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Gloucestershire County Council.

8TH JANUARY, 1923.

ANNUAL REPORT

OF

The Medical Officer of Health

FOR THE

ADMINISTRATIVE COUNTY OF GLOUCESTER

FOR 1921.

SHIRE HALL, GLOUCESTER,

4TH OCTOBER, 1922.

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Gloucestershire County Council.

ANNUAL REPORT, 1921.

HEALTH DEPARTMENT,
SHIRE HALL,
GLOUCESTER,
4th October, 1922

To the Chairman and Members
of the Public Health and Housing Committee.

GENTLEMEN,

This report, which I laid before you in draft at your meeting on the 23rd September, is my Twentieth Annual Report: Again it is late, the reason, as usual, being the delay in the receipt of the reports for several districts.

There was no general prevalence of infectious disease but restricted outbreaks of diphtheria occurred, particularly in the south of the county ; in connection with one of them, use was made of a recent discovery which strengthens our methods in dealing with this disease. It consists in a serological test of the susceptibility of individuals, and in a process of active immunisation of the susceptible, somewhat comparable to vaccination for smallpox. The birth-rate (19.9 per 1,000) as anticipated, did not keep at the high figure of 1920 (23.8 per 1,000). but fell back to that of ten years ago. The death-rate (12.0) is slightly less than in 1920, and is the lowest recorded. The infantile death-rate remains low, and evidences the very useful work undertaken by the nurses in the county.

During the year the constructional work at Standish House was so far completed that the first patients were admitted on 7th January, 1922 ; at the time of writing this report 129 patients were in residence ; 92 adults, suffering from recognisable tuberculosis and 37 children, for care and observation.

Under the housing schemes of the various District Councils, 1,061 houses had been completed by the end of 1921, and a further 171 were erected otherwise during the year. At the pre-war rate of building this left a deficit of about 1,300, and at least this number is required; as an example of the present conditions the circumstances of Kingswood may be mentioned where there are 300 houses with two or more families. Much might be done to improve housing conditions by expediting the systematic survey and securing the renovation and repair of unsatisfactory houses. An example of what can be done is instanced in the report by a note on the rescue of derelict property through the generosity of a Gloucestershire man, Sir Philip S. Stott.

Notes on matters relating to water supply, sewerage, etc., are given in the report, but owing to restriction on expenditure there is little progress to relate. For the same reason the scheme for the extension of medical services has not been so generally useful as was arranged, but experience has proved that the basis of the scheme is thoroughly sound, and as it developes there can be no doubt but that the advantages anticipated will be fully realised.

I have the honour to remain, Gentlemen,

Your obedient servant,

J. MIDDLETON MARTIN,
County Medical Officer of Health.

PRELIMINARY NOTE ON POPULATION, &c., OF GLOUCESTERSHIRE.

The Preliminary Report of the Census taken on 19/20 June, 1921, showed the population of the Administrative County to be 329,277, or 1/115 of the population of England and Wales. With the Cities of Bristol and Gloucester, the population was 757,668, or almost exactly 1/50 of that for England and Wales.

In view of the issue of this Report a short statement of the variation in population of the County as a whole and in its constituent parts in former periods will be of some interest. The earliest estimates available are those of Domesday, and the next are those in Rudge's "Gloucestershire, its Farms and Farming," for 1700 and 1770; from 1801 onwards the census figures are available. The Domesday population of the Country as a whole is estimated at 1,500,000 and of Gloucestershire as 50,000, which thus in 1085 contained about 1/30 of the total population.

The estimate of the area of the County in 1700 was 669,213 acres, whereas the census figure (1901) was 786,016 acres. In 1801 the area of the Administrative County contained about 1/50 of the population of the country, and the ancient County about 1/35, the figures for 1901 being 1/100 and 1/51 respectively.

Owing to the fact that Rudge gives information as to population in great detail—not only for hundreds but for the constituent parishes and hamlets grouped in each hundred—it has been possible to prepare tables showing the population of nearly every parish in the Administrative County from 1700 onwards. Incidentally it may be mentioned that while there have been some changes in boundaries, these have been remarkably few—very much fewer than might have been expected, though the groupings of parishes have been varied and there has been some interchange from County to County.

The Poor Law Unions in which the population has increased most considerably since 1700 are :—

	Comparative Figures (taking population in 1700 *as* 100.		
	1801.	1901.	1921.
Cheltenham Union	168	1,579	1,581
Warmley Union	354	1,189	1,338
Monmouth Union (West Dean R.D. and Coleford U.D.	193	596	685
Westbury-on-Severn Union	162	425	434
Chepstow Union (Lydney R.D.)	141	346	394

and least

Northleach Union	156	158	147
Shipston-on-Stour Union (Campden R.D.)	124	139	139
Winchcombe Union	113	131	134
Stratford-on-Avon Union (Marston Sicca R.D.)	111	112	131
Dursley Union	128	109	118

Of the separate sanitary districts for which information is available from 1700, those with largest increases are :—

	Comparative Figures (taking population in 1700 *as* 100)		
	1801.	1901.	1921.
Cheltenham M.B.	206	3,290	3,222
Warmley R.D. plus Kinsgwood U.D. ...	354	1,189	1,338
Charlton Kings U.D.	133	672	792
West Dean R.D. plus Coleford U.D. ...	193	596	685
East Dean R.D.	172	591	606

and those with lowest increases—

Campden R.D.	124	139	139
Winchcombe R.D.	113	131	134
Tetbury U.D.	208	165	133
Marston Sicca R.D.	111	112	131
Dursley R.D....	128	109	118

Comparing the aggregate population of the Urban and Rural Districts (Coleford, Nailsworth and Kingswood being included for this purpose in their surrounding Rural Districts), the Urban population has increased from 100 to about 500, and the Rural population from 100 to 259 ; in the same 220 years the population of the Administrative County has increased from 100 to 293.

Information has not been got out in the same detail for the different parishes in the County, but the following cases are very interesting :—

1. The population of Forest Lands which embrace the townships of East Dean and West Dean is given as 48 in each of the years 1700 and 1770, increasing to 3,325 in 1801; by 1911 the combined population of these two townships was over 25,000.

2. The increase of the population of Cheltenham from 1,500 in 1700 and 1,433 in 1770, to 48,942 in 1911, is shown census by census from 1801 in the following table :—

1801	...	3,076	1861	...	39,693
1811	...	8,325	1871	...	41,923
1821	...	13,396	1881	...	43,972
1831	...	22,942	1891	...	47,121
1841	...	31,411	1901	...	49,439
1851	...	35,051	1911	...	48,942

Some 30 agricultural parishes were picked out more or less haphazard to show the different periods at which the parts of the County in which they are situated reached their zenith in the matter of population. It would appear that the maximum was reached generally about 1841 and 1851, though in certain parts it was a decennium earlier or later.

There is another aspect of population which is of special interest, namely, the division between the two sexes in a period succeeding the biggest war of the world. Information on this point is available from 1801 for the ancient County as well as for England and Wales as a whole, and is summarised in the following table :—

	Nos. of Females per 1,000 *Males at the Census taken in*		
	England and Wales.	*Gloucestershire.*	
1801...	1,057	1,140	(Ancient County)
1811...	1,054	1,148	„ „
1821...	1,036	1,092	„ „
1831...	1,040	1,091	„ „
1841...	1,046	1,100	„ „
1851...	1,042	1,100	„ „
1861...	1,053	1,121	„ „
1871...	1,054	1,116	„ „
1881...	1,055	1,123	„ „
1891...	1,064	1,142	(Registration County)
1901...	1,068	1,150	„ „
1911...	1,068	1,157	„ „
		1,143	(Administrative County & Assd. County Boroughs.
1921...	1,095	1,143	„ „ „

From this it would appear that the disproportion has been greater invariably in Gloucestershire than in the country as a whole ; while, however, this disproportion was increased considerably in England and Wales as between 1911 and 1921 (to a maximum of 1,095 females per 1,000 males in 1921) the proportion in the Administrative County and associated County Boroughs remained at the same figure in 1921 that it was in 1911, namely, 1,143.

The proportions have also been worked out for the constituent Urban and Rural Districts for 1911 and 1921. There was an excess of males in five districts in 1911, but in only three districts in 1921, the greatest excess being in West Dean and in East Dean at each census. As regards the Administrative County as a whole the female proportion per 1,000 males had increased from 1,103 (1911) to 1,117 (1921) ; in the Urban Districts alone it fell from 1,260 to 1,252.

The highest proportion of females is in Cheltenham, where it reached the extraordinarily large figure of 1,417 females per 1,000 males in 1911, though this fell to 1,385 in 1921. The areas with excess of males in 1911 were :—

	Females per 1,000 *Males.*	
	1911.	1921.
Westbury-on-Severn U.	996	981
East Dean R.	945	958
Northleach R.	942	1,007
Pebworth R.	975	1,052
Stow-on-the-Wold R.	999	1,062
West Dean R.	908	917

In the aggregate of Urban Districts the proportion of males increased very slightly as between 1911 and 1921, the number of females per 1,000 males decreasing from 1,260 to 1,252 ; the reverse is the case in the Rural Districts, where the females increased proportionately from 1,045 to 1,063, and in the Administrative County as a whole from 1,103 to 1,117.

VITAL STATISTICS 1921.

Estimates of Population for Calculating Birth and Death Rates.

The estimates of population for calculating birth and death rates for 1921 given by the Registrar-General are based on the census taken for the night of 19–20 June, 1921. So far as the aggregate of Urban Districts are concerned the variation in

population as between 1911 and 1921 was comparatively small, and the change in the basis for the calculation of rates is very slight; in the aggregate of Rural Districts the populations estimated for the later years of the past decennium are shown by the census figures to be 2 to 3% low, and the rates calculated on those figures will need some little correction. For the first time since 1914 the same populations are used for calculating both birth and death rates for all districts in the County.

TABLE 1.

	1911. *Census.*	1921. *Census.*	1921. *Estimates.*
Urban Districts...	100,419	99,280	98,976
Rural Districts	228,545	229,997	229,796
Administrative County	328,964	329,277	328,772

BIRTH RATES.

The way this rate has varied from year to year since 1910 is shown in the following table :—

TABLE 2.

BIRTH RATES.

Revised on 1911 Census.

	1921	1920 *	1919 *	1918 *	1917 *	1916 *	1915 †	1914	1913	1912	1911	1910
Urban	18.8	23.2	15.5	13.4	13.7	18.0	17.3	17.6	18.3	17.6	20.0	20.2
Rural...	20.3	24.0	16.7	16.0	15.1	17.8	18.35	19.2	20.2	20.2	20.9	21.3
Administrative County	19.9	23.8	16.4	15.2	14.7	17.9	18.0	18.75	19.6	19.4	20.6	20.95
England and Wales...	22.4	25.4	18.5	17.7	17.8	21.6	21.9	23.8	24.1	23.9	24.3	25.1

* The rates are based on the estimate of total population as explained in the text.
† The rate for 1915 is based on the estimate of the total population for 1914.

