[Report 1925] / Medical Officer of Health, Chelmsford Borough.

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Borough of Chelmsford.

ANNUAL REPORT

OF THE

Medical Officer of Health

AND

School Medical Officer

FOR 1925.

SUMMARY REPORT.

RICHARD H. VERCOE, B.A., M.R.C.S., L.R.C.P., D.P.H.,

Medical Officer of Health and School Medical Officer.

Medical Officer Maternity and Child Welfare.

Medical Superintendent Joint Isolation Hospital.

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INCLUDING THE REPORTS OF THE

SANITARY INSPECTOR

VETERINARY SURGEON

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STAFF.

		Date duties commenced.
RICHARD H. VERCOE,	Medical Officer of Health ...	Jan. 1st, 1923
WALTER BROWN,	Sanitary Inspector ...	July 1st, 1912
SARAH G. LANGFORD,	Health Visitor ...	Apl. 27th, 1920
ELLEN M. LEVETT,	School Nurse	Jan. 1st, 1925
HAROLD J. COZENS,	Clerk...	Jan. 1st, 1925
J. W. REED,	Junior Clerk	June, 1924

PUBLIC HEALTH OFFICES - - 89, DUKE STREET.

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PUBLIC HEALTH DEPARTMENT,
CHELMSFORD.

1926.

To the Mayor, Aldermen and Councillors of the Borough of Chelmsford.

Mr. Mayor, Ladies and Gentlemen,

I have the honour to present herewith the Annual Report for the year 1925. This Report is required by the Ministry of Health to be a survey report which is to be submitted every five years, and is desired to describe (*a*) the measure of progress in Public Health during the preceding five years (*b*) the character of the changes made during that period in the Public Health services of the area (*c*) any further action of importance in the organisation or development of Public Health services contemplated by the Local Authority or considered desirable by the Medical Officer of Health.

(A) The progress in Public Health may be followed in detail under the separate subject headings which follow in the body of this Report, but a brief summary is as follows :—

(1) The INFANT MORTALITY RATE has been reduced to the record figure of 27 after the previous year's good figure of 38; this reflects the highest credit, not only on the people concerned but also on the environmental circumstances of the town, which are often judged by the Infant Mortality Rate more accurately than by the general Death-rate or Zymotic Death-rate. (For details see Maternity and Child Welfare Section, page 23).

(2) The increasing attendances at the Borough CLINICS for Infant Welfare and for School Minor Ailments have been very marked in the past three years as follows :—

		1921.	1922.	1923.	1924.	1925.
Attendances at Clinics for	Infants & Mothers ...	2339	2442	3278	4426	4107
	School Children ...	703	769	2054	2470	4185

Details of these are found on pages 23 and 100.

(3) The reorganisation of the DENTAL School Work is a great improvement and is described on page 102.

(4) An ANTE-NATAL Clinic has been started in the last quarter of 1925, see page 26.

(5) HOUSING for the working classes has been continued by the Borough Council on a large scale with excellent dwellings on an excellent site, see page 62.

(6) The new SEWERAGE scheme is being carried out and is well on the way to completion, see page 70.

(7) The Chelmsford Water Act was passed in 1923 and the new WATER scheme will be shortly commenced by which a million gallons a day will be drawn from the River to augment the present water supply of the town, see page 59.

(8) The appointment of the Medical Officer of Health to be also Superintendent of the ISOLATION HOSPITAL in June, 1923, gives him increased control and knowledge of the infectious diseases in his area, see page 34.

(B) Character of changes made in past five years in the Public Health services in the area—

The previous Medical Officer of Health and School Medical Officer took up another similar post in June, 1922, and his position was temporarily filled by the Rural District Medical Officer of Health for the remaining six months of that year. The present Medical Officer of Health and School Medical Officer for the Borough took up his predecessors duties in January, 1923, with the additional duties of School Oculist, previously carried out by a Specialist from London, and also Tuberculosis Officer and School Medical Inspector under the Essex County Council for the Chelmsford Rural District Area. In June, 1923, the post of Superintendent of the Isolation Hospital was added to the Medical Officer of Health's other duties. In June, 1924, he relinquished his appointment of Tuberculosis Officer for the Borough and Rural Area, but retained that of School Medical Inspector for the Rural District. In September, 1925, he became the Medical Officer of the new Ante-Natal Clinic.

A new School Dentist was appointed in April, 1925.

A new School Nurse was appointed in January, 1925.

(C) Future developments in Public Health contemplated or desirable—

(1) PURIFICATION of the RIVER is needed now that the new sewer renders this feasible, in view of the new water supply from the river, see page 61.

(2) Larger and more up-to-date PUBLIC HEALTH PREMISES are badly needed, amongst other things, to accommodate the increased School Clinic attendances. The plans have been passed and are shewn on page 43.

(3) Closure of more UNFIT HOUSES is required, similar to those 51 on which Closing Orders were made during 1925, see page 63.

(4) HOUSING ACCOMMODATION is badly needed of a character and rental suitable to re-house those vacating the cheaply rented houses which are being closed, see page 64.

(5) A Backward Class should be established as soon as possible in some central position to take the Backward and Mentally Defective Children, as reported upon fully by me to the Education Committee on 8th September, 1925, see page 106 of Annual School Report enclosed.

(6) Maternity Beds for those living in badly overcrowded homes should be arranged for by the Council in the new Infirmary Lying-in Ward, see page 27.

(7) Dental Treatment for Nursing and Expectant Mothers might be now commenced, see page 28.

(8) Treatment of the water of the Swimming Bath between filling and emptying the Bath might be reconsidered, see page 47.

In compiling this Report, I wish to acknowledge the willing help of the Borough Engineer, Mr. Ernest Miles, for additions to the ordnance map on page 76, the Housing diagram on page 65, and the figures on which I have written the sections on Housing, Water and Sewerage.

In general also I have much appreciated his ready reciprocation of interest in matters mutually affecting us and the welfare of the Borough during the past three years.

Mr. Brown, the Sanitary Inspector, has at all times rendered such consistently willing and reliable co-operation in all matters regarding Housing, Nuisances, Milk Supply, &c., that it has been invaluable.

To Mrs. Langford, the Health Visitor, and Miss Levett, the School Nurse, best thanks are due for consistently good work at all times, and finally to Mr. Cozens, the Health Office Clerk, is due my best recognition of his keenness and uncomplaining drudgery for months over the multitudinous figures throughout this Report.

I am, Mr. Mayor, Ladies and Gentlemen,

Your obedient Servant,

RICHARD VERCOE,

Medical Officer of Health.

Environmental Conditions.

The Municipal Borough of Chelmsford is situated approximately in the centre of the County of Essex but rather nearer the southern and western borders. It lies on the great main road and main line intermediate between London (29 miles) and Colchester (22 miles) on the north-east, and is 21 miles from Southend on the extreme south and 11 miles from Braintree, the nearest town on the north.

The town lies approximately in the centre of the Chelmsford Rural District whose limits vary from five to ten miles from the centre of the town.

The round figure population of the Rural District numbers 26,000 as compared with 22,000 for the Borough, and the occupations of the former are agricultural, while those of the latter are industrial and commercial, so that the interdependance is maximal. Some of the employees at the works in the town live in the nearest villages close outside.

The shape of the Borough Boundary may be described as an inverted triangle with the apex pointing south. The short base faces north and is $2\frac{1}{8}$ miles across. The next side faces due west and is $4\frac{1}{8}$ miles long, while the remaining side faces south-east and is $4\frac{1}{2}$ miles long.

Those worried by these descriptions may envisage its position on the map as a Gulliver standing on its head in the centre of a circle of observant Lilliputians, while at week-ends spasmodic hordes of motorists from London dash through the narrow streets towards the more clamant calls of Clacton.

The river Chelmer enters the town from the north through the middle of the base line; the river Cann enters from the west near the northern end of the western border.

The width of the Chelmer varies from 25 to 30 feet and the width of the Cann varies from 40 to 50 feet. They approach to within 300 feet of each other at the eastern edge of the centre of the town and then run almost parallel for 1,600 feet towards the south-east but meeting at last in the meadows outside the town at Moulsham Mill, just within the boundary. From there the river becomes the Chelmer and Blackwater Canal, and runs through the Baddow Meads in the Chelmer Valley in an easterly direction to Sandford Mill, which is two miles as the crow flies from the centre of the town.

The heights above sea level in the different parts of the Borough can be studied in detail from the figures given on the ordnance map in the middle of this Report, and they vary from 231 near Longstomps Reservoir at Galleywood on the south to 142 at Springfield Green on the north east, and 143 at Boarded Barns on the north-west, while the centre of the town lies at 90-80, from west to east.

ENVIRONMENTAL CONDITIONS.

The area of the Borough is 3,112 acres, and the population is 21,900, concentrated in the broad northern half of the Borough, which is divided into the three Wards, of which the North and South Wards contain about equal populations, while the Springfield Ward contains between a third and a half of either of the others.

The GEOLOGICAL survey map shows that the whole of the County south of a horizontal line drawn through the Borough at the Workhouse is almost entirely London clay with some boulder clay, while the *northern portion of the Borough is gravel, loam and alluvium*, with the exception of a strip of boulder clay on the north-east, running from the north down each side of Springfield Road to the Gaol, and a smaller patch of boulder clay on the north-west, limited to the Boarded Barns Estate.

The deeper stratum is London clay, commencing at varying depths of 62 feet down, at Mildmay Road, to 16 feet down at Galleywood; below this finally comes the chalk, and the thicknesses and depths of the principal strata in four different places in the Borough can be seen from the following table :—

The following table is summarised and condensed from four separate and detailed tables published in the Memoirs of the Geological Survey of England and Wales—water supply of Essex,1916, and shows the thickness and depth of the geological strata in four different situations in the Borough.

Strata—Thickness and Depth.	Outside Town on the South.		In the Town itself.				Outside Town on N.E.	
	Boro' pumping station at Galley-wood.		Borough Well. Mildmay. Moulsham.		Well at Marconi's Works.		Shallow Well at Springfield ¼ mile S.E. of Church.	
	Thick-ness.	Depth	Thick-ness.	Depth.	Thick-ness.	Depth.	Thick-ness.	Depth.
Boulder Clay ...	0	0	0	0	0	0	17	17
Gravel and Sand ...	16	16	62	62	45	45	22	39
London Clay ...	394	410	155	217	175	220	—	touched.
Sand	18	428	147	364	107	327	—	—
Clay	106	534	—	—	—	—	—	—
Chalk	5	540	297	662	123	450	—	—

ENVIRONMENTAL CONDITIONS.

RAIN AND TEMPERATURE OBSERVATIONS FROM THE COUNTY METEOROLOGICAL STATION AT CHELMSFORD.

Rain.			Temperature.							
Month.	No. of rainy days.	Rainfall in inches.	Dry bulb readings.	Wet bulb readings.	Maximum readings.	Minimum readings.	Absolute maximum.	Date of absolute maximum.	Absolute minimum.	Date of absolute minimum.
1925										
Jan.	11	1.4	40.0	39.0	46.1	34.6	55	2nd	24	11th & 12th
Feb.	17	2.2	41.1	39.5	47.1	35.1	55	10th	25	22nd
Mar.	11	1.0	40.4	38.09	47.2	34.0.	54	16th	25	13th
Apl.	11	1.2	47.74	45.3	54.6	37.1	62	8th, 12th	27	4th and 22nd
May	15	2.1	56.3	53.4	63.7	44.8	79	16th	32	2nd
June	2	0.3	61.06	58.4	70.2	47.5	85	11th	35	29th
July	14	4.1	64.4	61.2	73.2	52.08	86	22nd	45	8th
Aug.	12	2.9	62.2	60.9	69.6	51.2	80	17th	41	26th
Sept.	15	2.2	54.9	54.0	61.3	43.9	67	1st, 15th, 30th	34	15th
Oct.	15	2.6	52.2	51.4	59.7	42.9	71	6th	32	10th &11th, 14th &15th
Nov.	12	1.4	40.2	39.3	45.3	34.0	60	2nd, 3rd	24	27th
Dec.	14	2.18	36.4	35.6	43.1	31.7	57	26th, 29th	19	16th

		No. of Rainy Days		Rainfall in inches.
Total—Year—	1925	149	...	23.58
	1924	175	...	30.29
	1923	176	...	23.77
	1922	178	...	24.37
	1921	109	...	11.98
	1920	143	...	38.60
	1919	149	...	24.20

Rainfall.

The Rainfall Map of Essex shows that Chelmsford is one of the driest parts of the County (and Country) with an average of 22.5 inches.

The very lowest rainfall is in the north-east near the coast with 20-22.5 inches and the highest is mainly in areas along the western border with averages of 25-27.5 inches.

TABLE SHOWING COMPARISON OF OCCUPATIONS IN CHELMSFORD BOROUGH AND CHELMSFORD RURAL DISTRICT.

Occupation.	Chelmsford M.B. M.	Chelmsford M.B. F.	Chelmsford R.D.C. M.	Chelmsford R.D.C. F.
Total Population	10104	10665	11983	12633
Aged 0—12	2174	2004	2731	2682
Aged 12 and upwards	7930	8661	9252	9951
Fishermen	—	—	—	—
Agricultural Occupations	294	14	3606	141
Mining and Quarrying	8	—	16	—
Makers of Coke, Lime, Cement	—	—	1	—
Makers of Bricks, Pottery, Glass	18	—	47	1
Workers in Chemicals, Paints	2	—	3	3
Metal Workers	1761	227	777	89
Workers in Precious Metals	6	3	3	—
Electrical Apparatus Makers and Fitters	552	133	139	26
Makers of Watches, &c.	28	2	6	—
Workers in Skins, Leather Workers	36	—	30	1
Textile Workers	12	1	5	2
Makers of Textile Goods, Articles of Dress	94	155	54	84
Makers of Food, Drinks, Tobacco	131	11	145	16
Workers in Wood, &c.	282	14	257	2
Paper Workere, Printers, &c	92	19	24	2
Builders, Bricklayers, &c.	292	2	496	1
Painters and Decorators	130	—	112	1
Workers in other Materials	3	1	4	3
Workers in Mixed and Undefined Materials	15	2	10	1
Persons in Gas Water, Electricity Supply	31	—	12	—
Transport Workers	571	28	496	13
Commercial and Financial Occupations	687	293	456	155
Public Administration and Defence	260	41	143	58
Professional Occupations	208	212	177	236
Persons Employed in Entertainments, &c.	38	13	14	5
Persons Employed in Personal Service	205	970	219	1290
Clerks, Typists, Draughtsmen, &c.	455	390	219	175
Warehousemen, &c.	160	28	71	4
Stationary Engine Drivers, &c.	79	—	33	—
All other Occupations	508	49	426	28
Total Occupied	6958	2608	8001	2337
Unoccupied and retired	972	6053	1251	7614
Total Occupied and Unoccupied	7930	8661	9252	9951

AVERAGE NUMBER OF EMPLOYEES AT THE PRINCIPAL WORKS IN THE BOROUGH.

Hoffmann's Ball Bearing Works, New Street	3,115
Crompton's Engineering Works, Writtle Road	1,400
Marconi's Wireless Telegraphy Works, New Street	730
Brown's Timber Works, Navigation Road	150
Christy & Norris, Engineering Works, Broomfield Road	128
Chelmsford Borough Gas Works	76
The National Omnibus Company Works, Anchor Street	58
Brittain Pash, Agricultural Engineers' Works	55
Christy Bros. & Co., Electrical Engineers, Broomfield Road	36
The Glove Factory, Writtle Street	25

It is interesting to compare the numbers of Metal Workers and Electrical Apparatus Makers (*a*) living in the Borough, (*b*) living in the Rural District, and (*c*) working in the Borough.

(1) General Statistics.

AREA . . ... 3,112 acres, including Inland Water (Census 1921)

POPULATION (1925) ... 21,900 (Registrar-General's Figure)
20,761 (Census 1921)

NUMBER OF INHABITED HOUSES:—5,302 (Census 1921)

RATEABLE VALUE 146,504

AMOUNT PRODUCED BY 1d. RATE £550

(2) Extracts from Vital Statistics of the Year.

		Total.	M.	F.	
BIRTHS ...	Legitimate	319	163	156	Birth Rate 15·16
	Illegitimate ...	12	5	7	

DEATHS—

Total uncorrected, 255: rate, 11·64 per 1,000 living

Total corrected, 202: rate, 9·22 per 1,000 living

Number of women dying in, or in consequence of Childbirth:—

From Sepsis 0

Other Causes 3

Deaths of infants under one year:—

Legitimate, 8. Illegitimate, 1. Total, 9.

INFANT DEATH RATE ... ... 27·19 per 1,000 births

Deaths from Measles (all ages) 0

" Whooping Cough (all ages) ... 0

" Diarrhœa (under two years) ... 0

(3) Vital Statistics.

The following table gives the chief vital statistics of the Borough of Chelmsford and also of London, the groups of 105 Great Towns and 157 Smaller Towns, and of the country as a whole.

COMPARATIVE TABLE OF BIRTH AND DEATH-RATES, AND ANALYSIS OF MORTALITY, 1925.

	Birth-rate per 1,000 Total Population.	Annual Death-rate per 1,000 Population.									Rate per 1,000 Births.		Percentage of Total Deaths.		
		All Causes.	Enteric Fever	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diph-theria.	Influenza	Violence.	Diarrhœa and Enteritis (under two years).	Total Deaths under one year.	Causes of death certified by registered medical practitioners.	Inquest Cases.	Uncertified causes of death.
England aud Wales	18.3	12.2	0.01	0.00	0.13	0.03	0.15	0.07	0.32	0.47	8.4	75	92.1	6.9	1.0
105 County Boroughs and Great Towns, including London ...	18.8	12.2	0.01	0.00	0.17	0.03	0.18	0.09	0.30	0.43	10.8	79	92.1	7.3	0.6
157 Smaller Towns (1921 Adjusted Populations 20,000-50,000) ...	18.3	11.2	0.01	0.00	0.15	0.02	0.14	0.06	0.31	0.38	7.6	74	93.0	5.9	1.1
London	18.0	11.7	0.01	0.00	0.08	0.02	0.19	0.11	0.23	0.46	10.6	67	91.1	8.9	0.0
Chelmsford M.B.	**15.16**	**9.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.25**	**0.0**	**27**	**91.1**	**8.9**	**0.0**

Comparison of vital statistics of Chelmsford with those of England and Wales, the great towns and London for the past 5 years average :—

	England and Wales.	105 great towns, including London.	London.	Chelmsford.
Birth-rate	19·8	20·6	20·0	17·14
Death-rate	12·0	12·1	11·9	9·95
Infant deaths under 1 per 1,000 births. ...	73·0	80·0	70·0	42·31
Diarrhœa under 2 per 1,000 births. ...	9·7	11·3	11·5	1·58
Measles death-rate ...	0·11	0·14	0·12	0·01
Whooping Cough death-rate	0·12	0·13	0·12	0·11
Diphtheria death-rate ...	0·08	0·1	0·15	0·05
Scarlet Fever death-rate...	0·03	0·03	0·03	0·00
Enteric Fever death-rate	0·01	0·01	0·01	0·00
Influenza death-rate ...	0·34	0·32	0·25	0·16

Comparison of vital statistics for each year back from 1925 to 1907 for Chelmsford :—

Year.	Birth-rate.	Death-rate.	Infant mortality.	Population. (Registrar G.)	Tuberculosis death-rate.	Zymotic death-rate.
1925 ...	15·16	9·22	27·19	21,900	1·05	·00
1924 . .	15·72	9·82	38·12	21,680	1·06	·23
1923 ...	17·57	9·71	59·62	21,230	0·75	·14
1922 ...	17·95	11·20	42·44	20,990	0·76	·38
1921 ...	19·3	9·8	44·2	20,800	0·52	·33
1920 ...	20·8	8·8	55·4	21,666	0·55	·16
1919 ...	15·38	10·4	56·8	20,836	0·75	·13
1918 ...	16·9	12·4	70·5	19,404	...	·36
1914 ...	21·70	10·7	89·26	18,800	·9	·48
1913 ...	21·45	11·13	57·94	18,500	·75	·48
1912 ...	19·67	9·66	69·4	18,307	·81	·21
1911 ...	20·54	12·00	102·7	18,008	·88	·72
1910 .	18·98	9·43	50·29	17,800	.89	·21
1909 ...	18·45	8·05	52·51	17,590	·73	·34
1908 ...	22·93	10·33	67·64	17,200	·66	·44
1907 ...	21·81	9·4	60·00	17,200	1·23	1·18

Deaths.

The following tabular statement gives details of the number of deaths classified according to cause for the past 4 years :—(R.G.)

Cause of Death.	Male.	Female.	1925 Total.	1924	1923	1922
Enteric Fever	—	—	—	—	—	1
Small-pox	—	—	—	—	—	—
Measles	—	—	—	1	—	1
Scarlet Fever	—	—	—	—	—	—
Whooping Cough	—	—	—	2	1	5
Diphtheria	—	—	—	3	—	1
Influenza	1	—	**1**	8	—	10
Encephalitis Lethargica	—	—	—	—	—	—
Meningococcal Meningitis	—	—	—	—	—	—
Tuberculosis of Respiratory System ...	7	10	**17**	18	14	14
Other Tuberculosis Diseases ...	2	4	**6**	5	2	2
Cancer, Malignant Disease ...	15	12	**27**	24	31	31
Rheumatic Fever	1	2	**3**	—	—	1
Diabetes	—	1	**1**	3	3	1
Cerebral Hæmorrhage, &c.	7	8	**15**	7	17	18
Heart Disease	30	20	**33**	27	21	29
Arterio Sclerosis	6	1	**7**	12	12	5
Bronchitis	7	7	**14**	15	12	24
Pneumonia (all forms)	—	5	**5**	11	7	5
Other Respiratory Diseases	1	—	**1**	7	6	4
Ulcer of Stomach or Duodenum ...	—	—	—	1	3	2
Diarrhœa, &c. (under 2 years) ...	—	—	—	—	2	2
Appendicitis and Typhlitis ...	—	—	—	3	1	—
Cirrhosis of Liver	—	1	**1**	1	—	—
Acute and Chronic Nephritis ...	—	—	—	5	1	2
Puerperal Sepsis	—	—	—	1	2	—
Other Accidents and Diseases of Pregnancy and Parturition	—	3	**3**	2	2	—
Congenital Debility and Malformation, Premature Birth	3	5	**8**	9	12	11
Suicide	2	4	**6**	2	2	1
Other Deaths from Violence	3	2	**5**	1	5	5
Other Defined Diseases	24	24	**48**	16	47	58
Causes ill-defined or unknown ...	1	—	**1**	—	1	2
Total	93	111	**202**	213	204	233

DEATHS AT VARIOUS AGES DURING THE PAST 4 YEARS.

	1925.	1924.	1923.	1922.
Under 1 year ...	9	13	22	16
1—2 years ...	2	2	—	6
2—5 „ ...	2	6	2	3
5—15 „ ...	7	7	5	6
15—25 „ ...	7	16	13	4
25—45 „ ...	22	26	26	19
45—65 „ ...	56	52	43	50
65 and over ...	97	91	93	112
Total ...	202	213	204	233

DEATH RATE. The number of deaths registered in the Borough was 256. Of this number 67 were deaths of persons who were not inhabitants of Chelmsford.

In addition, 13 deaths were accepted as deaths of Chelmsford residents occurring in other districts.

Subtracting 67 "outward transfers" from the figure of 256, and adding 13 "inward transfers," the net number of deaths is 202 which agrees with the figure supplied by the Registrar-General. This gives a corrected death-rate of 9.22 per 1,000 for the year 1925. This is a low death rate as compared with that of the whole country, which is 12.2 per 1,000. It is almost the same as that of 1924 for Chelmsford, which was 9.82 per 1,000.

INFANTILE MORTALITY. It is a satisfactory fact that out of 331 births there were only 9 deaths of infants under the age of 12 months. Another satisfactory feature is that of the 12 illegitimate children born, only one of these children died during the first 12 months of life. This gives an Infantile Death Rate of 27.19 per 1,000 births, which is the lowest on record for Chelmsford.

Births.

Three hundred and forty-two births were registered as occurring in the Borough. The Registrar-General's figure, after correction, for inward and outward transfers is 331 for the Borough. The number of notification of births received from medical practitioners and midwives during the year was 331. 6 still births were notified. These cases of still births were investigated by the Health Visitor to ascertain, as far as possible, the cause of death.

BIRTH RATE. The birth rate of Chelmsford for 1925 was 15·16 as compared with 15·72 in 1924, 17·57 in 1923, and 17·96 in 1922. This is a low rate compared with that of England and Wales, as a whole, which was 18·3 in 1925, 18·8 in 1924, and 19·7 in 1923. The birth rate of this town has fluctuated with that of the whole country during the last three years, always however, keeping at a lower level.

Infectious Disease.

The number of cases of infectious disease notified during 1925 was as follows:—

Diphtheria.	Scarlet Fever.	Paratyphoid.	Ophthalmia Neonatorum.	Pneumonia.	Erysipelas.
3	6	2	1	1	1

Of these, 2 Diphtheria, 4 Scarlet Fever and 2 Paratyphoid cases were admitted to the Isolation Hospital.

It is interesting to compare the deaths from infectious diseases in Chelmsford with those for the rest of the country as shewn for the past five years in the table on page 15, and to compare the above notification figures with those in previous years, as set out in the following table on page 21.

It will be seen that the Scarlet Fever cases were again few in number, and were isolated cases with no definite connecting cause.

A very clear and instructive demonstration of the way in which the disease may be spread by infective discharges from the nose and ear for as long a period as two months in one case and four months in the other, after the beginning of the illness, is detailed on page 35 in the Isolation Hospital Report under the heading "Return Cases."

It is these infective discharges from the nose and ear in Scarlet Fever (and Diphtheria) which are nowadays regarded as of much greater importance than the peeling skin, or the air of the room in which the patient has been, and in the large London Fever Hospitals the Scarlet Fever patients have been habitually discharged in a still peeling condition for many years past with no ill results as long as the nose, &c., is free from discharge.

"Return Cases," from the same house as previous cases of the same disease, are, of course, not the commonest sources of fresh Scarlet Fever (or Diphtheria) cases, and the latter are not so easily traced, but the same principles apply, except that the infecting case is often so mild that it is not recognised as such, but supposed to be something trivial; meanwhile the infection is passed on to others in a more virulent form, often after quite a long interval.

This accounts for the incomplete success of Fever Hospital Isolation in preventing infectious diseases, and explains the need for the Schick procedure for preventing Diphtheria, as described in my last year's report, and the more recent similar procedure for preventing Scarlet Fever.

Diphtheria notifications for 1925 were only three, and deaths none, as compared with 67 notifications and three deaths in 1924, and again only four cases in 1923.

