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Urban District Council
of Ulverston.



ANNUAL REPORT

OF THE

Medical Officer of Health

Year ending December 31st, 1944.

ULVERSTON :

FLETCHER AND ROBINSON, QUEEN STREET.

Urban District Council

of Liverpool

ANNUAL

REPORT

Medical Officer of Health

for the year ending December 31st 1944

W. H. L. LLOYD, M.D., F.R.C.S., F.R.C.P.
Medical Officer of Health

TO THE CHAIRMAN AND MEMBERS OF THE
URBAN DISTRICT COUNCIL OF ULVERSTON.

Annual Report of the Medical Officer of Health.

ULVERSTON,

July, 1945.

Gentlemen,

I have the honour to present the Annual Report for 1944 on the sanitary circumstances, administration and vital statistics of your district. It is shorter than would have been the case in peace-time to comply with the instructions of the Ministry of Health that annual reports should be curtailed so far as possible during the period of the war.

GENERAL STATISTICS.

Area (in acres)	..	..	..	..	3,196
Population	..	..	..	..	9,528
Number of Inhabited Houses	..	..	..	..	2,815
Rateable Value	..	..	..	..	£55,858
Amount produced by a Penny Rate	..	..	..	..	£221

VITAL STATISTICS.

POPULATION.

With the cessation of hostilities in Europe the necessity to omit figures in respect of population came to an end. The population of the Urban District, as estimated by the Registrar General to the middle of each of the years from 1938 onwards,

is given below, the annual increase, or decrease, being indicated within brackets.

1938, 9,317 (—)	1941, 10,060 (+595)
1939, 9,488 (+171)	1942, 9,943 (—117)
1940, 9,465 (— 23)	1943, 9,686 (—257)
1944, 9,525 (—161)	

BIRTHS.

There were 154 births, 83 male and 71 female, giving a birth-rate of 16.1 per 1,000 compared with a rate of 14.1 per 1,000 in 1943. Nine of the total 154 births were of illegitimate children. There were, in addition, 3 still births.

DEATHS.

One hundred and thirtysix deaths of residents were registered during the year, giving a death-rate of 14.2 per 1,000.

CAUSES OF DEATH.

INFANTILE MORTALITY.

There were 3 deaths of infants under one year of age, one male and two female, giving an infantile mortality rate of 19.5 per 1,000 registered live births. Particulars in respect of these deaths were :—a female, aged 1 week, died from congenital valvular disease of the heart ; [a male aged 1 month from empyaema and lobar pneumonia ; and a female of 3 months from gastro-enteritis.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER 2 YEARS OF AGE.—One.

MATERNAL MORTALITY.

There was one maternal death giving a maternal mortality rate of 6.3 per 1,000 live and still births.

INFECTIOUS DISEASES.

With the exception of a child who died from cerebro-spinal fever prior to the nature of the disease being recognised, no deaths were ascribed to infectious diseases.

DISEASES OF THE HEART AND BLOOD VESSELS.

Of the 67 deaths certified as having been caused by these diseases, 38 were ascribed to diseases of the heart ; 27 to intracranial vascular lesions ; and 2 to other diseases of the vascular system.

DISEASES OF THE RESPIRATORY SYSTEM.

There were 3 deaths from pneumonia ; 1 from bronchitis, and 3 from other respiratory diseases.

CANCER.

There were 25 deaths from cancer, brief particulars of which are given below :—

<i>Site of Disease.</i>	<i>Male.</i>	<i>Female.</i>
Buccal Cavity or		
Oesophagus	..	..
Uterus .. ..	..	1
Stomach or Duodenum ..	4	1
Breast .. ..	..	4
All other sites	8	7
	<hr/> 12	<hr/> 13

OTHER CAUSES OF DEATH.

Pernicious anaemia 4 ; accidents 3 ; suicide 2 ; nephritis 2 ; diabetes 2 ; coli-cystitis 2 ; perforated gastric ulcer 1 ; duodenal ulcer 1, and all other causes 14.

INFECTIOUS DISEASES.

INCIDENCE OF INFECTIOUS DISEASE DURING THE FIVE YEARS 1939—1943 COMPARED WITH THAT FOR 1944.

