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# Gloucestershire County Council

28TH OCTOBER, 1931.

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## ANNUAL REPORT

OF

# The Medical Officer of Health

FOR THE

ADMINISTRATIVE COUNTY OF GLOUCESTER

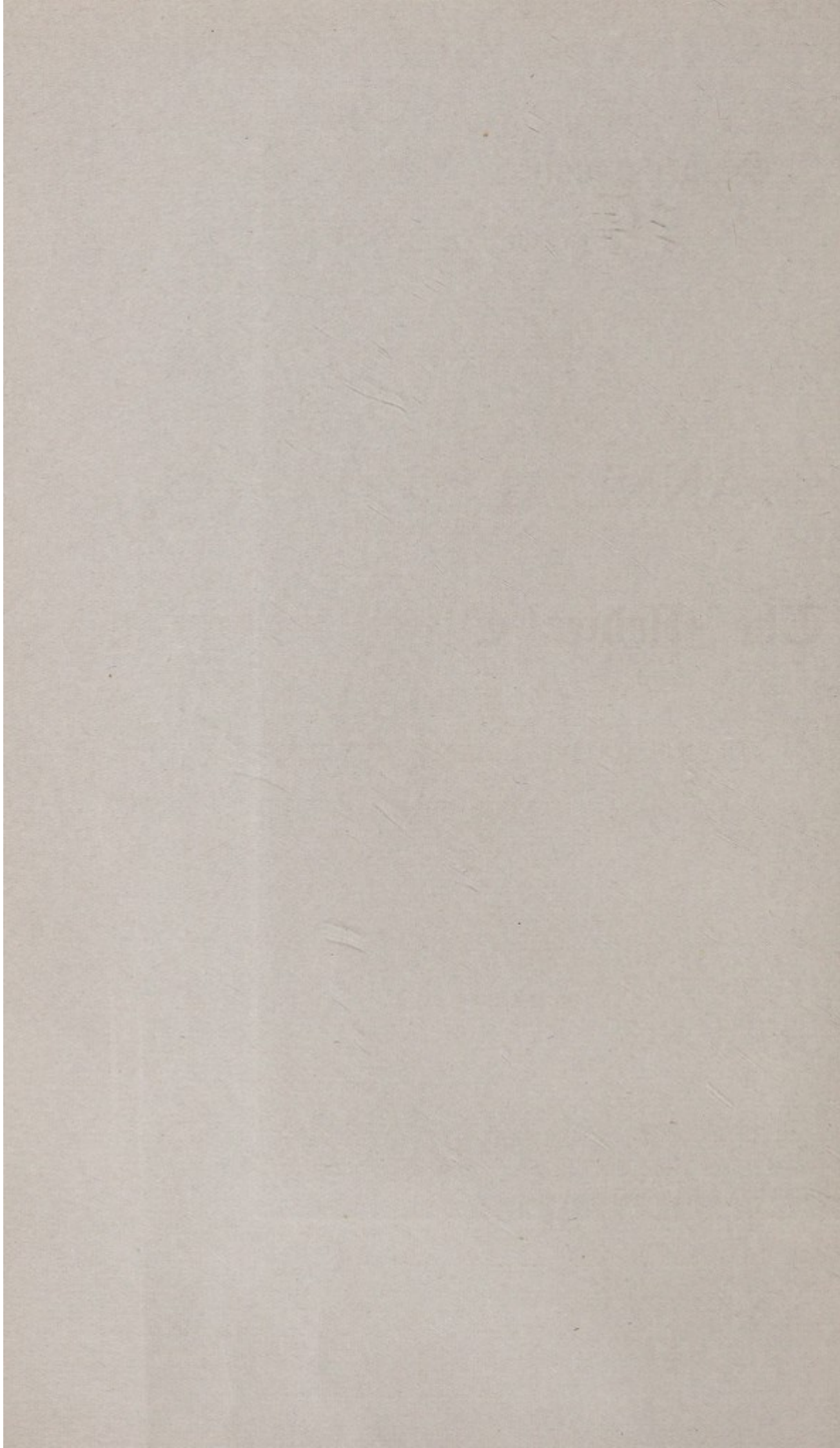
**FOR 1930**

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SHIRE HALL, GLOUCESTER

1ST SEPTEMBER, 1931.



Gloucestershire County Council

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# Gloucestershire County Council.

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## ANNUAL REPORT, 1930.

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HEALTH DEPARTMENT,  
SHIRE HALL,  
GLOUCESTER,

1st September, 1931.

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

LADIES AND GENTLEMEN,

I beg to present to you my 29th Annual Report which gives a short review of the conditions and happenings of 1930.

In accordance with the desire of the Minister of Health there has been included a list of the officers ; it is a long list and, in itself, is evidence of the wide range of public health services of the County Council. Long as it is, it does not include the names of the 136 District Nurses ; in some ways they are the most valuable agents of the Council for through them the County Council is enabled to get into the home—the primary focus of all health activity—more intimately than in any other manner.

The records for 1930 may be regarded on the whole as satisfactory. The general prevalence of infectious disease was low except that diphtheria was scattered fairly generally over the County, but, even so, the case fatality was the lowest on record. The general death rate and infantile mortality were both very low and it may be noted that, coincidentally with the steady fall in the latter, the numbers dying in all the younger groups are following the same course.

It is hoped, if opportunity allows to get out a decennial statement for 1921–30, on the same lines as those for two previous periods—the last occasion on which it will be possible to prepare comparative statements, owing to the alterations in district boundaries effected and proposed.

The possibility of obtaining unemployment grants has continued to stimulate activity in constructional works and, as a result, the circumstances of the County with respect to water supply, and sewerage are being greatly improved in various places.

The special arrangements under which the County Council have provided their treatment services have proved very happy during the ten years they have been in operation, and it is encouraging that advantage is taken, increasingly, of the possibility of their development and enlargement in various directions which have been in view from the commencement.

I have the honour to remain,

Your obedient servant,

J. MIDDLETON MARTIN,

*County Medical Officer of Health.*

TABLE A. 1930.

## Health Staff.

<i>Urban.</i>	<i>Medical Officer of Health.</i>	<i>Sanitary Inspector.</i>
Awre ... ..	O. W. Andrews ... ..	H. E. W. Hook
Charlton Kings ... ..	A. Barrett Cardew ... ..	F. A. Middleton
Cheltenham ... ..	D. E. Morley ... ..	F. R. Jefford
Cirencester ... ..	H. F. W. Adams ... ..	Wentworth Jones
Coleford ... ..	<i>See Awre</i> ... ..	H. Vaughan
Kingswood ... ..	C. J. Perrott ... ..	Ivor A. Stephenson
Mangotsfield ... ..	T. Aubrey ... ..	F. A. Long
Nailsworth ... ..	R. Green ... ..	T. Wood
Newnham ... ..	<i>See Awre</i> ... ..	<i>See Awre</i>
Stow-on-the-Wold ... ..	L. R. King ... ..	P. W. Alcock
Stroud ... ..	<i>See Nailsworth</i> ... ..	W. A. Hudson
Tetbury ... ..	<i>See Cirencester</i> ... ..	G. Hearsey
Tewkesbury ... ..	M. Elder ... ..	W. Ridler
Westbury-on-Severn ... ..	<i>See Awre</i> ... ..	<i>See Awre</i>
<i>Rural.</i>		
Campden ... ..	W. C. C. Easton (acting) ... ..	C. J. Gander
Cheltenham ... ..	F. J. Lidderdale ... ..	E. W. Moore
Chipping Sodbury ... ..	T. Rhind ... ..	{ W. H. Williams H. S. Hale
Cirencester ... ..	<i>See Cirencester U.</i> ... ..	E. J. Matthews
Dursley ... ..	Ditto ... ..	W. H. Williams
East Dean and United Parishes ... ..	<i>See Awre U.</i> ... ..	A. W. Collinson
Faringdon (part of) ... ..	W. Sisam ... ..	C. C. Sampson
Gloucester ... ..	<i>See Awre U.</i> ... ..	O. M. Hale
Lydney ... ..	Ditto ... ..	{ G. J. Elliott W. M. Richards
Marston Sicca ... ..	L. L. Fyfe ... ..	G. E. Boshier
Newent (part of) ... ..	W. M. Lucas Johnstone ... ..	W. Francis
Northleach ... ..	<i>See Cirencester U.</i> ... ..	S. A. Green
Pebworth ... ..	P. R. Tingley (acting) ... ..	R. J. Atkinson
Stow-on-the-Wold (part of) ... ..	R. E. B. Yelf ... ..	*A. E. Clifford (resigned 31/12/30)
Stroud ... ..	<i>See Nailsworth U.</i> ... ..	{ H. Barrett D. E. Whittaker
Tetbury (part of) ... ..	<i>See Cirencester U.</i> ... ..	<i>See Tetbury U.</i>
Tewkesbury (part of) ... ..	<i>See Tewkesbury U.</i> ... ..	E. H. Rosser
Thornbury ... ..	<i>See Chipping Sodbury R.</i> ... ..	{ F. W. Davies F. Merrett
Warmley ... ..	T. Aubrey ... ..	W. H. Knee
West Dean ... ..	P. Buchanan ... ..	P. Phipps
Wheatenhurst ... ..	<i>See Nailsworth U.</i> ... ..	L. Y. Whittingham
Winchcombe (part of) ... ..	G. R. Cox ... ..	H. Brown

\* Succeeded 1/1/31 by E. Lewis.

**TABLE B.**  
**Public Health Officers of County Council.**

County Medical Officer of Health ...	J. Middleton Martin
Tuberculosis Officers... ..	W. Arnott Dickson (also Medical Superintendent, Tuberculosis Institution), E. D. D. Davies, F. H. Woolley
Maternity and Child Welfare Medical Officer	E. C. Morris Jones
Consultant Obstetricians, etc. (part time)	Hospital Staffs—Cheltenham, Gloucester and Bristol Hospitals, and Maternity Homes of Cheltenham and Gloucester District Nursing Associations
Venereal Diseases Officers (part time)	Cheltenham General Hospital, Gloucestershire Royal Infirmary, Stroud Hospital
Dental Surgeons ... ..	A. M. Boal, P. J. Wakley, B. F. Wren
Maternity and Child Welfare Centre Medical Officers (Part Time)	39 General Medical Practitioners
Ante-natal Clinic Medical Officers (part time)	5 General Medical Practitioners
Pathologists (part time) ... ..	E. N. Davey, J. B. Davey, I. Walker Hall
Out-Station Medical Officers (part time)	46 General Medical Practitioners 15 Members of Hospital Staffs
Orthopædic Surgeons (part time) ...	E. M. Redman, J. S. Robinson, J. F. H. Stallman
Public Vaccinators (part time) ...	70 General Medical Practitioners
Veterinary Surgeons (part time) ...	16 General Veterinary Practitioners
County Analyst ... ..	R. H. Ellis, F.I.C., F.C.S. (also City Analyst)
Vaccination Officers (part time) ...	31 Officers
County Health Superintendents (whole time)	A. Boyd, V. M. Crow, I. V. Ladd, F. E. Lyne, E. Mason, J. I. McLauchlan, D. K. Palin, M. S. Payne
Orthopædic Nurses (whole time) ...	D. A. Rodenhurst, J. Shepherd
Dental Nurses (whole time)... ..	M. H. Allen (resigned 31/7/31), M. H. Griffiths, M. Hunt
Health Visitors (whole time) ...	A. E. Barnes, A. Somerfield, P. E. Watkins, L. Wright
(part time) ...	136 District Nurses

### ARRANGEMENT OF SANITARY DISTRICTS.

Under Order of the Minister of Health under Section 49 of the Local Government Act, 1929, two parishes in the Tetbury R.D.—Ashley and Long Newnton—were transferred from Wiltshire to Gloucestershire as from 1st April, 1930.

Later in the year progress was made in the re-arrangement of the northern boundary of the County and in January, 1931, the Minister of Health issued an Order under Section 49 of the Local Government Act, 1929 (confirmed by Act of Parliament on 27th March, 1931), making large changes in the north and east of the County. The net result is shown in the following statement.

## ALTERATIONS TO COUNTY BOUNDARIES.

	No. of Parishes.	Area in Acres.	Population.
ADMINISTRATIVE COUNTY (1921) ...	354	785,088	329,346
(1) PARISHES TRANSFERRED FROM GLOS.			
(a) to Warwickshire—			
Clifford Chambers ...		1,725	347
Dorsington ...		989	89
Long Marston ...		1,580	271
Preston-on-Stour ...		1,769	243
Welford-on-Avon ...		1,843	692
Weston-on-Avon ...		917	86
(b) to Worcestershire—			
Ashton-under-Hill ...		1,664	365
Aston Somerville ...		1,004	154
Beckford (part of) ...		2,000*	439*
Childswickham ...		1,898	484
Cow Honeybourne ...		1,377	513
Forthampton (part of) ...		900*	33*
Hinton-on-the-Green ...		2,291	226
Kemerton ...		1,664	434
Pebworth ...		3,056	542
	15	24,677	4,918
	339	760,411	324,428
(2) PARISHES ADDED TO GLOS.			
(a) from Wiltshire—			
Ashley ...		952	86
Long Newnton ...		2,319	284
(b) from Worcestershire—			
Blockley ...		7,896	1,778
Chaceley ...		1,763	177
Cutsdean ...		1,560	107
Daylesford ...		670	78
Evenlode ...		1,619	218
Redmarley ...		3,800	722
Staunton ...		1,505	321
Teddington... ..		747	88
	10	22,831	3,859
Administrative County (1931) ...	349	783,242	328,287

\* Estimates only.

Internal rearrangements under Section 46 are under consideration and when these are settled, groupings of districts, which have already been approved provisionally, will be effected under Section 58 (appointments of Medical Officer of Health) and Section 63 (Isolation Hospitals).

### HEALTH STAFF.

The list of the Medical Officers of Health and Sanitary Inspectors is given in Table A at page 7. So far as information is available there were no changes among the Medical Officers of Health during the year, but there were four among the Sanitary Inspectors.

Other officers employed by the County Council in a public health capacity are set out in Table B at page 8. In accordance with the policy of the County Council the fullest possible advantage is taken of the services of local persons engaged in allied work.

### VITAL STATISTICS.

#### POPULATION.

The results of the Census operations are not completely available, and for the purposes of this report the mid-year population for 1929 has been used in calculating the rates for 1930, as recommended by the Ministry of Health. The total population is increased, however, by the inclusion of the two Wiltshire parishes of Ashley and Long Newnton (Tetbury R.D.) as from 1st April, 1930. The figure for the County for the birth rates is 339,595, and for death rates (excluding the military population at Beachley, Lydney R.D.) is 338,467.

#### BIRTHS.

The number of births registered in the County reached the record low figure of 4,963—38 below the previous minimum of 5,001, in 1927. This fall occurred entirely in rural districts, the number of births in urban districts having increased to 1,549, the highest figure since 1924 when it was 1,560. The general and fairly continuous fall in the birth-rate during the present century is evidenced in the following table:—

	1930	1929	1928	1927	1926	1921- 1925	1916- 1920	1911- 1915	1906- 1910
Urban... ..	13.6	13.4	13.7	13.1	14.0	16.7	16.7	18.1	20.8
Rural ... ..	15.1	15.8	15.4	15.8	16.7	18.4	17.9	19.8	22.4
Administrative County	14.6	15.0	14.8	14.9	15.9	17.9	17.6	19.3	21.8
England and Wales...	16.3	16.3	16.7	16.7	17.8	19.9	20.1	23.6	26.3

In four urban districts (Cheltenham M.B., Newnham, Stow-on-the-Wold, Tetbury) the death rate was higher than the birth rate.

## DEATHS.

The number of deaths (4,011) was below that in the previous three years but 132 above the record minimum in 1923 (3,879) and the numbers in 1920 (3,920), 1921 (3,949) and 1926 (3,975). The drop was proportionally rather greater in the urban than in the rural districts. Though the actual number in 1930 is above those in the years mentioned, the death rate, calculated on a larger population, is the lowest recorded, namely 11.8 deaths per 1,000 of the population. The rates in urban and rural districts and in the county as a whole are set out in the following table :—

	1930	1929	1928	1927	1926	1921- 1925	1916- 1920	1911- 1915	1906- 1910
Urban ... ..	12.45	14.5	12.6	14.0	12.6	13.6	15.1	14.2	14.1
Rural ... ..	11.55	13.0	12.0	13.1	11.4	11.9	14.1	13.0	12.9
Administrative County	11.85	13.6	12.2	13.4	11.9	12.4	14.4	13.4	13.3
England and Wales...	11.4	13.4	11.7	12.3	11.6	12.2	13.7	13.8	14.4

Reduction in the numbers of deaths is observed in all age groups, and those in the following groups are record low figures—under one year, 1–5 years, 5–15 years, 15–25 years, and 25–45 years, that is for all groups below 45 years of age. For the age group 45–65 years it was the highest figure (950) since 1916 except in 1917 (973) and 1929 (1,024); the figure for ages of 65 years and over (2,216) was the highest in any year with the exception of 1915 (2,256), 1922 (2,325), 1924 (2,233), 1927 (2,086), 1928 (2,238) and 1929 (2,533). It was mentioned last year that the increased mortality had occurred at ages over 45 years and at the age group 15–25 years, and mainly from influenza, heart disease and to a less degree from cancer and nephritis. Nearly half the decrease in 1930 appears under the heading of influenza (207 deaths less), but other considerable reductions occur under heart disease (91), bronchitis (80), pneumonia (76) and pulmonary tuberculosis (33), while for nephritis there was an increase from 166 to 189. The influence of influenza on the death rate is very variable and was at its lowest in 1930. Apart from this the reduced mortality is mainly due to heart disease and respiratory affections including pulmonary tuberculosis, chiefly at ages under 45 years.

It is interesting to observe that during the present century there has been a fairly steady fall in the death-rates from bronchitis, pneumonia and pulmonary tuberculosis, being greatest for bronchitis and least for pulmonary tuberculosis. When the final

figures for the census of 1931 are available, it is hoped that there will be opportunity for working up the records of the past ten years with a view to a comparison with those got out for the two previous decennia.

#### INFANTILE MORTALITY.

The infant death rate (50) was the lowest for any year except 1923 (48) when the general death rate also reached the record minimum of 11.7.

The general decline during the present century in the mortality of children under the age of one year is shown in the following statement :—

	1930	1929	1928	1927	1926	1921- 1925	1916- 1920	1911- 1915	1906- 1910	1901- 1905
Urban· ... ..	60	62	60	53	55	68	69	87	95.5	111
Rural... ..	45	55	51	57	54	53	66	77	75	92.5
AdministrativeCou'ty	50	57	54	56	54	55	67	80	81	98
England and Wales	60	74	65	69	70	76	90	110	117	138

The margin for possible reduction has been steadily narrowed and it is not to be expected that the figure will fall much lower, though there is still room for some improvement by even better care in the management of infants in the early months of life and also by more efficient ante-natal work.

The lowered infantile mortality is associated with a corresponding—but rather delayed—fall in the death-rates amongst older children and young persons up to 25 years of age and an increasing share of the reduced general death rate appears in the age group of 65 years and over.