Between 1893 (the earliest record I have) and 1914 the birth rate fell more or less steadily from 26.3 to 18.75; during the war years there was a much more rapid reduction, reaching the very low rates of 14.7 in 1917 and 15.2 in 1918. In 1919 there was a slight recovery to 16.4, followed in 1920 by a sudden rise to 23.8, which approximates closely to the rate obtaining twenty years ago. As anticipated in many quarters, this high

rate was not maintained in 1921, when the birth rate fell to 19.9, practically the same low figure as that obtaining ten years ago, immediately before the war. As between 1901–10 and 1911–20 there was a drop of nearly 20% in the aggregate of both Urban and Rural Districts. The areas of highest birth rate were the mining districts on the west of the Severn and the districts in the neighbourhood of Bristol; the same high position was maintained in the former during 1911–20, but Kingswood Urban District and Warmley Rural District, on the borders of Bristol, experienced a marked reduction in the second decennium; the difference, presumably, was due to the greater abstraction of men for war service from this area than from the collieries in the Forest.

The rates for the respective districts in 1921 are given in Table 1 at the end of this Report.

ILLEGITIMATE BIRTHS.

In 1906 the proportion of illegitimate births to total births was 3·3%. During the subsequent eight years it ranged round 4%, but during the war period it rose steadily year by year to 7.6% in 1919; the following year it decreased suddenly to 4.8% and was practically the same figure in 1921 (4.7%).

DEATH RATES.

The following table gives a summary of the variations in the death rates in the Urban and Rural Districts and in the County as a whole from 1910 to 1921.

TABLE 3.

DEATH RATES.

Revised on Census 1911.

	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910
Urban	13.0	12.5	14.4	17.2	16.1	15.4	16.9	13.7	14.1	12.6	14.1	12.6
Rural...	11.6	12.0	13.8	15.5	14.6	14.6	14.8	12.2	12.6	12.6	13.0	12.9
Administrative County	12.0	12.2	14.0	16.0	15.0	14.9	15.4	12.7	13.05	12.6	13.3	12.8
Ditto, corrected for Sex and Age Distribution	—	—	—	—	13.1	13.0	13.4	11.1	11.4	11.0	11.6	11.1
England and Wales	12.1	12.4	13.8	17.6	14.4	14.0	14.8	13.6	13.4	13.0	14.3	13.2

In the ten years prior to 1902 the rate ranged from 14 to 15 deaths per 1000 of the population, with a phenomenally low rate of 13.2 in 1898 ; it again fell to that figure in 1903 and 1904, and the tendency on the whole was downward to 12.6 in 1912 and 12.7 in 1914, the lowest rates recorded before the war. During the war period there was a distinctly higher mortality, the rate ranging round 15 per 1,000 for the three years 1915–17, rising to the very high figure of 16 per 1,000 in 1918, mainly owing to the influenza epidemic ; in 1919 the rate fell suddenly to 14 per 1,000, with another big drop in 1920 to 12.2 per 1,000. That low rate was not only maintained in 1921, but was reduced even lower to 12.0. Comparing the two decennia 1901–10 and 1911–20, in spite of the extraordinarily high death rates of the war years, the average death rate was reduced from 13.5 in 1901–10 to 13.3 in 1911–20.

An analysis of the causes of death in these two periods has been made, and the results are shortly summarised in the following table :—

Figures showing percentages of Total Deaths.

	1901–10.	1911–20.
Acute infections	3.9	3.1
Influenza	1.9	4.2
Tuberculosis	8.6	8.0
Cancer	7.1	9.1
Respiratory diseases	14.7	13.5
Diarrhœa, &c.	2.2	1.3
Alcoholism and cirrhosis of liver ...	0.9	0.8
Parturition	0.7	0.6
Congenital conditions	2.9*	4.6†
Violence, including suicide ...	3.6	3.3
Other causes	53.6	51.4

* Premature birth only.
† Congenital conditions including premature birth.

In the earlier period more than half of the deaths (53.6%) were included in other causes ; for comparative purposes the deaths are distributed under the same grouping, but the actual proportion now included under other causes is reduced to 35%, a further 16% being distributed under new specified headings such as organic disease of the heart, nephritis, etc. From the above table it will be seen that in 1911–20 influenza contributed more than twice the proportion that it did in 1901–10, almost solely due to the pandemic of this disease in 1918–19 ; encouraging

signs in the table are the fall in the proportions attributed to acute infectious diseases, tuberculosis and diarrhœa. Excluding the rise from influenza, the most striking increase is the proportion of deaths recorded as being due to cancer, from 7.1% in 1901–10 to 9.1% in 1911–20; the increasing importance of this cause of death as those from other causes fall is shown in the following statement with respect to three diseases :—

	Deaths per 1,000 *of the Population.*	
	1901–10.	1911–20.
Tuberculosis (all causes)	1.17	1.06
Bronchitis	1.08	0.90
Cancer	0.96	1.21

Sufficient data for reliable conclusions on these results are not available, but the records for the two decennia are being analysed, and it is hoped that their examination may yield some useful information. It is significant, however, that the numbers of deaths at all age groups below 65 years were the lowest on record except those under one year and between 15 and 25; even for these two age groups the numbers were low. Malignant growths, including cancer, are almost peculiar to old age, and the longer death is postponed the more likely is cancer to predominate in the death returns.

Infantile Mortality.

The actual number of deaths of infants under the age of one year was 394, the same as in 1919, but 38 less than in 1920. Though the actual number of deaths is less, the infantile mortality figure is higher, as this rate is calculated on the number of births, which were many fewer in 1921. The way in which the apparent paradox is reached is shown by the following figures :—

	Births.	*Deaths under one year.*	*Infantile Mortality.* (*Deaths per* 1,000 *births during year.*)
1919	5,275	394	75
1920	7,658	432	56
1921	6,528	394	60

The variations in this rate year by year since 1912 are shown in the following table, the favourable position of the County, compared with the country as a whole, being clearly exhibited.

INFANTILE MORTALITY.

TABLE 4.

	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912
Urban	63	60	80	62	82	66	89	72	90	70
Rural	59	55	73	72	70	67.5	83.5	76	67	73
Administrative County	60	56	75	70	73	67	85	75	73	72
England and Wales	83	80	89	97	97	91	110	105	108	95

The slight rise for the County as a whole is generally followed in the constituent districts, though not in every case, as with small numbers there are bound to be accidental variations. Taking periods of years, *e.g.* comparing the average rates for 1911–20 with those for 1901–10, there is a marked fall, averaging 17%, in practically every district. The only exceptions are the comparatively small districts of Nailsworth U.D., and Newent, Pebworth, Tewkesbury and Winchcombe R.D., probably still due to accidental variation.

A preliminary examination of the causes of death show that the above reduction in infantile mortality has been due to decreased numbers of deaths of infants under one year of age from diarrhœal diseases, premature birth and wasting diseases, and respiratory diseases—all of them conditions which are susceptible to reduction by increased and more intelligent care of the delicate human organism at this early age. The share attributable to the different agencies, particularly health visitors and district nurses, cannot be nicely calculated, but as stated last year I incline to the view that the satisfactory improvement should be mainly credited to the work of district nurses who, in this County, are mostly undertaking health visiting on behalf of the County Council. The influence of Maternity and Child Welfare Centres and of the whole-time County Health Superintendents is also of great importance ; the former are not sufficiently numerous in this County to have affected the gross result to any great extent, but the work of the Health Superintendents in stimulating and encouraging the District Nurses is, I believe, of very great value. Assuming my conclusion to be correct—and I have considerable confidence in believing it to be so—in it we have a most instructive object lesson. One of the great aims

of public health work must be, in the ultimate result, the improvement of the circumstances of home life generally, and the problem before us is how it can be effected. The District Nurse enters the home under the most favourable conditions as a welcome friend, and her personal influence has very great weight with the home-maker ; that it has already been exerted so usefully in the manner above indicated cannot be taken otherwise than as encouragement to enlarge the opportunity. The direction in which it would appear that this can most usefully be undertaken is undoubtedly making the position of District Nurse sufficiently attractive to induce suitable educated women to adopt it as their profession and to give them such a thorough training in health matters as to enable them to use their opportunities as district nurses to the greatest advantage. In this way there can be no doubt that we can greatly develop our powers in the prevention of ill-health and disease, and that we shall see the result not only with respect to infantile mortality but also in the reduction of fatality due to measles, tuberculosis, respiratory diseases, etc. Without such assistance, the work of the medical profession and of local authorities cannot be completely effective.

MATERNITY AND CHILD WELFARE.

The arrangement of the County Scheme was given fully in my Report for 1918 (p. 10). The further progress of the work covered during 1921 is indicated in the following paragraphs :—

1. Notification of Births.

There appears still to be some leakage in the notification of births, but it is difficult to find out where it occurs. The number of births registered, but not notified, received from the Registrars during 1921 was only 318, or 4.9% of total births registered. The proportion actually notified during 1921 was 90.4%. The figures year by year are :—

	Births registered.	*Births notified.*	*Percentage notified.*
1916	5,852	4,620	78.9
1917	4,786	4,261	89.0
1918	5,001	4,504	90.0
1919	5,275	4,805	91.1
1920	7,658	6,767	89.7
1921	6,528	5,898	90.4

The attention of persons in attendance on women at their confinements who are irregular in notifying births is drawn to the legal provisions requiring such notification and to the objects thereof.

As the births are notified cards are sent to the respective health visitors who keep the children under supervision till they enter some school, and then the records are passed on for the use of the Education Authorities.

2. Provision of Midwives.

There are now 107 District Nursing Associations providing midwifery services for 282 of the 354 parishes in the County ; independent midwives practise in 33 further parishes. The parishes without the services of certified midwives are 39, with a population of 17,503 ; in 1907 the number of unprovided parishes was 120. The improvement in the resources of the County in this respect is in very great measure due to the activities of the County Nursing Association which, initiated in 1905 with 27 affiliated District Nursing Associations, had increased the number to 100 by the end of 1922, providing services for 261 parishes with a population of 251,065.

3. Medical Assistance for Certified Midwives.

The proportion of cases in which medical help is sought by certified midwives has increased from 10.1% for conditions of the mother and 2.0% for the baby in 1906–15 to 15.2% for the mother and 3.5% for the child in 1921. The following table shows the proportion of cases in which the fees of the doctors have been paid by the County Council in whole or in part, and the amount :—

	Notices of Medical Help.	*Claims Received.*	%	*Amount of Claims.*	*Paid by Patients.*	*Paid by County Council*
1917	... 412	Nil	—	—	—	—
1918	... 437	12	2.7	£27 15 0	£7 12 0	£20 3 0
1919	... 542	151	27.8	296 7 0	72 13 6	223 13 6
1920	... 822	217	26.4	433 15 0	112 15 6	320 19 6
1921	... 767	276	36.0	539 7 6	99 10 9	439 16 9

4. Health Visiting.

The steady increase in the amount of work done is shown by the following table :—

	Births referred to Visitors.	*First Visits.*	*Total Visits.*
1916 (From 1st April)	1,472	1,857	3,735
1917	3,650	3,320	13,359
1918	4,019	3,461	23,818
1919	4,408	3,799	28,817
1920	5,969	5,552	38,396
1921	5,112	6,291	48,730

Records such as the above are interesting as showing the physical labour involved, but they do not bring out the full value of the efforts of the nurses engaged in it. This it is difficult to estimate, and an approximate idea of the results can only be gained by observing statistics which are likely to be affected; even so, the observation must often be spread over a prolonged period, but for the particular class of work in question the information is already available and is mentioned briefly in the section of this report on "Infantile Mortality" (p. —) though there are other influences working in the same direction.

