these cases occurred in children who had removed to reside at the new housing estate at Henllan.

Nine cases of pneumonia were notified in 1956 compared with 5 cases in 1955, two of these cases occurred at the North Wales Counties Hospital, Denbigh. Two of the cases occurred during the second quarter, two in the third quarter and five in the last quarter of the year.

The case of puerperal pyrexia occurred in hospital.

No cases of food poisoning were notified during the year.

There was a 50% increase in the National Insurance Benefit paid out during the last week of December. No influenza epidemic occurred during this period and the increase was not due to any specific disease.

Nine cases of pulmonary tuberculosis were notified compared with 22 cases of pulmonary tuberculosis and one case of non-pulmonary tuberculosis in 1955. None of these cases were notified from the North Wales Counties Hospital, Denbigh.

Eight cases of tuberculosis (7 cases of pulmonary and one case of non-pulmonary tuberculosis) were transferred to the register in respect of patients admitted to the North Wales Counties Hospital, Denbigh.

Two cases were restored to the register, the patients having returned to reside in the Borough after a period of residence in other areas.

Fifteen cases of tuberculosis were removed from the register, four of the patients having gone to reside in other areas, six recovered, four died, and one case was finally diagnosed as non-tuberculous.

The following table shows the number of cases on the tuberculosis register at the beginning and at the end of 1956.

|                           | Pulmonary. |          | Non-Pulmonary. |          | Total. |
|---------------------------|------------|----------|----------------|----------|--------|
|                           | Males.     | Females. | Males.         | Females. |        |
| Number on register on     |            |          |                |          |        |
| 1st January, 1956 .....   | 77         | 40       | 10             | 12       | 139    |
| Number on register on     |            |          |                |          |        |
| 31st December, 1956 ..... | *81        | *41      | 8              | 10       | *140   |

\* These figures include 53 cases of pulmonary tuberculosis (47 Males and 6 Females) and one case of non-pulmonary tuberculosis (male) at the North Wales Counties Hospital, Denbigh, who are counted as residents of the Borough as they are long-term patients.



Seven cases of tuberculosis were admitted to hospitals or sanatoria during the year.

Articles of clothing and bedding were steam disinfected at the County Welfare Institution, Ruthin.

Disinfection of rooms was achieved by using formalin gas generator and formalin spray.

## PREVENTION OF INFECTIOUS DISEASES

### Diphtheria and Whooping Cough

There have been no notified cases of diphtheria in the Borough for years. Diphtheria inoculation is carried out at the same time as the inoculation against whooping cough and the number of inoculations given in the Borough is shown in the following table together with the number of cases of whooping cough notified since 1951. These figures may not be strictly accurate as babies are sometimes given the inoculation by their own doctors and these are not always recorded.

| Year. | Number of births. | Number immunised against diphtheria. | Number of booster injections. | Number immunised against whooping cough. | Number immunised against whooping cough and diphtheria | Number of cases of whooping cough notified.       |
|-------|-------------------|--------------------------------------|-------------------------------|--|--|---|
| 1951  | 116               | 117                                  | 66                            | 1  | 18   | 1—5 years ..... 16<br>5 years and over. 22<br>6)  |
| 1952  | 127               | 6                                    | 116                           | 10                                       | 73   | 1—5 years ..... 12<br>5 years and over 2)<br>14   |
| 1953  | 126               | 22                                   | 71                            | Nil                                      | 144  | Nil   |
| 1954  | 110               | 30                                   | 51                            | Nil                                      | 69   | 1—5 years ..... 30<br>5 years and over. 27)<br>57 |
| 1955  | 112               | 39                                   | 307                           | Nil                                      | 48   | 1—5 years ..... 16<br>5 years and over. 1)<br>17  |
| 1956  | 116               | 8                                    | 139                           | Nil                                      | 86   | 1—5 years ..... 12<br>5 years and over. 10)<br>22 |

I am unable to give the immunised state of the notified cases in the years 1951—1955, but in the 22 cases of whooping cough notified in 1956, I am able to give the following information:—

12 cases had not been immunised.

In three cases there was doubt as to whether the children had been immunised but as they were over 6 years of age, the probability is that they had not been immunised.

7 cases were immunised, but 1 or 2 of these had not completed their course of injections.

Of the 12 cases who had not been immunised, eleven were said to have had a severe attack of whooping cough, and one a mild one. Of the 7 cases which had been immunised, four were said to have had the disease in a very mild form (no whoop and very little vomiting, the children getting over the disease quickly), two had it moderately severe and in one case the disease was severe.

### Smallpox

Vaccination against smallpox is generally carried out at the clinic at the age of 8 weeks, but some doctors prefer to wait until the child is 3-4 months old. All children should be vaccinated before their first birthday, but the younger the child, the less risk there is of any complications.

Number of primary vaccinations given ..... 88

Number of re-vaccinations given ..... 1

The re-vaccination was in respect of a person going abroad.

