

[Report 1919] / Medical Officer of Health, Essex County Council.

Contributors

Essex (England). County Council.

Publication/Creation

1919

Persistent URL

<https://wellcomecollection.org/works/g5u33jyq>

License and attribution

You have permission to make copies of this work under a Creative Commons, Attribution license.

This licence permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See the Legal Code for further information.

Image source should be attributed as specified in the full catalogue record. If no source is given the image should be attributed to Wellcome Collection.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>



ADMINISTRATIVE COUNTY OF ESSEX.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1919.

WILLIAM A. BULLOUGH, M.B., M.Sc., D.P.H.,


COUNTY MEDICAL OFFICER OF HEALTH,

*Presented to the Public Health and Housing Committee,
20th January, 1921.*

Chelmsford :

PRINTED BY JOHN DUTTON, 8, TINDAL STREET.





Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b29195755>

INDEX.

	PAGE.		PAGE.
Annual Reports ...	7	Halstead Sanatorium ...	88
Anthrax ...	69	Hospitals (Isolation) ...	132
After-Care (Tuberculosis) ...	100	Housing ...	143
Artificial feeding ...	124	Influenza ...	58
Birth-rate ...	12	Infant Mortality ...	16
Black Notley Sanatorium ...	87	Inspection of Midwives ...	124
British Red Cross Ambulance ...	97	Isolation Hospitals ...	132
Combined Medical Services ...	8	Infectious Diseases ...	50
Cancer and Malignant Diseases ...	19	Lectures (Tuberculosis) ...	97
Closets, scavenging and nuisances	33	„ to Midwives ...	131
Cerebro-Spinal Meningitis ...	70	Laboratory, County ...	137
Chingford Sanatorium ...	87	Meteorological Data ...	10
Child Welfare ...	117	Manure heaps ...	38
County Laboratory ...	137	Milk supplies ...	43
Clinics (Venereal Disease) ...	111	Milk (Mothers and Children)	
Contagious Diseases ...	50	Order, 1918 ...	46
Death-rate ...	15	Measles and German Measles ...	53
Deaths from Various Causes ...	19	Malaria ...	63
Drainage and Sewerage ...	30	Ministry of Pensions ...	103
Diphtheria ...	55	Maternity and Child Welfare ...	117
Dispensaries ...	76	Midwives Acts, 1902 and 1918 ...	123
Diseases ...	50	Mental Deficiency Act, 1913 ...	142
Dysentery ...	67	Natural and Social Conditions of	
Domiciliary Supervision ...	89	the District ...	9
Dental Treatment ...	98	Nuisances, closets and scavenging	33
Deaths of Mothers ...	124	Orsett Sanatorium ...	87
Enteric Fever ...	52	Ophthalmia Neonatorum ...	120
Extra nourishment ...	98	Physical Features, &c., of County	9
Essex County Nursing Association	121	Population ...	9
Essex Voluntary Association for		Principal Zymotic Diseases ...	50
Care of Mentally Defectives ...	142	Propaganda (Tuberculosis) ...	97
Food ...	46	„ (Venereal Disease) ...	106
Food and Drugs Acts ...	47	River Pollution and Sewage Works	31
Finsen Light Treatment ...	100	Regulated Buildings and Trades	38
General character of District ...	9	Rats and Mice Destruction Act,	
German Measles ...	53	1919 ...	41
Health and Physique of the Nation	20	Rabies ...	68
Hospitals ...	83	Social Conditions of the District	9
Harold Court Sanatorium ...	83	Statistics, Vital ...	10
High Beech Hospital ...	85	Sewerage and Drainage ...	30

	PAGE.		PAGE
Sewage Works and River Pollution	31	Tetanus ...	69
Scavenging, closets and nuisances	33	Training of Midwives	131
Schools... ..	41	Vital Statistics	10
Sale of Food and Drugs Acts	47	Venereal Diseases	103
Scarlet Fever ...	54	Water Supplies	23
Sanatoria and Hospitals	83	Zymotic Diseases	50
Sible Hedingham Sanatorium	88		
Shelters	98		
Smallpox	113		
Stillbirths	121		
Subsidies to Midwives	130		
Smoke	153		
Tuberculosis ...	60 & 71		

APPENDIX.

Table 1	Causes of Death	156
„ 2	Notification of Infectious Diseases	157
„ 3	Births, Deaths—Annual Rates, &c.	158

LIST OF MEMBERS
OF THE
PUBLIC HEALTH AND HOUSING COMMITTEE.

Chairman ... ALDERMAN E. W. TANNER.

Vice-Chairman ... COUNCILLOR W. G. SHADRAKE.

ALDERMEN—

O. D. Belsham
J. H. Burrows
W. S. Chisenhale-Marsh
W. W. Glenny
C. G. Musgrave
S. W. Robinson

COUNCILLORS—

A. Attwell
S. Cutforth
E. Fairhead
F. W. Foster
C. E. Gooch
E. C. Gray
T. P. Haines
J. C. Hammond
G. Jackson
A. M. Mathews
J. Parish
P. A. Sanders
F. D. Smith
T. Eustace Smith
G. W. Taylor
B. H. L. Williams
Miss F. Wilde
E. J. Wythes.

P R E F A C E .

To the Chairman and Members of the Public Health and Housing Committee of the Essex County Council.

I have the honour to submit to you my first Annual Report on the sanitary conditions and administration of the various districts in the Administrative County for the year 1919. This is the thirtieth Report which has been issued.

The chief event of the year 1919 was the establishment of the Ministry of Health on the 1st July, whereby the main health services of the country are concentrated in a single central department under a Minister of Health. This central re-organisation is the necessary preliminary to the institution of a comprehensive policy for the extension and development of health services.

A very considerable amount of time and thought were devoted to the re-organisation of the Essex County Public Health Department as various of its members returned from War Service. The present Headquarters at 26, High Street, Chelmsford, of the central staff, were entered into on the 6th May, 1919.

The main endeavour was to lay the foundation of a real and co-ordinated health service throughout the County, and to over-ride as far as possible the old barriers of different systems and Local Government areas. It is gratifying to record that definite progress has been made, and there is evidence that as public opinion becomes educated, less and less resistance to progressive and broader views will be made.

The attempt to prevent and treat Tuberculosis has absorbed a considerable amount of the time, energy and money at your disposal. During the last few years of the War there was a good deal of "croaking" and pessimism concerning the results of the anti-tuberculosis campaign, but whether it be cause and effect or merely coincidental, the startling drop in the number of notifications and deaths from Tuberculosis, not only in Essex but in the whole country during 1919, is remarkable. To ensure a continuance of this decrease, it would appear that endeavour should be made to improve the homes and social conditions of the people, to educate them on sound lines of healthy living, and to remove unhygienic conditions in factories and workshops, and in regard to treatment of the disease to concentrate on childhood and infancy.

Essex is fortunate in having so active a body as the County Nursing Association which has proved to be for the past 30 years. Consequently, almost the whole County is covered by Local Nursing Associations, and it is hoped to complete the few remaining districts in the course of the next year or two. Hitherto, nurses employed by these Associations have taken up general nursing, midwifery and maternity cases, and occasionally tuberculosis cases. It is now hoped to increase the scope of their services in regard to the school medical service, child welfare, etc.

In spite of the great need for public and private economy during the next few years, I must emphasise the fact that it would be a false economy from the national

standpoint to seriously curtail essential public health services. The wealth of the nation is in the health and well-being of its citizens. Whilst we have 1,000,000 men unable, from physical defects to safeguard their native land, whilst one out of every six elementary school children is so defective, physically or mentally, as not to be able to fully benefit from the instruction given, whilst 50,000 persons die annually in England and Wales from tuberculosis, whilst 100,000 babies die before they are born, and as many more before the age of five years is reached, we are impelled to take the necessary steps to prevent this awful wastage of lives and the impairment of the survivors. From the purely economical standpoint, it is disastrous. Half the total insured population came under review by the Insurance Practitioners within the twelve months, and during the year 1916 the loss of working time due to sickness (the great majority being preventable) was equivalent to 270,000 persons being off work during the whole year.

I have not included the usual summary of the health activities in each sanitary district this year, for two reasons — (1) Economy of space and printing ; (2) Many of the Annual Reports of the Local Medical Officers are so meagre that no benefit would accrue. It is to be hoped that each Medical Officer of Health in the County will make every endeavour to bring his 1920 report up to at least pre-war standard, and it would also expedite the publication of the County Report if the District Reports were completed before the end of March.

I take this opportunity of thanking the various Local Sanitary Authorities and their Officers for their help and co-operation, particularly the latter for supplying the information asked for in Table A.

I also desire to record my great indebtedness to my predecessor (Dr. J. C. Thresh) who has so readily supplied me with all the information, help and guidance which a successor could possibly desire, and who continued as County Medical Officer until 31st March, 1919. I have had the good fortune "to succeed a good tenant," which has been described as the highest philosophy in life. As Consulting Medical Officer to the County, he has helped me in every possible way to preserve the continuity of policy and administration which he commenced in 1890.

Mr. Alderman Belsham kindly initiated me into my duties and was succeeded by Mr. Councillor (now Alderman) E. W. Tanner, who has exerted all his energy and power to uphold the best traditions of the office. My best thanks are also due to the Chairmen and members of the various Sub-Committees.

My thanks are also due to the Medical, Nursing, and Clerical Staffs, who have responded so well to the extra labours which were associated with the re-organisation and rapid post-war development of the County Public Health Department.

A special word of praise is due to the County Sanitary Inspector and Chief Clerk (Mr. A. Marsh) who has been a constant source of strength.

W. A. BULLOUGH,
County Medical Officer

Public Health Department,
26 High Street,
Chelmsford.

31st October, 1920.

PART I.

ANNUAL REPORTS AND TABLE A.

TABLE I.

GIVING RECORD OF RECEIPT OF ANNUAL REPORT AND TABLE A FROM EACH
LOCAL MEDICAL OFFICER OF HEALTH.

Sanitary Districts.	Medical Officer of Health.	Date of receipt of	
		Annual Report.	Table A.
URBAN—			
Barking	R. J. Ewart	21-5-20	18-2-20
Braintree	E. Bertram Smith	M.O.H. ab	sent ill.
Brentwood	S. Frazer	11-5-20	16-4-20
Brightlingsea	E. P. Dicken	22-5-20	2-2-20
Buckhurst Hill	C. R. Dykes	25-3-20	5-2-20
Burnham-on-Crouch	T. D. White	28-6-20	12-2-20
Chelmsford Borough	W. J. Cox	28-5-20	27-11-20
Chingford	E. Hardenburg	29-4-20	26-1-20
Clacton-on-Sea	J. W. Cook	25-9-20	19-6-20
Colchester Borough	W. F. Corfield	10-7-20	15-11-20
Epping	H. A. Watney	4-9-20	5-4-20
Frinton-on-Sea	G. Craigie Bell	3-7-20	4-2-20
Grays	J. A. Ward	21-10-20	14-2-20
Halstead	E. Bertram Smith	M.O.H. ab	sent ill.
Harwich Borough	G. Ford Porter	11-8-20	16-2-20
Uford	A. H. G. Burton	21-5-20	10-3-20
Leyton	J. F. Taylor	26-6-20	16-4-20
Loughton	A. Butler Harris	27-4-20	31-1-20
Maldon Borough	H. Brown	15-7-20	30-1-20
Romford	A. Wright	21-4-20	4-2-20
Saffron Walden	W. Armistead	31-5-20	7-2-20
Shoeburyness	E. D. Fountain	6-8-20	9-2-20
Tilbury	A. H. Fowler	18-8-20	4-2-20
Waltham Holy Cross	J. Damer Priest	22-4-20	9-2-20
Walthamstow	J. J. Clarke	19-6-20	27-2-20
Walton-on-the-Naze	J. C. Brockwell	21-6-20	18-2-20
Wanstead	P. Macgregor	28-5-20	6-3-30
Witham	E. Bertram Smith	M.O.H. ab	sent ill.
Wivenhoe	G. T. Kevern	20-5-20	5-2-20
Woodford	R. Vere Hodge	9-8-20	6-2-20
RURAL—			
Belchamp	E. Bertram Smith	M.O.H. ab	sent ill.
Billericay	J. Douglas Wells	6-8-20	3-2-20
Braintree	E. Bertram Smith	M.O.H. ab	sent ill.
Bumpstead	W. Armistead	31-5-20	7-2-20
Chelmsford	J. Macdonald	12-4-20	Not received
Dunmow	E. Bertram Smith	M.O.H. ab	sent ill.
Epping	W. F. Erskine	27-4-20	19-2-20
Halstead	E. Bertram Smith	M.O.H. ab	sent ill.
Lexden and Winstree	J. W. Cook	M.O.H. resig'd.	8-7-20
Maldon	J. Macdonald	31-5-20	Not received
Ongar	A. S. David	16-8-20	14-2-20
Orsett	W. Allingham	4-9-20	25-6-20
Rochford	J. Macdonald	12-6-20	Not received
Romford	A. Wright	26-4-20	4-2-20
Saffron Walden	W. Armistead	31-5-20	7-2-20
Stansted	R. F. Dunn	1-6-20	Not received
Tendring	J. W. Cook	15-6-20	Not received

COMBINED MEDICAL SERVICES.

At the request of the Chairman of the County Council, a preliminary report was issued by the County Medical Officer formulating a scheme which was an attempt to divide the County into workable areas, in each of which one whole-time medical man could perform the combined duties of Medical Officer of Health and Assistant County Medical Officer, including the following :—School Medical Inspector, Child Welfare Officer, Clinical Tuberculosis Officer, Clinical Venereal Officer, etc.

The above-mentioned Report only dealt with Medical Officers, but the same remarks apply to other officers of Local Sanitary or Education Authorities, such as Clerks, Sanitary Inspectors, Dentists, Nurses, etc.

Two of the outstanding features of the Report were—

- (1) All public health appointments should be whole-time.
- (2) The existing water-tight departments of the Public Health Service would be broken down by a suitable combination of duties hitherto carried out by different officers.

One great advantage of this combined scheme is that there would be in each area a whole-time medical man who would devote himself to all the aspects of public health in his district. Such an appointment with adequate salary would attract men possessing good qualifications and experience, and the large amount of overlapping, as well as multiplicity of officials, would be avoided.

Under Section 286 of the Public Health Act, 1875, the County Council can apply to the Ministry of Health for the necessary powers to effect a combination of districts to be served by a whole-time Medical Officer of Health. The present proposal went a step further and suggested the combining of not only districts, but also the duties carried out by separate individuals.

Various Committees considered this Report, but it was not until early in the present year that the scheme actually matured in certain districts in the County. A detailed account of the development of the scheme will be given in the next Annual Report.

PART II.

NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT.

Population.

The population of the Administrative County at the Census in 1911 was 1,061,815, and the changes between 1911 and 1918 which occurred in the boundaries of Sanitary Districts have been enumerated in previous reports. No such alterations took place during 1919. The Registrar-General has again furnished separate figures in connection with the estimated populations for the year ended 31st December, 1919, namely :—

- (1) For calculating birth-rates, the figure, which includes civilian and military population, is ... 886,785
- (2) For calculating death-rates the figure, which includes only civilian population, is ... 851,284

A comparison of the last four years' figures is given below ;—

Year.		Estimated Population for Birth-rate.		Estimated Population for Death-rate.
1916	...	910,136	...	836,507
1917	...	885,854	...	795,510
1918	...	869,002	...	775,574
1919	...	886,785	..	851,284

TABLE II.

	Area in Acres.	Population.			Persons per acre.	Acres per person.
		Census 1911.	Estimate of population, 1919.			
			For Birth-rate.	For Death-rate.		
(Calculated on Census figures).						
Municipal Boroughs (5) ..	36,539	291,559	88,292	84,757	1·2	0·07
Urban Districts (25) ...	75,566	504,908	544,463	522,667	6·6	·1
Rural ,, (17) ...	864,599	265,348	254,030	243,860	·3	3·2
	976,704	1,061,815	886,785	851,284	0·9	1·08

PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

Essex is one of the Metropolitan Shires; fifth of all the Administrative Counties in respect of the number of inhabitants in 1911. About one-half of the whole

population of the County is centred in the south-western corner lying immediately adjacent to the Metropolis. The County in form is roughly a parallelogram measuring 48 miles from north to south and 63 from north-east to south-west.

Generally speaking the soil may be regarded as consisting of a varying thickness of London clay, under which is the chalk. The chalk comes to the surface in the north-west (Saffron Walden district) and also near Grays in the south. Patches of gravel occur at various parts of the County, the largest being near Colchester and Danbury. Although not so flat as commonly thought, the County does not boast of any eminences, the highest points being at Laindon Hills (385 feet), High Beech (362 feet), Thaxted (356 feet) and Danbury (349 feet).

At the extreme west of the County is an extensive tract of woodland known as Epping Forest, which consists of nearly 6,000 acres, covering an area of about 9 square miles. The whole of this Forest has been preserved as an open space for the use and enjoyment of the general public, much to the physical benefit of the local residents and of the thousands of persons who travel thither from the Metropolitan area and all parts of the county, particularly in the Spring and Summer months.

In the County there are to be found populous urban areas, residential suburbs, wide agricultural districts, small manufacturing centres, residential seaside resorts and a seafaring, fishing and dockside population.

Essex is very largely an agricultural and residential county. Market gardening affords employment for a considerable number of people on the north side of the Thames. A good deal of fruit is grown in the centre of the County. The manufacturing industries include silk and crêpe at Braintree and Halstead; agricultural and engineering tools and implements at Colchester and Earls Colne; breweries at Romford, Ilford and Chelmsford; cement, brickmaking and whitening at Grays; maltings at Manningtree; engineering and electrical works at Chelmsford. The rainfall is low, averaging 24·4 inches per annum.

METEOROLOGICAL DATA.

The following information has been kindly supplied by the County Meteorological Station. A comparison with the previous year's figures shows that the average rainfall is 1·5 inches less than 1918, although the number of rainy days was greater, namely 149 in 1919 as against 148 in 1918. (See Table III., page 11).

VITAL STATISTICS.

As in the case of the population figures, the Registrar-General has again supplied to the County Medical Officer the mortality statistics for each district. These were circulated to the Medical Officers of Health, some of whom have seriously questioned their accuracy. Until another Census is taken it is no

TABLE III.

CHELMSFORD.

Observations from the County Meteorological Station.

1919. Month.	Dry bulb readings.	Wet bulb readings.	Maximum readings.	Minimum readings.	Absolute maximum.	Date of absolute maximum.	Absolute minimum.	Date of absolute minimum.	Number of rainy days.	Rainfall in inches.	Rainfall for the year in various Districts.	
											Districts.	Rainfall.
January	36.8	35.8	42.0	32.1	53	15th	24	19th	18	2.7	Clacton	22.0
February	34.6	33.7	40.9	28.0	51	22nd	8	9th	12	2.7	Chelmsford	24.3
March	39.9	37.8	45.9	33.5	55	2nd	25	23rd	18	2.3	Halstead	25.3
April	64.2	66.1	44.2	28.2	67	19th to 20th	25	1st, 2nd & 3rd	16	3.7	Shoebury	22.4
May	59.9	55.1	65.4	42.9	81	25th	52	12th	4	0.9	Southend	20.9
June	61.7	56.8	69.5	47.0	82	13th	36	5th & 27th	6	1.2		
July..	57.6	54.9	65.7	50.0	78	31st	39	16th	12	1.9		
August	64.6	60.2	72.8	53.4	85	10th	44	4th & 25th	9	2.1		
September	59.1	55.4	66.8	46.5	87	11th	28	30th	9	1.1		
October	45.2	43.2	54.1	34.2	64	7th	29	17th	9	0.8		
November	38.5	37.2	43.1	33.2	55	23rd	22	27th	15	1.5		
December	41.2	36.2	47.2	35.3	54	24th to 30th	23	10th	21	3.3		
									149	24.2		

possible to settle such differences of opinion. The Census to be taken in 1921 will come at an opportune time, as by then the civilian population will be more stable than it has been since 1914.

Birth-rate.

There was an increase in the total number of births registered in 1919 in the Administrative County, the figure being 14,731, of which 10,710 occurred in the Urban districts and 4,021 in the Rural districts. In 1918 the births registered totalled 13,543. According to the Registrar-General's figures the birth-rate for the County was 16·6. Districts showing the highest birth-rates are as follows (see Table VIII.) :—Tilbury Urban (25·4), Harwich Borough (23·2), Barking Urban (23·1), Shoeburyness Urban (20·5), Bumpstead Rural (20·1), whilst the lowest rates were recorded at Frinton Urban (8·5), Walton Urban (12·1), Wanstead Urban (12·1), Saffron Walden Borough (12·8), Dunmow Rural (12·8), Halstead (12·7). Although there is every indication in 1920 of the likelihood of an increased birth-rate for the whole of England and Wales, several Medical Officers of Health have in their reports for 1919 seized the opportunity to set out what in their opinion are some of the causes of the falling figures which have been recorded during the past few decades. Dr. Macdonald (Chelmsford Rural) asks, "What is the cause of the decline in the birth-rate?" and proceeds to answer this question as follows:—"There is no reason to believe that it is due to the lessened fertility of the present generation. There is good reason to believe that one—if not the main—factor is an economic one, for instance, an increase in the family may mean that a large house is required, which entails an increased rent, rates, etc. The ambitions of the potential parents to limit their family so as not to interfere with social functions or to increase the parents' difficulty in equipping the children for life's battle may be looked upon as selfish, but one is faced with the fact that parents and children of large families are at a disadvantage compared with those of small families."

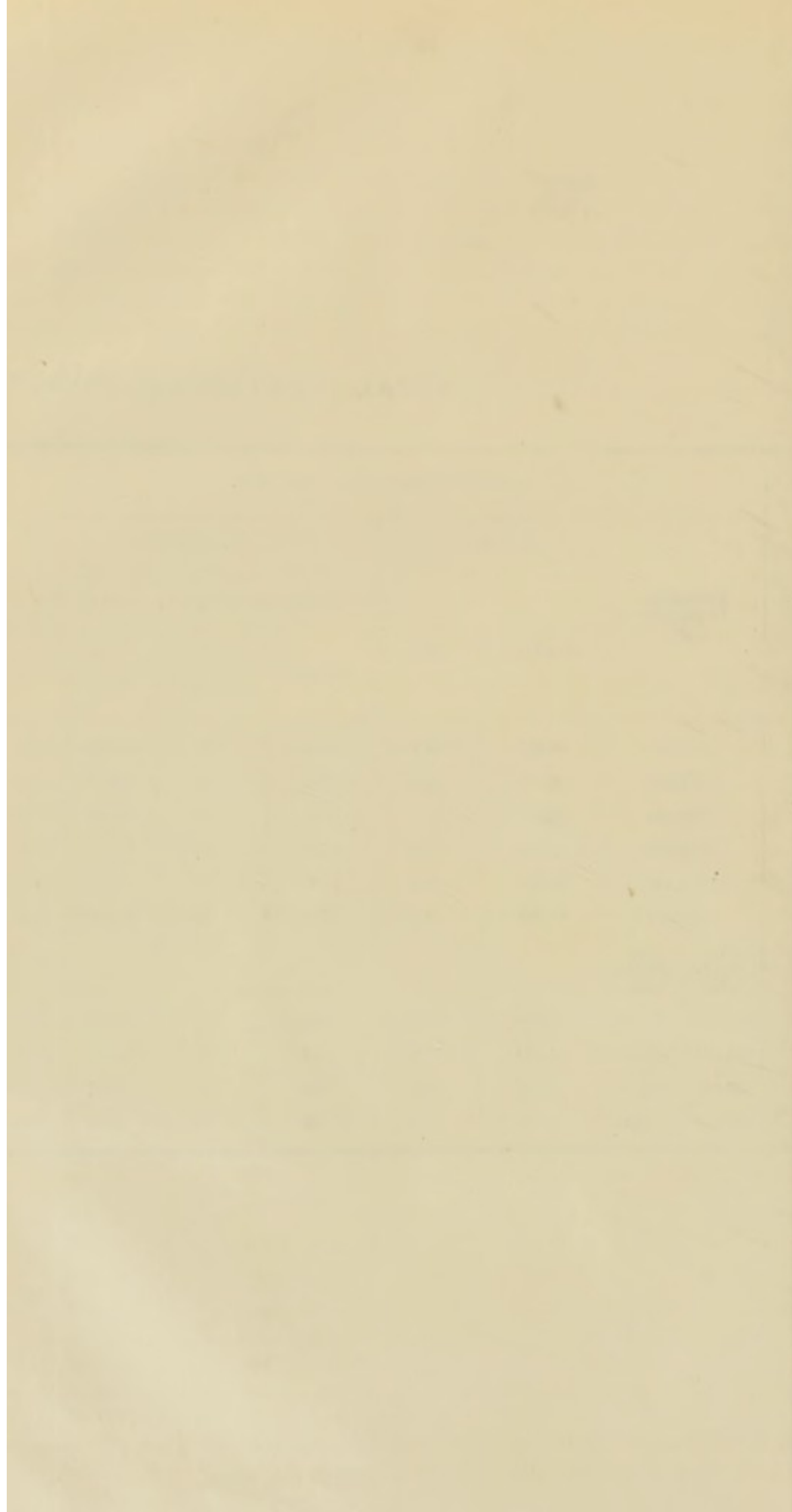
"It is in the interest of the State to encourage larger families and, therefore, the parents of such families have a right to expect the State to shoulder its due share of their burdens. It may be said that at present the State does indirectly contribute considerably towards the economic efficiency of such families through the public expenditure on sanitation, education and other services, but to encourage the large family the State's contribution must be more direct than in the past, such as relief of taxation, etc."

Looking to the future, Dr. J. J. Clarke (Walthamstow Urban) thinks that "the prevailing general employment of women in all walks of life, the failure of the well-to-do to beget families in proportion to their numbers, and the unwillingness of the general mass of workers, owing to their improved status, to accept the responsibilities of large families, are factors which will in future militate against very high birth-rates."

TABLE IV.

VITAL STATISTICS FOR THE COUNTY OF ESSEX DURING 1919 AND PREVIOUS 9 YEARS.

Year.	ADMINISTRATIVE COUNTY.								URBAN DISTRICTS.								RURAL DISTRICTS.							
	Estimated Population only.	Nett Births.		Nett Deaths.				Estimated Population.	Nett Births.		Nett Deaths.				Estimated Population.	Nett Births.		Nett Deaths.						
		Number.	Rate.	Under 1 year of age.		At all ages.			Number.	Rate.	Under 1 year of age.		At all ages.			Number.	Rate.	Under 1 year of age.		At all ages.				
				Number.	Rate per 1,000 nett Births.	Number.	Rate.				Number.	Rate per 1,000 nett Births.	Number.	Rate.				Number.	Rate per 1,000 nett Births.	Number.	Rate.			
1910	1,941,280	24,077	23.1	1,815	75	10,776	10.3	777,490	18,428	23.7	1,421	77	7,563	9.9	263,790	5,649	21.4	394	70	2,970	11.5			
1911	1,961,000	23,967	22.6	2,527	105	12,542	11.8	790,800	18,454	23.2	2,028	110	9,353	11.7	265,800	5,513	20.7	499	90	3,189	12.0			
1912	1,986,340	23,562	21.7	1,609	70	11,384	10.5	855,535	18,301	22.2	1,318	72	8,256	10.0	260,805	5,261	20.2	312	65	3,098	11.8			
1913	1,109,978	24,236	21.8	1,759	72	12,006	10.8	846,884	18,948	22.3	1,422	75	8,941	10.5	263,494	5,288	20.1	337	64	3,065	11.6			
1914	1,043,446	22,141	21.2	1,680	76	11,503	11.0	778,447	16,931	21.7	1,229	78	8,226	10.6	264,999	5,210	19.6	351	67	3,277	12.4			
1915	867,394	17,602	20.5	1,515	86	11,358	13.1	613,052	12,821	20.9	1,131	88	7,634	12.5	254,342	4,781	18.8	384	80	3,774	14.6			
	For Birth- rate.	For Death- rate.						For Birth- rate.	For Death- rate.						For Birth- rate.	For Death- rate.								
1916	910,136	836,507	17,883	19.6	1,196	67	10,079	12.0	646,001	593,740	12,865	19.9	886	69	6,892	11.6	264,135	5,018	19.0	309	61	3,187	13.1	
1917	885,804	795,510	14,290	16.1	1,116	78	10,041	12.6	626,303	542,670	10,244	16.3	818	80	6,881	12.2	259,501	4,048	15.6	298	74	3,250	13.9	
1918	869,002	775,574	13,543	15.5	958	70	11,777	15.1	615,153	549,017	9,623	15.6	730	75	8,379	15.2	253,849	3,920	15.4	228	58	3,398	14.9	
1919	886,755	851,284	14,731	16.6	969	65	9,880	11.6	632,755	607,424	10,710	16.9	728	67	6,726	11.0	254,030	4,021	15.8	241	59	3,154	12.9	



Death-rates.

It is recognised that, in view of the remoteness of the last census, too much reliance cannot be placed on rates. Dr. Corfield (Colchester Borough) goes so far as to say that "the war has made such an upset, that such rates are of little value, and they will not be of much value until after the next census." On the present basis of calculating, however, the Registrar-General gives 11·6 as the death-rate for 1919, which is the lowest figure recorded since 1914, when the rate was 11·0. The total number of deaths registered during the year was 9,880, being distributed as follows:—

District.	No. of deaths.		Rate.
Urban	6,726	...	11·07
Rural	3,154	...	12·90
<hr/>			<hr/>
Administrative County	9,880	...	11·60
	<hr/>		<hr/>

The difference in the age and sex population in the urban and rural districts explains the slight increase of the rural death-rate over the urban.

The County Medical Officer has again acted as distributing agent in connection with those deaths which were transferable from one district to another. Altogether 100 deaths were in this manner properly allocated to the sanitary districts concerned.

TABLE V.

DEATH-RATES IN THE URBAN AND RURAL DISTRICTS AT VARIOUS AGES.

					Urban.	Rural.
Under 1 year of age	...	...	...	...	10·9	7·6
1 year and under 2 years	...	...	...	...	2·1	1·5
2 years " 5 "	...	...	...	...	3·2	1·8
" " 15 "	...	...	...	...	5·0	3·3
" " 25 "	...	...	...	...	5·1	3·8
" " 45 "	...	...	...	...	13·2	10·7
" " 65 "	...	...	...	...	23·4	20·7
Over 65 years	...	...	...	...	36·4	50·6
					<hr/>	<hr/>
					100	100

It is noteworthy that in all the above periods except the last (over 65 years of age) the death-rate in the rural districts is less than in the urban districts.

Infantile Mortality.

Infantile Mortality is the number of deaths of infants under one year of age per 1,000 births. The number of births was 14,731 and the deaths of infants amounted to 969, giving an infant mortality rate of 65·7.

TABLE VI.

INFANTILE MORTALITY.

DEATHS OF INFANTS UNDER 1 YEAR PER 1,000 BIRTHS.

		1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Urban Districts	...	77	110	72	75	78	88	69	80	75	67
Rural	„	70	90	65	64	67	80	61	74	58	59
Administrative County	...	75	105	70	72	76	86	67	78	70	65
England and Wales	...	106	130	95	109	105	110	91	97	97	89

As usual the rate in Essex is about 20 less than for England and Wales.

TABLE VII.

DEATHS FROM DIFFERENT DISEASES AMONGST CHILDREN UNDER 1 YEAR OF AGE PER 1,000 BIRTHS.

	1910.		1911.		1912.		1913.		1914.		1915.		1916.		1917.		1918.		1919.
	U.	R.	U.	R.	U.	R.	U.	R.	U.	R.	U.	R.	U.	R.	U.	R.	U.	R.	U.
Congenital Debility, &c. ... (Wasting Marasmus, &c.)	39	35	36	39	32	29	32	27	31	28	32	30	29	27	30	31	31	22	29
Diarrhoea, &c. ...	4	1	35	22	4	3	10	3	12	5	8	7	7	5	9	4	6	3	6
Pulmonary Tuberculosis ...	0·7	0·3	1·3	1·2	0·6	0·1	0·5	0·1	0·6	0·3	0·8	0·6	0·3	—	0·9	0·7	0·1	0·2	0·0
Non-Pulmonary Tuberculosis ...	1·9	0·7	2·5	2·1	1·6	0·3	1·5	0·6	1·0	1·5	1·9	1·2	0·6	0·3	0·6	0·4	0·5	0·5	2·0
Whooping Cough	3	2	2	3	4	3	1	3	2	3	4	3	3	2	3	4	3	2	0·0
Pneumonia ...	5	3	6	5	6	3	7	6	7	5	12	10	5	5	6	6	7	4	1
Bronchitis ...	6	6	5	6	5	6	4	5	6	5	6	8	5	4	5	6	5	5	1
Measles ...	0·5	0·5	2	1	1	0·3	1	0·5	0·7	0·9	2·9	0·4	0·4	0·7	2	0·7	1	0·2	0·0

The meaning of Table VII. is clear. A tremendous proportion of deaths under one year of age are due to causes certified on the death certificates as prematurity, congenital debility, wasting, marasmus, etc. These deaths usually take place within a few days of birth, and explain the reason why one-third of the deaths under one year of age occur during the first week of life and actually one-half during the first month. The causes of these deaths are various, but one chief preventable cause is syphilis.

The minimum loss of infant life from diarrhoea and allied diseases due to improper feeding and the use of dummies, etc., has almost been reached. Energies must now be focussed on these "wasters," and the only time when these efforts will be of any avail is during the ante-natal period. The mother must be cared for and any open or lurking disease treated during the whole course of pregnancy. Ante-natal clinics are springing up here and there and their effect will be closely watched. Lectures have been given during the year to groups of midwives throughout the County so as to enlist their intelligent help in respect to this serious loss of life.

Referring to the fact that more than half of the 160 infants deaths in Walthamstow, which occurred within the first month of life from causes which are ante-natal and probably preventable, Dr. Clarke optimistically states:—"When, by progress in Medical knowledge and the biology of life, we have discovered the causes which lie behind these deaths and apply the remedy, our Infantile Mortality rate will be less than 40, a figure at one time considered unattainable."

"There can be no doubt that Educational work, by systematic visiting of the mothers, with facilities for the poorer mothers to have early and free advice at the Child Welfare Centres, does amply repay the expenditure involved in lowering Infantile Mortality and in the production of a healthier and more vigorous surviving population."

Dr. Burton (Ilford), refers specially to "the extreme handicap which a child suffers as to its chance of life by being born out of wedlock is shown by separating the illegitimate children from the total infant deaths.

"Of 64 illegitimate children born, 10 died, giving an Infantile Mortality rate of 156, while of 1,103 legitimate children born, 62 died, giving an Infantile Mortality rate of 56.

"It is hoped that the system of Ante-Natal clinics when established, by their effect on the health of the mother during pregnancy, will reduce the number of deaths from these causes. It is satisfactory to note that diarrhoea and enteritis only caused five deaths of infants under 1 year.

"Three Infants were suffocated by overlying, a preventable cause of death which should not occur at all in a district like Ilford."

TABLE VIII.

DEATH-RATE PER 1,000 POPULATION. DEATHS OF INFANTS PER 1,000 BORN.

SANITARY DISTRICTS.	Birth- rate. 1919.	Death-rate.		Infantile Mortality.			
		1919.	1910-18 (Average).	1919.	1919.		1910-18 (Average).
					Legiti- mate.	Illegiti- mate.	
URBAN—							
Barking ...	23.1	11.0	13.6	65.0	65.9	38.4	106
Braintree ...	16.3	11.6	13.8	61.4	67.3	—	65
Brentwood ...	17.8	9.6	11.4	71.4	65.4	200.0	61
Brightlingsea ...	19.1	13.1	13.4	53.2	60.9	—	64
Buckhurst Hill ...	16.5	12.6	11.4	57.4	63.3	—	79
Burnham-on-Crouch ...	19.0	14.1	12.8	66.6	57.7	125.0	53
Chelmsford B. ...	15.4	10.4	11.6	56.8	56.1	64.5	78
Chingford ...	16.4	11.2	9.9	89.7	87.8	125.0	76
Clacton-on-Sea ...	13.5	14.6	12.5	87.6	78.1	22.2	79
Colchester B....	16.7	13.4	12.8	78.0	76.2	96.8	78
Epping ...	14.4	12.0	12.5	64.5	66.6	—	59
Frinton-on-Sea ...	8.5	7.7	8.3	58.8	62.5	—	54
Grays ...	16.7	12.4	11.5	80.8	78.6	125.0	82
Halstead ...	13.6	12.0	15.2	48.2	25.3	500.0	60
Harwich B. ...	23.2	11.9	12.3	81.5	78.1	70.4	87
Ilford ...	14.8	9.9	9.6	61.7	56.4	156.2	68
Leyton ...	17.0	11.2	11.7	70.1	65.8	176.5	83
Loughton ...	17.1	12.5	10.2	71.4	82.3	—	76
Maldon B. ...	16.8	11.3	14.4	58.8	66.6	—	77
Romford ...	17.2	12.0	12.0	66.6	66.4	69.0	83
Saffron Walden ...	12.8	12.7	14.3	27.4	28.9	—	62
Shoeburyness...	20.5	8.9	11.1	80.8	84.2	—	66
Tilbury ...	25.4	14.3	13.9	87.4	86.2	111.1	66
Waltham Holy Cross ...	19.4	11.7	12.3	60.1	53.8	333.0	83
Walthamstow ...	17.2	9.9	11.1	69.5	65.9	162.8	82
Walton-on-the-Naze ...	12.1	8.6	11.4	142.8	12.4	333.0	75
Wanstead ...	12.1	9.9	8.8	21.2	21.9	—	48
Witham ...	14.4	13.0	15.0	38.4	40.0	—	83
Wivenhoe ...	16.3	13.2	13.7	175.0	18.4	—	74
Woodford ...	15.6	10.6	10.1	43.6	38.8	166.7	66
RURAL—							
Belchamp ...	13.4	21.6	15.1	132	140.0	—	60
Billericay ...	14.5	13.0	12.0	37	36.2	50.0	62
Braintree ...	14.9	15.7	14.2	78	74.2	153.8	77
Bumpstead ...	20.1	16.1	14.9	90	71.4	500.0	76
Chelmsford ...	17.0	12.8	13.1	58	50.8	181.8	68
Dunmow ...	12.8	12.8	14.4	53	40.4	230.7	67
Epping ...	13.2	11.7	12.1	72	77.7	—	63
Halstead ...	12.7	11.4	13.8	40	34.8	100.0	67
Lexden and Winstree ...	15.7	13.3	13.4	68	61.4	176.4	67
Maldon ...	15.0	13.9	13.3	72	53.5	45.4	56
Ongar ...	18.0	15.3	13.1	59	56.9	90.9	70
Orsett ...	18.2	11.0	11.6	63	58.6	157.8	78
Rochford ...	15.2	13.0	12.6	56	57.5	43.6	67
Romford ...	16.3	9.7	10.9	58	57.2	74.0	71
Saffron Walden ...	16.3	14.6	13.8	79	65.3	300.0	65
Stansted ...	14.8	11.7	13.9	20	21.5	—	79
Tendring ...	19.6	13.7	13.3	44	41.9	71.4	84
Totals—							
Urban ...	16.9	11.0	11.6	67.9	65.1	120.0	74
Rural ...	15.8	12.9	12.8	59.9	85.3	129.5	60
Administrative County	16.6	11.6	11.9	65.0	63.2	122.9	71

Table VIII. gives the average rate of Infant Mortality for the years 1910-1918 from which it will be seen that among the urban districts Barking (106), Harwich (87), Romford (83), Waltham Holy Cross (83), Witham (83), Walthamstow (82) have the highest rates, whilst of the rural districts Tendring (84), Stansted (79), Orsett (78), Braintree (77), Bumpstead (76), record the highest rates.

The high infant mortality amongst illegitimate children is noteworthy.

DEATHS FROM VARIOUS CAUSES.

TABLE IX.

SHOWING NUMBER OF DEATHS AND DEATH-RATES FOR THE VARIOUS DISEASES.

	No. of Deaths.	Per cent. of Total Deaths.
Dysentery	47	0.5
Whooping Cough	40	0.5
Diphtheria and Croup	114	1.1
Epidemic Fever	14	0.1
Enteric Fever	11	0.1
Primary Tuberculosis	715	7.3
2d-Pulmonary Tuberculosis	205	2.0
Influenza	682	6.9
Scarlet Fever	444	4.5
Cancer	991	10.0
Coronary Heart Disease	1118	11.4
Rickets	760	7.7
Other Diseases	4739	47.9
Total	9880	100.0

The above table shows that 52.1 per cent. of the deaths which occurred during the year were attributable to diseases all of which, with the exception of Cancer, are thought to be, preventable.

Cancer and Malignant Disease.

The number of deaths attributed to this group of diseases during 1919 was 991, 6 occurring in the urban districts, and 345 in the rural districts. Compared with the total number of deaths in urban and rural districts, these figures show that there is a relatively higher rate of death from cancer in the rural than in the urban parts of the County. The reason for this is that the number of old people is greater in the country than in the towns, cancer being a disease of middle and old age.

It is disquieting to notice the steady increase of the number of deaths from cancer each succeeding year, and there is some evidence to show that this cannot wholly be attributed to better diagnosis. Some authorities regard cancer as an infectious disease, and predict that at some future date the germ or microbe causing the disease will be discovered. There is, however, little evidence to support this theory. A great amount of research has been undertaken during the last decade into the causation of cancer, and it is a regrettable fact that we do not appear to be much nearer the truth.

Chronic irritation seems to be definitely associated with provoking the formation of a cancerous growth. Another unfortunate feature of the disease is that in its early and curable stage, it does not cause much pain since this latter symptom is more likely than any other to cause the sufferer to seek medical advice. Any person of middle age or beyond, becoming aware of any unusual lump or "tumour" whether internal or subcutaneous, should at once seek medical advice as no time can be lost if any operation or other remedy is to be of service. X-rays and radium have given excellent results in certain cases, but in others seem to have been of no avail.

Other Causes of Death.

Amongst the other chief causes of death at all ages Organic Heart Disease accounted for 1,118 deaths, Bronchitis 760, Pulmonary Tuberculosis 715, Influenza 682, Pneumonia 444, Congenital Debility, etc., 438.

THE HEALTH AND PHYSIQUE OF THE NATION.

From time to time an outcry is heard that there is widespread and progressive deterioration in the condition of the people of this and other countries. Before and after the South African War many references were made to the progressive physical degeneration of the nation. An Inter-departmental Committee presented a Report on Physical Deterioration in 1904. This Committee gathered evidence and data for an accurate comparative estimate of the health and physique of the nation, the causes of such physical deterioration and the means by which it can be most effectually diminished.

Fifty-three recommendations of a far-reaching character were made by the Inter-departmental Committee, and many of them are only now beginning to be appreciated by the public. In these days it is interesting to note that 16 years ago efforts were made to bring about improvements in the following matters, amongst many others :—

- (1) *Overcrowding.* The Committee believing that the time had come for dealing drastically with this problem.
- (2) *Building and Open Spaces.* Local Authorities to be urged to use judicious foresight and prudence, so that the growth of squalid slums may be arrested and districts which hereafter become urbanised may have at least some of the attributes of an ideal garden city.
- (3) *Smoke Pollution* should be strictly dealt with.
- (4) *Medical Officers of Health* in all areas above a certain population should be required to give their whole time to the work, and in no case should such Medical Officers of Health, unless convicted of misconduct, be removed without the consent of the Local Government Board.
- (5) *Alcoholism* should be counteracted by the systematic training of teachers to enable them to give rational instruction in schools on the laws of health.

including the demonstration of the physical evils caused by drinking. (N.B.—In November, 1916, the Central Control Board (Liquor Traffic) appointed an Advisory Committee to enquire into the same subject, and their findings are in striking agreement with those arrived at in 1904).

- (6) *Rural Housing and Allotments.* Local Authorities were urged to remedy the dearth of cottages and provide small holdings and allotments.
- (7) *Infant Mortality and Employment of Women.* Enquiries should be made and the collection of statistics should be so arranged as to provide information from which it would be possible to arrive at some conclusion as to the connection between the two subjects.
- (8) *Feeding of Infants.* Being impressed with the enormous sacrifice of infant life due to insufficient and improper feeding, the Committee advocated the systematic instruction in continuation classes of girls in the processes of infant feeding and management.
- (9) *Milk Supply.* Every effort should be made to ensure the purity of the supply of milk to the community.
- (10) *Games and Exercises for School Children.* It is desirable that more attention should be given, with the assistance where possible of voluntary agencies, to organising games for school children, and for that purpose much greater use should be made both of the schools and public playgrounds than at present.
- (11) *Cookery, Hygiene and Domestic Economy.* Instruction in these matters should, as far as possible, be made compulsory on the elder girls at school. To provide capable and efficient teachers, hygiene in its various branches should be an essential part of a teacher's training.
- (12) *Medical Inspection and Feeding of School Children.* A systematised medical inspection of children at school should be imposed as a public duty on every school authority, and that definite provision should be made by the various Local Authorities for dealing with the question of underfed children.
- (13) *Crèches.* Wherever it was thought advisable, owing to the employment of married women in factories, or for other reasons, to establish municipal crèches.
- (14) *Physical Exercise for Growing Boys.* Lads should be made to attend evening continuation classes in which drill and physical exercises should take a prominent place.
- (15) *Syphilis.* A commission should be appointed to enquire into the prevalence and effects of syphilis, having regard to the possibility of making the disease notifiable and to the adequacy of hospital accommodation for its treatment.

Some of the recommendations reached fruition, but as the memory of the South African War passed away, so did many of the necessary remedies dwindle into insignificance.

During the early months of the late war, medical examination of recruits was necessarily carried out so hurriedly that the results yielded little accurate information concerning the health and physique of the male adults offering themselves for military service. At a later date it was realised that an opportunity not to be missed existed of securing accurate information regarding the condition of the people.

Some 2,500,000 examinations carried out between November 1st, 1917, and November 1st, 1918, have been carefully scrutinised and tabulated with the following results:—

Grade.	No of Men.	Percentage.
1 ...	871,769	36 per cent.
2 ...	546,276	22—23 „
3 ...	756,859	31—32 „
4 ...	250,284	10 „
<hr/>		
Total	2,425,184	
<hr/>		

The definitions of the above mentioned Grades are as follows:—

Grade 1.—those with full normal physical strength.

„ 2. — those with slight disability but nothing serious.

„ 3.—those with marked physical disability but able to do certain sedentary occupations such as tailoring, boot-making, etc.

„ 4.—those who were totally and permanently unfit for any form of military service.

Thus out of every nine men called up for medical examination, three were placed in Grade 1, two in Grade 2, three in Grade 3 and one in Grade 4.

It should be borne in mind that at even so late a stage in the war, in many districts the examinations were carried out for the first time on fit men who had been retained during the earlier years of the war on reserved occupations.

There were three main groups of physical disability—

- (1) Poor physique and the presence of concrete physical defects.
- (2) Tuberculosis.
- (3) Diseases of the heart and blood vessels.