5. Infant Protection Visiting.

Visiting under Section 2 of the Children Act 1908 is undertaken by Health Visitors in five Poor Law Unions. The number of cases regularly visited and reported on during 1921 was 57. The conditions were, on the whole, satisfactory, but in some cases attention had to be drawn to such matters as the undesirablity of older boys sharing beds with others.

6. Measles Visiting.

There was a remarkable immunity from measles during 1921; there were only three deaths, and the total number of cases reported was only 143 as compared with over 3,000 in 1920 and was the lowest on record. The amount of work done by the Health Visitors was proportionately small, as shown in the following table :—

Table of Measles Visiting.

	Cases visited.			*No. of*	*No.*	*Cost.*		
	Mild.	*Severe.*	*Total.*	*Visits.*	*Nursed.*	£	*s.*	*d.*
1919 (From 30th Oct.) ...	118	13	131	288	5	9	16	9
1920	576	72	648	1,807	62	42	2	9
1921	11	1	12	38	1	0	15	0

7. Welfare Centres.

In those parts where there are sufficient numbers of mothers with infants, centres where medical and general advice can be given separately and collectively are useful adjuncts to the scheme. In this county all centres have been started voluntarily. Many of them have been most successful; two or three have been given up, and others are managed now more or less as informal gatherings. Of the 28 on the list during 1921, one (Cinderford) is successfully run by the East Dean District Council, with an enthusiastic medical officer (Dr. G. F. Rigden), four are managed locally without financial assistance from the County Council, and 23 are helped under the scheme. There were on the registers, 1,109 mothers and 1,455 infants, and the attendances during 1921 totalled 14,032. A development during the year was the provision of the service of a dentist at Nailsworth, but so far little advantage had been taken of his services. In Surgeon Captain Andrews' report on the East Dean Rural District is included a note by Dr. G. F. Rigden, on the work of the Cinderford Centre for the seventh year of its existence; in this he emphasises the importance of breast feeding, and concludes by saying the backbone of the centre remains, as it always has been, the Ladies' Committee of voluntary helpers. Without such whole-hearted voluntary work, no centre under the conditions obtaining in this county can be successful, and their work is a great asset in any scheme for maternity and child welfare.

8. Institutional Provision for Confinements.

The necessity of having accommodation immediately available was again demonstrated by the cases in respect of which applications were received during 1921, amongst them being patients without suitable homes, deformed women and eclamptic patients; the number of women admitted was 14, only one of whom died. The summary from the time arrangements were first made is:—

	Admissions.	*Total fees.*	*Paid by Patients.*
1917 (6 months)	4	7 15 0	—
1918	14	121 0 7	20 15 0
1919	6	48 10 1	5 1 9
1920	16	90 15 3	23 19 0
1921	14	86 16 3	31 11 0

It would not appear that the actual number of beds required for the class of case at present accepted is large,

but it is desirable to have them distributed over the County so that patients may not have to be taken long distances from their homes. It is satisfactory, therefore, that the Committee of the Stroud District Nursing Association have agreed to take cases in their Home and that patients will be admitted into the Cirencester Cottage Hospital; also the Committee of the Gloucester District Nursing Society are enlarging their accommodation. The total number of beds now available is :—

	Nos.
Cheltenham	4
Chipping Sodbury	1
Cirencester	1
Gloucester	8
Stroud	1

and it is hoped that provision for these cases may also be made in other hospitals, *e.g.* Tewkesbury.

9. Hospitals for Infants.

The children for whom hospital treatment is generally requested are those in attendance at Maternity and Child Welfare Centres, who for some reason or other do not make progress at home. One child was admitted to the Cheltenham Children's Hospital in 1919, 2 to the Gloucester Children's Hospital in 1920, and 7 in 1921; 2 of the 7 admitted in 1921 died, one (aged 4 weeks) after an operation for congenital defect of the stomach and one ten days after admission. Another child, after a prolonged period in the hospital, did not progress so well as was hoped, and after a long trial was transferred to the Alexandra Home and benefited greatly by the change of surroundings.

10. Allowances of Milk.

Milk has been supplied for necessitous expectant and nursing mothers from June 1918; the cases are recommended by the health visitors with a concise report as to the circumstances in each case. The applications are carefully examined, but it is only very rarely that any application of a health visitor is regarded as unsuitable. All applications are placed before the Chairman of the Maternity and Child Welfare Committee before a free supply is authorised. The numbers of persons granted milk have been :—

	Expectant and Nursing Mothers.	*Infants.*	*Total.*	*Net Cost.* £	s.	d.
June 1918—March 1919...	19	17	36	43	4	5
April 1919—March 1920...	121	142	263	213	5	9
April 1920—March 1921...	199	245	444	844	4	1
April 1921—March 1922...	181	231	412	705	2	8

The average amount of milk supplied per case during 1921–22 was approximately 60 pints spread over an average of about six weeks.

11. Conference of Nurses.

A very valuable Conference was arranged by the County Nursing Association in April 1922, when seven lectures were given by specially chosen doctors and matrons on practical subjects such as breast feeding, care of the skin, etc. An average attendance of over 100 was secured, and the course was most successful in every way and was greatly appreciated by the District Nurses.

12. Summary of Report under Midwives Acts.

The number of practising midwives during 1921 was 286, almost the same as in the previous year. Of the 260 resident in the County at the end of the year 199 were trained midwives and only 61 untrained. The former have steadily increased, as the latter have given up or died ; the conditions in 1910 and 1922 are contrasted in the following statement :—

	1910.	1922.
Bona-fide (untrained) midwives	152	61
Trained midwives	123	199
Total	275	260

The Inspector of Midwives reports that on the whole the work of the midwives is carried out in a careful and intelligent manner, and the welfare of the mother and child is their chief concern. She also refers to the valuable work done in the past by the " bona-fide " midwives, who are gradually decreasing and the loss of whose assistance is severely felt in some neighbourhoods. There are still a few on the registers who are really too old to continue to practise, and it is hoped that when other assistance is available they will resign their certificates. The County Nursing Association

are training sufficient candidates to replace them as they resign.

The proportion of still births shows a satisfactory fall from 2.7% in 1906–15 to 1.8 in 1920 and 1921, but it is hoped this figure will become even smaller; enquiries are made as each case is reported with a view to determining lines of preventive action for the future.

INFECTIOUS DISEASES.

The comparative immunity from serious outbreaks of infectious diseases enjoyed by this County during recent years extended into 1921, the numbers reported being well below the average; the relatively slight increases for scarlet fever, diphtheria and typhoid fever of 1920 were followed by reductions in 1921 except for the last-named disease.

SMALL-POX.

Again Gloucestershire has been free from the introduction of this serious disease, but outbreaks occurred at 47 places in England during 1921 with a total of 326 cases. The largest number (106) occurred in Nottingham; the parts in which it appears to have got a temporary hold—in addition to Nottingham—are places in Derbyshire, Durham and Yorkshire, the outbreaks extending into 1922, 35 cases occurring at Middlesbrough in August of the present year. In Bristol there were seven cases in January 1921. From the manner in which the disease prevails in some places it would certainly appear that the danger of its introduction to any other part of the country is by no means remote and that this County in particular has escaped has been due to the very prompt and effective action taken in Bristol, our nearest point of possible trouble from the fact that it is an important port. Whether or not it will spread seriously will depend on the extent to which we are prepared to deal with the first cases, *e.g.* by early diagnosis, effective protection of the community by vaccination, and by having isolation accommodation immediately available. As regards diagnosis, the comparative rareness of the disease has, as one result, led to the fact that but few cases have been seen by many doctors and early symptoms may not lead to suspicion being raised in good time to avoid infection of other persons; the protection of the community by vaccination is steadily becoming less, the

proportion of children on entering our schools who have been vaccinated falling from 67% in 1908–9 to 29% in 1921. In the matter of isolation accommodation, provision has been made whereby cases occurring in the greater part of the County can be removed immediately, the most recent addition to our resources being the small-pox hospital now under construction near Tredington, which will serve for the early cases arising in any district in the east and north-east of the County. A similar arrangement proposed for the western part of the County was mentioned in my last report (p. 31), and it is hoped that it may be soon effected. When this has been done, fairly complete accommodation will have been provided for the whole County.

SCARLET FEVER.

The mild prevalence of this disease, the numbers of notified cases of which had increased from a record minimum of 249 in 1918 to 515 in 1920, showed a tendency to decline during 1921, when 451 cases were recorded. The numbers of cases, deaths, etc., year by year from 1912 are given in the following table :—

TABLE 6.

	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912
Cases	451	515	344	249	286	517	1,169	1,769	1,301	770
Deaths	5	5	1	2	1	5	20	18	13	7
Hospital Cases ...	198	163	146	134	172	220	591	935	738	413
Case Fatality ...	1.11	.97	.29	.80	.35	.97	1.71	1.02	1.0	.91
Death-rate per 1,000	.02	.02	.003	.01	.003	.02	.06	.05	.04	.02
England and Wales Death rate per 1,000	.03	.04	.03	.02	.02	.04	.07	.08	.06	.055

The districts in which most cases occurred are Cheltenham M.B. (73), West Dean R.D. (42), Stroud R.D. (40), Wheatenhurst R.D. (33), and Pebworth R.D. (28). The outbreaks generally appear to have been of a mild type, and the Medical Officers of Health for the Cheltenham and Stroud R.D. note also that they were atypical or irregular in character ; this fact is regarded as being the cause of the spread in various districts, and mention is made of cases not being detected until they were discovered by

the Medical Officer of Health to be "peeling." In Dursley it was found difficult to control the outbreak of scarlet fever owing to the impracticability of isolating cases, whereas in the Marston Sicca R.D. spread was promptly checked by removal of cases to Hospital.

DIPHTHERIA.

The number of cases of diphtheria in 1921 (376) was below that for 1920, but higher than those in the previous four years, as will be seen from the following table :—

TABLE 7.

	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912
Cases	376	443	219	299	300	307	516	605	393	406
Deaths	40	27	28	26	33	46	69	78	30	29
Hospital Cases ...	199	261	126	198	199	170	223	271	125	110
Case Fatality ...	10.6	6.1	12.8	8.7	11.0	15.0	13.4	12.9	7.9	7.1
Death-rate per 1,000	.12	.08	.09	.09	.11	.15	.22	.24	.09	.09
England and Wates Death-rate per 1,000	.12	.15	.13	.13	.13	.14	.165	.16	.12	.12

Considerably more than half the cases occurred in four sanitary districts :—Cheltenham M.B. (71), Kingswood U.D. (47), Chipping Sodbury R.D. (36), and Warmley R.D. (63). During the twenty-five years to 1920 Cheltenham had an attack rate almost exactly the average for the County as a whole, but both in 1920 and 1921 the numbers were somewhat above the average ; no special circumstances are reported. As regards Kingswood, it is noted that the numbers were unusually high, the last outbreak of any dimensions being in 1913 ; the cases were widespread, and occurred throughout the year, especially the last three months. As a result of swabbing 365 children at Hanham in July, six carriers were found, four of them having the organism in their noses and two in throats. The numbers in Chipping Sodbury were almost the same as in 1920 : extensive swabbing was carried out, and one teacher and nine children were found infected. As the Hospital was closed, a nurse was engaged, and after two weeks' treatment, only three remained infectious, and all were cleared a few weeks later. The Warmley

cases appear to have occurred chiefly about the time of the outbreak in Hanham (Kingswood U.D.). Here, too, swabbing was carried on energetically, 600 children being examined. In connection with cases in the Cottage Homes, a visit was paid by Dr. Monckton Copeman, of the Ministry of Health, with the object of investigating the value of the Schick test.