### Poliomyelitis

Vaccination against poliomyelitis was undertaken during the months of May and June, 1956, and the number given the injections was as follows:—

Number completed the course of injections ..... 28

Number given only one injection ..... 2

The two injections were given with three weeks interval between them. There was not sufficient vaccine to vaccinate all the children whose parents had given consent, therefore, certain groups of children were chosen. These were children born in the months of November and March, 1947-1954 (inclusive). Those born in August and October were then vaccinated and those born in May if vaccine were available.

Vaccination was discontinued after 30th June so that no risk was taken during the season when poliomyelitis becomes prevalent.

No child who received the injections complained of illness or any ill effect following the vaccination and all the children appear to have



been well. Of course, no risks were taken. Any child who attended for the injection but who suffered from colds, asthma, hay fever, had been in direct contact with any infectious disease, or had any other prophylactic injection during the previous three weeks, was not given the injection. When vaccination against poliomyelitis is commenced again in 1957, priority will be given to children whose parents have already given their consent.

### **Tuberculosis**

The Mass Radiography Unit did not visit the Borough during the year.

No prophylactic injection, i.e. B.C.G. for the prevention of tuberculosis is given generally in this County, but all contacts of cases are asked to attend the Chest Clinic where they are given tests, and if necessary, they are vaccinated against the disease. Most babies who are contacts are given this protection when they are very young.

Routine testing and B.C.G. vaccination of school children has not been undertaken in the County up to date, but if a case occurs in a school, the children are tested (with the parents consent) and followed up by X-ray examination, etc. and a search is made for the infecting person.

The source of infection is often found to be a person in the older age group, e.g. a grandparent, who does not know of the presence of the disease. Attendance of the whole population for X-ray examination during the visit of the Mass Radiography Unit to the area will go far in the discovery of such cases. Secondary cases are more likely now that open cases are living longer. Better housing conditions will help to reduce the incidence of the disease particularly where there is overcrowding.

The co-operation of the general public is very essential for the success of eradicating tuberculosis from the community. Early diagnosis of cases will ensure that they are isolated, thus preventing the spread of the disease to others. It must be remembered that the presence of a case of tuberculosis is a danger to others at home and at work. The tracing of contacts and the original source of infection must be carried out immediately and treatment of all concerned must be carried out at the earliest possible moment. Early treatment will shorten the period of illness and enable the sufferer to return to work sooner.



## Housing

The Council has built 214 post war houses and had already built 225 pre war, thus making a total of 439 houses together with about 20 cottages.

During the year, 24 Council houses were completed and occupied at Maes Sadwrn, Henllan. The Council now envisage a scheme for a slum clearance programme. It is proposed to build 14 houses at Clwyd Avenue. These will be two-bedroomed houses intended for the smaller family and the elderly who now occupy existing three-bedroomed houses. Occupants of houses in the slum clearance areas will be moved to the three-bedroomed houses. In this way, the Council hope to economise its building costs by not having to build more three-bedroomed houses while at the same time providing suitable accommodation for the persons to be displaced.

It is proposed to re-house the remainder of those living in the slum clearance areas on the Henllan Street site, the Council having already taken steps to acquire the land for this purpose. The Order for the confirmation of the Compulsory Purchase Order regarding the site was submitted to the Welsh Office for confirmation in December, 1956.

Some progress has been made in dealing with the unfit houses in the town during the year by using existing council house vacancies to arrange transfers and re-house families from unfit houses.

In this manner a total of ten houses have been closed, involving ten families and fifty-four persons who have all been re-housed.

Nineteen further houses have been made fit for human habitation by owners after informal action by this Department. In two cases houses have been made fit after formal action under the provisions of the Housing Acts 1936-1954.

Of the twelve houses in existing clearance areas occupied temporarily under licence given under the provisions of Section 6, The Housing Repairs and Rents Act 1954, the families of two were rehoused, and the licences revoked. The **owner** of one house relet the house and was subsequently prosecuted successfully for contravening Section 155, The Housing Act 1936, a fine of £10 being imposed by the Court.

## Improvement Grants

Fourteen detailed applications for improvement grants were received during the year of which twelve were approved by the Council, one was



refused and one application deferred. Final certificates were signed in respect of seven completed houses and the grant paid.

The Council have now received a total of twenty five applications for improvement grants of which eighteen qualified for the Councils approval. Of these, five owners did not proceed with the work and one owner decided not to accept the grant (and conditions attached) when the work had been completed.

Since the Housing Acts 1949-1954 introduced the improvement grant scheme, only nine houses have been improved and the work completed, leaving three other houses where work is proceeding.

It is estimated that at least three hundred houses in the Borough require repair and these and many more lack such amenities as hot water, adequate cooking and food storage facilities, indoor sanitation, and bathrooms.

It is obvious that the improvement grant scheme has failed to touch even the fringe of the problem in Denbigh and the answer to improved housing conditions in existing old houses must lie in some other direction.