1. In regard to the first of these chief causes, much is due to conditions occurring in early life which are preventable. Rickets was very common and due to improper

hygiene and feeding in infancy. Lack of mothercraft is more responsible than lack of proper food. The art of cooking is unknown in many homes.

The conditions of labour are another important cause of physical defects amongst workers. The grading of workers was found to rapidly decrease from the age of 18 onwards.

2. Tuberculosis is an infectious disease and therefore preventable. A disquieting fact appeared that many of the recruits found to be suffering from tuberculosis were previously unknown to the health authorities. The overcrowding in the home, the insanitary environment, inadequate food, and the unhygienic condition of workshops and factories are the chief causes of tuberculosis.

3. Most of the diseases and degeneration of the heart and blood vessels are due to infections of various kinds, rheumatic fever, the specific fevers, syphilis, and many of them originate in childhood.

A comparison of the results of medical inspection of infants and school children with the above findings gives the clues to necessary action. The "beginnings of disease" must be sought for in the early months and years of the individual and appropriate measures must be adopted. It is necessary to emphasise this in order to clearly bring out the truth that our ante-natal clinics, maternity centres, provision of a better midwifery service, medical inspection and treatment of school children are a wise and remunerative insurance or capital outlay which will repay the Country many times over. It is only by these means that the necessity for enlarging our hospitals, infirmaries and sanatoria for the treatment of sick adults will be obviated.

PART III.

WATER SUPPLIES.

Sources.

In a Rural County like Essex, where there are no elevated uplands or extensive moorlands, varieties in water supplies are to be expected, and may be summarised as being derived from two sources, namely :—

- (a) *Sub-soil water*, which is obtainable from the numerous beds of sand and gravel, and wells sunk therein or springs at their borders, supply a considerable portion of the rural population and a few Urban Districts (wholly or in part).
- (b) *Deep well water*, which is obtainable everywhere, but often in limited quantities or of unsuitable quality for drinking purposes.

Another source is likely to be added to the above if the Chelmsford Corporation proceed with the proposal which they now have under consideration, and which is referred to in Dr. Cox's Annual Report, as follows :—

"During the year 1919, the total consumption was 153,000,000 gallons, of which it was estimated that eight per cent. was for trade purposes, the remainder for domestic use. It is obvious from the above figures that the present water supply is not greatly in excess of the demand, although sufficient for present needs. As the town grows, however, the matter of a new water supply will become more urgent and will necessitate the provision of further supplies. At the present time the question of chlorination of river water is engaging much attention. The addition of a mere trace of chlorine to river water is sufficient to destroy all harmful bacteria. Thus, at Reading, one part of chlorine to two million parts of water is employed, this amount being quite inappreciable to taste. After filtration under pressure, the water is free from even this small quantity of chlorine, and is an excellent drinking water which is absolutely safe."

Very nearly half the population of the County of Essex is within the area supplied by the Metropolitan Water Board, and thereby derives the benefit of having a supply of water which is good in quality and abundant in quantity. Apart from private wells, the remainder of the County is supplied with water from various Water Companies and Waterworks as follows :—

(a) *Companies.*

South Essex Water Co.
 Southend Water Co.
 Herts and Essex Water Co.
 Stansted Waterworks Co.
 Tendring Hundred Water Co.

(b) *Waterworks owned by Sanitary Authorities.*

Braintree U.	
„ R.	(a) Bocking
	(b) Coggeshall
Brightlingsea U.	
Burnham U.	
Chelmsford U.	(a) North Ward
	(b) South Ward
Chelmsford R.	(a) Baddow Spring
	(b) Baddow Bore
	(c) Danbury
	(d) Ingatestone
	(e) Writtle
	(f) Waltham

Clacton-on-Sea U.	
Colchester B.	(a) Artesian well
	(b) Lexden spring
Dunmow R.	(a) Dunmow
	(b) Felstead
Halstead U.	
Maldon U.	(a) Wantz Road
	(b) Spital Road
Maldon R.	(a) Purleigh
	(b) Southminster
	(c) Tiptree
	(d) Heybridge
Rochford R. (Bentfleet)	
Saffron Walden B.	
Shoeburyness U.	
Witham U.	
Wivenhoe U.	

Charges.

The question of water charges may be considered to be outside the purview of this Annual Report, but nevertheless, the fact should be recorded that during the year notices of intention to make application to the Board of Trade for permission to increase maximum charges were received from the following companies:—

- (a) *Southend Water Co.* desired to increase their maximum charges by 100 per cent.
- (b) *Herts and Essex Waterworks Co., Ltd.*, desired to increase, by 15 per cent. per annum, the charges for water supplied for domestic and unmetered water.

In supporting the oppositions to these applications, it was pointed out that increases in water charges were to be deprecated as they not only meant an additional increased financial burden to the Authorities concerned, but might, in some cases tend to a parsimonious use of water. From a public health point of view, there should always be an unlimited supply of water at as cheap a rate as possible.

Complaints.

During the year, complaints as to the unsatisfactory condition of water supplies in four districts were received, namely:—

- (a) *Braintree Rural.* The water supply to a house at Hatfield Peverel was questioned. Samples were taken and examined, with the result that the water was found to be fit for drinking purposes.
- (b) *Lexden and Winstree Rural.*
 - (i) *Aldham.* By request, samples of water were taken from a farm which, upon analysis, were pronounced to be dangerous for drinking.

The Local Medical Officer of Health informed the owner accordingly, and requested that until a purer supply of water was obtained all water from the existing well should be boiled before drinking.

- (ii) *Layer Breton*. The examination of a sample of water taken from the public well revealed the fact that the water was impure, and that there was a good deal of infiltration going on from the surface or near the surface of the well. Investigation revealed certain insanitary conditions which were probably the sources of pollution. These insanitary conditions have been removed, and meanwhile all water from the public well is boiled before using, and the villagers have access to a private well which yields a wholesome supply of water.

Three schemes for installing a public water supply for this village, were submitted to the Rural District Council, who decided that they could not see their way on account of expense to carry any of them out.

- (c) *Burnham Urban*. The inadequacy of the supply of water to certain houses in Stoney Hills was the cause of complaint, and on visiting the district it was found that the supply to each house was derived from a shallow well, the nearest water main being 550 yards away. The only satisfactory solution to the difficulty is by linking up the houses with the water main, and this course was suggested to the Local Authority. Meanwhile, certain improvements to the wells were carried out.

Dr. White, when reporting on this matter, states :—

“At Stoney Hills, however, the water is drawn from surface wells only, and its quality is not satisfactory owing to surface contamination. Steps are being taken to remedy this state of things by building brick and concrete walls at the surface of the wells. Another analysis of the water will then be made, and if the water be found unwholesome, further recommendations will be made to rectify matters.”

- (d) *Southend Water Company*. This Company supplies water to a portion of the Administrative County. Unfortunately, during several months of the year, they failed to give a constant supply and at some periods the water was most lamentably inadequate. Serious consideration has, therefore, been given to the question of augmenting the supplies and schemes are now being prepared which will be submitted to Parliament at the earliest possible moment. The Company state that they realise how serious their responsibilities are to the public.

From Table A. and the Annual Reports has been obtained the information included in the following table :—

TABLE X.
WATER SUPPLIES.

	No. of Public Wells.	No. of new Public Wells sunk or new supplies afforded.	No. of Wells cleaned or repaired.	No. of Wells closed.	Extensions of Water Mains.	Insufficiency of supply and place.	Unsatisfactory quality and place.	No. of samples of water analysed.	Water Cisterns.			
									No. cleaned.	No. repaired.	No. covered.	No. abolished.
URBAN.												
...
...
... ..	...	...	...	...	...	...	...	...	14	14	1	1
... ..	3	...	...	...	...	Not at present but a danger.	...	3	...	...	...	...
... ..	...	...	...	...	...	...	...	...	...	16	2	...
... ..	...	...	...	...	...	...	...	5	5	...	...	...
... ..	...	...	...	...	...	...	...	?	...	...	...	86
... ..	...	...	...	...	...	6	...	...	16	4	20	...
... ..	...	...	...	...	...	...	...	...	...	...	...	4
... ..	?	...	...	...	...	...	...	20	...	...	...	...
...
...
... ..	1	...	...	...	...	...	...	6	4	3	3	5
...
...
... ..	...	...	...	...	...	...	...	7	30	2	...	...
... ..	...	...	...	...	...	...	...	...	15	...	5	...
... ..	2	...	1	...	...	...	...	...	...	...	...	...
... ..	...	...	2	...	...	Rush Green and Mawneys	...	...	...	...	...	...
... ..	...	...	...	...	...	...	...	1	...	...	...	...
... ..	2	...	...	...	...	...	...	...	...	...	...	...
... ..	12	...	...	...	...	...	...	...	21	...	...	8
... ..	...	...	...	...	...	...	...	...	11	5	...	...
... ..	...	...	...	...	...	...	...	...	...	66	...	...
... ..	...	...	...	...	...	...	...	1	...	...	...	...
... ..	...	...	...	...	...	...	...	...	6	4	5	...
...
...
... ..	...	...	...	...	...	...	...	...	18	1	15	1
RURAL.												
...
... ..	7	...	3	3	...	Ingrave E. Horndon Mountnessing	Ingrave Mountnessing	10	...	...	...	...
...
... ..	4	...	2	1	...	...	...	3	...	...	...	...
... ..	54	...	...	...	...	Ingatestone Fryerning Writtle	...	12	...	...	...	...
...
... ..	9	...	3	2	To Matching Tye.	Matching Gn. Epping Green	Matching Gn. Epping Green	12	...	...	...	...
...
... ..	13	...	6	...	...	...	...	6	...	...	...	...
... ..	29	...	...	...	...	Althorne area Various	Navestock	6	?	...	...	...
... ..	4	...	...	1	To Greensted, supplying 16 additional cottages.	...	...	6	...	...	...	...
... ..	1	...	2	...	...	Nr. Bulphan	Bulphan	20	6	4	...	...
... ..	7	...	...	...	Ashington Rochford	...	...	...	...	...	...	...
... ..	...	...	2	...	...	...	...	...	8	...	...	1
... ..	35	...	...	...	...	...	...	1	...	...	...	...
...
...

N.B.—As this and subsequent tables relating to Sanitary Conditions have been compiled from different sources, the County Medical Officer would be glad to receive particulars regarding any errors which may be noticed.

Dr. Wells, in reporting upon the water supplies in the Billericay Rural District, states that—

“The village of Mountnessing is urgently in need of a wholesome and efficient water supply. At present nearly every house has its own surface well, and from analyses of these waters made in 1913, 1914, and 1919, it is definitely established that hardly one of them is fit for domestic use.

“Efforts have been made to get the Southend Waterworks Company to extend their system to embrace Mountnessing—the Parliamentary powers of the Company enable them to do so.

“In 1914 the Company started to bore for water in Mountnessing, but the outbreak of war put a stop to this work and it has not been taken up again. In 1919, the Company was approached again, but want of capital and the difficulties of labour would seem to prevent them now continuing with the boring work; but the Company stated that it would endeavour to extend its present mains to Mountnessing village. So far nothing has been done towards this end.”

Dr. Allingham (Orsett Rural), states that—

“Bulphan obtains its water supply from wells, and it is in this parish that very great difficulty is experienced owing to many of the wells yielding a very high percentage of magnesia, rendering the water unfit for drinking purposes; many of the inhabitants have to rely on rainwater for domestic purposes. The Water Companies have been approached with a view of getting a supply to the parish, but it is extremely doubtful whether they can extend their main thereto; failing this, some local scheme must be resorted to.”

It is to be regretted that so many Essex villages are without a public supply of water of any kind, yet, viewing the question only from the limited aspect of the convenience of the country housewife, a plentiful and wholesome supply at hand is just as essential for her as for the townswoman. One satisfactory feature of the present housing schemes in Rural Districts is that the Ministry of Health insist upon the adequate provision of water supply to all cottages which are to be erected by Local Authorities. Rural Authorities have been advised that in selecting localities for rural housing, the advantage of collecting the houses in existing or new villages, rather than building them in isolated groups of one or two on the various farms should be considered. The problems of rural education and social life generally, would be simplified if the houses were not too much scattered, and this point should be given due weight in conjunction with the more purely agricultural considerations affecting the choice of site. Such a plan of grouping cottages will usually result in economy in building and in the supply of water and other communal services.

What has been pointed out in previous annual reports for the County of Essex cannot be emphasised too often, namely, that “under the provisions of the Public

Health (Water) Act, 1878, the Rural Authorities are greatly handicapped in dealing with the scattered portions of their districts. Until there is some alteration in the law, it is practically impossible to cause any improvements in the water supplies by any action taken against the owners of property. This is about the most serious defect in the Act. Local Authorities should have the power to provide or cause to be provided a supply of water for a group of houses and to apportion the expense as they deem just amongst all the owners of houses within a reasonable distance of the source of supply, and the question of reasonable cost and reasonable expense should be left to them, subject to appeal to a Court of Summary Jurisdiction or to the County Council."

There can be no doubt that the time has now arrived when united action on the provision of water supplies should be taken, not only in a County like Essex, but throughout the whole of England and Wales. The present system, whereby Local Authorities and Water Companies are left to establish and work schemes of their own, results in a good deal of overlapping. Undoubtedly the provision of water supply should be in the hands of the larger Authorities such as County Councils or groups of County Councils, who are in a much better position for dealing with such a huge financial and engineering problem. The suggestion has been made that England and Wales could be divided into areas, in each of which should be established a Water Board, whose primary duty would be to arrange for a constant and pure supply of water to all the houses in their district. In brief, this matter is undoubtedly a national one, and the sooner the responsibility is taken from the smaller Local Authorities, the better it will be for the health of the community.

In this connection, the conclusions arrived at by the Water Power Resources Committee are of more than ordinary interest. This Committee had been directed to consider what steps should be taken to ensure that the water resources of the country are properly conserved and fully and systematically used for all purposes.

The chief conclusions arrived at were as follows:—

- (1) That there should be established by Act of Parliament a controlling Water Commission, having jurisdiction over England and Wales, and upon whom should be conferred certain statutory powers and duties, chief of which should be as follows:—
 - (a) The allocation of these water resources in the general interests of the community, and powers to re-adjust existing allocations of water where hardship or anomalies are clearly shown to exist;
 - (b) To assist the Government Departments concerned in the uses and control of water, the various Local Authorities and water supply undertakings, and to afford assistance to Parliamentary Committees before whom Water or Water Power Bills may be heard;

- (c) To group the watersheds of the country into suitable areas, and where desirable to arrange for the setting up of Watershed Boards ;
- (d) To consider the development of rivers, as a whole, from source to mouth from the point of view of all water interests, and when necessary to initiate legislation for securing such development.

DRAINAGE AND SEWERAGE.

As was to be expected, the developments during the year in regard to drainage and sewerage schemes were not many.

According to Table A developments took place only in the following Districts:—Chelmsford Borough, Chingford Urban, Ilford Urban, Leyton Urban, Waltham Holy Cross Urban, Orsett Rural, Romford Rural, Stansted Rural and Tendring Rural.

It was also stated in Table A that developments were needed in the way of providing sewers and improving defective sewers in the following districts:—

(a) *Providing New Sewers.* *Urban Districts*—Chelmsford, Clacton-on-Sea, Leyton, Loughton, Maldon, Romford, Shoeburyness, Tilbury, Waltham Holy Cross. *Rural Districts*—Billericay, Chelmsford, Epping, Lexden and Winstree, Maldon, Ongar, Orsett, Romford and Rochford.

(b) *Improving Defective Sewers.* *Urban Districts*—Burnham, Harwich, Maldon, Tilbury, Walthamstow, Wivenhoe. *Rural Districts*—Billericay, Chelmsford and Lexden & Winstree.

At Laindon Hills, in the Billericay Rural District, there are several unsatisfactory ditches which were inspected by the County Medical Officer and County Sanitary Inspector. Many of the houses in this fairly populous area are without gardens and without means of disposing their sewage other than into the ditches. A rather serious epidemic of diphtheria occurred in this district in 1919, which compelled Dr. Wells to urge his Authority to consider the provision of a sewerage and sewage disposal scheme. Such a scheme for certain parishes in the Billericay and Orsett Rural Districts, it is estimated would cost £18,000 which was considered by the Billericay Rural District Council to be prohibitive. Dr. Wells reporting upon this matter in his annual report states that

“ Undoubtedly the cost must be considerable, but, Gentlemen, I would put it to you who live in efficiently drained houses, for your careful thought as you sit in your easy chair after your day's work is done. Can the cost of a scheme such as this be counted in pounds, shillings and pence only? Should there not be put on the credit side the untold advantages to the health of the people who live around these ditches, and who get out of bed on Spring and Summer mornings, not to breathe the good health-giving air but to fill their lungs with this sewage-laden atmosphere, and of the children whose playground, after school hours, is the road and these ditches?

" We are paying heavily to-day because we determined that a Barbarian Race, whose doctrine was Might and not Right, should not rule the world. I say deliberately, that what we are paying to-day is a mere nothing compared with what the rising and future generations will have to pay if they are made to live under insanitary conditions and amidst the constant menace of disease."

SEWAGE WORKS AND RIVER POLLUTION.

Throughout the Administrative County there are sewage works of various types, and these can be conveniently placed in the following groups:—

- (1) Those which discharge sewage in a practically crude state into the the sea or tidal river.
- (2) Those which submit sewage to some kind of chemical treatment.
- (3) Those which submit sewage to some kind of bacteria treatment.
- (4) Those which treat sewage on land by broad irrigation or intermittent downward filtration.

In previous reports, have been enumerated those districts which fall into each of the above groups.

With a view to bringing up-to-date the information regarding the various sewage works in the County, it is proposed in next year's report, after the necessary enquiries have been made, to incorporate a detailed description of each sewage works.

Numerous unsatisfactory ditches exist throughout the County into which drains discharge, and during the year several complaints have been received regarding these ditches. Some of these were inspected and such improvements were carried out as were possible in the circumstances.

The valleys which require to be kept under supervision are Cann Valley, Lea Valley, Thames Valley and tributaries including Roding, Rom and Ingrebourne, Crouch Valley, Blackwater Valley, Colne Valley, and Stour Valley.

On 1st November, 1919, the County Council came to an agreement with Drs. Fresh and Beale of 91, Queen Victoria Street, London E.C.4, whereby the latter agreed to carry out two inspections for one year of the river Roding and to collect, examine and report upon all samples taken; also to examine and report on all samples of river water and effluent collected by or for the County Medical Officer from other sources.

Under this agreement the sewage works which discharge into the river Roding were inspected on 6th November, 1919, when samples were taken with the following results:—

				Impurity Figure.	
				River.	Sewage Effluent.
Above Ongar	...	...	2.15		
Ongar effluent	...	...			22.0
Above Loughton	...	...	2.3		
Loughton effluent	...	...			7.4

			Impurity Figure.	
			River.	Sewage Effluent.
Above Buckhurst Hill ...	...	2.3		
Buckhurst Hill effluent ...	...			26.0
Above Chigwell ...	...	3.2		
Chigwell effluent ...	...			4.0
Above Woodford ...	...	3.45		
Woodford sprinkler ...	...			4.0
„ contact bed ...	...			7.3
Above Wanstead ...	...	3.55		
Wanstead effluent ...	...			4.8
Below Wanstead ...	...	3.95		
Standard impurity figure for a river water which may be used				
after infiltration for drinking purposes ...	...			2.5
Not to be so used ...	...			3.5
Standard for a passable sewage effluent ...	...			10.0
„ good „ ...	...			7.0

It will be seen that the sewage effluents from the Ongar and Buckhurst Hill Works were quite unsatisfactory. Consequently, the facts were communicated to the Local Sanitary Authorities concerned.

A subsequent visit made in May, 1920, showed that an improvement had been effected, but the sewage effluent was still unsatisfactory.

The following report by Dr. Brown, Medical Officer to the Maldon Port Authority, contains an interesting account regarding the sewage effluent from Osea Island and its effect upon shell fish:—

“Osea Island having become a Naval Base, with a population of several hundreds, complaints have arisen as to possible contamination of shell fish in the neighbourhood from its sewage, and of the destruction of marine plants which provide fish food.

“I have repeatedly visited the Island and discussed the matter with the Principal Naval Medical Officer, conferring on one occasion with representatives of the Board of Agriculture and Fisheries, and of the Tollesbury and Mersea Oyster Company, and with local fishermen.

“I came to the conclusion that the sewage effluent, containing as it does a fair quantity of cresol as a disinfectant may still be a possible source of contamination of shell fish, and is very likely to kill both shell fish and marine plants near the outfall. Indeed its effect in this respect appeared to be fairly obvious.

“The Admiralty is now engaged in establishing septic tanks and coke filter beds for the treatment of the sewage. I am inclined to doubt whether these will work satisfactorily if the present quantity of disinfectant is still

mixed with the sewage, or if it is not, whether the filtration will be sufficiently effective to protect the shell fish from possible typhoid contamination."

Returns from the Local Medical Officers of Health of the following districts show that the Sewage Disposal Works are inadequate:—Buckhurst Hill, Grays, Hoeburyness, Tilbury, Waltham Holy Cross, Walton-on-Naze, Chelmsford Rural, Exden & Winstree and Ongar.

NUISANCES, CLOSETS AND SCAYENGING.

As was to be expected in many districts the number of inspections during 1919 is somewhat higher than in previous years, owing to the fact that a large amount of arrears of work had to be coped with. The following table gives details of this work as furnished by the different Medical Officers of Health in Table A. (See page 35.)

During the year 15 complaints as to insanitary conditions were received by the County Medical Officer. The majority of these complaints were referred to the Local Medical Officers of Health, but in certain instances they were investigated, either by the County Medical Officer or County Sanitary Inspector. Several of the Local Medical Officers of Health decry the prevailing system of disposing of refuse by dumping it on land, and urge their Authorities to provide Destructors. A few quotations bearing on this and other phases of the work are given below:—

Chelmsford Borough. Dr. Cox states that—

"The privy midden is now a thing of the past in this Borough. Towards the end of the year there were four in use, but at the time of writing my Report these have been abolished."

Chelmsford Rural District. Dr. Macdonald has to report that the work of scavenging was so unsatisfactorily done that the District Council, during the current year, had to undertake by direct labour the scavenging of Broomfield, Great and Little Waltham. He also contends quite rightly that—

"Under existing conditions, even in Rural Areas, the water carriage system is the most satisfactory method of dealing with the refuse of sanitary conveniences and sinks. I trust the District Council will give a lead in this matter by providing such system for their own houses wherever possible, although likely to be attended with increased initial cost."

Chingford Urban District. Dr. Hardenberg states that—

"In my opinion, better methods should be adopted for the disposal of refuse, as the Tips are in close proximity to houses, and in the Summer make an excellent breeding ground for flies and vermin.

"There are no fixed receptacles for the storage of dust and refuse except in connection with business premises."

TABLE XI.

NUISANCES DEALT WITH IN YEAR 1919.

Sanitary Districts.	No. of Inspections made in 1919.	No. of Complaints received.	Informal Notices.		Statutory Notices.		No. of Nuisances in hand at close of		No. of Nuisances reported during		Summonses or Legal proceedings.
			Served.	Complied with.	Served.	Complied with.	1918.	1919.	1919.	Abated 1919.	
URBAN.											
Barking ...	2965	353	950	835	288	25	...	115	...	...	1
Braintree ...	...	...	M.O.	H. absent	...	ill.	...	...	...	...	...
Brentwood ...	473	9	10	10	21	21	3	7	235	231	1
Brightlingsea ...	15	15	15	15	2	2	1	...	20	21	...
Buckhurst Hill ...	671	16	42	34	8	3	...	6	79	73	2
Closing orders											
Burnham-on-Crouch ...	800	10	10	10	...	...	...	...	30	30	...
Chelmsford Borough ...	2619	71	688	562	5	4	...	...	...	...	...
Chingford ...	571	52	282	212	6	5	...	70	282	212	1
Clacton-on-Sea ...	380	...	68	64	39	39	6	4	105	101	...
Colchester Borough ...	2014	315	1182	1197	63	63	?	?	1429	1197	...
Epping ...	257	9	71	49	8	2	21	50	125	62	...
Frinton-on-Sea ...	148	8	5	5	...	...	...	...	5	5	...
Grays... ..	1958	90	450	450	15	13	3	5	668	666	1
Halstead ...	...	...	M.O.	H. absent	...	ill.	...	...	...	...	...
Harwich Borough ...	167	29	71	63	...	...	...	4	65	61	...
Ilford... ..	6136	276	631	505	616	227	13	139	631	505	...
Leyton ...	4362	1137	3556	2148	8	5	179	502	2103	2153	1
Loughton ...	726	8	35	34	1	...	...	2	36	34	...
Maldon Borough ...	65	...	19	19	46	43	?	3	46	62	...
Romford ...	173	16	105	105	57	57	5	7	86	79	...
Saffron Walden ...	457	110	111	101	9	9	4	10	404	398	...
Shoeburyness ...	1223	56	...	...	212	210	4	2	...	...	...
Tilbury ...	1910	67	407	392	10	9	3	5	407	401	...
Waltham Holy Cross ...	123	12	112	85	...	...	2	130	331	203	...
Walthamstow ...	5828	744	1266	1218	20	16	60	50	2238	2036	...
Walton-on-the-Naze ...	15	...	3	3	144	140	...	...	...	...	...
approx.											
Wanstead ...	1438	329	92	84	12	11	14	15	329	314	...
Witham ...	...	...	M.O.	H. absent	...	ill.	...	...	...	...	...
Wivenhoe ...	250	10	13	21	...	...	1	1	22	21	...
Woodford ...	910	41	...	...	9	9	14	10	234	240	...
RURAL.											
Belchamp ...	...	...	M.O.	H. absent	...	ill.	...	...	...	...	...
Billericay ...	497	50	84	56	110	96	84	63	329	275	1
Braintree ...	...	...	M.O.	H. absent	...	ill.	...	...	...	...	...
Bumpstead ...	243	3	34	32	...	...	3	2	34	35	...
Chelmsford ...	115	?	315	?	47	?	?	66	...	249	...
Dunmow ...	179	21	185	185	11	...	136	111	...	...	...
Epping ...	3168	15	160	124	3	3	6	36	160	130	...
Halstead ...	456	15	146	...	...	...	...	...	...	...	...
Lexden and Winstree ...	630	35	54	42	12	10	5	8	12	12	...
Maldon ...	583	...	40	...	4	...	...	61	...	69	...
Ongar ...	347	45	40	34	...	...	6	4	4	22	...
(1918-1919) (1918-1919)											
Orsett ...	575	45	300	300	35	35	...	1	575	574	...
Rochford ...	874	...	226	...	61	...	...	36	...	251	...
Romford ...	637	56	180	112	208	189	56	120	550	446	...
(1918-1919) (1918-1919)											
Saffron Walden ...	317	41	211		208		...	3	211	...	...
Stansted ...	258	...	33	...	1	...	...	...	...	...	...
Tendring ...	270	40	30	27	...	...	...	3	...	15	...

TABLE XII.

CLOSETS.										SCAVENGING.									
Sanitary Districts.	Privies. No. in District.	No. of Privies re-constructed during year.		No. of Pail or Tub Closets.	W.C.'s		Additional closets provided for old Property.		How performed.		How disposed of.				Any inadequacy and where.	Improvements suggested.			
		W.C.'s	Other.		With Flushing cisterns.	Without Flushing cisterns.	W.C.'s	Other.	By Council.	By Contract.	Destructor.	Tips.	Farmers.	Annual Cost. £ s. d.					
URBAN—																			
Barking ...	16	...	M. O. H.	4	6932	68	...	...	Yes	...	...	2	...	2778 0 0	...	
Braintree ...	...	...	...	absent	ill.	...	...	...	...	...	...	...	...	...	...
Brentwood ...	2	...	...	4	1290	354	5	...	...	Yes	...	Outside district.	...	426 8 0	...	
Brightlingsea ...	...	...	...	29	478	595	...	...	...	Yes	...	Yes	...	200 0 0	...	Proper dustbins for each house required.
Buckhurst Hill ...	...	...	...	...	All except one	1	...	...	...	Yes	...	Yes	...	380 10 9	...	
Burnham-on-Crouch ...	1	...	...	42	500	180	...	...	...	Yes	...	...	Yes	255 0 0	...	
Chelmsford Borough ...	4	...	2	56	5000	3	8	...	Yes	...	...	Yes	...	...	...	
Chingford ...	...	...	...	approx. 23	approx.	9	...	...	Yes	...	...	Burnt at tips	...	545 0 0	...	Destructor needed.
Clacton-on-Sea ...	6	...	...	15	All	...	...	...	Yes	...	...	Yes	...	...	...	Improvement might be made in disposal of house refuse.
Colchester Borough ...	50	...	?	104	1823	401	6	...	Yes	...	...	Yes	...	...	...	Destructor needed.
Epping ...	...	...	...	...	...	...	1	...	Yes	...	...	Yes	...	150 0 0	...	
Frinton-on-Sea ...	...	...	...	...	...	...	...	...	Yes	Yes	...	Yes	...	270 0 0	...	
Grays ...	2	...	...	3	All	...	1	...	Yes	...	Yes	...	Yes	1300 0 0	...		
Halstead ...	...	...	M. O. H.	absent	ill.	...	...	...	...	...	...	...	...	...	...
Harwich Borough ...	20	...	...	30	3800	40	...	...	Yes	...	?	?	?	1865 0 0	...	
Ilford ...	83	26	2	56	All	...	...	...	Yes	...	House Refuse	?	?	9282 0 0	...	
Leyton ...	...	...	...	43	All	...	...	...	Yes	Cartage	...	Road sweeping	...	12350 0 0	...	
Loughton ...	...	...	...	10	1121	152	2	...	Yes	...	...	Yes	...	462 2 4	...	
Maldon Borough ...	22	...	...	earth	148	4	2	...	Yes	...	...	Yes	...	500 0 0	...	
Romford ...	58	...	...	99	1278	1253	...	...	Yes	...	...	Yes	...	880 5 6	...	
Saffron Walden ...	47	...	...	30	2821	25	15	...	Yes	...	...	Yes	...	210 0 0	...	
Shoeburyness ...	5	...	...	19	1420	14	...	...	Yes	...	...	Yes	...	650 0 0	...	
Tilbury ...	10	...	...	10	98 %	9	2	...	Yes	...	...	Yes	...	900 0 0	...	
Waltham Holy Cross ...	19	...	...	163	857	242	...	...	Yes	Yes	Partly	Screening	...	400 0 0	...	Destructor needed.
Walthamstow ...	...	...	...	...	All	...	...	...	Yes	...	Yes	...	...	4407 15 0	...	
Walton-on-the-Naze ...	...	29	...	10	526	...	3	...	Yes	...	...	...	...	191 2 0	...	
Wanstead ...	...	...	...	...	All	...	5	...	...	Yes	?	?	?	1940 0 0	...	
Witham ...	70	...	M. O. H.	absent	ill.	44	9	...	...	Yes	...	...	...	400 0 0	...	
Wivenhoe ...	...	1	...	6	460	...	1 pail	...	...	Yes	...	Yes	...	1800 0 0	...	
Woodford ...	...	...	...	6	All	...	...	...	...	Yes	...	Yes	...	...	...	
RURAL—																			
Belchamp ...	...	...	M. O. H.	absent	ill.	...	...	...	...	...	...	...	...	...	...
Billerica ...	130	...	8	1570	1577	926	...	...	...	Yes	...	Partly	Partly	610 0 0	...	
Braintree ...	...	...	pail	...	...	...	...	...	...	...	...	...	...	...	...
Bumpstead ...	282	...	M. O. H.	absent	ill.	...	...	...	...	...	...	...	...	...	...
Chelmsford ...	1294	...	4	274	21	...	1	...	Not undertaken	Yes (part Dunmow)	...	Yes	Yes	506 19 0	...	Thaxted, Gt. Bardfield, Stebbing & Felstead			
Dunmow ...	2700	...	617	2655	1388	426	...	...	...	...	...	...	...	130 0 0	...	Theydon Bois
...	...	...	...	...	224	345	...	...	...	...	...	...	...	...	...
Epping ...	554	1	3	1056	1462	463	2	...	...	Harlow & Chigwell	...	Yes	...	187 0 0	...		
Halstead ...	1247	...	...	604	295	113	1	...	...	...	...	...	...	...	...
Lexden and Winstree ...	850	...	9	3085	20	50	3	10 approx.	...	Rowhedge and W. Mersea	...	...	Yes	780 0 0	...	Castle Hedingham	
Maldon ...	1023	...	...	2556	400	140	...	...	...	Yes	...	?	?	644 6 0	...	
Ongar ...	400	...	17	1100	75 %	25 %	...	...	...	Yes	...	?	?	...	...		
Orsett ...	328	12	pails	585	2079	588	...	...	...	Yes	...	Yes	...	1247 14 11	...	Abridge and High Ongar
Rochford ...	804	...	...	1200	720	300	...	...	Partly	Partly	...	Yes	Yes	2030 0 0	...	Aveley
Romford ...	158	...	...	441	3637	438	1	...	...	Yes	...	Yes	Yes	...	...		
Saffron Walden ...	776	...	7	1606	371	...	3	...	...	Yes	...	Yes	Yes	150 0 0	...	Wennington	
Stansted ...	...	...	Sanitary survey now in progress.	...	...	...	...	...	...	Yes	...	?	?	...	...		
Tendring ...	...	...	...	...	...	...	...	...	...	Yes	...	?	?	...	...		

N.B.—See footnote to Table on page 27.

Colchester Borough. Dr. Corfield reports—

“House refuse is removed once a week in the district. The refuse is disposed of in tips situated in different parts of the Borough. Complaints of rats at the tip near the North Station were constant in the early part of the year, and special measures for poisoning these were taken with complete success.

“A Destructor to deal with the whole of the refuse in the town would be a more sanitary method of disposal, and the possibility of erecting one has been considered upon several occasions. But the high cost of erection and maintenance have always proved a stumbling block to progress in this direction, and now this is more the case than ever. The method of disposal by sorting and selling the sorted materials has also been considered but in the same way this at the present time was found too expensive.”

Tilbury Urban District. Dr. Fowler states that—

“Scavenging is undertaken by direct labour by the Council; the refuse is tipped at the Eastern end of the District on unoccupied ground. A refuse Destructor is much needed.”

Walthamstow Urban District. Dr. Clarke states that—

“Owing to the changed post-war conditions, a weekly collection of house refuse, instead of the heretofore bi-weekly one was inaugurated, and experience showed that this is sufficient, and that few residents fail to put out their ashbins for collection. The refuse is dealt with at the Destructor.

“Almost every householder makes use of a movable ashbin, but during the latter stages of the War, and subsequently the price of these prescribed by the Bye-Laws had increased three or fourfold, and constant complaints have been received from tenants as to their non-supply by the landlords.

“Prior to 1919, the onus for providing movable dustbins was thrown upon the tenants, but towards the end of the year the Council decided that the liability rests with the owners.

“At present (April) all kinds of makeshifts, neither efficient nor suitable, are used, and the Council are in hopes that the landlords, without compulsion, will perform their obligations.”

It is a well-known fact that the accumulation of refuse proves a great attraction for rats, with the result that refuse dumps and sewage farms become the chief sources of infestation. Therefore, quite apart from the question of public health, the absence of a suitable destructor in every sanitary district is much to be deprecated. Other remarks on the rat question are made under the heading of “The Rats and the (Destruction) Act, 1919.” (See page 41.)

Manure Heaps.

Dr. Wright (Romford Rural) reports:—"A large tract of marshy land on the banks of the river has, for some years past, been used for the deposit of refuse brought by barge from various London parishes, and has assumed a very large area—several acres—the refuse consisting of all kinds (not animal). This has been a very serious nuisance owing to (1) great pollution of the marsh dyke (which runs alongside the deposit); (2) constant breaking out of fires in various parts of the area owing to spontaneous combustion, causing large volumes of offensive smoke to be emitted; and (3) forming an enormous area for the breeding of flies. This deposit has caused much anxiety to the Council and much negotiation with the proprietor, the Council insisting on means being taken to extinguish all outbreaks of fire as soon as occurring, the liming of the marsh dyke, and the sprinkling of borax all over the deposit. These conditions were agreed to by the proprietor, but were so imperfectly carried out that, ultimately, the Council determined to take legal action to prevent any further deposit of refuse. A suit was commenced in one of the High Courts, but before the case came on for trial, the proprietor submitted to a legal injunction to cease depositing refuse and to take all possible steps to remedy the nuisance, so that at the present time nothing offensive is going on. A similar refuse shoot of a large area exists about a mile higher up the river, but no complaint is made of this, and none of the nuisances of the above refuse shoot exist here, and the locality is far away from an inhabited area. These are the only nuisances from noxious businesses existing in the district."

REGULATED BUILDINGS AND TRADES.

To ensure the keeping of these premises in a satisfactory condition, it is essential that surprise as well as systematic visits should be made. A perusal of Table XIII. will show that many Inspectors apparently adopt this procedure with the excellent results indicated in some of the districts.

Many Local Medical Officers of Health consider that their work of meat inspections is severely handicapped owing to the lack of public abattoirs. It is therefore interesting to note that in the Rochford Rural District Dr. Macdonald states that—

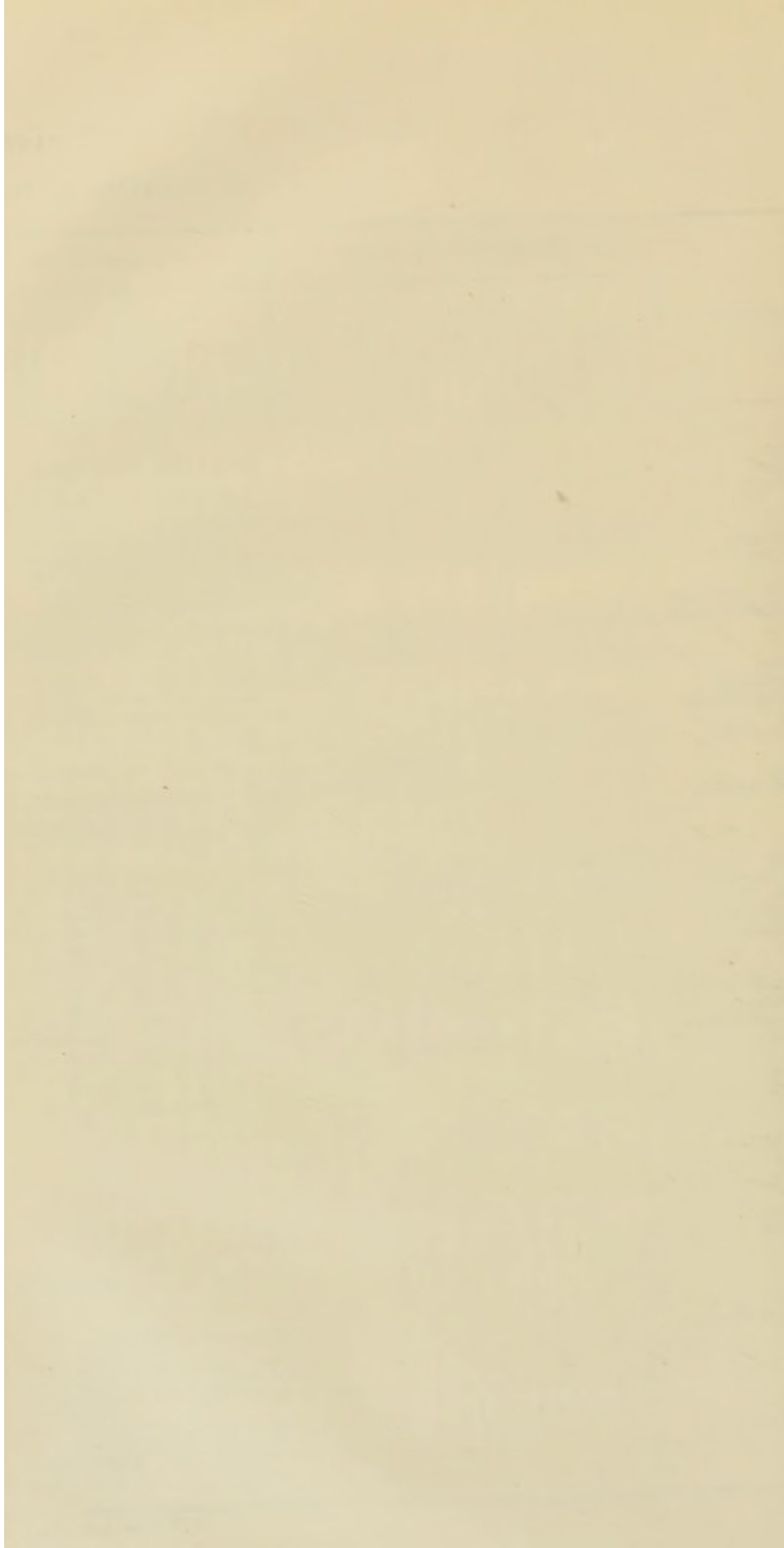
"The question of the Bye-Laws is at present under the consideration of the District Council. With so many slaughter houses, a systematic inspection of home-killed meat is impossible, especially as the cattle are not slaughtered on any particular day. The ideal solution is the provision of a public slaughterhouse."

According to Table A, only 11 Urban Districts and one Rural District have offensive trades to supervise, the aggregate number of trades in those districts being 53, which necessitated inspections to the number of 1,402.

TABLE XIII.
REGULATED BUILDINGS AND TRADES.

SANITARY DISTRICTS.	COMMON LODGING HOUSES.					BAKEHOUSES.					SLAUGHTER HOUSES.					KNACKERS YARDS.				
	No. in District.	No. on Register.	No. of Inspections made.	General Conditions.	Legal proceedings.	No. in District.	No. on Register.	No. of Inspections made.	General Conditions.	Legal proceedings.	No. in District.	No. on Register.	No. of Inspections made.	General Conditions.	Legal proceedings.	No. in District.	No. on Register.	No. of Inspections made.	General Conditions.	Legal proceedings.
URBAN.																				
Barking	5	5	52	Clean	...	16	16	58	Clean	...	3	3	157	Good	...	...	...	...	...	...
Braintree
Brentwood	3	3	6	Clean	...	9	9	29	Fair—4 not in use, 2 being underground	...	5	5	23	Clean (2 old, 3 new)	1	...	...	...	...	...
Brightlingsea	13	13	26	Satisfactory	...	5	5	20	Satisfactory	...	...	...	...	...	...
Buckhurst Hill	5	...	45	Do.	...	3	...	37	do.	...	...	...	...	...	...
Burnham-on-Crouch	6	6	24	Good	...	4	4	16	(Only 2 used)	...	...	...	...	...	...
Chelmsford Borough	2	2	...	Generally well conducted.	...	20	20	...	Fairly satisfactory	...	8	8	...	Satisfactory	...	1	1	...	Satisfactory	...
Chingford	4	4	9	Good	...	3	3	9	Good	...	...	...	...	...	...
Clacton-on-Sea	8	8	27	Good	...	3	3	15	Good	...	...	...	...	...	...
Colchester Borough	2	2	53	Good	...	...	36	69	Fair	...	19	10	483	Fair	...	1	1	14	Fair	...
Epping	4	4	108	Clean	...	4	4	218	Clean	...	...	...	...	...	...
Frinton-on-Sea	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Grays	2	2	17	Satisfactory	...	6	...	33	Satisfactory	...	4	...	50	Satisfactory	1	...	...	...	...	...
Halstead	10	10	20	Fair—1 reconstructed	...	9	7	330	...	...	...	...	...	...	...
Harwich Borough	25	25	68	Good	...	2	2	72	Good	...	...	...	...	...	...
Ilford	38	38	87	...	...	15	15	928	...	...	...	...	...	...	...
Leyton	4	4	48	Good	...	3	3	37	Good	...	...	...	...	...	...
Loughton	9	9	18	Good	...	6	6	12	Good	...	...	...	...	...	...
Maldon Borough	1	1	2	Fair	...	15	15	72	Good	...	10	10	Weekly	Good	...	...	...	...	...	...
Romford	2	2	24	Good	...	10	10	26	Good	...	5	5	25	Good	...	1	1	Weekly	...	...
Saffron Walden	3	3	52	Good	...	...	...	...	...	...	...	...	...	...	...
Shoeburyness	2	2	8	Satisfactory	...	2	2	50	1 being reconstructed	...	...	...	...	...	...
Tilbury	1	1	4	Fairly satisfactory	...	5	5	22	Good	...	4	4	98	Good	...	...	...	...	...	...
Waltham Holy Cross	51	51	204	Good	...	15	15	480	Fair to good	...	...	...	...	...	...
Walthamstow	4	4	8	Satisfactory	...	2	2	1	Only 1 in use	...	...	...	...	...	...
Walton-on-the-Naze	4	3	24	Good	...	2	2	130	Good	...	...	...	...	...	...
Wanstead	3	3	12	Good	...	1	1	4	Good	...	...	...	...	...	...
Witham	8	8	29	...	...	6	6	38	...	...	...	...	...	...	...
Wivenhoe
Woodford
RURAL.																				
Belchamp
Billerica
Braintree	12	...	18	...	...	10	10	31	...	...	2	2	1	1 not in use	...
Bumpstead
Chelmsford	5	5	23	Satisfactory	...	2	2	8	Satisfactory	...	...	...	...	...	...
Dunmow	42	...	36	Clean	...	17	...	41	Fair	...	1	...	3	Satisfactory	...
Epping	1	4	...	...	...	32	...	53	Generally fair	...	13	...	72	Generally fair	...	1	1	6	Generally fair	...
Halstead	15	15	...	...	...	7	7	...	...	...	...	...	...	...	...
Lexden and Winstree	19	19	38	Clean	...	7	7	110	Clean	...	...	...	...	...	...
Maldon	18	18	30	Clean	...	10	10	45	Clean	...	...	...	...	...	...
Ongar	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orsett	15	15	30	Satisfactory	...	...	...	...	...	...	...	...	...	...	...
Rochford	11	11	26	Good	...	7	7	131	Satisfactory	...	2	...	...	Satisfactory	...
Romford	19	...	...	...	...	13	13	42	Good	...	1	1	6	do.	...
Saffron Walden	12	12	146	Good	...	13	...	...	...	...	2	2	10	do.	...
Stansted	26	26	38	Good	...	11	11	140	Fair	...	...	...	...	...	...
Tendring	9	9	...	Good	...	7	7	27	Good	...	1	1	7	Good	...
	33	...	...	Satisfactory	...	2	...	...	Fair	...	...	...	...	Good	...
	Fairly clean	...	...	15	...	Fair	...	...	...	...	Satisfactory	...

N.B.—See footnote to Table on page 27.



THE RATS AND MICE DESTRUCTION ACT, 1919.

This Act requires the occupants of any land to take all reasonable steps to prevent their land becoming infested with rats or mice. The Authorities for the administration of the Act being Councils of the County or Borough, and in any Port Sanitary District, the Port Sanitary Authority. The Act requires the Local Authority to indicate, by public notice within its area, instructions as to the most effective methods that can be adopted, both individually and collectively, with a view to the destruction of rats and mice.

The County Council considered the best means to be adopted for the carrying out of this Act, and in 1920 the Rats Destruction Officer was appointed to advise and as far as possible assist occupiers of land and buildings in the carrying out of the obligation imposed on them under the Act to keep such land and buildings free from rats and mice.