This test has been carried out extensively in America, and during the past twelve months in various parts of this country, amongst others at Southmead in Bristol. It consists in intracutaneous injection of a minute dose of diphtheria toxin, and from the reaction 24 hours to three days later evidence is obtained as to whether or not the individual is susceptible to diphtheria. The next step is the immunisation of those susceptible by the injection of a mixture of toxin and anti-toxin in three doses at intervals of a week, whereby an immunity to attack by diphtheria is afforded for years, three to five from present experience, though it may be longer. In this test, therefore, together with subsequent immunisation, there is opportunity for dealing with outbreaks hitherto not available, in some measure comparable with the protection of the community from small-pox by means of vaccination.

ENTERIC FEVER.

The numbers of cases of this disease occurring in this County are much smaller than they used to be; thus in the five years 1896–1900 the yearly average was 118, in the next 10 years 67, and in the 10 years to 1920, 42. As will be seen from the following table—

TABLE 8.

	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912
Cases	27	23	19	36	68	38	30	54	35	28
Deaths	7	1	1	10	11	8	4	15	9	1
Hospital cases ...	11	16	14	11	10	26	9	8	8	6
Case Fatality ...	25.9	4.3	5.3	27.8	16.2	21.1	16.7	27.8	25.7	3.6
Death-rate per 1,000	.02	.003	.003	.03	.04	.03	.02	.05	.03	.003
England and Wales Death-rate per 1,000	.02	.01	.01	.03	.03	.03	.035	.05	.04	.04

the largest number of recent years was 68 in 1917, of which 63 occurred in connection with two groups of cases in the County Asylum ; 10 occurred in the Second Asylum the following year. Except for this outbreak the County has been free from serious prevalence of the disease for many years ; in many districts none has been reported, and in others only casual cases. On the other hand, though the numbers are small, there have been recurrent small outbreaks in such areas as parishes on the Severn in the Gloucester R.D., in Cirencester U.D., and Coleford U.D., attributed to drinking of polluted water supplies. The improvement generally noted is due in great measure to the provision of more satisfactory water supplies, and there can be no doubt that the same results would follow similar action in these places, namely, providing an alternative for river water in parts of the Gloucester R.D., closing of the shallow wells in Cirencester, and securing a more satisfactory supply of water for Coleford.

Five cases were notified in the Dursley R.D. A curious group of three occurred at Uley, attributed to contamination of a stream in the garden of the house ; the remaining two—brothers living in a large house near the summit of Stinchcombe Hill—were notified with an interval of three months and are described as puzzling, no source of infection being found.

PUERPERAL FEVER.

Last year mention was made of the curious and unsatisfactory increase in the number of cases from 4 in 1917 to 15 in 1920 ; the number fell to 11 in 1921. As regards fatality 3 of the 11 cases were fatal in 1919, 9 of the 15 in 1920, and 4 of the 11 in 1921. These numbers are too small for reliable conclusions, but a comparison of the numbers of cases among women attended by certified midwives in 1921, and the balance, is not without interest.

	Confinements.	*Cases.*	*Number per 1,000 confinements.*
Attended by certified midwives ...	4,101	4	.98
Attended by others	2,427	6	2.47

This confirms the result of enquiries as regards individual cases, showing the great care taken generally by certified midwives in the matter of cleanliness and asepsis.

OPHTHALMIA NEONATORUM.

The number of cases notified was 35, eight less than in 1920, but the same number as in 1919. In the returns for 1921, information was desired as to the effect on vision; this is given with respect to 32 of the 35 cases. One of the infants died: of the remaining 31, it is noted that in only one case was there any permanent effect and that of slight degree; in the remaining cases vision was unimpaired. In all cases of discharge of the eyes notified by certified midwives, enquiries are made by the Inspector and suitable advice is given; watch is also kept by the Health Visitors at their early visits to infants with a view to ensuring that any cases which may have developed after the midwife has ceased attendance have proper attention.

TUBERCULOSIS.

The number of new cases reported during 1921 was considerably lower than in any previous year, and similarly the number of deaths with the exception of the last pre-war year; that notification is steadily becoming more complete is shown by the fact that the numbers of deaths of unnotified cases are fewer each year, reaching a minimum of 64 in 1921. The numbers notified year by year since 1913 are:—

	Notifications.			*Deaths.*		
	Pulmonary.	*Other Forms.*	*Total.*	*Pulmonary.*	*Other Forms.*	*Total.*
1913 ...	595	144	739	274	98	372
1914 ...	508	139	647	213	61	274
1915 ...	492	130	622	277	78	355
1916 ...	463	128	591	282	84	366
1917 ...	382	86	468	361	72	433
1918 ...	407	72	479	329	62	391
1919 ...	403	60	463	235	68	303
1920 ...	391	65	456	244	74	318
1921 ...	292	54	346	219	58	277

The great reduction in the numbers of new cases of pulmonary tuberculosis in 1921 has occurred at all ages below 35 (except 10—15 years) and especially in the age groups 1—5 years, 5—10 years, and 15—20 years; for each age group over 35 there has been an increase. The larger part of this reduction has been amongst females, particularly between 5 and 10 years and between 15 and 35 years; the total among males (152) is only 5 below the number for 1920 (157).

Cards are kept for all notified cases, and at the end of each year a note is made as to the condition of every case ; these results have been tabulated in various ways, and the following table gives briefly a summary for the end of 1921 :—

Year.	*Known cases in County during year.*	*Deaths.*	*% Death Rate.*	*Survivors at end of year.*
Pulmonary.				
1913	493	41	8.3	452
1914	977	209	21.4	768
1915	1,242	214	17.2	1,028
1916	1,459	345	23.6	1,114
1917	1,490	242	16.2	1,248
1918	1,685	260	15.4	1,425
1919	1,686	234	13.9	1,452
1920	1,736	211	12.2	1,525
1921	1,784	190	10.6	1,594
Non-Pulmonary.				
1913	121	13	10.7	108
1914	223	25	11.2	198
1915	307	36	11.7	271
1916	368	50	13.6	318
1917	381	35	9.2	346
1918	408	27	6.6	381
1919	428	39	9.1	389
1920	423	25	5.9	398
1921	442	25	5.65	417

As general results it would appear that :—

1. The number of persons resident in the County reported to be suffering from pulmonary tuberculosis is about 1,600, and from other forms of tuberculosis about 400 ; or, put another way, one person in 200 has recognisable pulmonary tuberculosis and one in 800 some other form of tuberculosis.

2. The death rate in the year of notification of pulmonary tuberculosis is about 29%, that is, in 29 cases in 100 either the disease is very rapid in its effects or is not recognised till a very late stage, possibly owing to delay on the part of many affected in seeking help.

3. One third of the persons notified in 1913 as having pulmonary tuberculosis were alive at the end of 1921, eight years later; two out of every five persons notified in the next three years had survived 5—7 years.

4. For persons notified as suffering from pulmonary tuberculosis, the death-rate steadily falls from roughly 30% in the first year to 20% in the second year, 10% in the third, 5% in the fourth and fifth, 2—4% in the sixth, and by the seventh year is little above that for the general population.

5. For other forms of tuberculosis the survival rate is even better, over half the patients notified in 1913–17 being alive at the end of 1921 and larger proportions for subse quent years.

These results are obtained from a consideration of a proportion of the population selected on the ground that they had some evidence of illness or disease attributed to the tubercle bacillus. But there are other facts to be borne in mind in drawing conclusions. For example, examination has shown that something like 70% of persons have evidence of infection, at some time or other, with tuberculosis, and some persons go so far as to state that " it is certain now that tuberculosis in childhood is universal." The character of the infecting agent is not the same in all cases ; for instance, in a group of 195 children examined post-mortem by Dr. Griffith at Cambridge, while 77 or 39% were free from signs of tuberculosis, 83% of the remainder had human and 18% had bovine tuberculosis ; other observers put the proportion of bovine infection very much higher. Further, as mentioned in my report for 1919, there is considerable evidence that a certain protection from the more serious form of pulmonary tuberculosis is given by early infection with bovine tuberculosis, *e.g.* in the form of glandular or bone disease.

The main facts, in addition to the infectivity of the disease, therefore, appear to be :—

1. A very large proportion of the population has tuberculosis in some form or other at quite a young age, but very many show no signs of it.

2. Infection with bovine tuberculosis appears to be protective in considerable degree from pulmonary tuberculosis.

3. The disease is of a much more chronic nature than was generally considered.

4. The great majority of infected persons do not develop serious disease, and probably when it does become evident it is due to lowered resistance owing to intercurrent illness (influenza, pneumonia, acute infection of some other disease, etc.) or to circumstances of living—food, housing, etc.

5. The power of resistance can be generally restored in very great measure by removal of the disadvantageous conditions, *e.g.* by provision of nourishing food and removal to suitable surroundings.

The last particularly applies to children before physical signs develop, and, in my view, there is no more hopeful course than to provide ample accommodation for weakly children, particularly those of tuberculous parentage, and those exposed to infection from other relatives in their homes.

Provision was made for 200 children's beds in the new tuberculosis institution at Standish House, and it is greatly regretted that, in the restrictions necessitated by financial conditions, our beds for children have been reduced from about 200 to 46 until circumstances improve.

At the time of writing this report the alterations and additions to Standish House and the construction of the pavilions authorised are practically completed, and there is no doubt but that it will generally be considered that the Joint Committee have been very successful in the work. The first patients were admitted to the wards in Standish House on Saturday, January 7, 1922, and there are now (7th Oct. 1922) 129 patients in residence.

The accommodation provided is :—

1. *Advanced Cases—Men.*			
(*a*) Wards in house	20		
(*b*) Three wooden buildings of Red Cross Society in gardens	16		
	—	36	
2. *Early Cases.*			
(*a*) Men's pavilion		36	
(*b*) Women's „		26	
3. *Children.*			
(*a*) Large pavilion	40		
(*b*) Admission block	6		
	—	46	
		144	

In addition to the above there is a workshop for men and a very fine recreation hall, made out of an aeroplane hangar, which can be divided into two or used as one room.

The position of the property from the points of view of accessibility, configuration and aspect is in many ways ideal for the purpose, and the general outlook is very attractive and pleasing.

The work undertaken in connection with the scheme is shown in the following records :—

A.—Dispensaries.

	New Cases reported.			*Work of Dispensaries.*		
	Pulmonary.	*Other forms.*	*Total.*	*New Cases.*	*Persons seen.*	*Attendances*
1915...	542	137	679	921	?	4,741
1916...	476	116	592	749	?	3,743
1917...	417	80	497	734	1,216	4,069
1918...	456	65	521	879	1,483	5,211
1919...	403	57	460	693	1,218	4,297
1920...	385	65	450	639	1,193	4,021
1921...	337	58	395	620	1,311	5,405

The additional centres available for the examination, etc., of patients in the out-stations at Almondsbury, Berkeley, Chipping Campden, Chipping Sodbury, and, Tewkesbury are very valuable and enable many more patients to have the advantage of consultation with the Tuberculosis Officer.