### **Sewerage**

The new works built for the Borough at a cost of £70,000 began to function in August, 1956, and new lengths of sewers have been laid in the town area. The whole works will be completed in 1957.

Improvements have been carried out at the Green sewage disposal works and these now function better.

### **Water Supplies**

The Borough is supplied by the Denbigh Water Company. Bacteriological reports on samples of this supply taken during the year have been reported to be satisfactory each time.

Four samples were submitted for bacteriological examination and proved (Class 1).

The water is deep well water and is hard.

A number of outlying properties are supplied by the North Wales Counties Hospital's private supply by private arrangement. The water is not treated and samples during the year have been unsatisfactory, due mainly to the carrying out of alterations at the reservoir.

Other outlying properties in the area have no public supply and rely on wells. Few of these are satisfactory.



The village of Henllan is supplied from the Hafod reservoir. The Borough Council had considered carrying out improvements to this supply and to this end has sent a deputation to the Welsh Office to discuss the matter with the Officials there. The Council had decided then that the best course was to modernise the existing water works at Henllan and this would cost, according to the estimate of the Consulting Engineers, in the region of £20,000. However, having regard to Circular 52/56, the Borough Council wrote to the Denbighshire County Council asking for a County conference to be convened early in 1957 to discuss this Circular and deferred carrying out the proposed scheme until the outcome of this conference is known.

Five samples of this water supply were taken during the year and sent for bacteriological examination, four were Class 1 and one was Class 3. This latter sample was taken after a fault had developed at the works. This matter was immediately rectified.

### Food

Number of food premises in the area:—

These consist of:—

|                         | Number of<br>premises. |
|-------------------------|------------------------|
| Shops .....             | 74                     |
| Bakehouses .....        | 8                      |
| Public Houses .....     | 17                     |
| Hotels .....            |                        |
| Cafes .....             | 10                     |
| School Canteens .....   | 7                      |
| Other Canteens .....    | 1                      |
| Stalls .....            | 5                      |
| Vans .....              |                        |
| Sausage Factories ..... | 10                     |
| Dairies .....           | 2                      |
| Slaughterhouses .....   | 4                      |

The total number of inspections made at the above premises was 1,098.

Conditions were generally found to be satisfactory as regards cleanliness and staff hygiene. Improvements to structure and equipment were needed in most places to comply with regulations. These improvements were carried out at the majority of premises during the year. It has not been possible to revisit all the premises in question owing to pressure of other duties, but re-inspection will be carried out early in 1957. No refusals to improve premises were met with and no statutory action was found necessary.



The following food was found to be unfit for human consumption and was destroyed by burial at the Council tip after surrender by shop keepers.

|                   | lbs. | ozs. |
|-------------------|------|------|
| Tinned Meat ..... | 336  | 9    |
| Fruit .....       | 161  | 11   |
| Fish .....        | 17   | 10½  |
| Beans .....       | 19   | 13   |
| Soups .....       | 7    | 14   |
| Vegetables .....  | 38   | 7    |
| Tomatoes .....    | 109  | 14   |
| Cereals .....     |      | 4½   |
| Cream .....       |      | 6    |
| Milk .....        | 84½  | pts. |

### Ice Cream

Thirty-one premises are registered for the sale of pre-packed ice cream. Ice cream is manufactured by the heat treatment process at one factory in the town.

The premises were regularly visited. No unsatisfactory samples of ice cream were obtained during the year. The requirements of the Ice Cream (Heat Treatment etc.) Regulations 1947-1952 were satisfactorily complied with.

### Milk

The milk supplied to premises and schools in the Borough was regularly sampled.

Milk samples were sent to the Public Health Laboratory for examination as follows:—

|                          | Satis-<br>factory. | Unsatis-<br>factory. |
|--------------------------|--------------------|----------------------|
| Tuberculin Tested .....  | 6                  | —                    |
| T.T. (Pasteurised) ..... | 2                  | —                    |
| Pasteurised .....        | 8                  | —                    |
| Sterilised .....         | 1                  | —                    |

There are three main retailers who regularly supply milk to premises in the Borough, but enquiries made of the Milk Marketing Board reveal that of the 82 milk producers in the area, nine premises hold a Producer Retailer Licence.

The following report was received from Mr. T. H. Evans:—

### COUNTY OF DENBIGH

Particulars of samples taken under the Food and Drugs Act, in the BOROUGH of DENBIGH, during the year ended 31st December, 1956.

| Article.               | No. Taken. | Genuine. | Not Genuine, or<br>Sub-Standard. |
|------------------------|------------|----------|----------------------------------|
| MILK .....             | 10         | 10       | —                                |
| Butter .....           | 2          | 2        | —                                |
| Lard .....             | 1          | 1        | —                                |
| Cheese .....           | 1          | 1        | —                                |
| Flour .....            | 1          | 1        | —                                |
| Bread .....            | 1          | 1        | —                                |
| Ice Cream .....        | 2          | 2        | —                                |
| Sausages .....         | 1          | 1        | —                                |
| Beer .....             | 1          | 1        | —                                |
| Sol. of Hydrogen ..... | 1          | 1        | —                                |
| Peroxide .....         | —          | —        | —                                |
| Totals .....           | 21         | 21       | —                                |

All the samples were certified by the Public Analyst to be genuine and free from all prohibited preservatives and colouring matter.