Active steps were continued throughout the year in the Colchester Borough. Where every effort was made to further the extermination of rats on infested premises. Mr. Corfield reports that—

“The Rat Weeks in October and December were very successful, as nearly two thousand rats were caught and destroyed.”

“There has also been a systematic poisoning of rats carried out during the year, and doubtless, by this method, many thousands have been killed.

“The actual number of rats known to have been destroyed is 10,924.”

PART IV.

SCHOOLS.

A full account of the work of Medical Inspection and Treatment undertaken throughout the County Education Area is given in the separate report of the School Medical Officer. During the year, 18491 children were examined either as routine or special cases, with the results indicated in the following table:—

(1) The total number of children medically inspected (whether “Code” Group, special, or ailing child)	18491
(2) The number of children in (1) suffering from defects (other than uncleanliness or defective clothing or footgear) who require to be kept under observation (but not referred for treatment) ..	5888
(3) The number of children in (1) who were referred for treatment (excluding uncleanliness, defective clothing, etc.)	7081
(4) The number of children in (3) who received treatment for one or more defects (excluding uncleanliness, defective clothing, etc.) ..	* -

*The figures under this head are not available for the year 1919, but they will be furnished in the next report for 1920.

A glance at the foregoing Table will reveal the outstanding average features (a) that one out of every three children examined needed to be kept under observation; (b) that two out of every five children examined needed treatment for defects in one form or other; and (c) that two out of every three children needed either treatment or to be kept under observation.

As regards treatment, the following is a summary of the kind of treatment undertaken during the year:—

- (1) Treatment of minor ailments by School Medical Inspectors and School Nurses at School Clinics.
- (2) Dental Treatment by whole-time and part-time Officers, for which the following fees are charged:—
2s. 6d. per case per course of treatment.
Nothing for necessitous cases and for single extractions.
- (3) Refraction of eye defects and the provision of spectacles at cheap rates.
- (4) Conveyance of children to and from Treatment Centres.
- (5) X-Ray Treatment of Ringworm cases.
- (6) Tonsils and Adenoids as arranged by Care Committees.

Some Medical Officers of Health in the County Education area seem to overlook the necessity for making occasional visits to the Elementary Schools. It should be remembered that, according to the Public Health Act, 1875, a school is designated as a house for public health purposes, and consequently comes under the supervision of the local health officials. The lack of such visits is most noticeable in the majority of the Rural Districts. The reports received indicate that school visits were made during 1919 as follows:—

(a)	By the Local Medical Officers of Health	...	...	209
(b)	By the Local Sanitary Inspectors	...	...	412

One or two Medical Officers of Health have made special reference to certain schools in their district, extracts from which are given below:—

Billericay Rural District. Dr. Wells reports—

“Representations were made to the School Managers of Wickford C.E. School to convert the privy closets into a water flushing system. The public sewer runs past these schools, and the urinals are already connected to it. This work has not yet been carried out owing to financial difficulties between the Managers and the County Education Authority. It is urgently needed.”

(This school was also specially inspected by the County Medical Officer and County Architect who submitted a joint report to the Education Committee concerning the improvements which were required to place this school in a satisfactory sanitary condition).

"The school in Ramsden Bellhouse Parish is much too small to accommodate the children attending it. It is impossible for children to keep their brains alert and their health good in such a crowded building. The Parish of Ramsden Bellhouse, especially that part known as Homestead's Estate, is developing rapidly and another school is required."

Chelmsford Rural District. Dr. Macdonald states that —

"At Sandon school the disposal of the refuse is not satisfactory, and the Managers have been served with an informal notice."

Chingford Urban District. Dr. Hardenberg states that—

"There is great and urgent need for both a boys' and girls' Secondary School. At present some of the private schools are conducted in public halls and buildings, which on many evenings are used for meetings, concerts and social gatherings. I do not consider that this is conducive to the good health of the children attending the schools, as the buildings themselves are not adapted for the use of schools, nor are the sanitary arrangements suitable."

It was necessary to resort to school closures in many cases, and the following table gives particulars of such closures. In some instances the Local Education Authority found it advisable on account of reduced attendance to close the schools under the powers of Article 45 (b) of the Code:—

Diseases.	Schools closed by Order of Local Sanitary Authority.		Schools closed by Local Education Authority.		Total.
Measles	25	...	2	27
Whooping Cough	...	7	...	2	9
Diphtheria	3	...	—	3
Mumps	—	...	6	6
Scarlet Fever...	...	3	...	2	5
Influenza	1	...	—	1
Miscellaneous	...	1	...	—	1
		—		—	—
Totals		40		12	52
		—		—	—

N.B.—The figures in the above table relate to the County Education area only.

MILK SUPPLIES.

The importance of providing a supply of pure and wholesome milk is recognised by almost everyone. It is a form of food which can be replaced by no other, and for young children is practically the only food possible where the maternal supply is not

available. Although this fact has been known for many years, unsatisfactory conditions still exist in connection with the production and distribution of milk. The subject is a vital one, both to the producer and the consumer, and the final Report of the "Committee on the Production and Distribution of Milk" should do much in the way of securing better as well as more abundant supplies of milk. This Committee was specially instructed to report on the production and distribution of milk, including the consideration of the steps which should be taken—

- (1) To stimulate production.
- (2) To conserve milk supplied during any period of excess.
- (3) To provide for the special needs of children.
- (4) To effect economies in the cost of production and distribution.
- (5) To organise supplies by administrative action so as to reach all sections of the community.
- (6) Other kindred subjects.

Dirty Milk.

There is still plenty of room for improvement in the cleanliness and hygienic quality of the milk supply in this Country. Medical Officers of Health and Sanitary Inspectors have for years been acquainted with the unsatisfactory conditions which exist at most cowsheds and dairies. Very creditable efforts have been made by some farmers to improve the standard of cleanliness and sanitary conditions, but the general public remain indifferent to the conditions which obtain at the sources of their milk supplies. It is no uncommon thing to see a farmer spend hours each week in carefully grooming his horses, but the cows from which is derived the vital food of infants are usually left in what is practically a permanently dirty condition. Again, the horses' stables are almost always in a far cleaner condition than are the cowsheds. No wonder that, with the further opportunities of pollution in transit, a sample of milk taken recently at a London hospital was found to contain 250,000,000 bacteria per cubic centimetre. Eminent authorities are now agreed that 100,000 bacteria per cubic centimetre is a reasonable standard of attainment, but real progress in this direction cannot be made without the co-operation of the community, who, in the past, have shown in general little knowledge or understanding of the subject. The average consumer has learned by experience the importance of a pure water supply, but so long as the milk which he drank was not obviously impure, he gave the question very little thought.

In view of the above remarks it is satisfactory to note from the following table that the cowsheds in the County are regularly inspected. In no instance was it necessary to take legal proceedings under the Dairies, Cowsheds and Milkshops Order.

The veterinary inspection of cows is essential if the prevention of the sale of milk from Tuberculous cows is to be secured.

It is unfortunate that germs of Tuberculosis are still being found in a considerable percentage of the milk supplies, but it is now common knowledge that the risk from tuberculous milk may be practically removed by the simple process of efficient pasteurisation. The Committee referred to on the previous page enumerate two alternative methods for eradicating tuberculous milk, but either will prove to be very costly on application.

TABLE XIV.
MILK SUPPLIES.

Sanitary Districts.	Cowkeepers in district.		Milk-sellers who are			Cowsheds.			Milch Cows.	
	Number.	Registered.	Cowkeepers.	Purveyors only.	Total registered.	Number.	Inspected.	General conditions.	Approximate No.	Insufficiency in milk supply.
URBAN.										
Barking	2	2	1	24	25	2	19	Fairly good	14	...
Braintree	...	...	...	...	...	...	...	...	...	...
Brentwood	1	1	1	5	6	1	Periodically	Good	2	...
Brightlingsea	5	5	2	7	9	5	10	Satisfactory	83	...
Buckhurst Hill	2	2	2	2	4	3	79	do.	40	...
Burnham-on-Crouch	6	3	4	2	5	5	20	Good	140—150	Yes
Chelmsford Borough	8	8	5	11	16	9	...	...	300	...
Chingford	11	11	10	8	18	29	39	Fair	204	...
Clacton-on-Sea	4	4	3	11	14	3	12	Good	50	...
Colchester Borough	...	23	...	...	74	81	...	Fair	280	...
Epping	4	4	4	1	5	4	48	Clean	?	...
Frinton-on-Sea	1	1	4	...	4	1	...	...	...	...
Grays	...	...	...	8	...	...	...	...	...	During 1st quarter
Halstead	...	...	...	...	...	...	...	...	...	...
Harwich Borough	5	3	3	13	16	3	6	Fair	35	...
Ilford	10	10	7	39	46	10	149	Good	186	...
									(excluding Institutions)	...
Leyton	4	4	4	102	106	4	20	do.	27	...
Loughton	7	7	2	4	6	16	90	Very fair	...	...
Maldon Borough	8	6	8	7	7	8	16	Fair	120	...
Romford	11	11	10	12	22	11	180	Good	240	...
Saffron Walden	13	13	9	4	15	23	28	Fair	100	...
Shoeburyness	4	4	3	5	5	3	52	Good	45	...
Tilbury	3	3	3	5	8	5	10	Satisfactory	70	...
Waltham Holy Cross	12	12	9	3	24	29	76	Good	389	...
Walthamstow	12	12	12	76	88	12	48	Fair to good	92	...
Walton-on-the-Naze	...	...	...	2	2	...	...	...	...	...
Wanstead	5	3	3	4	7	5	17	Fair	47	...
Witham	...	...	...	...	...	...	...	...	...	...
Wivenhoe	5	4	3	3	3	5	20	Fair	36	...
Woodford	4	4	4	5	9	3	10	Clean	90	Yes
RURAL.										
Belchamp	...	...	...	...	...	...	...	...	...	...
Billericay	86	79	20	14	34	98	116	Fair	1800	...
Braintree	...	...	...	...	...	...	...	...	...	...
Bumpstead	12	12	12	...	12	12	26	Satisfactory	100	...
Chelmsford	...	...	...	...	...	160	65	...	3950	...
Dunmow	...	61	...	...	...	...	...	...	...	...
Epping	61	61	23	3	26	61	194	Fair	1700	...
Halstead	18	18	18	...	...	...	...	...	...	...
Lexden & Winstree	...	...	...	...	...	...	...	...	...	...
Maldon	...	...	...	...	...	77	40	...	2100	...
Ongar	110	96	13	...	96	150	50	Satisfactory	...	Yes
Orsett	27	27	14	15	15	27	54	Good	590	...
Rochford	...	...	...	13	...	...	35	...	2000	...
Romford	43	43	29	4	38	67	380	Good	1036	...
Saffron Walden	45	15	15	...	15	15	51	Fairly good	370	...
Stansted	...	...	...	...	...	18	...	...	...	...
Tendring	...	...	...	...	...	68	...	...	...	...

The public should, however, bear in mind that much infantile debility leading to susceptibility to many diseases including Tuberculosis is due, not to tuberculous milk, but, on the contrary, to inadequate milk consumption. Plenty of milk duly pasteurised should be available for everyone, especially infants.

Diarrhoea, Typhoid Fever, Cholera, Diphtheria, Scarlet Fever, sore throats and other diseases have been caused by infected milk.

It is interesting to note the work which is being carried out in this connection at Colchester. Dr. Corfield reports as follows:—

“The examination of Milking Herds by a Veterinary Surgeon is of the greatest value as it weeds the wasters, which are frequently tubercular, out of a herd. The re-introduction of such inspection in 1919, resulted in over 400 cows being examined; four of these were considered suspicious and samples of their milk were examined in the Public Health Department Laboratory, with the result that the Tubercle Bacilli were found in two of them, and both these cows were slaughtered.”

Milk (Mothers & Children) Order, 1918.

Under this Order amendments of which were made in 1919, Local Authorities are empowered to supply certain quantities of milk free, or at less than cost price not merely in necessitous cases, but also where such a supply is necessary because of the retail price of milk in any area. The arrangements for making such supplies have been left in the hands of the Local Authorities, but in connection with two Infant Welfare Centres, supplies of “Glaxo” have been provided by the County Council at cost price.

FOOD.

A summary of the work done in those districts which have furnished the information asked for in Table A. is given below. In many of the cases the food was surrendered voluntarily to the Inspectors.

District.	Number of seizures of Food.	Number of prosecutions.
(a) Urban ...	299	3
(b) Rural ...	101	—
	<hr/> 400	<hr/> 3

One excellent effect of the Food Control Orders was the compensating of butchers when carcasses had to be surrendered. The experience in Harwich, as shown in the following extract from Dr. Porter's annual report, is of interest in this connection:

“I think I should here refer to a question which engaged the attention of the Health Authorities previous to the inception of food control, i.e. compensation to butchers for loss by the surrender of diseased meat. Before the Food Control Orders came into operation a butcher was free to buy cattle, sheep and pigs, either privately through a farmer or dealer or through a market, but under Food Control Orders he is obliged now, as regards cattle, to purchase only at a special market named on his permit; he is also obliged

to take whatever class of beast is allotted to him, and should the beast prove to be diseased he can claim through the auctioneer the full value of the beast as paid by him, provided he obtains a certificate from the Medical Officer of Health or a certified meat Inspector to the effect that the carcase or part thereof was diseased and unfit for human consumption. This has had an excellent effect, as butchers have now nothing to gain by attempting to conceal and sell diseased meat, but will willingly send for the Sanitary Officers should such meat come into their possession. If these Orders are revoked we shall once again revert to the old system whereby a butcher may purchase what appears to be a good sound beast, only to find on killing it that the whole is diseased and unfit for food. Unless he can persuade the farmer to meet him on the matter it means a dead loss of £50 or more; alternatively he can conceal the disease with the risk of being caught by the Inspector. This is, in my opinion, unfair both to the butcher and the public, and I hope the Ministry of Health will devise some scheme whereby a butcher can, by paying a certain sum on each beast he buys, ensure himself against loss in this way."

SALE OF FOOD AND DRUGS ACTS, 1875—1899.

The supervision of the duties under these Acts performed by the Weights and Measures Inspectors, who also act as Food and Drugs Inspectors, is not undertaken by the County Medical Officer. Dr. Bernard Dyer, the County Analyst, has, therefore, kindly furnished the following particulars of the work done during the period 1st December, 1918, to 30th November, 1919. It will be noted in the following table that the samples have been submitted from three sources, namely, County Inspectors, Local Sanitary Authorities and Private Purchasers:—

TABLE XV.

SHOWING NUMBER OF SAMPLES ANALYSED AND PERCENTAGE OF ADULTERATION.

	Samples Analysed.	Samples Unsatisfactory.	Percentage of adulteration.
Northern District of the County	806	22	2·7
Southern District of the County	885	35	4·0
Metropolitan District of the County	1205	56	4·6
Shelmsford Borough Council	17	3	
Ilford Urban District Council	4	—	—
Romford Union	2	—	—
Valthamstow Urban District Council	7	—	9·1
Wanstead Urban District Council	2	—	—
West Ham Union	7	1	—
Woodford Urban District Council	2	—	
Private samples	3	—	—
	2940	117	4·0

TABLE XVI.

SHOWING KIND OF SAMPLES ANALYSED AND NUMBER AND KIND OF SAMPLES
WHICH WERE UNSATISFACTORY.

Kind of Sample.	No. analysed.	No. unsatisfactory.
Arrowroot	1	—
Baking Powder	142	—
Beer	2	—
Blanc Mange Powder	4	—
Bun Flour	26	2
Butter	220	1
Butter, Cocoa	1	—
Cake Flour	3	—
Cheese	1	—
Chocolate Powder	2	—
Chocolate Pudding Powder	1	—
Cocoa	131	—
Cocoa Powder	15	—
Cocoa and Milk Powder	1	—
Coffee	142	1
Coffee and Chicory	11	—
Coffee Essence	1	—
Coffee Mixture	1	—
Corn Flour	4	—
Cream Custard	1	—
Custard Powder	71	—
Dripping	16	—
Drugs :—		
Camphorated Oil	7	—
Castor Oil	1	—
Cinnamon and Quinine Capsules	1	—
Compound Liquorice Powder	1	—
Epsom Salts	93	1
Ipecacuanha Wine	3	—
Magnesia, Bismuthated	1	—
Magnesia, Citrate of	1	—
Quinine Tablets, Ammoniated	1	—
Quinine Tablets, Bisulphate of	1	—
Quinine Wine, Orange	1	—
Egg, Dried	6	—
Egg, Liquid	1	—
Egg Powder	77	—
Fish Paste	7	—
Ginger Wine	1	1
Glencake	2	—
Gravy Salt	5	—
Honey	3	—
Jam	25	—
Jelly	4	—
Jelly Powder	2	1
Lard	220	—
Lard, Compound	6	—
Lemon Curd	1	—
Lemonade Crystals	1	—
Lemonade Powder...	1	—
Margarine	263	—
Marmalade	4	—
Milk	1241	102
Milk, Concentrated	1	—
Milk, Condensed	12	—
Milk, Dried	5	—
Milk, Separated	1	—
Mustard	6	2
Mustard Condiment	1	—
Mustard Mixture	9	—
Pea Flour	4	—
Pea Soup Flour	1	—
Pepper	7	—
Pudding Powder, Custard	2	—
Rice, Ground	3	—
Self-raising Flour	8	—
Soup	2	—
Sponge Powder	1	—
Sponge Cake Powder	1	—

Kind of Sample.					No. analysed.	No. unsatisfactory.
t, Beef	...	...	...	...	2	—
t, Shredded	...	...	...	...	9	—
ar, Granulated	...	...	...	...	1	—
arlene	...	...	...	...	1	1
up, Golden	...	...	...	...	2	—
le Cream	...	...	...	...	1	—
...	...	...	...	...	15	—
acle ..	...	...	...	...	1	—
ban Pudding	...	...	...	...	1	—
egar ...	...	...	...	...	59	5
isky ...	...	...	...	...	2	—
ckshire Pudding Powder	...	...	...	...	4	—
					2940	117

The following are condensed particulars with regard to the unsatisfactory samples :—

Two samples of Bun Flour contained an excessive quantity of calcium sulphate, namely, 8 per cent.

One sample of Butter contained an excessive quantity of boracic preservative, namely, 1·4 per cent.

One sample of Coffee, sold as such, contained 24 per cent. of Chicory.

One sample of Epsom Salts contained 14 parts of Arsenic per million, whereas Epsom Salts as defined in the British Pharmacopœia should not contain more than 5 parts per million.

One sample of Jelly Powder contained one-fiftieth of a grain of Arsenic per pound.

One sample of Ginger Wine contained Salicylic Acid in the proportion of 0·06 per cent. or 5 grains per pint.

Of 102 unsatisfactory samples of Milk 42 contained added water in variable proportions as follows :—

In 11 cases	...	...	5 per cent.
„ 12 „	...	...	from 6 to 10 per cent.
„ 7 „	...	...	from 11 to 15 per cent.
„ 1 case	...	...	18 per cent.
„ 9 cases	...	...	from 21 to 25 per cent.
„ 1 case	...	...	33 per cent.
„ 1 „	...	...	93 „

The sample last referred to was water disguised with a little milk and was taken from a vessel in possession of a milk vendor who was presumably using it for the purpose of diluting, at discretion, the milk which he was retailing.

Fifty-nine samples of Milk were found to be deficient to the extent here indicated :—

In 24 cases	...	...	from 6 to 10 per cent.
„ 12 „	...	...	„ 11 to 15 „
„ 11 „	...	...	„ 16 to 20 „
„ 2 „	...	...	„ 21 per cent.
„ 3 „	...	...	„ 23 „
„ 3 „	...	...	„ 26 „
„ 1 case	...	...	„ 31 „
„ 1 „	...	...	„ 33 „
„ 2 cases	...	...	„ 36 „

One sample of Milk, otherwise genuine, contained 3 grains per pint of dirt.

Two samples of Mustard, sold as such (and not as condiment or mixture) contained 30 per cent. of wheaten flour.

A sample of material called "Sugarlene," which consisted of milk sugar mixed with 1 per cent. of saccharin, bore on its wrapper directions for use which were misleading as to the sweetening strength of the preparation.

Five samples of Vinegar were deficient in acetic acid to the extent of 12, 16, 18, 22 and 31 per cent. respectively, of the now generally recognised minimum quantity proper to vinegar.

PART V.

PREVALENCE AND CONTROL OVER INFECTIOUS DISEASES.

The following table shows the number of deaths from principal Zymotic Diseases during the past twelve years :—

TABLE XVII.

SHOWING NUMBER OF DEATHS FROM PRINCIPAL ZYMOTIC DISEASES DURING 1908—1919.

	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Smallpox ...	—	—	2	1	—	—	—	—	—	—	—	—
Measles ...	175	196	84	297	122	201	92	210	66	235	104	47
Scarlet Fever ...	80	59	38	29	28	18	29	37	20	6	5	14
Whooping Cough ...	141	217	161	142	223	131	124	178	134	107	140	40
Diphtheria ...	205	120	88	105	102	97	144	127	134	91	88	114
Fevers—Enteric ...	44	26	15	47	26	28	42	15	16	48	10	11
Puerperal ...	28	17	17	24	28	23	18	15	23	18	17	24
Influenza ...	207	199	162	93	100	137	107	272	205	171	2495	682

TABLE XVIII.

STATISTICS OF INFECTIOUS DISEASES NOTIFIED IN ADMINISTRATIVE COUNTIES
FOR THE YEAR 1919.

	Estimated Civil Population 1919. (Death-rate)	Cases Notified.														
		Scarlet Fever.		Diphtheria.		Enteric Fever.		Puerperal Fever.		Erysipelas.		Smallpox.	Cerebro- Spinal Fever.	Polio-myelitis.	Ophthalmia Neonatorum.	
		Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.					
England and Wales	...	35,993,000	82,398	2.29	53,918	1.5	3,447	0.10	2,016	0.06	15,763	0.44	294	848	553	8,648
Aggregate of English Administrative Counties (excluding London)	...	17,499,372	33,360	1.91	24,219	1.38	1,796	0.10	719	0.04	6,511	0.37	144	335	274	2,604
Administrative Counties :—																
Essex	...	851,284	1,539	1.81	1,802	2.12	69	0.08	45	0.05	417	0.49	2	15	10	105
Cambridge	...	126,207	217	1.72	212	1.68	4	0.03	1	0.01	43	0.34	...	5	1	23
Hertfordshire	...	312,439	657	2.10	540	1.73	9	0.03	11	0.04	121	0.39	6	5	10	17
Kent	...	982,445	1,851	1.88	1,615	1.64	87	0.09	38	0.04	343	0.35	23	28	10	146
Lancashire	...	1,662,716	4,066	2.45	1,804	1.08	156	0.09	70	0.04	834	0.50	2	31	18	337
London	...	4,358,309	12,956	2.97	9,507	2.18	339	0.08	313	0.07	2842	0.65	24	192	93	872
Middlesex	...	1,223,018	3,820	3.11	2,097	1.71	74	0.06	68	0.06	539	0.44	8	30	27	170
Norfolk	...	296,494	896	3.02	462	1.56	35	0.12	7	0.02	64	0.22	3	3	2	29
Suffolk, East	...	192,592	197	1.02	236	1.23	5	0.03	11	0.06	56	0.29	29	1	3	28
West	...	105,912	118	1.11	62	0.59	2	0.02	3	0.03	28	0.26	6	3	5	13
"	...															
Surrey	...	687,470	1,219	1.77	1,064	1.55	86	0.13	35	0.05	179	0.26	1	19	14	60

TABLE XIX.

TOTAL NUMBER OF CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE
12 YEARS 1908—1919.

	Smallpox.	Scarlet Fever.	Diphtheria and Mem- branous Croup.	Fevers— Typhoid & Continued.	Puerperal Fever.	Erysipelas.	Cerebro- Spinal Meningitis.	Poliomye- litis.	Ophthalmia Neonatorum	Malaria.	Influenzal Pneumonia.
1908	3	4490	1767	266	39	738	—	—	—	—	—
1909	—	3645	1371	161	42	688	—	—	—	—	—
1910	7	2338	1062	138	38	655	—	—	—	—	—
1911	10	2964	1369	322	50	754	—	—	—	—	—
1912	1	2508	1153	180	72	755	4	30	—	—	—
1913	4	2711	1585	189	63	650	16	48	—	—	—
1914	—	3376	1610	197	44	668	6	16	107	—	—
1915	1	2927	1173	95	25	488	95	11	69	—	—
1916	1	1672	1655	101	40	—	84	—	90	—	—
1917	—	1006	1378	266	22	—	84	—	70	—	—
1918	—	868	1264	87	23	—	39	—	85	—	—
1919	2	1471	1780	82	44	348	17	11	97	478	662

Enteric Fever.

The largest number of cases of Enteric Fever (18) occurred at Colchester, whilst in Orsett Rural 15 cases and at Ilford 12 cases were recorded. Dr. Corfield states that the number of cases in Colchester has increased during the last few years owing partly to cases from the Garrison, and partly to cases occurring at Severalls Mental Hospital. During the year there were five civilian cases, five military cases and eight at Severalls Mental Hospital; 18 in all. The five Military cases, and four of the civilian cases were removed to the Isolation Hospital, whilst the mental cases all remained in that Institution. One case was admitted to the Hospital from outside Colchester. Three deaths occurred, two at the Mental Hospital and one at the Isolation Hospital.

Eleven of the 15 cases in the Orsett Rural District occurred on H.M.S. Cornwall off Purfleet and were transferred to Shore Hospital pending removal to Isolation Hospital.

At Ilford, over 50 per cent. of the cases occurred in Mental Hospitals, namely six in the Claybury Mental Hospital and one in the West Ham Mental Hospital.

The figure (82) for the present year is the smallest recorded for the past ten years, as will be seen from the following table:—

Year.	No. of Cases notified.	No. of Deaths.	Case Mortality. per cent.	No. of Schools closed in County Education area.
1910	138	15	10·8	—
1911	322	47	14·6	—
1912	180	26	14·4	—
1913	189	28	14·8	—
1914	197	42	21·3	—
1915	95	15	15·7	—
1916	101	16	15·8	—
1917	266	48	18·0	—
1918	87	10	11·5	—
1919	82	11	13·4	—

Measles and German Measles.

On 31st December, 1919, the Ministry of Health rescinded the Public Health (Measles and German Measles) Regulations, 1915, under which provision was made for the notification and treatment of Measles and German Measles.

The Ministry stated that they had given careful consideration to the various criticisms which had reached them as to the working of that Order, and had come to the conclusion that its continuance on present lines was not the best method of dealing with the problem. In lieu thereof, it is suggested that the Local Medical Officer of Health shall utilise to the full, the various opportunities which are available to him to learn of the occurrence of measles arising in his district and to follow its epidemic variations. Such information can be obtained principally through the reports of Health Visitors, School Nurses and School Attendance Officers, and in addition parents and guardians should be encouraged to report cases to the Office of the Local Sanitary Authority. Informal lectures to parents at Schools, Child Welfare Centres, and the distribution of posters, pamphlets, etc., will prove useful in instructing the public concerning measles.

Nursing provision is considered to be of the first importance in preventing mortality and disablement resulting from measles, and consequently it is essential that Local Sanitary Authorities should have a call on the services of nurses for home nursing whenever the need for utilising them arises. In some instances, the most efficient and economical arrangement is for the County Council to provide, according to their powers under the Maternity and Child Welfare Act, 1918, a staff of nurses for the visiting and nursing of measles and other infectious diseases in children under the years of age. Alternatively the Essex County Nursing Association may in a year or two establish a reservoir of nurses to be called on during times of epidemic. Other needs in this connection are the provision in necessitous cases of medical assistance, institutional treatment, convalescent home treatment and after care. Government grants are available for all these provisions.

The figures for the past ten years, during four of which notification of the disease was compulsory, afford interesting comparisons, see the following table :—

TABLE XX.

Showing the notifications of Measles and number of deaths.

Year.		No. of cases notified.	No. of deaths.		Case Mortality per cent.		No. of Schools closed in County Education Area.
1910	...	—	84	...	--	...	?
1911	...	—	297	...	—	...	54
1912	...	—	122	...	—	...	46
1913	...	—	201	...	—	...	73
1914	...	—	102	...	—	...	24
1915	...	—	210	...	—	...	71
1916	...	6199	66	...	1.0	...	26
1917	...	14416	235	...	1.5	...	47
1918	...	7492	104	...	1.0	...	40
1919	...	6768	47	...	0.7	...	27

As stated previously there has been a good deal of criticism of the Notification Order, and some Medical Officers of Health still consider it is an essential factor in public health measures, so much so that the Colchester Borough have asked the Ministry of Health to issue a Regulation for Colchester making notifiable the first case in a house of Measles (or Whooping Cough) under five years of age. "This Regulation," writes Dr. Corfield, "should come into force in 1920. In this way it will be possible to follow up all cases of these diseases and to supply such nursing help as may be necessary."

Dr. Ewart, of Barking, reports that his Authority went so far as to "decide to apply to the Ministry of Health for consent to continue formal notification. This application has not been made, as it necessarily depended on certain other services which were the subjects of negotiation at the time. It has been shown that density of the population is a factor in the rate of spread, hence the chance of infection in the family, should one member become infected, is greater than the chance of an individual member receiving infection from general sources. The ratio can be expressed as the square of the number of the unit. Thus, a family of two might each derive infection from general sources, and then infect each other in the home."

Scarlet Fever.

This is one of the Zymotic diseases which at times seriously interferes with school attendance, though as will be seen from the following table, the number of schools closed in 1919, on account of this disease was the lowest recorded during the past decade :—

TABLE XXI.

Year.	No. of cases notified.	No. of deaths.	Case Mortality per cent.	No. of Schools closed in County Education area.
1910	... 2338	... 38	... 1.6	... ?
1911	... 2964	... 29	... 0.9	... 13
1912	... 2508	... 28	... 1.1	... 6
1913	... 2711	... 18	... 0.6	... 6
1914	... 3376	... 29	... 0.8	... 4
1915	... 2927	... 37	... 1.2	... 14
1916	... 1672	... 20	... 1.1	... 13
1917	... 1006	... 6	... 0.5	... 7
1918	... 868	... 5	... 0.5	... 6
1919	... 1471	... 14	... 0.9	... 5

A glance at the above figures readily conveys the impression that the disease must be of a mild type, and this is confirmed by opinions expressed by the Medical Officers of Health. In fact, the mildness of the disease is creating difficulties in the work of controlling it, *e.g.*, Dr. Macdonald (Rochford Rural) points out that—owing to the mildness of the disease, the parents do not, in a number of cases, suspect the nature of the illness. The lay-mind seems to associate the word “Fever” with serious illness, whereas the type of Scarlet Fever prevalent throughout the country during the last few years has been exceptionally mild and in many instances, those affected were able to follow their daily vocation, such as attending school, etc. This increases the difficulty in controlling an epidemic.”

In the Chingford Urban District, Dr. Hardenburg records the fact that “there was one ‘return’ case of Scarlet Fever from the Waltham Isolation Hospital. On investigation I find that this was only the third ‘return’ case during a period of eleven years in a series of 1,223 cases of infectious disease treated in the Waltham Isolation Hospital.”

Dr. Clarke, of Walthamstow, states that :—

“During the past ten years the type of this disease here has become much milder than in pre-hospital days, and the death-rate is becoming almost negligible.

“Were it not for the complications often occurring in and the bad sequelae as associated with the mildest cases, hospital treatment would almost seem a luxury and uncalled for in the ordinary way.”

diphtheria.

A comparison is given in the following table of figures for the past ten years, showing the number of notified cases of diphtheria and the number of deaths :—

TABLE XXII.

Year.	No. of cases notified.	No. of deaths.	Case Mortality per cent.	No. of Schools closed in County Education area.
1910	1062	88	8.2	?
1911	1369	105	7.6	3
1912	1153	102	8.8	5
1913	1585	97	6.1	3
1914	1610	144	8.9	6
1915	1173	127	10.8	9
1916	1655	134	8.0	11
1917	1378	94	6.9	3
1918	1264	88	6.9	1
1919	1780	114	6.4	3

The rate of attack per 1,000 of the population was 2.12, this being considerably higher than the figure for England and Wales, which was only 1.5. Not a single case of diphtheria occurred in any of the following districts:—Saffron Walden Borough, Wivenhoe Urban, Bumpstead and Halstead Rural Districts. As is usually the case, the largest number of the cases is notified in the urban areas, the rate being 2.4, as against 1.1 for the rural districts. Districts registering more than 3.0 are Walthamstow (3.2), Ilford (3.3), Buckhurst Hill (3.7), Shoeburyness (4.0), Epping (4.1), Burnham (4.9), Clacton-on-Sea (7.5), whilst the highest in the rural districts were Maldon (2.0) and Billericay (2.9). One urban area (Clacton-on-Sea) stands out rather prominently, the rate being 7.5. Special enquiries have been made as to the causes of such a high incidence of the disease, and certain additional precautionary measures have now been adopted.

One outstanding feature of the above table is that although the number of cases notified in 1919 is 607 more than the figure for 1915, yet the number of deaths recorded in the former year is less.

Referring to the outbreak at Langdon Hills (Orsett Rural), Dr. Allingham reports:—

"It will be noted that during the year only Diphtheria has been notified to any considerable extent. Of the total number 34 notified, 17 occurred at Langdon Hills, this includes 7 carriers. All cases were children except one carrier, and after the most exhaustive examination no local cause could be found. Diphtheria had previously occurred in a neighbouring district from which pupils came, and in my opinion brought infection to the school. I understand defective drainage with which the adjoining authority is dealing was the probable source of origin. Bacteriological examination was resorted to in 280 instances, with the discovery of numerous carriers who were promptly isolated."

Special visits were also paid to the district by the County Medical Officer and County Sanitary Inspector in order to enquire further into the cause of the outbreak. A few unsatisfactory conditions were found, and appropriate communications were

at to the Authorities concerned. These resulted in improvements being carried out, which to a certain extent mitigated the nuisances discovered. To place the district into a proper sanitary condition would require the laying down of a sewerage and sewage disposal scheme for the Laindon Hills and adjoining parishes, and this proposal was embodied in the communications referred to above.

In the contiguous district (Billericay Rural), Dr. Wells has several times caused investigations to be made with a view to discovering the cause of the sporadic cases. Largely as a result of such enquiries, he has been instrumental in securing improvements leading up to larger schemes for the benefit of the public health. Dr. Wells' observation of cases admitted to Hospital led him to suppose that full use was not being made by the Medical Practitioners in his area of the diphtheria anti-toxin, upon which he reports as follows :—

“At my request, this Council made representations to the Medical Practitioners of the districts, urging the more prompt use of anti-diphtheritic serum, which this Council supplies free of charge.

“The result of this representation was soon noticeable in the lessening of the severity of the cases admitted to the Isolation Hospital.”

Dr. Burton (Ilford), explains that “the increase of cases (260 in 1919, as compared with 216 in 1918) is not a real one, as 101 of the cases occurred in Dr. Barnardo's Girls' Village Homes, and most of these were not true clinical cases, but children suffering from discharging ears, the diphtheria bacillus having been detected bacteriologically in the discharge.

“It is necessary to notify these cases as they may, under certain unknown conditions, act as ‘carriers’ of the disease to healthy children. The problem of dealing with them is a very difficult one, and is much exercising the minds of the authorities of the Home. In my opinion, surgical treatment of the ears affected is the only method likely to be successful.”

At Walthamstow, Dr. Clark experienced difficulties in providing sufficient hospital accommodation, as will be gathered from the following report :—

“Owing to the numbers desirous of hospital treatment, and the impossibility of procuring a sufficient staff—Nurses and others—at the Sanatorium, the accommodation usually ample for normal conditions was found insufficient, and a number of cases had to be nursed at home.

“Nearly 60 per cent. of the cases, including five upon whom Tracheotomy was performed, were removed to Hospital, and the death case rate there was 5 per 100, compared with 4 in those remaining at home. It is to be noted that all the worst cases went to Hospital.”

When making the annual inspection of this Isolation Hospital on 11th May, 1920, the County Medical Officer was informed that many of the patients remained in the hospital from 8—9 weeks. It was suggested that enucleation of tonsils in persistent

cases, and a much more liberal use of the existing verandahs and pavilions for open-air treatment, would no doubt bring about more speedy recoveries.

Dr. Ewart (Barking) has noticed periodic wave-like tendencies of the disease in his area, *e.g.* :—

“ Diphtheria was present in epidemic form in 1903, 1904, 1905, 1906 and 1907. From 1908 to 1914 the cases average about 25 each year. Under ordinary circumstances the present year should be the last of the series of excessive prevalence, and should be followed by four or five years quiescence. In view of the housing conditions it would be unwise to modify administrative action on this expectation.”

Influenza.

The number of deaths from Influenza during 1919 was 682, of which 492 occurred in the urban and 190 in the rural districts. This was much less than the tremendous number of 2,498 deaths from Influenza during 1918. The epidemic of Influenza which commenced in the Summer of 1918 and terminated about a year later, accounted for no less than 2,990 deaths in Essex. In addition, there were a great number of deaths attributed to Pneumonia which were due to Influenza, and it probably was the cause of accelerating many deaths attributed to other causes. A moderate estimate of 4,000 deaths during a period of 12 months must be attributed to Influenza. Influenzal Pneumonia was made a notifiable disease on March 1st, 1919. Overcrowding and unhygienic surroundings aggravated the disease, but it has to be confessed that the medical profession were almost helpless to combat the overwhelming onslaught. Various vaccines have been tried but it would appear that their chief merit is in preventing the serious complications of the disease and not so much the disease itself. But if this should be proved to be an established fact, it will be a considerable gain as death is more often due to the complications than to uncomplicated Influenza.

A highly deserved tribute should be paid to the District Nurses of Essex who worked night and day during the epidemic, and besides alleviating pain and suffering must have been instrumental in saving many lives.

The experience at the County Sanatoria is worthy of record. At the Black Notley Sanatorium the Matron reports :—

“ We were fortunate in not having a single case in the Sanatorium either staff or patients, which were 33 in number. The patients were all given an inhalent each rest hour, and a gargle of Condy's Fluid was given two or three times during the day.

“ Each new patient on admission was asked if she had been in contact with anyone suffering from Influenza, if so, she was isolated for three days. No visitors were allowed if any member of the family had it.

"All members of the staff were asked not to enter any house where there was any fear of infection."

At the Children's Sanatorium at Sible Hedingham, there were no cases among the children, but one maid had a very mild attack.

These two experiences show the value of unlimited fresh air in preventing the spread of infectious diseases, and conversely that overcrowding and bad ventilation create the ideal condition for the rapid spread of disease.

Dr. Dicken (Brightlingsea Urban) thinks that "the public got depressed and nervous owing to the newspaper reports, and that this lowered their vitality and their resistance to infection. In some cases, the reports made people afraid to obtain medical advice. They were afraid to acknowledge that they had the disease and persuaded themselves that they had but an ordinary cold.

"From a public health point of view the experience was valuable and these conclusions have been arrived at as a result:—(1) rest in bed at the beginning is most important, (2) fresh air must be obtained and overcrowding avoided (3) the public spirits must be kept up; scare-mongering should be rigorously repressed, (4) instructions to the public must be of a very simple nature."

Dr. Ewart's experience in the Barking Urban District leads him to write as follows:—"As a general conclusion it would seem as if any attempt to hinder the spread of infection is hopeless, and that it is even doubtful whether the development of the epidemic wave can be delayed. Whatever action is taken, it should be concentrated on the relief of those attacked. The immunisation of the individual through his own powers is the natural manner by which the parasite is slowly overcome. It is common sense to expect that if the disease is ever eradicated from our midst it will be on these lines.

"In the meantime, those objects which aim at the maintenance of health during non-epidemic periods are more likely to curtail the death-rate than improvisations when the disease is in our midst."

In the Frinton Urban District, Dr. Bell used influenza vaccine in about 30 cases; these included persons in an infected house, who were actually nursing and in contact with cases, and others including himself who were going into infected areas. Not a single inoculated person contracted the disease. Three persons who had suffered from the complaint and remained weak and ill for months were also inoculated, and Dr. Bell states that "the results have been wonderful in improving their general health and removing a persistent cough." Another case, which a year after contracting the disease had recurring hæmoptysis, but no tubercle bacilli in the sputum, also received several injections with the result that "he lost his cough entirely, put on many pounds in weight, and says he has felt better than he has for

some years." This successful experience, extending over a period of 12 months, has convinced Dr. Bell of the value of this vaccine, and he expresses the hope that it will be used more and more as time goes on.

At the close of the year, the Ministry of Health urged all Local Sanitary Authorities to prepare themselves for a return of the influenza in epidemic form. The disease was then spreading rapidly in America, in Europe (Poland) and in the far East (Japan), so that there was every probability of it being re-introduced into this Country. Fortunately, these fears proved to be groundless, but nevertheless most Local Authorities reprinted and published the special leaflet issued by the Ministry of Health containing hints and precautions.

To assist the Local Sanitary Authorities in this preventive work, steps were taken by the County Medical Officer to enlist the co-operation and help of all the teachers in the County Elementary Schools, by means of a special circular and leaflet which were distributed to all the schools by the Director of Education.

TUBERCULOSIS.

The number of deaths certified as due to Pulmonary Tuberculosis (Phthisis or Consumption) during 1919 was 715, of which 535 occurred in the Urban Districts and 180 in the Rural Districts. The number of deaths from Tubercular Meningitis was 87, and 118 from other tubercular diseases (bones, skin, abdomen, &c.). Altogether, the number of deaths from Tuberculosis was 920. This is a very marked decrease in the number of deaths attributed to Tuberculosis, as shown by the following table:—

TABLE XXIII.

		Number of Deaths from Tuberculosis.				
		Pulmonary.		Non-Pulmonary.		Total.
1911	884	...	356	1240
1912	809	...	257	1166
1913	874	...	329	1203
1914	837	...	232	1069
*1915	785	...	276	1061
1916	759	...	276	985
1917	888	...	277	1165
1918	929	...	271	1151
1919	715	...	205	920

* East Ham and Southend-on-Sea became County Boroughs.

It is now becoming known that the large increase of civilian deaths during 1917 and 1918 was to a considerable extent explained by the large number of inmates of asylums who died during those years. For war reasons the asylums were overcrowded, and this, doubtless, contributed to the excess of deaths. It is extremely encouraging to record this marked decrease of deaths from Tuberculosis, particularly

then we consider that the epidemic of Influenza had a markedly deteriorating effect on persons suffering from early Tuberculosis, and those persons predisposed to the disease.

All Sanitary Authorities, in their diverse ways of preventing and treating the disease, should be spurred on to hasten the time when Tuberculosis will no longer be the scourge of England.

Dr. Corfield, Colchester, considers rightly that "in spite of all the work that has been done to cure this disease and to prevent its spread, the death-rate has not diminished as it should. Until the whole scheme of housing can be greatly improved, and the inhabitants of the houses realise that health can only be maintained and such diseases as Tuberculosis avoided by healthy living, cleanliness, good food properly cooked, and ventilation, it is practically certain that all the treatment in the world by tuberculosis experts, will not stamp out this disease. This does not mean that the present system of Tuberculosis clinics, segregation of open cases, Sanatorium Treatment, etc., is no good, but it must be realised that preventive work upon the present lines has shown the poorest of results. Tuberculosis is a disease of towns and indoor life and occupations. The present system of treatment and care of those already affected no doubt helps many cases to recover their health but it does little in preventing others taking the disease. Its prevention is a much bigger thing than a bottle of medicine or an injection of vaccine. Housing, Town Planning, and cleanliness in the home are the bed-rock preventive measures against this scourge."

Dr. A. H. G. Burton, of Ilford, writes in a similar strain as follows:—

"Very little hope of dealing with the problem exists unless a determined attempt is made (1) to segregate all advanced cases in residential institutions, (2) to adequately assist the patient's dependents financially, so that he can accept Sanatorium treatment at the earliest stage and remain in the Institution until the arrest of the disease occurs, (3) to commence with the treatment of the pre-tuberculous child in open-air schools, etc., and so prevent the onset of the disease."

It has to be deplored that in many districts, Medical Practitioners continue to delay sending in notifications of this disease. Typical instances of such delay and of failure to notify cases, are quoted by Dr. Clarke (Walthamstow) as follows:—

"Of the 111 deaths from Phthisis, 73 were of persons notified during the year in conformity with the Tuberculosis Regulations.

"The periods elapsing between notification and death in these were as follows:—

1 to 3 months	...	...	43
3 " 6 "	...	...	7
6 " 12 "	...	...	23

"In five instances notification synchronised with death and in 21 instances there was no notification.

"The penalties for this neglect of duty are well known, as is the added difficulty we have in coping with the disease from an administrative point of view. Such practices can only end in measures being taken to effect a compliance with the law.

"The failure of notification to do anything really effectual for the patient owing to the inadequate provision of Sanatoria and the decision of the Central Authority, that notification must be treated as confidential to an extent that renders impossible the disinfection of rooms inhabited by Consumptives who change their habitation, may be largely responsible for this shirking of an obvious duty.

"With more facilities for treatment and education in Sanatoria, and suitable after-care for those restored to working capacity, probably even without pressure, early notification will be carried out."

Teaching in regard to Tuberculosis.

More and more people to-day consider that Tuberculosis is an economic, social and industrial problem rather than a medical one. Nevertheless, it is much to be regretted that adequate instruction in the prevention as well as the diagnosis and treatment of tuberculosis has been neglected in most medical schools. Most teachers of medical students have taken some interest in the treatment of tuberculosis, but very few concern themselves with prevention. It is noteworthy that in the British Empire only one University has established a Professorship in Tuberculosis. Also so far as has been ascertained at present, there is only one special hospital for Non-pulmonary Tuberculosis, namely, Alton, where regular and systematic instruction is given, and where the wards are thrown open to medical men and students by the generosity of Sir William Treloar and his co-trustees. Medical practitioners are recommended to attend one of the short post-graduate courses at Alton, particulars of which can be obtained from Sir Henry Gauvain, the Medical Superintendent.

In July, 1919, the County Medical Officer and other members of the County Medical Staff took advantage of the above-mentioned privilege by attending a course of lectures given by Sir Henry Gauvain. In the introductory lecture it was pointed out that Institutions for the treatment of surgical tuberculosis could either be in the country or by the seaside. The ideal system is to have two Institutions, one in the country and one at the seaside, so that patients can be transferred according to the needs of the individual case. Surgical cases must have good nursing; they require a special hospital and the larger the institution the better staff is it possible to attract and it is also more economical to obtain the expensive equipment which is necessary for these cases.

Hence it has been suggested in another part of this Report (see page 89) that it could be much better if several of the Eastern Counties could join in the provision of a up-to-date Institution for the treatment of non-pulmonary tuberculosis. One outstanding feature which should be brought more into prominence is the need for providing education for the patient. Each child should have $1\frac{1}{2}$ hours teaching in the morning and afternoon. At the High Beech Hospital a teacher has already been appointed and is doing excellent work there. All the children seem happier as the teaching adds interest to what would otherwise be a monotonous time.