B.—Shelters Supplied.

During 1921 shelters were newly supplied to 39 persons at their homes. The total number of shelters now in use in the City and County is 115.

C.—Residential Institutions.

	Beds available.	*No. of Admissions.*		
	1921.	1919.	1920.	1921.
1. *Early Cases.*				
Cranham Lodge Sanatorium	52	133	135	102
2. *Surgical Cases.*				
Cheltenham General Hospital	12	23	34	23
3. *Children.*				
Alexandra Home	15	33	24	21
4. *Advanced Cases.*				
(*a*) Gloucester Isolation Hospital	24	40	57	40
(*b*) Stroud „ „	12	29	20	57

VENEREAL DISEASES.

Treatment.

The opportunities for treatment of these diseases at special places were widened during 1921 by the opening of eight out-stations, though little advantage was taken of the increased facilities ; whether this is due to the fact that cases do not exist or to the new possibilities not being known cannot be stated definitely ; but, if cases occur and if it is desired they shall have treatment in connection with the special arrangements at General Hospitals it would not appear that the facilities could be provided throughout a County area more economically than they can be under the Gloucestershire scheme. Previously the only special centres were at the General Hospitals at Bristol, Cheltenham, Gloucester, and Stroud, where the bulk of the work included in the following statement has been done :—

	New Cases.									
	Syphilis.	*Soft Chancre.*	*Gonor-rhœa.*	*Not Venereal.*	*Males.*	*Females.*	*Total.*	*Attend-ances.*	*In-patient days.*	*Specimens examined.*
1917	31	2	15	13	25*	36*	61*	258*	524*	75
1918	73	6	77	50	135*	76*	219	1,090	662	214
1919	125	16	143	68	264*	74*	352	2,729	1,549	240
1920	192	7	159	64	280*	134*	422	3,982	1,035	527
1921	58	2	59	56	175*	65*	294	3,292	1,072	459

* Excluding Bristol.

From this record it would appear that either the number of cases of the diseases reached a maximum in 1920 or that new cases arising are not coming for treatment at the hospitals. It is difficult to believe that cases do not exist which should have effective modern treatment, for amongst the patients whom I saw when visiting treatment centres during 1921 was a young girl from a very remote parish suffering from the worst attack of secondary syphilis I have ever come across, and I cannot but think that other cases, though less severe, exist in various parts of the County which do not come for treatment under the scheme. It is hoped that if there are any such patients they will take advantage of the improved—though still unfortunately limited—facilities.

Hostel for Women.

It was a matter of very great regret that the Hostel at Charlton Kings for girls and women, the initiation of which was due to the enterprise of the Gloucestershire Diocesan Association

for Rescue and Preventive Work, and was supported by the Ministry of Health and the County Council, had not fully served the useful purpose expected of it, as will be seen by the following record of admissions :—

	Girls and Women.	*Infants.*
1919 (From 25th June)	5	–
1920	19*	8
1921	14*	6

* Including one re-admission.

Towards the end of 1921 the position was regarded so seriously, as the expense was very heavy compared with the value of the work done, that the future of the hostel was anxiously considered. The reasons for the lack of success were not clear, but it was thought that possibly, if the hostel was managed as an annexe to the Cheltenham General Hospital, certain prejudices would be overcome and that girls and women would then be glad to accept the advantages of care and treatment under the best conditions. Finally an arrangement was effected whereby the Committee of the Hospital agreed to maintain the Hostel on behalf of the County Council, and the Diocesan Association would continue to contribute a share of the cost.

Effect was given to the change of management on 1st March, 1922, with Miss Graham, formerly Out-Patient Sister at the General Hospital, as Sister-in-Charge. Some of the advantages of this close association were realised immediately, and it would seem that one of those anticipated was well-founded, for the fact of the Home or Hostel being made an annexe of the Hospital appears to have removed much of the reluctance of girls and women to enter it ; the number of patients in residence soon reached eight, and there are now (20/9/22) 8 under treatment in the Home. The keenest interest is taken by the Sister-in-Charge in the welfare of the patients—physical, mental and spiritual—and in making the Home as convenient for working and comfortable for the patients as possible, and the alterations she has effected in the internal arrangements have greatly improved it.

PROPAGANDA.

No definite propaganda work was undertaken during 1921, except that I had the advantage of a discussion with the Branch Council of the National Union of Teachers, from which it appears

that according to their experience children attending public elementary schools are introduced to knowledge of sexual matters at a much earlier age than is generally thought to be the case. It is hoped that a meeting of the Branch of the National Council for Combating Venereal Diseases will be held at an early date to consider what action can be taken advantageously in the County.

BACTERIOLOGICAL AND PATHOLOGICAL WORK.

From the following table it will be noted that the number of specimens examined during 1921was higher than in any year here given.

	Diphtheria.	*Enteric Fever.*	*Tuber-culosis.*	*Cerebro-spinal Fever.*	*Others.*	*Total*
1905–14 yearly average	1,553	49	207	–	–	1,809
1915	1,713	31	369	6	–	2,112
1916	721	32	348	1	–	1,104
1917	716	57	523	8	–	1,305
1918	687	35	517	6	–	1,245
1919	506	20	569	2	8	2,00
1920	1,352	29	692	2	6	2,081
1921	2,465	37	804	–	2	3,308

From the detailed table it is seen to be the highest in any year from the commencement (1904), due mainly to the comparative prevalence of diphtheria. The increase is also caused by the extended advantage taken of the opportunity for examination of sputum for the tubercle bacillus; after ranging round 350 from 1912 to 1916, the number of such specimens rose to 523 in 1917, 692 in 1920 and the record number of 804 in 1921. The latter is satisfactory as indicating the greater importance attached to this work, and the desire for accurate diagnosis. In the light of present knowledge laboratory adjuncts to diagnosis and treatment have developed enormously, and their general provision is essential if medical practitioners are to give up-to-date treatment. This is practicable now for those who can afford to pay the necessary fees, but it is not available for the mass of the population, who can barely pay for medical attendance. In this county very comprehensive provision was arranged with Bristol University in 1920 at a reasonable expenditure, but at the last moment the item had to be struck out of the estimates, and it has not proved practicable as yet to revive the proposal, desirable as it is. It is hoped that an opportunity may be afforded at an early date.

ISOLATION HOSPITALS.

SMALL-POX.

There was no change made in the accommodation available for this disease, but reference is made in the reports to the hospital being provided to serve the 15 districts in the east and north-east of the County. Negotiations with a view to similar provision being made for the eight districts in the west of the County were continued. When this matter has been settled, there will be accommodation immediately available for practically the whole of the County. The arrangements, however, in Chipping Sodbury consist, I understand, of a site and a provisional agreement for the erection of a wooden building at short notice.

GENERAL INFECTIOUS DISEASE.

The new hospital, called "The Wilderness, Mitcheldean," was acquired for the area of the East Dean Joint Hospital Board in December 1921, and it is hoped that it may serve a much wider area, including the Coleford U.D. and West Dean R.D. It is provided with a motor ambulance, which will make the moving of cases, even from considerable distances, a simple matter. Other changes are of a minor character, but the motor ambulance obtained for Warmley should prove a great advantage. Otherwise the position is practically as described in my Report for 1913.

HOUSING.

During 1921, 4,376 houses were inspected and recorded under the Housing Regulations 1910; of these 2,906, or 66.4%, were found not to be in all respects reasonably fit for human habitation, and a further 194, or 4.4%, to be unfit for habitation. The total numbers inspected in the eleven years the Regulations have been in operation are 14,071 houses in Urban Districts (58.5%), 31,256 (55.5%) in Rural Districts, and 45,327, or 56.5%, in the County as a whole. Presumably it may be taken that part of the reason so high a proportion as 66.4% was found not in all respects reasonably fit for habitation is the difficulty that was experienced in getting repairs done not only during the period of the war but for some time afterwards; but the proportion unfit for habitation—4.4%—is about the figure reported year by year.

These figures emphasize the well-known fact that the conditions under which a large proportion of the population live are very far from satisfactory, and such facts led to the great campaign of 1917—1919 for the construction of large numbers of new houses. In this campaign the needs of this County were estimated at 6,399 houses, of which it was expected that 255 would be provided by private enterprise, leaving 6,144 to be built under housing schemes ; proposals for 4,871 were put forward. Long before the war the necessity of improved housing had been urged by Medical Officers of Health, and as an instance of their views I quoted last year from a report made by the late Dr. Bond, Medical Officer of Health of the Gloucestershire Combined District, so long ago as 1874 ; the reversal of the policy is, therefore, all the more deplored by everyone interested in the promotion of healthy living. The requirements of the County are to a certain extent evidenced by a comparison of the pre-war rate of building with that of the past seven years ; before the war an average of about 350 new houses were built each year. Between 1915 and 1918 a total of 221 houses was constructed, a deficit on the pre-war rate of 1,134 houses ; during the next three years 1,232 houses (excluding Stow-on-the-Wold U.D. and East Dean R.D.)—on the average 411 a year—less than the pre-war rate—were built, and these include the greater number of those sanctioned by the Ministry of Health. This still leaves a deficit, on the usual rate of building, of about 1,300 houses. As regards quantity, apart from quality, of housing, the needs are still very great, and as an instance of this the Medical Officer of Health for the Kingswood U.D. reports that in that district there are 300 houses with two or more families. The numbers completed each year are 49 in 1919, 172 in 1920, and 1,011 in 1921—840 under schemes of local authorities and 171 otherwise ; the last figure can scarcely be taken as an indication of the revival of private enterprise in building, for the probability is that most, if not all, were subsidised houses. Unless costs fall, and economic rents are obtainable, it is little likely that the necessary houses will be provided, and, so far as can be seen at present, the only prospect of a sufficiency of accommodation for the whole community being forthcoming is to be found in a revival of municipal housing work as early as circumstances allow.

Meanwhile, it would appear that there is opportunity for effecting very great improvement in existing conditions by

expediting the survey of existing houses and securing the repair and renovation of the unsatisfactory dwellings. This is less costly than the building of new and, at the same time, a reduction in the present limited available accommodation may be avoided by rescuing houses from dilapidation. That such work can be done effectively, satisfactorily and cheaply, even when property looks derelict, has been proved by the Society for the Protection of Ancient Buildings, which at the cost of £722, provided by a Gloucestershire man, Sir Philip S. Stott, bought and repaired a pair of freehold tumble-down cottages, and out of them made two houses of more generous planning than scheme houses which were then costing £950 each, exclusive of site. In December 1921 the attention of District Councils was drawn by the County Council to the possibilities suggested by this and other examples in the hope that some of the serious deficiency might in this way be made good.

WATER SUPPLY.