#### MATERNITY AND CHILD WELFARE.

The following section on this subject has been prepared by Dr. E. Catherine Morris Jones, the Assistant Medical Officer for Maternity and Child Welfare.

### 1. NOTIFICATION OF BIRTHS.

The proportion of births notified within 36 hours of their occurrence during the year is 92.3 per cent. There were 4,314 births registered and only 3,980 births notified, 3,131 (78.7 per cent.) being notified by midwives, 830 (20.85 per cent.) by doctors, and 19 (.5 per cent.) by parents.

### 2. HEALTH VISITING.

The following summary shows the number of visits paid during the year by all health visitors :—

		First visits.	Total visits.
(a) To expectant mothers	...	2,107	12,897
(b) To children under 1 year	...	4,434	25,059
(c) To children between 1-5 years		—	47,624
Total	... ..	6,541	85,580

This is an increase over the previous year of 2,058 visits. The full-time health visitors have all a larger number of children in their area than they can satisfactorily cope with and much additional visiting is entailed in respect of free milk supplies. The district nurses are doing their health visiting work with greater interest and with result, as is seen by the good attendances at the available Infant Welfare Centres.

### 3. MEASLES VISITING.

The number of cases of measles in 1930 was 216. This is less than the number in 1928 but more than double the number in the previous year. There is no apparent reason for this increase. Information as to the methods of home nursing of this condition and the serious consequences which may result if the cases are neglected is given at many welfare centres, and parents are taking greater care in protecting other members of the family from infection.

### 4. INFANT PROTECTION VISITING.

Under the Local Government Act, 1929, the duties under Part I of the Children Act, 1908, were transferred to the Maternity and Child Welfare Committee of the County Council in April, 1930. The County Health Superintendents and Health Visitors

were appointed Infant Life Protection Visitors. The work had previously been carried out by Boards of Guardians, and in 35 cases the visiting had been delegated to the Health Visitors. In addition in April 126 cases were handed over to the County Council with all records. Since that date 48 new foster homes have been visited and approved for registration, and a total of 193 children is now under supervision. Of this number 32 are boarded out with foster parents by the Church of England Waifs and Strays Society and 28 by Dr. Barnardo's Homes.

## 5. ADMISSIONS TO HOSPITAL.

### *Maternity Cases.*

The Ministry of Health in a circular issued in December, 1930, point out the necessity of providing sufficient hospital accommodation for maternity cases before, during, or after confinement, in which there is illness or abnormality, or where circumstances do not justify delivery at home. The demand for such accommodation continues to increase in this county, and with the extension of ante-natal work will be even greater. During the year all cases in which hospital treatment was required were able to be admitted though in many instances the patient had to be moved a long distance from her home and occasionally hospitals outside the county were used by arrangement. Approximately one case in thirty required hospital treatment and there is need for more maternity beds in certain parts of the county.

Many of the district hospitals will not admit cases of puerperal pyrexia, but these are treated at the general hospitals in Bristol, Cheltenham, Stroud and Gloucester, where complete investigations can be carried out.

The following table shows the record of admissions since 1924 :—

			Confinement.	Puerperal Pyrexia or Puerperal Fever.	Total.
1924	...	...	9	-	9
1925	...	...	18	-	18
1926	...	...	46	-	46
1927	...	...	52	6	58
1928	...	...	60	7	67
1929	...	...	126	20	146
1930	...	...	131	18	149

The following summary shows the reasons for admission :—

OBSTETRIC.

Contracted pelvis	...	...	10
Abnormal presentation	...	...	10
Toxæmia	...	...	32
Prolonged labour	...	...	3
Previous history of abnormal labours			12
Other anticipated difficulty	...		16
			— 83

MEDICAL

Kidney disease	...	...	6
Heart disease	...	...	5
Other conditions	...	...	6
			— 17

HOME CONDITIONS	...	...	24
CASES ARRANGED THROUGH DIOCESAN ASSOCIATION	...	...	7
PUERPERAL PYREXIA	...	...	18
			—
			149

There is a certain number of cases of unmarried girls which is brought to the notice of the Committee through the Diocesan Organiser. In the interests of both mother and infant, it is desirable that they shall be kept together for at least six months, so that the child may benefit by natural feeding and the mother's care. As there is at present no home in the county for this type of case, the Committee take advantage of such homes in other places, and the patients are admitted there for a period at most reasonable fees. Subsequent reports show that the majority of these cases make satisfactory progress and the girls are able frequently to obtain work with or near their children.

*Infants and Young Children.*

Provision for hospital treatment of certain conditions is available for children under school age. The child suffering from early rickets or ailments due to injudicious feeding and maternal ignorance rapidly improves under careful treatment and many of the defects found in early school life are prevented.

1928	...	...	7 cases admitted.
1929	...	...	24 „ „
1930	...	...	19 „ „

The number in 1930 is made up as under:—

Rickets	...	...	...	...	2
Malnutrition	...	...	...	...	6
Marasmus	...	...	...	...	6
Debility	...	...	...	...	3
Ophthalmia neonatorum	...	...	...	...	2

#### 6. CONSULTANT OPINIONS.

Arrangements have been approved by the Maternity and Child Welfare Committee whereby consultants may be called in by general practitioners to maternity cases where abnormality or difficulty is found. This service is of great value and it is hoped that more advantage may be taken of it in the early stages of difficult labours.

The summary of consultations is as follows:—

				Puerperal Pyrexias.	Pregnancy and Confinement.
1927	...	...	...	8	3
1928	...	...	...	10	4
1929	...	...	...	11	6
1930	...	...	...	8	6

#### 7. ASSISTED MILK SUPPLIES.

With the continued increase of unemployment in certain parts of the county the number of applications for free milk supply to the expectant or nursing mother and young child has also greatly increased. Milk is granted only after careful investigations into the family circumstances. Dried milk is supplied on medical recommendation where it is doubtful that the proper child is receiving the supply or where the house is not suitable for the storage of fresh milk. The Committee agreed that only English or Empire produced dried milk should be used in these circumstances.

			1929.	1930.
Number of new applications	...	...	433	489
„ „ monthly extensions	...	...	1,886	3,233
„ „ pints of milk	...	...	72,370	114,257
„ „ packets of dried milk	...	...	—	730

#### 8. NURSING HOMES REGISTRATION ACT, 1926.

Acting in accordance with the provisions of the Local Government Act, 1929, Cheltenham Municipal Borough applied to the County Council to delegate to them their duties under the above Act with respect to the borough. This application was

granted and the duties under the Act were transferred to the borough as from 1st May, 1930. Twelve nursing homes which had been previously under county supervision were therefore no longer. Four new nursing homes have been registered during the year and two previously registered have closed down, making a total of 15 homes under inspection in December, 1930.

## 9. MATERNITY AND CHILD WELFARE CENTRES.

### *Ante-natal Centres.*

(a) Cinderford. The centre opened here in 1929 continues to show satisfactory results. The mothers are eager to attend and to take advantage of the advice given. The doctors and midwives in the district are most helpful and encourage their patients to attend. Several cases have been recommended hospital admission from the centre.

(b) Lydney. A centre was opened at the out-station in connection with Lydney Hospital in April. The mothers have made good attendances, particularly from the outlying districts and the midwives also are very enthusiastic.

Numbers of new patients.	Ante-natal	Primipara Multipara ...	Lydney.	Cinder-	Total
				ford.	
			9	21	30
			37	60	97
	Post-natal	... ..	3	3	6
„ „ old patients	... ..	... ..	—	13	13
					— 146
„ „ attendances of	Ante-natal patients	... ..	55	161	216
„ „ „ „	Post-natal „	... ..	13	28	41
„ „ cases referred to hospital for confinement			8	12	20
„ „ individual midwives	... ..	... ..	8	11	19
„ „ total attendances of midwives	... ..	... ..	20	27	47

### Period of pregnancy at first attendance (all centres).

Months of pregnancy...	3	4	5	6	7	8	8+
Number of patients ...	8	9	10	30	31	18	6

### ABNORMALITIES (all centres).

Oral sepsis ...	... ..	... ..	... ..	... ..	... ..	30
Contracted pelvis ...	... ..	... ..	... ..	... ..	... ..	5
Toxæmia ...	... ..	... ..	... ..	... ..	... ..	7
Malpresentation ...	... ..	... ..	... ..	... ..	... ..	7
Kidney disease ...	... ..	... ..	... ..	... ..	... ..	4
Heart disease ...	... ..	... ..	... ..	... ..	... ..	8
Other medical conditions	... ..	... ..	... ..	... ..	... ..	33

It is hoped to open a new centre every three months so that there may be opportunity in all parts of the county for midwives to bring their patients for advice and information.

### *Infant Welfare Centres.*

The work in these centres is most encouraging. The County Federation has done good work in providing speakers and demonstrations and the educational side of centre activities has been much extended in this way. Three new centres have been opened at Berkeley, Newent and Filton respectively, all of which are making most satisfactory progress, making a total of 32 centres in the county. Several of the centres have made special provision for dental inspection and in some cases treatment, which has been much appreciated by the mothers. A grant towards this work was approved by the Maternity and Child Welfare Committee. The value of voluntary work in Infant Welfare cannot be over-estimated and the atmosphere of the centres is friendly, helpful and in no way patronising.

#### Total number of attendances at all centres :—

(a) By children under 1 year	...	...	4,064
(b) „ „ over 1 year	...	...	12,622
Average attendances per session	...	...	29.2

### 10. TRAVELLING HEALTH EXHIBITION.

This exhibition made two tours during the year, visiting 11 villages in the districts of Mickleton and Winchcombe, and 10 in the Forest of Dean. The organisation of this exhibition has now been handed over to the Health Committee of the Rural Community Council; the personnel of the sub-committee remains as before and the scope and sections of the exhibitions have not been altered. The Maternity and Child Welfare Committee still pays most of the expenses of the tours, and the payment is justified, as much local interest is aroused, leading to further activities in health matters, such as the establishment of Infant Welfare Centres. This is the largest single effort in education in which the Committee is interested, and it is hoped that the whole county may be visited in time.

## 11. ADMINISTRATION OF MIDWIVES ACTS.

*Provision of Midwifery Services.*

The position at the end of 1930 was as follows :—

## Number of practising Midwives

Trained women ... ..	226
Untrained women ... ..	12

## Number of Parishes—

(a) covered by District Nurse-midwives ... ..	337
(b) covered by Independent Midwives ... ..	8
(c) with no Certified Midwife ... ..	11

Number of cases attended by Certified Midwives ... ..	2,532
Percentage of total births ... ..	56.25
Number of notices of requiring medical help ... ..	1,264

Midwifery Services by District Nurses.	No. of D.N.A. Parishes.		Area in Acres.	Population, 1921.
(a) Associations affiliated with Glos. C.N.A. ... ..	127	329	721,848	303,788
(b) Associations affiliated with other C.N.A. ... ..	6	6	9,395	1,747
(c) Non-affiliated D.N.A. ... ..	2	3	6,307	720
	<hr/>	<hr/>	<hr/>	<hr/>
	135	338	737,550	306,255
Exclude Cheltenham M.B. (Transferred May, 1930) ... ..	1	1	4,726	48,430
	<hr/>	<hr/>	<hr/>	<hr/>
	134	337	732,824	257,825
Independent Midwives ... ..	—	8	28,641	19,136
No Certified Midwife ... ..	—	11	29,167	6,585
	<hr/>	<hr/>	<hr/>	<hr/>
<i>Total Administrative County</i> ... ..	134	356	790,632	283,546

The County Nursing Association reached its twenty-fifth anniversary this year. Six new district associations were formed during the year at Alvington, Westbury-on-Severn, Slimbridge, Coaley, Newnham, Littledean, Henbury. Two old associations were absorbed into existing districts. The midwifery duties under Acts in respect to Cheltenham Municipal Borough were transferred to that borough in April, 1930.

*King Edward Memorial Fund.*

Nurses maintained from the following Fund were required on duty in the county for the following work :—

Emergency duty	66 weeks 4 days
Holiday duty	4 „

One nurse was off duty, through illness, 16 weeks. Other emergency nurses had to be employed for 95 weeks 4 days. This does not include holiday duty supplied.

Workhouse Midwives.—10 certified midwives are employed in 8 of the Public Assistance Institutions in the county.

*Confinements attended by Certified Midwives.*

The number of births notified was 3,980, and of these 3,131 were notified by midwives. The number of confinements attended by midwives was 2,532 or 56.25 per cent. of total births. This is again a smaller figure than in previous years and must be partly accounted for by the increased admission to hospital for confinement.

*Notices received under the Rules of the Central Midwives Board.*

Confinements attended by Midwives ... ..	1929		1930.	
	No.	%	No.	%
Medical help, mother ... ..	1,093	35.9	1,044	41.2
"    "    baby ... ..	221	7.2	220	8.7
Still-births ... ..	63	2.07	82	3.2
Death of mother ... ..	6	.2	1	.04
"    "    baby ... ..	45	1.5	28	1.1
Artificial feeding ... ..	72	2.4	41	1.6
<b>Total ... ..</b>	<b>1,500</b>	<b>49.27</b>	<b>1,416</b>	<b>55.84</b>

No. of Midwives who notified their intention to practise during the year ... ..	1929.		1930.	
	No.	Per 100 Midwives.	No.	Per 100 Midwives
Further notices.				
Change of address ... ..	80	26.9	52	18.0
Laying out dead body ... ..	20	6.7	23	8.0
Source of infection ... ..	57	19.2	83	28.7

It will be seen that in practically 50 per cent. of the cases the midwives call in medical help. This proportion is steadily increasing and may, generally speaking, be taken as an index of the midwife's increased foresight in recognising abnormal cases in the early stages. There is a larger call for medical aid in conditions occurring in pregnancy.

*Still-births.*

The number of still-births among midwives cases during the year was 82, being 19 more than in the previous year. All the cases are investigated, but it is frequently difficult to find a

definite cause for the death of the infant. The district nurses reported that 66 infants had died within 4 weeks of birth during the year, and as it is probable that the same reasons obtain in the early deaths as in the still-births, it is proposed to carry out enquiries in these cases also during the coming year.

This summary is obtained from investigations into the still-births.

Months of pregnancy when foetus was born	Under 7	7-8	8-9	Full term
Cases ... ..	2	8	3	49

Conditions noted at time of delivery :—

Abnormal presentation.	Breech...	...	...	15
	Twin ...	...	...	3
	Other ...	...	...	9
Albuminuria ...	...	...	...	8
Ante-partum hæmorrhage	...	...	...	4
B.B.A. ... ..	...	...	...	5
Deformity of foetus	...	...	...	9
Maceration of foetus	...	...	...	17
No reason apparent	...	...	...	12

It will be noted that more than half the cases occur at full time and that in 27 cases there was some condition causing difficult and prolonged labour. It is possible that this may account for a certain proportion of the cases.

#### *Puerperal Pyrexias.*

Notices of rise of temperature were received from midwives in 56 cases of which 23 were subsequently notified as puerperal pyrexia. 24 additional cases of puerperal pyrexia were notified by doctors direct making a total of 47 cases of puerperal pyrexia and 33 in which the rise of temperature did not persist for such period as would necessitate the case being notified under the Regulations. All cases are investigated and the doctors are very helpful in giving full particulars of the cases with which they are concerned. 18 of the notified cases were removed to hospital for treatment and of these 4 died. Many of the cases were very slight and soon recovered under treatment at home. In 8 cases a consultant opinion was requested.

In 31 cases there was no interference during labour, and in 10 cases where assistance was required, forceps were used in 6.

#### *Maternal Deaths.*

There were 13 deaths of mothers during the year, 12 less than in 1929. This gives a maternal mortality rate of 2.9 which is a



capacity of Inspectors of Midwives. The visits are by no means always of an inspectorial nature, the midwives fully appreciating the help and assistance given. The number of visits paid to any midwife depends on the matters arising requiring investigation, 37 midwives being visited on 6 or more occasions during the year.

#### OBSERVATIONS.

1. *Ante-Natal Work*.—This branch of the service is not yet fully established. It has not been possible to open new centres as often as was hoped but special efforts will be made to increase the number next year.
2. *Dental Treatment*.—The grant for this work was completely used up by the end of the year and further extensions were postponed until a dental scheme had been approved. Under this all children under school age and expectant and nursing mothers will be able to have the benefit of advice and necessary treatment by the county dental surgeons.

### WELFARE OF THE BLIND.

The County Association for the Blind, of which the Rev. R. H. M. Bouth, formerly Chairman of the Public Health Committee, is Chairman, administers the Scheme approved by the Council. The Association presented the following report for 1930-31 :—

In presenting their Report for the year ending March 31st, 1931, the Committee wish to express their appreciation of the valuable help given by the many voluntary Visitors and Almoners.

**REGISTRATION.**—The number of Blind on the Register on March 31st, 1931, was 698. During the year 145 new cases were registered, 45 have died and 12 have removed to other Counties, leaving a net increase of 88.

There are also 162 cases of defective vision under observation.

**COUNTY COUNCIL GRANT.**—The outstanding event in the year's work was the decision of the County Council in October, 1930, to give increased assistance to enable the incomes of the Necessitous Unemployed Blind to be raised to 15/- a week, with benefits. The number in receipt of this help has risen from 58 at the beginning of the year to 134 in the last quarter—relief which is being enormously appreciated. This extra grant is in addition to the block grant of £1,669, payable quarterly, under the Local Government Act of 1929, which sum includes grants made by the Ministry of Health and the County Council.

A sum of £38 was spent at Christmas, gifts being distributed among 228 of the loneliest and poorest of the Blind in our midst.

**EDUCATION AND TRAINING.**—16 blind children are pupils at the Royal School of Industry at Westbury-on-Trym, 3 adults are under training at the Royal Blind

School at Leatherhead, one boy is at the N. Wales School for Blind Children at Rhyl and one woman at the Home for Unemployable Blind at Effingham Lodge. 20 adults are employed at the Cheltenham Workshops for the Blind and 3 women at the Royal Blind Asylum Workshops at Bristol.

Miss Amy Benson of Frampton Cotterell, trained at Swansea Blind Institution, was approved by the County Council in July last, making a total of 16 Registered Home Workers under Bristol Institution.

4 cases from Gloucestershire are resident at Torr Home for the Blind at Plymouth and 2 women at the Home in Gordon Road, Clifton.

**FINANCE.**—The very satisfactory sum of £759 10s. 11d. has been received from the National Institute for the Blind—a still further increase on last year—and Mr. King Cummings is much to be congratulated on so good a result of his labours.

It is not generally known that by special arrangement between the Gloucestershire County Association for the Blind and the National Institute for the Blind there is only **one official fund** for the work being done in connection with the Blind of the County. That Fund is controlled by the N.I.B. (Western Counties' Branch, 2 St. Paul's Road, Clifton, Bristol, Sec. J. King Cummings). 75 per cent. of all the money raised by the N.I.B. in this County is handed over to the Glos. County Assoc. for local work, the N.I.B. retaining 25 per cent. for work of a purely national character, greatly benefitting all blind persons.

It is much to be regretted that there is still a considerable amount of money sent out of the County every year which only benefits **outside** organisations. It is hoped that all those interested in the blind will, before responding to any appeal which may be received, ascertain that it is organised by the N.I.B. and is on behalf of the many hundreds of blind people in this, **our County**.