If the treatment of adult surgical patients was carried out to any extent in Essex it would be advantageous if training in certain occupations was provided. In selecting such occupations, every endeavour would need to be made to choose work so that the patient's disability would not handicap him in open competition with others.

Malaria.

In January, 1919, intimation was received from the Local Government Board that, in accordance with the Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations, 1918, Malaria, Dysentery, &c., would become notifiable diseases as and from the 1st March, 1919. Therefore the notification figures relating to these diseases which are included in this Annual Report only relate to ten months of the year. These Regulations were issued with the object of securing better control over, and means for the treatment of, certain epidemic diseases which were prevalent or threatened at that time, owing to the rapid demobilisation of soldiers then taking place. During the ten months March to December, 1919, notifications were received of the introduction of no less than 477 imported cases of Malaria into the County, and of the occurrence of 3 indigenous cases (1 at Brightlingsea, 1 at Colchester and 1 at Wivenhoe), making a total of 480.

A Special Report on the indigenous case at Brightlingsea was received from Dr. Dicken as follows:—"This case was notified as suffering from double tertian Malaria and was admitted to the Essex County Hospital, Colchester, on the 25th August. On enquiry it was found that he had been ill about a week before being sent to hospital. The farmhouse is isolated, there being only one cottage near. This cottage and the farmhouse were visited from time to time by a soldier in barracks at Colchester. He had had malaria in Salonika.

"The rain-water tubs in the yard attached to the farmhouse were breeding mosquitoes. One has been emptied and the other paraffined. A stagnant ditch has been paraffined. A pond about 80 yards from the house, and at a lower level, would have been drained but that it is the sole water supply for a herd of cows. The A.D.M.S., Colchester District, was informed of the case. The Officer-in-Charge, District Laboratory, Colchester, reports that no malarial parasites were seen on the films taken at 12.30 p.m. from the above-mentioned soldier on 4th September. The child (who has not lived abroad) is still in Colchester Hospital."

Dr. Kevern (Wivenhoe Urban) gave particulars of the case in his area as follows :—

“ I have to report a case of Malaria of local origin in a boy aged 12, living at Wivenhoe Cross. The above, a case of tertian ague, occurred in the second week of October, 1919, starting with a well defined attack, lasting about 12 hours, and followed by four similar attacks on alternate days.

“ Under quinine treatment, begun after the first attack, no further manifestations have occurred since then. The origin of this case of Malaria can only be attributed to the following circumstances :—

“ The elder brother has recently been invalided from the Army with Malaria, contracted abroad, and is under treatment for it.

“ The brother slept in the same bed, and probably the younger brother had the infection conveyed to him by direct inoculation through the medium of mosquitoes that had previously bitten the elder brother.”

The Colchester case was also the subject of a special report by Dr. Corfield, a copy of which is given below :—

“ This case was a boy resident in Colchester, who had never been out of England, and who contracted the disease locally. As the River Colne swarms with *Anophelinæ* (the Malaria carrying Mosquito), it is satisfactory that this one case was the only one that was infected locally.”

To secure accurate returns of notifications regarding imported and indigenous cases, the Ministry of Health amended the weekly returns from the local Medical Officers of Health, who are now required to show whether the notified cases were :—

- (a) Believed to be contracted in this country (indigenous) or
- (b) Believed to be contracted abroad (imported).

Definite precautionary measures have also been adopted at Wanstead, where Dr. Macgregor says “ all the persons who suffered had contracted the disease abroad and no indigenous cases occurred. Mr. Howard, the Sanitary Inspector, who served in the Eastern sphere in the War and was employed to a great extent on malarial work there, has made exhaustive search for specimens of the *Anophelina*, the species of mosquito which carries the disease, but has failed to find a single specimen in the district. All the patients underwent the prescribed quinine treatment. To prevent extension of the disease to others they were offered a supply of mosquito netting, but did not in any case accept it. The residents who have ponds in their gardens were given cards on the prevention of mosquito breeding in such places.”

In order to assist the local Medical Officers of Health in their campaign against this disease, the following notes were submitted to the Press :—

“ Records show that up to 50 or 60 years ago malaria was extremely prevalent in Essex. About 25 years ago Tilbury had a serious outbreak

Essex has always been liable to this disease, particularly in the marshy districts surrounding Tilbury, Rochford, Maldon, Tendring, etc.

"In 1880 Laveran discovered that malarial fevers are caused by a special organism which is present in the blood of patients suffering from the disease. Part of the life of this organism is passed in man, and the remainder in a particular kind of mosquito, called anophelina. When such a mosquito bites a man who has had malaria, the organism is sucked in with the blood, and carried to the mosquito's stomach, where the process of multiplication commences. The organisms eventually reach the salivary glands and duct of the mosquito. Each time such a mosquito bites a person, it injects some of the organisms into his blood with the salivary fluid and so infects him. Anophelinæ are very prevalent in Essex, particularly near the Epping Forest and in the marshy districts referred to above.

"In 1917 a large number of convalescent cases of malaria were brought to England from Salonika and the far East. A recrudescence of the disease caused many of them to become a source of possible danger to other persons. A similar experience occurred in 1918, and it was only by the prompt action of the military and civil authorities that an outbreak of malaria in England was prevented.

"Dr. A. C. Parsons, of the Ministry of Health, who is an eminent specialist in this matter, is now undertaking a survey of Essex, and has already had several consultations with the County Medical Officer and others. Dr. Parsons is particularly anxious to obtain as much information as possible regarding the prevalence of malaria in any part of the County during the past 50 or 100 years, and if any reader has information (either personal, or in the shape of literature or historical records) Dr. Bullough would be pleased to receive it for transmission to Dr. Parsons.

"The method of controlling malaria in England is necessarily different from the steps taken in those places abroad where this disease is extremely prevalent. Generally speaking, however, the principal measures of preventing the spread of this disease in this country are as follows:—(1) By affected persons taking quinine in prescribed doses and at specified times, as ordered by the medical attendant; and (2) by affected persons observing strictly all necessary precautions, particularly in regard to using netting and other devices to avoid being bitten by mosquitoes."

On the 8th July, 1919, Dr. A. C. Parsons, Medical Officer, Ministry of Health, visited Chelmsford in order to obtain information as to the prevalence of Malaria and Dysentery throughout the County, and was accompanied by the County Medical Officer to several suspected areas. He was engaged upon special research work in connection with these maladies, and at his desire a circular with questionnaires was sent to the local Medical Officers of Health within the County

to ascertain what steps were being taken to prevent the spread of the disease. The returns received were tabulated and forwarded to Dr. Parsons for his information. A brief summary is given below :—

Table showing Number of Districts which have or have not made provision for the Treatment of Malaria.

Question.	No. who have made such provision or arrangement.	No. who have not made provision.	No reply given.
1. Is provision made in the Isolation Hospital for these cases ? ...	21	26	—
2. Has the Sanitary Authority any arrangement with local or other Hospitals for admitting these cases? Give			
Name of Hospital ...	20	—	27
No. of cases treated in 1918 ...	—	—	—
Annual contribution ...	1	—	—
3. What arrangement, if any, for treatment by General Practitioners ? ...	—	47	—
4. Supervision of patient by			
Medical Officer of Health ...	28	18	—
Sanitary Inspector ...	1	—	—
5. Patients provided with netting and other preventive measures when necessary ? ...	9	34	—
Patients provided with other preventive measures only when necessary ? ...	4	—	—
6. Arrangement with Laboratories for examinations of blood films, &c. ?	16	31	—
(N.B.—The County Council made provision for these examinations throughout the County as and from the 1st August, 1919).			
7. No. whose arrangements for treatment of this disease are satisfactory and sufficient ? ...	24	—	1
No. not so ? ...	21	—	1
8. Any other particulars ?			
At Grays, Hospital treatment had been refused by all affected persons.			
At Wanstead the mosquito breeding grounds are treated weekly.			

Among subsequent replies received was an interesting account from Dr. Wells (Merica Rural) to the following effect :—

"I have found *Anophelinae* in this district during the hot weather in May of this year and early June. I killed 4 in and round about my own house, and I've seen a few from time to time in other parts of my district. I am not able to give you any definite facts regarding Malaria in this district 50—100 years ago, but I've heard many old people in my district or in that part of it which embraces the Thames Marshes at Pitsea and Vange tell stories of frequent and recurrent attacks of what they termed "Ague" or "Marsh Fever" occurring pretty generally in the Marsh districts 50 years and more ago, and old Doctors who are now dead, and who used to know and work in those districts, have told me that this was a Malarial Fever. Since the proper draining of these Marshes no cases of this fever have occurred and none occur to-day."

The Ministry of Pensions were supplied with all the above details, so that they would be in a position to indicate to all affected pensioners what advice and treatment were available in their districts, and the procedure necessary to obtain the same.

It will, however, be observed that at the time the above enquiries were made, the provisions for treatment could not be considered adequate for the County, and therefore steps were taken to assist the Local Authorities by providing facilities for the examination of specimens, free of charge, as and from the 1st August, 1919.

Dysentery.

Notifications were received during the year from 9 Urban and 4 Rural districts of the occurrence of 80 cases of Dysentery. The enquiry by Dr. A. C. Parsons, Medical Officer, Ministry of Health, referred to under the heading of Malaria also extended to Dysentery. Similiar questionnaires were therefore submitted to the Local Medical Officers of Health with the following results :—

Table showing the Number of Sanitary Districts which have or have not made provision for the Treatment of Dysentery.

Question.	No. which have made such provision.	No. which have not made provision.	No reply given.
1. Provision in Isolation Hospital	19	24	4
2. Arrangements with Local or other Hospitals	19	24	4
(No cases were treated under this head during 1918.)			
3. Arrangements with General Practitioners for giving treatment	—	43	4

Question.	No. which have made such provision.	No. which have not made provision.	No reply given.
4. Are patients and contacts supervised? If so, by whom? ... 23 ... 20 ... 4 (In 22 by Medical Officer of Health, 1 „ Health Visitor).			
5. Arrangement with Laboratory for examination of fæces ... 20 ... 23 ... 4			

(As and from August 1st, 1919, the County Public Health Laboratory undertook the work of examining free of charge fæces for the whole of the Administrative County).

Rabies.

Two cases of Rabies and one suspected case occurred in the Colchester Borough during the month of August. Another suspected case was reported from Wanstead, regarding which Dr. Macgregor writes as follows :—

“One person was very badly bitten by a bad tempered dog, which was destroyed and buried before either my department or the police were informed. The subsequent disinterment and examination of the dog's carcase gave uncertain results, but for precaution the person bitten was treated at St. Thomas's Hospital by the Pasteur method. The patient did not develop any signs of hydrophobia.”

In consequence of the above cases it became necessary for the Board of Agriculture and Fisheries to put into force in different parts of the County the Muzzling and Control of Dogs Orders, under the Diseases of Animals Acts, 1894-1914.

The Ministry of Health deemed it advisable to issue in June, 1919, a revise of their “Memorandum on the Procedure recommended to be followed in the event of Persons being bitten by dogs suspected or ascertained to be Rabid.” In this Memorandum persons bitten by dogs in areas in which Rabies in dogs is suspected are urged to secure the immediate services of a doctor, and, pending his arrival, the wound should be treated with undiluted carbolic acid, undiluted Izal, or similar disinfectant. Applications for anti-rabic treatment in confirmed cases should be made through the Medical Officer of Health of the district in which the patient resides. Should the Medical Officer of Health be satisfied he can arrange, after sending certain particulars to the Ministry of Health, and with the consent of the patient, for anti-rabic treatment direct at several Centres, the nearest for Essex being :—

London. Dr. Dudgeon, Department of Pathology, St. Thomas' Hospital,
Westminster Bridge, London, S.E. 1. Telephone : Hop. 1101

Anthrax.

No cases of Anthrax occurred in the administrative County during the year, but mention is made in some of the annual reports of the receipt by local traders of certain supplies of shaving brushes which were infected with Anthrax. For example, at Lyton, five cases of suspected brushes were purchased and destroyed by the Local Sanitary Authority. All the shops in the district were visited to ascertain if any brushes from the infected consignments had been delivered to them.

Infected brushes were also introduced into the Waltham Holy Cross Urban District, but all efforts to trace them were unsuccessful. In Chelmsford Rural one suspected shaving brush was returned by the dealer to the firm who supplied it, and the Local Medical Officer of Health was notified accordingly.

On the 9th February, 1920, the Anthrax Prevention (Shaving Brushes) Order, 1920, was issued. Under this Order the importation into the United Kingdom of shaving brushes manufactured in or exported from the Empire of Japan is prohibited from the date of the Order. The Order applies in the case of shaving brushes which are exported direct to the United Kingdom or otherwise.

TETANUS.

In October, 1919, the Ministry of Health issued a memorandum on the prophylactic use of Tetanus Antitoxin. It was stated therein that the experience gained in the treatment of wounds during the war has emphasised the great value of tetanus antitoxin as a prophylactic agent. Hitherto it has been comparatively little used in civil practice in this country, and this has been probably due not so much to insufficient appreciation of its utility for prophylactic purposes as to the difficulty of obtaining supplies for prompt administration, and it is hoped that the arrangements that have now been made for the distribution of the serum will lead to its widely extended use in wound treatment.

It was contended that the proper use of Antitoxin serum as a prophylactic in dealing with wounds can be relied upon to prevent the disease in practically every case. Instructions were given regarding the use of this serum, practitioners being advised to inject it in all cases of dirty wounds contaminated with earth from roadways or manured fields, especially punctured wounds or when there is much contusion or laceration.

Supplies of this Antitoxin were therefore obtained and kept in the County Public Health Department for distribution to private Practitioners, free of charge. Local Medical Officers of Health were asked to intimate to all general practitioners in their area, that these supplies were available by adopting the following procedure:—

- (1) That the Medical Practitioner should apply to the Medical Officer of Health for his area or to the County Medical Officer of Health direct.
- (2) That the Local Medical Officer of Health should transmit to the County Medical Officer by telephone or wire the names and addresses of Medical Practitioners who require supplies.
- (3) The County Medical Officer will then forward a supply direct to the Medical Practitioner.

Four applications were received for supplies, and up to the end of the year 16 phials were provided.

Cerebro-Spinal Meningitis.

Four cases of Cerebro-Spinal Meningitis have been notified during the year. Two cases terminated fatally.

The following are particulars of the cases :—

Case.	Date of Notification,	Sex.	Age Yrs.	Result.	Remarks.
1	27-1-19	Female	12	Died 16-2-19	Onset 21-1-19. Patient was at School on the 20th January. Had not been away from home. No relation to any Military Cases. Lumbar puncture. Fluid turbid and under pressure. Removed to Eastern Hospital 25-1-19. Clothing, bedding and premises disinfected.
2	8-4-19	Male	10	Recovered	Taken ill 30-3-19, and removed to West Ham Infirmary 3-4-19. Bacteriological Examination Positive. No history as to source of infection. Patient had not been away from home, or in contact with any member of H. M. Forces. Clothing, bedding and premises disinfected.
3	16-6-19	Female	38	Recovered	Onset of illness, 10-6-19. No history as to source of infection. No relation to any Military cases. Removed to West Ham Infirmary 11-6-19. Lumbar Puncture Positive. Clothing, bedding and premises disinfected.
4	28-10-19	Male	21	Died 25-10-19	Patient was a private in 17th Royal Fusiliers. Returned from the Rhine to Purfleet, where he was demobilised 30-8-19. Stated not to have been very well since this date. First saw a doctor 24-9-19. Removed to Walthamstow Hospital 14-10-19. Lumbar puncture Positive. Clothing, bedding and premises disinfected.

PART VI.

TUBERCULOSIS.

Tuberculosis is the most prevalent and widely spread of all the important diseases in this country, as is evident from the following tables :—

TABLE XXIV.

SHOWING NUMBER OF DEATHS FROM TUBERCULOSIS IN ENGLAND AND WALES AND ESSEX DURING THE YEARS 1911—1919.

Year.	Pulmonary.		Non-Pulmonary.		Total.	
	Essex.	England and Wales.	Essex.	England and Wales.	Essex.	England and Wales.
1911	939	39232	332	13888	1271	53120
1912	922	38083	288	11908	1210	50051
1913	900	37055	323	12421	1223	49476
1914	870	38637	233	11661	1103	50298
1915	802	41050	266	12512	1068	53562
1916	762	40747	237	12151	999	52898
1917	888	42152	224	12609	1112	54761
1918	920	44971	231	11723	1151	56704
1919	715	36662	205	9650	920	46312

The figures for 1915 onwards relate to civilians only.

TABLE XXV.

SHOWING PRIMARY NOTIFICATIONS OF TUBERCULOSIS IN ENGLAND AND WALES AND ESSEX FOR THE YEARS 1913—1919.

Year.	Pulmonary.		Non-Pulmonary.	
	Essex.	England and Wales.	Essex.	England and Wales.
1913	2216	96841	1227	38200
1914	2133	81159	740	24366
1915	1227	73538	447	22864
1916	1240	72479	478	23777
1917	1247	73654	404	22096
1918	1106	72741	315	19391
1919	1047	65229	298	16821

It will be observed that on the average over 50,000 persons die annually in England and Wales from Tuberculosis, and of these Essex accounts for over 1,000. The increase of deaths during 1917 and 1918 was happily not continued during 1919, and there is some justification for anticipating that the decrease will be continued during the coming years.

It is difficult to estimate the number of persons actually suffering from Tuberculosis in its various forms, but a moderate estimate for Essex during 1919 may be taken as between 5,000 and 6,000.

The following tables give the age and sex distribution for the notified cases during 1919:—

TABLE XXVI.

HOWING SUMMARY OF NOTIFICATIONS OF TUBERCULOSIS IN ESSEX DURING THE PERIOD FROM THE 29TH DECEMBER, 1918, TO THE 3RD JANUARY, 1920.

Age periods ...		Notifications on Form A.												Total Notifica- tions on Form A.
		Number of Primary Notifications.											Total Primary Notifications	
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards		
Pulmonary Males ...	2	19	49	35	66	41	113	110	61	38	6	540	576	
„ Females ...	2	11	31	38	61	75	148	75	39	20	7	507	559	
Non-pulmonary Males ...	6	23	46	21	9	7	12	9	2	—	1	136	141	
„ Females	2	30	52	25	14	15	22	12	7	3	—	162	164	

Age periods ...		Notifications on Form B.					Number of Notifications on Form C.	
		Number of Primary Notifications.				Total Notifica- tions on Form B.	Poor Law Institutions.	Sanatoria.
		Under 5	5 to 10	10 to 15	Total Primary Notifications.			
Pulmonary Males ...	—	7	5	12	12	35	210	
„ Females ...	—	—	2	2	2	28	167	
Non-pulmonary Males ...	—	5	1	6	6	6	21	
„ Females	—	7	2	9	9	3	12	

TABLE
SHEWING NOTIFICATIONS, DEATH-RATES, Etc., URBAN AND RURAL DISTRICTS.
(a) PULMONARY.

Year.	Population (estimated)	Notifications.																		Deaths.									Annual Death Rate from Phthisis in Essex.			Annual Death Rate from Phthisis, England and Wales.
		Adults (over 16).									Children (under 16)																					
		Urban.			Rural.			Administrative County.			Urban.			Rural.			Administrative County.			Urban.			Rural.			Administrative County.			Urban.	Rural.	Admini- strative County.	
		M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.							
1911	1,068,312								No de tails.										451	283	734	104	101	205	555	384	939	91	77	87	1.08	
1912	1,094,323								No de tails.										435	303	738	108	76	184	543	379	922	88	69	84	1.04	
1913	1,120,605								No de tails.										404	323	727	101	72	173	505	395	900	85	65	80	1.0	
1914	1,043,234	...	...	...	...	...	...	961	719	1680	...	...	...	...	...	...	141	153	294	386	281	667	112	91	203	498	372	870	85	76	83	1.0
1915	*860,695	453	379	832	110	80	190	563	459	1022	107	76	183	10	12	22	117	88	205	332	246	598	103	101	204	453	347	802	98	81	93	1.1
1916	836,507	500	375	875	129	80	209	629	455	1084	76	59	135	7	14	21	83	73	156	321	266	587	102	73	175	423	339	762	98	72	91	1.5
1917	795,115	514	351	865	91	84	175	605	435	1040	95	86	181	12	14	26	107	100	207	351	292	643	131	114	245	482	406	888	1.1	1.5	1.1	1.6
1918	775,574	425	360	785	76	86	162	501	446	947	62	75	137	10	12	22	72	87	159	439	304	713	97	110	207	506	414	920	1.3	91	1.1	1.6
1919	851,284	375	366	741	69	59	119	435	425	860	90	71	161	15	11	26	105	82	187	274	261	535	82	98	180	356	339	715	88	73	84	1.08

(b) NON-PULMONARY.

(b) NON-PULMONARY.																												Annual Death Rate in Essex from Non-pulmonary Tuberculosis.			Annual Death Rate in England and Wales from Non-pulmonary Tuberculosis.		
1911	1,068,312									No de tails.										135	121	256	37	39	76	172	160	332	31	27	31	38	
1912	1,094,323									No de tails.										105	132	232	33	18	51	138	150	288	27	18	26	33	
1913	1,120,605									No de tails.										147	117	264	29	30	59	176	147	323	30	22	28	33	
1914	1,043,234	...	...	...	...	...	...	124	113	237	...	...	...	...	...	...	266	236	502	84	84	168	31	34	65	115	118	233	21	24	22	32
1915	*860,695	56	71	127	12	9	21	68	80	148	132	128	260	23	16	39	155	144	299	110	97	207	30	29	59	140	126	266	34	23	32	35	
1916	836,507	74	57	131	19	17	36	93	74	167	128	142	270	20	21	41	148	163	311	103	93	196	22	19	41	125	112	237	33	16	28	35	
1917	795,115	56	63	119	6	25	31	62	88	150	107	97	204	17	33	50	124	130	254	91	70	161	28	35	63	119	105	224	28	27	28	37	
1918	775,574	40	50	90	9	15	24	49	65	114	91	79	170	22	9	31	113	88	201	86	82	168	36	27	63	122	109	231	30	27	29	35	
1919	851,284	30	54	84	10	19	29	40	73	113	81	82	163	15	7	22	96	89	185	78	68	146	27	32	59	105	100	205	23	24	24	29	

* Less East Ham and Southend on becoming County Boroughs.

TABLE XXVIII

TABLE XXVIII.

SHewing SANITARY DISTRICTS, POPULATIONS, NOTIFICATIONS OF TUBERCULOSIS, APPLICATIONS FOR TREATMENT, Etc., for Year

Sanitary District.	Tubercular Area.	Average.	Population (estimated).	Number of Cases Notified.										Number of Applications for Treatment.														Number of Deaths from Tuberculosis.			Number of Specimens of Sputa examined.			Number of Admissions to Hospitals who applied.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				Pulmonary.				Non-Pulmonary.				Total.	Persons.	Insured.				Uninsured (Adults).				Uninsured (Children).				Total.	Persons.	Pulmonary.	Non-Pulmonary.	Total.	Negative.	Positive.	Total.	M.	F.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				Form A.	Form B.	Form A.	Form B.	Pulmonary.	Non-Pulmonary.	Pulmonary.	Non-Pulmonary.			Pulmonary.	Non-Pulmonary.	Pulmonary.	Non-Pulmonary.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
URBAN.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
BARKING	6	3805	33214	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
BARNET	1	2224	6938	4	7			1				5	7	12	6	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

TABLE XXIX.

SHOWING OCCUPATIONS OF INSURED AND UNINSURED PATIENTS WHO APPLIED FOR
TREATMENT DURING THE YEAR 1919.

(a) *MALES (Adults).*

Occupation.	Area Number.								Total.
	1.	2.	3.	4.	5.	6.	7.	8.	
... ..	1	...	...	...	1	2	...	...	4
gricultural workers	5	3	5	...	...	3	1	1	18
ircraft workers	...	...	...	...	2	...	...	...	2
alytical chemists	...	...	...	...	1	...	...	...	1
endants	...	...	...	...	1	1	...	...	2
kers	1	...	...	...	...	1	...	...	2
cksmiths	2	2	...	...	...	...	...	...	4
okbinders	...	...	...	...	1	...	...	...	1
ot makers and repairers	...	...	1	...	3	2	...	...	6
cklayers	...	...	...	...	2	1	...	...	3
ushmakers	...	...	1	...	1	...	...	...	2
etchers	1	...	...	...	1	...	...	...	2
oinet makers	...	1	...	...	1	1	...	...	3
ermen and carters	2	...	...	...	...	2	...	...	4
rpenters	4	2	...	1	2	...	...	...	9
auffeurs	...	1	...	...	2	...	1	...	4
orks	1	...	1	...	31	4	5	1	43
othing trades	...	1	...	...	1	1	...	...	3
ommercial travellers	...	1	...	...	1	2	...	...	4
spenser	...	...	...	...	...	...	1	...	1
omestic workers	...	1	...	...	3	1	...	...	5
ngineering trades	1	2	5	1	11	6	3	2	31
actory workers (general)	4	...	2	1	26	10	2	...	45
remen	...	1	...	...	...	5	2	...	8
rdeners	1	1	...	...	...	2	1	...	5
airdressers	...	...	...	...	1	...	...	...	1
otel and Public-house workers	...	1	1	...	1	1	1	...	5
ournalists	...	...	...	...	1	...	...	...	1
abourers (general)	3	5	2	1	13	14	9	1	48
alk carriers	...	...	...	...	1	1	...	...	2
usicians	...	...	...	...	...	...	1	...	1
inters...	...	1	...	...	3	4	3	...	11
umbers...	...	...	...	...	1	1	...	...	2
olicemen	...	...	...	...	2	...	...	...	2
stal workers	...	2	...	1	...	5	...	...	8
inting trades	1	...	...	...	5	2	...	...	8
ail and Tram workers	1	...	1	...	6	6	1	...	15
afarers	1	...	...	...	2	2	2	...	7
Service men :—									
Soldiers	7	18	5	4	37	10	7	1	89
Marines	1	6	1	2	14	5	...	1	30
Airmen	...	2	...	...	4	3	1	...	10
op Assistants	1	1	...	...	4	9	...	...	15
achers	...	...	1	...	1	...	...	...	2
ymakers	...	...	...	...	...	1	...	...	1
arehousemen	...	...	...	...	6	...	...	...	6
Occupation not stated	...	5	...	1	6	3	1	...	16
Totals	38	57	26	12	199	111	43	8	494

Table XXIX.—continued.

(b) FEMALES.

Occupation.	Area Number.								Total.
	1.	2.	3.	4.	5.	6.	7.	8.	
Agents ... ..	...	...	...	...	1	1	...	...	2
Clerks ... ..	...	3	...	...	18	7	3	...	31
Domestic workers	6	17	9	6	63	40	12	4	157
Factory workers (general)	1	1	3	1	17	7	1	...	31
Hawkers ... ..	...	...	...	...	1	...	...	...	1
Hotel and Public-house workers ... ..	...	...	...	...	3	...	...	...	3
Laundry workers ... ..	...	...	...	...	2	1	...	...	2
Milliners and Dressmakers ... ..	...	...	...	1	6	1	...	...	8
Musicians ... ..	...	...	...	...	...	1	...	...	...
Nurses	1	...	1	...	...	2	3	...	7
Postal workers ... ..	...	...	...	...	3	...	...	...	3
Ex-Service Women :—	...	...	...	...	...	...	...	...	...
Q.M.W.A.A.C....	...	...	...	...	...	1	...	...	1
W.R.N.S. ....	...	...	...	...	...	...	...	...	...
W.R.A.F. ....	...	...	1	...	...	...	...	...	1
Shop Assistants ... ..	...	1	...	1	3	3	1	...	9
Teachers	2	...	...	...	...	...	...	...	2
Occupations not stated	1	3	3	3	6	5	8	1	30
Totals	11	25	17	12	122	68	28	5	288

(c) CHILDREN.

Females under 5 ... ..	...	...	...	...	2	3	1	...	6
Males under 5 ... ..	...	1	1	1	2	5	3	...	13
Females between 5 and 14	1	9	5	5	34	59	18	6	137
Males between 5 and 14 ... ..	...	4	9	5	42	56	13	3	132
Totals	1	14	15	11	80	123	35	9	288

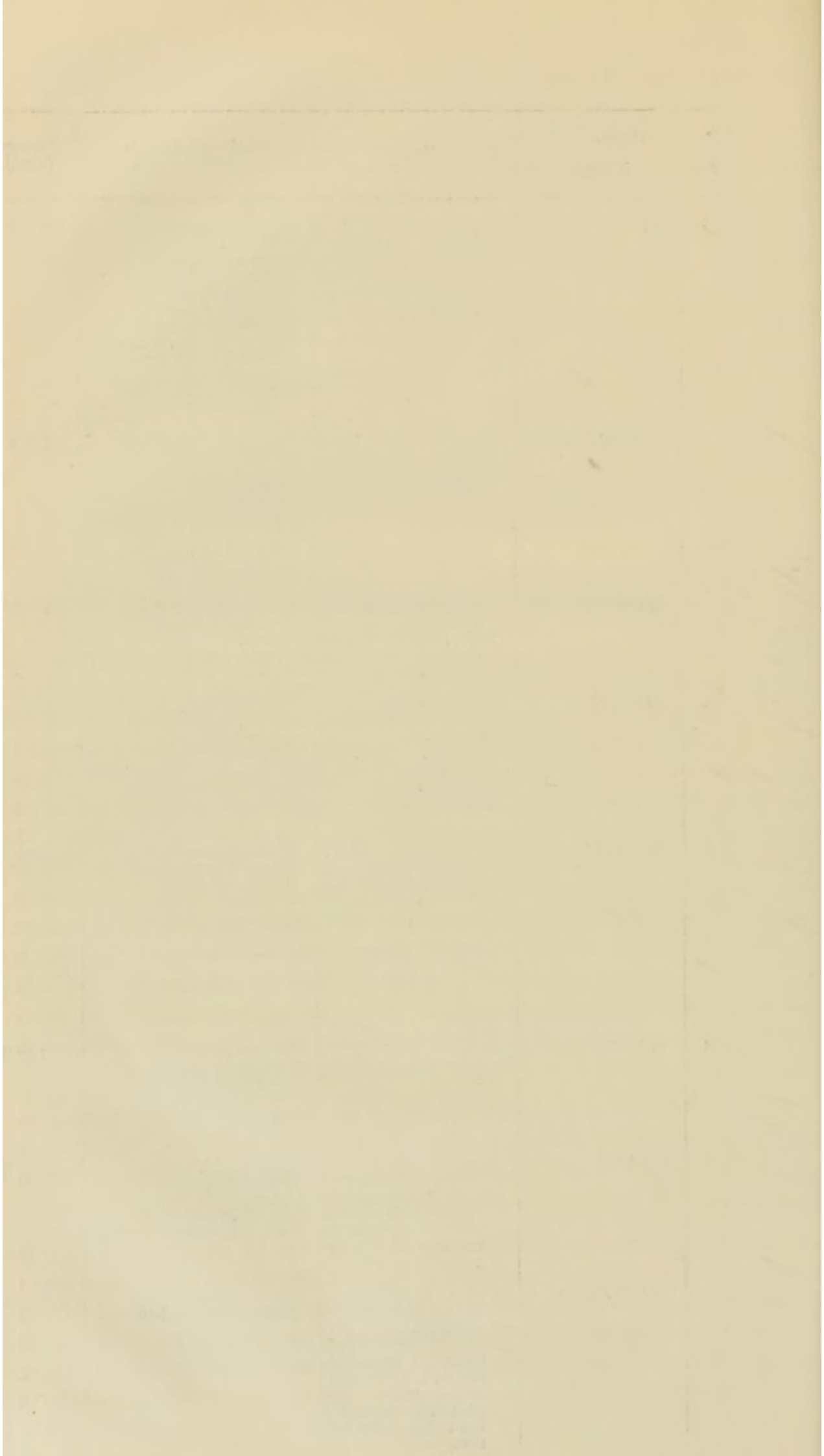
The County Council Scheme for the Treatment of Tuberculosis.

The comprehensive scheme originated and developed by the predecessor of the present County Medical Officer is fully set out in his reports for 1913 and 1914. During the war there was an enforced delay in extending certain parts of that scheme, notably the provision of a central Sanatorium. As soon as possible after hostilities ceased, steps were taken to complete and amplify the provisions already set up.

Dispensaries and Visiting Stations.

At the conclusion of 1919, the following Dispensaries were open and under the charge of the Tuberculosis Officers named :—

No.	AREA. Name.	Name.	Sanitary Districts included in area.	Acreage. (total).	Population. (total).	Dispensaries, Addresses and Sessions.	Non-resident Medical Superintendent for Sanatorium at
1	BRAINTREE	H. V. CROSSFIELD, M.B., C.M. (Transferred from Harold Court to this Centre when Doctor G. N. Meachen resigned on 17/11/19)	Braintree Rural Braintree Urban Dunmow Rural Halstead Urban Halstead Rural Belchamp Rural Bumpstead Rural Saffron Walden Borough Saffron Walden Rural Stansted Rural Witham Urban	372,300	106,471	BRAINTREE, Co-operative Buildings Wednesdays, 11.30 a.m. to 1 p.m. DUNMOW, 18, Mount Pleasant Terrace, "The Causeway," Tuesdays, first and 3rd in each month, 10.30 to 11.30 a.m. HALSTEAD, 43, North Street Thursdays, first and third in each month, 12.15 to 1.15 p.m. SAFFRON WALDEN, Adult School, High Street Tuesdays, first and third in each month, 12.30 to 2.30 p.m.	Sible Hedingham Halstead Black Notley
2	COLCHESTER	J. D. MACFIE, M.B., Ch.B. (Returned from Military Service on 3/4/19)	Colchester Borough Frinton Urban Clacton Urban Wilton Urban Wivenhoe Urban Brightlingsea Urban Tendring Rural Lexden & Winstree Rural Harwich Borough	166,467	115,415	COLCHESTER, St. John's Street Wednesdays, 10.30 a.m. to 12.30 p.m. Saturdays, 11 a.m. to 1 p.m. CLACTON, 7, Alexander Road Thursdays, 11 a.m. to 12 noon HARWICH, 1, Market Street Tuesdays, 11 a.m. to 12 noon	Mile End, Colchester
3	CHELMSFORD	H. PLATTS, M.R.C.S., L.R.C.P. (Also Clinical Medical Adviser to Essex Insurance Com.)	Chelmsford Borough Chelmsford Rural Maldon Borough Maldon Rural Burnham Urban	176,044	69,694	CHELMSFORD, General Hospital, London Rd. Tuesdays, 5 to 7 p.m. Fridays, 2 to 4 p.m. MALDON, 114, High Street Tuesdays, 10.30 to 11.30 a.m.	
4	EPPING	CHARLOTTE BROWN, L.R.C.P., L.R.C.S., L.R.F.P.S. M.D. (Brux.) (Succeed- ed Dr. O. Bruce who resigned on 1/6/19)	Epping Urban Epping Rural Ongar Rural Loughton Urban Waltham Holy Cross Urb'n Buckhurst Hill Urban	107,370	56,719	EPPING, Victoria Buildings 2nd and 4th Wednesdays in each month, 10.30 to 11.30 a.m. LOUGHTON, "Lynwood," Queen's Road 1st and 3rd Wednesdays in each month, 10.30 to 11.30 a.m. (Now closed.) WALTHAM ABBEY, 31, Greenyard Mondays, 11 a.m. to 12 noon	Chingford High Beech (children)
5	LEYTON	J. SORLEY, M.A., M.D., D.P.H. (Transferred to this area on resignation of Dr. O. Bruce, on 1/6/19)	Walthamstow Urban Leyton Urban Woodford Urban Wanstead Urban Chingford Urban	10,777	297,993	WALTHAMSTOW, 334, Hoe Street Mondays, 2 to 4 p.m. Tuesdays, 10 a.m. to 12 noon & 6 to 8 p.m. Wednesdays, 10 to 12 noon Fridays, 10 to 12 noon (children only) LEYTON, 180, High Road Wednesdays, 10 a.m. to 12 noon (children only) Thursdays, 10 a.m. to 12 noon & 6 to 8 p.m. Fridays, 2 to 4 p.m.	
6	ILFORD	A. J. WILLIAMSON, D.S.O., M.A., M.D., D.P.H., (Returned from Military Service on 17/2/19)	Ilford Urban Barking Urban Romford Urban Romford Rural	12,301	118,054	ILFORD, 38, Oakfield Road Tuesdays, 2 to 5 p.m. Fridays, 4 to 6 p.m. BARKING, 36, Linton Road Mondays, 4 to 6 p.m. Thursdays, 10.30 a.m. to 12.30 p.m.	Ilford
7	GRAYS	A. H. JACOB, L.R.C.P., L.R.C.S. (Acted as Temporary Tuberculosis Officer until 1/7/20, when he was appointed to the permanent staff)	Brentwood Urban Billericay Rural Grays Urban Orsett Rural Tilbury Urban	128,357	116,915	ROMFORD, 29, Eastern Road Tuesdays & Fridays, 9.30 a.m. to 12.30 p.m. GRAYS, "Hilldrop House," 61, London Rd. Mondays, 10.30 a.m. to 1.30 p.m. Thursdays, 10.30 a.m. to 1.30 p.m.	Harold Court Orsett
8	ROCHFORD	G. N. MEACHEN, M.D., M.R.C.S., L.R.C.P. (Appointed Tuberculosis Officer to Southend- on-Sea & by arrange- ment with that authority supervises the adjacent County area)	Rochford Rural Shoeburyness Urban	56,422	24,555	SOUTHEND, 30, Clarence Street Mondays, Thursdays and Saturdays, 2.30 to 4.30 p.m. (men 2.30, women 3.15) Tuesdays, 6.30 to 8.30 p.m. (men only) Fridays, 6.30 to 8.30 p.m. (women only)	



Tuberculosis Nurses.

Area No.	Name.	Sanitary Districts.	Training.	Date of Appointment.	Remarks.
2	Sasse, A.	Colchester	2½ years as Health Visitor	1st Sept., 1917	Part time
3	Rippingale, E.	Chelmsford	Trained at Leytonstone	1st Jan. 1919	Do.
3	Carter, E.	Maldon	3 years General Hospital, and C.M.B.	18th Nov., 1919	
5	Whitton, K.	Leyton	3 years General Hospital	1st April, 1915	
5	Wilson, F. E.	Do.	Do.	4th April, 1916	
5	Brightman, A.	Walthamstow	Do.	8th Dec., 1919	Appointed to replace Miss Fitchett who resigned 30/11/19
5	Carothers, R.	Do.	Do.	18th May, 1916	
6	Martin, M.	Ilford and Barking	Do.	15th Feb., 1915	
6	Ward, E.	Do.	C.M.B. Certificate	9th June, 1919	Part time
7	Taylor, A.	Romford and Grays	3 years General Hospital	28th April, 1913	

N.B. This Nursing Staff was considerably augmented early in 1920, when the combined nursing scheme was established.

As far as numbers go the figures shown in Table XXX. give every satisfaction, but it is obvious that at some of the larger dispensaries, the number of persons attending each session makes it impossible for a thorough and complete examination of each patient. In fact some of the Tuberculosis Officers could only attempt to overhaul a small portion of those attending during one session. To do the work properly, 15—20 minutes should be devoted to each patient. A session lasting two hours is quite long enough for any Officer to efficiently carry out his duties. The quality of the work is far more important than the quantity. Accordingly instructions were given that patients should be gradually accustomed to less frequent attendances. The Tuberculosis Officer often found himself in an embarrassing position, as many of the patients liked to attend each week even though they were cursorily examined by the doctor, and perhaps took away a bottle of medicine or cod liver oil. In other words some of the Dispensaries were in danger of ceasing to be consultative centres or "clearing houses" but rather to develop into the old style of out-patient department where the patient is told to carry on and keep on with the same medicine.

Dr. A. J. Williamson, Tuberculosis Officer for Area No. 6, very aptly states that "the Dispensary system seems to me to have fallen into abuse through over emphasis of its function as a treatment centre and I have been impressed with the extreme desirability of putting Dispensary practice on a sounder footing.

"The Dispensary must be a Consultative Centre not for diagnosis only, but for supervising and directing the treatment of the case throughout the whole course of the illness—over a period of several years, that is—the procedure at present followed to attain this, however is not very satisfactory in working. To overcome the difficulty of arranging consultations between Tuberculosis Officer and Panel Doctor a form of report is used. This report is prepared by the panel doctor and sent to the

Tuberculosis Officer, but in practice it is frequently omitted. It is unpopular with the panel doctors, they have little time for the careful examination of the patient it requires and probably have not the advantage of a continuous record of the patients progress to guide them in making it.

(Continued at foot of page 82.)

TABLE XXX.

Showing Summary of Reports of District Tuberculosis Officers for the
Year ended 31st December, 1919.

Registered Tuberculous Cases.

	AREAS. (For details see last sheet).								TOTALS.
	1.	2.	3.	4.	5.	6.	7.	8.	
1. No. of Patients on Register, 1st January, 1919 :—									
(a) Insured ...	50	81	49	13	308	169	45	12	727
(b) Uninsured—Adults ...	22	21	18	9	125	68	38	1	302
„ Children ...	18	24	16	9	176	165	58	4	470
Totals ...	90	126	83	31	609	402	141	17	1499
2. No. of Patients added to Register during the Year :—									
(a) Insured ...	43	59	27	11	250	153	35	5	586
(b) Uninsured—Adults ...	19	15	16	13	68	58	14	6	209
„ Children ...	15	20	27	6	105	159	29	11	372
Totals ...	77	94	70	30	423	370	81	22	1167
3. No. of Patients removed from Register during the year :—									
(a) Insured ...	9	35	20	8	157	159	17	2	407
(b) Uninsured—Adults ...	3	12	17	8	64	34	4	3	145
„ Children ...	2	12	10	3	55	110	21	2	215
Totals ...	14	59	47	19	276	303	42	7	767
4. No. of Patients on Register, 31st December, 1919 :—									
(a) Insured ...	84	105	56	16	401	163	66	15	906
(b) Uninsured Adults ...	38	24	17	14	129	92	48	4	366
„ Children ...	31	32	33	12	226	214	66	13	627
Totals ...	153	161	106	42	756	469	180	32	1899
5. No. of Patients on Domiciliary Treatment :—									
(a) Insured ...	23	22	13	8	40	115	14	18	253
(b) Uninsured—Adults ...	17	2	2	2	18	17	6	3	67
„ Children ...	3	—	1	2	6	16	3	3	34
Totals ...	43	24	16	12	64	148	23	24	354
6. No. of Patients under Observation following treatment :—									
(a) Insured ...	79	46	48	23	128	92	58	8	482
(b) Uninsured—Adults ...	26	6	14	3	42	24	18	1	134
„ Children ...	21	17	11	5	92	45	49	1	341
Totals ...	126	6	73	31	262	261	125	10	957

REGISTERED TUBERCULOUS CASES—*continued.*

	AREAS. (For details see last sheet).								TOTALS.
	1.	2.	3.	4.	5.	6.	7.	8.	
7. Total No. of Registered Cases under Treatment and Observation :—									
(a) Insured ...	186	173	117	47	569	370	138	41	1641
(b) Uninsured—Adults ...	81	32	33	19	189	133	72	8	567
" Children ...	55	49	42	19	327	375	118	17	1002
Totals ...	322	254	192	85	1085	878	328	66	3210
8. No. of Patients suffering from Tuberculosis of the Lungs ...	290	224	170	76	943	705	253	61	2722
9. No. of Patients suffering from other forms of Tuberculosis ...	32	30	22	9	142	173	75	5	488

Contacts and Suspected Cases.

10. No. found suffering from Pulmonary Tuberculosis ...	7	61	51	17	362	186	19	6	709
11. No. found suffering from Non-Pulmonary Tuberculosis ...	5	9	15	2	51	61	—	—	143
12. No. found <i>not</i> suffering from Tuberculosis ...	12	115	105	21	298	82	27	29	689
13. No. of doubtful cases remaining under observation ...	28	26	43	45	250	39	38	22	491
14. Total No. of contacts and suspects examined ...	54	212	186	56	972	86	62	43	1671
15. No. sent by Medical Men and Military	39	144	116	8	764	75	26	11	1183

Dispensary Attendances, Domiciliary Visits, etc.

16. Total No. of visits to Dispensaries by patients during Quarter ...	687	2145	2668	311	12768	2399	976	423	22377
17. No. of Domiciliary visits paid by Tuberculosis Officer ...	253	312	286	142	213	164	216	198	1794
18. No. of Domiciliary visits paid by Nurse ...	132	1378	368	537	4631	261	141	86	7534
19. No. of Shelters in use ...	25	8	12	4	4	8	10	3	84
20. Sputa examined—Positive ...	85	55	22	4	193	61	25	5	450
" Negative ...	107	65	72	10	791	98	39	12	1201
Totals ...	192	120	94	14	991	159	64	17	1651
21. No. sent to Hospitals and Sanatoria for treatment during Quarter :—									
(a) County Council's Institutions ...	38	53	59	4	265	38	18	4	479
(b) Other Institutions ...	4	4	6	—	5	5	2	—	26
Totals ...	42	57	65	4	270	43	20	4	505

Summary of Beds provided at Hospitals and Sanatoria, at beginning and end of 1919.

	Males.		Females.		Children.		Total.	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Harold Court ...	—	34	—	—	—	—	—	34
High Beech ...	—	—	—	—	31	—	—	31
Chingford ...	14	—	14	—	—	—	14	14
Orsett ...	16	12	—	—	—	—	16	12
Ilford ...	12	12	—	—	—	—	12	12
Colchester ...	12	12	—	—	—	—	12	12
Black Notley ...	—	—	26	34	—	—	26	34
Nayland ...	—	—	—	—	4	5	4	5
Sible Hedingham ...	—	—	—	—	16	18	16	18
Halstead ...	—	—	6	17	—	—	6	17
Other Institutions ...	—	2	—	1	4	8	4	11
Totals ...	54	72	32	66	24	62	110	200

These beds are allocated as follows:—

Essex Insurance Committee	50	66	...	23	46	...	—	—	...	73	112
County Council	4	6	...	9	20	...	24	62	...	37	88
Total...	54	72		32	66		24	62		110	200

(a)=No. of Beds at beginning of 1919.

(b)=No. of Beds at end of 1919.

SUMMARY OF TABLES.

	Observation before treatment.	Cases under treatment.	Domiciliary cases.	Observation after treatment.	Totals.	Total Attendance at Dispensaries.
On 31st December, 1918	603	1496	276	867	3242	25743
On 31st December, 1919	289	1899	354	957	3496	27603
Increase or Decrease during Quarter	—314	+403	+78	+90	+254	+1860

DETAILS OF AREAS.

Area No.	Dispensaries.	Visiting Stations.
1.	Braintree	{ Halstead Dunmow Saffron Walden
2.	Colchester	{ Harwich Clacton
3.	Chelmsford	{ Maldon
4.	—	{ Epping Loughton Waltham Abbey
5.	{ Leyton Walthamstow	—
6.	{ Barking Ilford Romford	—
7.	Grays	—
8.	Southend (For Rochford District)	—

"After a conversation with the County Medical Officer of Health and the Clerk of the Insurance Committee, I decided to recommend as routine treatment, in the case of Insured, Domiciliary treatment. This I have now been doing for four or five months, and the great majority of the Insured patients are now attending the Surgeries of their panel doctors for ordinary treatment.