The most general note on this matter in the Reports for 1921 is that any existing difficulties were greatly accentuated by the drought of the summer and autumn. In such places as Cheltenham and Cirencester, with ample resources to fall back upon, even inconvenience was scarcely felt, but, in other localities with less copious public supplies and little margin, considerable trouble and anxiety were experienced, *e.g.* in Nailsworth, Stroud and Tetbury U.D. The Stroud Water Company, which supplies Nailsworth U.D. and a great part of the Stroud R.D., did their best to conserve water, but there were great complaints; the West Gloucestershire Water Company, which covers a large area in the south of the County, appears to have been more fortunate. It is, however, more particularly in the small places with limited resources that most trouble is experienced, where in most instances deficiency has been reported year by year. Amongst these are Coleford, Newnham, and Tetbury U.D., Chipping Campden (Campden R.D.), Cam and North Nibley (Dursley R.D.), Hempstead (parts), Upton St. Leonards, Lower Tuffley and Matson (Gloucester R.D.), various parts of Tetbury R.D., West Dean R.D. and Winchcombe (Winchcombe R.D.). Improvements are contemplated or have already been arranged in some cases, *e.g.* by providing an additional storage reservoir at Stroud, a new bore hole at Tetbury, adding a spring for the supply of Chipping Campden, boring for a supply for West Dean

R.D., and acquiring additional water for Winchcombe. During the worst of the drought water was carted to certain places of the Gloucester R.D. and in parts of Cirencester dependent on local wells water was sold from standpipes at ½d. a bucket.

In my last report there was given a list of places at which deficiency—more or less serious—had been reported from time to time, some of them being specially mentioned above; now that prices of material and labour have fallen so considerably the time would appear to be opportune for consideration of definite steps for improving the circumstances. The following list of places reported to require attention is practically the same as that given last year :—

URBAN DISTRICTS :
Coleford.
Newnham.

RURAL DISTRICTS :
Chipping Sodbury—Acton Turville, Iron Acton, Tormarton and Yate.
Dursley—Cam and North Nibley.
East Dean—Joy's Green, Ruardean Hill and Viney Hill.
Gloucester—Hempstead, Matson, Tuffley and Upton St. Leonards.
Northleach—Bibury and Withington.
Stroud—Slad.
Tetbury—Tetbury Upton and other places.
Tredington—Elmstone Hardwicke and Stoke Orchard.
West Dean—All parts.
Winchcombe—Alderton, Cleeve Hill and Winchcombe.

Places in connection with which works were reported as being arranged or carried out during 1921 are :—

URBAN DISTRICTS :
Tetbury—New 400 feet bore hole.

RURAL DISTRICTS :
Campden—Chipping Campden : Proposal to take in additional spring (Maiden Well Spring).
Cirencester—Coates : New concrete storage tank at cost of £1,462, £962 being given privately.
East Dean—Ruardean Hill, &c.—Application for sanction to borrow £3,000 for deep well pumps.
Pebworth—Murcot (Childswickham)—Main extended 400 yds.
West Dean—Negotiations with reference to comprehensive scheme proceeding.

On comparing this list with that given above, there is evidently scope for much useful work.

Following the drought of the summer and early autumn of 1921, there was an extremely dry period in the late spring of the present year, and fearing an accentuation of the conditions caused by the earlier drought, especially of deep water supplies, the Ministry of Health issued a circular as to possible remedial measures by conserving or supplementing supplies and, if occasion arose, even by utilising supplies of doubtful purity, rendered safe by boiling or chlorination. The early dry period was, however, followed by a rainfall above the average, and the anticipated anxieties of an exceptionally difficult time were removed.

SEWERAGE AND SEWAGE DISPOSAL.

The problems connected with this matter are not infrequently considered to be divided into two groups—one for places with water closets and another for those where there are no water closets. In general, however, the problem is one, for slop-waters can be quite as foul without as with closet refuse. This point is of some importance, as there is a tendency in the minds of some people to think that it does not matter where slop-waters —apart from closet waters—go, and the result is that in many parts ditches are rendered foul by the discharge of house drains. Examples recur year by year in the annual reports, and the present series contain the usual references. Temporising action is taken in many cases—clearing ditches and covering or piping them, thereby carrying the nuisance a little lower. Instances of such procedure are given in the present reports for the Campden, Gloucester, Pebworth, Stow-on-the-Wold, and Winchcombe R.D. For a time the obvious nuisance is removed only to re-appear in due course, and, when the trouble has recurred sufficiently often or has become more than usually obnoxious, ultimately expensive sewerage schemes are thrust upon the parish. If individuals and local authorities appreciated the necessity of preventing the discharge of slop-waters to unsuitable positions and stopped it immediately, much expenditure of money would be avoided. Practical alternatives were mentioned in my report for 1914 (p. 55), where I quoted from the Ninth Report of the Royal Commission on Sewage Disposal; shortly, they are the *shallow* burial of excremental matter and the distribution of slop-waters on or in the surface soil.

Comparatively little work was undertaken during 1921, and was limited mainly to minor extensions of sewers to sites of

housing schemes, etc. At Longford, Gloucester R.D., alterations were made in the arrangements at the sewage disposal works, which it is hoped will remedy a long-standing trouble. The most important addition to the constructional works of recent years has been the acquirement of the sewerage and disposal works (constructed mainly for an aeroplane repair factory now abandoned) at Yate from the Government on very favourable terms ; these will serve not only Yate but also Chipping Sodbury and a few houses in Westerleigh, and will be available for Iron Acton, if and when the needs arise. Application was also made for a loan of £4,000 to complete the scheme at Wotton-under-Edge in the Dursley R.D. On the other hand, there is a long list of places where action is recommended—in great measure a repetition of lists given in previous reports, as the defects mentioned had not been remedied :—

URBAN DISTRICTS :

Coleford—The brook passing . . . under many of the most important shops and buildings, imperfectly arched over, still acts as the main sewer. The drains in the town are very defective.

Nailsworth—Some outlying parts are still unsewered, and there is a number of privy vaults in the sewered area which should be converted.

Westbury—Improvements are needed in Westbury village.

RURAL DISTRICTS :

Campden—Chipping Campden : A proper system of sewerage is needed.

East Dean—Sewerage needed at Mitcheldean, and in the Drybrook Ward of East Dean.

Northleach—Sewerage needed at Andoversford to divert drainage from the Coln.

Tewkesbury—Tredington : Sewerage needed.

West Dean—Lydbrook : Sewerage needed.

RIVERS POLLUTION.

Action appears to have been taken in two cases by District Councils. At Berkeley (Thornbury R.D.) considerable trouble was caused by the decomposing effluent from a milk factory being discharged in the Lynch Rhine ; improvements have now been made. The second case is in the Chipping Sodbury R.D., where the discharge from the Ochre Works at Wick caused the stream to assume various colours ; a large settling plot has been arranged, and it is hoped that the trouble is in great measure remedied. Somewhat similar conditions to the last exist in the streams in the Stroud and Nailsworth Valleys, and should have attention.

REFUSE DISPOSAL.

There appears to have been no change of any importance in the arrangements for the disposal of house refuse, but Dr. Green records an interesting observation with respect to Randwick in the Stroud R.D. No systematic collection of refuse has been arranged, but there is a co-operative scheme for the removal of old tins, etc., each tenant paying a small sum weekly. Possibly the solution of difficulties in other places might be found in a similar manner. Occasionally, the objection to a system of scavenging—even when its need is acknowledged—is that people have to pay who get no benefit ; arranged on the Randwick lines, only those who have the advantage contribute. The difficulty probably would be to induce some person to undertake the arrangement, but if that is overcome there is much to say in favour of co-operative working.

The troubles arising from refuse tips by the breeding of rats and flies have had mention in many previous reports, and there can be no doubt but that systematic destruction by fire is the effectual remedy. The experience of the Army has shown in what simple contrivances combustion can be effected, and with a little trouble the refuse of a village could be collected and burnt very cheaply.

GLOUCESTERSHIRE SCHEME FOR THE EXTENSION OF MEDICAL SERVICES.

As mentioned in my last report, a small number of out stations were opened in May and June 1921, and now eleven have been in use for periods of 12 to 15 months. As was only to be anticipated, in developing such comprehensive arrangements, utilising the services of considerable numbers of persons, difficulties of one kind and another were experienced, and it has taken time for many to appreciate the manner in which full advantage of the opportunities could be realised. One result has been that the numbers of cases coming under treatment have not been so large in the early days as could be desired ; the numbers of cases and attendances at the ten out-stations now open have been (to 30th June, 1922) :—

	Cases.	*Attendances.*
School children	684	1,658
Tuberculosis	114	419
Venereal diseases	7	34
Maternity and child welfare	75	161
Others	8	14
Total	888	2,286

The specialists paid 28 visits to out-stations, and saw 396 cases and 94 operations were performed. The amount of work done will increase as the arrangements settle down; as fully expected, experience has shown various directions in which improvements and economy can be effected, and alterations are being made accordingly. In no essential, however, has the scheme proved faulty, and the advantages of the association of local practitioners and specialists from the hospitals have already been experienced, though it will be a considerable time before they are fully developed.

FOODS AND DRUGS.

Meat and Slaughterhouses.

Most of the Reports are very brief in accordance with the recommendation of the Minister of Health, and there are comparatively few notes on inspection of places where food is prepared and stored. Reference is made in two Annual Reports to the impracticability of arranging satisfactory examination of carcases in slaughterhouses, owing to their being scattered over districts, and also to the varying times of slaughtering. Many of the buildings, too, are not regarded as really satisfactory for the purpose, and in one instance, in 1921, it is reported that knackery is carried on in a slaughter house. If it is desired that there should be a really satisfactory examination of meat, increased inspectors or fewer places of slaughtering are the alternatives. A move in the right direction was made in the Stroud Rural District in 1919 by the establishment of a Farmers' Co-operative Abattoir at Cainscross, apparently with satisfactory results.

The question of the measures necessary to secure adequate protection of the health of the people in connection with the slaughter of animals and distribution of meat was considered by a committee appointed by the Minister of Health in June

1920. In their report dated 16th July, 1921, after drawing attention to the irregular administration under present legis lation, they recommend, amongst other matter—

(1) The annual licensing of slaughter-houses.
(2) The prohibition of slaughtering elsewhere.
(3) The registration of purveyors and regulations as to sanitary conditions of storage premises.
(4) Notice to local authority of intention to slaughter.
(5) Schemes for concentrating slaughtering.

Milk and Dairies.

The observations in the reports are comparatively brief; while in some cases Medical Officers of Health appear to be satisfied with the conditions in their districts, the general opinion appears to be that much of the milk is produced under conditions which militate against a clean supply for the community. The recent Milk and Dairies (Amendment) Act 1922, while it postpones the operation of the Milk and Dairies (Consolidation) Act 1915 until 1st September 1925, strengthens the hands of Local Authorities as regards retail purveyors considerably, and, if effectively used, will enable Local Authorities to secure many improvements. This Act also continues, with modifications, the provisions for the grading of milk introduced under Food Control Orders, and the prohibition of the addition of colouring matters, water, etc., to milk.

