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Cambridgeshire County Council.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

Administrative County of Cambridge

For the Year 1917.

Cambridge.

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GENERAL SANITATION.

Water Supply.—The completion of the scheme of supply by the Cambridge University and Town Waterworks Company from a new site has again been deferred for a year owing to War conditions. This affects Cambridge Borough and seven adjacent parishes in Chesterton Rural District.

The reports on the Rural Districts mainly refer to minor matters. In Linton District an old dug well is being utilised for purposes of public supply at Castle Camps, and a private deep well at Shudy Camps has been purchased for public use.

The following are the results of analysis of samples of water submitted to the Public Analyst :—

		<i>Fit for Drinking Purposes.</i>	<i>Unfit.</i>	<i>Total.</i>
Chesterton R.D.C.	2	—	2	
Linton R.D.C.	2	—	2	
Newmarket R.D.C.	1	1	2	
Swavesey R.D.C.	—	1	1	
Education Committee	—	1	1	
War Agricultural Committee	—	1	1	
Private	8	6	14	
	—	—	—	
	13	10	23	
	—	—	—	

Sewerage, Drainage and Refuse Disposal.—No new important works or schemes have been undertaken.

Pollution of Rivers and Streams.—In Chesterton Rural District the completion of the scheme of sewerage works in connection with the factory at Histon has been delayed owing to difficulty in obtaining materials.

Nuisances and Sanitary Inspection.—The abbreviated reports do not permit any accurate statement to be made, but show that in the present difficult situation the Sanitary Inspectors are doing their utmost to exercise supervision over regulated premises such as slaughterhouses, bakehouses, dairies, etc., and for the remedy of nuisances. Comparison with 1913, however, shows a very considerable reduction in the amount of work carried out, and it is very necessary in the public interest that there should be no further depletion of the ranks of the Sanitary Inspectors without the most careful consideration.

Housing of the Working Classes. The statistics available regarding work done under the Housing (Inspection of District) Regulations necessarily show a very marked shrinkage on pre-war figures. The provision of houses is at a standstill, and it is exceedingly difficult to get necessary repairs executed.

In recent returns to the Local Government Board, the Local Sanitary Authorities furnished estimates of additional houses required amounting in the gross to 800—850 (150 urban, 650—700 rural). These figures probably much underestimate actual requirements, and it would appear that the unsatisfactory condition of many occupied dwellings has been insufficiently recognised. The need for a large increase in the number of houses with three bedrooms has been frequently expressed in the past, the present state of affairs constituting a menace to both health and morals.

The County Council have at present the large question of housing reconstruction under consideration, and are going further into the question of housing their employees, consideration of which was deferred at the outbreak of war.

SALE OF FOOD AND DRUGS ACTS.

County.—The total number of samples taken in the Rural Districts by the County Police and reported upon by the Public Analyst was 118, of which 28 were taken formally and 90 informally. The principal articles sampled were milk 34, butter 14, margarine 12, flour 9, lard and substitutes 8, cake 7 and cheese 5.

Of the 34 samples of milk, 25 were taken informally. Three samples proved not to be genuine. One informal sample was deficient in fat to the extent of 13%, but a subsequent formal sample was certified to be genuine. Two samples of new milk were deficient in non-fatty solids equivalent to 22 and 15% of added water respectively, but no proceedings were taken as it was proved that the milk was as it came from the cow. One informal sample of lard was certified as adulterated with 12% of water, but subsequent efforts to purchase a formal sample were unsuccessful.

Cambridge Borough.—Samples taken for analysis numbered 124, including 31 informal samples. The principal items were milk and skimmed milk 74, butter 17, cheese 8, and cream 6.

The percentage of non-genuine samples, 12 in number, was 9.7, compared with 9.7 in 1916, 8.4 in 1915 and 7.8 in 1914. Eight vendors of 9 samples were prosecuted for selling milk not up to the standard, and one vendor was summoned and fined £5 for refusing to sell to the Inspector, the total amount of fines and costs being £47 9s. 6d., against £35 4s. od. in 1916.

Use of Preservatives in Milk and Cream.—In both urban and rural areas the Public Analyst examined for preservatives all samples taken under the Food and Drugs Acts which are likely to contain them. No preservative was found in the milk samples or in one sample of cream from Cambridge Borough. In the rural area boric acid was present in 5 samples

of butter in quantities varying from 0.20 to 0.40%, and in 12 samples of margarine from 0.30 to 0.40%. In Cambridge Borough this preservative was present in 7 samples of butter and one of margarine in quantities varying from 0.35 to 0.40%, while samples of preserved cream contained 0.40 to 0.45%. There were no prosecutions under the Milk and Cream Regulations.

UNSOUND FOOD.

In Cambridge Borough, including over 24 tons of fruit inspected at the Fruit Pulping Station, over 27½ tons of unsound food were condemned, and one tuberculous carcase in Chesterton Rural District.