A full report on the Diphtheria in 1924 is given in four pages of my Annual Report for that year, and the salient features may be briefly recapitulated as follows :—

Only one case came from each house in 62 cases, except in two instances, although the patient had been at home for three or four days on the average before removal to Hospital, often undiagnosed during this time.

There was no "Return Case" out of the 61 cases discharged from Hospital.

The absence of any connecting causes, such as locality, meeting place, milk, &c.

The even distribution of the cases throughout the year although there were very few cases before and after.

The failure of test swabbing to markedly control the carriers, although 846 swabs were taken.

Only three deaths occurred out of 67 cases of true Diphtheria.

DISINFECTION for Scarlet Fever and Diphtheria is carried out in Chelmsford in the manner similar to that still employed by the majority of places and consists in liberating a fixed quantity of formalin vapour from a small tin placed on the floor of the sealed bedroom used by the patient, while the bed linen and body clothes are steam disinfected at the Isolation Hospital.

Disinfection of the room has been given up for some years past in Brighton without ill effect and in Willesden it was shewn during the past four years, amongst a population of 170,000, that those districts where disinfection of the room was carried out in the usual way were no more benefitted than those where it was completely discontinued during the same period. Ealing with a population of 70,000, mainly residential, appears to have gone even further, and claims considerable saving in cost without increase in infectious disease during the past five years, for besides the discontinuance of disinfection of the Room, the Steam disinfection of the Clothes is also discontinued in the following circumstances :—"Steam disinfection of bed clothing is resorted to when a case of diphtheria or scarlet fever has been nursed at home but not when the case has been removed at once to hospital. When the case is removed to hospital the washable bed-linen and personal clothing is placed in a dilute solution of disinfectant and left to be washed thoroughly, while the pillows and mattresses and any body clothing that cannot be washed are sprayed on the surface with formalin and left in the room for some hours. No treatment is applied to the walls or floors."

INFECTIOUS DISEASES APPENDIX.

Notifiable Diseases During the Year.

Notifiable Disease.	Total cases.	Notifications at Ages. Under 1	1—5	5—10	10—15	15—20	20—35	35—45	Over 45	Cases admitted to hospital	Total Deaths.	Total Cases notified in each Locality. (*e.g.*) Parish or Ward of the District. North Ward.	South Ward.	Springfield Wd.
Diphtheria	3	—	—	2	1	—	—	—	—	2	—	—	1	2
Scarlet Fever	6	—	1	3	—	1	1	—	—	4	—	1	5	—
Pneumonia	1	—	—	—	1	—	—	—	—	—	—	1	—	—
Erysipelas	1	—	—	—	—	—	—	1	—	—	—	—	1	—
Ophthalmia Neonatorum ..	1	1	—	—	—	—	—	—	—	—	—	—	1	—
Paratyphoid Fever ...	2	—	1	—	—	1	—	—	—	2	—	2	—	—
Puerperal Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica ..	1	—	—	1	—	—	—	—	—	—	—	1	—	—
Anterio Poliomelitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	15	1	2	6	2	2	1	1	—	8	—	5	8	2
TUBERCULOSIS.														
Pulmonary.														
Males ...	12	—	—	—	2	2	4	3	1	7	7	4	6	2
Females ...	8	—	—	—	—	1	5	—	2	6	10	4	3	1
Totals ...	20	—	—	—	2	3	9	3	3	13	17	8	9	3
Non-Pulmonary.														
Males ...	5	—	1	2	1	—	—	1	—	—	2	4	—	1
Females .	3	—	1	—	—	—	—	2	—	1	4	2	1	—
Totals ...	8	—	2	2	1	—	—	3	—	1	6	6	1	1
Grand Totals	43	1	4	8	5	5	10	7	3	22	23	19	18	6

Comparison of Notifications received during the past 17 Years.

Year.	Diphtheria.	Scarlet Fever.	Pneumonia.	Erysipelas.	Typhoid.	Ophthalmia Neonatorum.	Puerperal Fever.	Encephalitis Lethargica.	Anterior Poliomyelitis.	Malaria.	Cerebro-spinal Meningitis.	Tuberculosis.	
												Pulm.	Non-Pulm.
1925	3	6	1	1	2	1	...	1	...	...	...	20	8
1924	67	17	9	2	1	0	1	..	...	...	...	14	2
1923	4	9	3	3	1	2	3	2	1	...	...	30	8
1922	17	34	10	4	1	1	...	...	..	..	..	36	1
1921	38	35	10	1	2	...	1	1	1	...	...	35	2
1920	23	28	26	1	...	1	2	1	...	8	..	33	5
1919	44	14	21	5	...	2	2	...	...	21	...	26	1
1918	31	8	...	2	...	1	...	...	...	...	...	7	...
1917	24	17	...	...	1	...	4	...	...	...	2	27	...
1914	14	27	...	4	3	1	3	...	...	...	1	32	6
1913	46	16	...	7	2	...	1	...	...	...	...	40	15
1912	25	71	...	...	2	...	...	...	...	...	...	41	..
1911	23	56	...	10	7	...	1	...	...	...	...	15	1
1910	17	14	...	5	...	...	2	...	...	...	...	1	...
1909	3	34	...	2	1	..	..	...	..	...	...	6	...
1908	10	16	..	3	7	...	1	...	...	...	...	...	...
1907	31	45	...	10	11	...	1	...	...	...	...	...	...

INFECTIOUS DISEASE.

The following table of incubation periods and quarantine time was issued in February, 1925, conjointly by the Ministry of Health and Board of Education and has been adopted by the Chelmsford Education Committee for School exclusion :—

Disease.	Incubation Periods.	Period of Exclusion	
		Patient.	Contacts.
Scarlet Fever.	1-8 days.	2 weeks after return from hospital, or, in the case of patients treated at home, 2 weeks after released from isolation.	1 week after removal of patient to hospital, or, in the case of patients at home, 1 week after release from isolation.
Diphtheria	2-10 days.	2 to 3 weeks after end of attack; or until pronounced free from infection by a medical practitioner.	2 weeks after removal of patient to hospital, or, in the case of patients treated at home, 10 days after release from isolation. Negative swabs should be obtained.
Measles ...	7-14 days.	3 weeks.	Infants, and other children who have not had the disease, 3 weeks from date of onset of last case in house.
German Measles	5-21 days.	1 week from date of appearance of rash.	Infants, and other children who have not had the disease, 3 weeks from date of last exposure to patient with rash.
Whooping Cough.	6-18 days.	6 weeks from commencement of cough.	Infants only, for 6 weeks; or 3 weeks from date of last exposure of infection if contact has moved to fresh quarters.
Mumps ...	12-23 days.	Until 1 week after subsidence of swelling. (3 weeks given in 1909 memorandum and this can be used).	No exclusion.
Chicken Pox.	11-21 days.	3 weeks.	Infants, and other children who have not had the disease, 3 weeks from date of last exposure to infection.
Small Pox	10-14, but usually 12 days.	6 weeks, or until the patient is certified free from infection by a medical practitioner.	16 days, unless recently vaccinated when exclusion is unnecessary.

Maternity and Child Welfare.

The outstanding feature for the year is the reduction of the Infant Mortality Rate to the very low rate of 27 (deaths under one year per 1000 births). This constitutes a record for Chelmsford and probably also for any other town of the same size in the country. The attendances at the Infant Welfare Clinics have greatly increased from 2,422 in 1922 to 4,107 in 1925.

The Health Visitor's energy in visiting and complete co-ordination with the Clinic Medical Officer goes far to explain these good results.

There are two Welfare Centres.

No. 1 held every Tuesday afternoon at the Friends Meeting House mainly serving the North Ward.

No. 2 held every Thursday afternoon at the Orchard Street Hall mainly serving the South Ward.

The Medical Officer attending the Clinics is the Medical Officer of Health and he sees every new baby and the others at regular intervals which may be at every Clinic when young or specially delicate, or less often if doing well and getting older. Special cases requiring examination for special troubles are seen whenever the occasion arises.

The primary objects of the Clinics is not Treatment of Diseased Babies or Mothers ; these are referred to their private doctor or to special Hospitals if he concurs.

But the objects of the Clinics are (1) to train the mothers in correct methods of rearing the babies and to make sure week by week at the Clinic by the Medical Officer, and more often where necessary by the Health Visitors Home Visits, that these correct methods are being really followed out.

(2) To examine the baby both at the first occasion and again at regular intervals to see that it maintains correct growth and development and that no physical defects are arising.

The details of attendances are given later below, the total attendances for the year were 4,107 and the comparison for the growth of the attendances is as follows :—

Year.	Up to 1919.	1920	1921	1922	1923	1924	1925
Number of Attendance	Small voluntary centre with few attendances, discontinued in 1919.	1911	2339	2422	3789	4426	4107

The comparison of the Infant Mortality Rates (Deaths of Infants under one year per 1,000 births) for past years is also interesting, as follows :—

1911.	1912.	1913.	1914.	1915-6-7.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.
102	69	57	89	—	70	56	55	44	42	59	38	27

The analysis of the deaths in the last three years (see table below), shews that of the total 44 deaths, 18 or nearly one-half were due to Premature Birth and were relatively unavoidable, and also that two-thirds of the total deaths occurred before the age of one month before attendances at the Clinics could have properly commenced. The analysis of causes of and ages of deaths under one year for the earlier years are not available, but I find in the 1911 Annual Report, when the Infant Mortality Rate was 102, very interesting emphasis made by the Medical Officer of Health on Errors of Feeding as the cause of the high mortality. Speaking in favour of Hospital treatment at a time before the Education of the Mothers by Health Visitors and Welfare Clinics, he said . . . . . "From past experience I know how frequently useless it is to try and persuade the mothers the dietary errors they subject their infants to." " . . . . Diarrhœa, Atrophy, Bronchitis, ... such cases are usually acute and frequently arise from defective feeding in unsanitary conditions."

With this emphasis on feeding I entirely agree, but the trouble is not only from the dramatic examples of giving the young baby raw carrot and strong tea, with subsequent convulsions, but from the more subtle gradual effects resulting from a long period of defective feeding with quite digestible food which, however, does not fulfil the necessary conditions of :—

(1) Correct Balance of proteid, fat and carbo-hydrate.

(2) Correct Quantity for age and body weight.

(3) Presence of the Vitamines which prevent rickets or scurvy.

(4) Prevention of poisoning of the food by bacteria.

Babies and children incorrectly fed for long periods may not always show marked digestive symptoms to the mother, and may even appear fat in a flabby way, but their inherent resistance is much less than that of a properly fed child against germ infections and changes of temperature.

In fact in the babies' case the saying "his God is his Belly" is true, not only in the sense that this organ has to be propitiated with food offerings at regular intervals, but also that this food is silently criticised by this gastric autocrat upon whose approval or disdain the destiny of the infant depends.

The normal breast-fed baby depends more on its mother's body than on her intelligence, but as soon as weaning occurs, or when the breast has to be discontinued early, the position is reversed, and the recent education of the mother through Health Visitors and Clinics is a factor which it is impossible to over estimate. So that the maintenance of health abrogrates treatment for illness.

On questioning the mothers of new babies at the Clinic as to how the feeding is done, one finds a remarkably widespread knowledge of correct methods amongst the mothers who have brought previous children to the Clinic, and even amongst those bringing their first child where the mothers are the more intelligent ones. This is owing to the spread of knowledge by discussing babycraft with other mothers taught by the Clinic and the Health Visitor, and by reading the booklet prepared hy the Medical Officer and given free to each new mother.

A painful contrast occurs, in many cases that come to my knowledge, in the marked ignorance of the subject amongst even the most intelligent mothers of those social classes who do not come in the same way within the sphere of the modern welfare activities. This is, of course, their own omission, as there is no real reason why *all* mothers should not attend these Centres without vested interests being affected.

There is, of course, a certain percentage so stupid, so careless, or so irregular, whom no amount of teaching can educate, and the defects of the mother's mentality are visited upon the child.

INFANT MORTALITY DURING THE PAST 3 YEARS.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER 1 YEAR OF AGE.

Causes of death.	1925.		1924.		1923.	
	Under 1 month.	Total.	Under 1 month.	Total.	Under 1 month.	Total.
Meningitis, Tuberculous	...	...	...	...	...	1
,, not ,, ...	...	...	..	...	...	1
Bronchitis	...	...	...	..	...	2
Pneumonia, all forms	1	1	...	...	...	1
Congenital Malformations	...	1	1	1	..	...
Premature Birth...	4	4	6	7	8	8
Atrophy, Debility, Marasmus ...	2	2	1	1	4	6
Other Causes	...	1	1	1	2	3
Total	7	9	9	13	14	22

From the above table it may also be seen that :—

During the past 3 years :—

Premature birth was the cause of 18 deaths out of 44 deaths under 1 year, or nearly one-half.

30 deaths occurred under one month, out of 44 which occurred under 1 year, or just two-thirds.

During 1925 :—

Of the 9 infant deaths, 7 were females and 2 were males.

Deaths at the age 1—2 years numbered 1, from Convulsions and Bronchitis in a premature child.

Deaths at the age 2 – 5 years numbered 1, from Convulsions – Epilepsy.

Illegitimate children born in 1925 numbered 12 out of 331, total 3·6 per cent., and of these 12 illegitimate children, there was 1 death, giving an infant death rate of 83 per cent., as compared with 319 legitimate children with 8 deaths, giving an infant death rate of 25 per cent. ; but the figures of the former are too small to safely compare.

Still-births numbered 6, of which 5 were attended by doctors and 1 by midwife.

Of all birth cases the number attended by doctors was 171.

" " " midwives was 160.

Maternal deaths in consequence of childbirth were 3, of which 2 were from Eclampsia, and 1 was from Pulmonary Embolism.

ANTE-NATAL. An Ante-Natal Clinic was started in the last quarter of the year. It is held on the first Wednesday afternoon of the month at the General Hospital Out-patient Department.

The attendances were 7 in October, 8 in November and 7 in December.

The Medical Officer is the Medical Officer of Health who has had three years' experience of weekly Ante-Natal Clinics at Willesden and five years' experience in general practice. The Nurse in attendance is the same Health Visitor who does all the other welfare work.

MATERNITY BEDS. (*a*) Abnormal Pregnancy or Parturition cases are sent to the Chelmsford General Hospital (70 beds). There has never been any difficulty or delay in the admission of abnormal cases; two or three of the Hospital staff frequently carry out general major operations where necessary, and the patients are excellently cared for. A formal agreement between the Council and the Hospital has hitherto seemed superfluous.

(*b*) Normal Parturition in Abnormal Surroundings, such as one-roomed homes and the like, present more difficulty because—

(1) The General Hospital definitely declines to accept such cases, feeling that the accommodation is required for cases of purely medical or surgical necessity.

(2) The population is not large enough to run a Maternity Home in an economic manner.

(3) The Infirmary is objectionable to patients by reason of the name suggesting Poor Law relief.

However, an entirely new Infirmary is in course of erection and will be finished by the middle of July, 1926, and will be entirely separate from the Workhouse. There will be a well-designed lying-in ward with two beds, and communicating with the confinement ward with one bed. In addition there are two other small wards immediately adjacent which could be easily utilised for the same purpose as they are allocated to children, and these are less frequent in such institutions than the accommodation provided for here.

There is also a separate side entrance from the road to the Infirmary building so that the expectant mother need not pass through the workhouse entrance. Also she would be allowed to wear her own clothes instead of the infirmary uniform. It is proposed therefore to approach the Guardians to conclude a formal agreement with the Council so that cases in unsatisfactory home circumstances may be admitted to the lying-in ward through the Public Health Department direct instead of through the Relieving Officer.

For sick children under five exactly the same arrangements obtain as with the abnormal pregnancies described above under paragraph (*a*).

For Illegitimate Infants and Homeless Children in the area the only accommodation is that provided by the Board of Guardians.

For Unmarried Mothers, the only provision for the confinement is that given by the Infirmary but after that event they are received at the Hostel for that purpose in Fairfield Road under the auspices of the Cathedral Authorities, represented by the Girls Aid Society and the Secretary, Miss Grundy.

Puerperal Fever. No case of this disease was notified during the year.

Ophthalmia Neonatorum. One case of this disease was notified during the year

Dental Treatment for mothers and infants under five has so far only been given for a few urgent cases in small children who have been sent by me from the Welfare Clinic to the School Dentist at the School Dental Clinic, but now that the School Dental Service has found its feet and is popular with the mothers it is proposed to consider the question of provision of dental treatment for Nursing and Expectant Mothers.

Health Visitors' visits paid during the year were :—

	First visits.	Total visits.
To expectant mothers ...	67	140
To infants under 1	298	1,490
To children aged 1—5 ...	—	922
All Maternity and Child Welfare visits totalled		2,552

The first visit follows notification of birth and is paid about two weeks after the birth, that is, just after the doctor or midwife ceases to attend, and is with the object of advising the mother on infant care and her own health.

The number of first visits paid was 298 and the births 331, so that 90 per cent. of the new born babies were visited.

Later visits are paid, varying in number and frequency with the requirements of each case.

In addition to her work in the homes, the Health Visitor attends with the Medical Officer of Health at the Centres. The attendance at the Centres has been well sustained throughout the year as follows :—

	No. of infants.	No. of attendances.
Friends Meeting House ...	315	2,208
Orchard Street Hall ...	220	1,899
Total ...	535	4,107

The voluntary workers have continued to give their services as previously, and their assistance has contributed very materially to the success of the work. They have rendered the usual services of recording the attendances, weighing the infants and providing refreshment for the mothers.

The Annual Prize Giving and Tea was held as usual on the same premises where the Clinics are held, thanks to the kindness of the trustees of the buildings—

(1) At the Friends Meeting House on January 27th, where 200 mothers and 190 infants were present.

(2) At the Orchard Street Hall on January 8th, when 100 mothers and 150 infants were present.

The procedure on these occasions was that during the tea a musical bells entertainment was provided at No 1 Centre by the kindness of the Deputy-Mayor (Alderman Spalding) and at No. 2 Centre a large Christmas Tree hung with presents.

After the tea the prizes were given, not for the biggest babies, but—

(1) For the "best progress made by handicapped babies" which does not mean a crawlers' steeple-chase but the best records for steady improvement during the year by babies who were premature or delicate in the first weeks after birth.

(2) For garments made by the mothers.

(3) For regular attendance with intelligent co-operation with the advice given.

The Deputy-Mayor very kindly entertained the mothers, as on the previous year, with some apposite speeches, and the Deputy-Mayoress very skilfully played on the piano in intervals.

MILK. During the year free milk has been supplied to infants under one year (1 pint per day) in cases where the family income, after deduction of rent is below the fixed scale adopted by the Committee. Under the same financial circumstances milk has been supplied to expectant mothers in the last three months of pregnancy, and in exceptional instances to children older than 1 year but under 1½ years.

Forty families have been thus assisted, and the actual cost for milk provided during the financial year ending March 31st, 1926, was £139 11s. 3d.

MAYOR'S FUND. Through this fund 100 pairs of new boots were distributed at various times during the year to those children who badly required them. Similarly weekly grocery parcels were distributed to families in need.

At Christmas, parcels of the value of 4s., 6s. and 10s. were distributed to nearly 950 families, and in the same way over 200 joints of meat and supplies of coal.

From the Public Health Office the following substances and quantities were disposed of at cost price during the year.

Dried milk (Ambrosia and Trufood) amounted to 1,296 lbs. were sold and 9 lbs. were given free. The supplies were all for infants.

Virol 518 lbs. were distributed at cost price and 2 given free. Of these quantities, 174 lbs. for infants and 344 lbs. for school children.

Cod Liver Oil and Emulsion 360 lbs. sold; 120 lbs. of this amount was for infants and 240 lbs. for school children.

Nursing, Clinics, Hospitals, &c.

District Nursing Associations. There is one District Nurse in each of the three wards of the town. In the Springfield Ward the District Nurse undertakes midwifery cases, but the other two do not.

Midwives. There are three fully qualified midwives in the Borough, one residing in each of the three wards.

Clinics. Those provided by the Borough are :—

The School Minor Ailments Clinic held every morning at the Public Health Offices, 89, Duke Street.

The School Eye Clinic held at the same place as occasion requires.

The Dental Clinic held all day every Thursday at Trinity Road School in three specially designed rooms reserved for this purpose only.

The Maternity and Child Welfare Clinics are held, one for the South Ward on Thursday afternoons at Orchard Street Hall, the other for the North Ward on Tuesday afternoons at the Friends' Meeting House.

The Ante-natal Clinic is held on the afternoon of the first Wednesday in the month at the out-patient department of the General Hospital.

Clinics provided by the County are :—

The Tuberculosis Dispensary held every Friday afternoon at the General Hospital.

The Venereal Diseases Clinics held every Friday morning at the General Hospital.

Hospitals are the General Hospital in London Road, the Isolation Hospital in Baddow Road, the Infirmary in Wood Street, Galleywood.

The General Hospital serves the Rural Area for a radius of 10 miles around, in addition to the Borough, and the total population served is about 50,000. Striking improvements have recently been carried out during 1924 by building on to the main building two new wards of 12 beds each costing £9,000 together, and by the installation of a new X-ray apparatus of the very latest type costing £1,200, from which excellent results are obtained.

The male wards are on the ground floor and those for women and children on the upper floor. The total number of beds is 70.

The principal figures for the year 1925 are as follows :—

Number of	In-patients admitted	991
,,	Out-patients and Casualties treated ...	948
,,	Operations performed	749
,,	X-ray patients	608
,,	Dental cases	121

The principal conditions of Admission are as follows :—

"RULE 33. No person shall be admitted to the Hospital without a letter of recommendation signed by a Medical Man nor unless reported by one of the Honorary Medical Officers as probably curable or capable of receiving benefit (except in cases of emergency which may be admitted by any of the Honorary Medical Officers provisionally) nor if the applicant be known to be able to pay for medical treatment, except for some stated reason and on special recommendation of one of the Honorary Medical Officers. Any person so admitted will be expected to reimburse the Hospital for all expenses incurred No person suffering from any contagious or incurable disorders, no woman in an advanced state of pregnancy, no person in receipt of parish relief, and no insane person shall be admitted except in extraordinary cases requiring an operation.

RULE 35. Every patient on admission must produce a letter of recommendation, and shall so long as he shall be in the Hospital pay in advance for the benefit of the Institution such weekly sum as the House Committee shall direct; but such sum shall be not less than 15s. a week for adults and 10s. a week for children."

The Resident Staff consists of the matron, five sisters, two staff nurses, twenty probationers, one resident medical officer.

The visiting staff consists of the majority of the medical practitioners in the town.

The description of the Isolation Hospital is on page 35 and the description of the Infirmary is as follows :—

New Poor Law Infirmary.

At the end of the year a new Infirmary and Nurses' Home, erected by the Chelmsford Board of Guardians, was nearing completion. To the Architects (Messrs. Tooley & Foster, of Buckhurst Hill) I am indebted for the following description of the buildings :—

NEW POOR LAW INFIRMARY.

The Infirmary provides accommodation for 120 beds arranged as follows :--

4 Main wards of 24 beds each.
2 Three bed wards.
2 Two bed wards.
4 Single bed wards.
2 Children's wards of four beds each.
1 Two bed maternity ward.

Each main ward is 75ft. by 24ft. and has attached a large sun room facing south with beautiful prospects over the golf links, an open verandah or balcony, its own bathroom, lavatories, sink room and linen store, with fire escape exits at the ends of the wards. Over the main wards the roofs are flat covered with asphalte and can be used for any form of open-air treatment.

In addition to the above-mentioned accommodation, there is on the ground floor a large room for the Medical Officer and Dispensary with a specially designed cupboard fitment and a duty room with the necessary stores and larder.

Two other duty rooms are placed on the first and second floors.

The maternity ward is placed on the second floor, and attached to it is the labour room and separate room for sinks, &c.

The main staircase is in oak in order to be fire resisting, and a patients' lift is fitted serving all floors.

In the basement are located boilers and fuel stores.

The building is of brick, faced with red bricks made in Chelmsford, the floors throughout are of fireproof hollow blocks and the roof of the central portion is covered with sand-faced tiles.

The wards have floors of linoleum and painted plaster walls, the dispensary, duty rooms and corridors have terrazzo floors and dadoes.

The whole of the internal joinery is of Oregon pine, stained and varnished.

The sanitary fittings have been specially designed to avoid unnecessary cleaning. Wherever possible in lavatory basins the taps are located at the side operated by enamelled levers, and where not possible the fittings are bronzed to obviate cleaning.

All door furniture likewise is of bronze to obviate cleaning.

The windows of children's wards, sun rooms and upper portion of ward windows on the south are fitted with "Vita" glass that admits the health giving ultra-violet rays of the sun.

The building is heated throughout by hot water radiators with fireplaces in some of the smaller wards. The building is lighted by electricity throughout.

The main ward furniture has been specially designed by the Architects.

The nurses' home is a separate building and has been deliberately designed in a more domestic architectural style with windows of iron casements and leaded lights, The accommodation is for 20 nurses and consists on the ground floor of dining room and sitting room for nurses, designed to be thrown together for recreational purposes, a charge nurses' sitting room, superintendent nurses' sitting room, kitchen, stores and lavatory accommodation.

Twenty bedrooms are arranged on the first and second floors with five bathrooms and with the necessary linen rooms and lavatory accommodation and ample storage is provided in the roof for boxes, &c.

Each bedroom is fitted with a good hanging cupboard and drawer.

A balcony on the first floor, facing south, has a beautiful prospect across the golf links.

The general contractor has been Mr. T. J. Bailey, of Chelmsford, and the Clerk of Works, Mr. A. E. Wright.

The sub-contractors have been as follows:—Sanitary fittings, The Leeds Fireclay Co.; Lift, Messrs. Waygood Otis & Co.; Asphalte flats, Messrs. Engert & Rolfe; Fireproof floors, The Kleine Patent Fire-resisting Flooring Syndicate, Ltd.; Terrazzo floors and dadoes, Messrs. Diespeker & Co.; the joinery and special furniture, Messrs. J. Sadd & Sons, of Maldon; Electric lighting, Messrs. Christy Bros., of Chelmsford.

Annual Report on the Chelmsford Joint Isolation Hospital for the year 1925.

The cases admitted during each month were as follows :—

	Scarlet Fever.	Diphtheria.	Typhoid.	Other Diseases.
January	2	2	0	2 Tonsillitis
February	0	0	0	0
March	0	0	0	2 Measles
April	3	2	0	0
May	1	2	0	1 Tonsillitis
June	1	2	0	0
July	1	0	1	0
August	0	0	2	3 Tonsillitis
September	7	0	3	0
October	0	2	0	0
November	2	1	0	0
December	1	0	0	1 Tonsillitis
Remaining since 1924	3	5	0	1 Tonsillitis 1 Gastritis
Admitted during 1925	18	11	6	7 Tonsillitis 2 Measles 1 Gastritis
Discharged during 1925	20	15	6	12
Died	0	1	0	0
Remaining 1925	1	0	0	0
Number of days in Hospital	874	493	91	201

Including 10 patients remaining from 1924, the total number of PATIENTS treated in the Hospital for the year was 56.