Disease	1939	1940	1941	1942	1943	1944		
						No. of Cases	Remov'd to Hospital	Died in Hospital
Scarlet Fever ...	17	4	9	22	12	8	8	—
Diphtheria ...	43	12	9	24	4	6	6	—
Typhoid & Para-Typhoid Fevers	—	—	7	2	—	3	3	—
Measles ...	—	16	—	26	54	158	—	—
Whooping Cough	—	49	2	—	15	3	—	—
Pneumonia ...	1	—	—	3	5	7	2	—
Encephalitis								
Lethargica ...	—	1	1	—	—	—	—	—
Poliomyelitis ...	—	1	—	—	—	1	1	—
Puerperal Pyrexia and Fever ...	1	—	1	—	—	2	2	—
Ophthalmia								
Neonatorum...	—	—	—	—	2	—	—	—
Erysipelas ...	1	—	1	1	—	—	—	—
Cerebro-Spinal Meningitis ...	—	—	5	2	—	3	2	—
Totals ...	63	83	35	80	92	191	24	—

DIPHTHERIA.

A total of 13 patients (8 civilians and 5 service) suspected to be suffering from diphtheria were admitted to the High Carley Isolation Hospital. Of the civilian patients, 5 were children and 3 were adults.

Three of the children did not suffer from the disease. One a child of one year and nine months had streptococcal tonsillitis, another had croup and the third—a girl of 13—was a diphtheria “carrier.” Neither of the two children who suffered from diphtheria, had been immunised.

Two of the adult civilian patients had diphtheria and the third tonsillitis.

Two of the service patients had diphtheria and were seriously ill ; one was a diphtheria " carrier," and the remaining two had streptococcal tonsillitis.

The number of patients sent to hospital who did not suffer from diphtheria (7 out of 13) was relatively high, but this may be described as " a good fault." Having regard to the great importance of early hospital treatment it is always advisable, when there is doubt about the diagnosis, to send the patient to hospital immediately without wasting valuable time in waiting for bacteriological confirmation of the diagnosis, which, in the event of the disease proving to be diphtheria, might very seriously prejudice the patient's chances of recovery.

DIPHTHERIA IMMUNISATION.

During 1944 a total of 203 children completed the full course of immunisation, namely, 60 under 5 years and 143 between the ages of 5 and 15 years.

At the end of the year it was estimated that 44.5 per cent. of the child population under 5 years of age, and 83.1 per cent. of the children between the ages of 5 and 15 in schools maintained by the Lancashire County Education Authority had been protected against diphtheria by means of immunisation.

It is satisfactory to be able to record that not a single case of diphtheria has occurred among the children immunised by Mrs. Macewen in the Ulverston Combined Sanitary District.

PARATYPHOID FEVER.

Three cases of paratyphoid B. fever occurred in the Souter-gate area of Ulverston in August. The first patient was a girl of eight years. The second, the mother who had nursed the girl prior to her removal to hospital. The third, a lady of 52 years, who had not been in contact with the first two patients. Very careful inquiries were made but the source of infection was not discovered.

Cultures of the causative organisms from each of the three patients were sent to Dr. Felix at the Wellcome Research Institution for typing. The Bact. paratyphosum B. from each was VI-phage type 3A. It is interesting to note that this same organism was responsible for the infection of a patient in Ulverston in 1941 and for three patients in Ulverston Rural District in 1942.

SCABIES.

A considerable number of persons suffering from scabies were treated during the year at the High Carley Isolation Hospital.

LABORATORY FACILITIES.

Bacteriological investigations continue to be carried out, on behalf of the Council, at the Ministry of Health Emergency Pathological Service Laboratory established at the High Carley Sanatorium. I am indebted to Dr. Brundret, the Pathologist and Bacteriologist, for his very valuable co-operation in the investigation of many problems associated with the prevention and cure of disease.

TUBERCULOSIS.