PREVENTION OF MORTALITY IN CHILD-BIRTH AND INFANCY.

MIDWIVES ACT.

During the year, 137 routine visits of inspection were paid to midwives by the Inspector, and 52 special enquiries were conducted. A satisfactory standard of efficiency was maintained in the mode of practice of the midwives, and there was no serious infringement of the Rules of the Central Midwives Board.

The following is the number of women who during the month of January notified their intention to practise in the years specified :—

			<i>Trained.</i>	<i>Untrained.</i>	<i>Total.</i>
January, 1906	..	..	24	42	66
„ 1917	..	..	30	13	43
„ 1918	..	..	32	10	42

Including notifications received in 1917 after January, there were practising 54 midwives (41 trained, 13 untrained). Since 1906, notifications from untrained women have decreased by 75 per cent. Midwifery practice by trained

women has increased by 33 per cent. owing to the formation of District Nursing Associations, encouraged by training scholarships from the Higher Education Committee. Owing to War conditions there were no applications for scholarships during 1917.

The midwifery service grants from the Local Government Board are now available for the formation and maintenance of new District Nursing Associations employing a Nurse-Midwife, and are now given for maternity nursing as well as for midwifery service. The grant distributed through the County Nursing Association in 1917 to existing affiliated District Nursing Associations amounted to £115. Progress is being made by the County Association in the task of providing nurse-midwives, 2 new District Associations for 5 parishes having been definitely decided upon, while satisfactory progress is being made towards the formation of 2 other Associations for 5 parishes. For such newly-formed Associations providing Nurse-Midwives, the County Council have promised grants not exceeding half of the annual cost, half of which is recovered from the Local Government Board.

Midwives have returned the total number of cases attended by them during the year, whether as midwife or maternity nurse, as 900, against 1059 in 1916. Of these, 259 were attended in the latter capacity, leaving 641 attended independently as midwives, and the following figures show the proportion of registered births thus attended:—

	Births Registered.		Conducted by Midwives		Percentage of Midwives Cases.	
	1916	1917	1916	1917	1916	1917
Cambridge Borough	991	741	504	439	51	59
Rural Districts	1259	1010	270	202	21	20
Whole County	2250	1751	774	641	34	37

Of the 641 confinements conducted independently by midwives, 578, or 90%, were conducted by trained women, leaving 63, or 10%, conducted by untrained (though registered) women.

Apart from intention to practise and change of address, notifications received from midwives numbered 114, against 129 in 1916. They comprised (a) and (b) advice of medical help for mother 46, for infant 35, (c) still births 14, (d) death of infant (no doctor attending) 3, (e) laying out the dead 13, and (f) liability to be a source of infection 3. It is again satisfactory to note that there was no evidence of sepsis having occurred in cases conducted independently by midwives. The 81 cases in which medical aid was advised constituted approximately 13 per cent. of midwifery cases attended independently, the same proportion as in 1916. Of 15 notified cases of inflammation of the eyes of the infant, only 3 were severe, most of the notifications being precautionary.

INFANT AND MATERNAL WELFARE.

Cambridge Borough.—Under the Notification of Births Act, 1907, which is administered by the Town Council, 701, or 94.6 per cent. of the total births registered were notified, a slight decrease of 0.5 per cent. on 1916. The decrease was in notifications by doctors and parents; those by midwives remained as before.

Infant visitation was continued by the three Health Visitors of the Health League, for whose services a grant is now made by the Town Council. Altogether 4385 visits were paid to 925 infants born in 1916 and 1917, the proportion of infants born in 1917 which were visited being 73 per cent.

Three hundred and eighty-two infants (70 per cent.) were found to be breastfed, 84 (or 15 per cent.) partly breastfed, and 78 (or 14 per cent.) not breastfed at all. In only 3

instances were bottles with long tubes found in use. In 215 instances (nearly 40 per cent.) comforters were used continually, and in 34 instances, occasionally.

The Town Council have now resolved to extend their scheme so as to include ante-natal visitation, payment of midwifery fees to practitioners for necessitous cases of emergency arising in the practice of midwives, provision of beds at Addenbrooke's Hospital for maternity cases requiring special care, and the provision of women home helps through the Health League.

Rural Districts.—The County Council administer the Notification of Births Act for the rural area. During 1917, 958 notifications were received relating to 934 out of 1010 births registered, or 92.5 per cent., a slight decrease of 0.5 per cent on 1916. Notifications by medical practitioners increased from 60 to 64.3 per cent., while those from midwives decreased from 30.5 to 28.7 per cent., and those from relatives from 9.5 to 7 per cent. Complete monthly lists of registered births are also received from Registrars, while the Health Visitors and the Workhouse Masters reported 24 births in 1917.