As regards the chemical composition of milk, this is the foodstuff which is adulterated more systematically than any other. The average proportion of samples reported to be adulterated in the ten years 1908–17 was 12.4%; the percentages in the three succeeding years were 7.9, 14.6 and 10.1. During 1921 237 samples were examined, and of these 24 or 11.0% were found adulterated. The extent of sophistication varied from 8% to 53%, *i.e.* in the latter case the purveyor was paid the full price of milk for an article which was half water and half milk; on conviction he was fined £5. Milk is an important food of the most weakly members of the community—infants and invalids—which makes it all the more necessary that this foodstuff should be properly protected. Adulteration is a profitable practice and will be stopped only by punishment proportionate to the offence: cleanliness and bacteriological purity can be assured only by due care in the methods under

which it is obtained, as mentioned in the preceding paragraph, and by storage under proper conditions in the homes.

Analysis of Foods and Drugs.

A summary of the results of examination of samples examined during the past 14 years has been prepared. The serious extent of the practice of milk adulteration has already had mention. As regards other substances the only articles in which adulteration has been reported during the past fourteen years are :—

	Examined.	*Adulterated.*	%
Butter	1,032	13	1.3
Whiskey	363	36	9.6
Gin	175	15	8.6
Cocoa	90	13	14.4
Rum	57	9	15.8
Mustard	85	9	10.6
Brandy	61	8	13.1
Beer	97	4	4.1
Spirits of Nitre	37	8	21.6
Camphorated Oil	74	3	4.1
Coffee	321	2	0.6
Sugar	263	1	0.4

That is, while of all other substances only 121 out of 4,462 samples were found adulterated, 251 of 1,955 samples of milk were so reported. The Chief Constable is arranging that larger proportions of the limited examinations authorised shall be allotted to milk.

1921.

TABLE I.—RATES, &c.

DISTRICTS.	BIRTHS.						DEATHS.					
									Under one year.			
	Estimated Population.	Legitimate.	Illegitimate.	Total.	% Illegitimate.	Birth Rate.	Total.	Rate.	Total.	Illegitimate.	Legitimate.	Infantile Mortality.
URBAN:												
Awre	1,146	18	—	18	—	15.7	9	7.9	—	—	—	—
Charlton Kings	4,311	65	4	69	5.8	16.0	54	12.5	6	1	5	87
Cheltenham	48,040	766	43	809	5.2	16.8	688	14.5	56	7	49	69
Cirencester	7,410	104	6	110	5.5	14.8	94	12.7	7	2	5	64
Coleford	2,768	60	6	66	9.1	23.8	34	12.3	1	—	1	15
Kingswood	13,210	295	10	305	3.3	23.1	146	11.0	21	3	18	69
Nailsworth	3,158	61	3	64	4.7	20.3	37	11.7	7	—	7	109
Newnham	1,174	29	2	31	6.5	26.4	13	11.1	1	—	1	32
Stow-on-the-Wold	1,157	31	2	33	6.1	28.6	16	13.8	2	—	2	61
Stroud	8,590	148	6	154	3.9	17.9	93	10.8	4	—	4	26
Tetbury	1,576	38	3	41	7.3	26.0	25	15.9	2	—	2	49
Tewkesbury	4,667	119	4	123	3.2	26.4	62	13.3	7	—	7	57
Westbury	1,769	33	2	35	5.7	19.8	19	10.7	3	2	1	86
Total Urban Districts	98,976	1,767	91	1,858	4.9	18.8	1,290	13.0	117	15	102	63
RURAL:												
Campden	5,410	79	5	84	6.0	15.5	64	11.8	7	1	6	83
Cheltenham	5,100	78	8	86	9.3	16.9	59	11.6	7	2	5	81
Chipping Sodbury	21,150	371	13	384	3.4	18.2	250	11.8	29	2	27	75
Cirencester	11,930	242	17	259	6.6	21.7	130	10.9	8	—	8	31
Dursley	12,520	241	14	255	5.5	20.4	153	12.2	19	1	18	75
East Dean and United Parishes	20,700	553	27	580	4.65	28.0	232	11.2	40	3	37	69
Faringdon (part of)	1,015	17	1	18	5.6	17.7	12	11.8	1	—	1	56
Gloucester	13,050	208	15	223	6.7	17.1	120	9.2	10	—	10	45
Lydney	9,840	218	9	227	4.0	23.1	109	11.1	8	—	8	35
Marston Sicca	1,671	19	2	21	9.5	12.6	23	13.8	—	—	—	—
Newent (part of)	6,550	124	6	130	4.6	19.8	84	12.8	2	1	1	15
Northleach	7,540	141	10	151	6.6	20.0	107	14.2	11	1	10	66
Pebworth	3,191	65	2	67	3.0	21.0	44	13.8	2	—	2	30
Stow-on-the-Wold (part of)	6,180	114	5	119	4.2	19.3	85	13.8	7	—	7	5
Stroud	28,560	486	13	499	2.6	17.5	323	11.3	37	3	34	4
Tetbury (part of)	3,542	83	10	93	10.8	26.2	35	9.9	5	1	4	54
Tewkesbury (part of)	4,637	80	4	84	4.8	18.1	57	12.3	4	—	4	48
Thornbury	18,780	369	19	388	4.9	20.7	238	12.7	26	—	26	67
Warmley	18,740	349	9	358	2.5	19.1	191	10.2	19	—	19	53
West Dean	14,750	348	12	360	3.3	24.4	146	9.9	20	1	19	56
Wheatenhurst	6,160	108	4	112	3.6	18.2	78	12.7	6	—	6	54
Winchcombe (part of)	8,780	164	8	172	4.65	19.6	119	13.6	9	—	9	52
Total Rural Districts	229,796	4,457	213	4,670	4.6	20.3	2,659	11.6	277	16	261	59
Administrative County	328,772	6,224	304	6,528	4.7	19.9	3,949	12.0	394	31	363	60

TABLE II.

NOTIFIABLE INFECTIOUS DISEASES.—1921.

DISTRICT.	Population, Census 1921.	Diphtheria			Erysipelas		Scarlet Fever.			Enteric Fever			Puerperal Fever			Cerebro-Spinal Meningitis			Polio-myelitis			Ophthalmia Neonatorum			Pulmonary Tuberculosis			Other Forms of Tuberculosis			Malaria		Pneumonia and Influenza			Encephl. Letharg.			Total.		
		Cases	Hospital	Deaths	Cases	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Sanatorium and Hospital	Deaths	Cases	Admission to Surgical Beds	Deaths	Cases	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths	Cases	Hospital	Deaths
URBAN—																																							
Awre	1,147	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	3	...	...
Charlton Kings	4,361	5	5	...	1	...	4	3	1	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	5	...	...	2	...	...	...	...	...	...	...	...	...	19	10	1
Cheltenham	48,444	71	62	7	19	...	73	61	1	2	1	...	...	...	...	2	...	...	...	...	...	3	...	...	66	...	35	22	...	14	...	...	26	15	41	1	...	...	285	139	98
Cirencester	7,408	8	8	...	1	...	3	2	...	4	3	2	...	...	...	...	...	...	...	...	...	2	1	...	...	2	5	1	1	2	...	...	...	...	2	1	...	1	25	17	12
Coleford	2,781	...	...	...	1	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	1	...	...	...	...	...	...	...	...	...	11	1	...
Kingswood	12,957	47	17	6	1	...	10	1	...	...	...	...	1	1	1	...	...	...	...	...	...	3	2	...	16	...	...	5	...	...	...	...	...	...	...	2	1	2	85	22	9
Nailsworth	3,148	3	3	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	2	4	...	...	...	...	...	2	...	...	...	...	...	8	5	5
Newnham	1,181	...	...	...	2	1	5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	1	1
Stow-on-the-Wold	1,204	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...
Stroud	8,561	13	12	2	...	...	3	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	9	9	9	...	...	3	...	...	5	1	2	...	...	...	31	25	16
Tetbury	1,593	3	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	1	...	...	...	...	...	...	...	...	6	...	2
Tewkesbury	4,704	8	7	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	3	2	1	...	...	...	...	10	2	1	...	...	...	24	13	5
Westbury	1,791	...	...	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	7	...	...	...	...	...	11	3	...
Total	99,280	158	114	18	28	1	109	74	2	8	5	2	3	3	1	2	...	...	...	...	...	10	4	...	114	16	56	33	1	20	...	...	50	18	46	4	1	3	519	236	149
RURAL—																																									
Campden	5,418	3	...	...	...	...	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	2	...	3	...	...	2	...	...	1	...	...	15	2	6
Cheltenham	5,195	7	3	1	2	...	16	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	1	...	...	...	...	...	...	...	...	...	...	28	7	3
Chipping Sodbury	21,096	36	16	3	5	1	17	...	1	...	...	...	2	2	2	1	...	1	...	...	...	2	...	1	31	5	9	8	...	3	...	...	15	...	12	1	...	1	118	23	34
Cirencester	11,979	5	4	...	3	1	3	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	9	2	11	...	...	2	...	...	...	...	7	...	...	...	21	7	21
Dursley	12,557	5	...	1	1	...	23	...	...	5	3	1	1	...	...	...	...	...	...	...	...	1	...	...	13	4	5	3	1	4	2	...	20	...	10	...	...	...	74	8	21
East Dean	20,494	9	6	1	5	...	3	2	...	3	2	2	1	...	1	2	...	...	...	...	...	4	...	...	8	7	10	3	3	3	...	...	8	...	11	...	...	...	46	20	28
Faringdon (part of)	1,048	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gloucester	13,116	4	1	2	2	...	16	10	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	10	7	3	...	1	...	...	1	...	...	...	...	...	45	21	11
Lydney	9,842	9	3	1	3	...	13	11	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	11	3	8	3	...	1	...	...	2	...	...	...	...	...	44	17	10
Marston Sicca	1,730	...	...	...	...	...	11	11	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	11	1
Newent (part of)	6,609	16	2	...	1	...	10	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	9	3	4	...	...	...	...	...	...	...	...	...	...	...	37	7	5
Northleach	7,564	1	1	...	1	...	4	4	...	2	...	...	1	1	...	...	...	...	...	...	...	2	...	...	5	...	6	1	...	4	...	...	1	...	3	...	...	...	18	6	13
Pebworth	3,239	5	5	3	...	...	28	26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	1	...	1	...	...	...	...	...	...	...	...	37	31	7
Stow-on-the-Wold (part of)	6,205	2	...	...	4	...	4	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	3	...	...	1	...	...	...	...	...	...	...	...	...	...	16	...	...
Stroud	28,677	14	12	1	3	...	40	14	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	1	31	10	10	2	...	2	...	...	14	1	8	...	...	...	106	38	22
Tetbury (part of)	3,528	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	1	...	...	...	...	...	10	...	...
Tewkesbury (part of)	4,687	4	4	...	1	1	17	16	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	5	4	2	1	1	...	...	...	1	...	...	...	...	...	30	25	3
Thornbury	18,853	4	2	...	2	...	23	2	...	...	...	...	1	...	...	...	...	...	1	...	...	1	...	...	24	4	12	3	1	...	...	...	21	2	8	1	...	1	81	11	21
Warmley	18,452	63	31	5	5	...	17	11	...	...	...	...	...	...	...	...	...	...	1	...	...	5	1	...	20	...	17	3	...	2	...	...	2	...	7	1	...	...	117	43	31
West Dean	14,650	22	...	2	5	...	42	...	1	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	16	...	...	4	...	...	...	...	...	...	...	...	...	...	94	...	3
Wheatenhurst	6,146	1	...	...	1	...	33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	5	...	5	...	...	...	...	...	3	...	4	...	...	...	44	1	9
Winchcombe (part of)	8,912	8	...	2	1	...	13	9	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	10	...	...	...	...	...	1	...	4	...	...	...	34	9	16
Total	229,997	218	90	22	45	3	342	124	3	19	6	5	8	3	3	3	...	1	2	...	...	25	3	2	227	52	124	39	6	26	2	...	92	3	74	4	...	2	1026	287	265
Administrative County	329,277	376	204	40	73	4	451	198	5	27	11	7	11	6	4	5	...	1	2	...	...	35	7	2	341	68	180	72	7	46	2	...	142	21	120	8	1	5	1,545	523	414

TABLE III. (A)—URBAN DISTRICTS.