17 Vicarage Hill,

THOS. H. EVANS,

WREXHAM.

Chief Inspector.

6th May, 1957.

County of Denbigh.

### Clean Food

To supplement the effect of the Food Hygiene Regulations and to give food handlers and members of the public an opportunity to see modern food equipment a large section of the very successful Public Health Exhibition held in May was devoted to Food Hygiene.

The requirements of the Food Hygiene Regulations, both structural and otherwise were clearly illustrated by various displays and exhibits, also films dealing with food hygiene were regularly shown.

Dr. M. T. Islwyn Jones, Medical Officer for Denbighshire, lectured food traders and food trade employees on the subject of Food Poisoning. Poster and essay competitions were held for children attending schools in the Borough on subjects associated with Food Hygiene.



The Exhibition which was held in conjunction with the Ministry of Agriculture Fisheries and Food was attended by approximately 6,000 people.

It cannot be said too often that the public have a major part to play in securing clean food. They should patronise establishments which maintain good standards of hygiene, refuse to accept food improperly served by handlers with dirty hands or dirty clothing. Food which has been exposed to flies and dust in unprotected shop windows or left uncovered on counters should never be accepted and above all people should complain when they are not satisfied—complain not only to the management concerned, but also to the Medical Officer of Health and the Public Health Inspector. Such complaints will be investigated and treated confidentially. Not one complaint of this nature was received at the Health Department during the year.

### Slaughter Of Animals

Four private slaughterhouses continued to operate in different parts of the Borough. More animals were slaughtered this year than in 1955. Supervision of the slaughterhouses and inspection of the meat is made difficult by the dispersal of the four slaughterhouses but every effort is made to inspect all the animals slaughtered and much of the work of meat inspection is carried on outside normal working hours.

Diseased meat was disposed of by the butcher under the supervision of this department, the bulk of such meat being sold for processing into fertiliser etc.

Animals slaughtered for human consumption and inspected were as follows:—

|  | Cattle. | Cows. | Calves. | Sheep. | Pigs  | Horses. |
|--|---------|-------|---------|--------|-------|---------|
| Number killed .....  | 616     | 253   | 425     | 8,122  | 1,748 | None    |
| Number inspected .....   | 616     | 253   | 425     | 8,122  | 1,748 | —       |
| All diseases except Tuberculosis and Cysticerci.                             |         |       |         |        |       |         |
| Whole Carcases. ....   | 1       | 4     | 11      | 58     | 7     | —       |
| Carcases of which a part or organ condemned. ...                             | 108     | 79    | 1       | 720    | 46    | —       |
| % of number inspected affected with disease other tuberculosis or cysticerci | 17.6%   | 32.8% | 2.8%    | 9.6%   | 3%    | —       |
| Tuberculosis.  |         |       |         |        |       |         |
| Whole Carcases .....   | 1       | 1     | Nil     | —      | —     | —       |
| Parts of Carcases .....  | 14      | 11    | —       | —      | 38    | —       |
| % .....  | 2.4%    | 4.8%  | —       | —      | 2.1%  | —       |
| Cysticerci   | None.   |       |         |        |       |         |



### **Refuse Collection and Disposal**

It is important to ensure that all refuse normally collected by the Council is regularly called for. Dislocation of the collection service is quickly noticed by the public and causes trouble and inconvenience to householders. Any such delay inevitably increases the difficulty of collection and imposes a heavier task on the men until the position becomes normal again. At the same time the cost of this service must be kept to the lowest possible figure, and the task of providing an efficient service at the lowest possible cost is extremely difficult.

The Public can help to reduce the cost of this service and thereby help to reduce their rate contribution by realising the difficulties involved and exercising a little patience when bad weather, public holidays or vehicle breakdown interrupts the normal weekly schedule, further economies might also be made if householders observed the following rules:—

1. Place only dry refuse in the dustbins.
2. Place all waste food in the swill collection bins provided throughout the town by contractors.
3. Endeavour to reduce the quantity of refuse to be collected by burning rubbish whenever possible.
4. Ensure that proper dustbins, with lifting handles and well fitting lids are provided to keep the refuse in—defective bins, and other containers, waste time and therefore cost more money to empty.
- 5.—Keep clean newspapers, books and magazines out of the bin and give them separately to the workmen when they call for the refuse. — The proceeds from the sale of salvage contributes to the cost of refuse collection and reduces the rates.