"Among measures that are assuredly of prime importance in stamping out Tuberculosis, Dispensary treatment can never be more than a drop in the ocean. We cannot hope to see the end of the disease until the problems of Food, Housing and Hygienic environment—improved social conditions in general—are happily solved.

Arising out of an address which the County Medical Officer gave to the Essex Insurance Committee, on April 29th, 1919, Alderman Burrows, the Chairman, conceived the happy idea of arranging a conference between members of the County Council and Insurance Committee with members of the Essex Medical and Panel Committee. The relationship of the General Practitioner to the County Scheme of Treatment of Tuberculosis was fully discussed and it was decided to refer the matter to a special Sub-Committee. This Sub-Committee met on several occasions and issued their report and recommendations in April, 1920. At the time of writing, this scheme is being considered by the Ministry of Health. The main object is to foster the idea of the General Practitioners assuming full responsibility for the care of their own patients and utilising the Tuberculosis Officer for consultative work and the giving of special forms of treatment.

Sanatoria and Hospitals.

At the commencement of the year 110 beds were provided at the Sanatoria and Hospitals enumerated on page 82 of this report.

The beds provided at Isolation Hospitals were ultimately intended for observation and segregation purposes, but owing to the unavoidable delay in erecting a County Sanatorium, they had to be used for early and intermediate cases. The results of such treatment were quite as favourable as could be expected, but it was evident that the County was handicapped by the absence of a central Sanatorium to which early cases could be sent with some expectation of arrest of the disease.

A site at Sandon had been chosen in 1913, but with the advance in public opinion and experience at Sanatoria throughout the County, it was thought that a more suitable site could be obtained. The Committee visited various places and ultimately decided upon a site on the southern slopes of Danbury Hill. The chief drawback of this particular site was the existence of public rights of way and it was at first hoped that these could have been diverted without loss of convenience to the local residents. Unfortunately the antagonism which is invariably evinced by the people in any locality to the erection of a hospital in their midst, for any purpose whatsoever, became very acute, and the prospects of the site being sanctioned by the Ministry of Health were not improved. Ultimately a public enquiry was held by Dr. Chapman, in June, 1920, and unfortunately his verdict was unfavourable to the County Council.

Harold Court Sanatorium.

In the meantime a building and grounds known as Harold Court, had been taken over from the Asylums Committee and various alterations and improvements were carried out. This Sanatorium was opened on June, 24th, 1919, and at first accommodated 24 patients (ex-soldiers and sailors) but this number was quickly increased to 34. The experience at Harold Court proved to the Committee the inadvisability on general grounds of converting an old mansion or building for sanatorium purposes. The cost is heavy and the arrangements can never give the same satisfaction as a building designed and erected for the purpose. Under the conditions of labour, building

material, etc., which held towards the end of 1918, it was almost impossible to consider erecting a new place, and with the above limitation, Harold Court has proved to be of considerable service in the County Scheme. The difficulties and trials always associated with the opening of a new Sanatorium were fully experienced, but by resolution and patience most of these gradually disappeared and by the end of the year, Harold Court Sanatorium proved to be a valuable asset. It is invidious to mention any names, but the County owe a great deal to Alderman S. W. Robinson, for the time and thought which he gives to this Institution.

A brief summary of the expenses incurred in altering, renovating and equipping the Institution in 1919, is given below :—

	£
(a) Alterations, additions and renovations, including provision of Army Hut, telephone, lift, etc. ...	1,475
(b) Equipment, including provision of motor car, furniture, billiard table, blankets, etc. ...	2,545
	<hr/>
	<u>£4,020</u>

Further improvements became necessary at the close of the year, namely :—provision of new larder, adaptation of Army Hut, repairs to roof, installation of sewage treatment system, renewing electric lighting plant, etc., at an estimated cost of £3,000. In view, however, of the probable further extensions at Harold Court, most of these items will need revising.

Dr. A. H. Jacob, Medical Superintendent, reports on the work during 1919 as follows :—

“ Since becoming responsible for this Institution, November 17th, 1919, there has been much time spent in trying to evolve some system, both in respect to the management of patients, and to the administration. There is great scope for the energies of all the Staff, and as soon as some definite decision is come to on the point of enlargement of the accommodation for patients and the alteration of such as at present exists, to suit the needs of patients and nurses, I hope we shall be able to concentrate more on systematic Sanatorium treatment.

“ With at least three varieties of cases, amongst small numbers you will know that a good deal of management is necessary to effect this.

“ With the help of the Matron, I purpose making the garden this season an asset to the Institution. So far as it is possible, this, I hope may be brought about to some extent by the patients' own initiative, but you will know there will be much work that they are physically unfitted for, and some expense must attend the getting of the ground into bearing condition.

“ We have little or no trouble in maintaining a contented atmosphere among patients, and the Matron's efforts to provide entertainment for them are deserving of much praise.”

High Beech Hospital for Surgical Tuberculosis.

Towards the end of 1918, Dr. Thresh had been fortunate in securing from Mrs. Denton the use of the premises known as "Sun Trap" at High Beech, almost in the heart of Epping Forest. Before the war this building was used as a Convalescent home, and during the war was utilised by the soldiers. It was adapted and equipped for Non-pulmonary Tuberculosis in Children.

The cost of renovating and equipping the building up to and including 31st December, 1919, was as follows :—

	£	s.	d.
(a) Renovations and alterations, including the provision of			
an electric lighting plant	1,052	11	4
(b) Equipment, including provision of furniture and motor			
car	1,476	4	3
	<hr/>		
Total ...	2,528	15	7
	<hr/>		

The Matron is deserving of special mention for the excellent manner in which she has carried out the pioneer work at this Institution, and for her efforts in maintaining the "homely" atmosphere which is so necessary in the case of children away from their parents.

An interesting gathering was held on the 1st July, 1919, when Alderman Andrew Johnston, J.P., formally opened the Institution. The Committee have been fortunate in securing the services of Sir Henry Gauvain, as Consulting Surgeon, who visits the Institution once a fortnight, and who has kindly furnished the following report :—

"The first patients were received on June 24th, 1919, and since that time the Institution has done useful work amongst Essex cases suffering from Surgical Tuberculosis. I have been impressed, on my visits to the Institution, with the prevailing atmosphere of contentment and happiness amongst the patients, and the care and attention given to them by the Staff. This is reflected in the patients themselves, and all have shown considerable improvement in health; their general condition has been materially bettered, and their local lesions have shown much improvement.

"While admirable work is being done, I believe its greatest value will be to impress on your Council the importance of such work being considerably extended and adequate facilities for treatment being made available.

"The Institution suffers from the inherent defect always apparent in Institutions devoted to a special purpose, which are established in adapted, and, in many ways, quite unsuitable buildings. High Beech suffers severely from grave defects of this nature. The building is not suited for a Hospital for patients suffering from Surgical Tuberculosis. It was not designed for that purpose, and has not the essential equipment which such an Institution

should provide. It is suitable for milder cases of surgical tuberculosis, but even in those cases, the inadequate design makes supervision difficult, and greatly increases the labours of the Staff.

"Nevertheless, in spite of the great difficulties associated with the Institution, good and useful work is being done, and as a temporary measure it should be of great service to children in Essex who are in the pre-tuberculous state, or who are convalescing from the more serious manifestations of surgical tuberculosis. It is not adapted for the treatment of the more serious cases. I believe, however, that much good will come from its establishment, in demonstrating the great need that exists in Essex for a suitably designed Hospital for such sufferers, and even when such a Hospital is forthcoming, it may serve a useful purpose as a residential school for patients who are suffering from, or are pre-disposed to tuberculosis.

"I am convinced that it will be found false economy to establish later such an Institution, except of the most modern and best approved design."

Dr. Brown, the Medical Superintendent, reports on the work during 1919, as follows:—

"High Beech Hospital was opened in June, 1919, for the treatment of surgical tuberculosis. It consists of three large wards and a combined dining-room and school-room, which is also used as a recreation-room in bad weather. The staff accommodation was originally planned for a Convalescent Home where the majority of the Children are up and about. Nearly double the Staff is needed for children confined to their beds and fixed there by special apparatus. The nursing and teaching staff are therefore rather cramped for room. The Medical Superintendent resides within half a mile of the Sanatorium and visits daily.

"It was not until 1920, that a teacher was appointed. It is a mistake to think that the little patients in an Institution such as this are in much suffering. The right treatment relieves pain almost at once, and it must be extremely boring to an intelligent child to be obliged to lie immobile on his back all day without any occupation for his brain and hands. An understanding teacher supplies the necessary variety and interest in life. School is a positive joy to the average child; but the teaching must not be on ordinary school lines. Most of the patients are surprisingly cheerful and happy.

"The treatment is conservative, by means of extension, immobilization and fixation, the aspiration of abscesses as they arise, and the avoidance of open operation whenever possible.

"The making of plaster and celluloid jackets and splints is a feature of the work. Heliotherapy, or sun treatment was very successful during the Summer. There is only one good sun balcony on which patients can remain in the open air night and day, and it is all too small for the needs of the Institution.

"The diagnosis and successful treatment of non-pulmonary tuberculosis require special knowledge and experience, and the Committee were fortunate in securing the services of Sir Henry Gauvain, as Consulting Surgeon. In this work X-Ray photographs are an indispensable help to right diagnosis and treatment, and arrangement is made with Lord Mayor Treloar's Cripples Hospital at Alton, so that difficult cases can be sent there for the necessary skiagrams to be taken. It is too early to give statistics, but results so far have been encouraging, especially in affections of the bones and joints. Gland cases would probably do better at the sea."

Chingford Sanatorium.

Dr. Brown also reports on the work done in the Chingford Sanatorium during 1919, as follows:—

"Until November, 1919, Chingford Sanatorium was reserved for insured male patients, suffering from lung tuberculosis. Owing to a new Sanatorium for men having been opened at Harold Court, it was decided to transfer them to that Institution and to open the wards at Chingford for insured women instead. The Sanatorium pavilion is admirably suited for its purpose.

"In order to enable the patients to co-operate loyally and intelligently in their treatment, a feature is made of giving short informal lectures on the reasons why rules are made and the importance of carrying them out at home if any measure of ultimate cure is to be attained after discharge from Sanatorium treatment.

Orsett Sanatorium,

Dr. Jacob, Medical Superintendent of the Orsett Sanatorium, reports as follows:—

"There seems to be no need to make any change in the system obtaining here. The administration is in every way satisfactory and the patients do well, as a rule, and are I think contented and appreciative.

"It should however be reserved for early and ambulatory cases."

Black Notley Sanatorium.

Dr. Crossfield, Medical Superintendent of the Black Notley Sanatorium, reports the work during 1919, as follows:—

"In connection with the treatment of pulmonary patients an attempt has been made latterly in selected cases to obtain arrest of the disease by increasing the period of treatment in Sanatorium, instead of as was formerly the case remaining satisfied with merely improving and educating the patient by a short period of treatment.

"In some of the former cases it had been found that the improvement is not maintained beyond the fourth or fifth month. Not infrequently the patient's condition is actually retrogressive, and, as a rule this falling back is accompanied by fits of despondency on the part of the patients, together with loss of interest in themselves, their surroundings, and their friends.

"Some of these cases have been satisfactorily treated by the complete change of surroundings afforded by passing them on to another Sanatorium.

"If this changing from one Institution to another could be made part of the routine treatment of all such cases, it is highly probable that the number of 'arrested' cases would be very materially increased, and that falling short of 'arrest,' very considerable benefit would still accrue."

There can be no doubt that the continued successful working of this Institution is to a very great extent due to the capable and tactful management of the Matron. One outstanding feature in connection with the administration is the comparatively low cost per week per patient—see table on page 90.

Sible Hedingham Sanatorium.

Dr. Crossfield's report on the Sible Hedingham Childrens' Sanatorium states that—"It is in these Sanatoria for children that all the preventative, and most of the curative work is done; for many of the patients are still in the pre-tuberculous state when admitted—many of them are delicate children begotten of Tuberculous parents—and some of the others are the truly early cases as opposed to the pseudo-early, so frequently met with among adults. The addition of a large number of beds both for observation and treatment during the years that will in all probability elapse before the County Sanatorium is in being, would be of infinite service to the County."

The Matron has continued her keen interest in the welfare of the Institution, her aim being to make the children as happy and as comfortable as possible during their stay at the Sanatorium.

Halstead Sanatorium.

In July, 1919, endeavours were made by the County Council to increase the Institutional accommodation for Tuberculosis patients by approaching the various Joint Hospital Boards throughout the County. At the Halstead Isolation Hospital, where 9 patients were already accommodated in outside Shelters, the Board, even with their limited accommodation, very readily offered to place at the disposal of the County Council an excellently designed Ward Block, built only a few years ago. This consisted of two 4-bed wards and two single bed wards, all converging on a single corridor, with small duty room and the usual offices. As a result, in November, 1919, an agreement was arrived at whereby the County Council took over the use of this Ward Block for the treatment of observation and advanced cases. This arrangement was, in the first place, for a period of six months and was

licitly on the undertaking of the County Council to vacate the block within 72 hours should it be needed for infectious cases. The number of beds at this Hospital is in consequence increased from 9 to 17.

The acquiring of a Ward Block made it possible to transfer the dining and recreation room from the outside shelters to one of the large wards, where the patients have been much happier and more comfortable than was possible under the previous arrangement. The use of the other wards in the Block has been invaluable, having enabled the County Council to segregate several advanced cases which otherwise would have been compelled to remain at home, and continue to be a source of infection to the other members of their families. The experiment proved so successful that the Ministry of Health, under pressure, sanctioned its continuance for a further short period.

Dr. Crossfield, the Medical Superintendent, in reporting on this Institution states that "the arrangement has been more than justified as this ward has always been not full."

Administrative Expenses of County Sanatoria.

The total administrative cost of the four County Sanatoria for the year ended at March, 1920, amounted to £7,518, and Table XXXI. gives details and shows the cost per patient per week for each Institution.

Adequacy of Provision.

The greatest need at the present time is for the provision of Sanatoria for early pulmonary cases for 100 males, 50 females, and 100 children. If these can be provided, a considerable portion of the beds at Isolation Hospitals will be retained for observation and advanced cases. It is extremely desirable that in every centre of population, there should be a few beds for these latter cases, as experience shows that such patients will not go long distances from their homes.

For surgical tuberculosis, the best plan would be the provision of a Sanatorium of 100 beds by a combination of Counties in East Anglia. Essex could fill 40-50 of these beds.

Domestic Supervision.

The main responsibility for the attendance on tuberculosis patients at their homes rests with the private doctor. For various reasons this has not been as satisfactory as was hoped to be in the future. The shortage of medical men during the war was a considerable factor. Another reason was that when a patient was attending the dispensary week by week, the private doctor got into the habit of thinking he had no further interest in the case than perhaps writing out a certificate when asked for. Whatever the reason, the results were unfortunate for both the private doctor and the patient. As far as the time at their disposal permitted, the Tuberculosis Officers

TABLE XXXI.

Showing for each County Sanatorium number of beds, administrative expenses, and cost per week per patient, for the year ended 31st March, 1920.

(*Kindly supplied by the County Accountant.*)

Institution.	Kind of cases treated.	No. of beds on 31-3-20.	Average No. of		Salaries and Wages.	Provisions.	Medical appliances.	Rent, Rates, Insurance, &c.	Heating, cleaning, laundry.	Other payments.	Total.	Cost per patient per week.	Cost per person (including staff) per week.
			Patients.	Resident Staff.									
Black Notley ...	Females (adults)	34	32.2	8.32	£ 389	£ 1108	£ 46	£ 49	£ 163	£ 236	£ 1991	£ s. d. 1 3 9	£ s. d. 0 18 9
†Harold Court ...	Males (adults)	34	28.21	12.7	521	1377	81	64	255	354	2652	2 7 10	1 13 0
†High Beech ...	Children (non-pulmonary)	31	29.83	10.32	451	594	69	90	96	369	1669	1 8 6	1 1 2
Sible Hedingham ...	Children (pulmonary)	18	16.75	6.88	226	523	11	120	149	177	1206	1 7. 7	0 19 6

† Opened for reception of patients on 24th June, 1919.

TABLE XXXI.

(a) Adult Males.

(i.) PHYSICAL CONDITION ON ADMISSION.

(i.) PHYSICAL CONDITION ON ADMISSION.																				
Institution.	Stage Turban-Gerhardt. 1.						Stage Turban-Gerhardt. 2.						Stage Turban-Gerhardt. 3.						Total.	
	T.B. Absent.			T.B. Present.			T.B. Absent.			T.B. Present.			T.B. Absent.			T.B. Present.				
	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.		
County Institutions.																				
Chingford	...	8	8	2	...	2	16	...	16	6	...	6	3	...	3	9	...	9	3	44
Colchester	...	19	19	3	...	3	18	...	18	6	...	6	6	...	6	6	...	6	1	53
Harold Court	...	19	19	4	...	4	25	...	25	9	...	9	14	...	14	14	...	14	5	76
Ilford	...	12	14	7	...	7	29	1	30	7	1	8	6	1	7	2	...	2	...	68
Orsett	...	21	23	3	1	4	16	4	20	2	3	5	4	2	6	...	...	...	...	58
Brompton	1	1	1	...	1	...	...	...	...	1	1	...	...	...	...	3
Daneswood	1	...	1	...	...	...	...	...	...	...	...	...	...	1
Fairlight	1	...	1	...	...	...	...	...	...	...	...	...	...	1
M.A.B. Institutions	...	1	1	1	...	1	1	...	1	4	...	4	25	...	25	6	...	6	...	38
Mount Vernon	1	...	1	...	...	...	...	...	...	...	...	...	...	1
Nayland	...	13	13	2	...	2	11	2	13	3	...	3	3	1	4	1	...	1	...	36
Royal National, Bournemouth	1	...	1	...	...	...	...	...	...	...	...	...	...	1
" Ventnor	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Victoria Park	1	...	1	...	...	...	...	...	...	...	...	...	...	1
Totals	...	94	98	22	2	24	122	7	129	37	4	41	67	5	72	18	...	18	...	382
Percentage T.B. Negative or Positive	...	80 per cent.	4	20 per cent.	2	24	76 per cent.	7	129	24 per cent.	4	41	80 per cent.	5	72	20 per cent.	...	...	...	...
Percentage by Stages	...	32 per cent.	98	...	...	24	45 per cent.	...	129	...	...	41	23 per cent.	...	72	...	...	...	...	...

Table XXXII.—continued.
SHOWING RESULTS OF SANATORIUM TREATMENT DURING THE YEAR 1919.
(a) Adult Males.

(ii.) WORKING CAPACITY ON DISCHARGE.																				
Institution.		Stage Turban-Gerhardt. 1.						Stage Turban-Gerhardt. 2.						Stage Turban-Gerhardt. 3.						Total.
		M.I.	I.	S.	W.	D.	Total.	M.I.	I.	S.	W.	D.	Total.	M.I.	I.	S.	W.	D.	Total.	
County Institutions.	Chingford	...	2	7	1	...	10	...	2	18	2	...	22	...	1	10	1	...	12	44
	Colchester	...	7	14	1	...	22	...	3	18	3	...	24	...	1	4	1	...	7	53
	Haro'd Court	...	5	18	...	...	23	2	6	24	2	...	34	...	...	17	2	...	19	76
	Ilford	...	10	10	...	1	21	...	10	24	4	...	38	...	1	5	2	1	9	68
	Orsett	...	3	18	6	...	27	...	4	14	7	...	25	...	1	3	2	...	6	58
	Brompton	...	1	...	...	...	1	...	...	1	...	1	...	1	...	1	...	...	1	3
Outside Institutions.	Daneswood	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	1
	Fairlight	...	...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	...	1
	M.A.B. Institutions	...	...	2	...	...	2	...	...	3	...	2	5	...	...	16	9	6	31	38
	Mount Vernon	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1
	Nayland	...	...	13	2	...	15	...	3	12	1	...	16	...	...	4	1	...	5	36
	Royal National, Bournemouth	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1
(Victoria Park	Ventnor	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1
Totals		1	27	82	10	2	122	2	28	118	20	2	170	...	5	59	18	8	90	382
Percentage by Stages		82	22.13	67.21	8.19	1.64	100	1.17	16.47	69.41	11.76	1.17	100	...	4.49	66.29	20.22	8.98	100	

M.I. I. S. W. D. Total

Table XXXII.—continued.

SHOWING RESULTS OF SANATORIUM TREATMENT DURING THE YEAR 1919.

(b) Adult Females.

Institution.	(i.) PHYSICAL CONDITION ON ADMISSION.											
	Stage Turban-Gerhardt. 1.				Stage Turban-Gerhardt. 2.				Stage Turban-Gerhardt. 3.			
	T.B. Absent.		T.B. Present.		T.B. Absent.		T.B. Present.		T.B. Absent.		T.B. Present.	
	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Total.	Insured.	Uninsured.	Insured.	Uninsured.	Total.	Total.
County Institutions.												
{ Black Notley	41	17	58	7	1	8	23	11	34	9	9	18
{ Chingford	3	...	3	1	...	1	4	...	4	2	2	2
{ Halstead	2	8	10	1	2	3	3	11	14	3	1	5
Outside Institutions.												
{ Brompton	...	...	...	...	...	...	2	...	2	...	...	...
{ Midhurst	...	...	...	1	...	1	...	...	...	...	...	...
{ Nayland	2	...	2	...	...	...	1	...	1	1	1	1
Totals	48	25	73	10	3	13	33	22	55	15	26	21
Percentage T.B. Negative or Positive	85 per cent.	15 per cent.					68 per cent.	32 per cent.	70 per cent.	30 per cent.		
Percentage by Stages	44 per cent.						41 per cent.		15 per cent.			

Table XXXII.—continued.

SHOWING RESULTS OF SANATORIUM TREATMENT DURING THE YEAR 1919.

(c) Children.

Institution.	(i.) PHYSICAL CONDITION ON ADMISSION.									Total.
	Stage Turban-Gerhardt. 1.			Stage Turban-Gerhardt. 2.			Stage Turban-Gerhardt. 3.			
	T.B. Absent.		T.B. Present.	T.B. Absent.		T.B. Present.	T.B. Absent.		T.B. Present.	
Sible Hedingham	...	31	1	...	11	...	3	...	46	
Nayland	...	4	...	2	1	...	2	...	9	
Totals	...	35	1	13	1	...	5	...	55	
Percentage of T.B. Negative or Positive	...	97 per cent.	3 per cent.	93 per cent.	7 per cent.	...	100 per cent.	...	...
Percentage by Stages	...	65 per cent.			25 per cent.			9 per cent.		

Institution.	(ii.) PHYSICAL CONDITION ON DISCHARGE.																	Total.	
	Stage Turban-Gerhardt. 1.					Stage Turban-Gerhardt. 2.					Stage Turban-Gerhardt. 3.								
	M.I.	I.	S.	W.	D.	Total.	M.I.	I.	S.	W.	D.	Total.	M.I.	I.	S.	W.	D.		Total.
Sible Hedingham	7	7	16	1	1	32	1	1	8	1	...	11	...	...	3	...	...	3	46
Nayland	—	3	1	...	...	4	...	...	3	..	...	3	...	1	1	...	...	2	9
Totals	7	10	17	1	1	36	1	1	11	1	...	14	...	1	4	...	...	5	55
Percentage by Stages	20.0	28.0	47.0	3.0	2.0		7.0	7.0	79.0	7.0	...		...	20.0	80.0	...	...

Table XXXII.—continued.

SHOWING RESULTS OF SANATORIUM TREATMENT DURING THE YEAR 1919.

(d) Non-Pulmonary.

Institution.	Adults.				Children.			M.I.	I.	S.	W.	Died.	S till n der r eat- ment.	Total.
	Insured.		Uninsured.		Total.	Males.	Females.							
	Males.	Females.	Males.	Females.										
Alexandra Hospital, London...	...	...	...	...	...	2	4	6	1	...	...	...	4	5
Cranbrook, Kent ...	...	1	...	...	1	...	...	...	...	1	...	...	...	1
East Suffolk and Ipswich ...	...	...	1	...	1	...	1	1	...	...	...	...	2	2
Forest Lodge, Leytonstone ...	...	...	1	...	1	...	...	...	...	...	...	...	1	1
Great Ormond Street, London ...	...	...	...	...	...	1	...	1	...	...	...	...	1	1
London Hospital ...	1	...	1	...	2	...	...	...	...	2	...	...	...	2
Lord Mayor Treloar's Hospital, Alton ...	...	...	...	...	...	1	...	1	1	...	...	...	...	1
Royal Sea Bathing, Margate ...	...	1	...	...	1	...	...	...	...	...	...	...	...	1
Saffron Walden General Hospital ...	2	4	...	...	6	...	...	...	...	3	1	...	2	6
University College Hospital ...	...	1	...	...	1	...	...	...	1	...	...	...	...	1
Victoria Homes, Margate ...	...	...	...	...	...	4	2	6	1	...	...	...	...	...
Cheam, Surrey ...	4	...	...	...	4	...	...	...	1	1	...	1	...	4
High Beech (County Institution)	...	...	...	...	...	26	23	49	2	14	6	1	...	49
Totals...	7	7	...	3	17	34	30	64	5	19	13	2	1	40
														80 + 1 case found to be "not T.B."

visited the patients at their homes. In some districts the private doctor was acquainted by the Tuberculosis Officer of his intended visit to the home of the patient, inviting the former to meet him there in consultation. This ideal arrangement fell into disuse for the reasons already cited. There is not the slightest doubt that all parties would gain by this scheme being revived and extended. The consultation between the two doctors would result in quicker and more accurate diagnosis, better treatment of the patient, searching out of more contacts and the instruction of the patient in personal and domestic hygiene in his own interest and that of the other occupants of the house.

Altogether the Tuberculosis Officers made 1,794 domiciliary visits, and the Tuberculosis Nurses made 7,534 domiciliary visits.

Lectures and Propaganda.

Several lectures and addresses have been given by the Chairman of the Sanatorium Benefit Sub-Committee of the Essex Insurance Committee, the County Medical Officer and Tuberculosis Officers throughout the County, chiefly in connection with the formation of After-care Associations at Chelmsford, Braintree, Leyton, Ilford, Colchester. During the winter months in connection with the Essex Midwives Association, talks were given to groups of Midwives, District Nurses, and Health Visitors at Chelmsford, Colchester, Leytonstone and Southend-on-Sea.

The National Association for the Prevention of Tuberculosis have been busily engaged in the County, aiming at establishing an Essex Branch of their Association. A Public Conference was convened by Lord Lambourne, the Lord Lieutenant of the County, resulting in the proposal to form an Executive Committee which will then formulate a scheme of propaganda for the whole County.

British Red Cross Ambulances.

Numerous consultations have been held with the British Red Cross Society, in connection with their scheme for establishing a motor ambulance service. This scheme provides for the placing of Ambulances in various centres in England, Ireland and Wales, so that an Ambulance service may always be available in every district for the benefit of the civil population in case of accident or sickness. Essex is now well served in this respect, having Red Cross Ambulances at Brentwood, Castle Hedingham, Chelmsford, Colchester, Epping, Grays, Harwich, Rayleigh, Saffron Walden, Walthamstow, West Ham. A charge of 1s. 3d. per mile each way from garage to garage is made for the use of the ambulance, minimum charge being 7s. 6d. but Commandants and Local Controllers may reduce this charge or remit it altogether in cases of real necessity. The County Council used these ambulances on four occasions during 1919.

Should an ambulance be used in emergency for conveying infectious cases, disinfection and other precautionary measures have to be carried out in accordance with instructions which were supplied by the County Medical Officer to the British Red Cross Society.

Shelters.

There are 84 shelters being used at the present time by insured and un-insured persons at their homes. Steps are being taken to augment this number. The Tuberculosis Officers and Nurses pay periodic visits to the homes for the purpose of noting how the shelters are being used.

Extra Nourishment.

Extra Nourishment was given to Insured persons only during 1919, and only for those cases where such provision was strictly ancillary to treatment. A failure to grasp this qualifying clause led to correspondence with various Boards of Guardians.

Cod Liver Oil, Molsynth, Eastons Syrup, etc. were distributed at the Dispensaries to suitable cases.

Dental Treatment.

No dental treatment was provided during 1919, but on the 1st June, 1920, an agreement was arrived at with Dental Surgeons in certain parts of the County whereby they undertook to treat insured and uninsured patients according to the fees laid down in the following scale :—

Scale of Fees agreed upon in connection with the Dental Treatment of Cases of Tuberculosis.

1. EXTRACTIONS.

(a) LOCAL ANÆSTHETICS.

	£	s.	d.
Single tooth	2	6	
Two teeth	3	6	
Three teeth	5	0	
Each additional tooth	1	6	

(b) GAS.

Each sitting, irrespective of number of teeth	10	6	
If a doctor, other than the Tuberculosis Officer, gives Anæsthetics ...	10	6	extra.

(c) ETHER.

Clearance, etc. when Gas is not long enough	1	1	0
If given by a doctor, other than the Tuberculosis Officer ...	1	1	0
If given at a Sanatorium	1	1	0 an hour
reasonable travelling expenses			

(NOTE—General Anæsthetics must if possible be administered by the District Tuberculosis Officer, or by some other whole-time Medical Officer in the service of the County Council, with whom arrangements must be made accordingly. If a private practitioner is called in for this purpose the County Council cannot pay his fee unless the arrangement had previously been sanctioned by the Chief Tuberculosis Officer).

2. FILLING.

Simple, taking about 15 minutes	...	...	...	...	s. d.
Large, when nerve is not exposed, and taking about 30 minutes	...	...	...	...	7 6
Nerve exposed, consequent destroying, taking two or three sittings	...	...	...	...	10 6

3. SCALING.

According to time and trouble	...	...	...	s. d.	s. d.
				5 0	to 10 0

4. DENTURES.

Must be supplied at patient's own expense or from voluntary funds, *e.g.* : Care Committees, etc.

In order to systematise the procedure in each case, the following form was instituted, and up to the time of writing the scheme has worked successfully :—

(A) Dental Treatment for Cases of Tuberculosis.

Name of Patient..... Age..... Case No.....

<i>Address</i>	<i>Insured.</i>
	<i>Uninsured.</i>

To of

(Name and Address of Dental Surgeon to be inserted by D. T. O.)

I hereby certify that the above-named patient is in need of Dental Treatment, and that such treatment is strictly ancillary to the treatment of Tuberculosis. Will you please give the case your early attention in accordance with the arrangement made with you by the Essex County Council, and, when the treatment has been completed, return to me this form duly filled in.

District Tuberculosis Officer.

Sanatorium.....

Dispensary.....

Date.....

(B) REPORT by DENTAL SURGEON.

I hereby certify that I have now completed the treatment of this patient, details of which are given below, and have instructed the patient to report to the District Tuberculosis Officer without delay.

[illegible]

The charges for this case in accordance with the Scale are as follows:—

	£	s.	d.
Extractions			
General Anæsthetic			
Fillings			
Scalings			
TOTAL...	£		

(N.B.—If the arrangement with the Dental Surgeon is for payment per Session, no charges should be entered above, but the words "per Session" should be recorded).

Date.....

Signed

<p>(C) To CHIEF TUBERCULOSIS OFFICER, CHELMSFORD.</p> <p>I hereby certify that the treatment enumerated and charged for above has been carried out to my satisfaction.</p> <p>Signed..... District Tuberculosis Officer.</p> <p>Date.....</p>	<p>(D)</p> <p>Examined by.....</p> <p>Certified correct.</p> <p>..... County Medical Officer.</p> <p>Date.....</p>
---	--

Finsen Rays.

Arrangements were made with the London Hospital for treatment of Lupus Finsen Rays at 3s. per attendance.

Seven cases received this special treatment during the year.

After-care.

There can be no doubt that a scheme for the treatment of tuberculosis is not complete unless it includes some provision for the after-care of the patients. The Essex Insurance Committee have been fully alive to this fact, and therefore held preliminary Conferences at certain centres in the County, some of which were addressed by Dr. A. Butler Harris, the Chairman of the Sanatorium Benefit Society Committee, the County Medical Officer and others by the Tuberculosis Officers. As a result, After-care Associations have now been established at Chelmsford, Braintree, Colchester, Leyton and Barking, and there will shortly be one at Ilford. A grant of £20 is made to each Association by the Essex Insurance Committee and the County Council are defraying the cost of postages, stationery, etc. up to a maximum sum of £10 per annum, for each Association.

The functions of these Associations have been laid down as follows :—

- (1) Propaganda by lectures, lantern and cinema shows, exhibitions, etc.
- (2) Provision of special splints, instruments, water beds, air cushions, etc., for necessitous cases.
- (3) Payment of railway fares to Sanatoria and Dispensaries in necessitous cases.
- (4) Provision of clothing, books, etc., for necessitous cases.
- (5) Finding suitable employment for tuberculous patients.
- (6) Finding suitable homes for tuberculous patients so as to diminish possibility of infecting others.
- (7) Rendering such help as will enable a consumptive person to complete his full course of treatment, and later to adopt a suitable occupation.

The After-care work will more and more form an increasingly important part of the anti-tuberculosis campaign. The greatest handicap of the existing Associations is shortage of funds. In December, 1919, the County Council applied to the Ministry of Health for authority to make grants to After-care Committees. The Ministry replied that the after-care of patients who have returned to their homes after treatment in Sanatoria is a proper subject for voluntary effort, and that the fact that the County Council are not in a position to afford monetary assistance except in respect of administrative expenses should not deter the Council from proceeding on the lines suggested in the Local Government Board's Circular of 29th April, 1915.

The circular in question pointed out that the effectiveness of the work at the Dispensaries could be greatly increased by the organisation of Voluntary Care Committees. The Board also expressed the opinion that the Secretaries of such Committees might conveniently be members of the staffs of Dispensaries and that the Council might properly provide from their own resources, such secretarial and clerical assistance and office facilities (including stationery and postage) as the Council regard as reasonably necessary. Subject to the Ministry's approval, the cost incurred for this purpose may be charged to the Tuberculosis account of the Council.

It is expected that this difficulty regarding the shortness of funds will be overcome in the next year or two. As an example of the kind of work which these Associations are accomplishing, the following extract is taken from the Annual Report of the Chelmsford Tuberculosis Care Association, which was the first of its kind to be formed in the County :—

“ Chelmsford was the first centre to be selected by the Essex Insurance Committee for the commencement of their scheme of Care Associations, and a very successful Conference convened by that Committee was held on the 7th. May, 1919. Representatives from the following bodies being present :—

" Local Sanitary Authorities, Boards of Guardians, Friendly Societies, Employers and Employees from the various works in and around Chelmsford, Clergy, Medical Practitioners, Insurance Societies, etc.

" An interesting and instructive Paper was read by Dr. H. Platts, Clinical Medical Adviser to the Essex Insurance Committee.

" This Conference led to the formation of the Chelmsford Association consisting of representatives from the above mentioned bodies, which held its first meeting on the 20th August, 1919, when an Executive Committee was appointed. This Committee now meets on the third Monday of each month, at 7.30 p.m.

" Finance.

The primary function of the Executive Committee was to raise funds without which very little practical help could be given to the needy cases of Tuberculosis. A grant of £20 was in the first instance made by the Essex Insurance Committee. Subsequently an appeal was issued to the Local Sanitary Authorities, Employers of Labour, Friendly Societies, Trade Unions, etc.

" Activities.

" For information regarding needy cases the Association largely depends upon Dr. W. A. Bullough, the County Medical Officer and Dr. H. Platts, the Tuberculosis Officer for the Area, who have brought forward most of the cases which are set out in the attached schedule. Members also referred to the Committee certain cases which came to their notice. Every care is taken so as not to encroach upon the work of the Board of Guardians and in some instances it was necessary to supplement the only help which could legally be given by that Board. There can be no doubt that if the help in certain cases had not been forthcoming, a good deal of hardship would have been entailed, and it is doubtful whether the patients could, owing to home circumstances, have availed themselves of the institutional care and treatment which they sorely need under the County Council's scheme.

" The Committee have also purchased a Water Bed and Air Cushion which have been lent to such cases as have been recommended by the Tuberculosis Officer, from time to time.

" Visiting of Patients has so far been left entirely in the hands of the Tuberculosis Officer or Nurse."

CHELMSFORD TUBERCULOSIS CARE ASSOCIATION.

Schedule showing Cases considered and action taken by Committee during 1919-20.

Case.	Particulars.	Action taken.	Remarks.
L.R./1 ..	Requested payment of Doctor's Bill.	Not proved to be Tuberculosis. No action taken.	
J.B./2 ..	Application for alternative employment.	Offered outdoor work. No further action taken.	Patient refused offer.
R./3 ..	Do.	Application made to suitable Firm for employment.	
I.G./4 ..	Mother in Sanatorium. Grant to aid boarding out of children.	10s. per week granted.	
F.R./5 ..	Advanced case of T.B. unable to work. Married with 2 children.	5s. per week, and 5s. per week on extra nourishment.	
A.F./6 ..	Grant towards rail fares in order to attend Hospital.	No action taken.	Treatment taken over by County Council. Request for grant withdrawn.
M./7 ..	Advanced case. Requires extra nourishment.	No action taken.	Case receiving treatment under E.I. Committee.
A.R./8..	Application for alternative employment.	Suitable outside work accepted.	
G.H./9..	Advanced case.	5s. per week, extra nourishment.	Insurance Committee unable to provide extra nourishment.

Ministry of Pensions.

There has been a close connecting link between the Ministry of Pensions Medical Boards in Essex and the Public Health Department. All suspected cases of Tuberculosis are referred by the Medical Board and War Pensions Committees to the Tuberculosis Officers in whose areas the patients reside for examination and report. Fees for such examinations are being recovered by the County Council from the Ministry of Pensions.

PART VII.**VENEREAL DISEASES**

The Public Health (Venereal Disease) Regulations, 1916, placed upon County Councils the duty of making arrangements for the diagnosis and treatment of Venereal Disease in their areas.

At the outset it was recognised that the nearness of Essex to London would enable patients from this County to avail themselves of the facilities provided at the different London hospitals. A conference of representatives of the following bodies

was therefore held:—the County Councils of Buckingham, Essex, Hertford, Kent, London, Middlesex and Surrey and the County Boroughs of East Ham, West Ham and Croydon, when these Authorities agreed to participate in a united scheme. Eventually, negotiations with 22 of the principal London hospitals were entered into resulting in the provision at each hospital of the following services in connection with the treatment of Venereal Disease:—(a) the appointment of a competent staff (b) the provision of beds for patients; (c) the treatment of out-patients at evening sessions and at other suitable times; (d) the supply of Salvarsan or its substitutes to medical practitioners on an approved list; (e) the supply to practitioners of apparatus for taking samples of blood, etc., and the furnishing of reports on specimens sent by practitioners; (f) the provision of free instruction for practitioners and students, and opportunities for practitioners to act as clinical assistants at approved rates of remuneration and (g) the employment of women doctors in clinics for women. This scheme came into force on 1st January, 1917, and each year has seen an increasing number of London hospitals included, the number in 1919 being 26. In addition, patients from Essex are treated at the following hospitals:—Colchester, Ipswich and Southend.

In Table XXXIII. particulars are given of the work undertaken by the various hospitals.

It will be seen from the above-mentioned table that the number of patients dealt with during 1919 is the greatest since the inception of the Scheme. The increased number of patients at the London Hospitals led the London County Council to institute enquiries as to the adequacy of the present clinics. It was found that six institutions out of the 26 covered by the Scheme had found it necessary to open additional clinics since 1st January, 1919. Hostels had also been provided at four Hospitals, with accommodation for 37 beds, and a hostel for young women had been set aside at St. Thomas's Hospital with accommodation for 15 beds.

In June, 1919, it was suggested that other General Hospitals throughout the County should be asked if they were willing to enter into an Agreement with the County Council for the provision of the necessary treatment facilities. Where no General Hospitals are available, the County Council have power to establish *ad hoc* clinics. In this connection, it was ascertained that the Ministry of Health were willing to sanction the utilisation of one set of premises for the treatment of different diseases, provided certain conditions are complied with. Some premises are now being used as a Tuberculosis Dispensary on Mondays and Thursdays, and are closed for the remainder of each week. There is no reason why these premises should not be used on Tuesdays, Wednesdays, Fridays, or Saturdays for any or all of the following purposes:—School Clinic, Maternity and Child Welfare Centre, Venereal Clinic.

Such a system would not only be economical, but would bring about the co-ordination and concentration of treatment Centres which are aimed at by the Ministry of Health.

SHOWING TREATMENT CENTRES AND NUMBER OF PATIENTS TREATED DURING 1919

Treatment Centre.	Patients from all Areas. Total Number treated for first time.	ESSEX PATIENTS.							
		Total Number treated for first time suffering from					Total Atten- dances, No.	In- patient. Days.	Doses of Salvarsan Substitute given. Out-pa- In-pa- tients. tients. Total
		Syphilis.	Chancres.	Gonorr- hoea.	Not V.D.	Total.			
London Hospitals ...	27,364	352	18	476	196	1042	9813	2125	— 1835
St. Bartholomews Hospital, London ...	861	19	—	25	5	49	506	12	110 — 110
Colchester ...	139	82	—	32	25	139	734	1383	No record.
Ipswich ..	400	10	4	5	2	21	120	33	54 — 54
Southend ...	219	4	—	8	6	18	255	18	20 8 28
Total for 1919 ...	28,983	467	22	546	234	1269	11428	3571	2027
" 1918 ...	16,372	320	10	267	113	710	6435	2432	1360
" 1917 ...	17,637	308	7	141	55	511	3353	3057	839

It was subsequently agreed that the Chelmsford and Essex Infirmary should be used if they would be willing to resume the diagnosis and treatment of cases of Venereal Disease, and an agreement was eventually arrived at and the work commenced on 1st January, 1920.

During the year 1917, the Venereal Disease Act, 1917, came into force. The chief points of this Act are as follows:—

- (1) It is illegal for any person, unless he is a duly qualified medical practitioner, to treat any person for Venereal Disease, or prescribe any remedy therefor, or give advice in connection with the treatment thereof for reward direct or indirect.
- (2) Publications are prohibited, unless authorised, of any notice or advertisement of medicines, medicaments, etc., to be used or applied externally or internally for the prevention, cure or relief of Venereal Disease.
- (3) The penalty for acting in contravention is on summary conviction a fine not exceeding £100 or six months' imprisonment, and on indictment, imprisonment for a term not exceeding two years.

Propaganda.

Sir George Newman states in his Annual Report for 1919, that three things will be necessary for any great advance in the national health. First, a comprehensive understanding of the purpose and scope of preventive medicine; secondly, a steady and systematic administration of sanitary law and practice; and thirdly, an enlightened public opinion. Public opinion can be created in many ways, such as popular lectures, Reports of Medical Officers of Health, Sanitary Congresses, Press Notices, and so on. Lectures to adult audiences have been in some considerable vogue during recent years, in special reference to Child Welfare, Tuberculosis, and now Venereal Diseases. One wonders what lasting impressions remain, and if there is any appreciable change in the personal hygiene of the hearers. It is to be feared that the adult mind has become fixed and has lost too much of its impressionability and elasticity to receive and apply new aspects of life and conduct.

The mind of youth is receptive and impressionable. It is a "delightful task to rear the tender thought and teach the young idea how to shoot." Accordingly, education on hygiene and allied subjects must be begun in Elementary and Secondary Schools. Sex hygiene should be a part of the general instruction in Physiology, Botany and Biology. Purity and sexual ethics should only receive indirect notice as the subject matter can be so dealt with that the hearers will unconsciously apply the instructions to their own personal behaviour. Opportunities for instruction will present themselves during a course of physical exercises or organised games. At such times it will be appropriate to point out that a healthy life depends on consistently good habits and by the practice of a few simple laws of health.

Specific instruction in regard to Venereal Diseases is inadvisable for a class of young boys and girls, but teachers should take suitable opportunities for a short private talk with pupils prior to their leaving School. It would also be very helpful for a medical man or woman to speak to groups of fathers and mothers respectively as to the wisest methods of safeguarding the moral, mental and physical well-being of their children during the all-important post-school period.

In May, 1919, the London and Home Counties' Branch of the National Council for Combating Venereal Disease, asked for the views of the County Council with reference to the Scheme proposed by them for a general educational campaign. They contended that the effect of such a campaign would be the increasing attendance at the clinics on the part of the infected people, and would also act as a deterrent to persons who would otherwise expose themselves to the risk of infection.

Later, an application was made to the Ministry of Health for powers to incur expenditure on propaganda work. Such powers were obtained, and the Committee set aside the sum of £200 per annum for this purpose. Lectures were arranged by the London and Home Counties' Branch at the following Centres on the dates named :—

19th January, 1919	...	Ilford	...	Men only.
22nd " "	...	"	...	Women only.
19th February, "	...	Chelmsford	...	Women only.
26th " "	...	"	...	Men only.
12th May, "	...	Hockley	..	Women only.

One valuable adjunct to the propaganda work of the London and Home Counties' Branch was the exhibiting of a cinema film entitled, "The End of the Road." This was first privately exhibited to certain specially invited representatives of County Councils and Local Authorities in and surrounding London on 7th November, 1919, at the Alhambra Theatre. Since that time the film has been shown to specially invited audiences at Chelmsford, Colchester, Ilford and Walthamstow. As regards the exhibition at Colchester, the following extract from Dr. Corfield's Annual Report for 1919 is of interest :—

"Arrangements were made at the end of the year for an invitation exhibition of 'The End of the Road' film. The Mayor and Council attended this, with the Officer Commanding the Garrison. The film was very well received and probably in 1920, it will be shown as a commercial undertaking at one of the Cinematograph Theatres.

With the object of teaching the public what Venereal Diseases are and their dangers, leaflets supplied by the National Council for Combating Venereal Diseases have been posted up in public urinals and a small booklet entitled "How Girls can help in the fight against Venereal Diseases" is distributed free at the Women's Lavatory and to several Homes and Associations for girls in the Borough."

On 11th December, 1919, Mr. E. B. Turner, F.R.C.S., representing the London and Home Counties Branch, gave an address to the members of the Public Health and Housing Committee, in which he urged for increased activities in connection with propaganda work in the County of Essex.

The Society for the Prevention of Venereal Diseases was established during 1919, and included among its members are many of the leading medical men in the Country. The objects of this Society are as follows:—

- (1) To instruct the public as to (a) the vital importance of self-disinfection at the time of exposure to risk as a preventative of Venereal Disease, and (b) the methods of application.
- (2) To advocate such further steps for the prevention of Venereal Disease as may be deemed advisable.

They differ from the National Council for Combating Venereal Diseases in that they attempt to prevent Venereal Disease and its consequences by direct methods of disinfection rather than by moral and educational teaching. There is a great deal to be said on both sides and perhaps the average man would give both societies his blessing. Their object is identical and their methods are by no means antagonistic but rather complementary. It will take so long to educate the public on matters of sex hygiene that in the meantime, a great deal of preventable disease and suffering (to the innocent as well as to the guilty) will be perpetuated. The essential question is whether disinfection is really effective in everyday life. It achieved success in certain army divisions but that is quite a different matter from ordinary civilian conditions.