Home visitation was carried out by the staffs of the County and District Nursing Associations, for advice with regard to expectant and nursing mothers, infants and young children up to school age. During the year first visits were paid to 231 expectant mothers and to 948 infants (including some born in 1916), the average number of visits paid being 3.8 to each expectant mother and 9.3 to each infant. Total visits to mothers, infants and young children were as follows

	<i>Expectant</i>		<i>Up to</i>	
	<i>Mothers.</i>	<i>Infants.</i>	<i>School Age.</i>	<i>Total.</i>
County Health Visitors	142	4778	3036	7956
District Nurses ..	743	4086	3704	7533
	—	—	—	—
Total ..	885	8864	5740	15489
	—	—	—	—

The number of visits paid to infants exceeded the total for 1916, although there were 249 fewer births. By reference to the section on vital statistics in this report it will be seen that the birth rate in both Cambridge and the Rural Districts was lower than the low death rate ; the extreme importance of maternal and child welfare work, therefore, can hardly be over-estimated.

Of 1066 infants born between August, 1916, and August, 1917, 863 (or 81 per cent.) were breastfed. Of these, 741 (or 70 per cent.) were breastfed until the full time for weaning, and the remainder for periods varying from one to six months. In addition 119 (or 11 per cent.) were breast and hand-fed throughout while 84 (or 8 per cent.) were entirely hand-fed, as compared with 8.5 per cent. in 1916. The proportion of infants using comforters was reduced to 24 per cent. from 37 per cent. in 1916, while of 203 infants not entirely breastfed the insanitary long-tubed bottle was used for 12, or 6 per cent. only against 11.5 per cent. in 1916. On the other hand no progress was made in inducing mothers to provide a cradle for the infant, as 85 per cent. slept in bed with the mother compared with 84 per cent. in 1916.

During the year arrangements were completed with Addenbrooke's Hospital for admission to hospital beds, in cases of necessity, of women requiring special treatment, during pregnancy, confinement or the puerperium, and one woman was admitted under this arrangement ; out-patient treatment was also arranged for mothers and young children. It was also agreed to pay the fees of medical practitioners called in by midwives in necessitous cases.

SCHOOLS.

Only a brief reference to sanitary administration in the Schools in the County Education area is called for, as a detailed statement appears in my annual report to the Education Committee.

There was no widespread epidemic during the year. Apart from contagious skin disease, 45 special school visits by the medical staff were necessitated by infectious disease, and 28 schools were closed on the certificate of the School Medical Officer. The School Nurses paid 306 home visits in the same connection. For the bacteriological diagnosis of diphtheria, 252 swabs were taken by the Medical Staff from 21 schools in 21 parishes, evidence of diphtheria being obtained from 6 swabs. Bacteriological examinations for tuberculosis were also made by the Tuberculosis Officer.

ISOLATION HOSPITALS.

There has been no addition to the Isolation Hospital accommodation during the year, and the deficiency in the rural area awaits remedy at the termination of the War. The annual maintenance grants were approved for payment by the County Council in respect of the hospitals provided by the Cambridge Town Council, and by the Newmarket and Melbourn Rural District Councils.

The total number of cases admitted to the respective hospitals were:—Cambridge Borough 350 (including 247 military patients), Newmarket Rural, Exning, 41, Chesterton Rural, Oakington, 9, and Melbourn Rural, Royston, 9. The purchase of a motor ambulance has been resolved upon by the Chesterton Rural District Council.

No arrangement for the accommodation of cases of small-pox had been made by the Chesterton Rural District Council by the end of the year. The course advised is an agreement with Cambridge for the reception of cases into the Borough Small-pox Hospital, as has been arranged by all the other Rural District Councils.

CO-OPERATION WITH MILITARY AUTHORITIES.

This may be exemplified for Cambridge Borough by the statement that 247 military patients were treated in the Isolation Hospital, while 238 rooms and 58,020 articles were disinfected. In Chesterton Rural District much time has been given to supervision of the preparation of food for army contracts, a large industry in this District.

By the County Public Health Department advice has been given on various matters of sanitation and information furnished regarding cases of tuberculosis and other infectious disease. The examination of recruits and discharged soldiers by the Tuberculosis Officer has continued, and sanatorium provision has been made by the County Council for discharged soldiers to an increasing extent through the Cambridgeshire Tuberculosis Colony, formerly at Bourn and now at Papworth.

MENTAL DEFICIENCY ACT.

The limitation of the administration of the Act arising out of financial restrictions imposed by the Treasury and the absence of medical staff on army duties continued through 1917, though the County Council again resolved to provide accommodation for defectives in addition to those for whom the Treasury grant is available.

During the year 13 new statutory cases were brought to the notice of the Committee for the Care of the Mentally Defective, 4 by the Borough Education Committee (3 "in-educable," 1 about to leave a special school), 1 by the County Education Committee as "ineducable," 5 by the Voluntary Association as neglected, 1 by Poor Law Guardians, 1 woman charged with an offence, and 1 transferred by the London County Council. In addition, 3 other "ineducable" cases

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were notified by the County Education Committee, but were not before the Committee till 1918.