**GRANTS AND PENSIONS.**—The Gyde Trustees have generously renewed their Grant of £50 for expenses incurred in the care of the blind children in Gloucestershire. They also most kindly gave a blind girl a month's holiday last August at St. Leonard's-on-Sea, paid the fees for a small boy at the Sunshine Home at Leamington and are continuing their grant of £50 towards the fees at the Royal Normal College for the Blind on behalf of Arnold Sadler of Stow-on-the-Wold, until he comes of age the end of this year.

*Grants to the value of £292 have been received during the past year, viz :—*

Clothworkers ... ..	5	Hetherington ... ..	7
Friends of the Poor ... ..	1	Merlots ... ..	2
Gardner's Trust ... ..	4	National Institute ... ..	2
Hellenic Community ... ..	1	Royal Blind Pension ... ..	4

An Annuity of £130 from St. Monica's Home was granted to a blind crippled gentleman, but he died from the effects of a fall soon after having been nominated.

**HOME TEACHING SERVICE.**—The Committee offer their congratulations to Miss M. L. Hobbs on gaining honours in all 7 subjects and winning the Arthur Pearson Prize for the best result of the year—out of 108 candidates—in the examination for the Home Teaching Certificate held in London. From April 1st, 1931, the Home Teaching Staff will consist of 3 **full time Home Teachers**.

The increase in numbers has rendered necessary certain alterations in the distribution of work and the Executive Committee decided that it was essential for the Home Teacher for the southern district of the County to reside within the area in which she worked. Miss Chapman did not feel able to comply with this request and resigned the post of Home Teacher for S.E. Glos. on March 31st, 1931. She had won many friends among the Blind by whom her services will be greatly missed.

Miss D. Bedford, of Hill House, Old Sodbury, nr. Bristol, has been appointed as Home Teacher for South Glos. to start work on April 1st, 1931.

The Union Areas are now divided as follows :—

1. CHELTENHAM AND DISTRICT AND NORTH GLOUCESTERSHIRE.—(Miss A. C. Wynn Lloyd.) Cheltenham, Urban and Rural; Cirencester; Northleach; Stow-on-the-Wold; Shipston-on-Stour; Winchcombe.

2. SOUTH GLOUCESTERSHIRE.—(Miss D. Bedford.) Chipping Sodbury; Dursley; Stroud, Rural; Tetbury; Thornbury; Warmley, Out-Relief.

3. WEST GLOUCESTERSHIRE.—(Miss M. L. Hobbs.) Chepstow (Glos. Portion); Gloucester, Rural; Monmouth (Glos. Portion); Newent; Stroud, Urban; Tewkesbury; Westbury-on-Severn; Wheatenhurst.

During the year, 4,656 visits have been paid in the course of which the Home Teachers have instructed the Unemployable Blind in reading and writing raised type and in pastime occupations.

The Committee thank the Home Teachers for their kindness and untiring work. Their visits are warmly appreciated by the Blind.

PARTIES.—During the summer months some delightful parties were most thoroughly enjoyed. The Blind of their environs were respectively entertained by Mr. and Mrs. Allen, of Moor Court, Amberley; Sir Stanley and Lady Tubbs, of Ellencroft, Wotton-under-Edge; Mr. and Mrs. Wykeham Musgrave, of Barnsley Park, Cirencester; Mrs. Meredith and her band of splendid helpers, at Viney Hill, in the Forest of Dean; and Miss A. C. Wynn Lloyd and her supporters, at Cheltenham.

Christmas Parties were held at Charfield, Cirencester, Cheltenham and Stroud, and by Mrs. Roscoe at her residence at Coleford.

The Annual Re-union of Home Workers took place at Bristol on June 26th, when Mr. and Mrs. Stevens gave their guests a very enjoyable outing.

SALES OF WORK.—To find purchasers for the work made by the Blind is the best incentive to encourage their efforts; and very deep gratitude is felt to all who so kindly held Sales during the past year.

The efforts of Miss O. Lloyd Baker at Hardwicke Court, Mrs. Harford at Widden Hill House, Mrs. Mitchell at Postlip Hall, the Longhope Women's Institute, the Pitchcombe House Garden Fête, the Floral Fête and Chrysanthemum Show at Cheltenham, the Viney Hill Blind Party, and of Lady Makin and Miss Howard at their shop in Friday Street, Painswick, together realised a total of £131 11s. 2d. This money was paid over in full to the Blind Workers.

PREVENTION OF BLINDNESS.—During the year 33 persons have been sent for examination by Ophthalmic Surgeons and help has been given towards fares and the provision of glasses to the tune of £6 17s. 2d.

SOCIAL CLUBS.—A very pleasing feature of the year's work has been the inauguration of two Social Clubs in the Forest of Dean Areas.

Mrs. Jones, the District Representative for Westbury-on-Severn Area, and Miss M. L. Hobbs have held a very successful Club at Cinderford since September, and Mrs. Roscoe of Birchamp and Mrs. Conway-Gordon of Staunton have had some very happy gatherings at Berry Hill in the Y.M.C.A. Hut, most generously lent them for that purpose.

The Clubs at Cheltenham, Charfield, Cirencester and Stroud have been well maintained throughout the 12 months. These social centres are a source of much pleasure to the Blind, and thanks are indeed due to all those who add to their success by their kind help in entertainments, lectures, refreshments and transport.

WIRELESS.—The magnificent gift of Mr. and Mrs. Helmut Schröder materialised to the grand total of 200 sets, 168 of which are distributed among the Blind in the County. Full maintenance is provided and the 3 valve sets with loud speakers are of the very best procurable. The joy and comfort this present has brought into the lives of those so handicapped in the walk of life is beyond words adequately to express, but the general opinion among the recipients is that they cannot conceive however they have lived without them.

The British "Wireless for the Blind" Fund has given 12 crystal and 16 one valve sets, the latter proving very efficient and the upkeep quite small. 330 certificates for free wireless licences have now been issued in the County.

The Hon. Sec. will be very grateful for offers of help for the various social Clubs in the way of entertainers, lecturers or transport, for holding Sales of Work, for Summer Garden Parties, for *drives* on fine summer days, for annual orders for dish cloths, and for orders for any of the work undertaken by the Registered Home Workers.

An analysis of the cases on the register presents interesting information on the postponement of the age at which blindness has commenced.

Since 1923 an analysis has been made each year of the age distribution of the blind in the county and of the age at which blindness developed. The total number on the register has increased from 561 in 1923 to 698 in 1931: the increase is almost entirely due to gradually increased completeness of information and not to new cases. The main cause of blindness used to be ophthalmia neonatorum (eye disease occurring soon after birth), a preventable condition if reasonable care is taken by the mother and those in attendance on her. Thus of the 561 cases in 1923, 10.5 per cent. were under the age of 21 years and 150 or 26.8 per cent. of them became blind before the age of one year; in contrast, in 1931 the proportion of the 698 blind persons under the age of 21 years was only 4.2 per cent. and the incidence of blindness under the age of one year was 14.6 per cent. (102 cases).

Discharge from the baby's eyes, however slight, has been a condition for which certified midwives must seek medical assistance since 1903. Severe cases which have become purulent have been compulsorily notifiable since 1914 and the number of cases reported has ranged from 15 in 1922 to 43 in 1920, that in 1930 being 27, about the same as the average for the 17 years, namely 25. All cases are kept under observation and so far as records are available in only one of the 425 cases notified has impairment of vision resulted and that in slight degree, in 1921. In 1931 there was only one known blind child under the age of 5 years, and only 18 under the age of 16 years.

The workshop for the Blind in Cheltenham was handed over to the County Council by the Committee of the Workshop in April, 1928. It was established in July, 1858, and has provided

employment for about 25 men and women. The Committee of Management now consists of County Council representatives on the County Association; they presented the following report for 1930-31:—

At the close of the year there were 25 registered employees in the workshops, 21 men and 4 women—5 of the men come from the Gloucester City area, the remainder, including the women, belonging to the County. This is a decrease of 1 on the previous year. The depressed state of trade has been felt by us in common with all other business concerns, and it has needed considerable ingenuity to keep everyone employed. Sales at £1,305 show a decrease of £65, the principal falling off being in the basket-making department. Under the prevailing circumstances this cannot be considered unsatisfactory, though the position might be improved if it should be found possible to obtain a more central position in the town for the Exhibition and Sale of our products.

Orders from local Authorities have been well maintained, and we have reason to believe that the quality of the goods sent out from the Workshops has given satisfaction. It has been necessary to incur more expenditure in advertising and in many cases to lower the prices in order to maintain the Sales even at their reduced figure, and we regret that there has been no diminution in the import of cheap foreign baskets and mats produced at prices with which we cannot hope to compete.

Sales at Flower Shows and at private houses will continue to be held whenever possible. This is probably the best means available for introducing our productions to a wider circle of patrons.

The telephone has recently been installed (Cheltenham 3245) and it is hoped that customers will find this a useful means of sending orders and enquiries.

### **SCHEME FOR THE EXTENSION OF MEDICAL SERVICES.**

The Scheme was devised in 1919 with the object of arranging the treatment activities of the County Council as one service with centres of treatment common to all—schoolchildren, mothers and infants, tubercular children and adults, orthopædic work, etc. A further object was to utilise existing agencies—medical, nursing and hospital—to the fullest possible extent instead of arranging special services and special places.

It has now been in operation ten years which have been a period of steady development on the original lines. By the end of 1929 12 out-stations had been in use for periods ranging from three to nine years; in 1930 additional out-stations were opened at Bourton-on-the-Water (8th April), Hambrook (29th April), Coleford (28th October) and Dursley (4th November). As no hospital was available at any one of these places special buildings were provided. At Bourton-on-the-Water a site was given to the County Council by the Trustees of the late George Moore, giving effect to his offer during his lifetime, and a brick building, stuccoed to accord with the local type of building, was erected at a cost of £804; a brick building was also provided at Hambrook for £853.

The out-station at Coleford is of a more temporary type and was erected at a cost of £548. At Dursley accommodation was provided by adapting the ground floor of the old Grammar School at a cost of £164. Owing to special local difficulties very little use was made of the out-station opened at the Moreton-in-the-Marsh Hospital in May 1926 and it was decided to close it at the end of 1930 when that at Bourton-on-the-Water was available.

Places now under consideration are Wotton-under-Edge (out-station in course of erection), Winchcombe, Newent, Marshfield, Northleach and Tidenham.

Developments in the range of service were set out in the report for last year, viz., experimental treatment of parenchymatous goitre by iodine administration, co-operation with the Bristol University Centre of Cardiac Research, and orthopædic treatment. During 1930 there were further developments. Up to April of that year all the orthopædic work was undertaken by Mr. J. S. Robinson of the Cheltenham General Hospital, but from that time it was divided between the same three hospitals providing other services, namely Bristol (Dr. Ethel M. Redman); Cheltenham (Mr. J. S. Robinson); and Gloucester (Mr. J. F. H. Stallman). These surgeons visit out-stations quarterly and intermediate care is provided by two orthopædic nurses. Further, at the end of the year, it was agreed that the Public Health Committee might give treatment to special cases beyond school age, under Section 14 (1) of the Local Government Act, 1929, and Section 131 of the Public Health Act, 1875. Also, in April, 1930, it was agreed that Wassermann tests for syphilis should be undertaken at the Gloucestershire Royal Infirmary (as well as in the Bristol University Laboratory) and later in the year the treatment of venereal disease at out-stations was brought within the range of the scheme after its exclusion for seven years. An interesting further development which is under consideration by the Medical Advisory Committee is the provision of a wide range of consultant services somewhat on the lines suggested as one of the possibilities in the original scheme as put forward in 1919. Another extension of the services which will be effected in the autumn of 1931, is the dental treatment of pregnant and nursing mothers and young children; the staff of three dental surgeons now working entirely in the schools has been enlarged to four so that one quarter of the time of each one of them may be devoted to the new branch of work.

The growth in the work is set out in Table V at the end of the report; the attendances in 1922 were 3,084 and in 1930, 18,675. In this table is also given the cost of the Scheme year by year;

from this it will be seen that the average *total* cost per attendance has fallen from 15s. 6d. in 1922 to 6s. 7¼d. in 1930 and that the average cost for medical services only is now 1s. 3d. per attendance and for specialist services about 7s. per attendance.

The experience of the ten years has fully proved not only the possibility but also the great advantages of happy co-operation between local authority, hospitals and general practitioners in the provision of medical services in a very satisfactory manner. Further, if the opportunities afforded by the Local Government Act, 1929, are fully developed, there will be even greater scope for yet closer co-ordination of hospital and ancillary services and also closer association of medical practitioners and district nurses in the health organisation of the community, which is an important aim of the Gloucestershire Scheme.

### ORTHOPÆDIC TREATMENT.

By the end of 1930 the new arrangements whereby this work was undertaken on the lines of the general scheme had been in operation for nine months and it was considered that a general review would be helpful to the Medical Services Committee. The following is a reprint of the report :—

#### GENERAL NOTE.

Prior to 1922 the only orthopædic defects treated at the public expense in this county were those due to tuberculosis, which is the cause of some one-third of the cases.

The Medical Services Committee then arranged for the treatment of a few special cases at various hospitals, and an Orthopædic Nurse was appointed on 1st November, 1925. The County Council approved on 31st May, 1926, a scheme which included the use of 6 beds at the Cheltenham General Hospital, and arrangements whereby the Orthopædic Surgeon visited certain out-stations quarterly for the examination of patients, and the Orthopædic Nurse held weekly clinics, in addition to home visitation of patients. In January, 1929, the County Council approved the appointment of a second orthopædic nurse.

Encouraged by the successful results the Council agreed on 8th January, 1930, to enlarge the range of the Scheme and to distribute the work between the three hospital areas (Bristol, Cheltenham and Gloucester) on the same lines as the other branches of the work. Under the extended arrangements the beds are allocated between the three areas as follows :—

	Beds
Cheltenham (Mr. J. S. Robinson) ... ..	5
Gloucester (Mr. J. F. H. Stallman) ... ..	3
Bristol (Dr. Ethel M. Redman) ... ..	2
Special Hospitals ... ..	2
	—
	12
	—

The three Surgeons visit the following out-stations quarterly :—

Mr. Robinson.—Chipping Campden, Cirencester, Fairford, Stroud and Tewkesbury.

Mr. Stallman.—Berkeley, Cinderford, Coleford and Lydney.

Dr. Redman.—Chipping Sodbury, Soundwell and Thornbury.

Weekly clinics are held by the Orthopædic Nurses at the following out-stations :—

Miss Rodenhurst.—Chipping Campden, Cinderford, Coleford, Lydney and Tewkesbury.

Miss Shepherd.—Berkeley, Chipping Sodbury, Cirencester, Fairford, Soundwell, Stroud and Thornbury.

In order that patients living at a distance may have the advantage of available services, the Medical Services Committee arrange transport in certain cases, and they assist in the provision of appliances. Valuable help is also given in many parts of the county by ladies and gentlemen interested in special cases.

On the completion of the first year reports were made to the Committee by each of the three Surgeons, and it is considered that their experience of the new arrangements is so useful that the Committee decided to reproduce their reports for the information of the Council; these are appended hereto.

Mr. Robinson's report is largely of a routine character, giving the records for the year, as he has dealt with principles fairly fully in previous reports. Mr. Stallman emphasises points in orthopædic schemes to which Mr. Robinson has previously referred—in particular, the place of residential training institutions in schemes, and appropriate arrangements for after-care. Dr. Redman's report is brief and her cases are not so numerous as those of her two colleagues: the special point she stresses is the need for more than the present two beds in a hospital-school such as the Winford Orthopædic Hospital.

All three Surgeons pay well deserved tributes to the very useful work of the Orthopædic Nurses (Miss Rodenhurst and Miss

Shepherd) and to the advantages of the out-stations where the nurses can continue the treatment and where the cases are grouped for examination by the Surgeons.

Further nursing assistance is the greatest need at the present time and the appointment of a third Orthopædic Nurse, so that there may be one for each hospital area, is probably the most useful and economical manner in which the scheme can be strengthened under present conditions.

A very encouraging record to which Mr. Robinson and Mr. Stallman refer is the fact that over half of the cases have come under review under the age of 5 years.

In some cases it is not possible to complete treatment before children reach the upper limit of school age, but it is hoped that, partly by the continued treatment being given under ordinary hospital conditions and partly by the exercise of powers given to the Public Health Committee by the County Council in January last, treatment may be brought to a satisfactory conclusion in all cases. The Council recognised this need, and on 14th January, 1931, authorised the Public Health Committee to provide such treatment in suitable cases.

Provision has been made for the concurrent treatment and education of a few cases in the two beds at the Winford Orthopædic Hospital, near Bristol, but the extension of these arrangements is urged by the Surgeons as necessary to complete the range of the Scheme.

Two very satisfactory features of our experience are that the Health Visitors are referring early defects at a time when remedial measures can be largely preventive, and that such a large proportion of the children are under 5 years of age.

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#### REPORT BY DR. ETHEL M. REDMAN.

During the past six months, the quarterly attendance at the orthopædic clinics at Soundwell, Chipping Sodbury and Thornbury, has been good.

Old patients have attended (1) for inspection and adjustment of their splints or apparatus; or (2) to report progress after exercises which have been given weekly by the After-care Sister.

New patients have been examined and advised treatment.

A few patients have been discharged.

Three boys have been sent to Winford Orthopædic Hospital for prolonged hospital treatment and others have been recommended hospital treatment at the Bristol Infirmary, Bristol General Hospital, or the Children's Hospital, St. Michael's Hill, Bristol.

The work of Miss Shepherd, the After-Care Sister, has been well rewarded in several cases of flat feet and bad posture. The children have shown marked improvement under her method of teaching them exercises which they do twice daily at home, and then seeing her weekly at the Out-Station.

One regrets that there is only provision made for 2 beds at a hospital-school such as Winford Orthopædic hospital; for there the children not only have prolonged orthopædic treatment, but they also have school, which is open to inspection by the Board of Education. Therefore, after their operation, for example, an arthrodesis of a flail foot due to infantile paralysis, when they are in plaster or the like, waiting the necessary period for healing, they are:—

- (1) Under medical supervision,
- (2) Their active minds are occupied,
- (3) They are learning with one another to overcome their physical deformities,

whereas the children who go to a general hospital for treatment, owing sometimes to the urgent need of beds for more acute cases, are often sent home in plaster. The child, if in a country district, has to stop at home as school is too far away. At home plasters become soiled and foul, apparatus is taken off and the child is often left idling indoors.

One other fact one would like to point out, namely, our work is not completed if we leave the children to fend for themselves after they leave school. They need as much orthopædic supervision then as in their school days.

I would very much like to say how much one appreciates the help given and interest shown by doctors, district nurses and school workers of the districts.

E. M. REDMAN, M.B., CH.B.

31st January, 1931.

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### REPORT BY MR. J. S. ROBINSON.

In presenting the report of the past year's work, reference is only made, and statistics are available only in regard to patients from the following places, or at any rate, from areas served by them, viz. : Chipping Campden, Cirencester, Stroud, and Tewkesbury. Reference will also be made to the in-patient treatment, carried out at Cheltenham General and Eye Hospitals. A small number of County patients are seen at the Orthopædic Out-patient Department at Cheltenham, and reported on in the usual way.