A certain amount of unauthorised dumping of household articles takes place at various open sites in the town and it may not be generally realised that the refuse collection lorries will remove any reasonable quantity of refuse or household articles, when asked to do so. There is no excuse for depositing old mattresses, bicycle frames, bedsteads etc. on undeveloped sites thereby despoiling the appearance of these places.

Refuse is collected weekly in all parts of the Borough other than outlying farms and cottages where it is collected monthly or on request.

No charge is made for the collection of refuse from business premises and offices. Food premises receive a twice weekly collection where this is required.

Bins for waste food are provided in the town area by a contractor. These bins are collected at least twice a week and daily if necessary.



Regular collection, the cleansing of bins, and immediate attention to complaints has made this service a continued success.

Refuse is disposed of by controlled tipping at Meifod Quarry, Henllan. The tip is managed by a full time attendant and adequate precautions are taken to destroy insects, vermin and weeds.

Waste paper, scrap metals and rags are salvaged and sold to Messrs. Thames Board Mills with whom the Council have a contract.

Details of these sales for the period ending 31st March 1957, are as follows:—

|   |          |
|---|----------|
| Mixed Paper .....   | 13 tons. |
| Newspapers, Books and Magazines and Fibreboard containers | 63 tons. |
| TOTAL:—76 tons — value £701 0s. 0d.                       |          |

Note:—The amount of paper which the Council could send to the mills was restricted to a quota of normal delivery owing to circumstances outside the Council's control.

Sale of scrap metals and rags amounted to the total value of £94 0s. 0d.

### **Rodent Control**

At the Public Health Exhibition held by the Council in conjunction with the Ministry of Agriculture, Fisheries and Food, prominence was given to rodent control work. The Rodent Control division of the Ministry had a large exhibit featuring live rats and mice. Methods of control were illustrated and explained.

The Councils' rodent destruction service was advertised and the public were urged to report infestations of rats and mice.

Domestic premises are treated free of charge by the Council; all other premises pay for treatments on a time and material basis. A full time Rodent Operator is employed and he is responsible for inspection of premises and for carrying out treatments.

The sewers of the town and Henllan village were test-baited and treated to destroy rats with which they were infested. The second maintenance treatment showed that the earlier treatment had been successful and that the sewer rat population was much reduced.

|  |      |
|--|------|
| Total number of inspections made .....       | 1158 |
| No. of major infestations found .....        | —    |
| No. of minor infestations found .....        | 95   |
| No. of premises treated by the Council ..... | 70   |

### **Factories Act 1937—1948**

In the course of inspection of Factories minor contraventions of the Act were noted and dealt with in an informal manner.

No outworkers are registered under Sections 110—111 of the above Act.

# **FACTORIES ACT, 1937 AND 1948**

Annual Report of the Medical Officer of Health in respect of the Year 1956 for the Borough of Denbigh in the County of Denbigh.

Prescribed particulars of the administration of the Factories Act 1937.

## **PART I OF THE ACT**

### **1. INSPECTIONS for purposes of provisions as to health (including inspections made by Public Health Inspectors).**

| Premises<br>(1)  | Number of               |                               |                          |                            |                                 |                         |
|--|-------------------------|-------------------------------|--------------------------|----------------------------|---------------------------------|-------------------------|
|  | M/c.<br>line No.<br>(2) | Number on<br>Register.<br>(3) | Inspec-<br>tions.<br>(4) | Written<br>Notices.<br>(5) | Occupiers<br>prosecuted.<br>(6) | M/c.<br>line No.<br>(7) |
| (1) Factories in which Sections 1, 2, 3, 4 and 6 are to be<br>enforced by Local Authorities .....                | 1                       | 9                             | 9                        | —                          | —                               | 1                       |
| (2) Factories not included in (i) in which Section 7 is en-<br>forced by the Local Authority .....               | 2                       | 47                            | 39                       | 1                          | —                               | 2                       |
| (3) Other premises in which Section 7 is enforced by the<br>Local Authority (excluding out-workers premises) ... | 3                       | 5                             | 8                        | —                          | —                               | 3                       |
| TOTAL .....  |                         | 61                            | 56                       | 1                          | —                               |                         |



### Hotel and Public Houses

The seventeen licensed premises in the area are provided with suitable sinks, hot and cold water in the bar for glass washing.

Additional sanitary accommodation for male and female customers is required at certain premises but owing to constructional difficulties provision of such accommodation has been delayed.

### Smoke Abatement

There is virtually no atmospheric pollution in the town from industrial premises. The only serious emission of smoke from a single chimney is that occurring at the North Wales Counties Hospital for Mental and Nervous Disorders. A considerable quantity of thick smoke is emitted from this source. Fortunately the chimney is sufficiently removed from the built up area of the town for dispersal to take place before the smoke reaches the houses.

The town of Denbigh certainly suffers from time to time from a smoke polluted atmosphere but the cause undoubtedly is the domestic chimney coupled with wind and weather conditions which do not disperse the smoke into the atmosphere.