Fares.

The Regulations empower the County Council to pay the travelling fares of necessitous cases to and from hospitals, and fares amounting to £20 1s. 4d. were defrayed during the year.

Approved Practitioners.

During the year 3 Medical Practitioners were approved, making a total of 16 in the County who were approved as qualified to administer Salvarsan or its substitutes.

Prevalence of Venereal Diseases.

In order to ascertain as far as possible the number of cases of Venereal Disease in the County of Essex, a circular was addressed to Medical Practitioners in the County, asking for their experience in the treatment of this disease.

About half the medical men replied to the circular (151 out of 317).

The following tables have been compiled from the 151 replies received, and it will be observed that

1. A great majority of the medical practitioners rarely see patients suffering from venereal diseases.
2. That unqualified persons are treating persons suffering or suspected to be suffering from venereal disease.

TABLE XXXIV.

PREVALENCE OF VENEREAL DISEASE.

Sanitary Districts.	No. of Practitioners Reporting	Cases now receiving treatment.				Cases usually seen in a year.				Are cases treated other than by Medical Men?
		Primary Syphilis.	Secondary Syphilis.	Tertiary and Post-tertiary Syphilis.	Gonorrhoea.	Primary Syphilis.	Secondary Syphilis.	Tertiary and Post-tertiary Syphilis.	Gonorrhoea.	Yes or No.
URBAN.										
Barking...	1	...	...	2	...	4	4	4	6	...
Braintree	4	...	...	...	...	...	...	1	2	No
Brentwood	1	...	...	...	...	...	...	...	...	No
Brightlingsea	2	...	9	2	...	1	2	5	9	Yes
Buckhurst Hill	3	...	...	...	...	1	1	...	3	No
Burnham-on-Crouch	3	1	2	1	2	2	3	3	8	No
Chelmsford B.	6	...	3	1	2	2	4	4	14	No
Chingford	5	1	...	2	2	2	...	9	5	No
Clacton-on-Sea	4	...	...	...	2	1	1	4	10	Yes
Colchester B.	8	11	17	24	16	3	4	18	24	Yes
Epping	3	...	...	...	...	...	...	...	8	No
Frinton-on-Sea	3	1	...	1	...	1	...	...	...	No
Grays	3	...	2	4	4	17	5	12	29	No
Halstead	4	...	...	1	3	...	2	2	7	No
Harwich B.	3	...	2	6	7	14	14	13	46	Yes
Ilford	11	...	10	5	6	18	26	23	57	No
Leyton	9	1	1	11	7	11	1	41	91	Yes
Loughton	3	...	...	...	2	1	1	2	8	No
Maldon B.	2	...	1	...	...	1	2	2	2	No
Romford	3	...	...	2	3	15	11	6	33	No
Saffron Walden	3	...	6	5	9	5	5	5	16	No
Shoeburyness	1	...	1	1	1	3	6	6	12	Yes
Tilbury	2	1	...	...	2	27	...	4	12	No
Waltham Holy Cross	2	...	...	...	...	...	...	...	1	No
Walthamstow	12	1	3	22	8	17	15	70	50	...
Waltham-on-the-Naze	1	...	...	...	...	...	...	...	...	No
Wanstead	...	...	...	...	...	...	...	...	...	...
Witham...	3	...	...	...	...	1	8	6	12	No
Wivenhoe	2	...	...	1	...	...	...	2	3	No
Woodford	8	...	...	2	5	3	1	7	15	No
RURAL.										
Belchamp	1	...	...	...	1	...	...	...	...	No
Billericay	2	...	...	...	1	3	...	2	5	No
Braintree	2	...	...	...	...	...	...	...	...	Yes
Bumpstead	1	...	...	...	...	...	...	...	2	No
Chelmsford	1	...	...	...	...	...	...	...	1	No
Dunmow	4	...	...	1	1	2	...	4	3	No
Epping	1	...	...	1	...	2	3	...	...	No
Halstead	2	...	...	1	1	2	4	...	5	No
Lexden & Winstree	2	...	...	...	1	2	...	...	1	No
Maldon	2	...	...	2	3	2	2	4	8	No
Ongar	3	...	...	1	1	3	1	4	4	No
Orsett	1	...	...	...	...	...	...	3	...	No
Rochford	4	2	...	4	...	6	1	6	26	No
Romford	3	...	...	...	2	1	1	2	8	No
Saffron Walden	1	...	...	1	...	...	...	...	...	No
Stansted	1	...	...	...	...	...	...	...	...	No
Tendring	5	1	...	3	3	...	...	4	5	No

Totals :—

	Cases receiving treatment.	Cases usually seen in one year
Primary Syphilis...	20	173
Secondary „	57	128
Tertiary and Post-tertiary Syphilis	108	278
Gonorrhoea	95	551
	280	1130

The following suggestions and remarks were also made by various practitioners in the areas shown :—

Sanitary District.		Remarks.
Chelmsford B.	...	Each medical practitioner should be paid to treat any case of syphilis arising in his own practice with salvarsan, and so secure treatment for patients who object to attending hospital.
Clacton U.	...	Warning in every urinal in the town, which should be couched in language to reassure the patient that he will not be treated as an outcast.
Colchester B.	...	Periodical examination of prostitutes ; notification is essential.
Chingford U.	...	Lectures to young men
Frinton U.	...	Form a local Committee with Medical Officer of Health as Chairman.
Harwich B.	...	Steps should be taken to prevent these diseases being so widely propagated. Better supervision of prostitutes and salvarsan supplied to all practitioners.
Halstead U.	...	Venereal disease should be notifiable.
Ilford U.	...	1. Temperance propaganda and morals. 2. Encourage healthy games and early hours. 3. Special treatment at hospitals. 4. Early treatment. 5. 2s. 6d. fee for notification.
Walthamstow U.	...	Educate public by addresses, etc.

Cases of Ophthalmia Neonatorum occurred in 15 Urban and 8 Rural Districts, 82 in the former and 15 in the latter. In about two cases out of three it has been shown by bacteriological examination that Ophthalmia Neonatorum is due to gonorrhœa. Consequently about 65 cases of gonorrhœal ophthalmia were notified during the year, and when one considers the care taken by doctors and midwives to prevent the newly-born babe from being infected by the vaginal discharge of the mother, the inference is that a very much larger number than 65 mothers are infected by gonorrhœa. Therefore it must be concluded that a considerable proportion of the very much larger number of males and females suffering from gonorrhœa do not seek advice from their usual medical attendant.

Table XXXV. gives a list of Hospitals where diagnosis and treatment, under conditions of secrecy, can be obtained free of charge by any person.

VENEREAL DISEASES.

111

List of Hospitals with the days and times at which the clinics are available for the use of patients.

Name and Address of Hospital.	Department.	Days and Times of Clinics.						
		Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	
Albert Dock .. Royal Albert Docks, E.	Male and female ..	4 p.m.—6 p.m.	4 p.m.—6 p.m.	—	4 p.m.—6 p.m.	—	—	
Bolingbroke .. Wandsworth Common, S.W. 11.	Male .. Female ..	7 p.m.—9 p.m.	—	6 p.m.—8 p.m.	—	5.30 p.m.—7.30 p.m.	—	
Charing Cross .. Agar Street, Strand, W.C. 2.	Surgical (Clap)—Male .. Female .. Skin—Male and female ..	— — 4 p.m.—6 p.m.	— — —	4 p.m.—6 p.m.	— — —	6 p.m.—9 p.m.	— — —	
Hospital for Diseases of the Skin .. 71, Blackfriars Road, S.E. 1.	Male and female .. Female and children only ..	2 p.m.—3.30 p.m.	2 p.m.—3 p.m. 6 p.m.—7 p.m. 4 p.m.—5 p.m.	2 p.m.—3.30 p.m.	2 p.m.—3.30 p.m.	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 4 p.m.—5 p.m.	2 p.m.—3.30 p.m.	
Hospital for Sick Children .. Great Ormond Street, W.C. 1.	Male and female children ..	9 a.m.—10 a.m.	9 a.m.—10 a.m.	9 a.m.—10 a.m.	9 a.m.—10 a.m.	9 a.m.—10 a.m.	9 a.m.—10 a.m.	
Great Northern .. Holloway Road, N. 7.	New Cases—Male .. Female .. Male and female .. Children ..	9 a.m.—9.30 a.m. 1 p.m.—1.30 p.m. 6 p.m.—7 p.m. 1 p.m.—1.30 p.m.	1 p.m.—1.30 p.m. 1 p.m.—1.30 p.m.	1 p.m.—1.30 p.m. 1 p.m.—1.30 p.m. 6 p.m.—7 p.m.	1 p.m.—1.30 p.m. 9 a.m.—9.30 a.m. 6 p.m.—7 p.m.	1 p.m.—1.30 p.m. 1 p.m.—1.30 p.m. 6 p.m.—7 p.m.	— — — —	
Guy's .. St. Thomas Street, S.E. 1.	Female .. Male ..	11.30 a.m.—12 noon 5 p.m.—6 p.m.	11.30 a.m.—12 noon 10 a.m.—12 noon	11.30 a.m.—12 noon 9 a.m.—10 a.m.	11.30 a.m.—12 noon 5 p.m.—6 p.m.	— —	— 9 a.m.—10 a.m.	
King's College .. Denmark Hill, S.E. 5.	Syphilis—Male .. Female .. Gonorrhoea (Clap)—Male .. Female ..	— — 2 p.m.	6 p.m. 5.30 p.m.	11 a.m. 11.30 a.m. 6 p.m.	2 p.m. 2.30 p.m.	11.30 a.m. 11 a.m.	— — — —	
London Lock .. 91, Dean Street, Soho, W. 1.	Male .. Female and children ..	1 p.m.—2 p.m. 6 p.m.—8 p.m. Irrigations, 6 p.m.—8 p.m.	Injections, 9.30 a.m. 1 p.m.—2 p.m. 6 p.m.—8 p.m. Blood tests, 6.30 p.m. Irrigations, 6 p.m.—8 p.m.	6 p.m.—8 p.m. Irrigations, 6 p.m.—8 p.m.	—	— 5 p.m.—6.30 p.m. Irrigations, 11.30 a.m. Injections, 5 p.m.	Injections, 9.30 a.m. 2 p.m.—4 p.m.	
London Lock .. 263, Harrow Road, W. 9.	Female and children ..	Irrigations, 11 a.m.—12.15 p.m.	Irrigations, 11.30 a.m.—12.15 p.m. Blood tests, 7 p.m.	Irrigations, 11 a.m.	11.30 a.m.—12.30 p.m. 5.30 p.m.—7 p.m. Irrigations, 11 a.m. Injections, 5.30 p.m.	5 p.m.—6.30 p.m. Irrigations, 11.30 a.m. Injections, 5 p.m.	—	
London Lock .. 263, Harrow Road, W. 9.	Female and children ..	Irrigations, 5.30 p.m.—8 p.m.	2 p.m. Blood tests, 10 a.m. Irrigations, 5.30 p.m.—8 p.m.	9 a.m. Irrigations, 5.30 p.m.—8 p.m.	2 p.m. Irrigations, 5.30 p.m.—8.30 p.m.	Blood tests, 10 a.m. Irrigations, 5.30 p.m.—8 p.m.	Irrigations, 5.30 p.m.—8 p.m.	
London .. Whitechapel Road, E. 1.	Genito-urinary (Clap)—Male .. and female .. Syphilis—Male and female ..	Irrigations, 5 p.m.—6.30 p.m. 5 p.m.—7 p.m.	Irrigations, 5 p.m.—6.30 p.m. 8.30 a.m.—12 noon	1.30 p.m.—7 p.m. 10 a.m.—12 noon	Irrigations, 5 p.m.—6.30 p.m. 8.30 a.m.—12 noon	Irrigations, 5 p.m.—6.30 p.m.	1.30 p.m.—7 p.m.	
Metropolitan .. Kingsland Road, E. 8.	Male and female ..	6 p.m.—7 p.m.	—	Noon—1 p.m.	—	6 p.m.—7 p.m.	—	
Middlesex .. Berners Street, W. 1.	Skin—Male and female .. Syphilis—Male and female .. Gonorrhoea (Clap)—Male .. Female ..	— 6 p.m.—8 p.m.	2.30 p.m. 2.30 p.m. 1.30 p.m. 5.30 p.m.—7.30 p.m.	— Injections, 2.30 p.m.	— 6 p.m.—8 p.m.	2.30 p.m. 2.30 p.m. 1.30 p.m. 5.30 p.m.—7.30 p.m.	— Injections, 2.30 p.m.	
Miller General .. Greenwich, S.E. 10.	—	—	5 p.m.	5 p.m.	11 a.m.	5 p.m.	2 p.m.	
Elizabeth Garrett Anderson Hospital for Women .. 144, Euston Road, N.W. 1.	Disorders of women .. Skin ..	—	6.30 p.m.—8.30 p.m.	—	—	6.30 p.m.—8.30 p.m. 6.30 p.m.—8.30 p.m.	11 a.m. 11 a.m.	

Name and Address of Hospital.	Department.	Days and Times of Clinics.					
		Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
Royal Free .. Gray's Inn Road, W.C. 1.	General—Male and female .. Male .. Female ..	1 p.m. 7 p.m. 5.30 p.m.	1 p.m. — 5.30 p.m.	1 p.m. 7 p.m. —	1 p.m. — 5.30 p.m.	1 p.m. 7 p.m. 9.30 a.m. (Children and expectant mothers). 9.30 a.m.	1 p.m. — 9 a.m.
	Skin—Male and female ..	—	9.30 p.m.	—	—	—	—
Royal London Ophthalmic (Moorfields) City Road, E.C. 1.	Male .. Female ..	5.30 p.m. —	— —	1 p.m. —	— —	5.30 p.m. —	— —
St. George's .. Hyde Park Corner, S.W. 1.	Skin—Male and female .. Disorders of women ..	6 p.m.—7 p.m. 2.30 p.m.—4.30 p.m.	— —	2 p.m. 6 p.m.—7 p.m.	— 2.30 p.m.—4.30 p.m.	2 p.m.—3 p.m. 6 p.m.—7 p.m.	— —
St. John's Skin Hospital 49, Leicester Square, W.C. 2.	Male and female .. Irrigations ..	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 10 a.m.—6 p.m.	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 10 a.m.—6 p.m.	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 10 a.m.—6 p.m.	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 10 a.m.—6 p.m.	2 p.m.—3.30 p.m. 6 p.m.—7 p.m. 10 a.m.—6 p.m.	2 p.m.—3 p.m. 10 a.m.—1 p.m.
St. John's (Lewisham) .. Morden Hill, Lewisham, S.E. 13.	Male .. Female ..	— 11 a.m.	5.30 p.m. —	— —	— 11 a.m.	2.30 p.m. —	— —
St. Mary's .. Cambridge Place, Paddington, W. 2.	Male .. Female ..	Injections, 5 p.m.—6 p.m.	6 p.m.—8 p.m. —	5 p.m.—7 p.m. —	— —	6 p.m.—8 p.m. —	— —
St. Paul's .. Red Lion Square, W.C. 1.	Male .. Female and children ..	Irrigations, 9 a.m. 1.30 p.m.—3 p.m. 5.30 p.m.—7 p.m.	Irrigations, 9 a.m. 1.30 p.m.—3 p.m. 5.30 p.m.—7 p.m.	Irrigations, 9 a.m. 5.30 p.m.—7 p.m. Irrigations, 11.30 a.m. 1.30 p.m.—3 p.m.	Irrigations, 9 a.m. 1.30 p.m.—3 p.m. 5.30 p.m.—7 p.m.	Irrigations, 9 a.m. 1.30 p.m.—3 p.m. 5.30 p.m.—7 p.m.	Irrigations, 9 a.m. 1.30 p.m.—3.30 p.m. —
St. Thomas's .. Westminster Bridge Road, S.E. 1.	Male .. Female and children ..	The department is open daily (except Sundays) from 8 a.m. to 10 p.m. New cases can be seen at any time between these hours, and thereafter their times of attendance will be arranged to suit their convenience.					
Seamen's .. Greenwich, S.E. 10.	Male ..	7 p.m.—9 p.m.	—	7 p.m.—9 p.m.	7 p.m.—9 p.m.	—	—
South London for Women 86-90, Newington Causeway, S.E. 1.	Female and children— Skin .. Disorders of women ..	— — —	6 p.m.—8 p.m. 6 p.m.—8 p.m.	— 10.30 a.m.	— —	6.30 p.m.—8.30 p.m.	— —
University College Gower Street, W.C. 1.	Disorders of women .. Skin .. Medical, Surgical and Eye .. Ear and Throat .. Special—(Venereal)—Male .. Female ..	1.45 p.m. 9.30 a.m. 1 p.m. — — 5 p.m.	— — 1 p.m. 9 a.m. — —	— — 1 p.m. — 5 p.m.	9.30 a.m. 1.30 p.m. 1 p.m. — — 5 p.m.	— — 1 p.m. 9 a.m. 5.30 p.m. 5 p.m.	— — 1 p.m. 1.30 p.m. — —
West London .. Hammersmith Road, W. 6.	Male and female ..	5.30 p.m.—6.30 p.m.	5.30 p.m.—6.30 p.m.	5.30 p.m.—6.30 p.m.	5.30 p.m.—6.30 p.m.	5.30 p.m.—6.30 p.m.	5.30 p.m.—6.30 p.m.
Westminster .. Broad Sanctuary, S.W. 1.	Male and female .. Special sessions .. Irrigations ..	New cases up to 1 p.m. — Noon—2 p.m. and 5 p.m.—6 p.m.	New cases up to 1 p.m. 5.30 p.m.—7.30 p.m. Noon—2 p.m. and 5 p.m.—7.30 p.m.	New cases up to 1 p.m. 5.30 p.m.—7.30 p.m. Noon—2 p.m. and 5 p.m.—7.30 p.m.	New cases up to 1 p.m. 5.30 p.m.—7.30 p.m. Noon—2 p.m. and 5 p.m.—7.30 p.m.	New cases up to 1 p.m. — Noon—2 p.m. and 5 p.m.—6 p.m.	— — 11 a.m.—1 p.m.
Colchester— Essex County Hospital Lexden Road	Out-patients ..	Male, 4.30 p.m.	—	—	—	Female, 2.30 p.m.	—
Chelmsford—London Road	Male and female ..	—	—	—	—	11 a.m.	—
Ipswich Hospital .. Angles Road	Male .. Female .. Children ..	Irrigations, 6.30 p.m. Irrigations, 9.30 a.m. —	Irrigations, 6.30 p.m. Irrigations, 9.30 a.m. —	5.30 p.m.—7 p.m. 4 p.m.—5.30 p.m. —	Irrigations, 6.30 p.m. Irrigations, 9.30 a.m. 11 a.m.	1 p.m.—2.30 p.m. 2.30 p.m.—4 p.m. —	Irrigations, 6.30 p.m. Irrigations, 9.30 a.m. —
Southend Borough Sanatorium ..	Male .. Female ..	Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. — Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.	7.30 p.m.—10 p.m. Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. 9.30 a.m.—12 noon Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.	Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. 2.30 p.m.—5.30 p.m. Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.	Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. — Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.	7.30 p.m.—10 p.m. Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.	Irrigations, 7 a.m.—8 a.m. 7 p.m.—8 p.m. Irrigations, 8 a.m.—10 a.m. 5 p.m.—7 p.m.
	New cases are seen	any morning (including Sundays)	10 a.m.—12.30 p.m.	—	—	—	—

PART VIII.

small-pox.

Two cases of Small-pox occurred in the Administrative County during the year, particulars of which are given below :—

Sanitary District.	Sex.	Occupation.	Date of Onset.	Date of appearance of rash.	Date notified.	Whether vaccinated.
Tendring R. ...	M.	Demobilized Soldier from Purfleet Centre.	19-3-19	23-3-19 admitted to	26-3-19 Colchester Hospital.	Yes. Infancy
Ilford U. ...	M.	Employed at Margarine Works, Purfleet.	22-3-19	27-3-19 admitted to	28-3-19 M.A.B. Hospital, Dartford.	Yes. Infancy

It would appear that the origin of the disease which remained obscure was common to both cases.

- (a) *Tendring Case.* It was ascertained that this soldier arrived at Southampton from Egypt on the 8th March, proceeded to the Purfleet Dispersal Camp the same day, spent the night there and reached his home at Little Clacton the following day.

It was a mild confluent case and ran a normal uncomplicated course. No further cases arose. All the necessary precautionary measures were taken.

- (b) *Ilford Case.* This man, who also had the disease in a mild form, travelled to and from Purfleet each day in order to carry out his employment at the Margarine Works, and admitted having visited the Ilford Hippodrome on the 22nd March, 1919. Vaccination of all contacts and thorough disinfection of premises were carried out, and no fresh cases arose.

In several instances it has been necessary to keep under observation persons who have been in contact with cases of Small-pox which have occurred outside the Administrative County. An Elementary School in the Rochford Rural District had to be closed and all the scholars kept under observation owing to a teacher, who lived in Southend-on-Sea and who taught in one of the County Schools, having contracted the disease. Fortunately, none of the contacts became ill.

The number of unvaccinated children continues to increase, with the result that several Medical Officers of Health have expressed themselves rather strongly on the matter. In Ilford, out of 1,167 births registered, only 611 of the children were vaccinated. Dr. Burton, therefore, points out that "this is an undesirable state of affairs and it is only by extreme vigilance on the part of the Public Health Department that spread of the disease does not occur." Dr. Macdonald (Chelmsford Rural), states that "there is a very serious increase in the number of subjects, which would enormously handicap the control of Small-pox should this

disease unfortunately be imported into the district. The phrase 'Conscientious Objector' is a misnomer, and for all practical purposes the word 'conscientious' might have been omitted from the Statute."

The following table shows the number of Small-pox cases which have occurred in the Administrative County during the past twenty years (1900-19):—

TABLE XXXVI.

Year.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
No. of cases	18	227	1335	96	112	3	—	—	3	—	7	10	1	4	—	1	1	—	—	2

Small-pox Hospital Accommodation.

At the present time the County is divided for Small-pox purposes into several areas (see below), varying very much in size and population. Some local Sanitary Authorities have preferred to rely upon their own treatment arrangements (primitive in certain instances), whilst others have rightly joined in a combination of districts, resulting in adequate and efficient accommodation being provided.

(1) NORTH WEST ESSEX, comprising:—

	Area. Acres.	Population (estimated 1919).
(a) Safron Walden Borough ...	7,502	5,705
" Rural ...	59,975	9,990
Braintree Urban ...	2,224	6,958
" Rural ...	62,348	18,031
Dunmow Rural ...	73,503	14,523
Belchamp " ...	26,500	3,940
Halstead Urban ...	647	6,135
" Rural ...	38,712	9,822
Total ...		<u>75,104</u>

This area is served by the hospital situate at Sible Hedingham which is utilised at the present time by the County Council as a Sanatorium for children. Sporadic cases in this area would be treated at the Colchester Small-pox Hospital.

(b) Bumpstead Rural. Acres 11,874. Population 2,182 (estimated 1919).

Joins with the Clare (Suffolk) Council. The hospital is a semi-permanent structure stationed about one mile on the west side of Clare. It is said to accommodate four patients.

(c) Stansted Rural. Acres 22,954. Population 6,559 (estimated 1919).

This area has an agreement with the Hadham (Herts) Rural District whereby any case of Small-pox which may arise would be treated at the special hospital set aside for such cases.

(2) NORTH-EAST ESSEX.

		Area, acres.		Population, estimated 1919.	
(a)	Colchester Borough	...	11,333	...	43,084
	Wivenhoe Urban	.	1,564	...	2,446
	Frinton Urban ...	...	422	...	2,010
	Walton-on-the-Naze Urban		2,046	...	2,879
	Tendring Rural...	...	73,131	...	18,384
	Lexden and Winstree Rural		69,485	...	18,635
			Total	...	87,438

All cases from these districts would be treated at the Colchester Small-pox Hospital which is said to have accommodation for 20 patients, and there is sufficient land to permit of tents being erected to accommodate 50 additional cases.

(b) Brightlingsea. Acres 2,867. Population 4,917 (estimated 1919).

The Urban District Council have a tent hospital, but as their Infectious Diseases cases are now sent to Colchester Isolation Hospital a Small-pox patient would probably also be received at the Colchester Small-pox Hospital.

(c) Clacton Urban. Acres 4,069 Population 10,331 (estimated 1919).

Also have a tent hospital.

(d) Harwich Borough. Acres 1,541. Population 11,729 (estimated 1919).

The Port Sanitary Authority own a hulk in the Dockyard to which Small-pox cases from the borough would be transferred.

These three districts should come to an agreement with Colchester.

(3) MID-ESSEX.

		Acres.		Population estimated.	
(a)	Chelmsford Borough	...	3,112	...	21,705
	Chelmsford Rural	...	83,045	...	23,185

The Joint Hospital Board possesses a Small-pox hospital with six beds at Galleywood. There is land available on which tents could be erected if required.

			Acres.		Population estimated.
(b) Maldon Borough	...	...	3,028	...	6,069
,, Rural	...	...	82,342	...	15,580
Witham Urban	...	...	3,713	...	3,595

The Maldon Joint Hospital Board have erected a small corrugated administrative block at Little Totham, and there is about an acre of enclosed land. A tent is stored in the shed and is maintained ready for use. There is also a shed at Asheldham.

		Acres.		Population estimated.
(c) Burnham-on-Crouch Urban	...	4,517	...	3,155

The Urban District Council have arranged for a tent to be placed in a field on the adjoining marshes, but as this can hardly be regarded as satisfactory, the County Council are pressing the Local Authority to make better provision.

(4) SOUTH-EAST ESSEX.

		Acres.		Population estimated.
Rochford Rural	...	55,386	...	19,639
Shoeburyness Urban	...	1,036	...	4,916

The small-pox hospital for these districts is said to accommodate 11 patients and is situated at Nobles Green.

(5) SOUTH-WEST ESSEX.

		Acres.		Population estimated.
(a) Grays Urban	...	1,359	...	16,786
Tilbury Urban	...	1,855	...	7,204
Orsett Rural	...	39,939	...	19,772
Total				43,762

This area is served by the Joint Hospital Board's Hospital at Stifford, which has accommodation for 10 patients.

Urban Districts—

		Acres.		Population estimated.
(b) Barking...	...	3,805	...	35,214
Brentwood	...	460	...	6,958
Buckhurst Hill	...	873	...	6,288
Chingford	...	2,808	...	9,518
Epping	...	1,420	...	4,318
Ilford	...	8,496	...	82,840
Leyton	...	2,594	...	129,062
Loughton	...	3,961	...	5,715
Romford	...	5,630	...	19,136
Walthamstow	...	4,343	...	133,008
Waltham Cross	...	11,017	...	6,825
Wanstead	...	1,679	...	15,447
Woodford	...	2,161	...	20,476

Rural Districts—

			Acres.		Population estimated.
Billericay	...	..	49,394	...	20,427
Epping	..	...	39,055	...	15,674
Ongar	...	..	47,236	...	9,385
Romford...	...	...	29,720	...	28,302
Total					548,593

This large area, which comprises about 60 per cent. of the population of the County, had not at the end of the year any definite provision for the segregation and treatment of small-pox patients.

Negotiations have been in progress for the past three years to provide a central hospital for the whole area. The Ministry of Health have been asked to sanction the County Council becoming the Authority under the Isolation Hospitals Act, 1901, for the area concerned.

On the 1st October, 1919, temporary arrangements were made with the Orsett Joint Hospital Board, whereby they agreed to provide accommodation and treat all sporadic cases of small-pox up to a total of 10.

Negotiations were entered into with the West Ham Borough Council for the purpose of arranging for the opening of the Dagenham Small-pox Hospital in the event of any epidemic occurring. The Borough Council, however, were not prepared to accept the terms and conditions offered, and accordingly the negotiations could not be carried to a successful issue.

The arrangement with the Orsett Joint Hospital Board has been continued and pending the establishment of an adequate small-pox hospital, it is understood from the Ministry of Health that the Metropolitan Asylums Board will assist should an outbreak occur.

PART IX.

MATERNITY AND CHILD WELFARE.

"Parents must be cleanly wed,

"Children must be nobly bred,

"Wisely fed and firmly led."

JOHN BURNS.

On 20th February, 1919, the Public Health and Housing Committee appointed a Maternity and Child Welfare Sub-Committee for the purpose of considering and reporting on all matters relating to the administration of the Notification of Births Acts, Maternity and Child Welfare Act and Midwives Acts. This Sub-Committee held its first meeting in April, 1919.

A comprehensive report outlining the position in the various Local Sanitary Areas in the County was presented by the County Medical Officer to this Sub-Committee in May, 1919, and this formed the basis of the Sub-Committee's actions in regard to securing an efficient service under the above-mentioned Acts.

One outcome of the consideration of the above report was the cooventing of a Conference of Representatives of the various Authorities (Urban and Rural) in the County Area, with a view to having the whole position discussed. A Scheme was drawn up and circulated which was based on the assumption that the Ministry of Health would confer upon the County Council the powers under the Notification of Births Acts and Maternity and Child Welfare Act.

The Conference of all Sanitary Authorities in the Administrative County was held on 22nd October, 1919, when the Chairman of the County Council presided.

With few exceptions, the representatives opposed the scheme, contending that the County Council should concentrate only on those districts where no work was being done in this direction by the Local Authorities. As was explained by the Chairman of the School Medical Inspection Sub-Committee, the representatives failed to appreciate the true object of the scheme, which was to effectively link up the work of medical inspection and child welfare and foster existing agencies throughout the Administrative County.

On 12th November, 1919, the Chairman of the County Council and the Chairman of the Public Health and Housing Committee interviewed the Ministry of Health on this matter. It was ascertained that, in view of all the existing circumstances, it would be advisable for the County Council, for the time being, to deal with only those districts in which nothing was being done by the Local Authorities, as originally suggested in the report presented to the Maternity and Child Welfare Sub-Committee on 8th May, 1919.

Conferences were subsequently arranged with various Local Authorities, and the scheme for Combined Medical Services has since been launched in certain districts, particulars of which will be given in the Annual Report for 1920.

The following extracts from Annual Reports reveal various aspects of the work under the Notification of Births and Maternity and Child Welfare Acts :—

Dr. Hardenberg (Chingford Urban) writes :—" At present there is no Child Welfare Centre and Clinic, but the matter is having the consideration of the Committee."

Dr. J. F. Macdonald (Rochford Rural) reports :—" It is regrettable that no Maternity and Child Welfare work has been done in the district since 1918. At that time the Local Government Board refused to guarantee the District Council full control for a longer period than three years, and the Council did not feel justified in making a fresh appointment to continue work which afterwards might be diverted from them."

Dr. Wells (Billericay Rural) writes:—"I have been struck with the fact that very few mothers know the meaning of the various cries of a baby, or can distinguish between a cry of pain, that of hunger, or that of temper.

"The mother who refuses to learn the science of babycraft buys her experience with her earlier children, and she usually buys it dearly, not only in wakeful nights and worrying days to herself, but in the cost to the children of this experimental stage."

Dr. Ewart (Barking Urban) reports:—"It is to be borne in mind that with respect to births which occur in institutions, maternal mortality has fallen considerably during the last 50 years. There has, however, been little change in this respect amongst those occurring in the home. It is fully realised that much of this death-rate depends on causes operative before birth. These causes may or may not be capable of removal in a practical sense; still, until information is obtained that the birth is impending, no attempt can be made to acquaint the prospective mother with the facilities that the Council are prepared to place at her disposal. In many instances persuasion is necessary to induce these women to have their babies under decent and sanitary conditions. Notification of pregnancy was tried in 1915, and failed; its repetition cannot be recommended.

"A scheme was approved during the year for the appointment of an Assistant Medical Officer, the appointment being made in June of the present year. It is hoped that the pre-natal Clinic will be re-established under the guidance of this officer.

"Speaking generally, the mothers seem to greatly appreciate the opportunity for obtaining advice with regard to feeding, clothing, and so on. Paper patterns of garments are given to those who wish for them, and many mothers have availed themselves of this opportunity. It is desirable that material at cost price should be supplied as well."

Dr. Corfield (Colchester Borough) is of opinion that:—"Health Visiting and the Infant Clinic have done immense good in keeping healthy full term babies alive and well, but something more is required to ensure healthy full term babies being born.

"Some advocate the Notification of Pregnancy, and indeed this seems a direct way of enabling a Local Authority to look after and advise expectant mothers. There are obvious objections to such notification, but it is probable that in practice the objections would lose their importance.

"A Maternity Clinic will help to some extent, but it is doubtful if even under the best circumstances more than a small proportion of pregnant women would visit such a clinic. What is wanted is a Health Visitor to expectant mothers who can give advice of real value, and show these mothers

how to live and produce healthy full term children. Such a Visitor would, of course, have to be *persona grata* with all the midwives in the district, and should have an intimate and practical knowledge of midwifery."

According to the Annual Reports of the various local Medical Officers of Health in the County there were about 40 Child Welfare Centres, and Six Authorities had arrangements with Maternity Hospitals for the admission of certain cases. In one district (Leyton) a Mother's Help was employed, and a Crèche was provided.

Ophthalmia Neonatorum.

During the year 97 cases were notified and it is noticeable that most of these cases occurred in the populous Urban Centres. In the cases which arose in the practice of certified midwives special visits of enquiry were made to the midwife and with one or two exceptions it appeared that the Rules of the Central Midwives Board had been carried out. Comment is made in some of the Annual Reports on the prevalence of this disease, suitable extracts from which are given below :

Barking Urban District. Dr. Ewart reports:—

"The number of infants returned as suffering from Ophthalmia Neonatorum show an increase on the previous year. As this must necessarily depend to some extent on the increased number of births, there seems little evidence to believe that venereal disease has materially increased as a result of demobilisation."

Year.		Birth.		Cases of Ophthalmia.*
1916	...	917	...	16
1917	..	758	...	8
1918	...	728	...	3
1919	...	815	...	13

Walthamstow Urban District. Dr. Clarke reports:—

"One child recovered with vision lost in one eye; another lost one eye and the vision of the other was badly damaged.

"This child and its mother were removed to the Isolation Hospital four days after birth, and, as alleged, on the day following the onset of the symptoms.

"I saw the child directly upon its admission, and communicated at once with the family doctor my view, that the eyes were hopelessly damaged prior to its leaving home.

"All the remaining children recovered with perfect vision."

Still-Births.

During the year under review 83 reported cases of Still-birth occurred in the practice of certified midwives. This figure is exceptional in view of the increased birth-rate as it is the lowest figure for several years. In some districts the midwives had no difficulty in securing the burial of these bodies, the sextons being willing to accept certificates from the midwives. In other areas, however, the sextons insisted on the production of a medical certificate which, in scattered rural areas, was at times difficult to obtain, whilst in other areas the sextons were in doubt as to the proper procedure in the matter. Some doubt also existed in the minds of parents as to whether it was necessary to register a still-birth in the same way as a live-birth. In view of the complexities of the matter, it was considered advisable to circularise all the certified midwives in the following manner:—

“It is not necessary for parents to register still-births, but as regards the burial of still-born children the best way of securing this is by means of a doctor's certificate. Please see page 20 of the Book of Rules which I recently issued to you. You can obtain a doctor's certificate by either taking the body to his surgery or calling the doctor in. Kindly note, however, that the County Council have no power to pay a doctor's fee for this certification.

“A midwife may, however, make a declaration for the burial of a still-born child at whose birth she was in attendance, provided that a doctor was not present at the birth, or that the doctor's certificate could not be obtained. The prescribed form of declaration for this purpose can be obtained free of charge from the Local Registrar of Births and Deaths. The Sexton ought to accept such a declaration from a midwife, but in many parts of the country difficulties are put in the way. For that and other reasons, your wisest course will be to obtain a doctor's certificate, as this will enable you to secure burial without delay.”

Essex County Nursing Association.

Excellent work has been done by the Essex County Nursing Association during the year 1919. They have ably co-operated with the County Council in establishing a more efficient Midwifery and District Nursing Service throughout the County.

The following table shows the number of District Nursing Associations who were affiliated to the County Nursing Association at the end of the year, so that, excluding the extra Metropolitan area, there were only six District Nursing Associations not affiliated in the County Area:—

No. of D.N.As.		No. undertaking Midwifery work & District Nursing.	No. performing District Nursing duties only.
Affiliated.	Unaffiliated.		
93	6	80	19

One hundred and five Nurses are employed by these 99 Associations, and the following summary gives some idea of the work undertaken by the District Nurse-Midwives belonging to affiliated Associations from the 1st April, 1919, up to the end of December of that year.

No of visits paid during the nine months, dating from 1st April, 1919, to 31st December, 1919 :—

Midwifery visits ...	...	...	9,798
Maternity „ ...	...	...	13,470
District, General	...	...	70,400
„ Tuberculosis	...	...	1,933
Health Visiting ...	...	...	2,509
Home Visiting ...	...	...	327
Total number of visits			<u>98,437</u>

During the year 1919, the County Council made grants to the Essex County Nursing Association, amounting to £3,387 1s. 0d., which sum is made up as follows :—

	£	s.	d.
(a) Training of Nurse-Midwives ...	460	0	0
(b) Emergency Nurses ...	48	0	0
(c) District Nurse-Midwives employed in contributing areas ...	2039	1	0
(d) Equipping new Nurses ...	330	0	0
(e) Clerical work, Stationery, etc. ...	125	0	0
(f) Inspection of Midwives ...	210	0	0
(g) Deficit on year's working ...	175	0	0
	<u>£3,387</u>	<u>1</u>	<u>0</u>

In March, 1919, the County Nursing Association found it necessary to apply to the County Council for an additional grant for the ensuing year owing to the high cost of food, materials, etc., and after due consideration the County Council decided to make the following amended Grants :—

1. The sum of £175 was paid the County Nursing Association to make good the deficit on their accounts for the year ending 31st March, 1919.
2. The Grant of £30 each towards the cost of training Nurse-Midwives who receive an appointment in the contributing area of the County was continued during the current financial year, and any deficit would be considered at the end of such period.
3. The extra grant for each new District Nursing Association formed with the approval of the Council to assist in paying the initial expenses consequent upon the formation of the Branch and the provision of the necessary equipment of the Nurse-Midwives was increased from £10 to £20.
4. An additional Grant of £100 was made in respect of additions to the clerical staff and provision of extra teaching and supervision for the year ending 31st March, 1920.

It was arranged that where the County Council make an annual grant through the County Nursing Association towards the funds of a District Nursing Association the District Nurse-Midwife should assist the County Council in connection with its tuberculosis, Child Welfare, and School Nursing Services. During the year 1919, the work was in an experimental state, but further developments are taking place, and in next year's report full particulars will be given regarding the amount and kind of work which is to be undertaken by the District Nurse-Midwives.

The chief difficulty in bringing about this combination of duties was in regard to infectious diseases or cases liable to be a source of infection to lying-in women. The Central Midwives Board Rules had to be strictly observed in all cases by those Nurses who were undertaking Midwifery work. Accordingly a series of Conferences were held during the early months of 1920 between medical men and others, and finally a scheme was drawn up which appeared to get over this difficulty. Full details have been sent out to each Nursing Association and so far not many objections have been received.

MIDWIVES ACTS, 1902 & 1918.

During the year under review, 219 midwives notified the County Medical Officer their intention to practise midwifery in the Administrative County area.

These midwives are classified as follows :—

Total No. of Midwives.	Dependent.	Trained. Independent.	Untrained or Bonâ-fide.
219	80	111	28

The ages of these midwives were as follows :—

	All ages.	Under 30.	30—40.	41—50.	51—60.	61—70.	Over 70.
Trained	191	28	77	61	17	8	—
Untrained	28	—	—	—	6	13	9

It is interesting to note from the foregoing tables that there were only 28 trained midwives practising in the County, and that all these were over 50 years of age. As nine were over 70 years of age and 13 over 60, it is reasonable to expect that the time is not far distant when the whole of the County will be served by trained women.

The total number of births which occurred during the year, 1919, was 14,731 of these 5,847 (40 per cent.) were attended by midwives in the capacity of a midwife, and 2,206 (15 per cent.) as maternity nurses under the supervision of medical practitioners.

At the end of the year each midwife was asked to state the number of confinement cases which she attended as a midwife during the year, 1919, and it was found that 94 trained and 13 untrained midwives attended 10 or less cases each; 30 trained and four untrained attended 11—20 cases each; 30 trained and two

untrained, 21—40 cases each; eight trained and two untrained, 41—60 cases each; eight trained and one untrained, 61—100 cases each; and 12 trained and six untrained midwives attended over 100 cases each.

The following list shows the number of notifications received during the year in accordance with the rules of the Central Midwives Board:—

Records of Medical Aid	...	...	...	...	674
Records of Still-birth	...	...	...	...	83
Deaths of Mothers	...	...	...	...	2
Deaths of Infants ...	...	...	...	...	15
Notifications of Artificial Feeding	...	...	...	...	41
Liability to be Source of Infection	...	...	...	...	9
Laying-out for Burial	...	...	...	...	86
Ophthalmia Neonatorum or Discharging Eyes	...	...	...	...	56

The 674 cases (11·5 per cent.) where midwives sought the assistance of doctors were for various reasons, namely:—

Adherent Placenta	... 107 cases.	Pneumonia	... 11 cases
Dangerous Feebleness of Infant	... 10 "	Prolonged Labour	... 112 "
General Debility	... 17 "	Presentation (various)	... 50 "
Hæmorrhage—			
Ante-partum	... 12 "	Pyrexia (High Temp.)	... 39 "
Post-partum	... 26 "	Purulent Discharge	... 4 "
Eclampsia	... 5 "	Malformation of Child	... 4 "
Instrumental Assistance	... 13 "	Mastitis	... 1 "
Premature Births	... 28 "	Miscarriage, Abortion	... 17 "
Phlegmasia Alba Dolens		Still-birth	... 14 "
(White Leg)	... 8 "	Miscellaneous Causes	... 140 "
Ophthalmia Neonatorum or Discharging Eyes	... 56 "		

Artificial Feeding.

On the 25th March, 1919, an additional rule of the Central Midwives Board came into force requiring midwives to notify the Local Supervising Authority of cases in their practice where it is proposed to substitute artificial feeding for breast feeding. As shown in the above summary of notices received, 41 such notifications were made and each case was specially considered in order to determine whether the substitution of artificial feeding was unavoidable.

Inspection of Midwives.

The Inspection of Midwives continued to be carried out by Miss Thresh up to the end of March, 1919. A temporary arrangement was afterwards made with the Essex County Nursing Association for the continuance of such routine inspection.

Miss Thresh, pending the re-arrangement of the County Medical Services. The County Council paid the County Nursing Association at the rate of £280 per annum for this work.

During the year, 1919, 438 visits of inspection, averaging two visits per annum to each midwife, were paid, and with the exception of a few minor infringements everything was found to be satisfactory with the midwives' mode of practice. Miss Thresh's report is given below which, by request, includes an historical resumé of the growth and development of the midwifery work in the County:—

Report on Midwifery Service in Essex since the passing of Midwives Act, 1902.

"The Midwives Act of 1902 made it compulsory that every woman practising midwifery "habitually and for gain" should be enrolled on the Central Midwives Board Roll and registered in the County in which she practises.

"To compile this roll in the first place all names of women acting as midwives or maternity nurses who wished to be put on the Roll had to be collected, and two classes of women could be enrolled, (1) those already holding the L.O.S. or other acknowledged midwifery certificate and (2) those proving they had worked as midwives and submitting certificate of character. After April 1st, 1905, no fresh names could be added to the Roll except those of women who had passed the examinations of the Central Midwives Board, but up to 1910 women might continue to work provided they did not call themselves midwives. After 1910 no woman who was not on the Central Midwives Board Roll could take cases as a midwife.

"The Midwives Act of 1902, while it made County Councils the supervising authority under the Act, allowed them to delegate the powers if they wished to do so. At a meeting of County Medical Officers of Health, held in 1902, it was decided that delegation was not desirable for many reasons, and in Essex powers under the Midwives Act were only delegated in one case—and that only partially, viz., to Walthamstow—in the year 1916. The County Council has retained its powers as supervising authority throughout, and under the new Midwives Act of 1918 delegation is entirely forbidden, except in cases where it is already working satisfactorily. Walthamstow alone, therefore, in the Administrative County of Essex, has the care and supervision of its own midwives.

"The County Medical Officer endeavoured to get the names and addresses of all women working as midwives or maternity nurses in Essex, and this was first attempted by asking the local Medical Officers of Health to submit lists of names. Two hundred and fifty names were sent in at first and many other names were added on the recommendation of the Police. Hundreds of circulars and letters were sent out, and on April 1st, 1905—the last day of enrolment—117 women had been registered, many of whom were

far from satisfactory midwives. In January, 1907, 206 women were on the register. In February of that year the County Medical Officer of Health met the Essex Education Committee to discuss the provision of scholarships for women wishing to train as midwives and practise in Essex, and for some three years such scholarships were given to a few women. At the close of 1907 a lady was appointed by the County Council to go round and instruct the more ignorant of the midwives but this was not continued after a short trial. In 1908, 208 women registered and in 1909, 202 only, but in 1910 a list of Essex midwives was composed and published, and as it was compared with the Central Midwives Board Roll many new names were added. Also the Central Midwives Board allowed women who had failed to apply for registration by the proper date to apply again in September, 1910, and in consequence the large number of 327 midwives were on the register that year. Many of these subsequently withdrew from the register as they never practised as midwives.

"The year 1910 was naturally a very busy one as regards midwives as all the uncertified women had now to cease practice. In one quarter of the year alone 127 complaints of illegal practice had to be investigated. During the years from 1905 to 1910 many old and ignorant women had been persuaded to come off the Roll, and where persuasion failed had been reported to the Central Midwives Board, and in many cases were removed from the Roll for failing to keep the Central Midwives Board rules.

"In 1911 the Central Midwives Board issued a new set of Rules, and these were explained personally to nearly all the women in practice. At this time the Act was in full force and with regular inspections, teaching visits, and cessation of the old uncertified 'gamps' from practice, the conditions of things improved rapidly. The Essex County Cottage Nursing Association was at this period of the greatest assistance to the County as it was training all its Nurses as Midwives, and as the old registered Midwives died or ceased practice the new Nurses were training ready to take their places. It is impossible to consider the subject of Midwifery in Essex apart from the Essex County Cottage Nursing Association, as from its birth in 1894 it busied itself with the subject of trained care for mothers and babies. The Association took a small house at Leytonstone and put a trained Sister in charge who gave suitable women a few months training in Elementary Nursing before they were sent to the villages to work. By 1902 it was found that the small home was hopelessly inadequate, and adjoining property was bought and large additions built. As soon as the Midwives Act, 1902, was passed the Home applied to be recognised as a training school for Midwives, and it has been so recognised from that date. Additional training was given and the demand for these so-called Cottage Nurses was so great that the Home was again enlarged in 1903 and 1912. A Branch Home was also opened in Walthamstow and it became possible to train about 30 Nurses per annum. In 1910, when Midwives were urgently needed

Rural Essex, there were 35 Essex County Cottage Nursing Association Nurses working as Midwives, and another 30 working as trained Maternity Nurses. From that date the work of supplying Rural Essex with District Nurse-Midwives has been carried forward by the Essex County Nursing Association, but in 1917 there were still only 67 districts in the County employing such Nurses. The reason for this slow growth was simply one of finance. The Association was entirely voluntary until 1916, when the Local Government Board began to allow the County Association grants to help with the expense of training the Nurse-Midwives, and a small sum to divide among the districts where such Nurses were working. This sum was, however, wholly inadequate as an inducement to new districts to start such a Nursing Scheme, and those that were running were chiefly financed by charitable people in the districts served.