In regard to numbers, there has been little, if any, change in the numbers attending for examination and treatment at the various Out-Stations visited by me. Old cases cured have been replaced by new ones, and once again, it gives me much pleasure to record the opportunity of giving treatment at an early stage in the deformity or disease. This is of vital importance in regard to the future outlook, and in respect of the time taken to obtain a cure. It is altogether the exception to find congenital deformities, such as club feet and absence of arm or leg bones brought for examination, much after the age of one month, in fact I find that treatment has been commenced by the local doctors, or district nurses, as soon as the child is considered fit for it.

THE NUMBER OF CASES TREATED.—118 boys and 108 girls—226 in all—were treated by me during the past year, the sex percentage being practically the same.

Under the age of 2 years ... ..	Boys 29, Girls 32
Under the age of 5 years ... ..	Boys 57, Girls 53
Under the age of 10 years ... ..	Boys 95, Girls 89

The sex ratio will thus be seen to be practically the same at all ages.

IN-PATIENT TREATMENT AT THE CHELTENHAM GENERAL AND EYE HOSPITALS.—41 patients, of whom 17 were boys, and 24 girls, received treatment as in-patients. The number of admissions was 54, and the total number of days in hospital was 1,533. The usual operations were performed, including those for correction of club feet, necessitating wrenching, tenotomies, and application of plasters. Cases, such as these, require constant correction and supervision, and it has been our practice in certain cases, to send the children out the same day, in order to save the parents expense. Open operations on club feet have had to be done in a few cases, but very few bone cutting operations have, I am glad to say, been required in this type of case, since neglected cases are rarely met with. Other operations have been done for irreducible congenital dislocations of the hip-joint, knock knees, bow-legs and claw feet. Some of these cases have been sent home in plaster, where they are under the care of the Orthopædic and District Nurses, returning to hospital later for remedial treatment and re-education in walking.

11 cases of infantile paralysis received in-patient treatment, which consisted of splintage, massage, muscle re-education, and in certain cases bone exsection, tendon transplantations, while in others bone stops have been inserted, to prevent foot-drop, and thus obviate the necessity for wearing leg irons later. This is a procedure which has become well established of late, and is a very valuable method in cases of infantile paralysis.

Several cases of hare lip and cleft palate have been operated on with definite improvement from the cosmetic point of view. I referred last year to the question of providing obturators to fill certain defects in the palate after operation; this difficulty still remains, and is one which is well worth investigating. To obtain the best result possible must be our aim, and I hope a solution of this problem will be possible. The financial outlay would not be large in any one year, and I feel more than satisfied that the end result would justify such expenditure. In this special branch of surgery, after-care is vital; operations are at times necessary adjuncts, but it is only by continuity of work that the results are obtained. What is required more and more, is for residents in each district to take an interest in the cripple. An excellent example is set by the Cripples' Aid Associations in Gloucester and Cheltenham, where district visitors help in many ways to further the work. I must readily acknowledge the valuable help given, and the interest taken in cases by various people, and last, but by no means least, by members of Voluntary Aid Detachments in the County.

Before proceeding, I may say that a new orthopædic clinic has been opened at Fairford Hospital and promises to be of definite value for those in that area.

#### ANALYSIS OF MAIN CASES.—

Deformities of feet	{	Flat feet ... ..	50
		Club feet ... ..	14
		Claw feet ... ..	9
Bow Legs ... ..		28	
Knock Knees ... ..		18	

Infantile Paralysis	...	...	...	...	...	...	...	...	33
Rickets	...	...	...	...	...	...	...	...	6
Little's Disease	...	...	...	...	...	...	...	...	5
Birth Paralysis (affecting arms)	...	...	...	...	...	...	...	...	2
Hare Lip and Cleft Palate	...	...	...	...	...	...	...	...	5
Congenital Dislocation of Hips	...	...	...	...	...	...	...	...	6
Torticollis (Wry Neck)	...	...	...	...	...	...	...	...	3
Scoliosis	...	...	...	...	...	...	...	...	8
Perthes Disease...	.....	...	...	...	...	...	...	...	4
Congenital Absence of Bones and Part of Hands and Feet	...	...	...	...	...	...	...	...	17

**FLAT FEET.**—The main treatment consists of alteration to the shoes or boots ; remedial exercises and instruction in walking. The parents are instructed to supervise the exercises at home, while the Orthopædic Nurses make regular visits to the homes for the purpose of watching the progress of the case. In many cases the children are brought to the out-stations for weekly treatment, while in other cases the necessary massage is given by the massage staff at the hospitals.

**CONGENITAL CLUB FEET.**—There is no need to emphasise what has been said about the treatment of this condition. Care until the child is able to walk well, and *use the body weight as a corrective force*, is the aim. Leg irons may be necessary when this stage is reached.

**CLAW FEET.**—This is usually the high arched foot, treated conservatively by a bar on the sole of the boot and remedial exercises ; later wrenching, tenotomies and tendon transplantations may be necessary, depending on the nature of the case.

**BOW LEGS AND KNOCK KNEES.**—In a large proportion of these cases rickets is a predisposing cause, and a very important factor is the treatment of the constitutional disease. Cod liver oil in one of the many preparations is given, coupled, if possible, with ultra violet ray treatment. In marked cases, admission to hospital has been arranged so that such facilities may be taken full advantage of. Manipulations, retention splintage, and in a few cases, operations have been necessary for the correction of the deformity.

**INFANTILE PARALYSIS.**—Postural treatment from the onset of the disease is a *sine qua non* : by this means, the damaged muscles are rested and given the best chance of recovery, while joints are held in the correct position, and deformities are prevented, owing to the overaction of the healthy muscles. Even when walking splints are in use, it is necessary for the child to wear night splints, a point to which I would strongly draw attention.

**LITTLE'S DISEASE.**—This disease is due to an injury at the time of birth, resulting in various deformities of the limbs, which interfere markedly with locomotion. Mental changes are present in varying degree, but it has been observed that a definite alleviation of mental symptoms takes place, after the correction of the deformities. In this disease, perhaps more than in any other, re-education is essential, and needless to say, difficult, hence the necessity for prolonged institutional treatment, where expert treatment can be regularly given.

**SCOLIOSIS (Lateral Curvature of the Spine).**—Cases of this nature may be the result of infantile paralysis, the "paralytic" type in which a spinal support may be necessary, in addition to the usual remedial exercises. Other cases are met with,

due to the inequality in the length of the lower limbs, which are treated by compensating the short leg by an addition to the boot. Then follow remedial exercises. Many cases of a postural type are met with, which respond well to re-education. The parents and teachers can be of much assistance in such cases, by insisting on proper posture when walking, or sitting. In some cases, nose and throat operations have been recommended, to obtain a free airway, so that full chest expansion may be obtained.

**PERTHE'S DISEASE.**—This is a condition affecting the head of the femur, which, if untreated, results in a deformity, which causes the patient to limp. Before long, a deformity appears in the neck of the bone, which may give rise to definite disability. Plaster fixation, for at least six months, and later a walking caliper splint is necessary, the progress of the case being controlled by X-Rays at regular intervals.

The arrangements which have been made for X-Rays have been very satisfactory, and form a valuable record in all necessary cases.

My thanks are due in no small measure to all who have co-operated with me in this work. The Orthopædic Nurses have done much by their skill, enthusiasm and tact, to make the year's work successful, while the valuable help of the members of the Voluntary Aid Detachments has been a very pleasing feature.

The Matrons and Nurses at the various hospitals and at the out-stations have rendered great help, while the skilful nursing and care of the in-patients at the Cheltenham General and Eye Hospitals leaves nothing to be desired.

February 11th, 1931.

JAS. S. ROBINSON.

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### REPORT BY MR. J. F. H. STALLMAN.

In presenting this Report to you I should like to point out that I only took over this work for the County Council on April 1st, 1930, and that therefore the Report only represents the work of nine months of the year. This will account for the relatively few cases treated as in-patients.

Quarterly visits have been made to the Out-Stations at Berkeley, Cinderford and Lydney; owing to the large number of children attending the Lydney Out-Station it has been found necessary to make two visits each quarter there, except during the last quarter when only one visit was made, an additional clinic having been opened at the Coleford Out-Station rendering an extra visit to Lydney unnecessary, because a considerable number of the children attending Lydney came from the Coleford area. This new Out-Station is likely to prove the largest clinic. A new Out-Station has also been opened at Dursley, but I have not yet visited this, because the number of children attending there does not yet warrant a visit, the few children from that area attending my clinic at Berkeley. Roughly upwards of 30 or more children are seen at each Out-Station, the smallest number being at Berkeley. A total of 106 boys and 118 girls have been seen. The ages of the children range from babies of a few weeks old up to children of 14 years. The various Orthopædic conditions found are given in the following Table 1. Cases of hare-lip

and cleft palate, although not generally considered as orthopædic, are conveniently treated under the Orthopædic Scheme. Table 2 shows the age incidence, which is of interest in showing the preponderance of deformities in the early years of life, and at the time of puberty in girls.

TABLE 1.  
ORTHOPÆDIC CONDITIONS.

	<i>Boys.</i>	<i>Girls.</i>
Flat Foot ... ..	24	36
Bow Legs ... ..	23	12
Knock Knees (Genu Valgum) ... ..	6	2
Infantile Paralysis ... ..	15	15
Hammer Toe ... ..	—	1
Little's Disease ... ..	2	4
Hare Lip and Cleft Palate ... ..	2	1
Scoliosis (Lateral Curvature of Spine) ... ..	4	7
Congenital Dislocation of Hips ... ..	—	4
Congenital Talipes Equino Varus (Club Foot) ... ..	3	3
Congenital Talipes Varus ... ..	3	4
Enlarged First Metatarso-Phalangeal Joints ... ..	—	2
Haemophyliaic Joint ... ..	1	—
Slow Development ... ..	3	—
Osteogenesis Imperfecta ... ..	—	1
Erb's Paralysis ... ..	1	1
Facial Paralysis ... ..	—	1
Birth Injuries ... ..	1	2
Multiple Congenital Deformities ... ..	—	1
Pes Cavus ... ..	4	2
Weak Ankles ... ..	1	4
In-toeing... ..	4	1
Dislocation Left Elbow ... ..	—	1
Injury Right Shoulder ... ..	—	1
Claw Hand ... ..	—	1
Defect of Hand ... ..	—	1
Enlarged Bursae about Knee ... ..	—	2
Perthe's Disease of Hip ... ..	—	3
Old Tuberculous Hip ... ..	1	—
Old Fracture Left Femur ... ..	1	1
Sprengal's Shoulder ... ..	1	—
Round Shoulders ... ..	2	1
Winged Scapulae ... ..	1	—
Supra-Condylar Fracture of Left Humerus ... ..	—	1
Congenital Torticollis ... ..	—	1
Overlapping Toes ... ..	—	1
Chronic Osteomyelitis ... ..	2	—
	106	118

TABLE 2.  
AGE INCIDENCE.

<i>Boys</i>				<i>Girls.</i>			
Age up to	1 year	...	18	Age up to	1 year	...	11
" "	2 years	...	16	" "	2 years	...	15
" "	3 "	...	6	" "	3 "	...	6
" "	4 "	...	6	" "	4 "	...	7
" "	5 "	...	6	" "	5 "	...	5
" "	6 "	...	6	" "	6 "	...	7
" "	7 "	...	6	" "	7 "	...	7
" "	8 "	...	7	" "	8 "	...	7
" "	9 "	...	6	" "	9 "	...	7
" "	10 "	...	11	" "	10 "	...	12
" "	11 "	...	5	" "	11 "	...	11
" "	12 "	...	7	" "	12 "	...	12
" "	13 "	...	5	" "	13 "	...	10
" "	14 "	...	1	" "	14 "	...	—
" "	15 "	...	—	" "	15 "	...	1
			—				—
			106				118

It will be noticed that the most frequent deformity is that of flat foot, 24 boys and 36 girls. Marked improvement is usually noticed early in this condition as the result of suitably altered footwear being ordered and the exercises given by the Orthopædic Nurse. Bow legs is again a common deformity, 23 boys and 12 girls, and this deformity, together with knock knee (*Genu Valgum*), 6 boys and 2 girls, shows that rickets, the cause of both of these deformities, is a fertile cause of deformities in children. Many cases of flat feet are seen in quite small infants. Many of these are no doubt due to the poor muscular tone which accompanies rickets and therefore at least some of the cases of flat foot must be attributed to this constitutional disease. The usual shoes sold for infants are unsound in design and are a cause of foot trouble. Further, these infants are, in a great many poor-class families, much too much on their feet and obtain insufficient rest, thus leading to muscular fatigue, which leads to static deformities of the feet. I consider that this is a point which should be noted by Welfare Centres and by those who are responsible for the proper education of mothers in the bringing-up of their children. Scoliosis (lateral curvature of the spine) is, in the majority of cases, a postural deformity resulting from muscular fatigue and faulty habits of standing and sitting. Most of the cases show very good results after a course of remedial and educational exercises. The more severe forms of Scoliosis, where structural alterations have occurred in the bones, muscles and ligaments of the spine, have had suitable spinal jackets supplied. More severe corrective measures have to be done in these cases, and the results are not so satisfactory as those obtained in the cases of simple postural deformity. A number of cases of *Pes Cavus* (claw foot) have been seen. Although some of these are due to infantile paralysis, and in this Report are classified under this disease, others are not due to this disease, and at least some of these must again be ascribed to faulty footwear.

Deformity, due to infantile paralysis (anterior poliomyelitis), is the second largest in point of numbers, 15 boys and 15 girls. These deformities constitute a serious source of incapacity in wage-earning power when these children reach adult life. The prolonged treatment required in some of these cases,

and the disabling nature of some of the deformities, seriously interfere with the education of these children. The ideal would be to place the children with the more severe and disabling deformities in educational institutions after operation, where their education can be carried out at the same time as they receive remedial measures for their deformities, such as massage, exercises and electrical treatment. Some of these children in the country have to travel long distances to school, in some cases a physical impossibility. An outbreak of anterior poliomyelitis occurred in the Forest of Dean in the summer: 6 cases from this outbreak have come under my care, 5 paralyses of moderate severity, and one case in which the paralysis is so severe and widespread, and in which there is so little tendency to recovery, that the future outlook in life for the child is lamentable.\* The results of the treatment given for the deformities in this group have been on the whole satisfactory, and in some cases very good.

A number of cases of Little's disease (Spastic Paralysis) have attended the clinics. Treatment of these cases is rendered difficult owing to the mental deficiency that accompanies this disease in varying degree. In the more severe cases this deficiency is so great that any useful treatment cannot be done; in selected cases, however, considerable benefit can be given by carefully-planned operations and prolonged after-treatment, and it is well worth spending money on such cases if funds permit.

There was one case of multiple congenital bony and joint deformities for which little can be done. The cases of congenital club foot, on the other hand, show very satisfactory results due to early and persistent treatment from birth. There was one case of Erb's paralysis due to difficult confinement, which may be cited as an excellent example of the benefit which may be expected by this Orthopædic Scheme by bringing cases under treatment early. As a result of suitable splintage there was almost complete recovery in three months. A similar case seen in an older child showed persistent deformity and partial dislocation of the shoulder joint as a result of lack of treatment immediately following birth. This latter case requires operation, which adds to the expense of the splintage, which is also required after operation.

As regards in-patients, three beds are available at the Gloucestershire Royal Infirmary. An endeavour has been made to keep these occupied always, but owing to the demands on the accommodation of the Institution by emergency cases, this has not always been possible. In order to relieve the waiting list and so keep it within reasonable bounds, some of the minor manipulations and operations have been done as out-patient operations, the patients being sent home the same day. Children coming from a long distance have not been treated in this way. Arrangements have now been made with the Children's Hospital, Kingsholm, to accept cases for in-patient treatment requiring the more simple operative procedures, and cases of cleft palate and hare lip; this will relieve the waiting list to some extent, because it is very regrettable for cases to have to wait some six months, and at times it has been much longer, for a vacant bed or cot. Some cases have to be re-admitted at a more or less definite time to complete an operative programme, with a congested waiting list the optimum time is not very easily arranged.

There have been 16 admissions, one child being admitted twice. The average stay in hospital has been 22.4 days; the average for all patients in the Infirmary is 17.7 days. Considering that 7 of these admissions were for deformities resulting from infantile paralysis, the operative wounds of which do not always heal as kindly and as readily as those do on sound limbs, the average length of stay does not appear to be too high compared with the average stay in hospital for the whole Infirmary. Some of the children admitted have been found to harbour the diphtheria bacillus in the throat or nose (routine test swabs of the throat and nose is done on all

\* This child has since died of pneumonia, a frequent cause of death in severe degrees of Infantile Paralysis.

children admitted). Such cases have had to be isolated as diphtheria carriers until found to be free from infection. One case developed mumps the day after admission and had to be discharged. Such unfortunate occurrences are to be expected when dealing with children. All the cases operated upon can be said to have been improved, some markedly so, and one case was cured. Few deformities can be cured in the strict sense of the word.

As regards out-patient attendances at the Royal Infirmary. There were 42 attendances at the Orthopædic Out-Patient Clinic. Some of these are those of children whose place of residence render it more convenient for them to attend at the Infirmary than at an out-station. Some children who attend at the out-stations come to the Infirmary when it is necessary for me to see them more often than quarterly, or for some other special purpose, such as to see the surgical appliance maker. There have been 17 attendances in the Ultra-Violet Ray Department at the Royal Infirmary and 109 attendances in the Physio-Therapeutic Department at the Royal Infirmary during the December quarter: figures are not available for the other quarters. In this department Swedish remedial and re-educational exercises, massage and electrical treatment are given. Without this treatment, which is often prolonged, many operations would be rendered futile, since the operations are a means to an end and are designed to render such treatment possible. There have been 11 minor operations performed on out-patients with an anaesthetic, and 8 without an anaesthetic.

A very large amount of work has been done by the Orthopædic Nurses in their visits to the out-stations and to the homes of the children. This work consists of giving massage and exercises, etc., a great deal of advice to parents, examining the state of repair of splints and appliances and seeing to their correct application; in many cases they apply plaster splints or repair or re-apply them. By far the greater proportion of the after-treatment of operations described above is carried out by these nurses, and of their devoted care and skilful attention and loyal co-operation I cannot speak too highly. The Orthopædic Scheme has now grown to such proportions, and the numbers attending the out-stations are now so large that the area to be covered by the Orthopædic Nurses is very large, so that it seems to me humanly impossible for them to give that frequent and detailed attention to after-treatment that some cases require. If funds were to permit of any extension of the Scheme, I think that either more visiting Orthopædic Nurses should be employed, or there should be qualified masseuses in the larger towns working in co-operation with the visiting Orthopædic Nurses. To provide after-care educational institutions would seem to be a more expensive and ambitious scheme not likely to be realised for very many years, and the scheme outlined above appears to be the only remedy in the meanwhile.