### Common Lodging House

The Registered Common Lodging House in Henllan Street has accommodation for fourteen males. It has been well managed and maintained and in providing a home for many elderly men it serves a most useful purpose. Few casual lodgers use the Lodging House.

### Petroleum Acts

|  |    |
|--|----|
| Number of Licences .....                   | 24 |
| Number of visits to petroleum stores ..... | 28 |

Two new stores were constructed and licensed and two old stores comprising six underground tanks were removed from the register, five tanks were removed and one filled with sand.

### General

Visits to premises and inspections carried out in the course of the year were as follows:—

|   |       |
|---|-------|
| Food Premises (including Slaughterhouses) ..... | 1,098 |
| Public Health duties .....                      | 726   |
| Factories .....                                 | 56    |
| Housing Inspections .....                       | 252   |
| Shops Acts Inspections .....                    | 33    |
| Rodent Control .....                            | 42    |
| Infectious Diseases .....                       | 11    |



Thirty-five premises were found to require structural repairs. Informal notices were sent to owners and two statutory notices were served. Thirty notices were complied with.

Inspection or testing of the drainage of twenty-three premises was carried out. Informal notices were sent for the repair or cleansing of drains. All notices were complied with.

Six statutory notices were served under the provisions of the Housing Acts, all were complied with.

Legal proceedings were successfully taken in one instance under the provisions of the Housing Acts 1936—1954.

### **Laboratory Service**

The Public Health Laboratory is at Conway.

Samples of water, milk and ice-cream are regularly sent there for bacteriological examination. Other types of bacteriological examinations are also carried out there to aid in the diagnosis of illness, e.g. food poisoning, scarlet fever, meningitis, etc.

### **Ambulance Service**

The whole service is controlled by the County Medical Officer of Health at Wrexham, but Denbigh and Llanrwst are under the jurisdiction of the Ambulance Sub-Office at Colwyn Bay. This has accounted for a reduction in the amount of Sitting Case Car work.

There are four ambulance stations in the Western No. 2 Health Area situated at Denbigh, Ruthin, Llanrwst and Cerrig-y-Drudion with one ambulance at each station. Each station is manned by voluntary personnel except at Denbigh where a full time driver was appointed and he commenced duties on 9th January, 1956. To supplement the ambulances, use is made of voluntary drivers of the W.V.S. Hospital Car Service and local taxi proprietors for the conveyance of sitting cases. Ambulances for the conveyance of infectious cases are sent from the hospitals concerned at Wrexham and Colwyn Bay.

The ambulance station at Llangernyw is to be re-opened in February, 1957, and will be manned by a full-time driver.

The following is given for the information of the Council and the numbers refer to cases conveyed by the various ambulances and the mileage covered during the year.



| Name of Ambulance. | Area Served.   | Nb. of cases conveyed. | Total Mileage. |
|--------------------|--|------------------------|----------------|
| Cerrig-y-Drudion   | Upper Hiraethog.                                       | 72                     | 2566           |
| Denbigh            | Denbigh Borough and parts of Aled R.D. and Ruthin R.D. | 1489                   | 17456          |
| Llanrwst           | Llanrwst and District.                                 | 104                    | 3324           |
| Ruthin             | Ruthin Borough and Ruthin R.D.                         | 506                    | 9739           |

### Cases Conveyed by Sitting Case Cars

| Month 1956.     | TAXIS.    |        |        | W.V.S.    |        |        |
|-----------------|-----------|--------|--------|-----------|--------|--------|
|                 | Journeys. | Cases. | Miles. | Journeys. | Cases. | Miles. |
| January .....   | 170       | 474    | 7,506  | 55        | 147    | 2,303  |
| February .....  | 158       | 505    | 7,449  | 30        | 120    | 1,693  |
| March .....     | 133       | 455    | 6,373  | 37        | 106    | 1,902  |
| April .....     | 130       | 436    | 6,494  | 32        | 135    | 1,639  |
| May .....       | 160       | 456    | 7,199  | 37        | 162    | 2,004  |
| June .....      | 143       | 444    | 6,593  | 38        | 210    | 2,273  |
| July .....      | 168       | 577    | 8,460  | 32        | 164    | 1,882  |
| August .....    | 138       | 464    | 6,995  | 36        | 212    | 2,148  |
| September ..... | 113       | 340    | 5,956  | 37        | 124    | 1,677  |
| October .....   | 127       | 172    | 5,288  | 37        | 141    | 1,957  |
| November .....  | 118       | 353    | 5,194  | 37        | 187    | 1,970  |
| December .....  | 94        | 288    | 3,947  | 21        | 97     | 1,149  |
| Total .....     | 1,652     | 4,964  | 77,454 | 429       | 1,805  | 22,597 |

### Mental Health Service

This service is under the supervision of the County Medical Officer of Health at Wrexham.

### Orthopaedic Clinics

A clinic is held at the Clinic, Middle Lane, Denbigh, on the first and third Wednesday mornings of each month. Surgeons from the Gobowen Orthopaedic Hospital attend this clinic every two months.