NEW CASES AND MORTALITY DURING 1944.									
Age Periods		NEW CASES				DEATHS			
		Respiratory		Non-Respiratory		Respiratory		Non-Respiratory	
Years		M	F	M	F	M	F	M	F
0—	...	...	...	...	...	...	...	...	...
1—	...	...	...	2	...	...	...	...	...
5—	...	1	...	1	1	...	...	...	...
10—	...	...	1	1	1	...	...	...	...
15—	...	...	...	...	2	...	...	...	...
20—	...	4	1	...	...	...	...	...	...
25—	...	1	2	...	1	...	...	...	...
35—	...	1	1	...	...	...	1	...	...
45—	...	1	1	...	...	1	...	...	...
55—	...	1	1	...	...	...	1	...	...
65 & upwards	...	...	...	1	1	...	...	1	...
Totals	...	9	7	5	6	1	2	1	...
		16		11		3		1	
		27				4			

RAINFALL.

I am very much indebted to Mr. C. J. Chapman for placing at my disposal his carefully compiled statistics of the local rainfall obtained, over a long period of years, from readings of rain gauges in the grounds of his residence, Pengwerne, at Kilner Park, Ulverston.

ANNUAL RAINFALL 1924-1944.

1924	55.79	1929	52.47	1934	51.05	1939	44.60
1925	50.34	1930	52.50	1935	54.34	1940	47.65
1926	53.59	1931	55.69	1936	48.33	1941	38.38
1927	56.62	1932	54.79	1937	42.75	1942	49.05
1928	71.12	1933	40.11	1938	56.03	1943	59.09
		1944	55.75				

The average annual rainfall for the 20 years 1924—1943

was 51.74. The quarterly averages for the same period appear below for purposes of comparison with those of 1944.

	QUARTERS.			
20 year average	11.87	9.25	14.30	16.32
1944	8.37	11.43	15.99	19.96

It will be seen that 1944 was a relatively wet year, only 5 of the previous 20 years having been wetter. While the rainfall in the first quarter of 1944 was below, that in the remaining three quarters was above, and in the last quarter much above, the 20 year average.

WATER SUPPLY.

The circular of the Ministry of Health on the preparation of Annual Reports for 1944 requires the Medical Officer of Health to state for the year :—

- (i) “ whether the water supply of the area and of its several parts has been satisfactory (a) in quantity (b) in quality.
- (ii) where there is a piped supply, whether bacteriological examinations were made of the raw water, and, where treatment is installed, of the water going into supply, if so, how many and the results obtained ; the results of any chemical analyses.
- (iii) where the waters are liable to have plumbo solvent action, the facts as to contamination by lead, including precautions taken and number and results of analyses ;
- (iv) action in respect of any form of contamination ;
- (v) particulars of the proportion of dwelling houses and the proportion of the population supplied from public water mains (a) direct to the houses and (b) by means of stand-pipes.”

Water is supplied by the Barrow Corporation from their Pennington Reservoir to the Ulverston Urban District Council

at the latter's water works situated at Castle Hill, Pennington. At these works the water is subjected to sand filtration before passing into a service reservoir, which has a capacity of some two-and-a-half-million gallons. To meet war-time requirements of the Ministry of Health, a chlorinating plant was installed in May, 1942. It is a Wallace Tiernan apparatus, water from the service reservoir being chlorinated before passing into the trunk main. The Chloramine process is adopted. The application of chlorine is under automatic control, any variation in the flow of water causes automatic variation in the rate of chlorine delivery. The apparatus is fitted with a chlorine flow recorder.

A pure and sufficient water supply was maintained without interruption throughout the year.

Bacteriological examination of the filtered and chlorinated water gave uniformly good results. It was subjected to such examination on ten occasions, and, in each instance, the samples were reported, to be free from coliform organisms in 100 c.c. This was the more satisfactory as the raw water in the Pennington Reservoir was found to be heavily polluted during the autumn months. The reservoir derives its water supply mainly from two streams, one known as Rathmoss Beck and the other as "Sheep Wash." Laboratory reports on the samples taken, expressed in terms of the probable number of coliform organisms per 100 c.c.s gave the following results :—

		<i>Probable number of coliform organisms per 100 c.c.s</i>
15th September	Raw water from Pennington reservoir ..	180+
16th September	Water after filtration & chlorination	0
20th September	Raw water from Pennington Reservoir ..	180+