The following action was taken with regard to new and reconsidered cases :—Sent to certified institutions 9, placed under supervision of the Voluntary Association 3, not disposed of by the end of the year 2. In addition one case was sent to an institution under the Council's permissive powers, and one was transferred from a certified institution to a mental hospital.

The total number of cases before the Committee up to the end of 1917 was 97. At that date the Council were maintaining 29 statutory cases in certified Institutions, and contributing to the maintenance of one in institutions under their permissive powers, 3 were under guardianship in institutions, and 28 under the supervision of the Voluntary Association, making a total of 61 defectives for whom the Council had assumed responsibility.

Close and valuable co-operation has continued between the Statutory Committee and the Cambridgeshire Voluntary Association. The latter body have continued to provide the services of an Enquiry Officer, and in addition to other duties have carried out those of ascertainment and of supervision for statutory cases.

As the outcome of a conference between the Statutory Committee and the local Poor Law Authorities, the Workhouses at Cambridge, Chesterton, Caxton, and Newmarket have been approved temporarily by the Board of Control for the reception of cases under the Mental Deficiency Act. They provide accommodation for 6 male and 28 female cases of types for which no special training is required.

VENEREAL DISEASES.

The County Council's Scheme for the diagnosis and treatment of venereal diseases came into operation in January

1917, the treatment centre being opened on January 16th. For the information of the public it seems desirable to state concisely the arrangements made.

A treatment centre is established in the out-patient department of Addenbrooke's Hospital, where two specially experienced Medical Officers are in attendance on an afternoon and an evening in each week. There are separate hours for men and women, and every effort is made to ensure privacy. Treatment is free of charge to the patients wherever they live or whatever their means may be.

Beds are set apart in the hospital for the reception of such cases of venereal disease as require in-patient treatment.

Salvarsan substitutes are furnished free of charge to medical practitioners who are experienced in their administration.

Specimens for laboratory diagnosis are examined free of charge by two experienced pathologists at the University laboratories. During the year, 218 specimens were tested for the Wassermann reaction and 76 were submitted for bacteriological examination.

The following statement relates to the work done at the treatment centre.

	<i>County of Cambridge.</i>	<i>Other Counties.</i>	<i>Total.</i>
Out-patients treated ..	92	36	128
Out-patient attendances ..	467	186	653
Aggregate In-patient days	906	261	1167
Patients treated with			
Salvarsan substitutes	32	18	50
Doses of Salvarsan . . .	205	109	314

Of the 92 patients belonging to the Administrative County, 35 were males and 57 females. Of these, 70 were

suffering from venereal disease, 28 males and 42 females, while 7 males and 15 females, total 22, proved to be suffering from other diseases.

During 1917 a Cambridgeshire Branch of the National Council for Combating Venereal Diseases was formed, as the outcome of a conference between the Public Health Committee and various public bodies and voluntary organisations. A grant was made by the County Council to the branch for purposes of an Educational campaign. A commencement was made in Cambridge Borough where a series of lectures approved by the Public Health Committee was organised by the branch.

The lectures, some of which were given by lecturers of the National Council, dealt with both medical and social aspects of the subject, special stress being laid upon the teaching of sex hygiene to the young. Since the close of the year, lectures have been given in some of the larger villages, and further courses in Cambridge and elsewhere are being arranged for.

METHODS OF CONTROL OF TUBERCULOSIS.

Under their amended agreement with the Insurance Committee the County Council undertook throughout the year the provision of home supervision, dispensary treatment, and sanatorium accommodation for both insured and uninsured, including ex-soldiers and ex-sailors.

Tuberculosis Dispensary.—The accommodation proving inadequate owing to the expansion of the work, the dispensary organisation was towards the end of the year removed to more commodious premises at No. 1, Camden Place, Regent Street, Cambridge. During the year also an additional Tuberculosis Nurse was appointed and there are now two nurses engaged exclusively on tuberculosis work.

During the year ending March 31st, 1918, there were examined or treated at or in connection with the Dispensary, 517 new and 420 old cases. Special features were the expansion of after-care work, and of the assistance given to the National Service and Military Authorities by the Acting Tuberculosis Officer, Dr. P. C. Varrier Jones. The latter services include advice regarding the fitness of recruits for military service and regarding the treatment and pensions of discharged soldiers suffering from tuberculosis.