In conclusion, I should like to express my gratitude and thanks to Miss Rodenhurst and to Miss Shepherd for their valuable and most skilful work and assistance. My thanks are also due to the Health Visitors and District Nurses for their valuable assistance. I should also like to express my grateful thanks to the Board of the Royal Infirmary for giving facilities for this work to be carried out in that Institution, and also to the managements of the various out-stations for the facilities given. I also wish to thank the practitioners in the county for their loyal co-operation in this work. To Dr. Middleton Martin I am under a deep debt of gratitude for much advice and help, and for his unfailing assistance to help to overcome difficulties, and for his readiness to meet my many demands. My thanks are also due to Dr. John Goss and to the doctors at the Lydney and Berkeley Cottage Hospitals for their kind help in the many radiological examinations required.

January 31st, 1931.

J. F. H. STALLMAN.

### INFECTIOUS DISEASES.

The summary showing the numbers of cases notified in each district, together with the numbers removed to hospital and the numbers of deaths, will be found in Table II at the end of this report.

#### SMALL-POX.

For the first time for five years no case of this disease was reported.

#### SCARLET FEVER.

The number of cases notified during 1930 was 461, the smallest since 1921 when 451 were reported. The general trend of incidence is indicated in the following condensed statement :—

No. per year. (Average.)	1930	1926- 1929	1923- 1925	1920- 1922	1917- 1919	1914- 1916	1911- 1913	1908- 1910	1905- 1907	1902- 1904	1899- 1901
Cases ... ..	461	760	672	528	293	1152	999	648	689	1216	1079
Deaths ... ..	—	5	5	5	1	14	11	7	9	22	21
Hospital Cases ...	226	416	355	218	151	582	498	286	221	371	—
Case Fatality ...	—	.66	.74	.88	.46	1.24	1.07	1.08	1.26	1.84	1.98

The cases were scattered pretty generally over the County, only one small district—Awre U.D.—escaping entirely. The districts from which most cases were reported were Cheltenham M.B., 38 cases ; Stroud R.D., 35 cases ; Gloucester and Winchcombe R.D., both with 32 cases ; and Kingswood U.D. with 31 cases. The disease appears to have been of a mild type in all areas and for the first year on record (since 1901) no deaths were attributed to this cause.

#### DIPHTHERIA.

The numbers of cases notified increased from 202 in 1928 to 383 in 1929 and further increased to 431 in 1930 ; this number has been exceeded in only nine years since 1896. The general trend of the incidence is shown in the following summary :—

No. per year. (Average.)	1930	1926- 1929	1923- 1925	1920- 1922	1917- 1919	1914- 1916	1911- 1913	1908- 1910	1905- 1907	1902- 1904	1899- 1901
Cases ... ..	431	284	247	384	273	476	406	479	595	374	387
Deaths ... ..	21	26	19	31	29	64	27	44	51	38	52
Hospital Cases ...	321	212	153	212	174	221	126	177	146	51	—
Case Fatality ...	4.9	9.2	7.8	8.0	10.6	13.5	6.6	9.25	8.5	10.1	13.5

The areas of greatest prevalence were Kingswood U.D. (68 cases), Cheltenham M.B. (62), East Dean (48), Warmley R.D. (49), and Mangotsfield (45); in six districts no case was notified. On the whole the type of the disease was mild and there were only 21 deaths among the 431 cases, a mortality of only 4.9 per cent., a figure which has been reached only once previously, namely in 1911 (4.8 per cent.).

The usual practice of examining contacts—school and household—was followed in many parts of the County and in some areas, *e.g.* in Kingswood U.D. and Warmley R.D.,—areas of special prevalence—arrangements were made for the treatment of carriers. In no district, so far as information is available, were Schick tests for susceptibility conducted nor was immunisation arranged. Offers of immunisation of children were made in the Warmley R.D., but as only 25 per cent. of parents were willing the matter was allowed to drop. At Filton, in the Chipping Sodbury R.D., 64 children were immunised; the only other children immunised regularly are those on admission to Standish House Tuberculosis Institution, but the Medical Officer of Health for the Wheatenhurst R.D. notes that a case of diphtheria occurred amongst them in 1930, though it “was a very mild attack, being more of the nature of a ‘carrier’.”

For the purposes of treatment, antitoxin is generally supplied by the local authorities for use in necessitous cases throughout the County.

#### ENTERIC FEVER.

The comparative rarity of this disease in the county is brought out by the following condensed statement:—

No. per year. (Average.)	1930	1926- 1929	1923- 1925	1920- 1922	1917- 1919	1914- 1916	1911- 1913	1908- 1910	1905- 1907	1902- 1904	1899- 1901
Cases ... ..	26	29	51	28	41	41	51	49	65	77	141
Deaths ... ..	1	5	6	3	7	9	6	9	9	10	23
Hospital Cases ...	17	15	17	14	12	14	18	19	23	18	—
Case Fatality ...	4.0	17.2	11.7	10.9	17.9	23.0	11.8	19.2	13.8	13.0	16.1

As mentioned last year the general fall may be attributed in great measure to improvement in the water supply and it is very rarely that other than a few sporadic cases occur. The type now more generally occurring is what is known as “paratyphoid,” commonly caused by contaminated foodstuffs: where information is given, all cases were of this type in 1930. In most cases the

disease appears to have been mild, but there was one death in the County Mental Hospital and one other serious case in the Cirencester Rural District.

#### TUBERCULOSIS.

The number of cases notified during 1930 was 423: 297 of pulmonary tuberculosis and 126 of other forms of tuberculosis. The distribution of the new cases and deaths according to age and sex is set out in the following table:—

#### NEW CASES AND MORTALITY DURING 1930.

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0 ... ..	—	—	1	1	—	—	1	—
1 ... ..	1	3	10	9	1	1	—	2
5 ... ..	6	6	32	14	2	1	2	4
10 ... ..	4	9	3	9				
15 ... ..	26	29	5	8	15	20	2	6
20 ... ..	28	24	4	8				
25 ... ..	37	48	7	9	43	49	8	2
35 ... ..	25	12	2	1				
45 ... ..	18	5	1	—	36	24	2	3
55 ... ..	10	3	1	—				
65 & upwards	1	2	—	1	5	3	—	3
TOTAL ...	156	141	66	60	102	98	15	20

The total persons in the county known to have had illness attributed to tuberculosis, and the deaths among persons notified at any time, are set out year by year in the following statement:—

	PULMONARY.				NON-PULMONARY.			
	Known cases in county during year.	% Deaths. Death rate. Survivors.			Known cases in county during year.	% Deaths. Death rate. Survivors.		
		Deaths.	Death rate.	Survivors.		Deaths.	Death rate.	Survivors.
1913 ... ..	493	41	8.3	452	121	13	10.7	108
1914 ... ..	977	209	21.4	768	223	25	11.2	198
1915 ... ..	1,242	214	17.2	1,028	307	36	11.7	271
1916 ... ..	1,459	345	23.6	1,114	368	50	13.6	318
1917 ... ..	1,490	242	16.2	1,248	381	35	9.2	346
1918 ... ..	1,685	260	15.4	1,425	408	27	6.6	381
1919 ... ..	1,686	234	13.9	1,452	428	39	9.1	389
1920 ... ..	1,736	211	12.2	1,525	423	25	5.9	398
1921 ... ..	1,784	190	10.6	1,594	442	25	5.65	417
1922 ... ..	1,923	248	12.9	1,675	463	29	6.3	434
1923 ... ..	1,954	191	9.8	1,763	573	51	8.9	522
1924 ... ..	1,978	237	12.0	1,741	584	33	5.65	551
1925 ... ..	1,995	240	12.0	1,755	595	28	4.7	567
1926 ... ..	2,009	138	6.8	1,871	713	45	6.4	668
1927 ... ..	2,097	194	9.3	1,903	782	34	4.35	748
1928 ... ..	2,158	216	10.0	1,942	847	37	4.4	810
1929 ... ..	2,213	194	8.8	2,019	978	28	2.9	950
1930 ... ..	2,277	184	8.1	2,093	1,045	24	2.3	1,021

Under the Regulations of the Minister of Health, dated 18th December, 1924, the names of persons are removable after a period of absence of symptoms of tuberculosis and signs of tuberculosis other than those compatible with a completely healed lesion. The number of names so removed for pulmonary tuberculosis has ranged from 17 in 1925 to 203 in 1926, that in 1930 being 28. The total is 481. For other forms of tuberculosis the numbers have varied from 4 to 60, the number in 1930 was 13 and the total is 173. The numbers of names remaining on the register at the end of 1930 were 1,612 for pulmonary tuberculosis and 848 for other forms of tuberculosis.

From the above statement the number of persons known to have had illness at any time attributed to pulmonary tuberculosis increased fairly steadily from 1913 (when general notification commenced) to 1926, and has since remained about 2,000, with an annual death rate of about 8 to 10 per cent. Information as to the number of cases of persons affected with other forms of tuberculosis does not appear even now to be quite complete, though the indication is that at any one time, under present conditions, the number of persons is probably about 1,000, with a mortality of about 2 to 3 per cent. The annual removal rate as "cured" is about 4 per cent. for pulmonary tuberculosis and 3 per cent. for other forms of tuberculosis.

In 1902-5 pulmonary tuberculosis was attributed as the cause of 6.2 per cent. of total deaths, but this proportion had fallen to 4.8 per cent. in 1926-30: this reduction is satisfactory, but it is not unique, similar saving having occurred with respect to bronchitis (8.5 to 4.6 per cent.) and pneumonia (6.1 to 4.6 per cent.).

The work undertaken in connection with the Tuberculosis Scheme during 1930 is summarised in the following paragraphs:—

#### *Dispensaries.*

The Tuberculosis Officers attend weekly at six dispensaries and periodically visit eleven out-stations. They also see patients unable to attend at one of these places in their homes and hold frequent consultations with the usual medical attendants. In 1930 in addition to the work set out in the following table, the Tuberculosis Officers held 1,204 consultations, saw 288 patients at out-stations, and paid 145 home visits.

The new cases reported and the attendances at dispensaries year by year were:—

	<i>New Cases reported.*</i>			<i>Work of Dispensaries.</i>		
	<i>Pulmonary.</i>	<i>Other forms.</i>	<i>Total.</i>	<i>New Cases.</i>	<i>Persons seen.</i>	<i>Attendances.</i>
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*	5,233
1920...	388	65	453	639*	1,193*	5,005
1921...	337	58	395	620	1,311	5,346
1922...	373	63	436	557	1,318	5,553
1923...	345	127	472	597	1,288	5,886
1924...	315	112	427	689	1,485	6,465
1925...	332	68	400	718	1,597	5,883
1926...	286	172	458	698	1,793	5,811
1927...	280	131	411	677	1,714	5,579
1928...	321	131	452	647	1,727	5,785
1929...	322	183	505	645	1,759	5,381
1930...	297	126	423	697	1,650	5,710

\*Excluding City.

### *Shelters.*

The number of shelters in use during 1930 was 112. The number of patients to whom they were newly loaned during the year was 33, and the total persons who had the use of a shelter during 1930 was 141.

### *Residential Institutions.*

There was no change in the accommodation available, but all the beds at Standish House were in use during 1930, the average number of occupied beds being 238. The admissions year by year from 1922 were :—

	<i>Beds available.</i>			<i>Admissions.</i>								
				1922	1923	1924	1925	1926	1927	1928	1929	1930
1. <i>Early cases in both sexes and advanced cases among males</i>												
Standish House ... ..	100	{ M.74 F.26 }		170	178	130	136	140	127	119	135	148
Surgical Cases ... ..	38			—	—	—	—	—	—	9	43	28
2. <i>Advanced cases in City and Stroud Isolation Hospitals</i>	36			80	59	84	72	51	50	73	58	39
3. <i>Surgical Cases, Cheltenham General Hospital</i> ... ..	10			14	24	25	16	9	20	11	17	21
4. <i>Children.</i>												
(a) Alexandra Home ... ..	—			25	17	—	—	—	—	—	—	—
(b) Standish House ... ..	112			40	68	93	89	89	75	91	93	80
Totals ... ..	296			329	346	332	313	289	272	303	346	316*

\* Including 14 re-admissions

### *Compulsory Powers.*

No case was compulsorily removed to a Sanatorium or Hospital under Section 62 of the Public Health Act, 1925, during the year, and, so far as information has been given, no action

was taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, with respect to employees in the milk trade.

### *Home Visits by Nurses.*

The work of the Tuberculosis Officers is supplemented by visits to the homes of patients by nurses with a view to their directions being carried out and to improvements in the conditions under which the patients are living. The nurses undertaking this work in 1930 were the 8 County Health Superintendents, 4 whole-time Health Visitors, and 136 District Nurses.

The numbers of these visits have increased from 4,578 in 1917 to 10,212 in 1930.

### VENEREAL DISEASES.

From the following summary it will be seen that the number of new cases attending for examination has increased noticeably in the past four years:—

	NEW CASES.				Total.	Males.	Females.	ALL CASES.		
	<i>Syphilis.</i>	<i>Soft Chancre.</i>	<i>Gonor- rhea.</i>	<i>Not Venereal.</i>				<i>Attend- ances.</i>	<i>In-patient days.</i>	<i>Specimens examined.</i>
1917 ...	31	2	15	13	61*	25*	36*	258*	524*	75*
1918 ...	77	7	77	58	219	135*	76*	1,090	662	214*
1919 ...	125	16	143	68	352	264*	74*	2,729	1,549	249*
1920 ...	192	7	159	64	422	280*	134*	3,982	1,035	527*
1921 ...	103	6	87	91	287	175*	65*	3,292	1,083	484*
1922 ...	94	3	77	51	225	110†	50†	2,727	810	422*
1923 ...	80	2	72	76	230	89†	75†	3,322	654	632*
1924 ...	82	5	100	80	267	148†	92†	3,655	716	697*
1925 ...	87	—	94	101	282	138*	121*	3,729	876	986*
1926 ...	57	—	102	73	232	131*	80*	3,564	718	1,016*
1927 ...	98	—	94	123	315	160*	118*	4,363	1,073	1,030*
1928 ...	86	3	120	148	357	170	140*	5,511	639	670*
1929 ...	64	—	122	181	367	218	149	5,841	839	1,115
1930 ...	73	—	168	174	415	257	158	6,424	1,252	1,080*

\* Excluding Bristol Hospitals.

† Excluding Bristol and Gloucester Hospitals.

The increase in the numbers that were reported as not being cases of venereal disease is satisfactory, showing, as it does, a tendency to seek treatment early. Associated with an increase in the number of cases are record figures for attendances, which reached a maximum of 6,424.

An interesting and practical development at the end of 1930 is that the treatment of venereal disease at out-stations was brought within the range of the scheme, after its exclusion for seven years, on conditions approved by the Ministry of Health and Board of Education.

## BACTERIOLOGICAL AND PATHOLOGICAL WORK.

The examinations of specimens on behalf of the County is now undertaken in all three local laboratories—Bristol University, Cheltenham General Hospital, and Gloucestershire Royal Infirmary. The numbers examined year by year are:—

	<i>Diphtheria.</i>	<i>Enteric</i>		<i>Cerebro-spinal</i>		<i>Total.</i>
		<i>Fever.</i>	<i>Tuber- culosis.</i>	<i>Fever.</i>	<i>Others.</i>	
1905-14 yearly average	1,553	49	207	-	-	1,809
1915 ... ..	1,713	31	369	6	-	2,119
1916 ... ..	721	32	348	1	-	1,102
1917 ... ..	716	57	523	8	-	1,304
1918 ... ..	687	35	517	6	-	1,245
1919 ... ..	506	20	569	2	8	1,105
1920 ... ..	1,352	29	692	2	6	2,081
1921 ... ..	2,465	37	804	-	2	3,308
1922 ... ..	1,459	35	1,108	3	-	2,605
1923 ... ..	682	112	1,347	5	-	2,146
1924 ... ..	1,215	84	1,822	4	-	3,125
1925 ... ..	4,106	38	2,286	1	-	6,431
1926 ... ..	2,940	25	2,122	2	2	5,091
1927 ... ..	2,649	50	2,445	5	6	5,155
1928 ... ..	2,209	59	2,438	2	10	4,718
1929 ... ..	4,399	44	2,540	-	7	6,990
1930 ... ..	5,123	130	2,921	1	3	8,178

A development of the arrangements is that in April, 1930, it was agreed that Wassermann tests would be divided between the Bristol University Laboratory and Gloucestershire Royal Infirmary.

### UNDULANT FEVER.

In July, 1930, the Public Health Committee considered the pamphlet issued by the Ministry of Health in August, 1929, and a report that Dr. E. N. Davey, the Pathologist of the Gloucestershire Royal Infirmary, had had several cases under consideration. On the recommendation of Dr. Davey the Committee agreed to the examination of specimens of blood in suspected cases. A number of blood specimens submitted for the Widal test (typhoid fever) were also examined for the organism *Brucella Abortus* during the latter half of the year.

### ISOLATION HOSPITAL ACCOMMODATION.

Special consideration was given during 1930 to the position of the county with respect to accommodation for cases of infectious disease and reports were made with a view to the scheme required

by Section 63 of the Local Government Act, 1929. A table setting out the accommodation in the hospitals in the county was given in the report for 1928 : the only changes are (1) the Dursley R.D.C. decided, in 1930, to close the Moors, Coaley, and made arrangements for the use of the small-pox hospital at Chipping Sodbury and for the admission of cases of other infectious diseases to the Gloucester City Hospital ; (2) the accommodation at the Mangotsfield Joint Hospital was increased by the addition of a new ward. Dr. Aubrey reports that the number of available beds has been increased from 28 to 40. It has also been agreed that cases requiring surgical treatment may be transferred to the Bristol Isolation Hospital, four being so treated during 1930.

From available information the general conclusions are :—

#### 1. SMALL-POX.

There is accommodation available for sporadic cases of small-pox which may occur in any area in the County, but, in the event of any extensive developments, enlargement of the hospital would require immediate consideration, *e.g.*, at Elmstone-Hardwicke, Cheltenham, and Stancombe, Stroud.

#### 2. OTHER INFECTIOUS DISEASES.

The possibility of the isolation of cases in the Tetbury Urban and Rural Districts is somewhat nebulous though a few have been accepted by the Cirencester Joint Isolation Hospital, and if suitable arrangements can be made for the reception of cases from the Tetbury Districts at Cirencester, the immediate requirements would be met, so far as numbers of hospitals are concerned.

More difficult questions arise in connection with the suitability of the hospitals for the purposes for which they are used and for the isolation of various infections at the same time. Some of them are structurally very satisfactory, *e.g.*, those at Elmstone-Hardwicke and Gloucester for small-pox, and at Cheltenham, Gloucester, Cainscross and Tredington for other infectious diseases. The circumstances of the small-pox hospitals at Littledean, Bisley and Sodbury Common are not so good, but may be regarded as meeting immediate needs. The nature of the general infectious diseases hospitals, at Cirencester, Mitcheldean, Alvington and Mangotsfield

is such that no one of them can be considered as satisfactory for isolating groups of different diseases and in order that they may be made efficient some modifications in the arrangements of a more or less substantial character will be required.