1921.

L.G.B.—TABLE III.—CAUSES OF AND AGES AT DEATH.

CAUSES OF DEATH.	All Ages	Under 1 year	1—2 years	2—5 years	5—15 years	15—25 years	25—45 years	45—65 years	65—75 years	75 and over	Awre	Charlton Kings	Cheltenham	Cirencester	Coleford	Kingswood	Nailsworth	Newnham	Stow-on-the-Wold	Stroud	Tetbury	Tewkesbury	Westbury-on-Severn
1. Enteric Fever	2	...	...	...	...	...	...	1	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...
2. Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Scarlet Fever	2	...	...	...	2	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...
5. Whooping Cough	9	6	3	...	...	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	1	3	...
6. Diphtheria	18	...	2	7	9	...	...	...	...	...	...	...	7	...	...	6	1	...	...	2	...	2	...
7. Influenza	29	2	...	1	2	3	4	4	7	6	1	...	20	1	...	1	1	...	...	4	1	...	...
8. Encephalitis Lethargica	3	...	...	...	1	1	...	1	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...
9. Meningococcal Meningitis	2	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
10. Tuberculosis of Respiratory System	77	...	...	1	3	17	36	19	1	...	...	6	35	5	2	12	4	...	...	10	1	2	...
11. Other Tuberculous Diseases	23	3	1	1	2	4	6	3	2	1	...	...	14	2	...	4	...	...	...	2	1	...	...
12. Cancer, malignant disease	137	...	...	...	...	...	10	58	47	22	2	7	79	10	2	11	5	3	1	13	...	4	...
13. Rheumatic Fever	2	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...
14. Diabetes	6	...	...	...	...	...	...	4	2	...	...	...	4	1	...	...	1	...	...	...	...	...	...
15. Cerebral Hæmorrhage	89	...	...	...	...	...	3	22	35	29	...	6	46	8	3	6	...	...	1	7	3	6	3
16. Heart Disease	176	...	...	...	2	3	15	34	53	69	...	11	93	8	5	21	8	...	1	12	4	9	4
17. Arterio-sclerosis	53	...	...	...	...	...	...	2	14	37	...	2	25	2	3	5	...	2	1	1	1	9	2
18. Bronchitis	77	3	...	...	...	...	2	13	23	36	1	...	41	3	1	13	1	1	1	7	3	4	1
19. Pneumonia (all forms)	61	9	4	1	...	2	11	11	11	12	2	3	41	2	1	6	...	...	...	2	...	1	3
20. Other respiratory diseases	29	2	1	...	...	1	1	6	8	10	...	1	12	5	1	6	...	1	...	2	...	1	...
21. Ulcer of stomach or duodenum	6	...	...	...	...	...	1	5	...	...	...	1	2	...	...	2	1	...	...	...	...	...	...
22. Diarrhœa, &c., under 2 years	21	18	3	...	...	...	...	...	...	...	...	2	7	4	...	6	...	...	...	2	...	...	...
23. Appendicitis and Typhlitis	5	...	...	...	1	1	1	1	1	...	...	...	3	...	...	1	...	...	...	1	...	...	...
24. Cirrhosis of liver	4	...	...	...	...	...	...	2	2	...	...	...	1	...	...	1	...	1	...	1	...	...	...
25. Acute and chronic nephritis	29	...	...	...	...	...	2	13	8	6	...	1	18	3	...	3	...	2	1	1	...	...	...
26. Puerperal sepsis	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
27. Other accidents and diseases of pregnancy and parturition	8	...	...	...	...	...	8	...	...	...	...	...	4	...	...	...	...	...	...	1	...	2	1
28. Congenital debility and malformation, premature birth	62	62	...	...	...	...	...	...	...	...	...	4	31	3	1	9	4	...	2	2	1	3	2
29. Suicide	9	...	...	...	...	1	5	1	1	1	...	1	6	1	...	...	...	...	...	...	...	1	...
30. Other deaths from violence	20	...	...	...	1	5	4	2	5	3	...	...	9	2	1	2	...	1	1	2	...	2	...
31. Other defined diseases	319	12	1	1	7	6	29	45	55	163	2	8	178	28	14	28	10	2	7	19	8	12	3
32. Causes ill-defined or unknown	11	...	1	...	...	...	...	6	4	...	1	...	5	2	...	...	1	...	...	2	...	...	...
Total	1,290	117	16	12	33	44	139	254	280	395	9	54	688	94	34	146	37	13	16	93	25	62	19

TABLE III. (B)—RURAL DISTRICTS.

1921.

L.G.B. TABLE III.—CAUSES OF AND AGES AT DEATH.

CAUSES OF DEATH.	All Ages	Under 1 year	1—2 years	2—5 years	5—15 years	15—25 years	25—45 years	45—65 years	65—75 years	75 and over	Campden	Cheltenham	Chipping Sodbury	Cirencester	Dursley	East Dean and United Parishes	Fatrington (part of)	Gloucester	Lydney	Marston Sicca	Newent (part of)	Northleach	Pebworth	Stow-on-the-Wold (part of)	Stroud	Tetbury (part of)	Tewkesbury (part of)	Thornbury	Warmley	West Dean	Wheatenhurst	Winchcombe (part of)
1. Enteric Fever	5	...	...	...	1	...	2	2	...	...	...	...	...	...	1	2	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...
2. Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles	3	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
4. Scarlet Fever...	3	...	...	1	2	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...
5. Whooping Cough	13	10	1	1	1	...	...	...	...	...	1	...	1	...	1	1	...	1	...	...	...	1	...	...	...	...	...	4	2	1	...	...
6. Diphtheria	22	...	2	5	12	3	...	...	...	...	...	1	3	...	1	1	...	2	1	...	...	...	3	...	1	...	...	...	5	2	...	2
7. Influenza	50	3	...	...	1	2	10	14	7	13	1	...	6	1	6	4	...	3	4	...	1	2	...	1	10	1	...	3	1	3	2	1
8. Encephalitis Lethargica	2	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
9. Meningococcal Meningitis	3	...	...	...	...	1	2	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
10. Tuberculosis of Respiratory Organs	142	...	...	...	3	35	76	25	2	1	3	2	9	11	5	10	...	7	8	...	4	6	3	2	19	...	2	12	17	8	5	9
11. Other Tuberculous Diseases ...	35	1	3	2	7	7	7	7	1	...	3	...	3	2	4	3	...	1	1	1	...	4	1	...	4	...	...	...	2	6	...	...
12. Cancer, Malignant Disease	327	...	...	1	...	2	30	126	100	68	10	16	24	23	15	24	4	16	13	1	8	11	4	14	52	3	9	26	19	18	7	10
13. Rheumatic Fever	17	...	...	...	1	8	5	2	1	...	...	...	2	1	2	3	...	...	...	...	1	1	...	...	2	...	...	2	1	1	1	...
14. Diabetes	30	...	...	...	2	...	5	11	8	4	...	1	2	1	1	...	...	...	...	...	...	...	2	4	7	2	...	4	2	1	2	1
15. Cerebral Hæmorrhage	182	...	...	...	...	2	5	34	49	92	4	3	14	5	9	15	1	10	7	1	7	8	3	7	21	4	2	26	16	10	5	4
16. Heart Disease	399	...	...	...	5	4	18	105	120	147	4	7	33	18	38	42	...	10	17	4	15	9	7	3	50	4	13	35	31	19	20	20
17. Arterio-sclerosis	90	...	...	...	...	...	1	13	20	56	2	2	4	4	3	1	...	2	2	...	7	5	...	3	18	1	6	10	10	2	4	4
18. Bronchitis	146	17	2	...	...	2	1	17	38	69	2	3	18	3	2	12	1	8	7	...	3	7	3	7	17	2	5	18	15	7	3	3
19. Pneumonia (all forms)	104	18	8	5	2	6	18	23	17	7	1	2	12	7	10	11	...	8	2	1	7	3	2	4	8	...	1	8	7	1	4	5
20. Other Respiratory Diseases ...	37	2	...	...	1	...	5	13	7	9	...	...	5	4	1	2	1	...	...	...	1	2	...	2	2	1	1	2	5	6	1	1
21. Ulcer of Stomach or Duodenum ...	17	...	...	...	...	1	5	10	...	1	1	1	2	1	1	1	...	3	...	...	...	...	1	...	...	...	...	1	4	1	...	...
22. Diarrhœa, &c., under 2 years ...	35	30	5	...	...	...	...	...	...	...	...	1	1	3	1	12	...	...	...	...	...	1	...	...	7	...	1	1	4	2	...	1
23. Appendicitis and Typhlitis... ...	19	...	...	...	6	6	5	1	1	...	...	...	...	3	...	1	...	...	2	1	1	...	2	2	4	...	...	2	...	1	...	...
24. Cirrhosis of liver	14	...	...	...	...	...	1	5	6	2	...	...	3	1	...	2	...	...	...	1	...	...	...	...	1	...	...	2	1	...	1	2
25. Acute and Chronic Nephritis ...	70	1	1	1	1	3	8	30	11	14	2	1	10	6	7	4	...	4	2	2	4	3	2	1	6	...	...	5	3	3	3	2
26. Puerperal sepsis	3	...	...	...	...	...	3	...	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27. Other accidents and diseases of pregnancy and parturition ...	11	...	...	...	...	3	8	...	...	...	...	...	...	...	...	3	...	...	1	...	1	1	1	...	1	...	...	...	1	...	..	2
28. Congenital debility and malformation, premature birth	145	139	1	1	4	...	...	...	...	...	2	3	16	2	12	16	...	9	5	1	1	6	1	3	18	3	2	17	7	10	4	7
29. Suicide	18	...	...	...	...	2	7	5	4	...	...	2	2	1	...	3	...	2	...	...	...	1	...	2	1	...	2	1	...	1	...	...
30. Other deaths from violence ...	72	5	3	5	1	12	15	18	6	7	2	1	6	3	5	6	...	4	2	1	3	2	...	2	8	1	1	14	3	3	3	2
31. Other defined diseases	629	48	9	12	16	27	45	88	90	294	23	12	69	29	28	51	...	29	33	8	19	33	8	28	59	12	12	44	34	37	13	43
32. Causes ill-defined or unknown ...	16	2	...	...	...	...	2	7	4	1	3	1	...	1	...	...	5	...	2	...	...	1	1	...	7	...	...	...	...	...	...	...
Total	2,659	277	36	35	66	126	285	557	492	785	64	59	250	130	153	232	12	120	109	23	84	107	44	85	323	35	57	238	191	146	78	119