The following figures indicate the volume of work done by the Acting Tuberculosis Officer and Nursing Staff during 1917 :—

1. Visits of Patients to Dispensary :—

Insured persons	668
Contacts	118
School children	561
Non-insured	296
	<hr/>
	1643
	<hr/>

2. Visits to Homes :—

(a) *By Tuberculosis Officer* :—

	<i>Borough</i>	<i>Rural.</i>	<i>Total.</i>
Insured	45	1038	1083
School Children	29	374	403
Other Non-insured	17	722	739
	<hr/>	<hr/>	<hr/>
Total	91	2134	2225
	<hr/>	<hr/>	<hr/>

(b) *By Dispensary Nurse* :—

Insured	574	217	791
Non-insured	560	232	792
	<hr/>	<hr/>	<hr/>
Total	1134	449	1583
	<hr/>	<hr/>	<hr/>

(c) *By General Nursing Staff* :—

Insured	—	562	562
Non-insured	—	891	891
		<hr/>	
Total	—	1453	1453
		<hr/>	
Grand total of home visits	1225	4036	5261

These figures shew an increase of 557 (or 51 per cent.) in the visits by patients to the Dispensary, and of 561 (or 12 per cent.) in visits paid to the homes of patients by the Tuberculosis Officer and total Nursing Staff.

Specimens of sputum examined bacteriologically during the year numbered 141, of which 131 were examined by the Tuberculosis Officer and 10 by Dr. Graham Smith. The tubercle bacillus was found in 33 specimens. X-Ray examinations for diagnostic purposes were commenced by the Acting Tuberculosis Officer, who made 84 such examinations. An assistant was appointed for bacteriological and X-Ray work and for assistance in the office.

Shelters.—Twelve new open-air shelters were purchased bringing the number acquired up to 63. These were loaned to patients living in their homes. Several are now worn out.

Sanatorium Accommodation.—The County Council now provide accommodation for insured and uninsured civilians, including children, up to a maximum occupation of 30 beds, the Insurance Committee being entitled to a minimum of 8 beds. In practice this minimum is always exceeded and patients are accommodated regardless of whether they are insured or not. Discharged soldiers and sailors are accommodated in addition, without limit as to numbers. The following table shows the number accommodated during 1917.

	<i>In Sanat.</i> <i>Jan. 1st.</i>	<i>Admitted.</i>	<i>Discharged.</i>	<i>Total Treated.</i>
Men :				
Ex-Soldiers ..	2	35	21	37
Insured Civilians	10	16	23	26
Non-insured ..	—	—	—	—
Women :				
Insured	1	5	4	6
Uninsured ..	—	7	5	7
Children	1	19	11	20
	—	—	—	—
Total ..	14	82	64	96
	—	—	—	—

The discharges include one death at Brompton Hospital. The above figures show that of 96 persons maintained in sanatoria during the year, 63 were men, 13 women and 20 children. No uninsured men were recommended for sanatorium treatment with the exception of one ex-soldier.

The County Council have not erected a sanatorium, but maintain their patients in voluntary institutions. Practically the whole of the accommodation for male patients is now obtained at the Cambridgeshire Tuberculosis Colony (formerly at Bourn, now at Papworth Everard). Provision within the County area is needed for women and children, and the matter is at present receiving consideration. The institutions to which patients were sent in 1917 were as follows :—

	<i>Soldiers.</i>	<i>Male Civilians.</i>	<i>Women.</i>	<i>Children.</i>	<i>Total.</i>
Cambs. T. Colony	24	26	—	—	52
Brompton Hospital	13	—	3	—	16
Maltings Farm ..	—	—	10	1	11
Holt (Children's)	—	—	—	10	10
Treloar's, Alton ..	—	—	—	7	7

Of patients admitted to Brompton, 2 were transferred to Frimley Sanatorium, and one to Ventnor Sanatorium.

Hospital Beds for Advanced Cases.—For the protection of the public from infection, segregation of advanced cases is of the utmost importance. A very few male cases only were admitted to Brompton Hospital during the year. Cambridge Isolation Hospital is still unable to accommodate cases, but male beds are now provided at the Cambridgeshire Tuberculosis Colony, Papworth. Beds for women and children are urgently required.

Cambridgeshire Tuberculosis Colony.—Up to the end of 1917 this voluntary institution was located at Bourn, and received the great majority of male cases from this County for whom sanatorium accommodation was provided under the County scheme. The annual report of Dr. Varrier Jones the Medical Officer to the Colony, shows that 44 patients were admitted during 1917, of whom 26 were discharged service men, and 18 civilians. The length of treatment varied from three to nine months. Of the 72 cases discharged during 1916-1917, the whole period of existence of the Colony, 62, or 79 per cent., were, in February, 1918, doing full work at their old occupations or at new and more suitable employment, and only 7, or 8.5 per cent., had died. These figures are especially satisfactory in view of the cheap construction of the accommodation, open air shelters only being used, and in view of the fact that "middle" as well as early cases were admitted.

Private benefaction and grants from public sources have rendered practicable the acquisition of much larger premises, and early in 1918 the Colony was transferred to Papworth Hall, in this County. Established on its new basis, the

enlarged institution, when completed, will combine the following features :—

- (a) A Sanatorium for early cases.
- (b) A Hospital for advanced cases and for certain types of surgical case.
- (c) A training colony, providing training in a variety of skilled trades. It is intended to greatly expand the important principle of productive work which was put into practice at Bourn, where patients were employed in carpentry, vegetable culture and open-air tailoring. Other trades have already been established.
- (d) The nucleus of a village centre where ex-patients and their families may reside under an after-care system.