I would recommend that the combinations of districts set out in the amended table be adopted as the basis of the scheme on which the County Council shall consult with the Councils of the districts in the county. For the time being the existing hospitals would be used, but the County Council will require to be assured that the terms on which they are available shall be such that cases from all districts, requiring isolation can be accommodated immediately. Another point for immediate consideration is the desirability of effecting arrangements which would avoid the necessity of opening small-pox hospitals in different parts of the county to accommodate sporadic cases: by such pooling of the resources considerable expense incurred in opening hospitals for odd cases would be avoided.

As regards the hospitals for other infectious diseases, it may be considered desirable to give some indication to the Councils concerned of the variety of diseases for which provision should be made, including scarlet fever, diphtheria, typhoid fever, complicated cases of measles, pneumonia, whooping cough and acute infectious diseases of the central nervous system such as infantile paralysis (acute anterior poliomyelitis), sleeping sickness (encephalitis lethargica) and spotted fever (cerebro-spinal meningitis). It would not be reasonable to provide accommodation at all hospitals for what are—fortunately—comparatively rare emergencies, but between the hospitals in the County provision should be made for all. In some such manner would hospital provision for infectious diseases in the county be made most economically and efficiently.

### HOUSING ACCOMMODATION.

The general progress in the provision of new houses is set out fully for the various county districts in Table IV at the end of this report and is briefly summarised in the following statement:—

	Under Schemes.	Privately.	Total.
1919 ... ..	—	53	53
1920 ... ..	98	74	172
1921 ... ..	865	171	1,036
1922 ... ..	637	188	825
1923 ... ..	12	380	392
1924 ... ..	92	516	608
1925 ... ..	165	736	901
1926 ... ..	313	784	1,097
1927 ... ..	645	791	1,436
1928 ... ..	320	780	1,100
1929 ... ..	480	763	1,243
1930 ... ..	320*	575*	895*
Total ... ..	3,947	5,811	9,758

\* Return for Stow-on-the-Wold U.D. and West Dean R.D. not available.

The number of new houses erected in 1930 (895) is the lowest in any year since 1924, the average for the last ten years being 953, and the total since 1919—9,758.

Taking the county *as a whole*, the requirements in November, 1919, were estimated by the District Councils to be 6,400 new houses. At the pre-war rate of 350 new houses a year there would have been required for the normal increase 3,850, making a total of 10,250: the number actually built has been 9,758, so that by the end of 1930 the deficit had been reduced to 492, which would be wiped out in a year at the recent rate of building. The *total* needs are thus within sight of being met, but there are areas—East Dean, Northleach and Tetbury Rural Districts—where the desirability or otherwise of providing new houses should have careful consideration. From the reports received from other areas there appears to be a shortage, partly owing to the fact that so large proportions (45 to 50 per cent.) of the older houses having only one or two bedrooms. Such defects do not necessarily require new houses for remedy as opportunities are given under the Housing (Rural Workers) Act, 1926, whereby accommodation can be enlarged at a lower cost to the public than would be occasioned by the erection of new houses.

The powers and duties of local authorities, including County Councils, with respect to housing in Rural Districts were enlarged by the Housing Act 1930. Two changes which particularly affect County Councils are that they can now agree (apart from default) with Rural District Councils for the exercise of their housing powers (Section 33) and that County Councils are required by Section 34 (2) to make a contribution of £1 per house per annum provided for the agricultural population.

## WATER SUPPLIES.

The year generally was cold and wet, and the rainfall was considerably above the average, for example 49.7 inches at St. Briavels as compared with the ten years' average of 42.4 inches. Associated with this there was less evidence of complaints about supplies which are short in dry years. For example, there were proposals for supplementing the public supply at Northleach: recurrent shortage of water has been reported and in 1914, an additional spring yielding 6,000 gallons per day was located, but in rainy years matters were allowed to drift. Proposals to make the conditions more satisfactory at a cost of £2,000 to £3,000 were discussed in 1930, but as there was an overflow for twelve months nothing appears to have been done, though it certainly would seem desirable that suitable provision should be made in advance of possible emergency.

On the other hand the possibility of obtaining grants from the Unemployment Grants Committee has expedited desirable constructional improvements including the extension or provision of water supplies.

Among the improvements made or in progress during 1930 are the following:—

Coleford Urban District and West Dean Rural District. The main works were completed at a total cost to 31st December, 1930, of £14,900.

Newnham Urban District. The yield from the original adit 60 yards long in sandstone encouraged boring a further 40 yards and a supply of 20,000 g.p.d. (17 g.p.c.p.d.) has been obtained.

Stroud Urban District. Loans amounting to £4,400 were obtained for the extension of mains.

Cheltenham Rural District. A loan of £1,372 18s. 0d. for extension of the supply at Shurdington and Badgeworth was approved.

Dursley Rural District. At the inquiry of the Ministry of Health in July, 1930, it was proposed that the supply of Cam Parish should be carried out jointly with Dursley, where further water is required and an engineer was instructed to prepare a joint scheme.

Tewkesbury Rural District, Stoke Orchard. The mains were extended to this parish in April, 1930.

Winchcombe Rural District, Cleeve Hill. It is satisfactory to record that at last the work is well in hand and the supply will shortly be available.

The solution for the supply of Shipton Moyne and Long Newton, in the Tetbury Rural District, has not been settled, but it is understood that the West Gloucestershire Water Company propose to bring their Shipton Moyne source into use in 1932 and that this supply will be available for the two parishes. Meanwhile, chlorination of the present supply is reported to be effective. The unsatisfactory conditions at Upton St. Leonards, Matson (parts) and Hempstead (parts) have been the subject of unfavourable report for many years. Parishes in the vale part of the Wheatenhurst Rural District have for long been the subject of comment and the wells are described as very precarious owing to the brackishness of the ground water: marked shortage is reported at Moreton Valence, Whitminster and Longney. An alternative supply from the Standish Park mains was offered on very reasonable terms many years ago and it is very unfortunate that advantage has not been taken of this source, which, it is understood, is still available.

### SEWERAGE AND SEWAGE DISPOSAL.

Activity in the matter of drainage is another evidence of the stimulus given by unemployment grants to Local Authorities to carry out constructional works to effect desirable improvements.

In the Stroud Valley it is proposed to carry out a big combined scheme with a main intercepting sewer discharging to disposal works low down the valley: this will tap existing sewers in the Urban and Rural Districts, and enable the comparatively small disposal works to be abandoned. Other works are:—

Tetbury Urban District. The sewerage of Northfield has been completed at a cost of £3,600.

Campden Rural District.—Chipping Campden. The sewerage and sewage disposal works have been completed.

Chipping Sodbury Rural District, Chipping Sodbury. A scheme of sewerage, estimated to cost £19,500, has been prepared, and will connect with the Yate sewers and disposal works. In addition to the Unemployment Grant the County Council have agreed to make a contribution of £160 per annum, or the same proportion as is spread over the whole Rural District.

Gloucester Rural District, Maisemore. A loan of £800 has been sanctioned for a new sewer.

Thornbury Rural District, Thornbury. A scheme of sewerage and sewage disposal estimated to cost £34,500 was placed before the Ministry of Health and the County Council have agreed to contribute £250 per annum or the same proportion as is spread over the whole Rural District.

Henbury. A scheme of sewerage, connecting with the Bristol sewers, is under consideration.

Warmley Rural District. Siston and Mangotsfield are sewered to disposal works at Warmley : a comprehensive scheme for the remainder of the district, with the exception of the rural part of Bitton Parish, is under consideration.

Winchcombe Rural District, Alderton. A scheme of sewerage and sewage disposal, estimated to cost £6,000, is under consideration.

Other places requiring attention are Tewkesbury Borough disposal works (an engineer has been instructed to report), Kingswood (Dursley Rural District), Drybrook, Ruardean and Mitcheldean (East Dean Rural District), Willersey and Cow Honeybourne (Pebworth Rural District), Hardwicke and Saul (Wheatenhurst Rural District) and Gotherington (Winchcombe Rural District).

### CONDITION OF RIVERS.

The survey of the Severn and its tributaries was continued in 1930 and certain tributaries of the Thames were examined for comparative purposes. The results of the previous surveys were considered at conferences on 16th May (Severn) and 19th June (Avon). The recommendations reached, affecting this County were :—

#### RIVER AVON.

1. A general survey of the Avon should be made after the drainage operations have been completed.
2. Gloucestershire should collaborate for examinations at the Mythe and King John's Bridges.
3. The Ministry of Agriculture and Fisheries should carry out check observations.

#### RIVER SEVERN.

1. That the Gloucestershire County Council be recommended to study in greater detail the influence of the effluents from Gloucester.

2. That the Ministry . . . collaborate in 1930 with the various local authorities . . . on the River Severn and on certain tributaries, *e.g.*, the Chelt and the Frome.
3. That the Ministry . . . continue the study of the . . . oxygenation at Gloucester and Minsterworth.

#### SURVEY OF DAIRY CATTLE AND BACTERIOLOGICAL EXAMINATIONS OF MILK.

The examination of dairy cattle, twice a year, was continued in 1930 and two further surveys of cows in milk and dry cows in calf (44,000–45,000) were made by the Veterinary Surgeons (part time). The proportions of animals reported to be affected with various conditions in 1930 corresponded fairly closely with those in the previous two surveys, but were below those found in the first three surveys. The preponderant condition was some form of tuberculosis, about 200 or 4.5 per 1,000 being reported to have tubercular emaciation (113), chronic cough with definite signs of tuberculosis (73), and tuberculosis of the udder (21). General experience appears to show that about 40 per cent. of dairy cattle are infected with tuberculosis so that—assuming the general conditions apply to this county—the proportion of cattle above reported is but a small fraction of those with tuberculosis in minor or major degree. In the six months' interval between the visits of the veterinary surgeons the disease advances sufficiently rapidly in about 100 cases to have produced emaciation and in about the same number of cows to have given evident affection of the lungs or udder. A measure of protection is given by the detection of these animals, and their removal from the milking herds, as, while so large a proportion of dairy cattle give evidence (*e.g.* by the tuberculin test) of tubercular infection, the percentage yielding tuberculous milk is given by the Ministry of Agriculture and Fisheries, as low as 1.0 to 1.5 per cent. in herds in which the disease has been discovered, under the operations of the Tuberculosis Order and the Milk and Dairies Acts. The cows which, it would be expected, do yield tuberculous milk are those detected by the veterinary surgeons mentioned above.

18 reports were received from other areas that the tubercle bacillus had been detected in milk produced in this county, and 6 reports that guinea pigs inoculated for its detection had died of acute intercurrent infection. Inspections were made by the veterinary surgeons at the farms reported to produce tubercular milk and by the local sanitary authorities in other cases. Samples of milk were also submitted for examination: in the tubercular cases, 3 samples gave positive results and action was taken under the Tuberculosis Order.

The sampling of milk was commenced in April 1928. The numbers of specimens examined and the results are :—

Year.	No. ex'd.	Bacterial Counts.				Bacillus Coli.				
		Under 50,000	50,000 to 100,000.	100,000 to 1,000,000.	Over one million.	Present per c.c.				Absent.
						1.	1	1	1	
1928 ...	97	42	6	38	11	1	31	16	21	28
1929 ...	52	24	2	20	6	9	5	4	19	15
1930 ...	139	51	6	35	47	16	19	20	65	19
	288	117	14	93	64	26	55	40	105	62

From this statement it is evident that there is considerable room for improvement in the condition of the milk, so far as cleanliness is concerned, sold in the county. Arrangements have been made whereby opportunity is given for consultation with the Agricultural Organiser of the Education Committee in methods of production, and it is hoped that increasing advantage will be taken of the concession.

#### EXAMINATION OF FOODS AND DRUGS.

The County Analyst submits the following summary of the work undertaken during 1930 :—

During the year ending 31st December, 1930, 890 samples have been examined under the Food and Drugs (Adulteration) Act, 1928, of which 79 were either adulterated or did not satisfy the standards laid down by the various regulations. This represents 8.9 per cent. of the number taken, which is a slight increase on the percentage for the past year although this is below the figures for the previous five years which are as follows : Year 1930, number of samples adulterated, 8.9 per cent., 1929, 8.6 per cent., 1928, 10.8 per cent., 1927, 15 per cent., 1926, 12.6 per cent., 1925, 10.4 per cent.

The samples of milk numbered 548, of which 67 did not satisfy the usual standards for genuine milk. This represents 12.2 per cent. of the number taken and is an increase over the figure for last year (9.1 per cent.). The genuine milk sold in the county was of good quality, and well above the standard laid down by the Board of Agriculture for genuine milk, the figures are as follows :—

	Average figures for 1930.		Board of Agriculture standard for genuine milk	
	...	...	%	%
Non-fatty Solids	...	...	8.84	8.50
Fat	...	...	3.64	3.00
Total Solids	...	...	12.48	11.50

During the year, proceedings have been instituted in the case of 12 samples, and convictions have been recorded in 11 cases, the remaining case was dismissed on payment of costs. Some of the above cases were of a very serious nature with added water varying from 3.9 per cent. to 24.4 per cent., and deficiencies in fat varying from 9 per cent. to 39.7 per cent. In two of these cases it was the defendant's third offence, and the magistrates imposed a fine in one case of £20 and £2 12s. 6d. costs, and in the other case of £7 10s. and £5 costs.

There have been a number of cases where the samples were deficient in fat, and I have suggested that an "appeal to the cow" sample should be taken, and in nearly every case the cows were shown to produce genuine milk.

#### CAMPHORATED OIL.

One sample of Camphorated Oil was deficient in Camphor to the extent of 12.5 per cent., and the vendors were fined £15 and costs. The case was the vendors' second offence.

#### JAM.

Three samples of Jam contained sulphur dioxide preservative slightly in excess of the amount allowed by the preservatives in food regulations, and one sample was adulterated with apple pulp. This was an informal sample, and although efforts were made to obtain a formal sample of this particular brand, the Inspector was unsuccessful.

#### TINCTURE OF IODINE.

One informal sample contained an excess of iodine, but was deficient in potassium iodide. The vendor was warned.

#### SAUSAGES.

One sample of Sausages contained 165 parts per million of sulphur dioxide preservative without the necessary declaration. The vendor was cautioned.

#### COFFEE.

An informal sample of Coffee was adulterated with at least 50 per cent. of chicory, but although the Inspector tried on several occasions to obtain a formal sample of this brand, he was unsuccessful, and the vendors are being kept under observation.

#### APPLES.

One sample of imported apples contained an excessive amount of arsenic on the surface, due to the spray which was used as an insecticide not having been properly removed. Instructions were given for these apples to be properly treated before they were sold.

The fines ranged from 10s. to £20, and totalled in all £135 19s. 6d.

Samples examined 1908—1930

(Figures in brackets are the numbers found adulterated).

	1908-22.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	
	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	<i>Per-centage adul-terated.</i>	
<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	<i>Samples.</i>	
1. Milk ...	2,457 (269)	294 (21)	7.1 (461)	11.1 (453)	15.2 (446)	16.1 (485)	15.3 (483)	9.1 (548)	12.2 (67)	
2. Condensed & dried milk	—	—	—	—	—	—	—	—	—	
3. Butter, cream, cheese	1,063 (13)	34 (5)	14.7 (18)	11.1 (28)	53.6 (39)	10.2 (21)	—	18 (1)	12.5 (2)	
4. Margarine ...	31	40 (4)	10.0 (52)	15.4 (27)	7.4 (48)	4.2 (48)	6.2 (49)	—	42 (1)	
5. Lard ...	17	19	—	9	—	5.3 (16)	—	29	—	
6. Spirits and Wines ...	661 (68)	—	—	6	—	—	—	—	—	
7. Beer and Cider ...	97 (4)	—	—	—	—	—	—	20 (4)	20.0 (6)	
8. Non-alcoholic drinks	67	—	—	—	—	—	—	60 (5)	8.3 (39)	
9. Coffee, tea, cocoa ...	434 (15)	6	—	3	—	—	5.9 (11)	—	—	
10. Confectionery, jam, honey, sugar & sweets	276 (1)	—	—	18 (1)	5.6 (15)	6.7 (46)	7.3 (59)	3.4 (56)	7.1 (4)	
11. Drugs ...	309 (11)	3	—	1	—	—	9.1 (17)	6.5 (21)	9.5 (2)	
12. Pickles and sauces ...	2	—	—	—	—	—	—	—	—	
13. Sausages & potted meats	8	—	—	—	—	—	10.5 (4)	25.0 (9)	—	
14. Flour, bread, rice ...	8	2	—	4 (1)	25.0 (4)	42.1 (41)	19.5 (34)	14.7 (19)	5.2 (1)	
15. Dried fruit ...	—	—	—	9	—	—	—	—	—	
16. Malt Vinegar and Vinegar ...	2	—	—	—	—	—	—	—	—	
17. Pepper, mustard and spices ...	103 (9)	7	—	—	—	—	—	—	—	
18. Other foodstuffs ...	1,515	—	—	—	—	—	—	—	—	
<b>Total</b> ...	7,050 (390)	5.5 294 (24)	8.2 405 (31)	7.7 593 (64)	10.8 580 (87)	15.0 770 (97)	12.6 806 (94)	11.7 883 (76)	8.6 890 (79)	8.9

## MENTAL DEFICIENCY.

The duties with respect to Mental Deficiency are shared between the Education Committees of the County Council and Cheltenham Corporation and the Joint Committee for Mental Deficiency for Gloucester City and the Administrative County. The former deal primarily with children between the ages of 7 and 16 years and refer children regarded as ineducable in a special school to the Joint Committee.

The number of persons on the registers of the County Education Committee and of the Joint Committee at the end of 1930 was 1,152, about the same as a year previously ; in addition there were in the County Schools 169 on whose mental condition a special report had been made and who were regarded as being dull and backward.

The age and sex grouping under various headings is :—

	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
<b>JOINT COMMITTEE.</b>			
In Institutions (or on licence) ... ..	94	107	201
Under Guardianship ... ..	—	1	1
Under Visitation—Official ... ..	99	87	186
Voluntary ... ..	—	4	4
In Mental Hospitals and other Institutions	46	38	84
Reported by former Boards of Guardians ...	71	144	215
Awaiting action of Committee ... ..	2	1	3
Not yet under special consideration (school children becoming 16 years) ... ..	75	41	116
Not yet classified ... ..	95	107	202
	— 482	— 530	— 1,012
<b>EDUCATION COMMITTEE.</b>			
Classified ... ..	53	42	95
Waiting full Examination (including very young children) ... ..	20	25	45
	— 73	— 67	— 140
	<u>555</u>	<u>597</u>	<u>1,152</u>

Following the classification of the Mental Deficiency Acts, the proportions in this county coming within the four groups are, approximately : feeble-minded 66 per cent., imbeciles 25 per cent., idiots 6 per cent., moral imbeciles 3 per cent.

Certified persons are visited periodically on behalf of the Joint Committee by the County Health Superintendents and if their reports show that it is desirable arrangements are made for the admission of the individuals to Institutions. The largest number of cases are in the various Institutions of the Incorporation

of National Institutions, the biggest of which is Stoke Park Colony, in this county; males over 18 years are admitted to Brentry Colony, of which the County Council is part owner. Other cases are sent to one of three approved Poor Law Institutions and a few to other approved Institutions in various parts. The Education Committee have sent a few children to special Institutions but have no general arrangements.