20th September	Water after filtration ..	0
	Water after filtration & chlorination ..	0
6th October	Raw water from Pennington Reservoir ..	17
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	8
	Water after filtration & chlorination ..	0
24th October	Raw water from Pennington Reservoir ..	180+
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	180+
28th October	Water after filtration & chlorination ..	0
21st November	Raw water from Pennington Reservoir ..	180+
	Water from Rathmoss Beck	180+
	Water from " Sheep Wash "	180+
	Water after filtration & chlorination ..	0

The pollution was not confined to the Pennington Reservoir but extended also to the Barrow-in-Furness Corporation's other sources of supply. I met Dr. Forrest, the Barrow Medical Officer of Health, on the 6th September at the High Carley Laboratory and discussed the position with him. We agreed that the Ministry of Health Regional Office, Manchester, should at once be informed of the situation to enable the Department

to take whatever action they deemed requisite in the circumstances.

One possible source of dangerous pollution was caused by military exercises on, or in close proximity to, the gathering grounds in the vicinity of the impounding reservoirs. As a result of representations made on the subject, Captain Gilpin, from the Headquarters of the Western Command, called at my office on the 26th September to assure me that stringent orders had been given, which it was hoped would prevent any repetition of the practice complained of.

During the period when the Barrow-in-Furness water supplies were giving rise to anxiety on account of their polluted condition, I kept in close touch with Mr. Gabbatt, the Corporation's Engineer. We pooled information on the results of bacteriological examination of water samples, often consulted over the telephone and sometimes met on the gathering grounds or at the water works to discuss matters on the spot. I should like to place on record my appreciation of Mr. Gabbatt's kindness, courtesy and consistent helpfulness during a period which was not unnaturally a very anxious one for us both.

The Ministry of Health Regional Office, Manchester, was first informed of the polluted condition of the water on the 6th September and were subsequently informed from time to time, of the course of events. Dr. Marshall, the Department's Regional Medical Officer and Mr. Malony, the Regional Engineer, visited Barrow-in-Furness on the 10th October and made an inspection of the Corporation's gathering grounds and water works. They conferred with me on the subject on the evening of the 11th October.

Representatives of the Corporation were, I understand, subsequently invited to discuss the matter with officers of the Ministry of Health in London. I am indebted to Dr. Forrest for the following information in respect of subsequent events, which he kindly sent me in a letter dated the 23rd February,

1945. "At our conference with the Ministry it was recommended that an outside Consultant should be appointed with wide powers to survey the whole water undertaking, and he has now been appointed and commenced work. The Town Clerk informs me that there has also been appointed an independent Analyst and that they are now both carrying out their survey. You will appreciate, however, that we are regularly sampling the water from the reservoirs, and, so far as Barrow is concerned, there is no B. Coli in any of the weekly samples. We are also chlorinating regularly."

I have, from time to time, brought the polluted condition of the raw water in the Pennington Reservoir to the notice of the Public Health Committee. Your Clerk wrote to the Town Clerk of Barrow about the matter in October, 1944. I have since then kept the position under observation and had hoped to be able to report in due course, that all requisite steps had been taken to ensure that you would, in future, be supplied with raw water of a satisfactory standard of purity. As I shall vacate office as your temporary M.O.H. at an early date that will not now be possible.

During my period of office samples of the filtered and chlorinated water supplied to the town have invariably given excellent results when subjected to bacteriological examination. This reflects great credit on Mr. Hague and his staff for the care and attention given by them to the treatment of the raw water at Castle Hill Water Works. But even in the best hands, such methods of treatment are liable to occasional temporary breakdown and it is, therefore, very important that all requisite steps be taken, by removing or eliminating sources of pollution on the gathering ground, or in some other way, to render the raw water from Pennington Reservoir as pure as it is possible to make it.

HOUSING.