The Colony is at present for male cases only. Twenty beds have been reserved for patients sent by the Cambs. County Council who make a grant in aid. A special feature is the provision of accommodation and training for discharged sailors and soldiers, and practically all accommodation for ex-service men from the County is now sought at Papworth.

Cambridgeshire Tuberculosis After-Care Association.—The principle underlying the work of this Association, as stated by its Medical Officer, Dr. P. C. Varrier Jones, is the subsidising of tuberculous labour. Assistance is given to persons who have received Sanatorium or other treatment, and especially to members of Approved Societies or Friendly Societies, who are unable to earn sufficient wages to provide food, by supplementing their income, obtaining suitable employment and assisting in other ways.

From June 8th to the end of the year, 23 cases were dealt with, 11 being members of Friendly Societies. For 20 out of the 23 cases, suitable employment was found, while two others were provided for by full pensions. Of the 20 for whom employment was found 12 were in February last at full work and no longer in need of assistance, while the other 8 were increasing their working capacity. Grants were made to 19 cases, the average cost being £2 os. 6d. over an average period of 8.2 weeks.

VITAL STATISTICS AND INCIDENCE OF INFECTIOUS DISEASE.

Population.—The Registrar General has again furnished two estimates of the population for 1917, (*a*) for calculation of the death rate, an estimate of the civilian population, and (*b*) for calculation of the birth rate, an estimate of the total population. The figures for the County are as follows:—

	<i>For Birth Rate.</i>	<i>For Death Rate.</i>
<i>Population.</i>		
County of Cambridge ..	129248	115946
Cambridge Borough ..	58280	52282
Aggregate of Rural Districts	70968	63664
 <i>Change from 1916:—</i>		
County of Cambridge ..	+458	-2425
Cambridge Borough ..	+1446	+46
Aggregate of Rural Districts	-988	-2471

Populations of Individual Rural Districts :—

Chesterton	23111	20733
Caxton and Arrington ..	7148	6412
Linton	9725	8724
Melbourn	8413	7547
Newmarket	19965	17910
Swavesey	2606	2338
	<hr/>	<hr/>
	70968	63664

Birth Rate.—The statistics furnished by the Registrar-General are as follow :—

		<i>Birth rate</i>
	<i>Births.</i>	<i>per 1000 living.</i>
Administrative County ..	1751	13.5
Cambridge Borough ..	741	12.7
Rural Districts	1010	14.2

The decrease of nett births on the figures for 1916 was 499 for the whole County, 250 for Cambridge Borough and 249 for the rural area. The birth-rate in Cambridge was but little above the low death-rate, while in the rural area the death-rate actually exceeded the birth-rate, the natural increase of the population of the County as a whole being reduced to a narrow margin. The rates for the rural Districts, from highest to lowest, were :—Newmarket 15.1 (302 births), Melbourn 14.3 (120), Swavesey 14.2 (37), Chesterton 13.9 (322), Linton 13.9 (135), Caxton and Arrington 13.4 (96).

The following figures show the decline in births since 1914, the last year uninfluenced by the War :—

	<i>Number of Births.</i>			<i>Birth Rate.</i>		
	<i>Boro.'</i>	<i>Rural.</i>	<i>Total.</i>	<i>Boro.'</i>	<i>Rural.</i>	<i>Total.</i>
1914 ..	996	1393	2389	.. 17.4	19.1	18.3
1915 ..	997	1315	2312	.. 17.4	18.9	17.7
1916 ..	991	1259	2250	.. 17.4	17.5	17.5
1917 ..	741	1010	1751	.. 12.7	14.2	13.5
	<hr/>	<hr/>	<hr/>			
Decline from 1914 to 1917.	255	383	638	.. 4.7	4.9	4.8

The birth-rate thus remained unaffected by War conditions in Cambridge during 1915 and 1916, while it declined in the rural area, but the heavy drop in the number of births in 1917 was common to both urban and rural areas. The decline in the 1917 birth-rate, compared with 1914, has been slightly more marked in the rural area than in Cambridge. Compared with the births in 1914, there has been a total loss of 854 births in the Administrative County during the three past years of the war.

There were 123 *illegitimate* births in the Administrative County, 57 in Cambridge, 66 in the rural area, compared with 72 in Cambridge, 68 in the rural area, and 140 total, in 1916. Owing to the decline in total births, these figures represent an increase, and not a decrease, in the proportion of illegitimate births. The rates of illegitimate births per 100 total births were 7.7 in Cambridge, 6.5 in the rural area, and 7.0 in the Administrative County. The increase of illegitimacy per cent. of total births compared with 1916, was 0.5 in Cambridge, 1.1 in the rural area, and 0.8 in the whole County. Expressed as births per 1000 of the population, the illegitimacy rate for the County for 1917 was 0.95 against 1.09 in 1916.