Patients also attend the Orthopaedic Clinics held weekly at the Rhyl hospital.

### Venereal Diseases

These clinics are held at hospitals at Llandudno, Wrexham, Chester and Bangor.

### Tuberculosis Clinic

Patients attend the Chest Clinic which is held weekly at the Denbigh

Infirmery or at the clinics held weekly at Rhyl and by appointment at Wrexham.

### **Ante-Natal Clinic**

This clinic is held at the Clinic, Middle Lane, Denbigh, on alternate Wednesday mornings and the Consultant sees cases referred from the routine clinic or by the patient's own doctor on alternate Friday mornings.

Patients from Ruthin Borough, Aled and Ruthin Rural Districts attend this clinic and are included in the under-mentioned attendance figures for the year:—

|                    | Routine Clinic. | Consultant Clinic. |
|--------------------|-----------------|--------------------|
| First Visits ..... | 24              | 105                |
| Re-Visits .....    | 39              | 186                |
| Post Natal .....   | 1               | 43                 |
| Gynae .....        | —               | 35                 |
|                    | <hr/>           | <hr/>              |
| Total .....        | 64              | 369                |

Patients who are admitted to St. Asaph Hospital for their confinement attend the clinic attached to the hospital. This is held on Monday afternoons.

### **Infant Welfare Clinic**

This clinic is held every Wednesday afternoon at the Clinic, Middle Lane, Denbigh, and is well attended as can be seen from the under-mentioned attendance figures:—

|                    |       |
|--------------------|-------|
| First Visits ..... | 107   |
| Re-Visits .....    | 1325  |
|                    | <hr/> |
| Total .....        | 1432  |

These figures also include babies from the Aled and Ruthin Rural Districts.

Welfare Foods are available during the clinic sessions and are also available on Friday afternoons. There is also a depot at Henllan where Welfare Foods may be obtained.

### **Dental Clinic**

This clinic is held at the Clinic, Middle Lane, Denbigh, as and when necessary for the examination and treatment of expectant and nursing mothers and toddlers.

|   |   |
|---|---|
| Number of cases attending for treatment .....       | 4 |
| Number of cases where treatment was completed ..... | 1 |



## Nursing Services

|   |   |  |
|---|---|--|
| Number of Health Visitors ...                   | 2 | (Miss S. C. Evans.<br>Miss J. H. Williams. Appointed<br>March, 1956. Resigned July, 1956.<br>Miss C. J. Davies. Appointed<br>September, 1956). |
| Number of Tuberculosis<br>Health Visitors ..... | 1 | (Miss M. Thomas).  |
| Number of District Nurses ...                   | 4 | (Nurse Kerton, Denbigh.<br>Nurse Jones, Nantglyn.<br>Nurse Davies, Trefnant.<br>Nurse Williams, Rhewl).  |

The Health Visitors work in the Borough as well as in Aled and Ruthin Rural Districts.

The Tuberculosis Health Visitor covers the Western half of the County.

Three of the District Nurses reside outside the Borough, but they attend cases in the outlying parts of the town.

## Domestic Help Service

The number of domestic helps employed in the Borough during the year was twelve.

The number of cases where domestic help was provided during the year was as follows:—

|                             |    |
|-----------------------------|----|
| Maternity .....             | —  |
| Tuberculosis .....          | 5  |
| Chronic Sick and Aged ..... | 10 |
| Other cases .....           | 3  |
| Total .....                 | 18 |

## Care of the Aged

Several aged people living alone gave cause for concern during the year. All cases were followed up and in some instances a home help was provided to clean up the house, assist in preparing the food, etc., thus making it possible for these aged people to remain in their own homes. In a few cases they agreed to go to a Home and it was not necessary to take action under Section 47 of the National Assistance Act, 1948, during the year.

The W.V.S. perform a very useful service for the aged by supplying a hot meal twice a week—"Meals on Wheels Service". This service is of great benefit as the meals are consumed by persons who would, perhaps not bothered to have cooked a meal otherwise.

## REGISTER OF RAINFALL IN 1956.

STATION No. 4312

Kept at: North Wales Hospital Gardens, Denbigh, North Wales.

Diameter of funnel of gauge 4 ins.

Height to top of gauge above ground 12 ins.