The shortage of houses in the Urban District remains as

acute as ever. Many persons, unable to obtain satisfactory accommodation for their wives and families have to continue living in houses in which the accommodation is totally inadequate and the conditions most unsuitable. Overcrowding is liable to exert an adverse influence on health—especially on that of children of pre-school age. It facilitates the spread of communicable disease from one member of the household to another. The consequences may be very serious in the case of a disease like pulmonary tuberculosis. Persons living in overcrowded conditions in the same house as a patient suffering from phthisis are very liable to themselves become infected if very great care is not exercised to prevent the spread of infection.

The present very unsatisfactory living conditions—many instances of which have come under my personal observation while engaged in the discharge of my duties as Medical Officer of Health—can, of course, only be remedied by the provision of new houses which are very urgently required.

The Council have not been inactive in the matter of their post-war building programme. Layout plans have been prepared for the provision of some 160 houses on the Watery Lane Estate. The scheme has already received the provisional approval of several of the Government Departments concerned. A public inquiry was held by a Housing Inspector of the Ministry of Health, Mr. G. B. Bridgman, at the Council Chamber, Town Hall, Ulverston, on the 6th June, 1945, into an application made by the Council for confirmation of an Order for the compulsory purchase of the land, including the farm house and buildings, at Watery Lane for the purpose of the proposed housing estate. At the time of writing this report the result of the inquiry has not been announced.

Application has also been made by the Council for the allocation of temporary bungalows and plans have been prepared for these to be erected in North Lonsdale Road, on land owned by the Council.

EVACUATION.

The reception, billeting and subsequent care of large numbers of evacuees from London and areas in the South of England involved much work on the part of Local W.V.S. organisations and officials of the Council: work which was very willingly undertaken and afforded excellent results. The first organised party of unaccompanied children arrived by special train at Ulverston Railway Station about noon on the 7th July. They and the luggage they had brought with them, were conveyed by motor car or bus, in a downpour of heavy rain, to the Grammar School, where they had a meal and were subjected to medical examination before being distributed to billets in the Urban and Rural Districts.

The second organised party of unaccompanied children was conveyed by rail direct to Barrow-in-Furness, which was reached on the evening of Thursday, the 13th July. The children spent the night in Barrow in two large schools, where, by arrangement with Dr. Forrest, they were medically examined on the following morning by your Medical Officer of Health and Mrs. Macewen with the assistance of Dr. Forrest and his staff. The examination was commenced at 8-30 a.m. in order to enable those, whom it was proposed to billet in outlying parts of the Rural District, to reach their destination before nightfall.

The arrangements made by Dr. Forrest were admirable in every respect and the assistance afforded by him and his staff was greatly appreciated.

With few exceptions the children were found to be healthy and wonderfully clean, particularly having regard to the fact that many of them had slept in shelters for weeks on end. It was very obvious that great care had been taken by the Authorities in the Evacuation Areas from whence they came to subject any child requiring cleansing to appropriate treatment prior to departure. A number of cases of scabies were discovered. Most of them had already undergone treatment in the evacuation areas, but in

one or two instances a complete "cure" had not been effected and it was deemed advisable to subject the children to further treatment, which, through the good offices of Dr. Forrest, was carried out prior to their departure from Barrow.

On the completion of the medical examination the children were conveyed by bus from Barrow to the Ulverston Grammar School for distribution to their billets in the Ulverston Urban and Rural Districts. Billeting in the former was carried out by Mrs. Kennedy, W.V.S. Centre Organiser and Chief Billeting Officer and her staff. The skill and efficiency with which this work was organised and carried out left nothing to be desired. The kindly Ulverston people welcomed the children to their homes, notwithstanding the serious personal inconvenience that their presence often entailed, and cared for them as though they had been their own. I had many opportunities of observing how happy the vast majority of the children became and the good relationships which were soon established between them and their hostesses.

I am indebted to Mrs. Kennedy for the following figures in respect of the number of evacuees billeted in Ulverston during 1944 :—191 unaccompanied children ; 44 mothers ; 29 accompanied children (over five years) ; 37 accompanied children (under 5 years) ; 1 expectant mother ; 22 aged, infirm, etc.; 18 nurses ; 4 teachers—a total of 346.

Two organised parties comprising 161 unaccompanied children arrived in the Urban District on July 7th and 14th. Twenty-two unaccompanied children were in Ulverston prior to July and eight arrived during the months of July and August under private arrangements but with authorities to be billeted. The mothers and children did not come in organised parties but came under private arrangements during July and August, also with authorities to be billeted.