"In 1918 the Maternity and Child Welfare Act came into force, and by this Act County Councils and other bodies might give grants towards the training and upkeep of Midwives. Although the War was still raging the County Council of Essex recognised the all importance of the welfare of the mother and child and a scheme was devised and put into force by which the Essex County Nursing Association is largely subsidized by the Essex County Council in return for training Midwives and forming local centres where such district Midwives work. In 1918, 16 new centres were formed under the new scheme and supplied with Nurse-Midwives, and in 1919, 22 such centres were formed. Many more are waiting to be supplied with Nurse-Midwives, and it is hoped in the course of a year or two to have the whole County covered by such District Nurse-Midwives who form part of the general public health scheme of the County and who are undoubtedly doing excellent work throughout Rural Essex. The need for them is especially urgent as it will be seen from Table XXXVII. that the number of practising Midwives in the County has decreased steadily. This is due partly to the death of many of the old unqualified Midwives and partly to the fact that unless employed by an Association and paid a salary Midwives cannot make a living in Rural Districts.

"In 1914 and 1915 Southend and East Ham respectively, became County Boroughs. The midwives from these areas were then withdrawn from the County jurisdiction and this accounts for the fact that 1916 to 1918 saw the low water mark of midwives in the County of Essex; 1919 shows a decided increase which appears likely to continue until the County is efficiently staffed with Nurse-Midwives. Probably the total required will be about 300. It will be seen that at the end of 1919 half the midwives in Essex were Essex County Nursing Association Nurses and in Rural Essex now there are very few midwives working not attached to the County Association. In the towns the private midwife can make a living up to the present, but it seems doubtful whether this will continue to be the case and in a good many small Essex towns

Municipal midwives have already been appointed and in other cases good private midwives are receiving a subsidy (varying from £10 to £20) from the County Council to enable them to remain at their work.

"The Midwives Act of 1918, is now in force and had added greatly to the work of administration of the Acts by its clause *re* the payment of medical men called to the assistance of midwives."

"The following Tables may be of interest:—

Table XXXVII.

Date.	Total No. of Midwives on Register.	No. Untrained.	E.C.N.A. Mid- wives and Maternity Nurses.
1910-11	327	92	65
1911-12	284	59	68
1912-13	284	59	66
1913-14	262	?	69
1914-15	244	?	68
1915-16	204	50	65
1916-17	180	40	67
1917-18	184	34	67
1918-19	180	24	83
1919-20	219	28	105

"The untrained midwives now on the register are many of them women of great experience. There are still a few illiterate and ignorant women in practice, but as trained women undertake the work in their localities they will doubtless give it up. Until such trained women can be induced to take up the work it is safer to have a certified midwife—even if far from perfect—who is under constant supervision, than to take her off the Roll and leave the work to uncertified women who work secretly and are under no supervision whatever."

Table XXXVIII.

Year.	Midwives.	Per cent. trained	Average No. of cases taken per Midwife.	Per centage of total births attended by Midwives.
1910	327	72	29	39
1911	284	79	31	38
1912	284	79	24	22
1913	262	?	27	29
1914	244	?	29	32
1915	204	75	26	30
1916	180	78	30	30
1917	184	81	27	34
1918	180	87	22	34
1919	219	87	26	40

"This Table is of interest as showing:—

1. The increase of trained midwives. The reason for the fall in 1915, is the loss of East Ham to the administrative County which took away the large Plaistow School of Midwives in East Ham.

2. The average number of cases attended by midwives varied from 22 to 31. As many midwives have large practices—say 200 cases a year—it shows that many must also take only one or two cases a year.

3. The percentage of births in the County attended by midwives varies from 29 in 1914 and 1915 to 39 in 1910 and 40 in 1919. This is far lower than in some counties and shows that medical men still attend over 60 per cent. of maternity cases in Essex. Of course the Essex County Nursing Association Nurses act both as Midwives and Maternity Nurses and therefore are present at many of the births at which a doctor is engaged and notifies the birth.

Table XXXIX.

Year.	Percentage still-births in midwives' cases.	Percentage medical help called to mother or baby in midwives cases.
1910	... 0.8	... 2.7
1911	.. 1.1	... 3.9
1912	... 1.6	... 6.3
1913	... 1.4	... 6.3
1914	... 1.6	... 6.9
1915	... 1.6	... 6.1
1916	... 2.5	... 8.6
1917	.. 2.1	... 6.6
1918	... 2.5	... 10.7
1919	... 1.0	... 11.5

"Still-birth figures are not very reliable until the last two or three years, as at first the midwives did not always remember to send in the forms. 1919 appears to have been the year with fewest still-births among midwives' cases since the figures became reliable.

"The same applies to medical help notices. It was almost impossible to get such notices from the old illiterate midwives, but probably at the present time, and for the last few years, nearly all cases needing medical help have been properly reported. It will be seen that the percentage of such cases increases, and this seems to imply that there are more complications in child-birth now than in previous years. It is, however, equally likely that midwives being better trained now are quicker to recognize the first signs of danger or abnormality, and to get medical help to all cases requiring it. The record of the Essex midwives throughout has been a good one as regards puerperal fever, nor have there been many deaths among their cases.

"Since it seems clear that midwives are to take an important place in any Maternity and Child Welfare Schemes of the future, the importance of getting the right type of woman as midwife, and of giving her a better and more comprehensive training than in the past, is becoming obvious. The midwife has more influence in the homes of the people than any official has at present attained, and therefore to her we must look for help in the education of the young mother and for the right start in life of a greater number of the babies of the nation."

(Signed) MAY THRESH,
10th September, 1920.

An interesting account is given in the Annual Report for the Wanstead Urban District, in which Dr. Macgregor explains why the services of certified midwives are not in great demand in his area. He writes:—

"The supervision of midwives is carried out by the County Authorities and that these have little to do in the Wanstead area is evident from the fact that the notifications of births sent in by a midwife during 1919 only numbered two. In this connection, it may be well to record as a little matter of history why the women of Wanstead, with hardly an exception, engage the services of a medical practitioner for their confinements. For very many years (since about 1882) two maternity charities existed in the parish, and through their agency the poorer women received the services of a good nurse, and could have the doctor of their own choice, together with other advantages, all for a nominal sum. Although the activities of these charities came to an end with the passing of the National Insurance Act, the habit of engaging a doctor for confinements remains—much to the benefit of the mothers and infants. Our figures for parturition and infant mortality are eloquent testimony in this direction."

Subsidies to Midwives.

Five independent midwives were subsidised during the year, at the rate of £ per annum. This grant was made in order to assist midwives whose practice was not sufficiently lucrative, but whose presence in the districts was essential to securing an efficient midwifery service throughout the County.

Midwives Act, 1918.

This Act came into operation on 1st January, 1919. Each medical practitioner and midwife in the County was circularised, in order to bring to their special notice the various provisions of the Act.

No doubt the payment of doctor's fees by the County Council in cases of emergency has encouraged midwives to comply more strictly with the rules of the Central Midwives Board regarding obtaining medical assistance when required. One of the chief difficulties which was previously met with by midwives was the reluctance of patients to call in a doctor, owing to impecunious circumstances. In order to ascertain the financial circumstances of a patient, the following form is sent to the midwife on receipt of her copy medical aid notice:—

STATEMENT BY HEAD OF HOUSEHOLD REGARDING FAMILY INCOME.

Name of Mother..... Address.....

Date of Confinement.....

Name of Father.....

Occupation

Name and Address
of Employer.....

Names of Children
(not working). Ages.

Summary of Income.

Average
Weekly Wage.
£ s. d.

Average Weekly Wages of Father ..

Average Weekly Wages of other
members of the family who are
working, giving names of such
persons

Total Family Income ..

Deduct 5s. for each child under 14
years of age and not working ..

Nett Family Income ..

N.B.—In calculating the weekly income, the
average earnings of the four weeks preceding
the date of confinement should be taken.

FOR USE IN ACCOUNTANT'S OFFICE.

Doctor's Account .. £ : ;

P.H. Finance Committee

Family Contribution.. £ : :

Account sent.....Date Paid

I hereby certify that this is a true statement of
the total family income of this house.

(To be signed by
Head of Household).....

Date.....

Witnessed.....
Certified Midwife.

Under Section 6 of the 1918 Act, one Midwife claimed compensation for loss of
cases owing to being suspended from practice for disinfection, and after considering
the whole facts the Committee granted her the sum of £2. 1s., to cover her loss.

Training of Midwives.

On 1st October, 1919, the Board of Education (Midwives Training) Regulations,
1919, came into operation. These Regulations provide for the training of Midwives
in recognised Institutions to which a grant of £20 is made for each student who
undertakes to practise as a Midwife or is a trained Health Visitor.

Lectures to Midwives.

In connection with the Essex Midwives' Association, a series of lectures were
given to groups of Midwives, District Nurses and Health Visitors at Chelmsford,
Colchester, Leyton and Southend-on-Sea. The County Medical Officer gave lectures
on "Venereal Disease," Dr. Thresh on "Infantile Diarrhoea," Dr. Platts on
"Tuberculosis" and the County Sanitary Inspector on "Hygiene." The lectures
were well attended and seemed to be appreciated.

PART X.

ISOLATION HOSPITALS.

To encourage the provision of satisfactory Isolation Hospitals as well as the efficient administration of such Hospitals, the County Council makes a grant annually to each Hospital which has been erected according to plans and by the aid of loans approved by the Local Government Board. This grant amounts to a sum not exceeding £5 per bed, calculated on the basis of 2,000 cubic feet for each bed. Each Hospital has again been kept under observation, and in April, 1920, the usual annual inspection was made. At such inspection attention is given to the following points:—

- (1) The adequacy of the precautions taken to prevent infection being conveyed by inmates to persons outside, with special reference to the nature of the enclosure.
- (2) The position and area of the Hospital site and the adequacy of the Hospital for the whole of the district served.
- (3) The general character and arrangements of the several buildings, the condition of repair, adequacy of lighting, heating, ventilation, drainage, and water supply.
- (4) The amount of accommodation provided, the air space per bed, and the number of diseases which can be treated at the same time with proper separation of the sexes.
- (5) The arrangement and furnishing of the wards and administrative block and the convenience for nursing.
- (6) The efficiency of the staff and of the administration generally.
- (7) The adequacy of the arrangements for moving patients, for admitting and discharging patients, and for disinfection.
- (8) Provision made in the case of fire, and means of communication with the Medical Officer, etc.

Prior to the annual inspection, each Hospital is asked to furnish a Statement of Accounts, along with other particulars, and a summary of the replies received is given in Table XLI.

As a result of the inspection carried out for the year ended 31st March, 1920, the Committee decided to make the following grants:—

TABLE XL.

Table showing approved Isolation Hospitals and amount of Grant made to each for year ended 31st March, 1920.

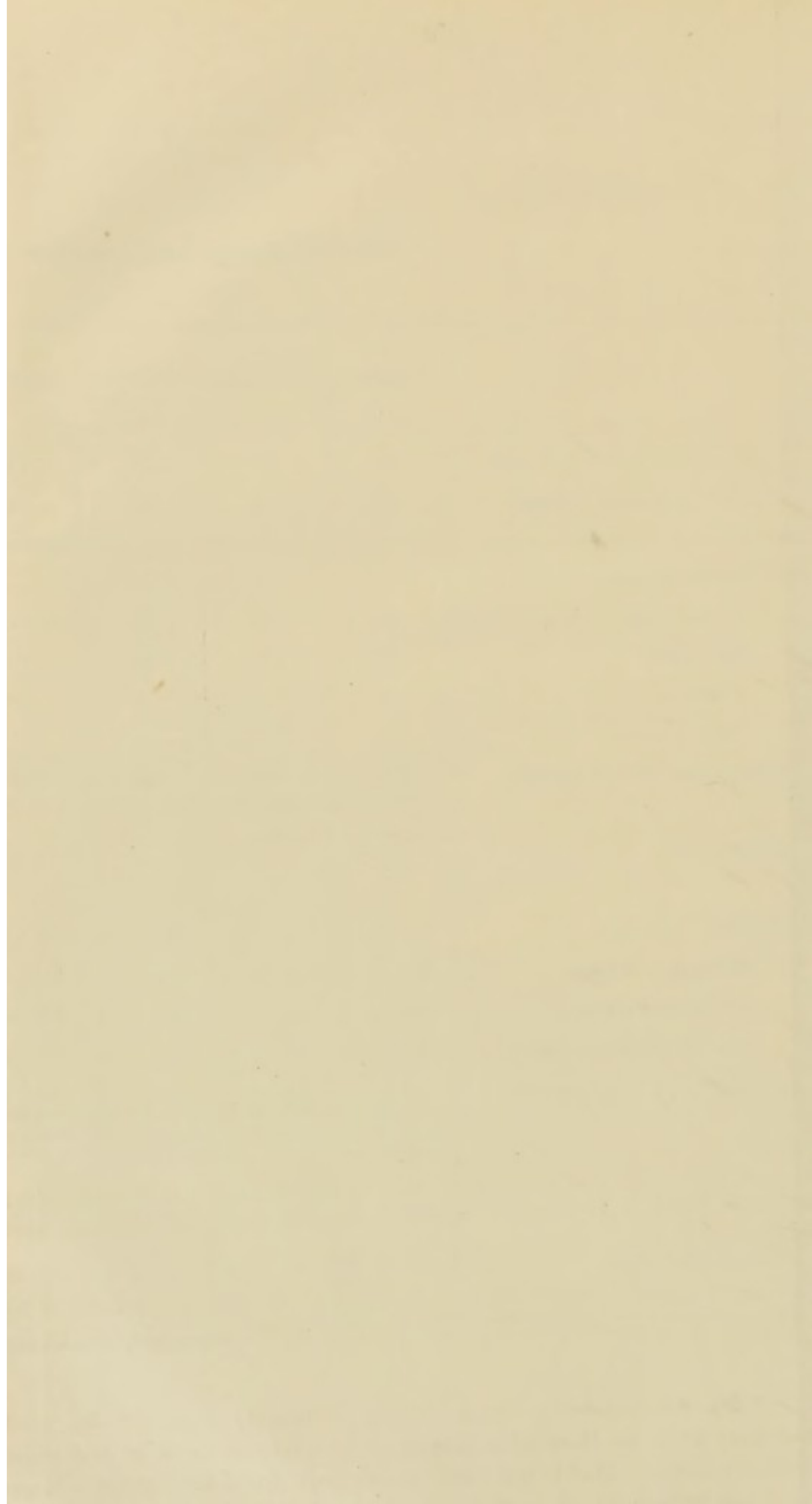
Hospital.	No. of Beds.	Grant of £5 per Bed. £	Allowance for Motor Ambulance. £	Total Grant. £
Billericay	... 22	... 110	... —	110
Braintree	... 8	... 40	... —	40
Chelmsford	... 21	... 105	... —	105
Carried forward	51	... 255	... —	255

TABLE XLI.

Shewing Accommodation, Number of Cases treated, Cost per Bed, etc., at those Isolation Hospitals, to which Grants were made for the Year ended 31st March, 1920.

	Billerica.	Braintree.	Chelmsford.	Clacton.	Colchester.	Dunmow.	Grays and Orsett.	Halstead.	Ilford.	Maldon.	Rochford.	Romford.	Saffron Walden.	Walthamstow.	Waltham Joint.
Total number of Beds in Hospital ..	22	11	21	17	200	8	20	16	72	10	24	70	22	86	40
Number for purpose of Grant ..	22	8	21	17	58	8	20	16	72	10	12	42	14	84	42
<i>Cases treated during year :—</i>															
Scarlet Fever ..	28	11	52	15	168	34	55	6	225	38	55	125	8	207	101
Diphtheria ..	69	13	84	79	96	2	108	24	133	17	27	114	1	239	69
Typhoid ..	1	..	1	..	8	2	7	1	3	..	1	2	..	..	..
*Other Diseases ..	9	2	6	..	102	1	6	39	129	3	3	40	..	2	5
Total number of cases treated ..	107	26	143	94	374	39	176	90	490	58	86	281	9	448	175
Nursing Staff ..	6	2	7	2	19	2	6 Prob. 8	4	9 Prob. 11	3 Prob. 2	2	4 Prob. 7	1	10 Prob. 10	5
<i>Expenditure for the year :—</i>															
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Repayment of Loans ..	367 8 0	70 5 0	373 15 8	214 4 1	828 14 9	318 5 3	505 15 7	140 2 9	1608 0 0	320 18 8	200 8 6	727 6 2	325 19 10	2244 13 10	689 19 0
Structural Repairs ..	189 14 6	272 16 5	248 3 1	379 19 2	463 6 1½	52 8 3	252 11 10	233 0 2	1398 0 0	80 0 0	294 13 3	187 15 5	143 2 10	1057 17 0	64 1 2
Food (Patients and Staff) ..	924 10 8	367 13 10	923 18 2	206 5 1	2355 18 7½	127 2 8	2103 16 11	538 14 4	4060 0 0	519 3 0	303 9 10	1364 10 4	177 10 6	4539 1 3	390 19 3
Estab. and Pats. Expenses ..	768 13 6	624 10 0	899 17 9	397 0 10	3850 9 4½	517 5 3	2366 7 7	929 5 7	8642 0 0	1240 7 8	691 17 4	2924 4 9	279 3 8	8351 2 9	2656 7 9
	£ 2250 6 8	1335 15 3	2445 14 8	1199 9 2	7498 8 10	1015 1 5	5228 11 11	1841 2 10	15708 0 0	2160 9 4	1490 9 0	5203 16 8	925 16 10	16192 14 10	3801 7 2
Cost per bed ..	102 5 9	121 8 8	111 0 0	70 11 2	37 9 10	126 17 8	261 8 7	115 1 5	218 3 4	216 0 11	62 2 0	74 6 9	42 1 8	188 5 9	95 0 8
Cost per case treated ..	21 0 8	51 7 6	17 2 1	12 15 2	20 1 0	26 0 6	29 14 2	20 9 2	32 1 2	37 5 0	17 6 7	18 10 4	102 17 5	36 2 10	21 14 5

*In some instances the figures relating to tuberculosis cases treated under the County Council scheme are included.



Hospital.	No. of Beds.	Grant of £5 per Bed. £	Allowance for Motor Ambulance. £	Total Grant. £
Brought forward	51	255	—	255
Clacton	17	85	—	85
Colchester	58	290	10	300
Dunmow	8	40	—	40
Grays and Orsett	20	100	—	100
Halstead	16	80	—	80
Ilford	72	360	10	370
Maldon	10	50	10	60
Rochford	12	60	—	60
Romford	42	210	—	210
Saffron Walden	14	70	—	70
Walthamstow	84	420	10	430
Waltham Jt.	42	210	10	220
	446	£2,230	50	£2,280

It will be seen that for the first time, a grant of £10 has been made to each hospital which possesses a Motor Ambulance.

The list of Hospitals shown in the above tables does not include the whole of the Isolation Hospitals in the County. The remaining Isolation Hospitals in the County which are not eligible for grants, are in the following Districts:—

Barking Urban.
 Burnham „
 Epping Urban and Rural.
 Harwich Borough.
 Leyton Urban.
 Wanstead Urban.

Full information regarding all these Hospitals was set out in the Annual Report of 1910.

There are a few Sanitary Districts which cannot be said to have made satisfactory provision for the isolation and treatment of infectious cases, and these Districts have engaged the attention of the Committee during the year.

One or two Districts have, during the year, had to consider making extra provision for cases of infectious diseases. For example, at Walthamstow, Dr. Clarke states:—

“The Administrative Block is not sufficiently large for the Staff necessary when the Hospital is running at its maximum capacity, and plans were submitted in 1914 to the Local Government Board for further enlargement and the erection of an 8-bed cubicle pavilion.

"This needed extra accommodation, and provision for the more successful working of the Hospital would have been brought to fruition were it not for the outbreak of War.

"Our experience in 1919 showed that the proposed extensions were a necessity rather than an ideal provision."

At Barking, Dr. Ewart makes several suggestions for the improvement of the Hospital in his District.

Dr. Corfield (Colchester Borough), points out that "10 years ago only 10 diseases were notifiable, whereas to-day 24 diseases are notifiable. This means that if these additional diseases are to be isolated at the Fever Hospital, it is none too large, and now that Measles and Whooping Cough are to become notifiable, the demand for the isolation and removal to Hospital of at least the more severe of these cases will have to be met, and it is only right that it should be so when it is remembered that Measles and Whooping Cough cause more deaths than all the other Infectious Diseases added together. With this end in view, the advisability of purchasing the second military pavilion before it is removed should be very carefully considered. Not only Colchester has benefitted by this Hospital but all the neighbouring Rural and Urban Districts. One central Institution serving a reasonably large area rather than a half-a-dozen unsatisfactory small Hospitals is more economical for all concerned. The larger Institution has of necessity a larger staff of Nurses and domestics, and being always at work it does not get out of touch with emergency work or any kind of disease likely to occur."

Motor transport has profoundly influenced the question of the provision of Isolation Hospitals, particularly in Rural Districts. Patients can be conveyed 20 or 30 miles nowadays with as much ease and safety as a distance of five or six miles by the old type of horse ambulance. It would be more economical and more efficient to utilise several of the smaller Isolation Hospitals for other purposes such as general Hospitals, Convalescent Institutions, Maternity and Infant Hospitals, Segregation Hospitals for Advanced Tuberculosis patients, and by appropriate extension of the most conveniently situated of the remainder, provide for the enlarged area. Sometimes for months at a time there may be no patients in several of the smaller Hospitals, but a minimum staff has to be retained and standing charges have to be met. Moreover, in large Hospitals, it is possible to provide skilled treatment for complications of the eyes, ears and throat and other organs, which is not found practicable in the smaller Hospitals.

To quote an example, in North-West Essex, there are four small Isolation Hospitals, namely, at Saffron Walden, Halstead, Braintree and Dunmow. During the past year 102 cases (apart from Tuberculosis), were treated in these four Hospitals. A Motor Ambulance would have made it possible for all the cases to be treated at one of these Institutions and the remaining Institutions could be used for other purposes.

PART XI.

County Laboratory.

It was not until the 1st January, 1920, that the County Council established a complete County Public Health Laboratory. During the year 1919, however, the arrangement was continued whereby specimens of sputa were examined by Drs. Thresh and Beale, of 91, Queen Victoria Street, London, E.C., the total number of examinations being 2256.

The Inquiry by the Inspector from the Ministry of Health into the prevalence of Malaria and Dysentery was the means of emphasising the need for the provision of additional laboratory facilities. On the 1st August, 1919, therefore all Local Sanitary Authorities were informed that in future the County Council would bear the cost of the examination of the undermentioned specimens from cases which occurred throughout the Administrative County, excluding cases in Asylums. The work would be undertaken by Drs. Thresh and Beale from whom outfits and forms could be obtained on application. A condition of this arrangement was that every original report of results shall be forwarded direct to the County Medical Officer by Drs. Thresh and Beale, who would at the same time transmit a copy to the sender of the specimen.

The following are the specimens which were included in this arrangement:—

1. Cerebro-Spinal Fever.
 - (a) Swabs from throats in special cases only.
 - (b) Cerebro-Spinal fluid.
2. Enteric Fever.
 - (a) Blood for Widal re-action.
 - (b) Blood or stools for *Bacillus Typhosus*.
3. Malaria.

Blood for parasites.
4. Dysentery.
 - (a) Agglutination test for Shiga and Flexner Bacilli, one or both.
 - (b) Examination of fæces for either of above or for *Amœba*.
5. Ophthalmia Neonatorum.
 - (a) Smear for gonococci.
 - (b) Swab for growing gonococci.

The existing arrangement for the examination of specimens of Diphtheria and Tuberculosis was *not* interfered with, and the examinations of specimens of Venereal Disease would continue to be undertaken at the London hospitals.

Fifteen specimens were examined under this arrangement during the five months ended 31st December, 1919, namely:—Malaria, 11; Typhoid, 3; Cerebro-Spinal Fever, 1.

The arrangements for establishing the County Public Health Laboratory were completed in 1919, when the following Regulations along with an intimation that the Laboratory would be available as and from the 1st January, 1920, were issued to Local Medical Officers of Health, Medical Practitioners, Medical Officers of Institutions, Clerks to Local Sanitary Authorities and Institutions and County Officials:—

Regulations regarding the Essex County Public Health Laboratory.

1. County Bacteriologist.

Dr. John F. Beale, Essex County Public Health Laboratory, 91, Queen Victoria Street, London, E.C. 4, (Telephone: City 7116) undertakes for the Administrative County, the examination of specimens in connection with diseases which come within the province of public health administration.

2. Specimens.

A list of specimens which may be submitted to the County Laboratory by Local Medical Officers of Health and Medical Practitioners is given in the attached Schedule, and examinations of all such specimens are made free of charge, subject to the conditions contained in these regulations.

3. Outfits.

Outfits ready to be used for the purpose of collecting specimens, with the necessary forms, envelopes and packages complying with the Postal regulations, can be had on application to the County Laboratory. Receivers of such outfits are urged to comply with the following instructions:—

(a) To keep the outfits clean and away from dust.

(b) To apply as early as possible to the County Laboratory for replacement should any outfits be received in a damaged condition.

(c) To take great care not to [misplace or lose outfits, as great difficulty is experienced in maintaining regular supplies.

If the ordinary outfit supplied is not suitable for the specific specimen which it is proposed to send, particulars of the specimen should be sent to the County Laboratory, when the required outfit will be forwarded. Every used outfit will be replaced by a clean unused outfit when reports are furnished.

4. Procedure.

The following procedure must be complied with when submitting specimens, otherwise unnecessary trouble and delay may be caused:—

(a) The instructions set out on each outfit should be followed when collecting and packing specimens.

(b) Name and address of patient must be given in full on the form provided with the outfit. If this is not supplied the County Medical Officer will not be responsible for the examination of the specimen.

(c) The clinical condition of the patient should be given in every case on the form provided with the outfit, as this information is often of diagnostic value.

(d) Specimens can be sent by post or messenger. See paragraph 6, regarding Urgent Samples at Week-end.

Secondary swabs and any specimens not urgent should be forwarded preferably on Mondays and Thursdays, avoiding Saturdays and Sundays whenever possible.

(e) First communicate with the County Medical Officer when it is desired to submit more than 20 specimens (*e.g.* Diphtheria swabs) at any one time.

5. *Venereal Specimens.*

Venereal specimens are not included in this arrangement, and should therefore be sent, as before, to the various London Hospitals in accordance with the London and Home Counties' Venereal Disease Scheme, particulars of which have already been issued. Any venereal specimen sent to the County Laboratory inadvertently will be forwarded to one of the London Hospitals with the minimum of delay.

6 *Urgent Samples at week-end.*

Urgent samples taken on Saturday should be posted as early in the day as possible, in order to ensure delivery in London the same evening, otherwise the package must be marked boldly and legibly with the words "Express on Sunday" above the address on the left hand side of the cover, and also with a thick perpendicular line on each side of the cover and an additional sixpence in stamps affixed. Such packages or letters may be handed in a Post Office or posted in a letter box as on week days. This procedure will ensure Sunday morning delivery at the Laboratories.

7. *Reports.*

Reports on Specimens (except those connected with Venereal Diseases) will be sent by post to the medical man responsible, and copies will at the same time be furnished to the Medical Officer of Health of the district in which the patient resides. If, however, the practitioner requires a *private* report, no copy will be sent to anyone else, but the practitioner will be responsible to Dr. Beale for the cost of the examination.

Reports to the medical man will be accompanied by a clean unused outfit to replace the one which has been used in order that his stock of outfits may always remain constant. Care should be taken that the reports, which are invariably enclosed in the unused outfit, are not overlooked.

Practitioners who require verbal information regarding the examination of any specimen should ring up the Laboratory (No. 7116 City London) between 2.30 p.m. and 4.30 p.m. (Saturdays 11.30 a.m. to 12.30 p.m.)

8. *Consultations.*

The County Bacteriologist will be pleased to consult at the Laboratory, 91, Queen Victoria Street, with any practitioners on matters relating to the work undertaken.

9. *Conclusion.*

All communications on administrative matters should be addressed to the County Medical Officer of Health, 26, High Street, Chelmsford, but specimens and letters regarding cases and outfits should be sent direct to Dr. John F. Beale, Essex Public Health Laboratory, 91, Queen Victoria Street, E.C.4.

List of Examinations included in the Scheme.

Sputum : Examination for—

Tubercle Bacillus	Pyogenic Bacteria
B. Influenza	Streptothrix
Pneumococcus	Actinomycosis
Lung Tissue	Hydatid Hooklets

Blood : Examination for—

Anthrax	Agglutination test for—
Malarial Parasites	Typhoid Fever
Bacilli of Dysentery and Cholera	Paratyphoid Fever
Streptococcus	B. Enteritidis (Gærtner)

Pus : Examination for—

Anthrax	Actinomycosis
Tubercle Bacillus	

Urine : Examination for—

Tubercle Bacillus	Deposit, nature of
Bacillus Coli	Estimation of sugar, albumen, etc.
Bacillus Typhosus	

Swabs : Examination for—

Diphtheria	Cerebro-Spinal Fever
Ophthalmia	

Cerebro-Spinal Fluid : Examination for Cerebro-Spinal Fever, etc.

Hair and Skin : Examination for—

Parasites of Ringworm]	Parasites of Tinea versicolor
„ „ Favus	

Fæces : Examination for—

Tubercle Bacillus	Bacillus of Dysentery
Bacillus Typhosus	Amœba of Dysentery
Vibrio Cholera	Identification of Worms

Milk : Examination for—

Tubercle Bacillus	Manurial contamination
Diphtheria Bacillus	Streptococcus
Typhoid Bacillus	

Ice Cream : Examination as for Milk.

Shell Fish : Examination for sewage pollution.

Food in cases of suspected poisoning: Examination for Bacteria usually associated therewith.

N.B.—Other bacteriological examinations, and examinations of samples of water will only be undertaken at the expense of the County Council to the special order of the County Medical Officer. Any of these special samples sent without such an order, will, however, be examined and charged to the Authority concerned.

Extracts from Table A. reveal the fact that many Local Sanitary Authorities had their own Laboratory arrangements, under which pathological specimens were examined. The total number of specimens examined for each district, either under these arrangements or at the County Public Health Laboratory, is given in the following table which shows how great was the need for the County Laboratory referred to above :—

TABLE XLII.

District.	No of. Specimens.	District.	No. of Specimens.
URBAN.		RURAL.	
Barking ...	163	Belchamp ...	—
Braintree ...	—	Billericay ...	—
Brentwood ..	—	Braintree ...	—
Brightlingsea ...	13	Bumpstead ...	4
Buckhurst Hill ...	12	Chelmsford ...	—
Burnham-on-Crouch ...	16	Dunmow ...	—
Chelmsford B. ...	—	Epping ...	Diphtheria Swabs
Chingford ...	—	Halstead ...	—
Clacton-on-Sea ...	—	Lexden & Winstree ...	—
Colchester B. ...	1284	Maldon ...	74
Epping ...	—	Ongar ...	—
Frinton-on-Sea ...	4	Orsett ...	—
Grays ...	16	Rochford ...	?
Halstead ...	—	Romford ...	Diphtheria Swabs
Harwich B. ...	—	Saffron Walden ...	8
Ilford ...	1022	Stansted ...	—
Leyton ...	301	Tendring ...	—
Loughton ...	62		
Maldon B. ...	—		
Romford ...	—		
Saffron Walden B. ...	4		
Shoeburyness ...	21		
Tilbury ...	6		
Waltham Holy Cross ...	—		
Walthamstow ...	2443		
Walton-on-the Naze ...	4		
Wanstead ...	70		
Witham ...	—		
Wivenhoe ...	1		
Woodford ...	50		

PART XII.

MENTAL DEFICIENCY ACT, 1913.

The work of examining mentally defectives, imbeciles and idiots, has been continued throughout the year, during which time the Tuberculosis Officers, who became duly certified Officers under the Act, examined 32 cases.

Voluntary Association.

The County of Essex is fortunate in possessing an active Voluntary Association for the Care of the Mentally Defective. This Association possesses 24 Local Committees in different parts of the County and has 473 local friendly visitors. During the year 1919, the Association afforded friendly care for 1,443 reputed defectives which were referred to them, 345 of which were new cases. The local visitors supervised and reported upon 1,223 cases. In their Annual Report the Association takes the opportunity of pointing out that no responsibility rests with them for carrying out the provisions of the Mental Deficiency Act other than the "ascertainment" of urgent cases and the "supervision" of defectives in their homes, both of which duties are carried out on behalf of the local authority in return for a grant.

Mental Expert.

In May, 1919, a meeting of the Essex Justices was convened by the Association under the Chairmanship of Mr. W. S. Chisenhale-Marsh, J.P., C.A., and some 100 Justices who attended from all parts of the geographical County. Mr. Trevor (Commissioner of the Board of Control), Dr. O. F. N. Treadwell (Prison Commissioner), Sir Bryan Donkin (Director of Convict Prisons), and Dr. W. A. Potts (Officer to the Birmingham Committee for the Care of the Mentally Defective and Psychological Expert to the Birmingham Justices), were among the speakers. Realising that a mental expert is now essential to advise Courts on doubtful cases charged with crime, the Justices unanimously passed a resolution proposed by Mr. James Tabour and seconded by the Chief Constable for Essex, asking the Standing Joint Committee to provide one.

This resolution has now been put into practical effect, and a mental expert (who is also Assistant County Medical Officer) acting jointly for Courts, local authority under the Mental Deficiency Act, County Education Committee and Voluntary Association, started work in Essex on 1st May, 1920.

Institution for Mentally Defectives.

It would have been very difficult to deal with most of the urgent cases had it not been for the excellent provision which has been made for the County of Essex at the Royal Eastern Counties' Institution at Colchester for idiots, imbeciles, and the feeble-minded. During the year 1919, this Institution had under its care 699 patients the average daily number of patients being 587. The Board of Management are now considering a scheme to provide additional accommodation for 600 or 700 beds, making a total of some 1,300 beds.

The Institution has allocated 180 beds (150 for cases sent by the Essex Standing Committee for the care of the Mentally Defective and 30 for cases sent by the Essex Education Committee) for cases from the County of Essex, but during the year 210 beds were occupied by Essex cases.

PART XIII.

HOUSING.

Towards the close of 1918, Dr. Thresh made extensive enquiries into the housing conditions of the County, and submitted to the Housing Sub-Committee of the Essex Reconstruction Committee in January, 1919, a summary of returns received from rural districts with reference to houses required. (See Table XLIII.) At the same time, the County Architect presented a detailed report in which he dealt with the following problems :—

- (1) Scarcity of building materials and labour.
- (2) Lack of organised methods of procedure between the County Council and Urban and Rural Authorities.
- (3) The tendency of existing bye-laws to discourage the introduction of any enlightened innovation by way of new methods of construction or the use of new materials, and
- (4) Purchase of suitable sites and cost of the scheme.

The Housing and Town Planning, etc., Act, 1919, became law on 31st July, 1919. Section 1 of this Act, requires the Local Authority to consider the needs of their area with respect to the provision of houses for the Working Classes, and within three months after the passing of this Act, and thereafter as often as occasion arises, or within three months after notice had been given to them by the Local Government Board (now the Ministry of Health) to prepare and submit a scheme for the exercise of their powers under Part 3 of the Housing of the Working Classes Act of 1890.

Section 3 of this Act also empowers the Local Government Board and County Councils to act in the place of a Local Authority, whilst in Section 5, the Local Government Board may also act in place of a Local Authority under Parts 1 and 3 of the principal Act. A Local Authority has also power to house persons in their employ.

Under Section 6 the Local Government Board have power where a Local Authority have failed to exercise their powers under Part 1 or Part 2 of the principal Act, to direct the County Council to instruct the Medical Officer of Health for the County to inspect such district and to make a report to the Board as to the exercise of the powers aforesaid by the Local Authority. Section 8 empowers the County Council to provide houses for persons in their employment.

TABLE XLIII.

Summary of Returns from the Rural Districts with reference to Houses required.

No.	Rural District.	Farmers' Return.		Houses required from returns of R.D.C. to L.G.B. 1917.	Houses required as per Returns from Local sources.	Houses required to replace houses unfit for habitation.	Total houses required.
		No. requiring houses.	No. of houses required.				
1	Belchamp	15	28	0	24	32*	60
2	Bumpstead	14	23	13	8	30	50
3	Billericay	49	90	156	80	60	150
4	Braintree	74	213	119	250	100	300
5	Chelmsford	106	230	70	350	100	350
6	Dunmow	57	141	50	130	200	300
7	Epping	36	101	65	100	100	200
8	Halstead	42	74	108	150	179*	250
9	Lexden and Winstree..	102	230	135	280	150	280
10	Maldon	91	226	99	170	250	400
11	Ongar	52	127	200	?	211*	300
12	Orsett	16	52	No return	600	50	100†
13	Rochford	49	123	92	60	100	150
14	Romford	35	111	190	350	20*	130†
15	Stansted	23	58	0	16	50	60
16	Saffron Walden	49	108	34	90	100	150
17	Tendring	72	223	162	250	200	300
	Totals	882	2,158	1,487 Excluding Orsett	2,908 Excluding Ongar	1,982	3,530†

* Thus marked are result of actual inspection by M.O.H. and Sanitary Inspectors; the remainder are estimates.

† The houses required in Romford and Orsett areas are chiefly for other than agricultural labourers. The figures given only include cottages required for the agricultural labourers and to replace cottages unfit for habitation.

Additional powers are granted to a Local Authority under Section 12 in connection with the acquisition of land and houses, and Sections 24 and 26 give powers in connection with building bye-laws.

Section 28 empowers the Local Authority to serve a notice upon the owner of a house which has not been kept in all respects reasonably fit for human habitation, requiring him within a reasonable time, not being less than 21 days, to execute such works as may be necessary to make the house in all respects, reasonably fit for human habitation.

On the 23rd January, 1920, the Housing (Additional Powers) Act came into force. Provision is made therein for the payment by the Minister of Health, of grants to persons constructing houses which comply with the conditions prescribed by the Minister, and are certified by the Local Authority to be completed in a proper and workmanlike manner, within a certain period of time; the aggregate amount of the grants not to exceed £15,000,000.

Section 5 authorises a Local Authority to prohibit building operations which interfere with the provision of dwelling houses. Any person aggrieved by the Authority's decision has power to appeal to the Minister of Health, who is required to refer such appeals to a standard tribunal of appeal. Three standards have been adopted for the purposes of this Section, namely:—

- (a) Works of low category,
- (b) Works of intermediate category,
- (c) Works of high category.

Moreover (Section 6), the demolition, wholly or in part, or change of use of any dwelling-house which after the 3rd December, 1919, was, in the opinion of the Local Authority, reasonably fit or reasonably capable without re-construction of being considered fit for human habitation, is prohibited, unless the sanction of the Council has first been obtained in writing. An offence against this Section renders the offender liable to a fine not exceeding one hundred pounds, or to imprisonment for a term not exceeding three months, or both, and if the offence is committed by a company every Director and Officer of the Company is guilty of the offence unless he proves that it took place without his consent or connivance. An appeal under this Section as to the fitness of a house for human habitation, without re-construction, may be made to the Minister of Health.

Amongst the numerous Government publications on Housing and matters incidental thereto, which were issued during the year 1919, a circular, dated 7th October, 1919, was addressed specifically to County Councils. In this circular, special mention is drawn to the fact that the primary responsibility for the provision of new houses rests with the Local Authorities, but that in certain events the powers of the Local Authorities may be transferred to the County Council.

The Local Authorities had been supplied with a form of survey of Housing needs and had been required to complete and return this survey within three months from 1st July, 1919. These completed surveys were, in the first instance, sent to the Housing Commissioner, who referred them to the County Medical Officer for any remarks which he wished to make as to their accuracy or adequacy to meet the housing conditions in the respective districts. These surveys were carefully perused, and compared with information already in the department, and in several instances it was possible to supply useful information to the Housing Commissioner. A brief summary of the Housing requirements, along with particulars of unfit houses, overcrowding, etc., in each area, is shown in Table XLIV.

In August, 1919, the Ministry indicated that they had had under consideration the measures to be adopted for obtaining medical advice on matters relating to housing, particularly medical advice on questions touching unfit houses and unhealthy areas, for the housing Staffs of the Ministry in the several regions into which England and Wales had been divided. It was considered advisable to utilise the services of County Medical Officers, who were asked to perform the following duties :—

- (a) To report on any matter touching housing in the County district which may be referred to the County Medical Officer by the Housing Commissioner or on his behalf. It is expected that in many cases the report need be but brief and can readily be made by the Medical Officer from information already at his disposal.
- (b) To make investigation, personally or through competent officers as may be necessary, in any case in the County district in which such investigation may be desired by the Housing Commissioner or on his behalf. Where, for the purposes of such an investigation, the Medical Officer has not the necessary lay subordinate Staff, it may be possible in some cases to supply the required assistance from the regional Staff of the Ministry.

Several conferences of County Medical Officers included in region M (Eastern Counties) were held at the Housing Commissioner's office during the year, when the outstanding problems discussed were shortage of houses, unsatisfactory houses, slum areas, drainage, water supplies, sewage disposal, sites, cheap insanitary property, houses absolutely unfit for occupation, houses that could be repaired for temporary occupation, and houses that could be repaired and made good houses.

During the year the Consulting County Medical Officer of Health published a booklet on housing matters, and from a perusal of the contents the following subjects present themselves as of paramount importance, especially to those upon whom rests the responsibility of formulating and working housing schemes :—

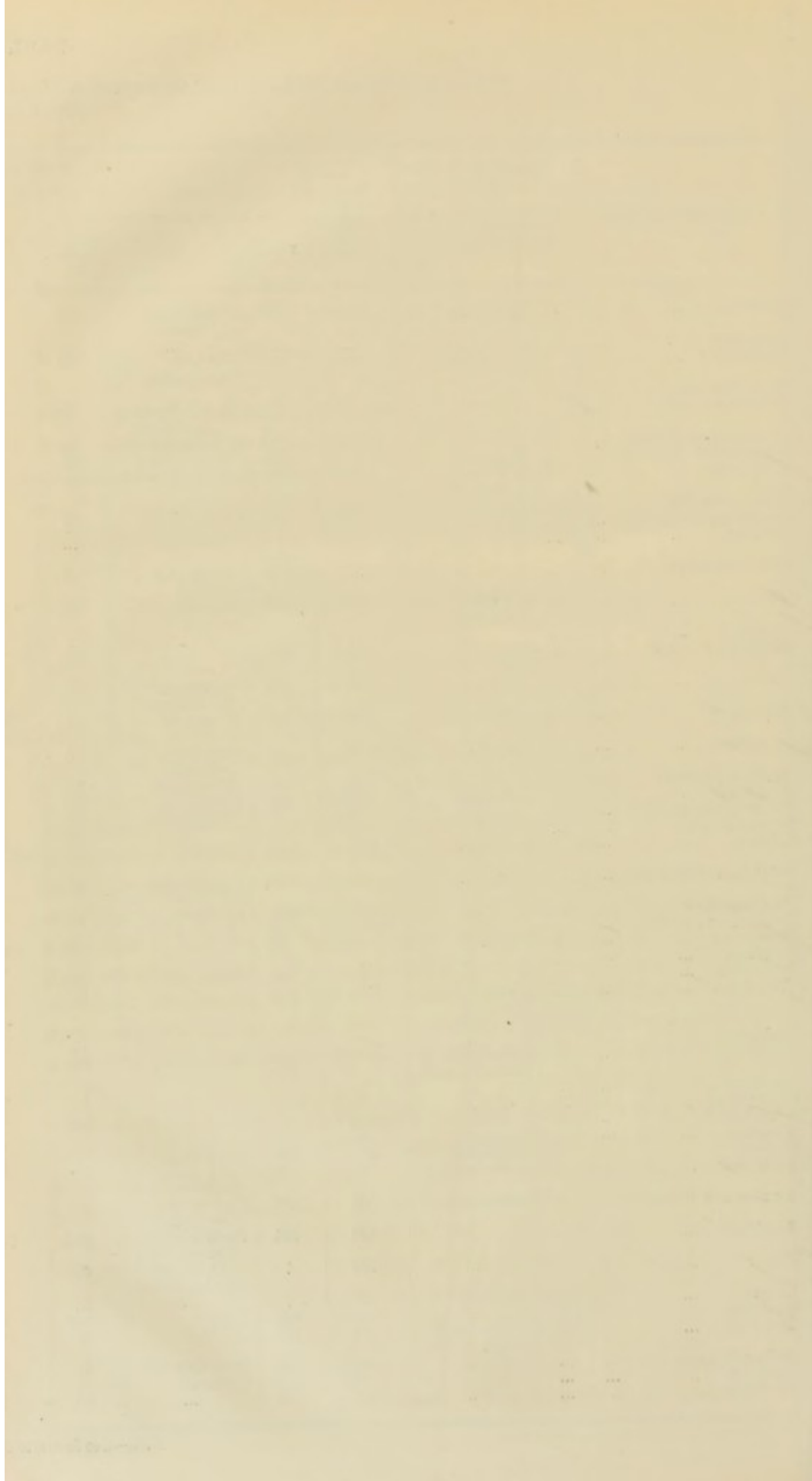
- (1) *Existence of adequate Water Supply.* In the past, houses have been erected in some cases at unreasonable distances from the nearest available water supply. Where a public water supply is in existence the Local Authority should insist that new houses be connected up before they are inhabited.
- (2) *Drainage.* The same remarks apply to adequate sewage disposal.
- (3) The advisability of grouping houses to facilitate the above two services and also for social intercourse, and the ordinary amenities of life.
- (4) The importance of building houses containing three bedrooms and bath room as soon as possible.
- (5) Concurrently with the above, the importance of carrying out necessary repairs to existing houses to remove any sanitary or structural defects.
- (6) The Housing Regulations, 1912, should be efficiently carried out.

TABLE XLIV.

Giving particulars of Housing Requirements, Unfit Houses, Overcrowding, etc., in each Sanitary District during the year 1919.