The total number of DAYS in Hospital was 1659.

The total number of Deaths was 1 (from Diphtheria).

Of 18 cases admitted as Diphtheria, 7 proved to be Tonsillitis.

Of 7 cases admitted as Typhoid, 1 proved to be Gastritis.

RETURN CASES.—A "return case" is a case of the same disease occurring in the same house as a previous patient within 28 days after the discharge of that patient (the "infecting case") from Hospital.

No return case occurred during the year 1925.

There was one "infecting case" in 1924, a child, aged 3, with Scarlet Fever, who had been in the Hospital 93 days, but still had ear discharge. The parents became more and more anxious to have the child home as it had been in Hospital double the time of an ordinary Scarlet case, so they were made to sign a form taking the responsibility upon themselves and instructed how to treat the case and avoid infection. Nevertheless 3 fresh cases of the same disease occurred within the same house 26 days later (*i.e.* return cases) after the first case had been discharged from Hospital. The infecting case was re-admitted for a further 22 days till the ear discharge had quite cleared up.

In 1923, on May 26th, one return case occurred in a Boys' Home, 8 days after the discharge of a case of Scarlet Fever which had been in Hospital 3 weeks beyond the average time, had been completely segregated, and was quite clean at the time of discharge, but was found to have a septic unilateral nasal discharge 8 days afterwards.

The average number of return cases in larger institutions has been found to be from 2-3·5% of all cases discharged.

Two tables follow on the next few pages, one showing the comparison between the Chelmsford Isolation Hospital and other Isolation Hospitals in the County, while the other table shows the number of admissions for each of the separate diseases for several years back and from what source derived.

GENERAL DESCRIPTION.

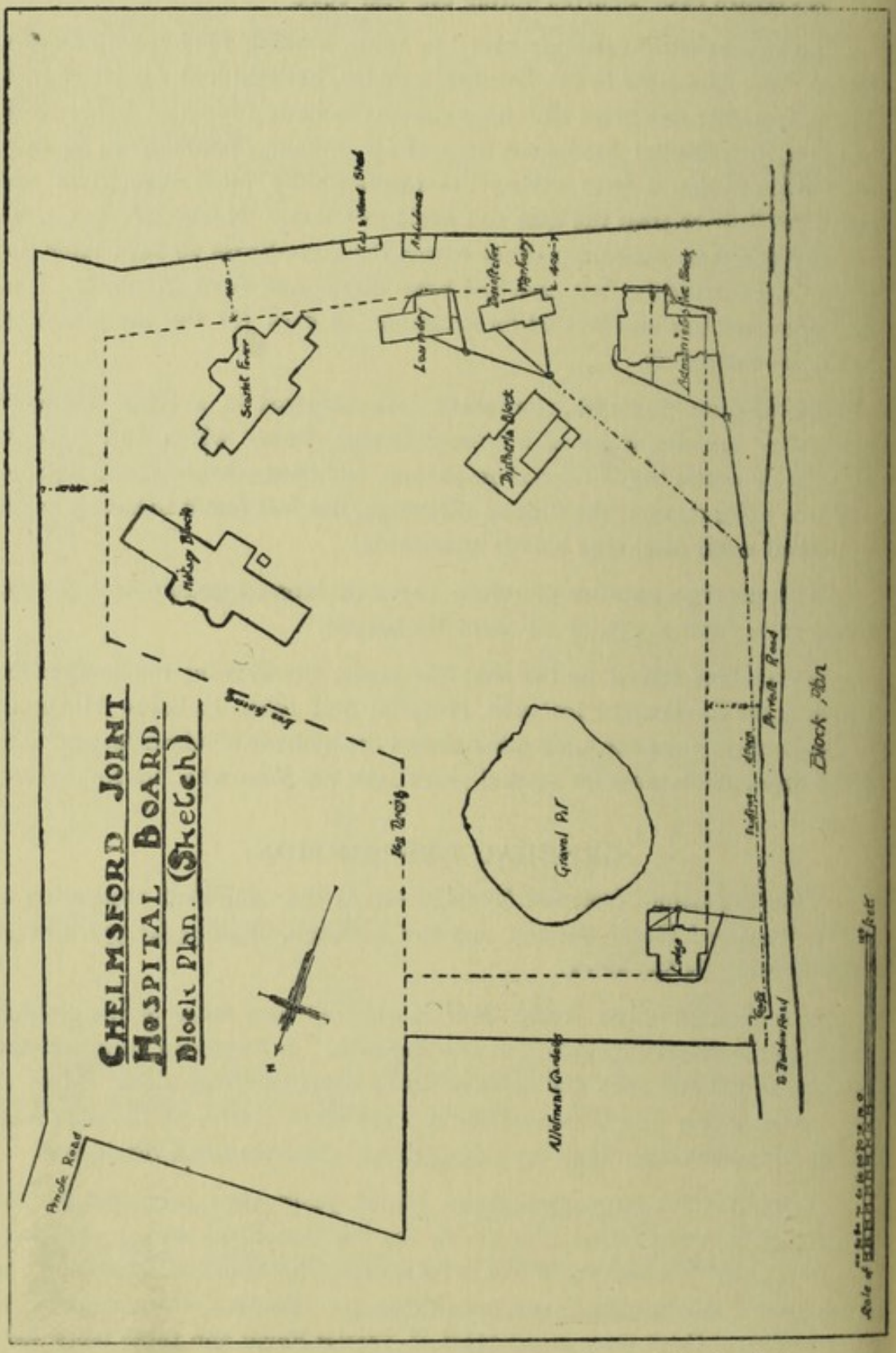
The Chelmsford Isolation Hospital serves the combined population of the Chelmsford Rural District and the Borough, totalling 47,390, and an area covering 85,884 acres.

It is situated in the Rural District with the west fence of the grounds touching the eastern boundary of the Borough. It stands on rising ground. relatively high and open and surrounded by fields on three sides. Most of the Scarlet Fever Convalescents are in much better health by the time they are due for discharge than they had at home before they had the disease.

The principal improvements in recent years have been, firstly, the additional accommodation afforded by the Pavilion Block during and since the war, prior to which tents had to be provided for numbers exceeding the capacities of the Scarlet Fever and Diphtheria Blocks. For example, in 1911 and 1912 there were many cases of Scarlet Fever and three tents were

in use at that time to afford the necessary accommodation. Another improvement has been the laying of Electric Light throughout the buildings during 1922 at a cost of £243.

ISOLATION HOSPITAL (BADDOW ROAD).



During 1925 the floor boards of the Diphtheria Blocks being very worn, a complete covering of good cork lino was fitted throughout.

In the same block 2 large canvas screens, 7 feet high, were installed for use when necessary to form a temporary cubicle for a special case.

Accommodation.

Diphtheria Block. Contains 1 ward with 4 beds, 1 ward with 3 beds, 1 kitchen, 1 bathroom, 2 w.c.'s (on verandah) all on ground floor.

Scarlet Fever Block. On ground floor are 1 large ward with 6 beds, 1 large ward with 4 beds, 2 side wards attached to each large ward and containing 1 bed each, 1 kitchen, 1 w.c., 1 sluice-room.

On first floor are 1 ward with 1 bed, 1 ward with 1 bed, a glass covered verandah, 1 W.C.

Pavilion Block. Constructed of asbestos, all ground floor building, 2 main wards with 8 beds each and 2 side wards, with 1 bed each, 2 bathrooms, 3 w.c.'s, 1 kitchen, 1 sluice-room.

Wooden Hut containing 1 bed.

Disinfecting House. Fitted with Manhole and "Elliott" disinfector, and is divided for infectious and non-infectious clothing and bedding.

Laundry. Containing wash-house and drying room.

Garage. Housing 1 motor ambulance which is disinfected by formalin lamp, and 1 horse ambulance (reserve).

Mortuary. Adjoins disinfecting house with no connection, is brick built, tile lined. 1 coal shed.

Administrative Block. Ground floor, matron's room, office, kitchen scullery, pantry, cloakroom, large nurses' dining room, 1 w.c. (first floor), 10 bedrooms, bathroom, 1 w.c.

Caretaker's Lodge. Sitting room, kitchen and scullery, 2 bedrooms.

Small Pox Hospital. This is situated at Baker Lane, Galleywood, and contains 2 wards with 2 beds each. It has been used from time to time as a convalescent Hospital for the last two weeks before discharge,

The following table shows the official standard of accommodation of the Ministry of Health and the measurements of the Diphtheria, Scarlet Fever and Pavilion Blocks.

ISOLATION HOSPITAL.

Ward.	Measurements.	Area sq. ft.	Air space cbt. ft.	Number of beds on Ministry standard.	Provided.	
	Diphtheria Block.					
1 Ward	... 36ft. by 18ft. by 13ft....	648	8,424	4	8	(6 beds) (2 cots)
1 „	... 24ft. by 18ft. by 13ft....	432	5,616	3	4	(3 beds) (1 cot)
	Scarlet Fever Block.					
1 „	... 36ft. by 26ft. by 13ft....	936	12,168	6	9	(6 beds) (3 cots)
1 „	... 26ft. by 24ft. by 13ft....	624	8,112	4	4	
1 (Obs). Ward	13ft. by 12ft. by 12ft. ...	156	1,872	1	1	
1 (Obs.) Ward	„ „ „ ...	„	„	1	1	
1 (Convl). Ward	... 12ft. 6in. (recess 6ft. by 11ft. 6in.) by 16ft. by 12ft.	269	3,228	1	2	These two wards are on first floor.
1 (Convl.) Ward	... 14ft. 6in. by 18ft. 6in. (in bay 11ft. 6in.) by 12ft.	236	2,832	1	2	
	Military Pavilion.					
1 Ward	... 59ft. by 24ft. 9ft. to eaves	1,426	15,576	8	12	
1 „	... 59ft. by 24ft. 13ft. to ridge	„	„	8	12	
1(Obs.) Ward	13ft. by 12ft. by 10ft....	156	1,560	1	1	
1 „	... „ „ „ ...	„	„	1	1	
12 Wards.				Beds 39	57	

General History of the Isolation Hospital (for which I am indebted to Dr. Macdonald).

Fever Hospital. In December, 1891, the then Sanitary Authority passed the following resolution :—" That the Authority take immediate steps to provide a permanent hospital for infectious cases arising in the district."

In April, 1893, the Local Government Board held an enquiry and subsequently sanctioned a loan for the purchase of land and erection of an Isolation Hospital to serve the rural area (the Borough of Chelmsford was not a party to the proposals).

ISOLATION HOSPITAL.

The selected site on the south side of Baddow Road consisted of three acres of land, but at this time only a little more than an acre was fenced in with corrugated iron—the remainder was being worked as a gravel pit. The hospital at first erected and completed during 1893 consisted of a single block with two wards for three and two beds respectively, and a kitchen or nurses' room. A cottage (in which resided the caretaker and his wife, who acted as nurse) with following accommodation on the ground living room, kitchen and scullery, and a room for the medical officer, and on the first floor four bedrooms and a box room.

The first patient was received into the hospital on 1st January, 1894. When the hospital was insufficient, it was the practice to accommodate the patients in tents erected in the hospital grounds.

During 1895 a disinfecting apparatus was installed and an ambulance shed erected.

Eight years after Chelmsford Rural District had erected the first Isolation Hospital, an enquiry was held by the Local Government Board (11th February, 1902) with a view to the formation (with the consent of both Authorities) of a Joint Hospital Board to serve the Rural District and Borough of Chelmsford. The Joint Hospital Board was to take over the then existing hospital, the property of the Rural District Council. The proposals were approved of, and the Order made by the Local Government Board, which came into operation on 22nd July, 1902, includes among others the following conditions: —

1. The District is called "Chelmsford Joint Hospital District," comprising the Borough of Chelmsford and the Rural District of Chelmsford.
2. The Governing Body being "Chelmsford Joint Hospital Board," consisting of two *ex-officio* members (one representing each constituent Authority and three elected members representing the Borough of Chelmsford, and five representing the Rural District Council). (The number of elected representatives has been altered by Order made 15th February, 1909, by the Local Government Board in consequence of the inclusion of an area of the Rural District within the Borough, the elected representatives now being four for each constituent Authority).
3. The purposes for which the United District is formed are the provision, maintenance and management of a hospital provided for the reception of cases of infectious diseases which may be required for the use of the inhabitants of the constituent districts.

4. Persons shall be admitted into a hospital provided by the Joint Board in any of the following modes and not otherwise, except with the consent of the constituent authorities :—

(*a*) By an Order of the Joint Hosptal Board or either of the constituent authorities.

(*b*) By an Order of a Medical Officer of Health of either of the constituent authorities.

(*c*) By an Order of a Medical Officer of Health appointed by the Joint Board.

(*d*) By an Order of a Justice made under the provisions of Section 124 of the Act, with the consent required by that Section.

Agreement can be made with the Board of Guardians to admit persons in receipt of Poor Law relief on terms.

5. All expenses of the Board to be defrayed out of a common fund to which shall be paid sums received from the constituent authorities in respect of the cost of maintenance of patients as hereinfter provided and the sums recovered for patients. The common fund, so far as not provided by such payments, shall be contributed by the Borough of Chelmsford, two-fifths; the Rural District of Chelmsford, three-fifths. (By the amending Order of 1905 have been altered to Borough and Rural District, contributions to be in equal proportions).

The cost of maintenance of patients shall include all the expenses incurred, except the salaries of the Medical Officer and permanent nurses, and repairs to hospital to fittings and furniture.

During 1905 the hospital was enlarged by the provision of a second ward block and additional accommodation for the staff.

During 1915 the military authorities erected an asbestos pavilion to accommodate 18 patients, which was subsequently purchased by the Joint Hospital Board.

RICHARD H. VERCOE, D.P.H., M.R.C.S.,
Medical Superintendent.

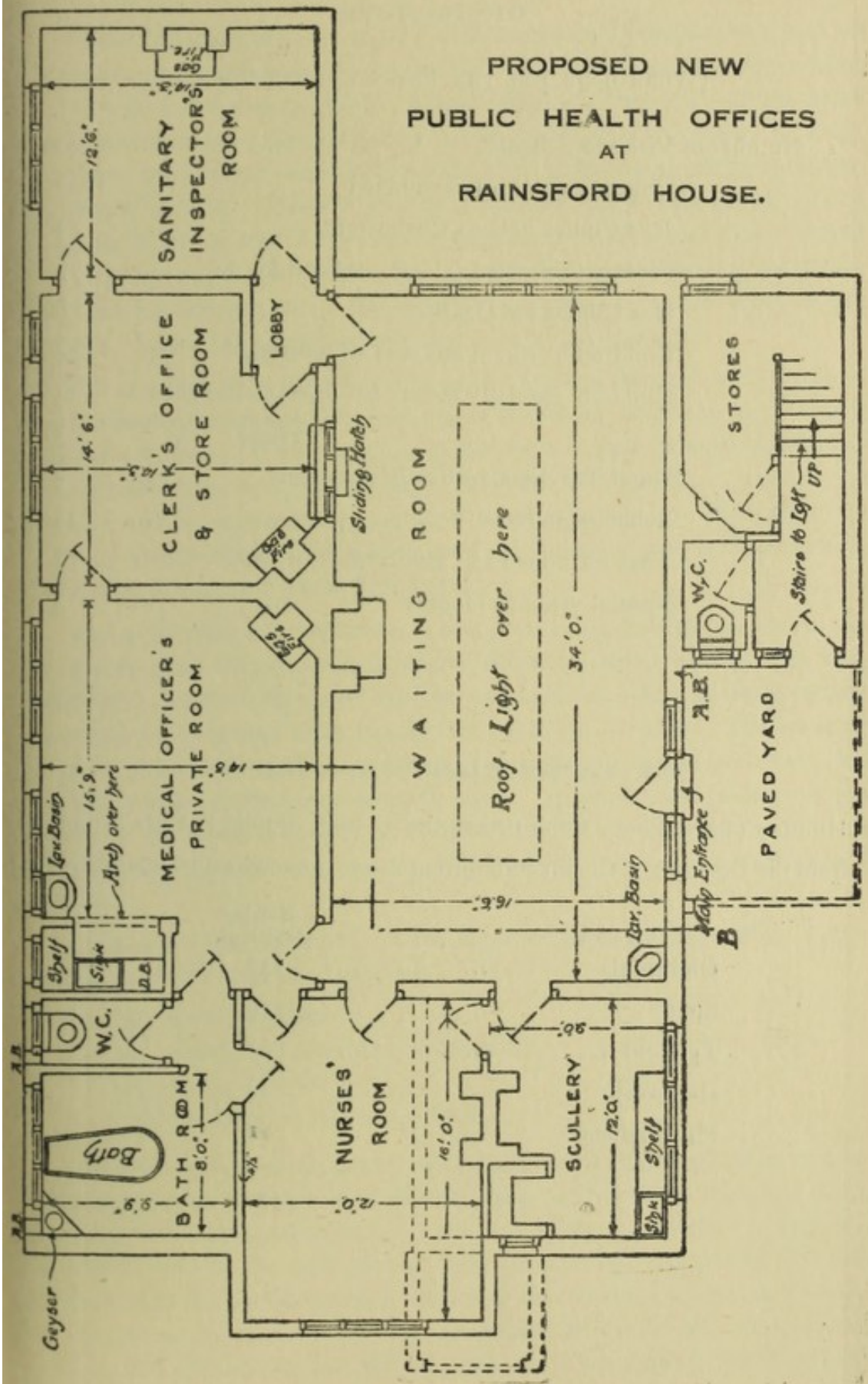
TABLE SHEWING NUMBER OF BEDS, GRANT, NUMBER OF CASES TREATED, STAFF, COST,

FOR PERIODS INDICATED BELOW.

	Chelmsford. 1st Apr1925 to 31st Mar.1926	Comparison of Chelmsford Isolation Hospital with others in Essex from 1st April, 1924 to 31st March, 1925, abridged from Annual Report of County M.O.H.														
		Chelmsford.	Billericay	Braintree	Clacton	Colchester	Dunmow	Grays Orsett	Halstead	Ilford	Maldon	Rochford	Romford	Saffron Walden	Walthamstow	Walth'm Joint
Total number of beds in Hospital ...	43	43	22	8	17	175	18	87	16	85	10	24	70	21	100	40
Number for purpose of Grant	21	21	22	8	17	58	8	20	16	72	10	12	42	14	91	42
Grant from County ..	£115	£115	£120	£40	£85	£300	£40	£110	£80	£370	£60	£70	£220	£70	£465	£220
Total cases treated ...	66	135	89	31	19	480	8	206	61	215	41	71	184	34	471	111
Nursing Staff ..	7	7	5	2	3	21	2	9	3	23	4	3	12	2	25	5
Expenditure ...	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Food (Patients and Staff)	208	289	1753	438	195	1810	125	1399	306	2327	391	298	1058		3719	392
Total annual charge ...	2232	2374	2645	1518	1037	8251	959	6431	2501	13831	1975	1394	5615	1007	16326	3099
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Cost per bed ...	51 18	55 4	120 5	189 16	61 0	47 3	53 6	75 10	156 7	162 14	197 10	58 2	80 4	47 19	163 5	77 9
Cost per case 1925-26 ...	33 16															
,, ,, ,, 1924-25 ...		17 11	29 14	48 19	54 12	17 3	119 19	31 9	41 0	64 6	48 3	19 12	30 10	29 12	34 13	27 18
,, ,, ,, 1923-24 ...		21 15	38 1	52 3	36 8	32 4	53 2	90 10	47 2	39 13	51 13	27 3	39 6	114 11	35 7	60 11
Cost per day per case	2/2¾	1/10½														

Cases admitted into the Hospitals of the Joint Hospital Board since the Year 1907.

	Scarlet Fever.								Diphtheria.								Enteric Fever.								Other Diseases. (Figures in brackets are deaths).			
	Chelmsford Boro'.		Chelmsford R.D.C.		Military.		Other Districts.		Chelmsford Boro'.		Chelmsford R.D.C.		Military.		Other Districts.		Chelmsford Boro'.		Chelmsford R.D.C.		Military.		Other Districts.		Chelmsford Boro'.	Chelmsford R.D.C.	Military.	Other Districts.
	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.	Cases.	D'ths.				
1925	4	...	16	1	..	...	...	...	3	...	13	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2 Measles	.	...
1924	13	...	28	...	...	...	...	..	61	2	28	3	...	...	...	...	...	...	...	...	...	...	...	...	1 Mening. (1)	. .	...	...
1923	8	...	31	...	..	...	...	...	3	.	1	...	..	...	...	...	...	...	3	1	...	...	...	...	...	1 Append. 1 Pneum.	...	...
1922	32	...	24	...	...	...	...	...	13	...	7	...	...	..	...	...	...	...	1	...	...	...	...	...	...	1 Septic. (1) 1 Enceph.	...	...
1921	33	...	21	...	...	...	..	...	30	3	12	...	...	...	..	...	...	...	1	...	...	...	...	...	2 Pneum. 1 Mening. (1) 3 Pneum. 1 Polliom.	...	...
1920	28	...	22	..	1	...	.	...	23	2	8	1	...	...	...	...	...	. .	...	..	...	...	.	..	3 Pneum. (1)	1 C.S. Mening. (1)	...	...
1919	14	...	9	...	...	...	...	...	44	2	9	...	..	...	...	...	...	...	1	...	...	...	...	...	2 C.S. Men. (1) 1 Scabies 1 Pneum.	...	3 Scabies	...
1918	6	1	16	...	2	..	...	...	26	3	9	...	...	...	..	...	...	..	2	...	...	...	..	...	...	1 C.S. Mening.	13 Scabies	...
1917	22	...	21	...	6	...	...	...	21	...	11	...	2	...	...	...	...	..	3	1	. .	...	...	...	2 C.S. Men. (2)	...	6 C.S. Mening.	...
1916	39	1	30	5	9	..	3	...	61	3	12	...	7	...	.	..	1	1	1	1	...	...	...	...	...	1 C.S. Mening.	4 C.S. Mening. (2)	...
1915	26	1	27	...	9	...	3	...	29	...	17	3	20	...	...	...	4	..	...	...	2	1	...	...	2 C.S. Men. (2)	1 C.S. Mening.	6 C.S. Mening. 1 S. Pox ?	2 C.S. Mening. (1)
1914	13	...	59	...	...	...	...	..	25	...	10	1	...	...	...	...	3	1	2	1	..	...	...	..	2 Puerp. F.	...	...	...
1913	14	...	13	...	...	...	...	...	40	...	2	..	...	...	...	...	1	...	...	...	...	...	...	...	1 Puerp. F.	...	...	...
1912	65	1	33	...	...	...	...	...	23	1	17	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1911	49	...	20	...	...	...	...	...	14	...	30	2	...	...	...	...	3	3	1	...	...	...	...	...	...	...	...	...
1910	10	...	71	1	...	...	...	...	15	2	13	...	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1909	26	...	27	...	...	...	..	...	3	1	3	1	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	..
1908	15	...	12	1	...	...	...	...	8	1	1	...	...	...	...	...	5	1	...	..	...	...	...	.	...	...	...	...
1907	31	1	40	1	...	...	..	...	26	...	10	3	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...


PROPOSED NEW
PUBLIC HEALTH OFFICES
AT
RAINSFORD HOUSE.
SANITARY INSPECTOR'S ROOM
12'6"
CLERK'S OFFICE & STORE ROOM
14'6"
LOBBY
Sliding Hatch
WAITING ROOM
Roof Light over here
34'0"
STORES
W.C.
Stairs to Light
UP
MEDICAL OFFICER'S PRIVATE ROOM
15'9"
Area over here
Low Basin
Shelf
Sink
P.B.
W.C.
BATH ROOM
8'0"
Bath
Geyser
NURSES' ROOM
16'0"
SCULLERY
12'0"
Shelf
Sink
Low. Basin
Hand Entrance
B
A.B.
PAVED YARD

School Medical Inspection in the Rural District of Chelmsford.

(Work done for the Essex County Council).

Number of Visits to Schools	... ...	40
,,	Children medically examined ...	1308
,,	Eye Clinics held at Chelmsford	14
,,	Children refracted (glasses ordered for 70) ...	77
,,	Gas Clinics for Dentist	8
,,	Children to whom gas was administered ...	154
,,	Children specially tested for Mental Deficiency	14
,,	,, ,, Physical ,,	5
,,	Pupil Teachers medically examined ...	7
,,	Scholarship boys ,, ,, ...	13
,,	Boys examined and certificated for work ...	10
,,	Special visits to Homes	5

Bacteriological Examinations.

Number of Specimens submitted to the County Public Health Laboratory from the Borough of Chelmsford during the year ended 31st December, 1925.

Specimen.	Number examined.
Diphtheria	238
Sputa	159
Typhoid	25
Ringworm	34
Miscellaneous	21
	477

Milk.

The milk supply of Chelmsford is distributed by 23 dealers, of whom 12 are producer retailers from outside the Borough, 2 producer retailers within the Borough and 9 non-producer retailers within the Borough. Of the latter 5 may be considered solely dairymen, selling milk and dairy products, while the other 6 retail other varieties of goods, such as groceries, confectioneries, &c., as well as milk. There is very little wholesaling of milk, except for the supplying of one or two of the smaller retailers with milk, and this is looked on rather as a method of utilising surplus than actual wholesaling for profit. There are 8 producers within the Borough, of whom 6 supply some of the retailers. There are approximately 270 cows in the Borough.

The approximate amount of milk retailed in the Borough at the present time is about 1,635 gallons per day, which works out at about ·6 of a pint per head per day. Of this quantity 49 per cent. is sold through the hands of the retailers, 34 per cent. through producer retailers from outside the Borough and the remainder by producer retailers within the Borough. Six of the 23 dealers account for 64 per cent. of the milk sold in Chelmsford. The radius of supply is about four miles.

The milk itself and conditions of production and distribution are on the whole very good, though there is a good deal of variation between the best and worst. As the milk is seldom over 16 hours old before arriving at the consumer, there is very little demand for designated milks. The demand for such milk is spasmodic and seems to be only on behalf of babies and invalids, which is only a temporary demand. In some cases, however, the milk is of the same standard as "Grade A," but the lack of demand for bottled milk does not make it worth while meeting the cost of bottling and delivery.