MEAT INSPECTION.

Home-killed meat supplied to butchers in the Rural District of Ulverston and in the Urban Districts of Ulverston and Grange, is derived from animals slaughtered in a central slaughterhouse established by the Ministry of Food for the purpose in the Gill, Ulverston. The slaughterhouse is under the direct control of officers of the Ministry of Food, but the inspection of meat is, by arrangement with that Department, carried out by a rota of inspectors, comprising your own inspector, Mr. Smith, and two Sanitary Inspectors of the Ulverston Rural District, under the supervision of the Medical Officer of Health.

A number of minor improvements were effected at the slaughterhouse during the course of the year. A new floor was laid in the slaughtering-chamber and better electric lighting and offal hanging facilities were provided in the hanging room. Notwithstanding these improvements, the structure and fittings of the slaughterhouse and the conditions in which the inspection of meat has to be carried on still leave a great deal to be desired.

DAIRIES AND COWSHEDS.

There are 20 cowkeepers in the district engaged in the production of milk for sale, 14 of whom are producer-retailers. There are 3 producers of Accredited Milk. The dairy farms are visited regularly once a month by the Council's Inspector, Mr. Smith, who does everything possible to promote the production of clean milk. Some improvements have been carried out at individual farms but I have nothing to add to the general description of the farmsteads given in last year's annual report.

In the circumstances which obtain at many of the farms it is not easy to attain, and maintain, a high standard of cleanliness in the production of milk, particularly where facilities for the supply of abundant hot water are lacking, as they too often are. The position has been aggravated during the war years by inability to obtain adequate labour and by the greater acreage

which has had to be brought under the plough as a war-time necessity. Notwithstanding all these handicaps a determined effort is being made by the vast majority of cowkeepers to produce milk of as high a quality as circumstances permit. The lot of the farmer, during the period of hostilities, has been beset by many practical difficulties, which he has managed to surmount in one way or another. This has often entailed strenuous work from early morning until late at night. No member of the community has played a worthier, or more vital, part in the war effort—one which, notwithstanding the occurrence of unsuitable weather conditions and some bad harvests, has, fortunately for the nation, been crowned by a very large measure of success.

AMBULANCE FACILITIES.

In addition to the ambulance for infectious diseases maintained by the Ulverston Joint Hospital Board and garaged at the High Carley Isolation Hospital, the Ulverston Joint Ambulance Committee own and operate an ambulance for accidents and non-infectious cases, which serves the Ulverston Urban and Rural Districts. The Committee are at present endeavouring to obtain a new ambulance which will be very useful for the long-distance journeys that have frequently to be undertaken to convey patients to hospitals in Manchester and elsewhere. There are reciprocal arrangements for help in case of need with Dalton and Grange in each of which a motor ambulance is maintained for the use of the inhabitants of the district.

SANITARY INSPECTOR'S REPORT.

The Report of your Surveyor and Sanitary Inspector, Mr. C. Telford Hague, is appended.

CONCLUSION.

It is with great regret that I record the death of your Inspector, Mr. Frank Smith, which occurred at his residence in Lightburn Road on the 29th July, 1945. Mr. Smith carried out the inspection of meat, dairies and cowsheds on behalf of the

Council. In the discharge of these important duties Mr. Smith's sterling qualities of character, strict impartiality, and extensive veterinary knowledge and experience gained him the regard and respect of all with whom his official duties brought him in contact.

I should like to place on record my appreciation of the very able assistance and loyal support I invariably received from Mr. Smith.

This is the second, and the last, annual report I shall have the honour to present. Owing to conditions resulting from the exigencies of war, it has not been possible, during my relatively brief period of office, to do all I should like to have done to promote the public health.

I regard it as a privilege to have been temporary Medical Officer of Health of the Ulverston Combined Sanitary District, as it has afforded me opportunity of becoming acquainted with the independent, self-reliant and very kindly inhabitants of the Furness Peninsula. I never worked among people I admired, or liked, more. They are deserving of the very best services that Councils and officials can render.