No occupational centres have been arranged, but the Joint Committee employ several part-time teachers who are giving manual and general training to 20 children with successful results.

The total number of mentally defective in the area of the Joint Committee (including the educable cases under the Gloucester and Cheltenham Corporations) appears to be about 1,400, or approximately 4 per 1,000 of the population which is about half the figure suggested by the Joint Committee of the Board of Control and Board of Education. What figure may be put forward must depend on the standard adopted at the time, but it would appear that the total numbers are now approximately correct, as the new cases are about balanced by deaths and departures.

#### **REGISTRATION OF BIRTHS AND DEATHS.**

The County Council delegated their powers under Part II of the Local Government Act to the Public Health Committee. For the time being the work is being continued on the old lines but a scheme under Section 24 is under consideration.

#### **VACCINATION.**

The arrangements which were in force have been continued by the Public Health Committee, but it is hoped that a more convenient procedure may be developed when the circumstances of the County have been fully reviewed.

#### **LOCAL GOVERNMENT ACT, 1929. PUBLIC ASSISTANCE.**

##### **(1) GENERAL EFFECT OF ACT.**

This Act was passed on 27th March, 1929, and is probably the most far-reaching Act relating to Local Government in the history of this country. In his general circular (No. 1000) on it, the Minister of Health observes that it has affected Local Government even more profoundly than the great Acts of 1834, 1835, 1875, 1888 and 1894, and that it sets Local Authorities of all types free to discharge expanded and modified functions to an extent never

hitherto attained on so comprehensive a scale by a single Act. The first part of the Act radically alters the administration of the Poor Law arranged nearly 100 years ago. On this administration were based all arrangements for Public Health Services, until the County Councils Acts of 1888, with the result that it soon became unsuitable for the changing conditions of social life and that identical services are simultaneously rendered by different authorities. The present Act gives opportunity for remedying anomalies and for basing future administration on sound foundations.

The parts of the Act with which the Health Committees of the County Council are mainly concerned are:—

- Part I. Transfer of Poor Law Functions to the County Council.
- II. Registration of Births and Deaths.
- III. Town Planning.
- IV. Miscellaneous Provisions affecting Health Administration.

## (2) POOR LAW FUNCTIONS.

### *Dimensions of the Problem.*

What constitutes the functions of the "Poor Law" is not concisely defined but, shortly, it is the general care—including medical treatment—of a section of the community, unable to provide the necessities of life under present conditions. This section is a varying quantity, depending in considerable degree on the state of trade, etc., at any particular period. The dimensions of the problem are indicated by the proportion of the population under the care of Boards of Guardians on the 1st January of each year and the trend is shown in the following statement giving the percentage of the population under care:—

1851	5.3	1922	3.9
1861	4.4	1923	4.0
1871	4.6	1924	3.6
1881	3.1	1925	3.1
1891	2.6	1926	3.7
1901	2.4	1927	4.0
1911	2.5	1928	3.5
1921	1.75		

The corresponding percentages for this county in the last four years of this table were 2.5, 2.7, 2.6, and 2.6 respectively—actually populations ranging from 7,983 (1925) to 8,496 (1926),

and of 8,174 on 1st January, 1928, in the 16 Unions (including Gloucester Union and Warmley Out-Relief Union) in the County. On the same proportions, excluding Gloucester City, but including the parts in Unions outside the County, the number of persons in the administrative county would now be about 8,600.

The 8,174 persons were distributed between inmates of Institutions and persons in their homes as follows:—

ILL.			
In Institutions—			
Mentally	...	1,174	
Physically	...	579	
		<hr/>	1,753
At home	...	...	2,306
			<hr/>
			4,059
WELL.			
In Institutions	...	1,065	
At home	...	3,050	
		<hr/>	4,115
			<hr/>
			8,174

Practically all the mentally sick persons were in the County Mental Hospital.

The care of these persons was provided by 15 Boards of Guardians in the county in whose areas were included 15 parishes in other counties; 8 County Sanitary Districts and 2 parishes in other districts were included in 10 Unions with Institutions outside the County. The areas are shown in colours on the map which has been prepared; the distribution of the population in these divisions is:—

15 Unions in County	...	...	...	Population.
				313,234
Including City and 14 ex-County Parishes				55,289
				<hr/>
Gloucestershire persons	...	...		257,945
Parts of County in outside Unions—				
Faringdon Parish	...	...	1,048	
Ruardean Parish	...	...	1,266	
Kingswood U.D.	...	12,951		
Warmley R.D.	...	18,476		
		<hr/>	31,427	
Pebworth R.D.	...	3,239		
Marston Sicca R.D.	...	1,728		
Campden R.D.	...	5,418		
		<hr/>	10,385	
Lydney R.D.	...	9,844		
Westdean R.D.	...	14,650		
Coleford U.D.	...	2,781		
		<hr/>	27,275	
				<hr/>
				71,401
Administrative County (1921)	...	...		<hr/>
				329,346

*Institutions.*

In the 14 Poor Law Institutions serving the 15 Unions (including Gloucester City, and the Newent Union from which persons go to the Tewkesbury Poor Law Institution) there are about 2,500 beds of which about 750 are allocated as Infirmary beds for sick and infirm persons.

The Institutions were built mainly about 1840 and are of a very solid character, of stone or brick according to the usual building material of the locality. They are much of a pattern with accommodation for the Master and general administration in the centre: the inmates are lodged in the wings and buildings in the rear. The buildings are variously divided into large and small rooms—dormitories, living rooms, and dining room (often used as the Chapel): the rooms have a bare appearance and the decoration generally consists of paint or colour-wash on the bare stone, etc. They are given a depressing effect by the smallness and height of the windows, and the stairways are generally narrow; in certain Institutions the windows have been enlarged and lowered, improving the general effect far more than might have been expected. The buildings are generally very clean and well kept, though in some the decoration might be greatly improved; it should be added that in not a few cases work in this and other directions has been postponed until the Guardians had some idea of the effect of this Act.

In general, the Infirmary accommodation consists of adapted rooms in the usual Institution. At Thornbury, some twenty years ago, a separate Infirmary of brick with 46 beds was erected in the rear of the Institution to replace condemned quarters. The new accommodation provides the best Infirmary in the county, and is the one Poor Law Infirmary that is used in connection with the Scheme for the Extension of Medical Services. In the other Institutions, the Infirmary accommodation cannot be regarded as up to modern standards, and, indeed, is not considered satisfactory in many cases by the Poor Law officials.

The present Infirmary accommodation in the 14 Institutions in the county provides about 750 beds of which 561 were occupied on 24th January, 1926, and 687 on 10th February, 1929.

*Conditions for which Medical Treatment is Given.*

The conditions for which 1,800 patients—excluding those in the Mental Hospital—were under treatment in the Infirmary and

by Poor Law Medical Officers in their homes on 10th February, 1929, were approximately :—

	Infirmary.	Homes.	Total.
Respiratory diseases ... ..	70	250	320
Senility ... ..	160	140	300
Chronic nervous conditions ...	160	100	260
Heart disease ... ..	35	105	140
Infections (including influenza 70) ...	15	115	130
Cutaneous diseases ... ..	25	55	80
Digestive trouble ... ..	10	60	70
Genito-urinary ... ..	5	35	40
Tuberculosis ... ..	15	25	40
Cancer ... ..	15	15	30
Pregnancy ... ..	5	5	10
Other conditions ... ..	120	260	380
	635	1,165	1,800

From this there is very considerable difference in the types of conditions treated in the Infirmaries and in the homes, but both columns are useful in the consideration of the care of these persons.

The domiciliary attendance in the homes is given by salaried part-time medical officers. Taking the County as a whole there are about 212 practising doctors of whom about 175 undertake the treatment of insured persons and about 75 are Poor Law Medical Officers.

#### *Institutional Accommodation for Areas now in Ex-County Unions.*

There are four large areas with populations from 10,000 to 30,000 and two parishes of about 1,000 each, for which there is no Institution in the county. The isolated parishes could easily be included in the areas of existing Institutions—Lechlade in Cirencester and Ruardean in Westbury-on-Severn, but the position of the four large areas will require early consideration.

The average population in the present Unions in the county is about 19,000 (7,600 to 58,000), and each of the four unprovided areas would appear to be of a convenient size for a separate Institution, unless with modern facilities for transport it is considered that enlargement of the nearest Institution would meet the altered circumstances. A factor which will probably affect the

decision is the character of the accommodation to be provided in the future for sick persons and other groups of persons, including children. The policy of the Act, as indicated by the Minister of Health in his Memorandum and by Parliament in Section 5 of the Act, is grouping of persons in accommodation suited to their condition, for example :—

Children.

Sick persons, including maternity cases.

Mentally defective and epileptic.

Aged and infirm persons.

### (3) DISTRIBUTION OF FUNCTIONS.

#### *Children.*

Under the Act (Section 2) functions under Part 1 of the Children Act, 1908, are transferred to the Maternity and Child Welfare Committee, and in Part 1 of the Appendix to the Model Scheme it is suggested that—in addition to the general care of pregnant and nursing mothers (paragraphs 1, 3, 5, 6, 7 and 8)—there should also be delegated to that Committee the following duties :—

- (a) Care of sick and crippled children.
- (b) Care of children whose parents cannot provide a satisfactory home for them, in institutions or in other ways.
- (c) Provision of nursing of children with childish ailments.
- (d) Provision of milk or other foods for children medically certified to need extra nourishment.

If it is decided to make special provision for the care of mothers and children, accommodation required in the main institutions would be reduced correspondingly—about 130 beds.

#### *Provision for Sick Persons.*

##### *Institutional.*

When making provision for hospital accommodation the County Council must—under Section 13—consult any Committee representing both the governing bodies and the staffs of the voluntary hospitals providing services in or for the benefit of the county. There are in the county and adjoining county boroughs four large general and several smaller special hospitals, one small general

hospital and 13 cottage hospitals. The approximate accommodation provided by these hospitals and other public institutions for the sick is (excluding hospitals in Bristol) :—

			Beds.
General Hospitals, etc.	...	...	378
Small Hospitals	...	...	172
			— 550
Infectious Diseases Hospitals of			
Local Authorities	...	...	450
Sanatorium (for tuberculosis)	...	...	250
			— 1,250
Poor Law Infirmaries	...	...	750
County Mental Hospital	...	...	1,250
			—
			3,250
			—

Approximately, therefore, the present Poor Law Institutions provide about one-third of the beds for sick persons (apart from the Mental Hospitals).

As regards the four areas which will be without Poor Law Infirmary accommodation in this County, provision can be made in three ways :—

- (1) Continuation of the present practice of allotting a part of the general institution—either an existing or a new one—to the sick.
- (2) Provision of a special institution for the sick amongst the poor population only.
- (3) Extension of existing hospitals, or, if necessary in special cases, the erection of a new hospital, providing services for all classes of the population.

The trend of modern progress and the intention of the Act are that the third course should ultimately be adopted throughout the country. If that policy should be adopted by the County Council, it would appear that the necessary accommodation in two of the four unprovided areas could be obtained by the enlargement of hospitals which are already providing services for the county, namely those at Chipping Sodbury and at Lydney ; for the parishes round Gloucester, it would be unfortunate if continued use could not be made of the excellent infirmary completed during the Great War. For the fourth area in the north-east of the county, in which there is no hospital, the practicability of building a new hospital which would serve all classes

of the community may well be considered: it should have a voluntary section comparable with existing hospitals.

From the statement of the conditions for which sick persons were having medical attention—in institutions and in their homes—given on page 62, it will be seen that they include cases which would not be regarded as suitable for admission to voluntary hospitals under present conditions. For example, of the 635 infirmary cases, 160 were under treatment for infirmities of old age, and 160—95 mental and 65 cases of paralysis—for chronic nervous conditions: i.e., nearly one-half of the in-patients at the time of the return. Suitable accommodation for these types of case could be provided in special wards in the voluntary hospitals.

In order that the hospitals may be used to the greatest advantage, it is very desirable that they should be closely co-ordinated. There is already a skeleton system of co-operation whereby the three large general hospitals provide services at the small hospitals in their respective areas and, if this were made complete, it would enable better use to be made of the available accommodation, *e.g.*, by freeing the beds of the general hospitals by transfer of cases to the country hospitals.

The necessary powers for the provision of general hospitals are given to County Councils by Section 14 of the Act.

#### *Domiciliary Medical Treatment.*

There remains for consideration the arrangements for the medical care of sick poor persons in their homes. The trend of public opinion was given so long ago as 1909 by the Royal Commission on Poor Law of 1905. Two of their observations are “every endeavour was to be made to induce the labouring classes to join sick clubs or friendly societies,” and “we hope that, ultimately, it may be possible to dispense altogether with the service of the district medical officer and that his duties will be shared among medical men practising in the district.” Within two years of these observations, general effect was given to the principal of the first by the National Insurance Act, 1911, and under it medical services are now provided for large numbers of persons—who in its absence—would have been attended by Poor Law Medical Officers. If some arrangement could be made whereby domiciliary medical treatment could be given by any doctor willing to undertake the work on a capitation basis somewhat on the lines of the Insurance Act, it would enable all members of a family to have similar medical attendance. At present, the father

as an insured person would, when sick, be attended by his panel practitioner, and his family, in receipt of poor relief, would be attended by the Poor Law Medical Officer. There is evidence available that arrangements could be made whereby this choice of medical attendant could be effected and the distinction of pauperism so far as sickness is concerned be banished once for all without increased cost to the community. A practical procedure has also been devised.

1930.

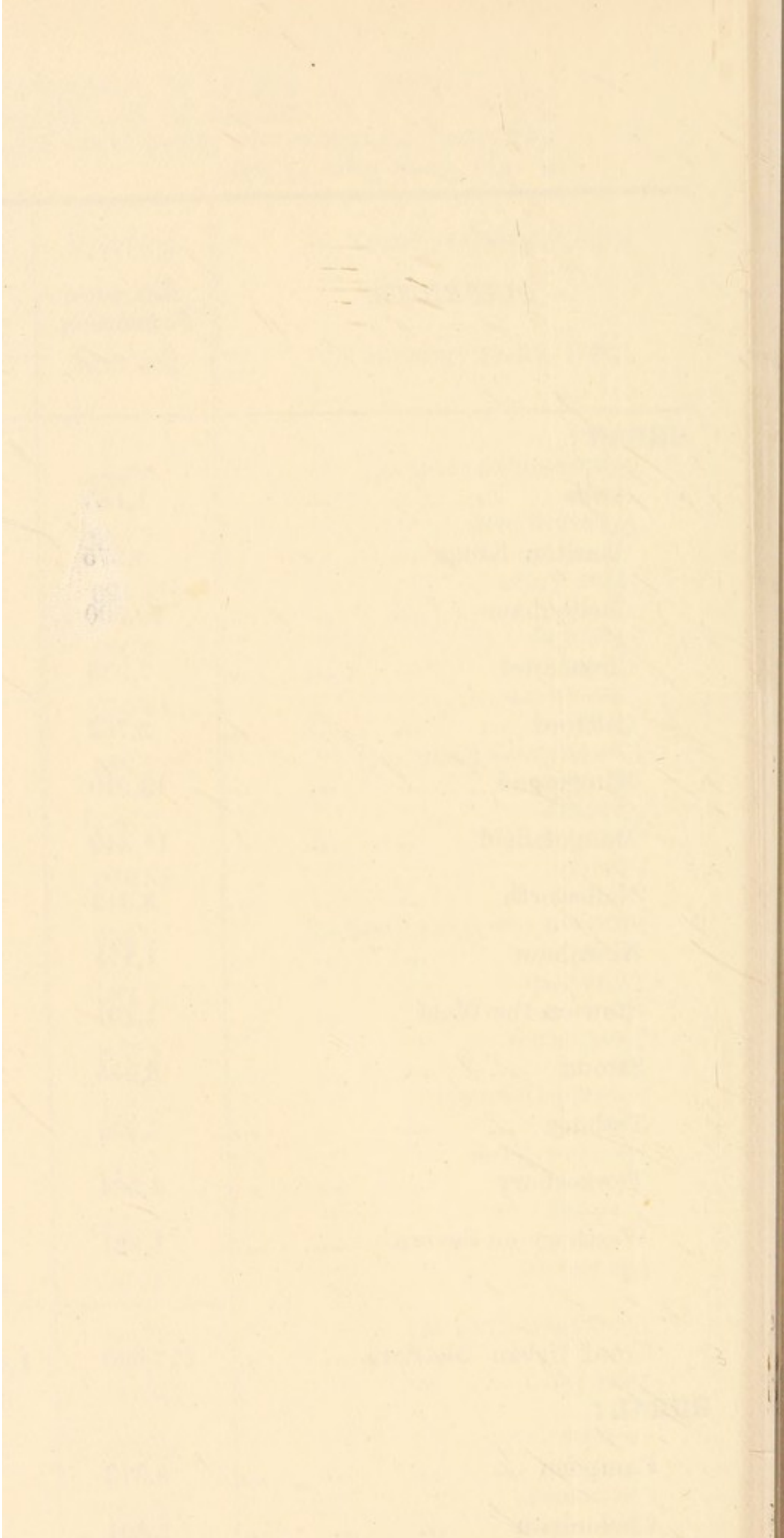
TABLE I.—RATES, &amp;c.