Taking the graded milks in the order of their freedom from micro-organisms of dirt and tuberculosis—

(1) Certified milk.
(2) Grade A (tuberculin tested milk).
(3) Grade A milk.
(4) Ordinary undesignated milk.

Certified milk was retailed by one retailer in the Borough from a producer outside the Borough from March, 1923, to December, 1924, but since the latter date no certified milk is retailed in the Borough. During the first fifteen months the tests were all very satisfactory, but during the last six months of the period the high standard of cleanliness demanded could not be maintained as shewn by the bacteriological tests and the producer gave up the attempt at the end of 1924, but has gone in for Grade A (tuberculin tested) quite recently.

Grade A (tuberculin tested) milk has not been sold in the Borough at any time down to the end of 1925.

Grade A (herd inspected every three months by Veterinary Inspector but no tuberculin tests applied) was retailed in the Borough by two retailers in 1925, and since then three others have been licenced making at the time of writing five retailers in the Borough of Grade A milk produced by five producers, of whom three are in the Rural District and two are in the Borough.

The surplus from the Chelmsford retailers is utilised in several ways. The larger retailers manage to get rid of some surplus by sending the fresh milk to other centres of consumption, such as Southend and Clacton, where there is a very big seasonal demand for fresh milk. One or two of the smaller dealers often club together their surplus and send it off in a similar fashion. Other methods of using the surplus are by selling cream and butter, or by selling the milk to be made into butter and cheese at the East Anglian Institute of Agriculture. Small quantities are used for making ice cream and baking purposes.

There is very little demand for cream and ice cream in the winter. However, in the summer there is quite a good demand, and a considerable quantity of milk is used up in the manufacture of ice cream by confectioners. This trade is decidedly on the increase. One producer sells one gallon of cream per day to one cafe alone for ice cream manufacture. There is a slight increase in demand for cream on Sundays, while in summer there is about ten times this amount of trade.

Owing to the proximity of the producer to the consumer there is very little processing of the milk beyond cooling, which is by no means general. The producer retailer takes round his evening's milk, which is often cooled, as well as the morning's milk. He starts off with two 17-gallon churns on his cart and any bottled milk that is needed From the large churn he fills a smaller container holding $1\frac{1}{2}$—2 gallons, and from this he retails the milk by means of a dipper, usually into the consumer's own vessel. The round lasts till about mid-day when he returns to the farm. The churns are washed and prepared for the next day. The cows are then milked, and in summer the milk usually cooled during the night.

In the case of the retailer the farmer usually delivers his milk only once a day, while the retailer has to call at the farm for the evening milk. This is cooled and taken out in the morning.

Swimming Bath.

The swimming bath is an open-air one situated at the end of Waterloo Lane alongside the river. The dressing boxes, etc., are kept clean and in good repair and the general lay-out is very pleasing with grass lawn and flowers. The bath is filled by gravitation through a pipe from the river at Bradridge's Mill some distance away. The river water passes through two sand filters into the bath continuously and at the other end of the bath a surface overflow pipe conducts the surplus continuously away into the river just outside the bath.

Every three weeks the bath is pumped completely empty and scrubbed by several men with brooms. The number of bathers during this three weeks' period reaches about 4,000 in a warm July, and in spite of the initial filtration and the continuous surface inflow and outflow the condition of the bath water becomes distinctly unsatisfactory towards the end of the three weeks as shown by recent analysis :—

Chlorination of the water during the period of use was recommended by the previous Medical Officer of Health and discussed some four years ago but was turned down (see Minutes for 15th March, 1922) but this method or something similar requires to be considered again.

Water Supply.

The public water supply of the Borough of Chelmsford is derived from 8 completely different sources and a ninth will be added shortly in the new scheme for drawing from the River Chelmer.

Taking these sources in the order in which they appear in the table of Water Analysis which follows, they are :—

(1) Galleywood—artesian well producing 3,000 gallons per hour.

(2) Mildmay Road— ,, ,, ,, 5,000 ,, ,, ,,

(3) Burgess Well—spring producing 2,600 ,, ,, ,,

The Galleywood artesian well water is pumped about a quarter of a mile to the large Galleywood Longstomps Reservoir or rather what little of it that gets there after it has supplied the houses at Galleywood which takes most of it.

The Mildmay artesian well water is pumped a few yards on the same premises to a small reservoir into which flows by gravity the water from Burgess Well Spring three quarters of a mile away through a buried iron water pipe. The two mixed waters are then pumped by the same engine right away up to the Galleywood Longstomps Reservoir which holds 800,000 gallons. The mixed water from the above 3 sources (very little of number 1) in this reservoir, which stands at the highest point in the Borough namely, 226 feet ordnance datum, is then delivered by gravity to all the South Ward up to as far as the Shire Hall.

(4) The Baddow Lower Spring water supplied by the Rural District is carried across the river and the Baddow Meads to supply the whole of the Springfield Ward, which thus differs from the other two wards in having an unmixed single source of supply.

(5) The Broomfield Road Hydrant water is also supplied by the Rural District and delivers about 700 gallons an hour six or seven hours each day into the mains where it mixes with 6, 7, 8.

(6) The Admirals Park artesian well water is pumped into a reservoir close by in the bottom of which is a spring (No. 7); the two waters mix in the reservoir and are pumped into the water tower close by at the rate of 5,800 gallons an hour from which tower the mixed water is delivered by gravity into the mains and mixed with number 8.

(8) The Boarded Barns artesian well, sunk in 1924, on the top of the new housing estate, supplies 2,000 gallons per hour (for 18 hours) which is pumped into a small tower from which it is delivered by gravity into the mains.

The water thus mixed in the mains from sources 5, 6, 7, 8 is delivered to all the North Ward as far as the Shire Hall. By reference to the table of water analysis below any anxious enquirer who wishes to know the hardness and other details of the water he uses, will find a ready anwer if he lives in the Springfield ward, but if he lives in the other two wards a feat of arithmetic will be the first preliminary.

In due course the 9th source of supply will be the water taken from the River Chelmer at Sandford Mill and, after storage and filtration, pumped 2½ miles up to the Longstomps Reservoir to mix with the aforesaid 1, 2, 3 and delivered with them by gravity into the town.

I would now refer the reader

(1) To the brief Summaries in Words of typical analyses of the present water supply and future river-water supply of the Borough.

(2) To the following table of water analysis of the Present Water Supplies.

(3) To the Comparative table of analysis of water (*a*) from springs and deep wells in other districts, (*b*) from the River Chelmer and other similar rivers already in use as sources of supply to other places.

WATER ANALYSIS.

Typical Reports on the Present Chelmsford Water Supplies.

March 2nd, 1925. The recent continued rainfall causing the saturation of the subsoil has had an effect on some of the sources, but the waters from the Galleywood Well and the Boarded Barns Well are of the very highest degree of chemical and bacteriological purity. All the other waters are of the highest chemical purity and the water from Mildmay bore, from Brockley Road, Springfield are quite satisfactory bacteriologically though not so high a degree of purity as the two first mentioned, Galleywood and Boarded Barns.

9th January, 1924. The waters from each source can be certified as pure and wholesome. The mixed water from Admirals Park and the water from the Galleywood Well are the best, and the Mildmay borehole water and Burgess Well water are not quite up to this high standard. The two supplies from the Rural District Council are quite satisfactory.

18th April, 1923. Chemically the whole of these waters are of an exceedingly high degree of organic purity.

Chelmer River Water—Projected Future Additional Water Supply.

11th August, 1922. This water is softer than usual and it is of good quality for river water. By proper treatment it could be converted into a wholesome potable water.

ANALYSES OF SAMPLES OF WATER TAKEN FOR THE BOROUGH OF CHELMSFORD. PHYSICAL, CHEMICAL AND BACTERIOLOGICAL DATA—IN PARTS PER 100,000.

	Samples of water from the Borough public water supply sources.								River Water	
	Galley-wood.	Mildmay Road.	Burgess Well.	Baddow Tower.	Broomfield Rd. Hydrant	Admirals Park		Boarded Barns Well.	Taken on 3-10-25.	at Sandford Mill on 10-8-22.
						Borehole.	Tower.			
Turbidity	All were	clear and dep	bright and osit.	free from	Few specks.	Clear and	bright no	deposit.	Dull, little vegetable debris.	Trace only vegetable debris.
Colour			All were	normal in	colour.				Yellow. 27.5	Light Yellow 39
Odour			All were	free from	odour.				Earthy.	None.
Reaction	9.5	9.0	7	7.5	9.	7.	7.	7.	8	Neutral.
Total solids, 180°C., E.C. ...	1600	1580	778	455	1639	1031	1030	703	44	36.5
Chlorine in Chlorides	31.45	31.0	4.0	3.7	31.3	13.1	13.2	2.4	3.45	3.75
Nitrites or Free Chlorine... ...	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Trace Nitrite.	Absent.
Hardness—Total	3½°	4°	37°	18°	3°	24°	24°	36°	31	23
Lead, Copper, Zinc, Iron ...	Trace iron	Nil.	Trace iron	Nil.	Trace iron	Trace iron	Nil.	Trace iron	Trace of iron.	Minute traces of iron.
Free Ammonia	0.044	0.040	0.004	0.001	0.002	0.022	0.018	0.002	0.002	0.0180
Albuminoid Ammonia	0.002	0.001	0.0016	0.004	0.002	0.0014	0.002	0.002	0.042	0.0240
Oxygen absorbed in 3 hours at 37° C.	0.010	0.005	0.005	0.025	0.0100	0.0103	0.015	0.015	0.466	0.265
No. of Bacteria per C.C. on Gelatine in 3 days	18	16	92	94	106	37	46	62	Thousands liquified Gelatine.	1370
On Agar in 24 hours	12	7	47	4	5	12	12	9	340	160
The B. Coli present in		100.cc.	10.cc.	100.cc.	10.cc.	20.cc.	20.cc.	100.cc.	1.cc.	1.cc.
,, absent in	100.cc.	50.cc.		50						
The B. Enteritidis Spor... .		Absent in	100.cc in	all samples						Absent.

In parts per 100,000.	Springs.	Deep Wells.				Shallow Wells.			River Waters.				
	Chelmsford.	Chelmsford.											
	Admirals Park.	Moulsham Mildmay.	Galleywood Waterworks	Writtle.	Colchester	Chelmsford.	Danbury.	West Ham.	Chelmer.	Stour.	Lee West Ham.	Lee Brimsdown.	Thames Staines.
Calcium Carbonate ...	30	1.75	2.0	2.0	4.75	30.0	2.5	70.0	25.0	23.0	23.75	22.5	19.8
Calcium Chloride ...							0.95						
Calcium Sulphate ...	5.4					5.4	5.95	25.2	3.4	0.7	10.05	6.8	4.0
,, Nitrate ...													0,8
Magnesium Carbonate ...		1.4	1.75	0.5	5.55								1.6
						1.2	2.15	22.7			1.2		
,, Chloride ...	1.2												
						3.0		26.5	1.9	3.45	5.5	2.75	
,, Sulphate ...	3.0												
Sodium Carbonate ...		34.25	31.4	32.65	21.05								
,, Chloride ...	3.9	58.4	54.8	45.85	102.25	3.9	0.05	181.5	4.6	5.6	5.1	5.1	4,9
,, Sulphate ...		10.05	14.2	13.6	14.2					2.3			
,, Nitrate ...	4.9	0.65	0.85	0.4	0.15	4.9	4.8		1.8	0.6	3.4	1.7	5.3
Silica, organic in, etc. ...				1.5	0.05	0.6	0.5	0.6	3.3	0.65	2.0	1.75	1.6
Total solids ...	49	106.5	105	96.5	148.0	49.0	17.5	326.5	40.0	36.3	51.0	40.6	38.0
Hardness Temporary ...	22	3.5	4										
,, Permanent ...	10	0	0										
Totals Hardness ...	32°	3.5°	4°	5°	11°	32°	10°	150°	30°	28°	30°	28°	26°
Free Ammonia ...			.065	.000	.104	.001	.001	loaded.	.014	.007	.48	.016	.006
Albuminoid Ammonia ...			.002	.004	.004	.006	.002	,,	.018	.032	.066	.020	.007
Oxygen absorbed ...			.160	.045	.008	.028	.020	—	.22	.21	.60	.230	.128

The above analyses are from the Memoirs of the Geological Survey and from the Examination of Water and Water Supplies 1925 (Thresh and Beale) and indicates the varieties and quantities of Inorganic Salts, the Hardness, and the Organic Impurity or Purity of some Sources of Water Supply in Chelmsford and elsewhere in comparison.

We have now to consider the future source of water supply from the river. The necessity for this arises from (1) the shortage of water which shows itself in dry summer months when the supply has to be cut off for some hours in every day and which will become more insistent as the population increases, as it is rapidly doing ; (2) the absence of any better alternative.

Those interested in these two points are now referred to the following History of the Chelmsford Water Supply by Dr. Thresh and the former Borough Engineer, down to 1920. Since that date a small additional supply has been derived from the Boarded Barnes well, and the scheme proposed in the History has culminated in its full authorisation and adoption which will be shown in extracts from the Act, &c., which follows the History.

HISTORY.

In 1911 a large part of the Town was subject to an intermittent supply only, to improve which the Council was seeking a fresh source of supply by means of a borehole near Galleywood.

The water supply of the Borough at that time consisted of the following :—

Burgess Well	...	Spring ...	55,000	gallons per day.
Mildmay Yard	...	Borehole...	115,000	,, ,,
Admiral's Park	...	Spring ...	80,000	,, ,,

The area supplied by the above consisted of the North and South Wards only, the Springfield Ward being supplied from the R.D.C. Waterworks at Great Baddow under an agreement entered into in 1907, the date of the Borough Extension Order, which provides that "the Rural District Council of Chelmsford shall furnish, and the Chelmsford Corporation shall take, from the Waterworks at Great Baddow, a sufficient supply of water for the Springfield Ward."

In 1913 the Galleywood Waterworks were completed, and a further supply of 80,000 to 100,000 gallons per day was added to the Borough's resources.

In 1914 a borehole was sunk at Admiral's Park which added a further 120,000 gallons to the daily supply.

In 1914 by an arrangement with the R.D.C. their new borehole supply at Broomfield was connected to the Borough mains, by which means some 20,000 gallons a day are available from this source. This supply cannot, however, be considered satisfactory as its pressure is variable and its regularity uncertain.

The total available yield from the present sources of supply (excluding the Springfield Ward) was as follows in 1914 :—

Admiral's Park	...	Spring ...	80,000		
,,	...	Borehole .	120,000		
			—200,000	gals.	per day.
Burgess Well	...	Spring ...	55,000	,,	,, ,,
Mildmay Yard	..	Borehole...	115,000	,,	,, ,,
Galleywood	...	,, ...	90,000	,,	,, ,,
		Total ...	460,000	,,	,, ,,

During the 12 months ending December, 1919, the total consumption was 153 million gallons, of which approximately 8 per cent. was for trade and the remainder for domestic purposes. Taking the population of the North and South Wards as 18,000, the above figures represent a consumption of 23 gallons per head per day.

Assuming the population to continue to increase at the rate of 2 per cent. per annum and allowing for an ultimate consumption per head of 30 gallons per day, the following estimate is obtained :—

1930	...	Population	... 21,940	...	Consumption	...	660,000
1940	...	,,	... 26,750	...	,,	...	800,000
1950	...	,,	... 32,600	...	,,	...	978,000

We are, therefore, of opinion that within the next 30 years the Borough (exclusive of the Springfield Ward) will require in round figures, one million gallons of water daily, of which we do not consider it safe to rely upon obtaining much more than 400,000 from existing sources, as the yield of the boreholes is undoubtedly on the decline, and the water is gradually, but steadily assuming a lower level.

We do not think that much help can be relied upon from public supplies immediately outside the existing Borough Boundaries, inasmuch as such surplus as they now possess will doubtless be required during the next 30 years for development in their own areas of supply.

The first question, therefore, to be decided is whether (a) an attempt should be made to obtain the whole of this additional water from one source or (b) efforts should be limited to supplementing the present sources of supply from time to time as occasion demands.

If the former suggestion is practicable, it presents many obvious advantages over the other since

(1) Any further supplies from deep wells in the Thanet sands would be liable to the same diminishing yield as those existing, and indeed might tend to accelerate such decrease.

(2) The present system of pumping at several different stations is very expensive and would become more so if additional stations are provided.

There are only two possible sources from which a million gallons per day can be derived. One is from chalk in the North of the County, and the other is from the River Chelmer at the boundary of the Borough. A deep chalk well with adits would probably yield all the water required, but the well would be 12 to 20 miles from Chelmsford and the water would be excessively hard. On the other hand it would be very pure and would not require filtration.

River water can be obtained within the Borough boundary. It would be very hard, not much softer than the chalk water, and it would have to be filtered and pumped. Softening and purification could be done in one process, and a soft, pure and wholesome water provided.

As the Chelmer supply should be seriously considered, the following information may be interesting.

The Chelmer catchment area is 74 square miles, and with an average rainfall of 23½ inches the total water deposited on the area would be over 25 thousand millon gallons a year. For reasons which are too intricate for description here, we estimate that the average rainfall for three successive driest years would be 19¾ inches, yielding 21 thousand million gallons or 58 million gallons per day on an average. The proportion of this which will flow down the river and pass the Chelmsford boundary is only 8%, but this amounts to an average of 4½ million gallons daily, out of which about 20% ultimately and say 10% for the first few years would be abstracted.

The works to be carrried out for the alternative schemes are as under :—

Chalk well scheme.	River scheme.
Construction of well and adits.	No well.
Pipe line from well to Borough.	Mains from River to Long Stomps only.
Pumping Station at well.	
,, ,, in Borough.	Pumping Station at river.
Softening plant at pumping station or in Borough.	Softening and filtration works in Borough.
No storage reservoir.	Storage reservoir.

The working expenses of the River Scheme would be considerably more than those of the Chalk Well Scheme.

At the County Borough of Reading, three million gallons per day of river water is treated, and at works at Staines, about two million gallons of river water is purified. Storage reservoirs are not in use at either place, the water being taken from the river continuously. The water treated corresponds closely with that from the Chelmer, samples of which have been collected both in dry and wet seasons and analyses made to ascertain the variation in character under diverse conditions.

Assuming neither of these schemes is approved the only possible way of supplementing the existing supplies is by means of additional deep wells. The question of obtaining water from springs, from the sub-soil, etc., has been carefully considered, but there are no springs within a reasonable distance of the Town which would be of any real use and the cost of acquiring the springs and the land for protecting them would render such a scheme unreasonably expensive, both in first cost and in upkeep.

The site which we should suggest for a bore-hole scheme would be in the Chelmer Valley at Brook End. Here the Lower London Tertiaries and the chalk beneath is covered with the minimum thickness of clay. At Chelmsford the London clay and superficial deposits have a thickness varying from 220ft. in the town to 410ft. at Galleywood Pumping Station. At Brook End it would probably be about 200ft. It thins out to the East being only 120 feet thick at Heybridge.

The chalk would be reached at a depth of about 300ft. as against 534ft. at Galleywood Pumping Station.

A successful well here would probably yield 200,000 gallons per day but it might be less, a minimum of 120,000 gallons could be depended upon. The cost, including main to the reservoir would be about £20,000 and the running costs nearly as much as those of the Chalk Well Scheme. Practically the whole of this supply would be needed for the proposed Council Housing Scheme, when carried out in its entirety, after which a further supply would be required. Another likely site is in the neighbourhood of the Chignall Road. This would not cost quite so much, as the main would not be so long, but the yield would probably be less.

(Abridged and amended from Special Report dated 16th February, 1920, by Dr. Thresh and Mr. Harrison).

The river scheme thus proposed is now embodied in the Chelmsford Water Bill, 1923 salient extracts from which are reproduced as follows :—

The following principles were adopted by the expert advice of Dr. John Thresh.

1. As much POLLUTION as possible is to be KEPT OUT of the river.
2. When the river is affected by FLOODS, the water stored in the STORAGE RESERVOIR at Sandford Mill, holding 4,000,000 gallons supply for three days, will be used until the effect of the flood has passed off.
3. During STORAGE natural processes of PURIFICATION will be going on.
4. The water will then be TREATED with LIME (24 hours contact) to destroy the bacteria, and SOFTEN and help to PURIFY the water chemically.
5. The water will be then pumped through PRESSURE FILTERS at the rate of 1,000,000 gallons a day up to Longstomps Reservoir 2½ miles where it will mix with the deep well waters.
6. This mixed water will be supplied by gravity to the town.

The following description of the water supply plant and depth of bore, &c., is by Mr. Ernest Miles, A.M.I.C.E., the Borough Engineer :—

MILDMAY ROAD PUMPING STATION. At this Station there is a borehole 18-in. diameter to 13½-in. diameter shell tubes. Total depth of bore = 662 ft. Working barrel is now 8½-in. diameter. Worked by Glenfield & Kennedy pump, coupled to Paxman's suction gas engine (38 h.p.). A new Ruston Hornsby suction gas engine (50 h.p.) has now been installed.

The borehole pump is designed to deal with 6,000 gallons per hour from a maximum depth of 230 ft. (10—12 strokes per minute) (not more than 5,000 gallons per hour now obtainable).

The borehole water is delivered into a receiving tank 7 ft. deep, capacity 124,764 gallons, at Mildmay Road ; this tank also receives the spring water gravitating from "Burgess Well." (about 3,000 gallons per hour.

The two waters are lifted to the Reservoir at Longstomps by three-throw Crossley ram pumps, 10,000 gallons per hour capacity, the lift being 142 ft. through 2,200 yards 10-in. rising main. A new "Pearn's" three-throw ram pump of similar capacity has now been installed.

Galleywood Road Pumping Station. At this Station there are two boreholes, 10 ft. apart; 14-in. diameter to 12-in. diameter shell tubes. Depth of bore 550 ft. Working barrel is 6-in. diameter, worked by Warner pump, coupled to Hornsby suction gas engine (25 h.p.) in duplicate.

The borehole pump is designed to lift 5,200 gallons per hour from a depth of 350 ft. (20 revolutions per minute) (about 3,000 gallons per hour obtainable).

The borehole water is lifted and discharged into a receiving chamber, and from thence to Longstomps Reservoir by means of triple ram pumps (duplicate), designed to deliver 5,000 gallons per hour, the lift being 40 ft. through 800 yards 6-in. rising main.

The working barrel in bore is 350 ft. deep to suction; it is approximately estimated that the water level is 340 ft. deep- 10 ft. submerged (continual pumping is carried out at slow speed).

The waters from Mildmay Road borehole, Galleywood Road borehole and Burgess Well are supplied to the town from the Longstomps Reservoir. (See analysis No. 1, 2 and 3).

Admirals Park Pumping Station and Springs. At this Station there is one borehole, 14-in. diameter to 12-in. diameter shell tubes. Depth of bore 360 ft. (tubes to 291). Working barrel is $7\frac{1}{2}$-in. diameter. Worked by Warner pump, coupled to Hornsby suction gas engine (34 h.p.), also a 40—45 h.p. suction gas engine recently installed.

The borehole pump is designed to lift 6,000 gallons per hour from a depth of 250 ft. (20 revolutions per minute). Working barrel is 220 ft.

The actual water obtained is considerably less than anticipated, being now only 3,000 gallons per hour average from this borehole.

The borehole water is delivered into a receiving tank 5 ft. 3 in. deep, total capacity 206,611 gallons. This tank also receives the spring water which rises from the gravel bottom therein (now about 3,000 gallons per hour).

The water from this tank is lifted to service tank of 80,000 gallons capacity by means of triple ram pumps (Warner's), coupled to the borehole pump and run by same suction gas engine. Capacity of pump 11,000 gallons per hour.

Stand-by set is a Crossley triple pump driven by gas engine, 25 h.p. (town gas).

An air lift plant has recently been installed to raise 30,000 gallons per day from a spring outcrop in Admirals Park. This water is raised without extra cost and augments the water supply.

The present water level in bore is approximately 10 ft. above the working barrel suction end, and this is 220 ft. deep ; continuous pumping is done at slow speed in order to obtain all possible water. (See analyses Nos. 6 and 7).

Boarded Barns Well. This supply is obtained from a well 43 ft. deep, and the service tank having a capacity of 20,000 gallons, is 60 ft. above ground level. The water is lifted at the rate of 2,000 gallons per hour by electrically driven pump. (See analyses No. 8).

Springfield Ward is supplied with water by the Rural District Council from their Baddow Road Works under agreement. (See analyses No. 4).

The town supply is further augmented by water from the Rural District Council's Broomfield Pumping Station, approximately 400,000 gallons per month. (See analyses No. 5).

Scheme for additional Water Supply to Town. The Chelmsford Water Bill, 1923 Session, has received Royal Assent, and this empowers the Chelmsford Corporation to extract up to one million gallons per day from the River Chelmer.

Working detailed plans for the turbines, pumping station, treatment plant, filters, &c., are now being prepared by the Borough Engineer and Surveyor.

Chelmsford Corporation Water Act, 1923.

SALIENT EXTRACTS CONCERNING THE BOROUGH.

The said works will be situate in the County of Essex and are:—

Work No. 1.—A line or lines of pipes with INTAKE from the river Chelmer in the parish of Springfield commencing in the Mill Race to SANDFORD MILL and terminating at the Reservoir (Work No. 2).

Work No. 2.—A RESERVOIR in the said parish of Springfield in the enclosures numbered.

Work No. 3.—A line or lines of pipes in the said parish of Springfield commencing at the said reservoir (Work No. 2) and terminating at the pumping station (Work No. 4).

Work No. 4.—A pumping station (to be called "the SANDFORD MILL PUMPING STATION") with FILTRATION plant and other work to be situate in the said parish of Springfield on the site of the existing building known as Sandford Mill.

Work No. 5.—A line or lines of pipes to be situate in the said parish of Springfield, the parish of Great Baddow and the Borough commencing in the SANDFORD MILL PUMPING STATION and terminating in the LONGSTOMPS SERVICE RESERVOIR of the Corporation.

The Corporation shall not in any period of 21 days pump by means of Work No. 4 authorised by this Act a total quantity of water which will exceed in such period an average of ONE MILLION GALLONS per day of twenty-four hours.

The Corporation shall before supplying any water abstracted, collected or diverted from the River Chelmer SO TREAT any such water which is to be used for domestic purposes as to make it comply with such standard of PURITY as may from time to time be prescribed by the Minister of Health.

Except so far as the Minister of Health may otherwise permit all such water shall be efficiently chlorinated to the satisfaction of the Minister of Health.