I am, Gentlemen,

Your obedient servant,

HUGH A. MACEWEN.

ULVERSTON URBAN DISTRICT COUNCIL.

 SANITARY INSPECTOR'S ANNUAL REPORT,
 1944.

Town Hall, Ulverston,
May, 1945.

To the Chairman and Members of the Health Committee.

Gentlemen,

I beg to present herewith a brief summary of the work relating to Public Health Administration carried out by the Department during the period January 1st to December 31st, 1944.

SANITARY INSPECTIONS, ETC.

37 cases have been dealt with by means of non-statutory notices, and numerous other cases dealt with by direct contact. The non-statutory notices served relate to the following cases, viz.—

Summary of cases reported—Year 1944 :

Insufficient or insanitary accommodation for					
House Refuse	..	..	..	..	4
Defective drains and w.c.s	..	..	..	..	14
Defective condition of premises	..	..	..	..	6
Condemnation of unfit food	..	..	..	..	7
Accumulations on, or obstructions to Highways					4
Miscellaneous	..	..	..	..	2
Total Cases					37

HOUSING, ETC.

Whilst no action has been possible under Slum Clearance, a start on post-war programmes has been made with regard to new houses. A survey has been made, levels taken, and layout plans prepared for approximately 160 houses on the Watery Lane Estate. The scheme has been submitted, and approved in principle, by several of the Government Departments concerned but, until consent to acquire the site has been given by the Ministry of Health it is purposeless to proceed further with this scheme. Application has been made for an allocation of Temporary Bungalows, and as it was not thought desirable to sterilise for some years, land which may be suitable for permanent dwellings, plans have been prepared for these to be erected in North Lonsdale Road, on land owned by the Council.

SEWERAGE AND DRAINAGE.

The system has received the usual attention and inspection and has been maintained in an efficient state.

SHOPS ACT AND FACTORIES ACT.

Close liaison has been kept with H.M. Inspectors and the cases arising have been dealt with appropriately.

REFUSE DISPOSAL AND SALVAGE COLLECTION.

This branch of the department's work has been carried out in an efficient manner under obvious labour and transport difficulties. The controlled tip has been maintained in a clean and orderly condition, and no complaints of any nuisance have been received.

Salvage during the year to the value of £606 was collected, sorted and sold, the details being, as follows :—

				T.	C.	Q.
Paper, cardboard, etc.	..	..		81	13	3
Metal	..	..	..	15	1	2
Textiles	..	..	..	3	9	3
Bones	..	..	..	2	14	2
Rubber	..	..	..	2	17	0
Kitchen Waste	..	..	..	28	5	8

RATS.

The issuing of rat poison free of charge to Ratepayers, the baiting of sewers and tanks and all Council property, and assistance to property owners by this department's staff, has been continued as in the past. A Rodent Officer for the Combined Sanitary District has been appointed and it is hoped shortly to have his services for a complete survey of the Ulverston Urban District.

INFECTIOUS DISEASES.

The number of cases notified has been the lowest ever recorded, and were, as follows, viz.—

Scarlet Fever	..	..	7
Diphtheria	..	..	3
Encephalitis	..	..	1
Total			11

Premises fumigated have been, as follows :—

As a result of infectious diseases	11
„ T.B.	12
„ Cancer	3
„ Other Causes	8

WATER SUPPLY.

A pure and sufficient supply has been maintained without interruption.

I am, Gentlemen,

Yours obediently,

C. TELFORD HAGUE,

Surveyor and Sanitary Inspector.

1. The first part of the paper is devoted to a general discussion of the problem. It is shown that the problem is of great importance in the theory of the structure of the atom.

2. In the second part of the paper, the author discusses the results of his calculations. It is shown that the results are in good agreement with the experimental data.

3. In the third part of the paper, the author discusses the results of his calculations. It is shown that the results are in good agreement with the experimental data.

4. In the fourth part of the paper, the author discusses the results of his calculations. It is shown that the results are in good agreement with the experimental data.

5. In the fifth part of the paper, the author discusses the results of his calculations. It is shown that the results are in good agreement with the experimental data.