DISTRICTS.	Estimated Population.	BIRTHS.					DEATHS.						
		Legiti- mate.	Illegiti- mate.	Total.	% Illegiti- mate.	Birth Rate.	Total.		Under one year.				
							No.	Rate.	Legiti- mate.	Illegiti- mate.	Total.	Infantile Mortality.	
<b>URBAN :</b>													
Awre ... ..	1,183	11	-	11	-	9.3	11	9.3	-	1	1	91	
Charlton Kings ... ..	4,675	60	2	62	3.2	13.3	54	11.55	4	-	4	65	
Cheltenham ... ..	50,300	596	53	649	8.3	12.9	673	13.4	32	6	38	59	
Cirencester ... ..	7,333	86	7	93	7.5	12.7	92	12.5	3	-	3	32	
Coleford ... ..	2,762	54	2	56	3.6	20.3	50	18.1	4	-	4	71	
Kingswood ... ..	13,910	191	3	194	1.6	13.9	145	10.4	17	1	18	93	
Mangotsfield ... ..	11,340	160	2	162	1.2	14.3	115	10.1	6	2	8	49	
Nailsworth ... ..	3,342	46	2	48	4.2	14.4	42	12.6	2	-	2	42	
Newnham ... ..	1,171	13	1	14	7.1	11.9	15	12.8	1	-	1	71	
Stow-on-the-Wold ... ..	1,191	16	-	16	-	13.4	17	14.3	1	-	1	63	
Stroud ... ..	8,055	110	6	116	5.2	14.4	97	12.0	4	-	4	34	
Tetbury ... ..	2,233	28	1	29	3.45	13.0	31	13.9	2	-	2	69	
Tewkesbury ... ..	4,584	70	3	73	4.1	15.9	53	11.6	4	-	4	55	
Westbury-on-Severn ... ..	1,821	26	-	26	-	14.3	23	12.6	3	-	3	115	
Total Urban Districts ... ..	113,900	1,467	82	1,549	5.3	13.6	1,418	12.45	83	10	93	60	
<b>RURAL :</b>													
Campden ... ..	5,373	76	3	79	3.8	14.7	76	14.1	7	-	7	89	
Cheltenham ... ..	5,801	70	4	74	5.4	12.8	67	11.5	1	1	2	27	
Chipping Sodbury ... ..	23,800	323	19	342	5.6	14.4	248	10.4	14	-	14	41	
Cirencester ... ..	12,120	198	8	206	3.9	17.0	155	12.8	8	1	9	44	
Dursley ... ..	12,860	198	8	206	3.9	16.0	151	11.7	11	1	12	58	
East Dean ... ..	20,650	376	21	397	5.3	19.2	250	12.1	17	-	17	43	
Faringdon (part of) ... ..	1,048	9	2	11	18.2	10.5	10	9.5	-	-	-	-	
Gloucester ... ..	14,350	178	8	186	4.3	13.0	161	11.2	8	2	10	54	
Lydney ... ..	10,050*	150	4	154	2.6	13.7	112	11.1	9	-	9	58	
Marston Sicca ... ..	1,700	29	1	30	3.3	17.65	25	14.7	2	-	2	67	
Newent (part of) ... ..	6,481	94	5	99	5.05	15.3	78	12.0	3	-	3	30	
Northleach ... ..	7,210	111	8	119	6.7	16.5	84	11.65	5	1	6	50	
Pebworth ... ..	3,320	48	1	49	2.0	14.8	35	10.5	3	-	3	61	
Stow-on-the-Wold (part of) ... ..	5,936	81	2	83	2.4	14.0	83	14.0	2	-	2	24	
Stroud ... ..	28,080	332	9	341	2.6	12.1	324	11.5	16	-	16	47	
Tetbury ... ..	3,287†	51	1	52	1.9	16.3	30	9.4	3	-	3	58	
Tewkesbury (part of) ... ..	4,540	59	1	60	1.7	13.2	52	11.45	1	-	1	17	
Thornbury ... ..	19,020	299	15	314	4.8	16.5	211	11.1	9	-	9	29	
Warmley ... ..	9,098	147	6	153	3.9	16.8	100	11.0	7	-	7	46	
West Dean ... ..	15,150	211	12	223	5.0	14.7	141	9.3	6	-	6	27	
Wheatenurst ... ..	6,209	124	6	130	4.6	20.9	82	13.2	7	-	7	54	
Winchcombe (part of) ... ..	8,484	101	5	106	4.7	12.5	118	13.9	9	-	9	85	
Total Rural Districts ... ..	224,567‡	3,265	149	3,414	4.4	15.1	2,593	11.55	148	6	154	45	
Administrative County ... ..	338,467‡	4,732	231	4,963	4.65	14.6	4,011	11.85	231	16	247	50	

\* For Birth Rate 11,270\*

† Adjusted for Birth and Death rates 3,195 (Births and Deaths in added area from 1/4/30)

‡ { " " " 225,695 R. D's. 339,595 County  
" " " 224,475 R. D's. 338,375 " }





Year	Month	Day	Event
1880	Jan	1	...
1880	Jan	2	...
1880	Jan	3	...
1880	Jan	4	...
1880	Jan	5	...
1880	Jan	6	...
1880	Jan	7	...
1880	Jan	8	...
1880	Jan	9	...
1880	Jan	10	...
1880	Jan	11	...
1880	Jan	12	...
1880	Jan	13	...
1880	Jan	14	...
1880	Jan	15	...
1880	Jan	16	...
1880	Jan	17	...
1880	Jan	18	...
1880	Jan	19	...
1880	Jan	20	...
1880	Jan	21	...
1880	Jan	22	...
1880	Jan	23	...
1880	Jan	24	...
1880	Jan	25	...
1880	Jan	26	...
1880	Jan	27	...
1880	Jan	28	...
1880	Jan	29	...
1880	Jan	30	...
1880	Jan	31	...

TABLE III (A)—URBAN DISTRICTS.

1930.

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

CAUSES OF DEATH.	All Ages	AGES AT DEATH									URBAN DISTRICTS													
		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	Kingwood	Mangotsfield	Nailsworth	Newnham	Stow-on-the-Wold	Stroud	Tetbury	Tewkesbury	Westbury-on-Severn
1. Enteric Fever ... ..	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Small Pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles ... ..	5	2	...	1	2	...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	
4. Scarlet Fever... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5. Whooping Cough ... ..	9	5	1	1	2	...	...	...	...	...	...	...	6	...	2	1	...	...	...	...	...	...	...	
6. Diphtheria ... ..	6	...	...	...	5	1	...	...	...	...	...	...	...	...	3	2	...	...	...	...	1	...	...	
7. Influenza ... ..	15	...	...	1	...	...	...	6	2	6	1	...	8	2	...	3	...	1	...	...	...	...	...	
8. Encephalitis Lethargica ... ..	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
9. Meningococcal Meningitis ... ..	1	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	
10. Tuberculosis of Respiratory System	73	...	...	1	1	13	30	27	...	1	2	5	35	4	2	8	10	2	...	1	2	1	1	...
11. Other Tuberculous Diseases ... ..	17	1	...	1	4	3	5	2	1	...	...	1	11	...	2	...	...	1	...	...	1	...	...	1
12. Cancer, Malignant Diseases ... ..	200	...	...	...	...	1	11	78	76	34	...	6	95	16	5	20	18	6	1	3	17	3	6	4
13. Rheumatic Fever ... ..	2	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...
14. Diabetes ... ..	18	...	...	...	...	1	1	6	7	3	...	1	13	...	1	...	...	...	...	...	2	1	...	...
15. Cerebral Hæmorrhage, etc. ... ..	102	...	...	...	...	1	2	24	32	43	...	4	54	11	1	4	4	6	...	...	11	2	4	1
16. Heart Disease ... ..	332	...	...	...	1	4	7	71	106	143	5	11	129	22	13	46	29	10	7	5	23	10	20	2
17. Arterio-sclerosis ... ..	84	...	...	...	...	...	...	15	29	40	...	3	37	1	2	10	6	1	4	2	5	4	7	2
18. Bronchitis ... ..	37	1	...	...	...	...	3	8	7	18	...	...	14	2	...	6	4	1	...	...	7	...	2	1
19. Pneumonia (all forms) ... ..	63	17	3	2	1	...	4	10	7	19	1	3	32	3	2	7	6	3	...	1	2	...	1	2
20. Other respiratory diseases ... ..	13	...	...	...	...	1	...	2	3	7	...	1	8	...	...	...	2	...	1	...	1	...	...	...
21. Ulcer of stomach or duodenum ... ..	10	...	...	...	...	...	1	5	2	2	...	...	8	...	...	1	...	...	...	...	...	1	...	...
22. Diarrhœa, &c. (under 2 years) ... ..	5	5	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	1	...	...	...	1	...	...
23. Appendicitis and Typhlitis... ..	9	...	...	...	...	2	...	4	1	2	...	...	4	...	1	1	1	...	...	...	1	...	1	...
24. Cirrhosis of Liver ... ..	4	...	...	...	...	...	1	3	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...
25. Acute and chronic nephritis ... ..	58	...	...	...	1	5	22	19	11	...	...	4	33	2	8	2	7	...	...	...	...	1	...	1
26. Puerperal sepsis ... ..	3	...	...	...	...	3	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...
27. Other accidents and diseases of pregnancy and parturition ... ..	4	...	...	...	...	4	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...
28. Congenital debility and malformation, premature birth ... ..	52	50	...	...	1	1	...	...	...	...	...	4	17	3	4	9	3	1	1	1	3	1	3	2
29. Suicide ... ..	15	...	...	...	...	...	5	9	1	...	...	1	6	1	...	2	2	...	...	...	1	...	...	2
30. Other deaths from violence ... ..	41	1	1	1	1	7	3	13	7	7	...	3	19	3	2	...	2	3	...	2	3	2	...	2
31. Other defined diseases ... ..	237	11	3	...	8	7	21	36	45	106	2	7	130	21	6	18	17	5	...	2	16	4	6	3
32. Causes ill-defined or unknown ... ..	1	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Total ... ..	1,418	93	8	9	28	44	105	340	349	442	11	54	673	92	50	145	115	42	15	17	97	31	53	23







HOUSING. TABLE IV.

(Figures in brackets are numbers of houses erected under Schemes.)

	No. of houses proposed in Schemes	HOUSES ERECTED.												Total	Under Schemes	Private-ly	
		1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930				
<b>URBAN :</b>																	
Awre ... ..	26	—	2	—	2	1	—	—	—	—	—	—	—	5	—	5	
Charlton Kings	40	—	—	16 (14)	10	9	11	8	34 (20)	8	46	10	8	160	34	126	
Cheltenham ...	520	2	2	97 (92)	82 (64)	17	64 (40)	80 (44)	132 (94)	112 (78)	145 (113)	208 (174)	245 (213)	1186	912	274	
Cirencester ...	48	—	5	20 (16)	38 (36)	14	32	13	11	10	8	7	5	163	52	111	
Coleford ... ..	100	—	—	40 (40)	—	2	2	1	12 (12)	15 (14)	10 (4)	20 (20)	2	104	90	14	
Kingswood ... ..	200	1	4 (4)	2	3	—	23 (12)	54 (25)	73 (16)	101 (41)	42	73	43 (15)	419	113	306	
Mangotsfield ...	—	—	—	—	—	—	—	—	—	115 (24)	76 (21)	101 (30)	81 (14)	373	89	284	
Nailsworth ... ..	60	—	2	22 (22)	2 (2)	7	7	5	7	11	12	9	7	91	24	67	
Newnham ... ..	25	—	—	1	—	—	2	—	—	—	—	1	—	4	—	4	
Stow-on-the-Wold	25	—	—	25 (25)	—	—	—	—	—	—	—	—	*	25	25	—	
Stroud ... ..	125	—	—	17 (16)	52 (50)	6	17	9	26 (18)	24 (16)	10 (4)	21 (20)	37 (34)	219	158	61	
Tetbury ... ..	30	—	—	12 (12)	—	—	—	—	4	14 (12)	—	—	—	30	24	6	
Tewkesbury ... ..	122	—	—	12 (12)	—	—	—	13 (12)	6 (4)	27 (20)	6	1	2	67	48	19	
Westbury-on-Severn	50	1	—	1	—	1	1	1	4	—	3	1	—	13	—	13	
<b>Total U.D. ...</b>	<b>1,371</b>	<b>4</b>	<b>15 (4)</b>	<b>265 (249)</b>	<b>189 (152)</b>	<b>57</b>	<b>159 (52)</b>	<b>184 (81)</b>	<b>309 (164)</b>	<b>437 (205)</b>	<b>358 (142)</b>	<b>452 (244)</b>	<b>430 (276)</b>	<b>2,859</b>	<b>1,569</b>	<b>1,290</b>	
<b>RURAL :</b>																	
Campden ... ..	88	—	—	14 (14)	2	3 (2)	3	20 (12)	54 (42)	61 (46)	9	12	6 (6)	184	122	62	
Cheltenham ...	80	2	10 (10)	68 (54)	9	18	29	25	17	36	54	33 (12)	20	321	76	245	
Chipping Sodbury	471	10	22	123 (88)	40 (40)	34	78	134	117 (26)	207 (90)	101	266 (92)	159	1,291	336	955	
Cirencester ...	176	4	6 (6)	65 (58)	74 (64)	18	14	53	50 (8)	31 (10)	26 (10)	14 (6)	12	367	162	205	
Dursley ... ..	212	1	15 (15)	75 (62)	89 (87)	9	6	9	17	139 (84)	121 (88)	33 (4)	15 (4)	529	344	185	
East Dean ... ..	305	—	—	—	—	19	33 (10)	32	26	33 (12)	35	14	18	210	22	188	
Faringdon ... ..	—	—	—	2	2	2	—	—	—	—	3	1	8 (8)	18	8	—	
Gloucester ... ..	270	—	19 (19)	38 (34)	36 (18)	28	28	99	108 (8)	65	120	84	78 (8)	703	87	616	
Lydney ... ..	106	26	2 (2)	8 (2)	34 (26)	20 (10)	35 (20)	55 (20)	39	74 (50)	38 (5)	12	8	351	135	216	
Marston Sicca ...	15	—	2	—	6	8	3	5	3	10	11	14 (12)	5 (4)	67	16	51	
Newent ... ..	75	—	3	—	—	7	5	3	10	11	11	7	7	64	—	64	
Northleach ... ..	86	—	—	12 (10)	1	4	7	1	7	11	3	1	14	61	10	51	
Pebworth ... ..	36	—	26 (26)	8	4	9	4	24 (20)	11	9	12 (8)	5	11 (6)	123	60	63	
Stow-on-the-Wold	71	—	12	16 (16)	39 (31)	4	12	4	7 (2)	8	12	6	2	122	49	73	
Stroud ... ..	217	2	—	66 (50)	45 (22)	95	78	53	37	37	46	36	20	517	72	445	
Tetbury ... ..	26	—	7	—	—	—	—	2	4	4	3	17 (12)	1	38	12	26	
Tewkesbury ... ..	88	2	10 (10)	28 (22)	12 (10)	6	2	5	15 (1)	13 (8)	9 (4)	6 (4)	1	109	59	50	
Thornbury ... ..	297	—	6 (6)	41 (33)	44 (24)	31	26	63 (8)	94 (44)	149 (88)	74 (50)	136 (54)	47	711	307	404	
Warmley... ..	343	—	10	54 (38)	22	5	59 (10)	94 (24)	118 (18)	72 (52)	22 (13)	64 (32)	22 (8)	542	195	347	
West Dean ... ..	400	1	4	80 (74)	157 (148)	—	9	18	19	17	12	11	*	328	222	106	
Wheatenhurst ...	21	1	—	21 (21)	15 (15)	1	11	9	16	2	9	5 (1)	5	95	37	58	
Winchcombe ... ..	117	—	3	52 (40)	5	14	7	9	19	10	11	12 (7)	6	148	47	101	
<b>Total R.D. ...</b>	<b>3,500</b>	<b>49</b>	<b>157 (94)</b>	<b>771 (616)</b>	<b>636 (485)</b>	<b>335 (12)</b>	<b>449 (40)</b>	<b>717 (84)</b>	<b>788 (149)</b>	<b>999 (440)</b>	<b>742 (178)</b>	<b>791 (236)</b>	<b>465 (44)</b>	<b>6,899</b>	<b>2,378</b>	<b>4,521</b>	
<b>COUNTY ... ..</b>	<b>4,871</b>	<b>53</b>	<b>172</b>	<b>1,036</b>	<b>825</b>	<b>392</b>	<b>608</b>	<b>901</b>	<b>1,097</b>	<b>1,436</b>	<b>1,100</b>	<b>1,243</b>	<b>895</b>	<b>9,758</b>	<b>—</b>	<b>—</b>	
Schemes ... ..	—	—	98	865	637	12	92	165	313	645	320	480	320	—	3,947	—	
Private ... ..	—	53	74	171	188	380	516	736	784	791	780	763	575	—	—	5,811	

\* Return not yet received.



TABLE V.—SCHEME FOR THE EXTENSION OF MEDICAL SERVICES.

	Period to 31st December, 1921.	Year ending 31st December, 1922.	Year ending 31st December, 1923.	Year ending 31st December, 1924.	Year ending 31st December, 1925.	Year ending 31st December, 1926.	Year ending 31st December, 1927.	Year ending 31st December, 1928.	Year ending 31st December, 1929.	Year ending 31st December, 1930.
<b>No. of OUT STATIONS.</b>	8	8	8	9	10	11	12	12	12	16
<b>OPENINGS.</b>										
Regular	225	407	407	420	442	533	571	559	575	677
Intermediate	—	—	—	280	289	603	501	658	811	865
<b>Total No.</b>	225	407	407	700	731	1,136	1,072	1,217	1,386	1,542
<b>No. of CASES.</b>										
School Children	272	942	1,566	1,954	2,182	3,161	3,204	3,871	4,173	4,491
Tuberculosis	44	117	111	181	286	181	221	319	203	288
M. & C. W.	39	102	117	219	400	488	647	716	642	793
Others	5	17	24	23	—	—	—	—	—	—
General Hospitals	41	74	169	487	675	705	830	731	751	812
Out-Stations	319	1,094	1,709	1,972	2,149	3,125	3,432	4,155	4,392	4,762
<b>Total</b>	390	1,168	1,878	2,459	2,824	3,890	4,202	4,906	5,113	5,574
<b>No. of ATTENDANCES.</b>										
School Children	758	2,282	4,239	5,326	5,443	10,768	9,618	10,368	12,545	14,618
Tuberculosis	173	471	548	980	1,684	1,075	1,070	1,433	1,143	892
M. & C. W.	71	245	438	994	1,328	1,474	1,707	2,578	2,169	3,165
Others	24	80	120	105	—	—	—	—	—	—
General Hospitals	115	175	358	816	1,185	1,008	1,298	1,515	1,683	2,576
Out-Stations	911	2,900	5,017	6,580	7,120	12,369	10,167	12,864	14,174	16,009
<b>Total</b>	1,020	3,084	5,845	7,405	8,255	13,317	11,460	14,379	15,657	18,675
<b>AVERAGE ATTENDANCE PER ROUTINE OPENING AT OUT-STATIONS</b>	4.0	7.1	12.3	15.7	16.1	23.1	17.8	23.0	24.6	23.8
<b>SPECIALIST SERVICES.</b>										
VISITS	12	45	63	80	97	131	163	190	211	235
Cases seen	179	765	1,091	1,485	1,855	2,479	3,142	3,781	3,933	4,791
Operations	56	159	312	412	556	651	768	894	947	970
<b>Cost.</b>										
<b>SPECIALISTS—</b>										
Operations	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Examinations	344 19 6	424 12 0	665 8 0	709 14 6	806 3 6	1,308 11 6	1,198 19 6	1,425 14 6	1,397 9 6	1,795 16 0
Medical Officers	378 0 0	625 19 6	997 7 0	1,173 4 6	1,420 8 6	1,770 19 0	2,022 19 0	2,431 9 6	2,462 17 0	2,791 19 6
Other Items	916 18 6	1,091 6 5	1,551 9 10	1,068 14 5 1/2	1,144 3 5	1,392 10 9	1,648 9 3	1,908 17 8	2,246 4 8	2,358 5 1
Orthopaedic	—	—	£2,772 5 10	£2,944 1 11 1/4	£3,235 8 5	£4,600 2 0	£4,569 5 9	£4,430 7 2	£5,669 6 8	£6,165 7 2
Total Cost	£1,728 2 0	£2,302 2 11	£3,942 5 1	£3,242 16 11	£3,953 0 0	£5,100 4 8	£6,119 7 3	£7,049 4 3	£7,728 6 5	£8,517 8 7
<b>Total Cost in shillings (less orthopaedic) per attendance</b>	33.7	15.5	16.4	7.96	8.0	6.1	7.9	7.5	7.2	6.7
<b>Cost of Medical Officers per attendance at Out Stations</b>	8.3	4.3	2.86	2.13	2.02	1.45	1.65	1.56	1.35	1.26
<b>Specialist Service per attendance</b>	35.4	12.0	11.1	9.5	8.7	8.4	7.4	7.6	7.1	7.1

1709