The Corporation shall appoint and keep appointed a duly qualified chemist and BACTERIOLOGIST who shall be in CONSTANT CONTROL of the treatment and examination of all water so abstracted, collected or diverted which is to be used for domestic purposes. He shall carry out such tests and analyses for the Corporation as may be necessary for an efficient control of the quality of the water and records of all such tests and analyses made by him shall be furnished by him to and shall be retained by the Corporation for a period of one year and copies of the results of such tests and analyses shall on request made within such period be supplied to the Minister of Health and the County Council together with such other information relating to the water supply of the Corporation as may be required by them respectively.

If any person shall knowingly or wilfully discharge, throw or put, or cause to suffer to fall into the River Chelmer between the point where that river crosses the northern boundary of the Borough and Sandford Mill and Sandford Lock or into the River Cann between the point where the river crosses the western boundary of the Borough and the point where it flows into the River Chelmer or into any portion of the River Wid which flows within the Borough, any offensive matter, whether solid or fluid, or any earth, mud, ashes, dirt, soil or refuse of any description so as either singly or in combination with other similar acts of the same or any other person to interfere with the due flow of the water or to pollute the water he shall for every such offence be liable to a penalty not exceeding five pounds.

Cost—

Purpose.	Amount. £	Period for Repayment.
(*a*) The purchase of lands and easements for and for the construction of the waterworks authorised by this Act.	... 66,000	... Fifty years from the date or dates of borrowing.
(*b*) New mains, extensions of mains and other waterworks purposes.	... 10,000	... Forty years from the date or dates of borrowing.
(*c*) The costs, charges and expenses of this Act.	... The sum requisite.	... Five years from the passing of this Act.

River Pollution.

Barnes Mill. There is no proper drainage, the whole of the sewage, including that from the water closet discharges directly into the river.

This is receiving attention with a view to connect with sewer.

Springfield Barnes. All the house drainage is properly connected to the sewer, but the overflow from a cesspool in the yard which receives the drainage from the cowhouses enters the river direct.

This is receiving attention.

Sewers. At several points, notably near Barnes Mill, and at junction of the Cann and Chelmer, the sewers overflow from time to time and cause pollution.

This should be obviated by the new outfall sewer.

Brown & Sons, Timber Yard, Navigation Road. Gas washings from a private gas plant are turned into a ditch but on tracing the ditch it would appear that this pollution would enter the river at flood times only.

Bishops Hall Mill. A cesspool situated on the river bank receives the sink and bath wastes but no fæcal matter.

There is evidence that the contents of the cesspool overflow from the inspection cover and enter the river from time to time.

The Borough Council have agreed to extend a new sewer sufficienly near to connect up the property.

Chelmer Mill, New Street. There is still some pollution from the wheat washing at this mill, but much improvement was effected some time ago by the provision of additional strainers.

Housing.

For many of the figures in the following remarks, I am indebted to the courtesy of the Borough Engineer.

The number of inhabited houses is as follows :—

	1922	1923	1924	1925
Total...	4,621	4,891	5,037	5,302
Working Class	3,500	3,700	3,819	4,060

The next table shows number of Houses erected (*a*) by private enterprise with subsidy ; (*b*) by municipal building ; (*c*) by private enterprise without subsidy (*a*) and (*b*) being mainly working class houses and (*c*) being larger private houses.

Year.	Mainly Working Class Houses.		Larger Houses.
	Private Enterprise with Subsidy.	Municipal Estate, Boarded Barnes.	Private Enterprise without Subsidy.
1920	9 (1919 Act)	22	1
1921	5 (1919 Act)	76	2
1922	3 (1919 Act)	176	17
1923	—	6	35
1924	141 (1923 Act)	—	29
1925	165 (1923 Act)	76	24
6 Years	323	356	108

Working Class Houses erected by the Borough Council—

Before 1920 there were 144 working class houses erected by the Borough Council in the Rainsford Lane District and this is completed and has not since been added to.

From 1920 to 1925 the Borough Council has completed 356 working class houses on the Boarded Barns Municipal Estate.

From 1925 to 1928 the Borough Council has planned to add another 324 similar houses on the same estate.

Thus at the end of 1925 the Borough Council owns 500 working class houses on the two Estates at Rainsford Lane and Boarded Barns and also 12 houses specially erected in 1925 for their employees at the Borough Gas Works, and by the end of 1928 the Council will probably own a total of 850 houses. The total inhabited houses at the end of 1925 was 5,302, and after allowing for additions by private enterprise from that date to 1928, the relative proportion of Council houses to the remainder suggests that the Municipal body compares favourably in enterprise in this respect with other towns in this country.

The situation of the Council Estates is excellent, the smaller one is on a slight south slope 27 feet above, and 800 feet from the river, while the larger one at Boarded Barnes is even better, being on a large open level space on high ground. There is a gradual fall towards the south, the houses are well laid out with plenty of open space between the several small blocks. The height of the centre of the estate is 143 feet above the sea level, which is about the highest ground in that part of the town, and is breezy and airy without being unduly exposed, and is 2,500 feet from the Can on the one side, and the Chelmer on the other.

I think that these 680 working class houses so well situated must have a very beneficial effect on the general health of the tenants and should be an appreciable factor of the health statistics of the town in the future. It would not be so easy to calculate any such effect in figures inasmuch as these tenants are "a selected population" by reason of the rather high rents, especially on those houses erected during 1921-22 at the highest period for the cost of building.

Many employees who work at the big factories in the town travel by bus or cycle to homes in the nearer villages just outside the Borough as may be gauged by the discrepancy of the census return on occupation, employees living in the Borough and the numbers actually employed at the works, see page 12. Many of those living outside are no doubt anxious to reside in the Borough nearer their work.

There is a permanent waiting list of between 500 and 600 applicants for houses who are considered by the Housing Committee in their turn on the list.

Overcrowding often unavoidably results from the growing size of the family absorbing all the earnings of the parent in food and clothing, so that he can least afford the higher rent necessary for a larger house although he is the tenant who most requires it.

Lodgers received into the high rented model houses to help pay the rent are another cause of overcrowding.

Some specially bad cases of overcrowding or bad houses which come to my notice through the M.C.W. centre or Sanitary Inspector are placed on a special list with all salient points about them and forwarded from time to time to the Housing Committee and in this way deserving cases are remedied much sooner than might otherwise be the case.

Closing orders were made during 1925 on 51 houses.

110 houses, including these 51, are only fit for closure.

300 houses are not entirely satisfactory as dwellings but may be considered reasonably fit for habitation in time of shortage if repairs are attended to regularly.

Unfortunately it is usually the occupants of the bad or overcrowded houses who can least afford the rents of the Council Houses or any other houses available to a fresh tenant, nor are they always very desirable tenants so that it is a difficult problem to rehouse the tenants of property which ought to be closed as early as possible. The question arises whether this problem can be met by a special estate on the outskirts of the Borough containing the cheapest rented houses possible for the accommodation, and made of material as indestructable as possible—reinforced concrete perhaps!

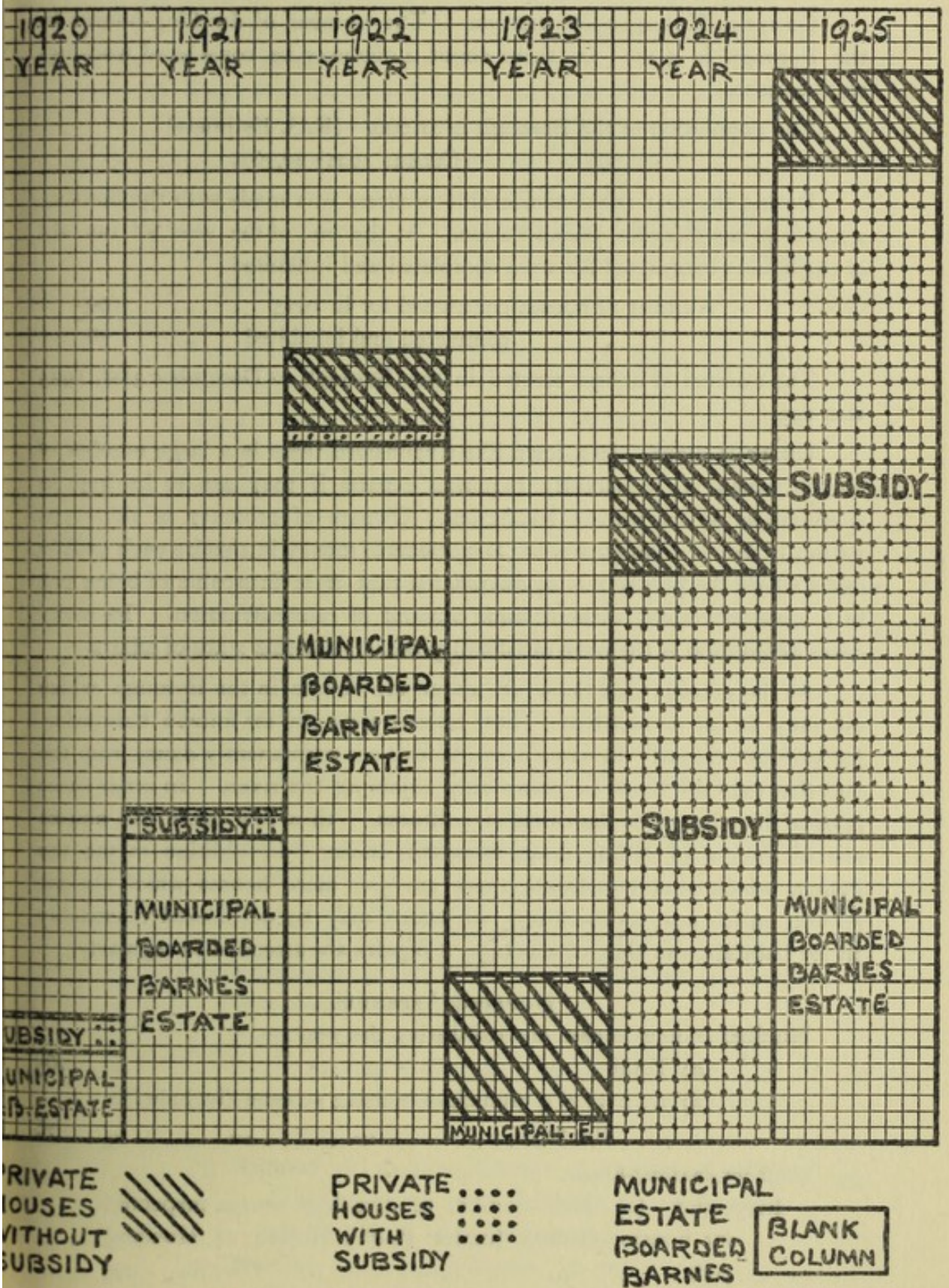
The Character of the Houses on the Municipal Housing Estates may be gauged from the following tables of rents and accommodation which the Borough Accountant and Borough Engineer have worked out at my request. The more recent houses on the Boarded Barnes Estate are in Brownings Avenue and are separately grouped in that column.

Type of House Judged by Rooms.	Number of Council Houses on Estate at Rainsford Lane.	Boarded Barns.	Brownings Avenue.	Elsewhere.
(*a*) Living room, scullery, 2 bedrooms	—	—	48	—
(*b*) Living room, scullery, 3 ,,	144	—	96	—
(*c*) Parlour, living room, scullery, 3 bedrooms		280	6	—
Type of House Judged by Rent—				
(*a*) 4s. to 5s. a week inclusive of rates	—	—	—	2
(*b*) 5s. to 6s. ,, ,,	12	—	—	1
(*c*) 6s. to 7s. ,, ,,	16	—	—	—
(*d*) 7s. to 8s. ,, ,,	46	—	—	14
(*e*) 8s. to 9s. ,, ,,	54	—	—	2
(*f*) 9s. to 10s. ,, ,,	16	—	—	—
(*g*) 10s. a week exclusive of rates	—	—	48	2
(*h*) 10s. to 11s. ,, ,,	—	—	92	—
(*i*) 11s. to 12s. ,, ,,	—	146	4	—
(*j*) 12s. to 13s. ,, ,,	—	134	—	—
Date of erection	1912	1920-25		

Types of House Judged by Rooms.	Average Superficial area in square feet. Rainsford Lane.	Boarded Barns.	Brownings Avenue.
(*a*) Living room, scullery, 2 bedrooms	—	—	632
(*b*) Living room, scullery, 3 bedrooms	763	—	704
(*c*) Parlour, living room, scullery, 3 bedrooms		963	828

The object of these tables is to show exactly the rentals on the Council Housing Estates and how many houses they are at each rental, and also the types of houses and how many of each type.

The first group of Council houses erected (Rainsford Lane Estate) are rented much the lowest, mainly of course because of the cost of building at that time, the highest rents are those first erected on the Boarded Barns Estate proper when the cost of building was at its maximum but it must be observed that houses of type C on Brownings Avenue are not so large in superficial area as the same type C on Boarded Barns and the higher rental of the latter gives a really larger house though the number of rooms is the same.


1920 YEAR
1921 YEAR
1922 YEAR
1923 YEAR
1924 YEAR
1925
SUBSIDY
MUNICIPAL BOARDED BARNES ESTATE
SUBSIDY
MUNICIPAL BOARDED BARNES ESTATE
SUBSIDY
MUNICIPAL BOARDED BARNES ESTATE
MUNICIPAL E.
RIVATE OUSES ITHOUT UBSIDY
PRIVATE HOUSES WITH SUBSIDY
MUNICIPAL ESTATE BOARDED BARNES
BLANK COLUMN

Housing Return Required by Ministry of Health.

General Housing Conditions. The number of dwelling-houses in the Borough is 5,302 Of these about 4,060 may be considered working-class houses.

The population of the Borough is 21,900. (R.G. Estimate)
" " (Census 1921) 20,761.

During the year 1925 considerable progress was made with the housing scheme on the Boarded Barns Estate. At the end of the year all but six of the houses contracted for were completed and inhabited.

Number of houses contracted for in 1925	...	100
" completed and inhabited	...	76

The number of houses erected in the Borough to December 31st, 1925 was 295.

Unfit Houses. In a town like Chelmsford there is a large number of houses which are constantly requiring repairs if they are to be kept in a condition fit for human habitation. Owners of property of this type naturally demur from expending large sums of money in repairs each year in cases where the property is so dilapidated that it is incapable of being put in a state of repair without some amount of re-construction. In many cases demolition is the only satisfactory remedy for this state of affairs.

At the present time there are about 110 houses in the Borough which are only fit for demolition. These houses are unfit for human habitation for various reasons. In some cases, houses are permanently damp from the fact that they are built on damp sites adjoining the river. In other cases general dilapidation is the cause of unfitness. In a few cases the houses are in danger of falling down from this cause. In addition to the 110 houses which need demolition, there are 300 more houses which are not entirely satisfactory as dwellings, but which may be considered reasonably fit for habitation in time of shortage, if repairs are attended to regularly.

Housing Appendix.

Number of new houses erected during the year:—

(*a*) Total	...	265
(*b*) As part of a municipal housing scheme (included in the 265)	...	76

1. *Unfit for dwelling-houses.*

Inspection—(1) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts) 993

(2) Number of dwelling-houses which were inspected and recorded under the housing (Inspection of District) Regulations, 1910 69

(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation 51

(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation. ... 4

2. *Remedy of Defects without Service of formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officer ... ... —

3. *Action under Statutory Power.*

A.—Proceedings under Section 28 of the Housing, Town Planning, &c., Act, 1919.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs ... —

(2) Number of dwelling-houses which were rendered fit :—

(*a*) By owners ... ... —

(*b*) By Local Authority in default of owners —

(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close 3

B.—Proceedings under Public Health Acts.

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 599

(2) Number of dwelling-houses in which defects were remedied :—

(*a*) By owners 543

(*b*) By Local Authority in default of owners —

C.—Proceedings under Sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909.

(1) Number of representations made with a view to the making of Closing Orders 55

(2) Number of dwelling-houses in respect of which Closing Orders were made 51

(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit ... ... —

(4) Number of dwelling-houses in respect of which Demolition Orders were made ... ... —

(5) Number of dwelling-houses demolished in pursuance of Demolition Orders ... ... —

PRIVATE FAMILIES, Classified by Size of Family, Rooms Occupied, and Density of Occupation.

Number of Persons in Family.	Number of Private Families occupying the Following Number of Rooms.								Total Private Families.		Population in Private Families	Rooms occupied	Density of Occupation.				
	1	2	3	4	5	6-7	8-9	10 & over.	No.	%			Average Number of Rooms per Person.	Population at following Densities of occupation (rooms per person). under ·3	·3 and under ·5	·5 and under ·7	·7 and under 1·0
CHELMSFORD M.B.																	
1	24	42	21	51	35	23	4	—	200	*4·1*	200	725	*3·63*	—	—	—	—
2	10	105	63	169	235	186	26	2	796	*16·5*	1,592	3,658	*2·30*	—	—	20	2
3	12	41	53	210	359	285	44	17	1,021	*21·3*	3,063	5,226	*1·71*	—	36	123	—
4	—	22	50	219	371	277	60	14	1,013	*21·1*	4,052	5,307	*1·31*	—	—	92	196
5	—	9	20	168	292	213	47	20	769	*16·0*	3,845	4,143	*1·08*	—	45	100	240
6	—	3	21	74	216	111	25	13	463	*9·6*	2,778	2,499	*0·90*	—	18	370	1,296
7	—	2	8	55	103	59	11	8	246	*5·1*	1,722	1,308	*0·76*	14	56	385	1,057
8	—	—	2	29	73	47	13	6	170	*3·5*	1,360	963	*0·71*	—	16	816	376
9	—	—	2	10	37	16	4	4	73	*1·5*	657	419	*0·64*	—	108	414	90
10	—	1	—	7	17	12	2	1	40	*0·8*	400	219	*0·55*	10	70	250	60
11	—	—	—	2	6	8	—	4	20	*0·4*	220	154	*0·70*	—	88	88	—
12	—	—	—	—	3	1	—	—	4	*0·1*	48	21	*0·44*	—	36	12	—
13	—	—	—	—	1	—	—	—	1	*0·0*	13	5	*0·38*	—	13	—	—
14	—	—	—	—	—	2	—	—	2	*0·0*	28	12	*0·43*	—	28	—	—
15 & over ..	—	—	—	—	—	—	—	2	2	*0·0*	33	23	*0·70*	—	—	18	15
Total Private Families ..	46	225	240	994	1,748	1,240	236	91	4,820	*100·0*	—	—	—	—	—	—	—
Population in Private Families	80	550	822	3,978	7,745	5,270	1,050	516	—	—	20,011	—	—	24	514	2,888	3,932
Rooms occupied..	46	449	720	3,976	8,740	7,707	1,962	1,082	—	—	—	24,682	*1·23*	—	—	—	—
	1·0	*4·7*	*5·0*	*20·6*	*36·2*	*25·7*	*4·9*	*1·9*	*100 0*	1921.	Percentage of families living in various units of occupation.						
	0·8	*3·6*	*2·7*	*19·8*	*27·3*	*35·9*	*6·3*	*3·6*	*100·0*	1911.	,,	,,	,,	,,	,,		

Extracts from Census Return, 1921.

(Preface page 68). See table on opposite page.

The average size of family has thereby been reduced from 4·38 persons in 1911 to 4·16 persons in 1921, a drop of about 5 per cent.

The Tables show that while, as already stated, the average size of family has dropped by about 5 per cent., the average unit of occupation has decreased from 4·66 rooms per family in 1911 to 4·41 in 1921, also a decrease of about 5 per cent., with the consequence that the average number of occupied rooms per person in the County as a whole has remained stationary.

The ratio of more than two persons per room was selected in the Census Reports for 1911 and earlier years as an approximate comparative index figure for the purpose of measuring the prevalence and distribution of overcrowding conditions. Since, however, that ratio has been commented upon as though it had been propounded as an absolute standard or a definition of overcrowding, it may be well to observe that its use in the Census statistics implies no judgment whatever as to what in fact constitutes overcrowding.

Factories, Workshops and Workplaces.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Premises. (1)	Number of Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
FACTORIES (Including Factory Laundries)	27	—	—
WORKSHOPS (Including Workshop Laundries	115	—	—
WORKPLACES (Other than Outworkers' premises)	5	—	—
TOTAL	190	—	—

2.—DEFECTS FOUND IN FACTORIES WORKSHOPS, AND WORKPLACES.

Particulars. (1)	Number of Defects Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of Prosecutions (5)
Nuisances under the Public Health Acts:—*				
Want of cleanliness	1	1	—	—
Want of ventilation	—	—	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—		—
Other nuisances	10	10	—	—
Sanitary accommodation insufficient	3	3	—	—
Sanitary accommodation unsuitable or defective	8	8	—	—
Sanitary accommodation not separate for sexes	1	1	—	—
Offences under the Factory and Workshop Acts:—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Other offences (Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)	—	—	—	—
Total	23	23	—	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Sewage Disposal.

A MAP shewing the main sewers will be found at the middle of this Annual Report.

The following figures of the present system are obtained from the official form as completed on 15-4-25 by the Borough Engineer for the Ministry.

System—partially separate. Water supply, consumption 24 gallons per head.

Dry weather flow	...	330,000 gallons	domestic sewage.
		150,000 „	Trade waste from Tannery, Brewery, Engineering Works, Glove Factory.
		420,000 „	Subsoil water.
Total	...	900,000 „	40 gallons per head.

Character of sewage. Medium to strong.

Maximum volume delivered at works. 26,000,000 gallons, of which 2,700,000 gallons is to be treated as sewage, and 23,300,000 gallons as storm water.

Sewage Treatment. Screening chambers 4. Sewage tanks 5. Irrigation area available 113 acres of which 87 acres are used. (N.B.—There is now 178 acres since this form was first completed). One acre per 250 persons, or 10,000 gallons per acre in d.w.f. Effluent discharged into River Chelmer below Sandford Mill and below the Southend Water Company's intake.

The iron sewer pipes cross the river through the water at three different places in the town, then the main sewer runs down the Chelmer valley more or less contiguous with the river at different places *en route* to the sewage farm which abuts on the river bank below Sandford Mill.

The new sewage scheme is estimated to cost £55,400 and to be completed by 1926.

The new main sewer is 66 x 44 inches in section as compared with 30 x 20 of the old main sewer and is to carry the storm water entirely while the old one carries the sewage so that the sewage system will become an entirely "Separate" system.

The method of effecting the change is that a decanting chamber is constructed in the Kings Head meadows at the rear of the Gasworks and the storm water is there separated from the sewage which has so far been brought down together in the combined system by the old pipes.

The two systems of main pipes then run from this spot on the edge of the town through open meadows and fields for two miles to the sewage farm which is isolated well away in the country down the river valley.

New settling tanks at the sewage farm have just been constructed giving five times greater tankage treatment.

The method of treatment is (1) by Sedimentation Tanks open to the air.

(2) by Land Treatment for which there are now 178 acres available.

(3) the Effluent is discharged into the Chelmer and Blackwater Canal below Sandford Mill and below the intake of the Southend Water Company.

The results of the samples of the sewage effluent taken by the County were that in 1924 out of six samples taken two were satisfactory and four were unsatisfactory; while in 1925 the samples taken shewed that the impurity figure of the main outfall effluent was 20.9, smaller outfall effluent was 13.2, as compared with the County standard of 10.0.

The Borough sewage scheme also takes the sewage from the parish of Widford just outside the Borough and negotiations are in progress for taking the sewage from the parish of Writtle which at present disposes of it, after some treatment, into the River Wid which enters into the Cann which flows on through the town.

The results of the samples of this sewage effluent into the River Wid are that in 1924 out of four samples taken, one was satisfactory and three were unsatisfactory, while in 1925 no samples were taken in view of the proposed scheme to connect the drainage system of Writtle with the Borough sewage works.

Refuse Disposal.

Six thousand two hundred and forty cart loads of house refuse were tipped during the year into trenches and immediately covered with layers of earth 2 feet or 3 feet deep, at the Recreation Ground on flat land adjoining the river for a width of 200 feet or so and the length of the ground. The object was, in the words of the Borough Engineer, "to raise the levels of low-lying grounds which were being periodically flooded by the river and on many days of the year were covered with water which left a slimy deposit all over the paths and grass land of the Recreation Ground. The work is now nearing completion and grass seed is sown, and in a year or so when the surfaces have consolidated and been levelled off, tennis courts, putting greens and other games will be able to be provided on the built-up land above flood levels. The Cricket Club has recently been glad of town refuse to assist them in levelling up. The material collected consists mostly of cinder dust, vegetable pellings, old tin pans, paper, &c., all become innocuous after about 12 months. If the general public were to burn more of their refuse in their kitchen grates it would not only benefit them individually, but lessen the rates and collections considerably.

The cost of collection and disposal in 1920 was £2,762 13s. 1d., while with the central tip (Recreation Ground) this was reduced during the corresponding period in the next year, 1921, £2,481 17s. 2d., being £281 saved in the year.

The cost for collection and disposal in Chelmsford per dwelling house per year for the past five years has been—

1921.	1922.	1923.	1924.	1925.
13/11½	11/5½	9/11½	8/7	11/- "

The Borough Engineer also informs me that in laying the new main sewer pipes through that part of the Recreation Ground used two or three years ago for this refuse tipping, the extensive excavations shewed that the refuse had been converted into humus and slowly destroyed through the natural purifying action of the soil.

The refuse trenches are not carried nearer to the river than 6 feet and a bank has always been erected between. It is advisable that all sites close to the river, which require levelling, should be completed as soon as possible so as to allow a fair interval for purification by the soil before the water from the river will be required for drinking purposes in the new water scheme.

The past history of refuse disposal in Chelmsford and complaints thereon are culled from the Council Minutes as follows:—

From 1912 to 1914, the house refuse was carted outside the Borough to a private refuse destructor, and the Council Minutes of that time record a series of complaints, especially of smoke and flies affecting neighbouring houses. A former Medical Officer of Health also condemned this method as a nuisance, and after various attempts at improvement it was discontinued. An alterative proposal in 1913 to cart the refuse down to the Sewage Farm is described in the Minutes for 19th November, 1913, but was discarded. Another alternative in 1914 was the suggested provision of a Borough refuse destructor which was very fully reported upon by the former Borough Engineer with tables of costs in the Council Minutes of 8th May, 1914, and was recommended by the Special Sub-Committee but turned down by the Sanitary Committee, partly owing to a special meeting of ratepayers to protest against a refuse destructor being put in their neighbourhood.

It is interesting that one of the most active protesters against this proposed destructor was also one of the most active protesters against tipping in the Recreation Ground, and as others object to other forms of tipping it might seem as though there was a feeling that an expression of complaint would abolish the necessity for collecting house refuse in any form.