Height of ground above sea level 316 feet.

| Date. | Jan. | Feb. | Mar. | Apl. | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-------|------|------|------|------|------|------|------|------|-------|------|------|------|
| 1     | 0.08 | —    | 0.08 | —    | —    | —    | 0.10 | 0.50 | 0.13  | 0.34 | —    | —    |
| 2     | —    | —    | 0.78 | —    | —    | —    | —    | 0.26 | 0.69  | 0.04 | —    | 0.02 |
| 3     | —    | —    | 0.04 | —    | —    | 0.26 | —    | 0.12 | 0.06  | 0.10 | 0.02 | —    |
| 4     | —    | 0.03 | —    | 0.62 | —    | —    | 0.33 | 0.14 | 0.26  | 0.32 | —    | 0.01 |
| 5     | —    | —    | 0.06 | —    | —    | 0.22 | 0.58 | —    | 0.16  | 0.17 | —    | 0.05 |
| 6     | —    | —    | —    | 0.02 | —    | 0.15 | 0.42 | —    | 0.27  | 0.08 | —    | —    |
| 7     | 0.18 | —    | —    | —    | —    | 0.11 | —    | —    | 0.03  | 0.14 | —    | —    |
| 8     | —    | —    | —    | 0.01 | 0.13 | —    | —    | —    | 0.06  | —    | 0.13 | —    |
| 9     | 0.10 | —    | —    | —    | 0.14 | —    | —    | —    | —     | —    | 0.11 | —    |
| 10    | 0.12 | —    | —    | —    | —    | —    | —    | 0.58 | 0.04  | —    | 0.20 | 0.15 |
| 11    | 0.03 | —    | —    | 0.22 | —    | —    | —    | 0.14 | —     | —    | 0.03 | 0.16 |
| 12    | —    | —    | —    | 0.02 | —    | —    | —    | 0.16 | —     | —    | —    | 0.34 |
| 13    | 0.33 | —    | —    | 0.15 | —    | 0.13 | —    | —    | 0.03  | —    | 0.26 | 0.02 |
| 14    | —    | —    | —    | 0.08 | —    | 0.06 | 0.16 | —    | —     | —    | 0.02 | 0.35 |
| 15    | 0.18 | 0.02 | —    | —    | —    | 0.12 | 0.15 | 0.12 | —     | —    | —    | 0.37 |
| 16    | —    | —    | 0.14 | —    | —    | 0.42 | 0.11 | 0.06 | —     | 0.07 | —    | 0.16 |
| 17    | 0.09 | —    | —    | —    | —    | 0.02 | 0.12 | 0.22 | —     | 0.02 | —    | 0.15 |
| 18    | 0.02 | 0.03 | —    | —    | —    | 0.01 | 0.21 | 1.54 | —     | —    | —    | —    |
| 19    | 0.08 | 0.08 | —    | —    | —    | —    | 0.22 | 0.12 | —     | 0.23 | —    | —    |
| 20    | 0.38 | 0.14 | 0.09 | —    | —    | 0.05 | —    | 0.01 | —     | 0.05 | —    | 0.05 |
| 21    | 1.08 | 0.20 | 0.07 | —    | —    | —    | —    | 0.08 | —     | —    | —    | —    |
| 22    | 0.54 | —    | —    | —    | —    | —    | —    | 0.51 | 0.23  | —    | —    | 0.14 |
| 23    | 0.20 | 0.05 | —    | —    | —    | —    | —    | 0.31 | 0.03  | 0.05 | —    | 0.05 |
| 24    | 0.06 | —    | —    | —    | 0.22 | —    | —    | 0.06 | —     | 0.15 | 0.01 | —    |
| 25    | 0.41 | —    | —    | 0.28 | —    | —    | —    | 0.22 | 0.02  | 0.25 | —    | 0.54 |
| 26    | 0.04 | —    | —    | 0.10 | —    | 0.10 | —    | 0.11 | 0.21  | —    | —    | —    |
| 27    | —    | —    | —    | —    | —    | 0.15 | 0.38 | 1.35 | 0.42  | 0.16 | 0.18 | 0.15 |
| 28    | 0.21 | —    | —    | —    | —    | 0.11 | 0.42 | 0.09 | 0.02  | 0.18 | 0.36 | 0.06 |
| 29    | —    | 0.13 | —    | —    | 0.23 | 0.13 | 0.92 | 0.04 | 0.05  | —    | —    | 0.08 |
| 30    | —    | x    | —    | —    | —    | 0.04 | 0.03 | 0.16 | 0.17  | —    | 0.02 | 0.17 |
| 31    | —    | x    | —    | x    | 0.01 | x    | 0.07 | —    | x     | —    | x    | 0.02 |
| Total | 4.13 | 0.68 | 1.26 | 1.50 | 0.73 | 2.08 | 4.22 | 6.90 | 3.09  | 2.35 | 1.34 | 3.04 |

| Date.                            | Jan. | Feb. | Mar. | Apl. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|------|------|------|------|-----|------|------|------|-------|------|------|------|
| Days with<br>.01 in. or<br>more. | 18   | 8    | 7    | 9    | 5   | 16   | 15   | 23   | 18    | 16   | 11   | 20   |

| Date.                            | Jan. | Feb. | Mar. | Apl. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|------|------|------|------|-----|------|------|------|-------|------|------|------|
| Days with<br>.04 in. or<br>more. | 16   | 5    | 7    | 8    | 4   | 13   | 14   | 22   | 15    | 15   | 6    | 16   |