In the whole County 14 *still-births* were notified by midwives under the Midwives Act, or 2.2 per cent. of the cases attended by them, against 2.5 in 1916. In Cambridge Borough, 20 still-births were notified under the Notification of Births Act, or 2.7 per cent. of the births registered. In the rural area, 26, or 2.8 per cent of births notified under the Notification of Births Act, were still-births, and, omitting duplicates, two others were notified under the Midwives Act. As far as is known, therefore, from these two sources, the proportion of still-births to births registered in the rural area, was 2.8 per cent.

Death-Rate from all Causes.—Statistics relate to the civilian population only. After allowing for deaths away

from the usual place of residence, the nett death-rate for the whole County was 13.6 per 1000, as against 14.4 in 1916. The rates for the urban and rural areas were 12.1 and 14.9 respectively, a reduction of 0.9 and 0.6 per 1000 on the mortality for 1916. The death-rate for Cambridge was 2.5 below that for the Great Towns (14.6) ; there is no comparative figure available for the rural area.

The total number of deaths in the whole County was 1581 (Cambridge 634, Rural 947), being 127 fewer than in 1916. There were fewer deaths from whooping cough, influenza, bronchitis and other respiratory diseases, congenital debility, diphtheria, and "other defined diseases." There was no serious increase in deaths from any cause. Only one death was registered as due to alcoholism, while deaths from cirrhosis of the liver, attributable to chronic alcoholism, numbered 8, as against 14 in 1916. After allowing for decreased population, there is nothing to suggest increase of intemperance.

Infant Mortality.—The number of deaths under one year, 109 (urban 53, rural 56), was 46 fewer than in 1916, being in the proportion of 62 deaths per 1000 *births*. The corresponding rate for Cambridge was 71, against 104 for the Great Towns, and that for the rural area was as low as 55 deaths per 1000 *births*. The average annual number of deaths per 1000 *births* occurring during the six years 1908–1913, viz., 80, fell to 76 during the first three years of the War, 1914–16, and as low as 62 in 1917. Occurring during War conditions, this is decidedly a matter for congratulation.

The principal features were the low mortality from diarrhoea, the absence of deaths from whooping cough, and the reduction in mortality from respiratory diseases and from the congenital debility group. Deaths from the latter group being a valuable guide to progress, it is satisfactory to note that they fell from an annual average of 38.2 deaths per 1000 *births* during 1908–1913, the six clear years preceding the

War, to an annual average of 31.3 during the 4 years of war, 1914—1917 (a reduction of 18 per cent. under War conditions) and to 26.2 in 1917.

— *Infectious Diseases.*—Excluding tuberculosis and measles, there was a very satisfactory reduction in notifications of infectious disease among the civilian population, from 413 in 1916 to 266 in 1917, due practically to the decline in prevalence of scarlet fever and diphtheria in both urban and rural areas. There were comparatively few cases of other dangerous notifiable infectious diseases. There were no deaths from measles, and the mortality from tuberculosis was identical with that of the preceding year.

Including non-notifiable diseases such as whooping cough, influenza and diarrhoea, and excluding tuberculosis, the deaths from the principal infectious diseases fell from 104 in 1916 to 57 in 1917.

Small-pox.—No case was notified. The decline in protection by vaccination continues. This may be exemplified by the experience at baby shows in the rural districts, where it was found that of 40 infants under 6 months, 37 or 92.5%, were unvaccinated, and that of 101 children aged 6 months to 2 years, 68, or 67.3%, were unvaccinated. Dr. Armistead states that in Newmarket Rural District nearly 50 per cent. of children are exempted from vaccination, and in Linton Rural District more than 40 per cent. In view of the prevalence of small-pox in various parts of the world, and of the huge homeward movements of troops which will follow the end of the War, the situation is one of undeniable danger.

Scarlet Fever.—The number of notified cases fell from 173 in 1916 to 119 in 1917, yielding a notification rate of 1.03 per 1000 of the population, compared with 1.35 for the Administrative Counties of England and Wales. Outside Cambridge the incidence was mainly in the two largest Rural Districts, Newmarket and Chesterton. There were no deaths from scarlet fever.

Diphtheria.—The number of notified cases fell from 145 in 1916 to 58 in 1917, yielding a sickness rate of 0.50 cases per 1000 living, compared with 1.16 for Administrative Counties. In Cambridge Borough only 30 cases were notified, against 104 in 1916, and in the rural area 28 against 41 in 1916. Deaths numbered 7 (Cambridge 4, rural area 3), against 16 in 1916. The mortality rate for the whole County, 0.06 per 1000 living, was less than half that for England and Wales (0.13). The rate for Cambridge Borough, 0.08 per 1000 living, compares favourably with that for the Great Towns (0.13), while that for the rural area, 0.40 per 1000, was only half that for Cambridge.