From 1914 to 1920 tho house refuse "was roughly tipped into holes upon farm lands in various parts of the Borough." The Longstomps tip was filled up in April, 1921, and after that date Bell Meadow was raised with refuse and earth covered and laid out as an addition to the Recreation Ground. Then the Recreation Ground low-lying levels were started upon in the same way as already described and at first the paper was burnt as a beneficial measure, but a strenuous complaint of nuisance from this burning was lodged in a letter to the Council signed by 133 persons living in Upper Bridge Road, as recorded in the Minutes of 21st September, 1921.

The former Medical Officer of Health and the present Engineer reported that no nuisance was really so caused, but the burning was discontinued and the paper was buried with the rest of the refuse. The next we hear is 3½ years later when, on 5th March, 1925, a letter was received from the Ministry of Health stating that complaint had been made to them from nine residents in Park Road of nuisance from smells and flies alleged to be due to the disposition of refuse in the Recreation Ground.

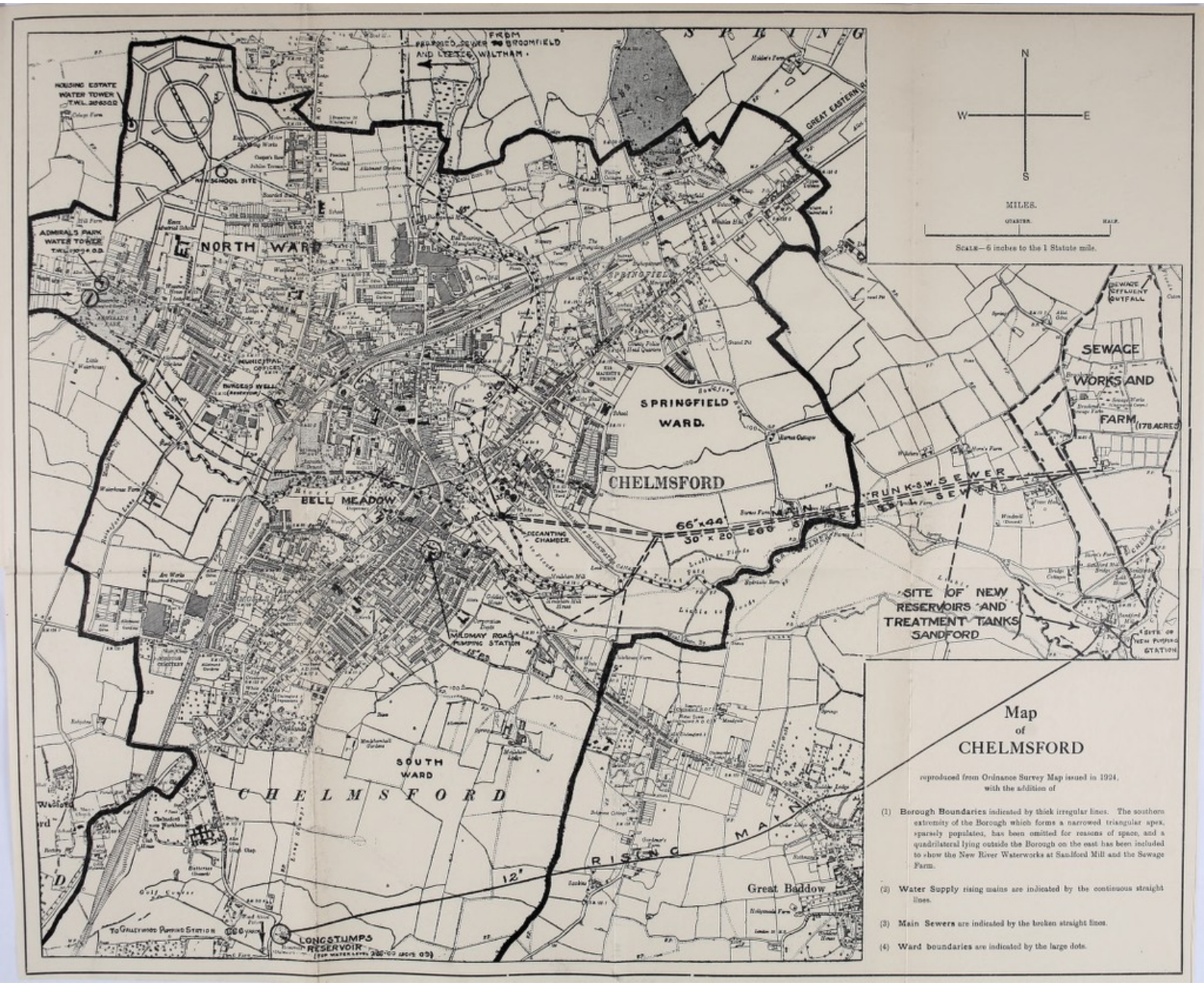
The Medical Officer of Health, Borough Engineer and Sanitary Inspector all visited the sites in question on more than one occasion, separately or together, and were unable to detect any such nuisance as alleged and reported in those terms to the Council and the Ministry, and the same method has been continued.

It should be mentioned that animal refuse, such as butcher's offal and waste from fish and poulterer's shops is all taken right away to the outskirts to Moulsham Hill Gardens and there specially dealt with.

It must also be mentioned that Bradford, with a population of 291,000, has been discarding their destructors since 1920 in favour of tipping in the similar manner to that employed in Chelmsford, except that the paper is burned and is intending to use the land so filled in for recreation grounds.

It may be remembered that both in Bradford and in Chelmsford the method is to tip a fairly thin layer of refuse and to cover at once with 2 or 3 feet of earth, and thus differs from the method of tipping a large quantity of refuse in pile upon pile in the same pit without any earth covering, in which latter case there is no such purifying action of the soil.

Finally, we must recall the alternatives to this filling in the low levels of the Recreation Ground in this way, and these are either to cart fresh earth which to fill up such a large area would mean an absolutely prohibitive cost, or else to leave this ground perpetually liable to floods and muddy slime with consequent damp mists, wet feet for the children and others using the ground, mosquito breeding and so on.



Map of CHELMSFORD

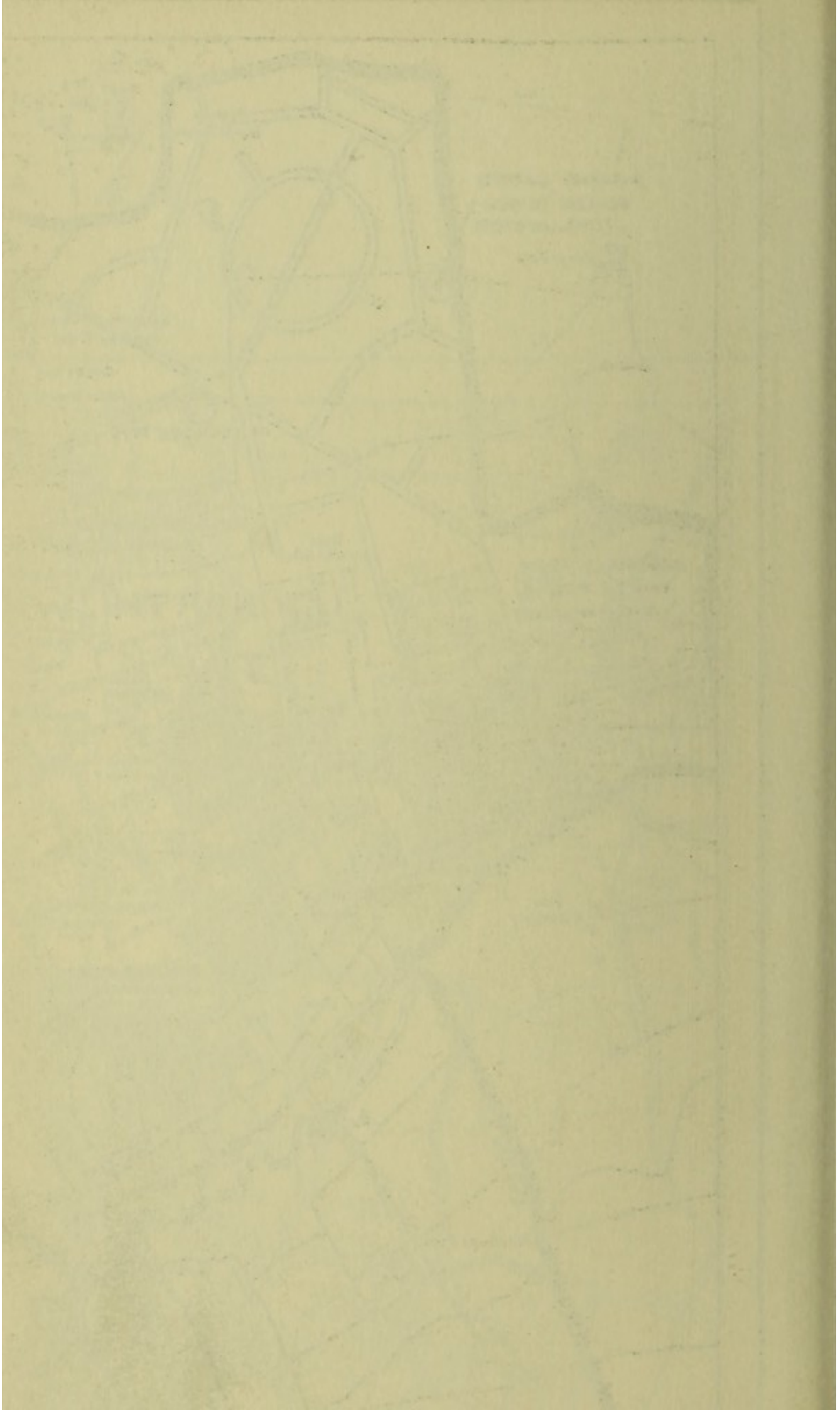
reproduced from Ordnance Survey Map issued in 1924, with the addition of

(1) **Borough Boundaries** indicated by thick irregular lines. The southern extremity of the Borough which forms a narrowed triangular apex, sparsely populated, has been omitted for reasons of space, and a quadrilateral lying outside the Borough on the east has been included to show the New River Waterworks at Sandford Mill and the Sewage Farm.

(2) **Water Supply** rising mains are indicated by the continuous straight lines.

(3) **Main Sewers** are indicated by the broken straight lines.

(4) **Ward boundaries** are indicated by the large dots.



Local Acts, Adoptive Acts and Bye-laws in force in the Borough of Chelmsford, which particularly affect Public Health.

LOCAL ACTS:

1915. 15th July—Chelmsford Corporation Gas Act, 1915.
1923. 2nd August—Chelmsford Corporation Water Act, 1923.

LIST OF ACTS adopted by Council.

1889. 27th Nov.—Infectious Disease (Notification) Act, 1889.
1890. 31st Dec.—Infectious Disease (Prevention) Act, 1890.
1890. 31st Dec.—Public Health Acts (Amendment) Act, 1890. Parts II., III. and V.
1893. 22nd Feb.—The Private Street Works Act, 1892.
1900. 28th Feb.—Baths and Wash Houses Acts, 1846 to 1899.
1903. 25th Feb.—Housing of the Working Classes Act, 1890. Part III.
1909. 7th June—Public Health Acts (Amendment) Act, 1907. Part II., Part III., Part IV., Sections 52 to 67. Part V., Part VI., and Sections 93 and 95 in Part X.

BYE-LAWS AND REGULATIONS.

Made by the LOCAL BOARD OF HEALTH previous to the incorporation of the Borough.

1852. 27th Feb.—Bye-laws in respect to Common Lodging Houses.
1859. 22nd Jan.—Bye-laws for the regulation of Slaughter-Houses.

Made by the TOWN COUNCIL.

1909. 29th Dec.—Water Supply Regulations.
1910. 26th Jan.—Bye-laws: Nuisances and other matters.
1910. 23rd Feb.—Bye-laws: Market (emaciated cattle).
1911. 27th Sept.—Water Supply: Scale of Charges.
1911. 25th Oct.—Rules with respect to Allotments.
1912. 29th May - Bye-laws: New Buildings (constructed with steel or iron framework).
1913. 26th March—Bye-laws: New Buildings.
1913. 30th April—Bye-laws: Means of escape in case of fire from certain Factories and Workshops.
1914. 25th Feb.—Regulations: Connections to Sewers.
1925. 30th Dec.—Bye-laws with respect to New Streets and Buildings.

Report of Sanitary Inspector.

PUBLIC HEALTH DEPARTMENT,
DUKE STREET, CHELMSFORD,
April, 1926.

TO THE MAYOR, ALDERMEN AND COUNCILLORS OF THE BOROUGH OF CHELMSFORD.

MR. MAYOR, LADIES AND GENTLEMEN,

I have the honour of presenting the following Report on sanitary work done during the year 1925. being my fourteenth Annual Report.

Summary of Sanitary Work carried out as a result of notices served or recommendations made.

Dilapidated water closets rebuilt	12
Additional water closets provided...	7
Proper flushing apparatus provided to water closets previously flushed by hand	1
Water closets provided with proper waste preventing cisterns in place of large tanks	4
Flushing apparatus and fittings of water closets repaired or new flushing cisterns provided	73
New pedestal basins provided in W.C.'s in place of defective basins	27
Defective water closets repaired, cleansed, &c.	33
Drains relaid, repaired, trapped with proper gullies, or intercepted and ventilated, inspection chambers provided, &c.	24
Obstructed drains, water closets, &c., unstopped	32
Defective sink, bath and lavatory waste pipes properly disconnected, trapped or renewed	8
Smoke nuisances abated	*1
Urinals cleansed, repaired, &c.	7
Miscellaneous nuisances abated	24

Refuse Receptacles.

Foul ashpits abolished...	1
Galvanised iron sanitary bins provided in place of dilapidated ones ...	103

Dwelling Houses.

Houses or parts thereof cleansed	9
Damp conditions prevented, damp courses inserted, walls coated with impervious materials, soil removed from walls, &c.	34
Floors relaid	26
Floors and stairs repaired	10
Coppers and stoves repaired or new ones provided	17
Windows and doors repaired	17
Roofs, ceilings and chimneys repaired	41
Walls and plastering repaired	98
Troughing and downpipes provided, disconnected or cleared from obstruction	92
Efficient ventilation and light provided	5
Sanitary sinks provided in place of defective stone or other sinks ...	12
Yard paving laid, relaid or repaired	45
Houses closed as unfit for habitation	6
Houses supplied with water directly from main, and storage tanks abolished	9

Factories, Workshops (including Bakehouses).

Factories or workshops or parts thereof limewashed or cleansed ...	1
New water closets built in place of defective trough closets ...	5
„ „ „ provided, existing accommodation being insufficient	3
„ „ „ basin provided in place of broken one	1
„ „ „ flushing cistern provided	1
Additional W.C. provided for females	1
W.C. provided with water waste preventer in place of large tank and pedestal basin provided in place of long hopper basin ...	1
Supply of water laid on from the Borough mains for drinking and flushing purposes (no previous supply)	1
Drains cleared from obstruction	1
Sanitary bins provided ...	3
Floors relaid	1
New troughing provided	2
Yard paved	1
Storage tank abolished and water taken direct from the main ...	1

Miscellaneous.

owsheds, dairies and milkshops cleansed or repaired after notice ...	3
Nuisances from keeping animals abated	8
Accumulations of refuse removed, premises cleansed, etc. ...	18
Common lodging houses cleansed or repaired	2

Dwelling Houses.

Fifty-five houses were represented to you under the Housing and Town Planning Acts as being unfit for habitation and you decided to make Closing Orders in respect of 51 of them, and at the close of the year 7 of them were unoccupied.

Common Lodging Houses.

The two Common Lodging Houses have been well kept and improvements have been made to them during the year.

Paving of Yards, Passages, etc.

The yards in the Borough have received considerable attention and 45 have been paved or additional paving provided.

Slaughterhouses.

These have been well kept and improvements made when necessary. There are now 6 slaughterhouses in the Borough :—

Registered.	Licensed.
H. Green & Son, Moulsham Street. ...	W. T. Candler, Moulsham Street.
J. F. Banham, High Street.	
Palmer & Rimmer, Mildmay Road	Annual Licence.
H. Wright, Springfield Road ...	Archer & Finning, Viaduct Road.

The one at Hill Farm has remained disused throughout the year. The Meat Regulations, 1924, came into force during the year and have proved useful in improving the handling of meat. You appointed your Veterinary Inspector as the officer to receive notices of slaughtering. The supervision of shops and slaughterhouses remains as hitherto the statutory duty of your Sanitary Officer.

There are now 21 butcher's shops in the Borough.

Offensive Trades.

The offensive trades carried on in the Borough are :—

Tanner	1	...	Fish Frier	5

No complaint has been received and the businesses are generally well conducted.

The Fat Extractors premises have been closed during the year, and will not, I am informed, be reopened.

The Market.

I visit the Cattle Market each Market Day with your Veterinary Inspector, Major Mulvey, and the following is a list of the animals sent out of the Market :—

1925.

Jan.	2nd.	Red and white cow, very emaciated and suspected to be suffering from tuberculosis.
„	9th.	4 store pigs suspected to be suffering from swine fever.
Feb.	20th.	3 sheep found to be suffocated.
„	27th.	5 store pigs, very emaciated and suspected to be suffering from swine fever.
„	27th.	Black cow, very emaciated and suspected to be suffering from tuberculosis.
Mar.	6th.	5 store pigs, very emaciated and suspected to be suffering from swine fever.
„	20th.	1 sheep with broken leg.
„	27th.	1 sheep suffering from sheep scab.
„	27th.	2 pigs, very emaciated and suspected to be suffering from swine fever.
July	10th.	10 lambs suspected to be suffering from scab.
Sept.	4th.	7 store pigs suspected to be suffering from swine fever.
„	11th.	Red roan cow suspected to be suffering from tuberculosis, reported to police.
„	18th.	Black and white cow suspected to be suffering from tuberculosis, reported to police.
Oct.	23rd.	2 bullocks suspected to be suffering from tuberculosis, reported to police.
Nov.	13th.	Black and white cow suspected to be suffering from tuberculosis, reported to police.
„	13th.	Red cow suspected to be suffering from tuberculosis, reported to police.

Dairies, Cowsheds and Milkshops.

There were on the registers at the close of the year 8 Producers within the Borough. 11 Retailers whose premises are within the Borough, and 12 Retailers whose premises are in the Rural District Council area. Very great attention has been given to these during the year and considerable improvements have been made.

Two Producers are producing Grade A Milk in the Borough and 2 Retailers were licensed for the sale of Grade A in the Borough (1 within the Borough and 1 from outside).

No certified Milk has been sold in the Borough during the year.

Food Inspection.

The following articles of food were surrendered by the owners :—

1925.		
March	10th.	2 boxes of herrings (84 lbs.)
June	16th.	28 lbs. of smoked haddock.
Aug.	28th.	5 boxes of kippers.
Sept.	11th.	7 stone of codfish.

Factories and Workshops.

There were on the register at the close of the year 83 workshops, including 15 bakehouses and factory bakehouses.

The regular limewashing of the bakehouses has been carried out twice yearly as required by the Factory and Workshops Act, 1901, and in most cases even more frequently.

The remaining workshops have on the whole been well kept. In 4 cases, however, additional W.C.'s have been provided and 8 W.C.'s which were insanitary, have been replaced by new and up-to-date W.C.'s. The only underground bakehouse in the Borough fell out of use during the year owing to the owner giving up the baking trade.

Elementary Schools.

Inspection of the sanitary conveniences at the Elementary Schools has been carried out and monthly reports on their condition made to the Education and Sanitary Committees.

Disinfection.

Disinfection has been done after the following cases :—

Scarlet Fever	6
Diptheria	3
Paratyphoid Fever	2
Consumption	10
Cancer	2
Other Illnesses	3

The bedding and clothing where necessary was removed to the Joint Isolation Hospital Board's disinfecting station for disinfection.

Rats and Mice Destruction Act, 1919.

Similar measures to those last year were adopted during National Rat Week and proved very successful. Active measures are taken throughout the year to deal with the problem, special note being made of tips, farms, and food stores. The destruction of rats is often a subject of considerable difficulty. but in many instances the results prove permanent and much loss of money has been saved and many sanitary improvements have been made coincident with the execution of the provisions of the Act.

Petroleum Acts.

Fifty-seven persons are licensed for the storing of Petroleum Spirit and 14 to store Carbide of Calcium. Little intervention has been necessary, the stores being generally kept in compliance with the Acts and Regulations.

In concluding this report may I be allowed to express my thanks to you Mr. Mayor, to the members of the Council, and to my brother officials for invaluable help received throughout the year.

I have the honour to be,

Mr. Mayor and Gentlemen,

Your obedient servant,

WALTER BROWN, C.R.S.I., M.S.I.A.,

Sanitary Inspector.

Report of Veterinary Inspector, 1925.

TO THE MAYOR, ALDERMEN AND COUNCILLORS OF THE BOROUGH OF CHELMSFORD.

GENTLEMEN,

I have much pleasure in reporting that nothing of an unusual nature has arisen in connection with my duties as Veterinary Inspector to the Borough during the year.

COWS AND COWSHEDS. All cows and cowsheds are inspected and examined at least once in two months, and samples of milk have been taken from cows and examined whenever considered advisable.

The number of cowsheds in the Borough is	... ...	11
,, cows	,, approximately	270
,, cows excluded from cowsheds in the Borough during the year was	.. ...	9
,, samples of milk tested during the year was		54
,, cows tested with tuberculin test during the year was	... ...	6
,, visits paid to cowsheds during the year was		94

The Rural Districts of Maldon, Rochford, Chelmsford, Braintree and Lexden, have appointed qualified Veterinary Surgeons to make an examination of all the cows and cowshed in their districts. Copies of the reports are submitted for your information.

All the milk traders selling milk in the Borough although they live outside that area, are required to be registered. This gives us a much better control of the supply to the town.

SLAUGHTERHOUSES. The number of animals slaughtered in the Borough for human food during the year 1925 was approximately :—

Beasts	2,286
Sheep	6,760
Calves	520
Pigs	6,500

About one-half of the beasts, sheep and calves and one-sixth of the pigs were slaughterered at Wright's slaughterhouse in Springfield Road.

FOOD CONDEMNED AND SURRENDERED.

3 Sheep		15 Pigs		2 Cows					
Hearts.	Lungs.	Livers.	Kidneys.	Spleen.	Heads.
2	15	67	1	1	4

In addition to these a considerable amount of various organs have been destroyed.

Budds Fat Factory having been closed, carcases, &c. are for the present sent to Palmers and thence to a Boilers in London to be boiled down. In order to prevent misuse, the question of the colouring of these carcases is under consideration.

Wrights slaughter house was visited every day and the others at frequent intervals until April 1st.

On this date the Public Health Meat Regulations came into force and consequently all have been visited every day, and when necessary, oftener.

NUMBER OF VISITS.

Wrights	338
Others...	251

Two new butchers shops have been opened, making 19 in the town.

There is a great improvement in the condition of all the slaughter-houses.

HORSE FLESH. A very large quantity is sent from this town to Rotterdam and Antwerp.

16 carcases have been condemned.

A large number of goats are killed and sent to Belgium.

Palmer's slaughter house is visited whenever necessary to inspect the carcases before they are put on the rail.

All are stamped and a certificate sent.

A number of carcases are now sent to France. A special certificate is required to be sent with, and five labels attached to the carcases.

Copies of the certificates are submitted for your information.

MARKET. The Corporation Market has been regularly attended on each market and fair day, and all animals deposited or exposed for sale have been examined.

The market has been closed by order of the Ministry of Agriculture, once, owing to outbreak of Foot and Mouth Disease.

The following is a list of animals removed from the market during the last year:—

1925.

Jan.	2nd.	Red and white cow, very emaciated and suspected to be suffering from tuberculosis.
,,	9th.	4 store pigs, suspected to be suffering from swine fever.
Feb.	20th.	3 sheep, found to be suffocated.
,,	27th.	5 store pigs, very emaciated, suspected to be suffering from swine fever.
,,	27th.	Black cow, very emaciated suspected to be suffering from tuberculosis.
Mar.	6th.	5 store pigs, very emaciated suspected to be suffering from swine fever.
,,	20th.	Sheep with broken leg.
,,	27th.	2 pigs very emaciated suspected to be suffering from swine fever.
,,	27th.	1 sheep suffering from sheep scab.
July	10th.	10 lambs, suspected to be suffering from scab.
Sept.	4th.	7 store pigs, suspected to be suffering from swine fever.
,,	11th.	Red roan cow, suspected to be suffering from tuberculosis—reported to police.
,,	18th.	Black and white cow, suspected to be suffering from tuberculosis—reported to police.
Oct.	23rd.	2 bullocks, suspected to be suffering from tuberculosis—reported to police.
Nov.	13th.	Black and white cow, suspected to be suffering from tuberculosis—reported to police.
,,	13th.	Red cow, suspected to be suffering from tuberculosis—reported to police.

The Tuberculosis Order came into force on September 1st, and the result has been that a much better class of animals is now sent to the market.

Under this order animals sent out of the market are reported to the police, and dealt with by the Veterinary Inspector of the district from which they come. All the other animals on the owners premises being examined.

CONTAGIOUS DISEASES.

	Chelmsford Division.	Chelmsford Borough.
Anthrax	3 ...	Nil.
Mange	2 ...	Nil.
Sheep Scab	7 ...	Nil.
Foot and Mouth	1 ...	Nil.
Tuberculosis	24 ...	2
Swine Fever	25 ...	3

HORSES. Two old horses have been destroyed and three new ones bought.

With the exception of temporary disablement the health and condition has been very good.

I have the honour to be

Your obedient Servant,

W. S. MULVEY, T. D., F.R.C.S.

CHELMSFORD DISTRICT.

VETERINARY INSPECTION OF DAIRY HERDS, 1924-25.

TABLE SHOWING NUMBER OF COWS WITH ABNORMAL CONDITIONS OF UDDER AND NUMBER OF HERDS INSPECTED, ETC.

Parish.	Number of:—				Number of Cows with abnormal coudition of Udders					
	Herds	Cows in Milk	Samples of Milk Taken	Samples of Milk Positive	Tubercle	Induration of Udder (non-Tubercular)	Induration of Teats and False Quarters	Mammitis	Eruption of Teats	Totals
Great Baddow	14	274	3	1	4	2	15	2	28	51
Little Baddow	4	74	2	—	—	2	5	—	2	9
Boreham	7	191	—	—	1	—	9	—	11	21
Broomfield	5	174	—	—	—	1	9	—	14	24
Buttsbury	4	119	—	—	—	1	6	—	3	10
Chignall	1	41	—	—	—	—	1	—	—	1
Danbury	7	92	—	—	1	—	6	2	3	12
East Hanningfield	16	206	1	—	2	1	14	3	7	27
West Hanningfield	8	121	—	—	—	3	11	2	3	19
South Hanningfield	2	51	—	—	1	2	5	—	8	16
Ingatestone	15	255	2	1	5	2	14	—	6	27
Great and Little Leighs	2	50	—	—	1	—	3	—	1	5
Margaretting	4	109	—	—	4	—	6	—	3	13
Roxwell	5	118	—	—	1	1	8	1	3	14
Rettendon and Runwell	17	209	2	1	5	1	25	1	11	43
Sandon	6	125	—	—	1	—	9	—	7	17
Stock	6	178	—	—	1	—	7	1	4	13
Springfield	3	39	2	—	—	—	2	1	1	4
Great and Little Waltham ...	3	38	—	—	—	—	2	—	3	5
Widford	2	99	—	—	1	—	—	—	—	1
Woodham Ferris	19	273	3	—	4	3	17	2	24	50
Writtle	16	362	—	—	1	2	17	—	3	23
	166	3198	15	3	33	21	191	15	145	405
Percentages of Milch Cows affected					1·03	·65	5·96	·47	4·54	12·66

MALDON DISTRICT.