SANITARY DISTRICTS.	Houses erected during year.		Houses required during next 3 years.	Houses to be provided.		Approximate acreage of land to be acquired.		No. of houses unfit for habitation	Closing Orders.		Houses with defects remedied without C.O.'s	Houses made fit after Closing Orders were made.	Overcrowding in houses and where.	Cases of overcrowding dealt with.	No. of houses inspected during 1919.
	No.	Kind.		No.	Kind.	Acres.	Houses per acre.		Representations made.	Closing Orders made.					
URBAN.															
Barking	...	...	1000	500	3 bedrooms 2 bedrooms	80	12	19	3	...	216	19	General	26	227
Braintree	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brentwood	1	Workmen	100	100	Parlour ... 33 Non-parlour 67	12	8	59	...	...	...	...	Yes	3	59
Brightlingsea	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Buckhurst Hill	...	...	Abt. 30	30	A & B housing scheme	2½	12	8	2	2	3	...	...	...	8
Burnham-on-Crouch	...	...	50	35	3 bedrooms	4	5	15	15	10	20	...	...	...	31
Chelmsford Borough	...	...	...	1000	Workmen's	118	8	60	3	...	17	...	General	...	400
Chingford	2	Villa Bungalow	200	Cannot	answer these questions yet.	...	...	...	1	1	166	...	12	12	195
Clacton-on-Sea	...	...	...	...	...	...	...	...	...	...	...	...	...	...	186
Colchester Borough	...	...	600	?	?	?	?	100	...	...	87	...	During season	...	6
Epping	...	...	25	8	Cottages	...	...	27	...	...	49	...	General	15	1334
Frinton-on-Sea	...	...	...	(1920) 32	3 bedrooms Parlour Cottage	8	8	...	...	...	...	...	...	...	91
Grays	3	2 villas 1 cottage	600	600	...	100	10	53	...	...	70	...	1	32	64
Halstead	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Harwich Borough	...	...	190	190	...	19	10	9	9	9	...	...	St. Nicholas Ward	...	449
Ilford	3	...	600	502	Parlour and Non-parlour Workmen	45	12	1	1	1	20	1	...	6	327
Leyton	2	Workmen	500	(?) 500	...	?	Not decided	51	4	3	435	...	Very little	A few	198
Loughton	...	...	Min. 50	50	Superior cottages	5	10	2	...	...	...	...	Several	...	5
Maldon Borough	...	...	100	100	Workmen's	15	8	4	4	4	...	3	Several	1	11
Romford	1	Cottage	250	250	Parlour	28	10	1	...	...	119	...	Several	...	136
Saffron Walden B.	...	...	88	88	Workmen's	17	8	8	6	6	2	...	A few	...	72
Shoeburyness	...	...	60	60	...	12	12	...	...	...	...	...	Yes	1	...
Tilbury	...	...	2000	1520	Cottages	180	N. Ward 8 S. 10	...	...	...	31	...	General	...	...
Waltham Holy Cross	...	...	200	200	70% Parlour 30% Non-parlour	26	8	...	...	...	10	...	Yes	...	43
Walthamstow	...	...	1500	1300	Cottages	113	12	...	...	...	...	...	...	...	...
Walton-on-the-Naze	...	...	Unknown	32	Workmen's	5	6	...	...	...	...	...	5	5	...
Wanstead	8	Villa	50	50	"	4½	10-12	...	...	...	...	...	Yes	2	43
Witham	...	...	...	...	...	...	...	...	...	...	36	...	...	...	...
Wivenhoe	...	...	50	50	Parlour	11½	7	...	...	...	21	...	10	1	250
Woodford	1	Villa	481	280	?	28	10	...	...	...	63	...	Hornham and Avenue Roads	2	312
RURAL.															
Belchamp	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Billericay	15	Workmen 6 Middle class 9	340	168	130 Class A 38 " B	50	4	74	4	3	23	2	49	7	106
Braintree	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bumpstead	...	...	80	70	...	18	4	...	...	...	...	...	...	...	...
Chelmsford	3	...	832	527	Workmen's	70-80	6	4	...	...	28	...	Yes	...	58
Dunmow	...	...	300	210	Parlour	...	...	309	5	5	?	?	Yes	...	216
Epping	7	Workmen	230	230	Workmen's	37	6-8	16	16	10	63	...	General	2	24
Halstead	1	Cottage	224	200	150 Parlour	25	8	52	52	45	66	3	General	1	653
Lexden and Winstree	9	Bungalow	201	301	50 Non-parlour	...	...	...	...	...	...	...	...	3	114
Maldon	...	...	653	384	Parlour and Non-parlour	44	8	...	...	...	...	...	General	8	...
Ongar	...	...	250	?	Parlour and Non-parlour Cottages	90	4-8	262	4	4	?	?	...	...	330
Orsett	14	Cottages	900	?	Semi-detached	40	6	310	...	...	...	...	160	4	1607
Rochford	113	...	248	200	...	...	8	215	215	...	164	...	General 355	6	3000
Romford	20	Workmen 10 Other 10	931	758	Parlour Workmen's	35-40	6	156	5	5	28	2	General	...	68
Saffron Walden	...	...	188	42	Semi-detached	97	10	40	...	...	222	...	General	...	261
Stansted	...	...	76	76	Cottages	31	6	10	...	...	19	...	Yes	2	39
Tendring	...	...	302	302	...	60	5	1	1	1	3	...	Yes	4	191
													Yes	...	230

N.B.—See footnote to Table on page 27.



In connection with the greater London Housing Schemes, a circular was issued to the Local Authorities in the Metropolitan Area of the County, asking for their views on the proposals contained in the Greater London Housing Scheme, and what steps, if any, they were taking for the provision of new houses in their respective districts. The following statement sets out briefly the result of the replies received :—

- ILFORD. ... District Council not favourably impressed with proposals of London County Council. Have scheme for erection of 87 houses at Barkingside.
- LEYTON. ... Council has formally approved the proposal that the Area of London and Greater London, within 15 miles or thereabouts of Charing Cross, should form a single authority for housing purposes, and delegates have been appointed to attend Conferences.
- LOUGHTON. ... Opposed to proposals of London County Council. Have their own scheme for provision of workmen's dwellings.
- WALTHAMSTOW. Do not support proposals of London County Council. Are themselves negotiating for purchase of land for the erection of dwellings.
- WOODFORD. ... Are generally in agreement with proposals of London County Council.

Conferences were also held with the County Councils and Local Authorities affected, with the result that the following clause was eventually inserted in the Housing, Town Planning, etc., Act :—

“Where the Local Authorities concerned, or the Local Government Board are of opinion that a scheme should be made affecting the areas of two or more Local Authorities, such a scheme shall be prepared by the Local Authorities jointly, and the Local Authority for each area to which any part of such joint scheme applies may, or if the Local Government Board, after giving the Local Authority an opportunity of being heard, so direct, shall carry out that part of the joint scheme, and for the purposes of this subsection, “Local Authority” shall in any case where the Local Government Board consent, and subject to any conditions which the Board may prescribe, include a County Council.”

As regards the London Housing Scheme at Dagenham, a Special Sub-Committee was appointed by the County Council to consider the City Corporation Order for the compulsory acquisition of approximately 300 acres of land at Ilford, and to make any necessary representations to the Parliamentary Committee thereon. To this Special Sub-Committee the County Medical Officer reported on the effect of the Scheme on the Essex County Council, from the public health point of view. The complete proposal of the London County Council was to acquire 3,000 acres of land in Essex, as follows :—

900	acres in Barking.
300	„ Ilford.
1,800	„ Dagenham (Romford Rural).

On this land it is proposed to build some 30,000 houses, and it is calculated that these will provide accommodation for about 150,000 inhabitants. It is not known how long it will take to accomplish this work, but three years have been mentioned as the full period in which this new aggregation of population will overflow out of London into Essex.

Whilst this housing scheme is in progress, it is presumed that the existing Local Authorities of Ilford, Barking and Romford Rural District will have to bear a new and heavy burden, but when the scheme is completed it is anticipated that a new Borough or County Borough will be constituted.

In the meantime, the County Council, as well as the above mentioned Authorities will have difficult problems to meet in connection with various public health matters. These problems will increase with the local growth of population, and the requirements and estimated costs under several headings were set out in the above-mentioned report by the County Medical Officer. This report was duly considered by the Special Sub-Committee, who resolved—

“Your Sub-Committee have resolved to raise no objections to the proposals, but have expressed a desire to be satisfied that a sufficient supply of water would be provided for the districts affected, and to be informed as to the manner in which the sewage would be dealt with and at whose expense, and have addressed a memorandum to this effect to the Parliamentary Committee of the County Council in order that any necessary steps may be taken.”

Overcrowding.

Most of the Annual Reports of the Local Medical Officers of Health deal at great length with the overcrowding question, consequent on the shortage of housing accommodation. In many districts the shortage was so acute that little action could be taken even in cases of flagrant overcrowding. This position is far from being desirable from many points of view, and, fortunately, this is being recognised by many Local Authorities who have pressed forward with the work of their housing schemes. A few extracts from the Annual Reports reveal conditions which it is to be regretted are common, not only in the County, but throughout the whole country.

Billericay Rural. Dr. Douglas Wells reports—

“The first and most important need in the scheme of social welfare and race regeneration is the provision of healthy sanitary houses for the people to live in, with a healthy environment, where the young married couples of to-day should have the chance of producing and rearing to manhood and womanhood, healthy, happy, and physically strong children.”

Chelmsford Rural. Dr. Macdonald is of opinion—

“That the want of bedroom accommodation is a serious disadvantage from the moral as well as from the sanitary aspect.

“A good deal of the overcrowding is due to the want of bedroom accommodation, and to the fact that parents with large families are not able

to pay the rent of a house to meet their needs. The fact that more than 61 houses are at present occupied by more than one family, is mainly due to the shortage of houses, and indeed, with the exception of a few cases, where married people live with aged parents, it is wholly due to this shortage. In one family the overcrowding was abated by the erection of an army tent in the garden, but as members of the family have since left the locality, this is not now necessary."

Colchester Borough. As a result of a detailed enquiry into the housing conditions, Mr. Corfield summarises the needs of his district as follows:—

- (1) An increase of houses of from four to six rooms is urgently necessary.
- (2) 500 of such houses would probably be sufficient.
- (3) The greatest need is in the East Ward.
- (4) Houses of a somewhat better type are also required.
- (5) It is estimated that 100 of the latter would not be too many.

Harwich Borough. Dr. Ford Porter reports—

- (1) There are a large number of houses in a bad state of repair.
- (2) There are a number of houses which are beyond repair, and should be closed.
- (3) There are a number of houses which, in addition to being beyond repair and unfit for human habitation, are obstructive buildings.
- (4) There are practically no empty houses in the Borough which are fit for human habitation.
- (5) There are a large number of houses containing two or more families, although the houses were originally intended for single occupation. In consequence, the w.c., washing and cooking accommodation is hardly sufficient.

Maldon Borough. Dr. Reynolds Brown states—

"Overcrowding is fairly prevalent. Even where it does not overstep the technical limit, there are numerous cases where married sons remain in their parents' houses, being unable to obtain houses of their own. It is impossible in the present circumstances to do more than advise the people how to make the best use of what accommodation they have."

Romford Rural. Dr. Wright states—

"That his Authority have purchased huts until recently occupied by soldiers in the New Zealand Camp, and these are being erected (two huts being made into one) in various parts of the district as a temporary relief, to

some extent, of the overcrowding, of which there is a certain amount. Nothing much can be done to relieve this overcrowding until more houses are provided under the artisan dwelling regulations.

Tilbury Urban. Dr. Fowler reports—

“The old houses, 500-600 in number, built soon after the docks were started, are in a bad condition; the main defects being poor material and defective design, and no proper foundation. The great difficulty in putting them into any sort of satisfactory condition is that no accommodation can be found for the present tenants whilst the houses are being repaired. The great majority of these houses, originally intended for one family, are now divided, so that they can accommodate two families, one upstairs and one downstairs, both using the same front entrance and the same w.c., leading to great overcrowding.”

Wanstead Urban. Dr. Macgregor states that—

“Bad housing increases the incidence of infectious and other diseases and has further serious consequences, while on the other hand there is nothing in the whole range of Preventive Medicine so important as good housing as an agency in the general welfare of the people.”

Wivenhoe Urban. Dr. Kevern states that—

“Several of the houses in the lower part of Wivenhoe, near the river, are unrepairable and should be gradually eliminated as new houses are built. Others in the same locality need minor repairs, and also alterations to their sanitary arrangements. The Housing Inspector is giving attention to these matters.”

With reference to the last-named district, it should be noted that the Housing Commissioner for the Eastern Counties caused an inspection to be made in December, 1919, into the housing conditions in this Urban District. His report thereon dealt with the following points:—Roads, backyards, sewerage, conveniences, scavenging, water supply, housing and overcrowding. The district was subsequently visited by the County Medical Officer and County Sanitary Inspector, who held a consultation with the Local Medical Officer of Health and Sanitary Inspector, resulting in a detailed report being transmitted to the Local Authority with the request that they should give early consideration and attention to the points raised, with a view to bringing about a much desired improvement in the housing and sanitary condition of the District.

Provision of Houses.

Consideration has been given by the appropriate Committees to the provision of houses for persons in the employ of the County Council. No houses were actually erected during the year, but schemes were drawn up for the erection of houses for Smallholders, policemen, etc.

In addition to these schemes, the County Council are endeavouring, under the Combined Medical and Nursing Services, to obtain suitable houses in certain towns the ground floor of which will be used as a Treatment Centre, and the upstairs will provide housing accommodation for the nurses.

SMOKE.

Essex being largely an agricultural and residential County, it is not surprising that very few remarks on smoke are made by the Local Medical Officers of Health in their Annual Reports or in Table A. In the latter, only six Urban Districts give particulars of work done in this connection, namely, 22 observations were taken, necessitating the issuing of nine precautions. Legal proceedings were not necessary in any case.

In 1914, a Departmental Committee was appointed to consider the present law with regard to the pollution of the air by smoke and other noxious vapours and its administration, and to advise what steps were desirable and practicable with a view to diminishing the evils still arising from such pollution.

In consequence of the war, the Committee's operations were suspended until January, 1920. A report dealing with the subject of domestic smoke has now been issued by this Committee, in which they state that they are satisfied that domestic smoke, which is produced by the burning of raw coal, causes serious danger to health and damage to property. Evidence, bearing thereon, was collected, to the effect that even in industrial areas domestic chimneys contribute at least 50 per cent. of the total smoke nuisance, and that at least six per cent. of the bituminous coal ordinarily burnt in domestic fireplaces escapes unconsumed into the atmosphere as soot. Taking $40\frac{1}{2}$ million tons as the amount of coal burnt annually in the United Kingdom in its natural condition for domestic purposes, the loss amounts to 2,430,000 tons, or more than half the total amount of fuel required to heat the Metropolitan area for a whole year. That is to say, nearly $2\frac{1}{2}$ million tons of soot escape into and pollute the atmosphere every year from domestic fireplaces alone.

A summary is given by the Departmental Committee of the chief aspects of the damage caused by smoke and other impurities in the atmosphere for at least half of which the domestic chimney must be held responsible. Included in the summary is a statement that the health of Urban communities is most injuriously affected by the loss of sunlight due to coal smoke, and it has been estimated that, broadly speaking, 20 per cent. more sunlight is experienced in the country than in a smoky town. One investigation into the economic loss due to coal smoke dealt with the comparative cost of household washing in Manchester, a smoky town, as compared with Harrogate, a clean town. This revealed the outstanding fact of an extra cost in Manchester of $7\frac{1}{2}$ d. a week per household for fuel and washing material. The total loss for the whole city, taking the extra cost of fuel and washing material alone, disregarding the extra labour involved, and assuming no greater loss for middle class than for working-class households (a considerable under-statement) works out at over £290,000 a year for a population of three quarters of a million.

The following were the general conclusions arrived at by the Departmental Committee :—

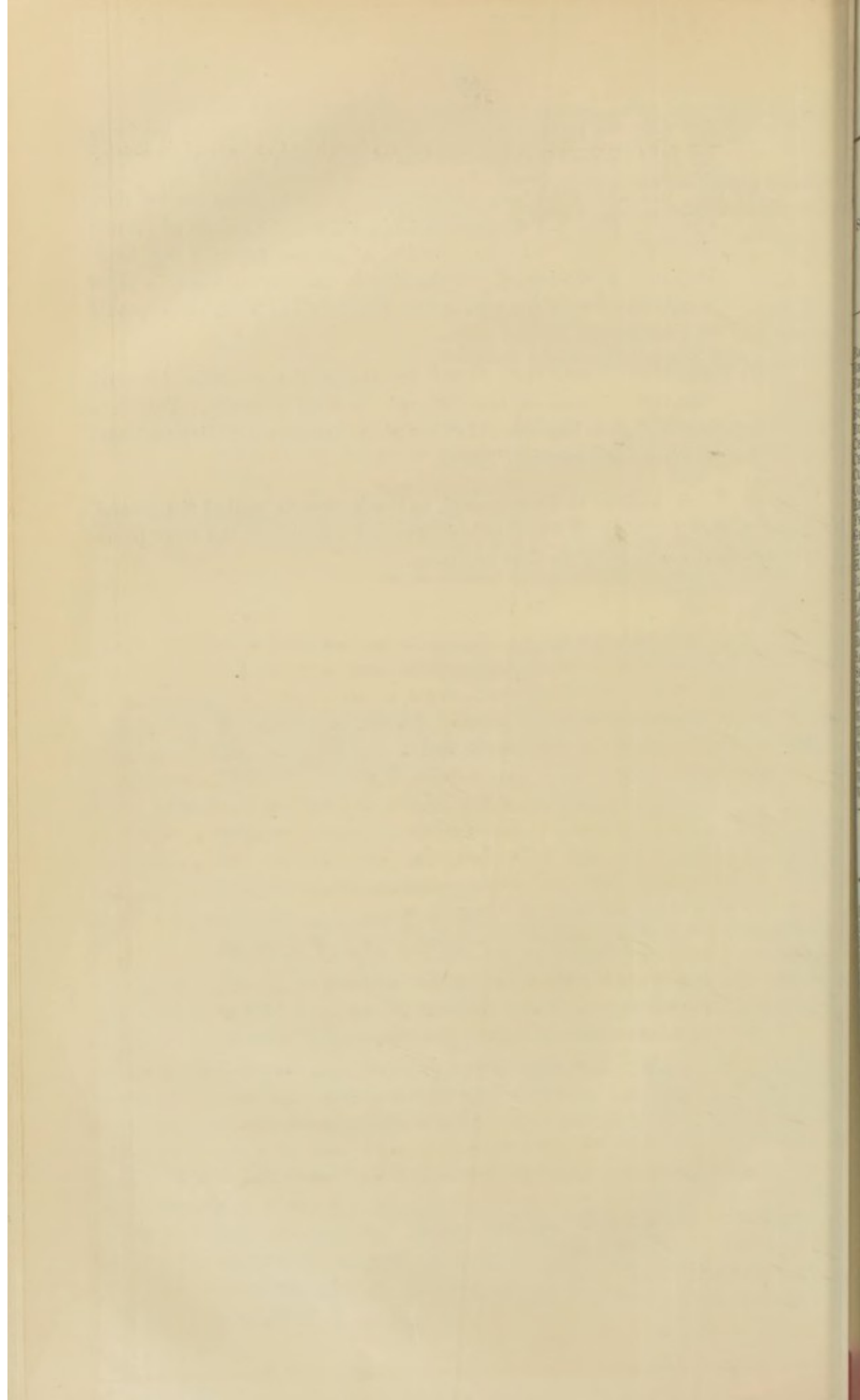
- “(1) The witnesses whom we have heard have almost without exception condemned either explicitly or implicitly the old-fashioned kitchen range and backboiler as inefficient, wasteful of fuel and labour, and productive of smoke.
- “Subject to the opinion previously expressed with regard to the future possibilities of electricity as a heating agent, we think that wherever a supply of gas is available, a gas cooker should be installed in lieu of a coal range.
- “(2) The cheapest and most efficient method of providing a supply of hot water, where a central supply is not practicable, is by a coke-fired boiler.
- “(3) A central hot water supply for detached houses, where practicable, is a desirable system, if it can be provided at a moderate cost. Practicable experiments in this direction are urgently needed and should be given every encouragement.
- “(4) For tenement houses a central supply of hot water is quite practicable and should be provided universally.
- “(5) The system of installing separate central-heating plants in each house heated by coke or anthracite, should be employed far more widely than is at present the case.
- “(6) As far as practicable, gas fires or hot water radiators (or electric radiators subject to the question of cost), should entirely supersede the old-fashioned open coal fire, adequate means for proper ventilation being provided.
- “(7) We are aware that there is still a strong prejudice in many quarters in favour of an open coal fire, and we therefore limit our recommendation to this extent, namely, that in none of the houses built with the assistance of the Government subsidy should more than one, or in exceptional circumstances, two coal grates be installed.
- “Whenever coal ranges and coal grates are installed they should be of a type adapted to the use of coke as well as of coal. Adequate means of regulating the draught should in all cases be provided.”

As a result the Committee made the following drastic recommendations :—

- “(1) That the Central Housing Authority should decline to sanction any housing scheme submitted by a Local Authority or Public Utility Society, unless specific provision is made in the plans for the adoption of smokeless methods for supplying the required heat as suggested in the body of this Report.

- "The only exception to this rule should be when the Central Authority are fully satisfied that the adoption of such methods is impracticable.
- "(2) That Gas and Electricity Undertakers should be given every facility and encouragement to increase and cheapen the supply of gas and electricity, and that the practice, at present followed by some Municipal Authorities of overcharging for gas and electricity in order to allocate the profits thus accruing to the relief of the rates, should be discontinued.
- "(3) That the Government should encourage the co-ordination and extension of research into domestic heating generally. This is a matter of great importance in view of the many outstanding problems which demand enquiry."

A report of this kind is to be welcomed, as it will serve to remind the general public of the need for adopting some methods whereby pollution of the atmosphere by smoke can be reduced to the absolute minimum.



SANITARY DISTRICT.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Erysipelas.	Pulmonary Tuberculosis.	Tuberculous Meningitis.	Other Tuberculous Diseases.	Cancer, Malignant Diseases.	Rheumatic Fever.	Meningitis.	Organic Heart Disease.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Diarrhea, &c. (under 7 years).	Appendicitis and Typhilitis.	Cirrhosis of Liver.	Alcoholism.	Nephritis and Bright's Disease.	Puerperal Fever.	Parturition apart from Puerperal Fever.	Congenital Debility, &c.	Violence apart from Suicide.	Suicides.	Other Defined Diseases.	Causes ill-defined or unknown.	ALL CAUSES.	
URBAN.																																
BARKING	4	1	2	6	33	...	35	11	3	38	1	...	33	32	13	5	9	2	...	...	14	...	3	17	25	1	83	1	372	
BLAINTHORE	1	1	1	1	2	...	9	...	1	4	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BRENTWOOD	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BRIGHTONSEA	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BUCKHURST HILL	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BURNHAM	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CHELMSFORD B.	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CHIPPING OLBORNE	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
CLAYTON	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
COLESHOTT B.	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
CRUICK	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
EPSTEY	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
FRIENTON	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
GRAYS	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
HALSTED	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
HARVEY B.	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
LIFORD	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
LETTON	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
LONGTOWN	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
MALDON B.	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
RAMPFORD	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
SAPFORD WALDEN B.	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
SHROUBSHURTH	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
TILBERT	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WALTHAM HOLY CROSS	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WALTHAMSTOW	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WALTON-ON-THE-NAZE	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WALTON-ON-THE-NAZE	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WILTON	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WITHERSPORE	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
WOODFORD	1	11	1	12	...	4	31	...	3	23	20	9	2	1	1	...	...	...	...	...	...	...	...	...	...	...
8	...	37	12	25	96	492	16	595	65	81	646	21	29	717	535	319	98	82	33	22	3	171	18	34	319	192	49	2056	16	6726		
RURAL.																																
BELCHAMPTON	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
BILLINGHAM	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
BLAINTHORE	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
BURNHAM	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
CHELMSFORD	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
CHIPPING OLBORNE	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
CLAYTON	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
COLESHOTT B.	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
CRUICK	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
EPSTEY	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
HALSTED	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
HARVEY B.	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
LIFORD	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
LETTON	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
LONGTOWN	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
MALDON B.	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
RAMPFORD	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
SAPFORD WALDEN B.	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
SHROUBSHURTH	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
TILBERT	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WALTHAM HOLY CROSS	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WALTHAMSTOW	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WALTON-ON-THE-NAZE	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WALTON-ON-THE-NAZE	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WILTON	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WITHERSPORE	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
WOODFORD	2	1	11	...	...	2	7	...	...	2	9	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...
3	...	10	2	15	18	190	2	180	22	37	345	11	15	401	225	125	41	20	12	8	...	75	6	10	119	75	27	1140	20	3154		
8	...	37	12	25	96	492	16	535	65	81	646	21	29	717	535	319	98	82	33	22	3	171	18	34	319	192	49	2056	16	6726		
11	...	47	14	40	114	682	17	715	87	118	991	32	44	1118	760	444	139	102	45	30	3	246	24	44	438	267	76	3196	36	9880		
TOTAL FOR ADMINISTRATIVE COUNTY.																																

TABLE 2.

NOTIFICATIONS OF INFECTIOUS DISEASE AND ATTACK-RATES, 1919.

Sanitary Districts.	Population (Death Rate) 1919.	Small-pox.		Scarlet Fever.		Diphtheria.		Enteric Fever.		Puerperal Fever.		Erysipelas.		Influenzal Pneumonia.	
		No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000
URBAN:—															
Barking	33,804	...	...	61	1.8	95	2.8	5	.1	3	.08	47	1.3	66	1.9
Braintree	6,679	...	...	...	...	3	.4	1	.1	...	...	3	.4	1	.1
Brentwood	6,036	...	...	...	...	14	2.3	...	...	...	...	1	.1	2	.3
Brightlingsea	4,720	...	...	1	.2	2	.4	1	.2	...	...	3	.6	1	.2
Buckhurst Hill	5,072	...	...	9	1.7	19	3.7	...	...	...	...	...	...	12	2.3
Barnham-on-Crouch	3,029	...	...	1	.3	15	4.9	...	...	...	...	1	.3	2	.6
Chelmsford B.	20,836	...	...	12	.5	44	2.1	2	.09	2	.09	5	.2	20	1.4
Chingford	9,137	...	...	30	3.2	6	.6	1	.1	...	...	7	.7	7	.7
Clacton-on-Sea	9,917	...	...	18	1.8	75	7.5	...	...	...	...	1	.1	1	.1
Colchester B.	41,359	...	...	156	3.7	85	2.0	18	.4	2	.04	16	.3	54	1.3
Epping	4,145	...	...	4	.9	17	4.1	1	.2	...	...	1	.2	2	.4
Frinton-on-Sea	1,930	...	...	1	.5	1	.5	...	...	...	...	...	...	...	...
Grays	16,114	...	...	18	1.1	13	.8	...	...	...	...	...	...	...	...
Halstead	5,889	...	...	2	.3	14	2.1	1	.1	...	...	1	.1	5	.8
Harwich B.	11,269	...	...	5	.4	18	1.6	2	.1	...	...	...	...	5	.4
Ilford	79,524	1	.01	229	2.8	269	3.3	12	.1	3	.03	36	.4	36	.4
Leyton	123,896	...	...	203	1.6	262	2.1	4	.03	10	.08	63	.5	84	.6
Loughton	5,486	...	...	4	.7	17	2.8	...	...	...	...	1	.1	1	.1
Maldon B.	5,826	...	...	12	.2	4	.06	...	...	...	...	7	.1	4	.06
Romford	18,370	...	...	37	2.0	29	1.5	...	...	1	.05	6	.3	30	1.6
Saffron Walden B.	5,477	...	...	5	1.4	...	...	...	...	...	...	2	.3	...	...
Shoeburyness	4,719	...	...	13	2.7	19	4.0	3	.6	...	...	8	1.6	13	2.7
Tilbury	6,916	...	...	4	.5	11	1.5	...	...	...	...	4	.5	9	1.3
Waltham Holy Cross	6,552	...	...	13	1.9	3	.4	1	.1	2	.3	...	...	...	...
Walthamstow	127,684	...	...	311	2.4	416	3.2	4	.2	6	.4	66	.5	83	.6
Walton-on-the-Naze	2,764	...	...	...	...	2	.7	...	...	...	...	...	...	1	.3
Weststead	14,829	...	...	19	1.2	22	1.4	...	...	...	...	2	.1	16	1.0
Witham	3,451	...	...	4	1.1	1	.2	...	...	3	.2	6	1.7	20	5.7
Wivenhoe	2,348	...	...	4	1.7	...	...	...	...	1	.2	1	.4	1	.4
Woodford	19,656	...	...	21	1.0	31	1.5	1	.05	1	.05	4	.2	26	1.3
URBAN TOTALS...	607,424	1	.001	1,205	1.9	1,507	2.4	57	.09	35	.05	296	.4	518	.8
RURAL:—															
Belchamp	3,782	...	...	...	...	1	.2	...	...	1	.2	1	.2	11	2.9
Billerica	19,609	...	...	39	1.9	58	2.9	2	.1	1	.05	3	.1	25	1.2
Braintree	17,309	...	...	9	.5	13	.7	...	...	...	...	12	.6	11	.6
Bumpstead	2,095	...	...	10	4.7	...	...	1	.4	...	...	1	.4	1	.4
Chelmsford	22,257	...	...	8	.3	30	1.3	...	...	2	.09	1	.04	8	.3
Dunmow	13,942	...	...	24	1.7	8	.5	1	.07	...	...	4	.2	10	.7
Epping	15,047	...	...	8	.5	20	1.3	1	.06	1	.06	1	.06	6	.3
Halstead	9,429	...	...	3	.3	...	...	...	...	...	...	...	...	...	...
Lexden and Winstree	17,889	...	...	20	1.1	10	.5	...	...	1	.1	...	...	1	.1
Maldon	14,956	...	...	16	1.0	31	2.0	...	...	...	...	1	.05	5	.2
Ongar	9,009	...	...	4	.4	15	1.6	...	...	...	...	...	...	6	.4
Orsett	18,980	...	...	10	.5	26	1.3	15	.7	2	.1	3	.1	7	.7
Rochford	18,853	...	...	36	1.9	5	.2	4	.2	...	...	4	.2	22	1.1
Romford	27,169	...	...	48	1.7	44	1.6	...	...	1	.03	4	.1	16	.5
Saffron Walden	9,590	...	...	5	.5	3	.3	1	.1	...	...	1	.1	3	.3
Stansted	6,296	...	...	4	.6	1	.1	...	...	...	...	...	...	1	.1
Tendring	17,648	1	.03	22	1.2	8	.4	...	...	...	...	6	.3	8	.4
RURAL TOTALS...	243,860	1	.004	266	1.0	273	1.1	25	.1	9	.03	46	.1	144	.5
URBAN TOTALS	607,424	1	.001	1,205	1.9	1,507	2.4	57	.09	35	.05	296	.4	518	.8
ADMINISTRATIVE COUNTY TOTALS...	851,284	2	.002	1,471	1.7	1,780	2.0	82	0.09	44	0.05	342	0.4	662	0.7
ENGLAND AND WALES	35,993,000	294	.008	82,398	2.2	53,918	1.5	3,447	0.1	2,016	0.06	15,763	0.4	45,260	1.2

BIRTHS, DEATHS, ANNUAL RATES, &c., 1919.

SANTARY DISTRICT.		Estimated Population, 1919.		Deaths at all ages.	DEATHS.							ANNUAL RATE PER 1,000 OF ESTIMATED POPULATION.					
		Birth-rate.	Death-rate.		Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and upwards.	Birth-rate.	Zymotic Death-rate.	Public Death-rate.	Infantile Mortality.		
URBAN.																	
BARKING ...	3,805	35,214	33,894	815	372	53	18	13	17	21	59	77	112	23.1	11.0	1.3	65.9
BARNET ...	2,224	6,568	6,679	114	78	7	1	1	4	4	7	21	33	16.3	11.6	0.3	61.4
BARNET ...	469	6,288	6,095	112	98	8	...	1	1	2	4	14	28	17.8	9.0	0.1	71.4
BARNET ...	2,867	4,917	4,720	94	62	5	...	...	3	3	8	10	33	19.1	13.1	0.8	53.2
BARNET ...	873	5,284	5,072	87	64	5	2	1	2	12	10	28	16.5	12.6	0.1	57.4	
BARNET ...	4,317	3,155	3,029	69	43	4	...	1	6	1	3	9	10	19.0	14.1	0.9	68.6
BARNET ...	3,112	21,765	20,836	334	218	19	2	5	9	8	30	56	40	14.4	10.4	0.6	55.2
BARNET ...	2,898	9,318	9,127	156	103	14	3	5	8	15	21	34	16.4	11.2	0.5	58.7	
BARNET ...	4,069	10,331	9,217	137	145	12	1	5	10	9	19	26	63	13.5	14.6	1.1	37.6
BARNET ...	11,333	44,084	41,259	718	555	56	13	25	17	22	65	120	236	16.7	13.4	1.8	78.9
BARNET ...	1,420	4,318	4,145	62	50	4	No details available.	...	...	...	...	...	14.4	12.0	1.2	0.9	64.5
BARNET ...	422	2,019	1,839	17	15	1	...	...	...	...	...	...	7	8.5	7.7	...	...
BARNET ...	1,359	16,785	16,114	334	260	27	9	2	17	9	24	55	57	16.7	12.4	1.1	1.3
BARNET ...	617	6,135	5,889	83	71	4	...	1	1	2	9	16	38	13.6	12.0	0.7	1.9
BARNET ...	1,541	11,729	11,259	276	124	22	3	7	6	7	18	31	40	23.2	11.9	1.2	0.1
BARNET ...	8,496	82,849	79,534	1,067	739	72	17	20	38	45	118	191	288	14.8	9.9	1.1	0.9
BARNET ...	2,294	123,082	123,846	2,195	1,393	154	27	48	57	74	210	345	489	17.0	11.2	1.1	0.9
BARNET ...	3,961	5,715	5,486	98	69	7	1	2	4	1	5	19	20	17.1	12.5	1.0	0.9
BARNET ...	3,028	6,029	5,826	107	66	6	...	1	...	2	3	23	31	16.8	11.3	0.7	0.5
BARNET ...	5,630	19,136	18,379	330	221	22	5	4	3	5	38	55	89	17.2	12.0	1.0	1.0
BARNET ...	7,092	5,705	5,477	73	70	2	...	1	3	1	8	10	45	12.8	12.7	0.3	0.9
BARNET ...	1,066	4,916	4,719	99	42	8	4	2	4	2	6	8	8	20.5	8.9	1.0	0.4
BARNET ...	1,853	7,294	6,916	183	99	16	2	4	6	8	21	22	30	25.4	14.3	1.0	1.1
BARNET ...	11,017	6,825	6,552	133	77	8	2	4	9	6	10	18	20	19.4	11.7	0.7	0.9
BARNET ...	4,343	133,008	127,684	2,001	1,275	109	35	42	73	89	212	327	337	17.2	9.9	0.9	1.6
BARNET ...	2,046	2,879	2,764	35	24	5	2	2	...	1	2	5	7	12.1	8.6	0.7	0.4
BARNET ...	1,679	15,447	14,829	188	148	4	2	...	4	22	48	64	12.1	9.9	1.4	0.5	
BARNET ...	3,712	3,295	3,451	32	45	2	...	3	...	1	4	9	26	14.4	13.0	2.3	0.6
BARNET ...	1,564	2,446	2,348	40	31	7	...	...	3	2	2	4	13	16.3	13.2	...	0.4
BARNET ...	2,151	30,476	19,656	321	209	14	4	7	12	5	38	44	85	15.6	10.6	1.4	1.0
Total ...	102,682	832,755	627,424	10,710	6,726	728	?	?	?	?	?	?	?	16.9	11.97	1.6	0.8
RURAL.																	
BAGSHAW ...	26,000	3,940	2,782	53	82	7	...	1	...	1	9	18	46	13.4	21.6	3.7	0.7
BAGSHAW ...	40,394	20,427	19,699	296	255	11	No details available.	...	...	...	...	...	...	14.5	13.0	1.7	0.3
BAGSHAW ...	62,348	18,031	17,309	269	272	21	3	2	6	7	20	65	14.9	15.7	0.8	0.6	
BAGSHAW ...	11,874	2,782	2,095	44	34	4	1	...	2	...	3	7	17	20.1	16.1	1.4	0.0
BAGSHAW ...	83,045	23,185	22,267	396	296	23	5	2	8	10	33	53	13.2	17.0	12.8	0.6	1.4
BAGSHAW ...	73,466	14,523	13,942	186	179	10	3	3	1	2	11	41	108	12.8	12.8	0.7	0.5
BAGSHAW ...	39,603	15,674	18,947	297	176	15	No details available.	...	...	...	...	...	...	13.2	11.7	1.4	0.3
BAGSHAW ...	38,712	9,822	9,429	125	105	5	...	1	2	4	13	21	62	12.7	11.4	9.2	0.9
BAGSHAW ...	69,485	15,635	17,889	294	238	20	5	4	7	12	20	51	119	15.7	13.3	0.7	1.1
BAGSHAW ...	82,542	15,580	14,926	215	208	17	1	2	4	11	20	35	118	15.0	13.9	0.4	1.0
BAGSHAW ...	47,296	9,385	9,009	169	138	10	No details available.	...	...	...	...	...	...	18.0	13.3	1.9	0.7
BAGSHAW ...	30,939	19,772	18,980	369	269	25	4	6	7	14	32	46	77	18.2	11.0	0.8	0.3
BAGSHAW ...	55,385	19,639	18,853	391	216	17	7	4	10	9	20	65	114	15.2	13.9	0.9	0.5
BAGSHAW ...	29,729	25,292	27,109	464	266	27	7	7	14	13	35	59	104	16.3	9.7	0.8	0.4
BAGSHAW ...	59,975	9,990	9,560	163	149	13	1	...	4	4	19	19	80	16.3	14.6	1.2	0.7
BAGSHAW ...	22,954	6,559	6,296	97	74	2	No details available.	...	...	...	...	...	...	14.8	11.7	0.7	0.2
BAGSHAW ...	73,123	15,384	17,648	262	243	16	5	2	9	5	33	38	135	19.6	13.7	0.8	1.3
Total ...	864,599	254,030	243,869	4,021	3,154	241	?	?	?	?	?	?	?	15.8	12.9	0.9	0.7
TOTAL URBAN & RURAL.																	
Total URBAN & RURAL ...	102,682	832,755	627,424	10,710	6,726	728	?	?	?	?	?	?	?	16.9	11.97	1.6	0.8
Total URBAN & RURAL ...	864,599	254,030	243,869	4,021	3,154	241	?	?	?	?	?	?	?	15.8	12.9	0.9	0.7
Total ADMINISTRATIVE COUNTY ...	960,631	886,785	671,293	14,736	9,880	969	?	?	?	?	?	?	?	16.6	11.6	1.6	0.8

Name	Age	Sex	Height	Weight	Temp	Pulse	Respiration	Blood Pressure	Hemoglobin	Hematocrit	RBC Count	WBC Count	Differential	Platelets	Sedimentation Rate	Notes
John Doe	25	M	175	70	98.6	72	18	120/80	15	45	4.5	10,000	8,000	250,000	10	
Jane Smith	30	F	160	55	98.4	68	16	110/70	12	40	4.2	9,500	7,500	240,000	12	
Robert Johnson	45	M	180	80	98.8	75	20	130/90	18	48	4.8	11,000	9,000	260,000	15	
Emily White	22	F	155	50	98.2	65	15	105/65	10	38	4.0	9,000	7,000	230,000	8	
Michael Brown	35	M	170	65	98.5	70	17	115/75	14	42	4.4	9,800	7,800	245,000	10	
Sarah Green	28	F	165	60	98.3	67	16	110/70	13	41	4.3	9,600	7,600	242,000	11	
David Lee	40	M	178	75	98.7	73	19	125/85	16	46	4.6	10,500	8,500	255,000	14	
Anna Miller	32	F	162	58	98.4	69	17	112/72	14	40	4.1	9,400	7,400	240,000	12	
James Wilson	42	M	175	72	98.6	74	18	120/80	17	47	4.7	10,800	8,800	258,000	13	
Olivia Taylor	27	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Benjamin Clark	38	M	172	68	98.5	71	17	118/78	15	43	4.5	9,900	7,900	248,000	12	
Maria Evans	29	F	163	59	98.4	68	16	111/71	14	41	4.3	9,600	7,600	243,000	11	
Christopher King	41	M	176	74	98.7	74	19	122/82	17	47	4.7	10,700	8,700	256,000	14	
Isabella Scott	26	F	158	53	98.2	64	15	108/68	11	39	4.0	9,100	7,100	235,000	9	
William Adams	36	M	171	66	98.5	70	17	116/76	15	43	4.5	9,900	7,900	247,000	12	
Grace Baker	31	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Thomas Hall	43	M	177	76	98.8	75	20	128/88	18	48	4.8	11,100	9,100	261,000	15	
Charlotte Young	24	F	156	51	98.2	65	15	106/66	10	38	4.0	9,000	7,000	232,000	8	
Henry Nelson	39	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Amelia Phillips	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Samuel Turner	44	M	179	78	98.9	76	21	130/90	19	49	4.9	11,200	9,200	262,000	16	
Elizabeth King	25	F	157	52	98.2	64	15	107/67	11	39	4.0	9,100	7,100	234,000	9	
George Wright	37	M	172	69	98.5	71	17	117/77	15	44	4.5	10,000	8,000	250,000	12	
Victoria Lopez	30	F	162	58	98.4	68	16	111/71	14	41	4.3	9,600	7,600	243,000	11	
Frank Miller	46	M	180	82	98.9	77	22	132/92	20	50	5.0	11,300	9,300	263,000	17	
Madeline Green	27	F	159	54	98.3	65	15	109/69	11	39	4.0	9,200	7,200	236,000	9	
Harold Brown	40	M	174	71	98.6	73	19	121/81	17	47	4.7	10,900	8,900	257,000	14	
Joseph White	33	M	168	62	98.5	69	16	113/73	14	42	4.4	9,800	7,800	246,000	12	
Rebecca Taylor	29	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Charles Wilson	47	M	181	84	99.0	78	23	135/95	21	51	5.1	11,400	9,400	264,000	18	
Stephanie King	26	F	158	53	98.2	64	15	108/68	11	39	4.0	9,100	7,100	235,000	9	
Robert Hall	41	M	175	73	98.7	74	19	123/83	18	48	4.8	11,000	9,000	260,000	15	
Olivia Scott	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
William Adams	38	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Grace Baker	31	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Thomas Hall	43	M	177	76	98.8	75	20	128/88	18	48	4.8	11,100	9,100	261,000	15	
Charlotte Young	24	F	156	51	98.2	64	15	106/66	10	38	4.0	9,000	7,000	232,000	8	
Henry Nelson	39	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Amelia Phillips	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Samuel Turner	44	M	179	78	98.9	76	21	130/90	19	49	4.9	11,200	9,200	262,000	16	
Elizabeth King	25	F	157	52	98.2	64	15	107/67	11	39	4.0	9,100	7,100	234,000	9	
George Wright	37	M	172	69	98.5	71	17	117/77	15	44	4.5	10,000	8,000	250,000	12	
Victoria Lopez	30	F	162	58	98.4	68	16	111/71	14	41	4.3	9,600	7,600	243,000	11	
Frank Miller	46	M	180	82	98.9	77	22	132/92	20	50	5.0	11,300	9,300	263,000	17	
Madeline Green	27	F	159	54	98.3	65	15	109/69	11	39	4.0	9,200	7,200	236,000	9	
Harold Brown	40	M	174	71	98.6	73	19	121/81	17	47	4.7	10,900	8,900	257,000	14	
Joseph White	33	M	168	62	98.5	69	16	113/73	14	42	4.4	9,800	7,800	246,000	12	
Rebecca Taylor	29	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Charles Wilson	47	M	181	84	99.0	78	23	135/95	21	51	5.1	11,400	9,400	264,000	18	
Stephanie King	26	F	158	53	98.2	64	15	108/68	11	39	4.0	9,100	7,100	235,000	9	
Robert Hall	41	M	175	73	98.7	74	19	123/83	18	48	4.8	11,000	9,000	260,000	15	
Olivia Scott	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
William Adams	38	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Grace Baker	31	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Thomas Hall	43	M	177	76	98.8	75	20	128/88	18	48	4.8	11,100	9,100	261,000	15	
Charlotte Young	24	F	156	51	98.2	64	15	106/66	10	38	4.0	9,000	7,000	232,000	8	
Henry Nelson	39	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Amelia Phillips	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Samuel Turner	44	M	179	78	98.9	76	21	130/90	19	49	4.9	11,200	9,200	262,000	16	
Elizabeth King	25	F	157	52	98.2	64	15	107/67	11	39	4.0	9,100	7,100	234,000	9	
George Wright	37	M	172	69	98.5	71	17	117/77	15	44	4.5	10,000	8,000	250,000	12	
Victoria Lopez	30	F	162	58	98.4	68	16	111/71	14	41	4.3	9,600	7,600	243,000	11	
Frank Miller	46	M	180	82	98.9	77	22	132/92	20	50	5.0	11,300	9,300	263,000	17	
Madeline Green	27	F	159	54	98.3	65	15	109/69	11	39	4.0	9,200	7,200	236,000	9	
Harold Brown	40	M	174	71	98.6	73	19	121/81	17	47	4.7	10,900	8,900	257,000	14	
Joseph White	33	M	168	62	98.5	69	16	113/73	14	42	4.4	9,800	7,800	246,000	12	
Rebecca Taylor	29	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Charles Wilson	47	M	181	84	99.0	78	23	135/95	21	51	5.1	11,400	9,400	264,000	18	
Stephanie King	26	F	158	53	98.2	64	15	108/68	11	39	4.0	9,100	7,100	235,000	9	
Robert Hall	41	M	175	73	98.7	74	19	123/83	18	48	4.8	11,000	9,000	260,000	15	
Olivia Scott	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
William Adams	38	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Grace Baker	31	F	161	57	98.4	67	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Thomas Hall	43	M	177	76	98.8	75	20	128/88	18	48	4.8	11,100	9,100	261,000	15	
Charlotte Young	24	F	156	51	98.2	64	15	106/66	10	38	4.0	9,000	7,000	232,000	8	
Henry Nelson	39	M	173	70	98.6	72	18	120/80	16	46	4.6	10,600	8,600	254,000	13	
Amelia Phillips	28	F	160	56	98.3	66	16	110/70	13	41	4.2	9,500	7,500	242,000	11	
Samuel Turner	44	M	179	78	98.9	76	21	130/90	19	49	4.9	11,200	9,200	262,000	16	
Elizabeth King	25	F	157	52	98.2	64	15	107/67	11	39	4.0	9,100	7,100	234,000	9	
George Wright	37	M	172	69	98.5	71	17	117/77	15	44	4.5	10,000	8,000	250,000	12	
Victoria Lopez	30	F	162	58	98.4	68	16	111/71	14	41	4.3	9,600	7,600	243,000	11	
Frank Miller	46	M	180	82	98.9	77	22	132/92	20	50	5.0	11,300	9,300	263,000	17	
Madeline Green	27	F	159	54	98.3	65	15	109/69	11	39	4.0	9,200	7,200	236,000	9	
Harold Brown	40	M	174	71	98.6	73	19	121/81	17	47	4.7	10,900	8,900	257,000	14	
Joseph White	33	M	168	62	98.5	69	16	113/73	14	42	4.4	9,800	7,800	246,000	12	
Rebecca Taylor	29	F	161	57	98.4	6										