Enteric Fever.—Nine cases were notified, against 6 in 1917, the notification rate being 0.08 per 1000 living, half that (0.16) for Administrative Counties. With one exception, the whole of the notifications were from the Newmarket Rural District, 6 being from a parish for which a scheme for improved water supply is in abeyance owing to the War. There were no deaths.

Erysipelas.—There were 41 notified cases, with one death, against 55 notifications in 1916. The sickness rate, 0.35 per 1000 living, was again practically identical with that for Administrative Counties (0.34).

Puerperal Fever.—There were 8 notified cases, yielding a sickness rate of 0.07 per 1000 living, against 0.03 for Administrative Counties. Six notifications from two adjoining parishes in Chesterton Rural District account for this sudden rise from 0.02 in 1916. Of these, 5 were notified as sapraemia, and there is good reason to believe that some of these, at any rate, were not true puerperal sepsis. There were 2 deaths, urban 1, rural 1, attributed to puerperal fever.

Diarrhoeal Diseases.—Nine deaths occurred from this cause under two years of age, against 7 in 1916. Six were in

Cambridge and 3 in the rural area. The death-rates per 1000 *births* were 5.14 for the County (England and Wales 12.18), 8.10 for Cambridge (16.14 for the Great Towns), and only 2.97 for the rural area. There is no comparative figure available for Rural England and Wales, but the mortality rate for Rural Cambs. is obviously low. The excessive rainfall during the third quarter of the year tended to keep diarrhoea prevalence at a low level, but on the other hand the mean temperature was above the normal. It may fairly be assumed that administrative action was a contributing factor to the low incidence of diarrhoeal diseases, with consequent saving of infant life.

Whooping Cough.—Following upon the heavy mortality due to the outbreak in 1916, there were no deaths from this disease in 1917.

Measles.—There were no deaths from this disease, which was epidemic in 1915. The number of notifications of measles and German measles received from practitioners and parents in 1917 was 554.

In Cambridge Borough, Dr. Laird reports that the arrangements made with the District Nursing Association for nursing selected cases in their homes has proved extremely helpful; the 30 cases nursed all recovered. The more effective control of measles in the rural area through the health visitation scheme, is now under consideration by the County Child Welfare Committee.

Acute Poliomyelitis (Infantile Paralysis).—Nine notifications were received, 6 in Cambridge Borough and 3 in the rural area, not more than one notification in any one rural district. One rural case was that of a visitor from London. One death occurred in Cambridge Borough.

Cerebro Spinal Meningitis.—Three cases were notified from Cambridge Borough and one death occurred. Two

were notified from rural districts ; one was verified bacteriologically, while the other was eventually diagnosed post-mortem as tetanus.

Under the Public Health (Cerebro-Spinal Fever) Regulations, 1918, the County Council have arranged for the services of a consultant, and for the provision of serum.

Pulmonary Tuberculosis.—The total number of civilian primary notifications received (Form A) was 243 or 2.09 per 1000 of the population, identical with the rate for 1916. After deducting 12 duplicates, 231 notifications of new cases remain against 240 in 1916, yielding an incidence rate of 2.00 per 1,000 living, against 2.03 in 1916.

The number of deaths registered from this cause was 131, (140 in 1916) of which 50 occurred in Cambridge Borough (62 in 1916), and 81 in the rural area (78 in 1916), yielding mortality rates of 1.13 per 1000 for the Administrative County, 0.96 for Cambridge, and 1.27 for the rural area.

Tuberculosis of other Organs.—The number of notifications of tuberculosis of other organs received during 1917 was 107, compared with 99 in 1916. These yield a notification rate of 0.92 per 1000 living. There were 7 duplicate notifications. The deaths numbered 36, of which 20 occurred in Cambridge Borough and 16 in the rural area, yielding mortality rates of 0.31, 0.38 and 0.25 respectively per 1000 living.

Cancer.—There were 198 deaths attributed to cancer, against 199 in 1916. Of these 85 occurred in Cambridge Borough and 113 in the rural area. The proportion of deaths per 1,000 living was 1.71 in the whole County, 1.62 in the urban and 1.77 in the rural area. The corresponding crude rate for England and Wales for 1916 was 1.17 per 1,000 living.

Respiratory Diseases.—There were 220 deaths from non-tubercular diseases of the respiratory organs, 39 fewer than in 1916. The principal decrease was in bronchitis, deaths

from pneumonia showing a slight increase. The mortality rate for the whole County was 1.89 per 1,000 living (2.18 in 1916) and for the urban and rural areas 1.70 and 2.05 respectively.

Ophthalmia Neonatorum.—There were 19 notifications, against 24 in 1916; 14 were in Cambridge Borough and 5 in the rural area. Of 15 cases notified under the Midwives Act, 3 were severe. One was definitely due to gonorrhoea, and the death of one child was attributed to septic infection.

FRANK ROBINSON,
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County Hall,
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most important thing is to be sure
the results show. On the other hand
it is not the only thing that
matters.

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THANK YOU FOR
YOUR KINDNESS

Yours truly,
[Signature]