Table showing number of Cows with Abnormal Condition of Udder, Teats or Milk, and number disposed of.

Parish.	Tubercle of Udder.	Mammitis.	Atrophy.	Cow Pox.	Contagious Abortion.	Actino Mycosis.	Induration of Udder Non-Tubercular.	Induration of Teats or False Quarters.	Eruption of Teats	Advanced Tuberculosis	Number of Cows turned out of Herds.
Althorne	1		5		2	1	4		1	4	12
Asheldham								1			
Bradwell-on-Sea			1								1
Braxted, Great							1				
Braxted, Little	2	1	3				8				5
Cold Norton	3										3
Creeksea											
Dengie			4		1		1			1	2
Fambridge, North		1									1
Goldhanger							1				
Hazeleigh			3	2			2			1	1
Heybridge			1								1
Langford	1						1				1
Latchingdon							2			1	1
Mayland	1	1	3				5			1	4
Mundon	1									1	
Purleigh	2	1	4			1	6		1		4
St. Lawrence							2	1			
Southminster	4	2	14				6		2	3	9
Steeple		1					2				1
Stow Maries...							1				
Tillingham			2				3	1			1
Tollesbury							1				1
Tolleshunt D'Arcy							1				
Tolleshunt Knights							1				
Tolleshunt Major										2	2
Totham, Great		1					2	1	1	1	2
Totham, Little										1	1
Tiling							1				
Wickham Bishops		1									
Woodham Mortimer											
Woodham Walter							1				
TOTAL	15	9	40	2	3	2	52	4	5	16	53

MALDON DISTRICT.

Table showing number of Herds in each Parish, number of Cows, number Inspected, and number in Milk.

Parish.	No. of Herds.	No. of Cows.	No. Inspected.	No. in Milk.
Althorne	14	208	204	175
Asheldham	1	13	13	10
Bradwell-on-Sea	3	16	16	14
Braxted, Great	4	58	58	51
Braxted, Little	2	76	76	69
Cold Norton	6	95	95	75
Creeksea	1	20	20	17
Dengie	3	70	70	63
Fambridge, North	3	61	61	45
Goldhanger	4	54	54	48
Hazeleigh	3	121	121	90
Heybridge	6	93	93	79
Langford	2	59	59	52
Latchingdon	10	205	205	175
Mayland	5	134	134	115
Purleigh	18	421	402	346
St. Lawrence	3	112	112	87
Southminster	14	408	408	346
Steeple	1	42	42	30
Stow Maries	5	159	159	116
Tillingham	5	171	171	153
Tollesbury	4	59	59	52
Tolleshunt D'Arcy	7	154	150	132
Tolleshunt Knights	4	39	39	33
Tolleshunt Major	2	12	12	10
Totham, Great	7	56	56	38
Totham, Little	6	53	53	46
Ulting	1	20	20	14
Wickham Bishops	1	55	55	43
Woodham Mortimer	2	9	9	9
Woodham Walter	1	25	25	20
TOTALS	148	3078	3051	2603

ROCHFORD DISTRICT.

TABLE SHOWING NUMBER OF COWS WITH ABNORMAL CONDITION OF UDDER, TEATS OR MILK, AND NUMBER DISPOSED OF.

Parish.	Tubercle of Udder	Mammitis	Atrophy	Cow Pox	Contagious Abortion	Actino Mycosis	Induration of Udder Non Tubercular	Induration of Teats or False Quarters	Eruption of Teats	Advanced Tuberculosis	Number of Cows turned out of Herd
Ashingdon ...											
Canewdon ...		1	3				1		4		2
Canvey Island ...		1	5	5					1		
Eastwood ...		5			1		2	1			5
Great Wakering ...		1	2								
Great Stambridge ..		2	7					1	4		1
Hadleigh ...			1								
Hawkwell ...											2
Hockley... ...		1	6					1			
Little Stambridge ..			2						2		
Little Wakering ...			1				1	1			
North Shoebury ...			1								
Paglesham ...			14								
Rawreth ...			4				1			1	3
Rayleigh ...			6							1	3
Rochford ..			1								
South Benfleet ...										1	1
South Fambridge ...		2	5		1						3
Sutton		2	9				1				3
Shopland ...			1								
Thundersley ...		1							1		
Wallasea Island ...			3								
		16	71	5	2		6	4	13	3	23
MALDON DISTRICT	15	9	40	2	3	2	52	4	5	16	53

ROCHFORD DISTRICT.

TABLE SHOWING NUMBER OF HERDS IN EACH PARISH, NUMBER OF COWS, NUMBER INSPECTED, AND NUMBER IN MILK.

Parish.	No. of Herds	No. of Cows.	No. Inspected.	No. in Milk.
Ashingdon	2	13	13	10
Canewdon	6	185	185	178
Canvey Island	8	151	151	131
Eastwood	9	120	120	90
Great Wakering	3	63	63	52
Great Stambridge	3	161	161	149
Hadleigh	2	44	44	40
Hawkwell	1	2	2	2
Hockley	7	143	137	113
Little Stambridge	1	53	53	50
Little Wakering	1	50	37	34
North Shoebury	2	48	48	44
Paglesham	2	57	57	48
Rawreth	3	42	42	31
Rayleigh	18	162	162	135
Rochford	3	74	74	70
South Benfleet	1	6	6	6
South Fambridge	4	82	82	73
Sutton	4	38	207	176
Shopland	1	207	38	37
Thundersley	8	50	45	38
Wallasea Island	1	64	64	56
TOTAL	90	1,815	1,791	1,563
MALDON DISMRICT	148	3,078	3,051	2,603

FRANCE.

I, the undersigned Veterinary inspector, nominated by the Ministry of Agriculture, certify that I have examined this carcase of horseflesh, and that I examined the animal immediately before slaughter.

The animal presented no symptoms or lesions of Glanders, Farcy, Strangles, Anasarca, Influenza, Chronic Supporation, or any acute disease or disease communicable to man.

I certify that the flesh is fit for human cousumption.

Signed

Date

ROTTERDAM.

I have examined for

the carcase of

Before being slaughtered and after death no signs of disease having been discovered, and am of opinion that it is fit for human food.

These animals were not killed from necessity, and did not die a natural death.

FRANCE.

I, the undersigned, Veterinary Inspector nominated by the Ministry of Agriculture, certify that I have examined carcase of Horseflesh consigned to

.....

and that I examined the animal immediately before slaughter. The animal presented no symptoms or lesions of Glanders, Farcy, Strangles, Anasarca, Influenza, Chronic Suppuration or any acute disease, or disease communicable to man.

I certify that the flesh is fit for human consumption.

Borough of Chelmsford.

EDUCATION COMMITTEE.

REPORT

OF THE

School Medical Officer

For the Year ending 31st December, 1925.

Staff.

School Medical Officer—

RICHARD H. VERCOE, M.R.C.S., L.R.C.P., D.P.H., B.A.

Dentist—

FRANCIS V. MAGUIRE, L.D.S., ENG.

School Nurse—

MISS E. M. LEVETT.

1st Clerk—

H. J. COZENS.

2nd Clerk—

J. W. REED.

School Clinic—

89, Duke Street.

The Borough Public Health Offices.
Duke Street,
Chelmsford,
March, 1926.

To the Chairman and Members of the Education Committee.

Mr. Chairman, Ladies and Gentlemen,

I have the honour to present to you the Annual Report for the year 1925, on the work of the School Medical Department.

The following is a brief summary of the principal figures of the work done for the year by the School Medical Department:—

By the School Medical Officer:

Visits to Schools for Routine Medical Examinations ...	60
Children examined at	1,038
„ „ and certificates given for employment	38
Children refracted at the Eye Clinic	94
„ to whom gas was administered for Dentist ...	137
Children examined at the Minor Ailments Clinic ...	581
Children's attendances	4,766

By the School Nurse:

In addition to the treatment, preparation and clerical work associated with that of the S.M.O. in the above figures:—

Visits paid to Homes were	... ...	453
„ „ Schools „	... ...	292
Heads inspected for Pediculosis	... ...	8,041

The School Nurse also carried out the preparation and clerical work associated with the following summary of the Dental work.

By the School Dentist:

	Mr. S.	Mr. M.
Half-days occupied were	15	76
Children's mouths inspected at the Schools ...	694	236
„ attendances made at the Dental Clinic	14	650
„ treated at the Dental Clinic ...	14	288

I am, Ladies and Gentlemen,
Your obedient Servant,
RICHARD VERCOE,
School Medical Officer.

Routine Examinations.

ROUTINE EXAMINATIONS in the schools numbered 883, which were the children returned by the Teachers as due for Medical Examination in the three age groups prescribed by the Board namely:—

Entrants (mostly 5 years old), these numbered 374.
Intermediates (mostly 8 years old), these numbered 352.
Leavers (mostly 12 ,,), ,, ,, 312.

The complete findings of these examinations are set out in Table II., page 28, and some notes on these are as follows :—

MALNUTRITION cases numbered 42 requiring treatment. This condition may be due to a variety of dissimilar causes such as heredity, chronic disease, defective housing, or defective feeding either in quality, balance, cooking, or quantity. The attempt is made to probe into the most probable causes and advice given accordingly. Those cases which seem likely to benefit by Cod Liver Oil are advised to take this regularly, especially during the colder months, while Virol is recommended for those who cannot tolerate Cod Liver Oil. Both of these are obtainable at the Clinic at cost price to encourage those parents with small means whose children are often those most requiring these substances.

4 cases could not afford this and received it free at the cost of the Education Committee.

Cases of ANÆMIA (14), BRONCHITIS (7), NERVOUS DEBILITY (12) and some others were also advised Cod Liver Oil, &c., in addition to general hygienic instruction and altogether, including additional special cases of the same diseases coming to the Minor Ailments Clinic, 194 lbs. of Cod Liver Oil and 111 lbs, of Virol were obtained during the year from the Clinic.

UNCLEANLINESS cases numbered 24 at Routine Inspection, when, however, heads are often cleaner than usual through the notice given that inspection is going to be made. Inspection without notice is made by the Nurse on different occasions, the figures for which appear on page 6.

DEFECTIVE VISION cases numbered 52, which indicates only those who were referred for treatment, not those who already had suitable glasses. Nearly all the former together with similar cases specially referred, apart from Routine Inspection were refracted at the Eye Clinic.

SQUINT. 4 cases were referred for operation at St. Barthomews Hospital having worn glasses for a few years without improvement. 3 of these could not afford the railway fare and the Education Committee paid this for them.

TONSILS AND ADENOIDS. 13 cases of Adenoids and Tonsillar Enlargement (singular or together), were recommended for operation, which, with 2 specials of the same defect, made a total of 15 for operation.

7 cases were operated on at the Chelmsford Hospital during the year under the Committee's agreement with that Institution, and 3 were operated upon privately.

Other cases of Tonsils and Adenoids referred for observation from Rountine Inspections from Specials, were advised a course of nasal drill and saline douching in the evening before going to bed. This might be termed treatment, but they are put in the Observation column to distinguish them from the operative cases.

HEART DISEASE. 3 cases were found at Routine Inspection, all of which were mild, well compensated cases.

There are 7 other cases which are Specials, one of which is severe and is now excluded from school. A further reference to Heart Disease will be found in my special report on Rheumatism in the later pages of this Report.

TUBERCULOSIS. Non-Pulmonary and Suspected Pulmonary. Certain of the marked Malnutrition cases who did not improve after a period of observation, which included weighing, were referred to the Tuberculosis Dispensary, with other specially selected cases, as "Pre-Tubercular" cases. 3 of these, and 1 case of Glandular Tuberculosis were sent to Sanatoria, and one of the former was found, after lengthy observation. to be a case of active Tuberculosis.

THYROID ENLARGEMENT 2 cases were found at Routine Medical Inspection, both aged 12, both girls. One was a mild case with no symptoms. The other was a more marked case with obvious thyroid enlargement, and some exophthalmos, pulse 130, definite hand tremor present, and nervous. Onset 4 years. ago, but getting worse recently. She was sent to her private practitioner who sent her to the Middlesex Hospital where she has been an inpatient for 11 weeks, receiving a course of injections.

Uncleanliness of the Head.

The total number of Heads examined at the Schools by the Nurse was 8041.

The number of individual children found unclean was 155.

In all these 155 cases the homes were visited by the Nurse in order to verbally instruct the parents and explain the written instructions on the forms calling attention to the defect.

Those cases which were not properly cleansed at home, but had to be cleansed at the Clinic, were only 2.

The total number of days of Exclusion for Pediculosis was only 26 days.

The numbers of children with Nits at Routine Medical Inspection, where pre-notice had been given, and many heads temporarily cleaned up for the event, was 24 out of 1038 examined.

It was not considered necessary or desirable; so far at least, to put into operation the machinery of Prosecution, as the combined efforts of the School Nurse and the response by the parents have kept the standard of cleanliness fully up to the standard of other places where more drastic measures have been necessary.

Eye Clinic.

Eye Clinic. 94 cases were Refracted by Retinoscopy in the Dark Room at the Clinic under Atropin.

77 of these were found to require glasses.

Of these 77, the parents of 5 could not afford glasses and they were provided by the Education Committee.

All the remaining 72 were paid for by the parents themselves, leaving no case without glasses out of the 77 who were advised to wear them.

I think this result is extremely satisfactory to all concerned.

Infectious Diseases in the Schools.

Trinity Road Infants' Department was closed from January 23rd to February 6th, inclusive, by reason of the attendance being below 60 per cent. owing to the prevalence of Mumps. This procedure has since become obsolete.

Owing to the long incubation period of the disease and large number of cases absent at the commencement of the Term it seemed evident that the school was not responsible for the epidemic.

There were only 3 cases of Diphtheria during the year in contrast to 44 in the previous year among school children.

Minor Ailments Clinic.

The Minor Ailments Clinic is held every morning from 9.15 to 10.15.

The total number of children treated at the Clinic was 581. (This does not include Refraction cases).

The total number of attendances at the Clinic was 4.766.

The Ailments were of the following kinds and number :—

MINOR AILMENTS AT CLINIC.

Malnutrition			30		
Uncleanliness			2		
Skin	Ringworm, Scalp		12		
	,, Body		5		
	Scabies		2		
	Impetigo		105		
	Septic Conditions		133		
	Warts		22		
	Chilblains		1		
	Alopecia		5		
	Ulcers		3		
	Other Conditions		36		
	Blepharitis		9		
	Conjunctivitis		20		
	Defective Vision		42		
	Squint		4		
	Other Conditions		6		
	Defective Hearing				
	Otitis Media				
Adenoids only					
Teeth					
Nose and Throat					
Enlarged Cervical Glands (non T.B.)					
	Heart Disease, Organic				
	Anæmia				
Lungs. Bronchitis					
Central Nervous Conditions					
Synovitis					
Injuries					
Gastritis					
Miscellaneous					

MALNUTRITION cases numbered 30, and comments on this Ailment have already appeared on page 4.

UNCLEANLINESS cases numbered only 2 (Pediculosis of the Head) which required cleaning at the Clinic. These attendances have not been included in the Clinic figures.

RINGWORM of the Scalp numbered 12 cases. These were sent for X-ray treatment to the London Hospital under the Committee's agreement with that Institution, except 1 which was treated by the private practitioner.

3 of these were unable to afford the railway fare and this was paid for them by the Education Committee.

At the wish of the Education Committee the local General Hospital was approached to see if they could undertake the treatment of Ringworm of the Scalp as they now have a very fine and expensive X-ray apparatus of the newest type, but their Secretary replied that the Hospital Committee discussed the question at length and found it quite impossible to undertake this work because the radiologist was only a part-time officer and the present work is as much as he can possibly cope with at the present time.

Ringworm of the body numbered 5 cases which were all easily cured at the Clinic by the usual methods.

IMPETIGO numbered 105 cases and were made to attend regularly at the Clinic and were quickly cured, which is one of the advantages of the Clinic being open every morning, thus making exclusion from school less necessary than might otherwise have been the case. Exclusion, however, was considered advisable in 23 cases, and the average time was 5 days each.

SEPTIC SKIN Conditions numbered 133, as distinct from Impetigo ; and more required exclusion. Other conditions are set out in the table.

The MINOR AILMENT CLINIC does much good by the treatment of conditions in an early stage, which often does not seem to the parent sufficiently serious to go to the private Doctor, but nevertheless might have become much worse if untreated. Certain cases are sent at once to the private Doctor as more suitable for treatment by him for a variety of reasons.

The attendances at the Clinic have again increased and the accommodation at the old premises in Duke Street is very inadequate in the mornings, and the new Clinic and Offices designed for erection at the back of Rainsford House are badly needed.

DENTAL REPORT.

Mr. Francis Maguire, L.D.S., R.C.S., Eng., took over the dental work in the Borough at the end of the first quarter of the year, and continued the 2 sessions a week that were being previously held.

He has had 4½ years experience as a whole-time dentist in charge of 12,000 children's teeth, and is enthusiastic and experienced in the dentistry of children, and in my opinion the school children of the Borough have greatly benefitted since he took up this appointment.

I asked him for a Report on his work for the Borough and he sent me the following letter for insertion, suggesting that I should omit some of it if necessary, but I think it all so interesting in many ways that I have included it intact as received. (The figures of work done appear in the tables at the end of the whole School Report).

"It is just 12 months since I took up the appointment of Dental Officer to the Chelmsford Council.

Coming straight from my previous appointment (viz., Dental Officer to the Willesden Urban District Council, a post I held for 4½ years), where I had charge of the dental treatment and inspection of 12,000 children, certain points were soon made apparent to me.

1st.—The cleanliness of the poorer class of the town to that of the poor of the London district. Cleaner clothes, bodies and heads. This state is easily discovered by the dentist, for at times he may be perhaps quarter of an hour standing directly over a patient and holding the head in his left arm. Thus any smell from a dirty body is very obvious to him. This fact (that is, a clean condition), I am pleased to state, was soon appreciated by me.

2nd.—The next and very important point was the big percentage of hypöplastic teeth present in the children. In one school, *56 per cent.* of the children had this pecular dentition.

I will briefly describe hypöplastic teeth as follows :—

To the naked eye this condition is characterized by a defective formation of the enamel. The enamel presents slight pitting; in more advanced cases the enamel is dark or very brown in colour and to the ordinary person, looks like stained chalk. In fact the public usually term them "chalky teeth."

In severe cases the enamel covering is slight and the cutting edge of the teeth present sharp points.

To the ordinary man in the street this condition may mean nothing except in appearance, but to the Medical Man and Dental Surgeon it is of great concern, for the following reasons.

Putting aside the ugly appearance of this condition, these teeth are very liable to decay, resulting in early extraction if the necessary dental attention is not given to them, and of course it is most important for a developing child to have sufficient teeth with which to masticate the food. In most cases, when not given the necessary dental treatment and oral conditions are dirty, the usual history presents itself. Teeth break down during school age, abscesses form in the jaws, child has continual toothache during school period. This, of course, means in most cases loss of sleep, temper not improving, cannot pay attention to studies, bad mastication (gastric trouble ensuing), and altogether a poor picture to that of a healthy child.

The child leaves school with these poor oral conditions. goes on to about 17 to 18 years of age, and then as soon as funds will allow, visits a dentist and has a complete clearance of teeth before reaching 20 years of age. This of course is a deplorable state of affairs.

I have discussed this subject with several of my colleagues in London. Some are meeting similar conditions to myself, but not with the same big percentage. The usual answer given in trying to discover a cause, is poor nourishment of the expectant and nursing mother during the periods 1916 to 1919. I cannot hold entirely with this, for the children of Willesden who were born and bred under similar war and post-war conditions, had not the same huge percentage of hypoplastic teeth.

Dental Science states that Hypoplastic teeth very often follow on Measles and Scarlet Fever, if the fever took place when the enamel was developing, this is when the child would be $1\frac{1}{2}$ to $2\frac{1}{2}$ years of age.

However, I hope to go further into the matter, but at present all I can do is to educate the children to pay strict attention to oral cleanliness.

3rd.—The parents I soon discovered were rather shy in submitting the children to dental treatment, but, by carefully talking over the matter with the mothers and instructing them on the evils of delayed dental treatment, I am gradually breaking down this particular barrier. In this I have been greatly assisted by the dental nurse in her house visitation.

Before inspecting a school I make a point of giving a simple dental lecture to the children. They afterwards write an essay for me which I carefully correct. The children like this arrangement and come to look on the dentist not as a "bogey man" but as one who is going to help them.

I may add that I am receiving great help from the masters and mistresses. They in their turn see the evil effects of dental disease, for I always make a point of shewing them where possible, any outstanding case. The result is, teachers often send urgent cases to the clinic, or advise the parent to seek advice.

I am not giving figures with regard to numbers of filling or extractions (gas or otherwise), as it has taken me some time to work up a suitable scheme, but suffice is it to state that the scheme is going on quite satisfactorily, my time is fully engaged, and a lot of useful work is being done both in actual work and lectures.

At a later period I hope to give a lecture illustrated by lantern slides (if permission is granted) to the mothers of Chelmsford, showing how necessary it is to have healthy oral conditions in the expectant and nursing mother, the infant and the child of school age.

Orthopædic Cases.

One of the commonest deformities under this heading is the relative shortness and wastedness of one leg with contracture of the heel tendon and consequent walking on the toes of the affected foot, which follows Infantile Paralysis. The common association of foot deformity with the word orthopædic accentuates the idea that the latter half of that word is derived from the Latin word meaning a foot, whereas it is a Greek word (like the first half) and means a child. All other deformities of the bones, muscles and tendons of either limbs or trunk are therefore also included under this designation, often to the confusion of the hypercritical, and the term is of wide-spread application as applied to a hospital or administrative scheme.

The procedure in dealing with such deformities under this authority is that the parent is given a letter from the School Medical Officer introducing the patient to the Surgeon at the Royal Orthopædic Hospital, Great Portland Street, and the parent then takes the child to the outpatient department of that hospital any day except Saturday at 1 o'clock.

In addition to the consultation, the patients have on several occasions received operative treatment, if this has not needed be very extensive, on the same afternoon, and plaster of Paris fixation applied and the child taken home the same evening. Later on the child revisits the hospital outpatient department at the date instructed for some further outpatient treatment. No charge has been made to the Education Committee for consultation nor operations by the Orthopædic Hospital in such cases, but in those instances where the treatment could only be carried out by the admission of the child as an inpatient when the charge has varied from two to two and a half guineas a week inclusive.

The local hospital has in some cases carried out electrical after-treatment.

Orthopædic Apparatus was supplied by the Education Committee for 3 children at a total cost of £11 2s.

Dull and Backward Class.

The number of really Mentally Defective children for the population of a place the size of Chelmsford is too small for a satisfactory Mental Defective School, but if the Mental Defectives are taught with the Dull and Backward children (between which the gradation is not necessarily very sharply defined) then 2 classes could be arranged for with a teacher each, so that if one teacher was absent through illness, the school could still carry on with the one teacher, as it is not easy to provide substitutes for work requiring such special training.

The best position for such a school would be to have it as central as possible so that the distance may be as short as possible for such special cases which might have to come from all sides of the area.

The most suitable school therefore appears to be the Friars,' for this reason and also because there will be sufficient space there when the new school on the Boarded Barnes Estate has been erected. There is a separate entrance to the upper floor so that if these children came a few minutes earlier and left a few minutes later they need not come into contact with the Infants' Department which would continue to meet there.

Mayor's Fund.

During the year over 100 pairs of boots were supplied free to necessitous school children from the above fund, through the Mayor who interests himself personally in every case brought to his notice, and in the same way the children are benefitted by the meat, potatoes, coal, &c., distributed to necessitous families from week to week, and by the 950 parcels given away at Christmas.

Many thanks are due to the Mayor and Mayoress for their interest and activity in these affairs of the health of the children.

New School.

A new school is to be erected on the Boarded Barnes Estate and we understand that from interviews with the Board of Education there will be few if any material alteration in the plans which are as follows, for the detailed figures of which I am indebted to the Borough Engineer:—

The BUILDING is a one-storey building constructed as a quadrangle in the centre of which is an open grass space, and the communication is by an open corridor running round this inner side of the quadrangle.

The ASPECT has been so studied that the whole of the 5 infants' classrooms face South-East as do also the 6 classrooms of the older boys and girls looking South-East across the open central space. There are 4 boys' classrooms on one side facing West and 4 girls' classrooms on the other side facing East. In all the classrooms there are windows on both opposite walls so that where the main aspect is West there is supplementary lighting from the East and so on. And in very hot days the South facing windows can be shaded and receive cross ventilation from the North.

The SITE is at the junction of Corporation Road and Dixon Avenue on the Boarded Barnes Estate and is 143 feet above sea level in an open and breezy situation.

The number of CHILDREN to be accommodated is 890 (boys 320, girls 320, infants 250).

The total COST is estimated at £25,673 being Buildings £22,300; Site £1,325; Furniture £1,500. Clerk of Works £348; Legal and other expenses £200.

RHEUMATISM.

The following is the record of an investigation into the various factors with which Rheumatism in elementary school children may be associated. The principal object was the estimation of the relative importance of Rheumatism in the Parents and of Dampness in the Home respectively in their effect, if any, on Rheumatism in the child. Other factors, such as Teeth, Tonsils, Scarlet Fever, Nutrition, have also been tabulated.

Definition of Terms—

Such indications of Rheumatism as Rheumatic Nodules, or Heart Disease have not been adopted as criteria. Neither are available for estimating Parental Rheumatism, and the findings of the former vary from 10 to 40 per cent. with different observers, so that they may be absent in the majority of the Rheumatic cases, while the adoption of the latter seems to beg the question of causation of Heart disease.

Therefore the criterion adopted has been the symptoms of the child as related by the mother and corroborated by the child, if old enough. Rheumatic Fever is recorded if the child has had pain in any joint or joints with definite pain in moving the joint and with swelling or redness of the joint, combined with Fever and confinement to bed for these reasons. In some cases, further confirmation is forthcoming from the reported diagnosis of the doctor in attendance at the time, or from striking speedy relief of pain soon after taking the doctor's medicine (presumably Salicylate), or from evidence of Heart Disease following such joint symptoms.

Sub-acute Rheumatic Fever was recorded when the child has had swollen painful joints, with some other of the above symptoms, but not confined to bed.

In the following figures, Sub-acute Rheumatic Fever has been included among the Rheumatic Fever cases. It is a common experience that the cardiac complications of the milder disease may be as bad or worse than those of the more painful type, and the difficulty of real differentiation is thereby increased as illustrated by the case quoted in my last year's annual school report as follows.—"This case of Heart Disease was caused by Sub-acute Rheumatic Fever which produced so little pain that it did not lead the parent to seek medical advice until the advanced heart condition was discovered at Routine Medical Inspection a year or two ago, twelve months after the onset of the Rheumatism." This case is the worst case of any attending the elementary schools.

Definite Rheumatism was recorded if the child had had definite pains on several occasions in one or more joints, or persistently in the limbs on several occasions without ever being confined to bed and without fever or joint swelling or redness.

Slight Rheumatism was recorded when the pains were infrequent and mild, but occurred on more than one occasion, anything less than this was put into the Non-Rheumatic group which was used as a Control throughout.

System of collectfng Data—

At the Routine Medical Examination at the schools the child was first medically examined in the usual way ; secondly the mother was questioned as to Rheumatism in the child and in the mother and father, then as to Dampness in the Home, and thirdly, the history was taken of past infectious disease, &c., in the child.

In this way the first interpretations of the physical signs were not prejudiced by the history of the symptoms, and any objection by the parent to enquiry into parental symptoms was mitigated by sandwiching the personal questions between the examination of the child and its history of past infections.

Only those cases were recorded as *Routine* Rheumatic and Non-Rheumatic cases when I had arranged at the beginning of the examination to enquire from every parent who was present at that session into the history of Rheumatism and Dampness. It is only in this way that any estimate could be formed of the amount of Rheumatism, as the negative cases were then recorded in the same relative proportion as the positive. If a parent volunteered the information that her child had had Rheumatism in the course of a session, when for pressure of time I was not enquiring into Rheumatism, then such a case was put into the group of Rheumatic "Specials," and utilised in tables which would not be vitiated by this method of collection.

A child was classed as Rheumatic, both if it had actual Rheumatism at the time of the examination, and also if it had had definite attacks in the past.

Dampness in the Home was recorded if the bedrooms or living room were said to be really damp, not if some less used room only was involved. The Sanitary Inspector looked over the whole of the addresses afterwards with me at my request and the final verdict was determined by his intimate knowledge of the houses extending over 14 years, and to him I am indebted for these estimations.

Some houses were hardly really damp but more damp than dry and were then recorded by us as slightly damp.

Dampness of the Site apart from the house was also estimated with the Sanitary Inspector's help, the parent here not being asked, and was recorded separately.

These terms are rather loose and difficult to define but the personal equation is uniform for the series.

The remaining factors hardly require the same discussion and will be left till we come to them, such as teeth, tonsils, &c.

The routine enquiry into Rheumatism was made on a total of 702 children of both sexes aged 5, 8, 11, 12. Of these 702 children 99 had had Rheumatism in some form or another, while 603 had not had Rheumatism in any form.

The following table sets out in each separate age group and sex the respective number of Rheumatic and Non-Rheumatic children in each separate group and the relative proportions of Rheumatic to Non-Rheumatic can be readily seen :—

	Aged 5.			Aged 8.			Aged 11.			Aged 12.		
	Girls.	Boys.	Total.	Girls.	Boys.	Total.	Girls.	Boys.	Total.	Girls.	Boys.	Total.
Rheumatic	6	4	10	15	18	33	4	7	11	21	24	45
Non-Rheumatic ...	52	68	120	113	162	275	16	22	38	92	78	170
Percentage ...	11·5	5·9	8·3	13.3	11·1	12·0				22·8	30·8	26·4

Distribution by **AGE**—

In the above table the total percentage of Rheumatic children for both sexes in each age group is obtained by adding all the boys and girls together first in each age group, but as their numbers are not exactly equal it may be preferred to take the mean percentage between the two sexes separately, by adding the sex percentages together and halving them, but there is practically no difference in the result whichever method is used, and the result is as follows :—

At 5 years old the percentage of Rheumatic children is 8·3 (or 8·7).
„ 8 „ „ „ „ 12·0 (or 12·2).
„ 12 „ „ „ „ 26·4 (or 26·8).

So that the amount of Rheumatism rises steadily with increase of age in the 3 groups aged 5, 8, 12 (omitting the 11 year olds, which are much smaller in numbers than the other groups, and therefore less reliable), and is three times as much at 12 years old as at 5 years old.

If the question of age is continued into the amount of Rheumatism among the Parents, then we find that it appears a little less prevalent than among the 12 year olds.

One explanation may be that the information of Parental Rheumatism is derived from one parent only, namely, the mother, and the mothers' Rheumatism far exceeds that of the fathers' in the records, and the reason probably is that the parent present does not recollect her absent partner's pains in the same way as her own, and thus perhaps a third of the Parental Rheumatism is omitted. (This will not vitiate the comparison between the Rheumatic and Non-Rheumatic children as regards Parental Rheumatism).

The second explanation is that, even after making this allowance, the infection of Rheumatism has already mainly occurred by the age of 12.

Distribution by **SEX**—

Adding all the girls' percentages together in the above table for the three age groups, and similarly all the boys' percentages together gives the following result :—

The girls shew an average percentage of 15·87.
The boys ,, ,, ,, 15·93.

That is, both sexes are as exactly equal as is very well possible if the aggregate of the percentages is taken. If we first total up all the girls and all the boys, and afterwards find the total percentage for each sex, then we get the girls giving 16·8% and the boys 16·0%, but as the numbers vary for each sex in each age group, and the incidence varies with age, the latter method may be less reliable than the former.

In the above table I., it will be noticed that at 5 years old the girls appear more Rheumatic than the boys, and at 8 they are about equal, while at 12 the position is reversed, but the sub-division of the total into these 6 sub-groups, renders the separate figures perhaps rather too small to accept.

ANALYSIS of the RHEUMATIC cases, and their sub-division into the three clinical categories, especially Rheumatic Fever :—

	Rh. Fever.	Definite Rh.	Slight Rh.
46 Rheumatic Routine Girls consist of ...	9	33	4
53 ,, ,, Boys ,, ...	9	28	16

So that the amount of Rheumatic Fever seems approximately equal in both sexes.

Incidence of Rheumatic Fever according to age—

Of the 18 cases of Rheumatic Fever in 603 Routine children, there were :—

In the 5 year group—1 case of Rheumatic Fever out of 10 children in the Rheumatic group.

In the 8 year group—5 cases of Rheumatic Fever out of 33 children in the Rheumatic group.

In the 11, 12 year group—12 cases of Rheumatic Fever out of 56 children in the Rheumatic group.

(In the 8 year old group the onset of 3 of the 5 cases was at 5, 5, 6 years and the time in bed was 3 weeks, 3 weeks, 12 months).

Cardiac Complications of Rheumatic Fever—

There were 4 cases of Mitral Regurgitation in 18 Routine cases of Rheumatic Fever.
„ 3 „ „ 81 Routine cases of remaining Rheumatism.
„ 3 „ „ 603 Routine Non-Rheumatic cases.

One of the above cases of Mitral Regurgitation associated with Rheumatic Fever is the one described in the Definition of Terms at the beginning and is the only really severe case of Heart Disease in a school child found either as Routine or Special.

(There was one case of Chorea amongst the Routine Rheumatisms and this was in a girl of 12 who had had Rheumatic Fever).

Among the Specials there was one case, aged 5, of Sub-Acute Rheumatic Fever who came to the Clinic with his mother with swollen painful ieft hand (localised especially in the first metacarpal joint) and with pain also in the left elbow and leg. The pain was variable in time and intensity.

In the remaining 16 Specials (aged 8 and 12) there were 4 cases of RheumaticFever, in one of whom there was old Pericardial friction, but the other 16 had no cardiac lesions ascertainable.

These figures of Rheumatic Fever and Heart Disease and of proportion of Rheumatic Fever cases may afford an indication of the local type of Rheumatism and its relative severity or mildness but do not attempt to compete with the much larger figures of hospitals as regards statistical percentages, though on the other hand the hospital cases will be "selected" cases; that is, the worst ones are sent in for serious complication, thereby making the association between Heart Disease and Rheumatism much higher than the average.

Comparison of PARENTAL RHEUMATISM, DAMPNESS, OF HOUSE, TEETH, TONSILS, &c., in Rheumatic and Non-Rheumatic children respectively. As the 5 year old group only contains 10 cases of Rheumatism and such an age is useless for estimating effect of teeth, tonsils, Scarlet Fever and even perhaps dampness. I have discarded this age group hereafter. On the other hand there are 16 Specials, aged 8 and 12, which are utilised separately below in order to increase the Rheumatic group and bring its numbers nearer the Non-Rheumatic. Thus there is now a total of 105 Rheumatic children (Routine and Special) aged 8, 11, 12.

The average age of all the Rheumatic children is the same as that of the Non-Rheumatic working out at 10·2 and 10·1 respectively.

Effect of **PARENTAL RHEUMATISM**—

89 Routine Rheumatic children have 178 parents, of whom 73 have had Rheumatism, *i.e.*, 41.0 per cent.

483 „ Non-Rheumatic „ 966 parents of whom 163 have had Rheumatism, *i.e.*, 15·8 per cent.

(If we add in 16 Special Rheumatic children we find there are 14 extra Rheumatic parents out of 32 parents, and the total percentage is then 41·4 for all the Rheumatic children).

Analysis of the Parental Rhematism is as follows :—

	Rheumatic Fever.	Definite Rheumatism.	Slight Rheumatism.
Of the Rheumatic children, the 87 Rheumatic parents are ...	7	62	18
Of the Non-Rheumatic children, the 153 Rheumatic parents are ...	13	132	18

So that the proportion of parents who have had Rheumatic Fever and Definite Rheumatism is approximately the same in both the Rheumatic and Non-Rheumatic groups.

It might be argued that the apparent influence of the Parental Rheumatism might really be due to the dampness of the house and *vice versa* in so far as the Rheumatism of the parent might be caused by the dampness of the house in which the child also lives. Therefore the cases where these coincide have been tabulated as follows :—

	Living in— Dry houses.	Rather damp.	Damp.
Of 87 Rheumatic parents of Rheumatic children there are	67 ...	6 ...	14
Of the 163 Rheumatic parents of Non-Rheumatic children there are ...	132 ...	17 ...	14

So that the proportion of Rheumatic parents living in dry houses is approximately equal in both groups of children, the Rheumatic and Non-Rheumatic, and even supposing the parents had been living in these houses for as relatively long a time as the children, yet there seems nothing to suggest that this can much modify the great difference of 41 per cent. and 16 per cent. for Rheumatic and Non-Rheumatic children, respectively, as regards their family history.

So that the Rheumatic children have very nearly 3 times as many Rheumatic parents as the Non-Rheumatic children.

DAMPNESS—

(*a*) of the HOUSE—

The way in which this was gauged has already been described at the beginning, and the results are as follows :—

Of the Rheumatic children, 27 houses were damp out of 105 (*i.e.*,25·9%).
„ Non-Rheumatic „ 69 „ „ 483 (*i.e.*,14·3%).

So that the percentage of Damp houses was nearly twice as great among Rheumatic children as among the Non-Rheumatic.

(*b*) Dampness of the SITE on which the house was built—

In this case only the 11 and 12 year old children were enquired into, and the condition of the Site was recorded quite independently of that of the house which was not taken any notice of in the following results which are :—

Of the Rheumatic children, the Site was Damp in 14 out of 45 (*i.e.*, 31·0%).
„ Non-Rheumatic „ „ „ 61 out of 162 (*i.e.*, 37·0%).

So that Dampness of the Site considered by itself seems to have no effect, that is as regards the local Sites here considered, the dampness of which was never extremely pronounced.

TEETH—

Only the septic teeth were counted, those showing only a small spot to be filled were omitted as unlikely to have any appreciable effect in producing Rheumatism, the result was :—

Of the Rheumatic children, 15 out of 105 had septic teeth (*i.e.*, 14·28%).
„ Non-Rheumatic „ 65 „ 483 „ „ (*i.e.*, 13·06%).

And the average number of septic teeth per case with septic teeth was :—

For the Rheumatic children, 2·0 septic teeth per case.
„ Non-Rheumatic „ 2·3 „ „

So that the condition of the teeth does not appear to have any effect in producing Rheumatism in the vast majority of Rheumatic children of elementary school age, whatever may be its effect on adults. It must be remembered that there must be a very great difference between children aged 12 (still more aged 8), and middle-aged adults with regard to the length of time the bad teeth are present, and the extent and depth of the dental sepsis.

TONSILS—

The cases where the tonsils were septic as well as enlarged were too few to form any comparison, but those which had been removed by operation would include many of these, and after some hesitation I decided not to ignore those operated upon, but to record them separately from those which were enlarged. The result is tabulated as follows :—

Of the Rheumatic Children.	Of the Non-Rheumatic Children.
10 out of 105 had Enlarged tonsils (*i.e.*, 9·5%).	51 out of 483 had Enlarged tonsils (*i.e.*, 10·6%).
12 out of 105 had tonsils Removed (*i.e.*, 11·4%).	29 out of 483 had tonsils Removed (*i.e.*, 6·2%).

So that enlargement of the tonsils was a little less in the Rheumatic than in the Non-Rheumatic, while cases where the tonsils had been removed, perhaps only because the adenoids were being removed, were nearly twice as frequent in those who had had Rheumatism as in those who had never had Rheumatism.

Physical Comparisons between Rheumatic and Non-Rheumatic—

The average HEIGHT and WEIGHT of girls and boys aged 8 and 12 is compared in the following table and affords some indication whether **MALNUTRITION** is associated with Rheumatism or not. It will be noticed that the number of Rheumatic children is a little larger than in the first table by reason of inclusion of some Specials (for Rheumatism) with the original Routines.

	GIRLS.				BOYS.				COMBINED SEXES.		
	No.	Age.	Height.	Weight.	No.	Age.	Height.	Weight.	Age.	Height.	Weight.
Rheumatic ...	26	$12\frac{3}{12}$	56·8	77·7	25	$12\frac{3}{12}$	55·4	74·2	$12\frac{3}{12}$	56·1	75·9
Non-Rheumatic ...	92	$12\frac{4}{12}$	56·2	74·0	78	$12\frac{3}{12}$	55·6	76·6	$12\frac{3}{12}$	55·9	75·3
Rheumatic ...	19	$8\frac{4}{12}$	47·6	50·2	20	$8\frac{5}{12}$	45·6	52·8	$8\frac{5}{12}$	46·3	51·5
Non-Rheumatic ...	113	$8\frac{3}{12}$	46·7	51·7	148	$8\frac{3}{12}$	48·9	54·6	$8\frac{4}{12}$	47·8	53·1

As the ages of the groups of children are almost exactly equal to a month in all the groups compared there is no correction necessary for the factor of age.

The average Height and Weight of the 12 year olds, combining the average in girls and boys, appears practically equal in both the Rheumatic and Non-Rheumatic groups but is very slightly less in the Non-Rheumatic.

In the 8 year olds on the other hand the Rheumatic group is distinctly the shorter and lighter by $1\frac{1}{2}$ inches and $1\frac{1}{2}$ lbs.

However in both the 8 year and the 12 year group the difference between Rheumatic and Non-Rheumatic appears too small to be of much significance and in both cases the former are fully up to the average height and weight for the age.

NUTRITION therefore does not seem definitely to be a factor influencing the incidence of Rheumatism.

HOME CONDITIONS, that is, home care, cooking, clothing, cleanliness.

The character of home conditions, good, average, fair, poor, was also investigated. The School Nurse briefly recorded her opinion opposite each name and address which she knew, as far as her intimate knowledge of the families permits, which is very considerable and extends over several years.

The result was then tabulated as follows :—

	Totals Recorded.				Percentages.			
	Good.	Average.	Fair.	Poor.	Good.	Average.	Fair.	Poor.
Rheumatic ...	12	34	6	4	21·4	60·7	10·7	7·1
Non-Rheumatic	47	211	37	13	15·2	68·5	12·0	4·2

From the comparison of the resulting percentages it does not seem that Rheumatism is necessarily any more frequent in the slummy home than in the good one amongst elementary school children.

SCARLET FEVER—

In 105 Rheumatic cases there were 4 who had had Scarlet Fever (*i.e.* 3·8 %)

In 483 Non-Rheumatic cases there were 15 who had had Scarlet Fever (*i.e.* 3·1 %)

So that the association between Rheumatism and Scarlet Fever appears to be negligible :—so far as the small number of Scarlet Fever cases goes in this series.

CONCLUSION—

The four factors, Parental History, Dampness, Teeth, Tonsils, can be compared in the following table of percentages :—

Children	Rheumatic Parents	Dampness		Septic Teeth		Tonsils	
		House	Site	Cases	Per Case	Enlarged	Removed
Rheumatic	41·0	25·7	31·0	14·3	2·0	9·5	11·4
Non-Rheumatic	16·8	14·3	37·0	13·0	2·3	10·6	6·2

From this table it can be seen at a glance not only which is the most important factor of these four, but also what is its approximate mathematical relationship to its own importance and to that of the others.

PARENTAL history seems much the most important association.

DAMPNESS of the House is next ; while

TEETH have no association, unless it may be in some rare and exceptional instance.

TONSILS must be judged by the amount of sepsis that may have been involved in those Removed.

In addition to these associations others considered in this report were :—

SCARLET FEVER with which there appears to be no association.

POOR HOME CONDITIONS, no association.

MALNUTRITION, no association.

SEX, no association.

AGE shows a very definite association, the 12 year olds having 3 times as many cases of Rheumatism as the 5's, probably because there has been much longer time to acquire the infection or feel the effects thereof.

TABLE I.

UMBER OF CHILDREN INSPECTED 1ST JANUARY, 1925 TO 31ST DECEMBER, 1925.

A.—Routine Medical Inspections.

Number of Code Group Inspections:—

Entrants	374
Intermediates	352
Leavers	312
Total	1038

Number of other Routine Inspections .. ..

B.—Other Inspections.

Number of Special Inspections .. (*see note d*).	581	at Clinics and School
	94	at Eye Clinic
	40	for Employment Certificates
	137	for Gas Administration
Number of Re-Inspections .. (*see note d*).	4185	at Clinic M. Ailments
Total	5037	

(*d*) If a child who has been specially inspected for one defect is subsequently specially inspected for another defect, such subsequent inspection should be recorded as a Special Inspection and not as a Re-Inspection.

(*e*) The first inspection in every case will be entered as a Routine or Special as the case may be. Every subsequent inspection of the same defect will be entered as a Re-Inspection.

TABLE II.

A.—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31st DECEMBER, 1925.

Defect or Disease. (1)		Routine Inspections.		Specials.	
		No. referred for Treatment. (2)	No. requiring to be kept under observation, but not referred for Treatment. (3)	No. referred for Treatment. (4)	No. requiring to be kept under observation, but not referred for Treatment. (5)
	Malnutrition	42	51	30	—
	Uncleanliness	24	—	2	—
	(*See* Table IV., Group V.)				
Skin	Ringworm:				
	Scalp	—	—	12	—
	Body	—	—	5	—
	Scabies	—	—	2	—
	Impetigo	2	—	105	—
	Other Diseases (non-Tuberculous)	7	—	211	—
Eye	Blepharitis	3	—	9	—
	Conjunctivitis	2	—	26	—
	Keratitis	—	—	—	—
	Corneal Opacities	1	—	—	—
	Defective Vision (excluding squint)	52	34	36	—
	Squint	4	—	4	—
	Other conditions	—	—	6	—
Ear	Defective Hearing	2	—	7	—
	Otitis Media	5	—	23	—
	Other Ear Diseases	—	—	—	—
Nose and Throat	Enlarged Tonsils only	1	59	—	—
	Adenoids only	3	2	2	—
	Enlarged Tonsils and Adenoids	9	2	—	—
	Other conditions	1	—	35	—
Enlarged Cervical Glands (non-Tuberculous)		—	18	32	—
Defective Speech		2	1	—	—
Teeth—Dental Diseases		313	—	15	—
	(*See* Table IV., Group IV.)				
Heart and Circulation	Heart Disease:				
	Organic	1	2	4	—
	Functional	—	4	—	—
	Anæmia	14	—	2	—
Lungs	Bronchitis	7	8	1	—
	Other non-Tuberculous Diseases	9	13	17	—
Tuberculosis	Pulmonary:				
	Definite	—	—	—	—
	Suspected	—	—	1	—
	Non-Pulmonary:				
	Glands	2	1	1	—
	Spine	1	—	—	—
	Hip	—	—	—	—
	Other Bones and Joints	—	—	—	—
	Skin	—	—	—	—
	Other Forms	—	—	—	—
Nervous System	Epilepsy	—	—	—	—
	Chorea	—	—	2	—
	Other Conditions	12	12	8	—
Deformities	Rickets	1	8	—	—
	Spinal Curvature	7	—	—	—
	Other Forms	2	1	—	—
Other Defects and Diseases		42	8	177	—

TABLE II.—*continued.*

B.—NUMBER OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group.	Number of Children.		Percentage of Children found to require Treatment.
	Inspected.	Found to require Treatment.	
(1)	(2)	(3)	(4)
Code Groups :—			
Entrants	374	51	13·6
Intermediates	352	75	21·3
Leavers	312	48	15·3
Total (Code Groups)	1038	174	16·7
Other Routine Inspections	—	—	—

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA IN 1925.

—	—	—	Boys.	Girls.	Total.
Blind (including partially blind)	(i) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	(ii) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind	—	—	—
		Attending Public Elementary Schools ..	2	2	4
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
Deaf (including deaf and dumb and partially deaf)	Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf	1	1	2
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—

TABLE III—*continued.*

—	—	—	Boys	Girls	Total
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children	—	—	—
		Attending Public Elementary Schools..	3	3	6
		At other Institutions	—	—	—
		At no School or Institution.. ..	—	—	—
	Notified to the E.C.C. during the year.	Feebleminded	—	—	—
		Imbeciles	1	2	3
		Idiots	—	—	—
Epileptics.	Suffering from severe epilepsy.	Attending Certified Special Schools for Epileptics	—	—	—
		In Institutions other than Certified Special Schools	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At no School or Institution.. ..	—	—	—
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools..	1	1	2
		At no School or Institution	—	—	—
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution.. ..	—	—	—
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board..	—	—	—
		At Certified Residential Open Air Schools	—	—	—
		At Certified Day Open Air Schools ..	—	—	—
		At Public Elementary Schools ..	—	2	2
		At other Institutions	—	—	—
		At no School or Institution.. ..	—	—	—
	Delicate children (*e.g.*, pre-or latent tuberculosis, malnutrition, debility, anæmia, &c.)	At Certified Residential Open Air Schools	—	—	—
		At Certified Day Open Air Schools ..	—	—	—
		At Public Elementary Schools ..	15	15	30
		At other Institutions	—	—	—
		At no School or Institution.. ..	—	—	—
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board..	—	—	—
		At Public Elementary Schools ..	1	2	3
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	Crippled children (other than those with active tuberculous disease) *e.g.*.. children suffering from paralysis. etc., and including those with severe heart disease.	At Certified Hospital Schools ..	—	—	—
		At Certified Residential Cripple Schools	—	1	1
		At Certified Day Cripple Schools ..	—	—	—
		At Public Elementary Schools ..	2	2	4
		At other Institutions	—	—	—
		At no School or Institution	—	—	—

TABLE IV.

RETURN OF DEFECTS TREATED DURING 1925.

GROUP I.—MINOR AILMENTS (excluding Uncleanliness, for which see Group V.).

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year. Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
Skin—			
Ringworm-Scalp	12	—	12
Ringworm-Body	5	—	5
Scabies	2	—	2
Impetigo	105	—	105
Other skin disease	191	—	191
Minor Eye Defects .. .. (external and other, but excluding cases falling in Group II.).	35	—	35
Minor Ear Defects	30	—	30
Miscellaneous .. .. (*e.g.*, minor injuries, bruises, sores, chilblains. &c,)	403	—	403
Total	783	—	783

GROUP II.—DEFECTIVE VISION AND SQUINT (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease. (1)	No. of Defects dealt with. Under the Authority's Scheme. (2)	Submitted to refraction by private practitioner or at hospital, apart from the Authority's Scheme. (3)	Otherwise. (4)	Total. (5)
Errors of Refraction (including Squint) (Operations for squint should be recorded separately in the body of the Report).	94	3	—	97
Other Defect or Disease of the Eyes (excluding those recorded in Group I.)	—	3	—	3
Total	94	6	—	100

Total number of children for whom spectacles were prescribed
(*a*) Under the Authority's Scheme 77
(*b*) Otherwise 2

Total number of children who obtained or received spectacles
(*a*) Under the Authority's Scheme 77
(*b*) Otherwise 2

TABLE IV.—*continued.*

GROUP III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

Number of Defects				
Received Operative Treatment.				
Under the Authority's Scheme —in Clinic or Hospital. (1)	By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)	Total. (3)	Received other forms of Treatment. (4)	Total number treated. (5)
7	—	7	3	10

GROUP IV.—DENTAL DEFECTS.

(1) Number of Children who were :—

(*a*) Inspected by the Dentist :

Infants	315
Uppers	615
Total	930

(*b*) Found to require treatment .. 639

(*c*) Actually treated 302

(*d*) Re-treated during the year as the result of periodical examination (*see note e*) .. ..

(2) Half-days devoted to :—

Inspection ..	15	Total .. 91
Treatment ..	76	

(3) Attendances made by children for treatment 664

(4) Fillings :—

Permanent teeth	223	Total .. 288
Temporary teeth	65	

(5) Extractions :—

Permanent teeth	88	Total .. 444
Temporary teeth	356	

(6) Administrations of general anæsthetics for extractions 137

(7) Other operations :—

Permanent teeth	193	Total .. 228
Temporary teeth	35	

TABLE IV.—*continued.*

GROUP V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(i,) Average number of visits per school made during the year by the School Nurse	8
(ii.) Total number of examinations of children in the Schools by School Nurses	8041
(iii.) Number of individual children found unclean..	155
(iv.) Number of children cleansed under arrangements made by the Local Education Authority	2
(v.) Number of cases in which legal proceedings were taken:—	
(*a*) Under the Education Act, 1921	None
(*b*) Under School Attendance Bye-laws	None