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County Council of Stirling.

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# ANNUAL REPORT

(FOR THE YEAR 1928)

— TO THE —

County Council and District Committees

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ANNUAL REPORT TO THE TOWN  
COUNCILS OF BRIDGE OF ALLAN  
AND DENNY AND DUNIPACE.

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*By*

T. ADAM, M.A., M.D., D.P.H. Camb.

Medical Officer of Health

STIRLING:  
JAMIESON & MUNRO, LTD., PRINTERS, 40 CRAIGS.  
1928.

County Council of Stirling.

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COUNCILS OF BRIDGE OF ALVA  
AND DUNDEE AND DUNDEE

T. ADAM, M.A., M.D., D.R.H. Camb.

Medical Officer of Health

Printed by James & Sons, Ltd., Glasgow & London.

#### NOTE.

THE year under review has been somewhat remarkable for its low birth-rate, infant mortality rate, and general death-rate. The birth-rate for the County is the lowest on record; the infant mortality is also the lowest yet recorded, while the general death-rate is appreciably lower than the average for recent years.

For the Central and Western Districts, byelaws under the Milk and Dairies (Scotland) Act of 1914 have now been approved by the Scottish Board of Health, and for reference I have thought it well to give a reprint of these in this Report. For the Eastern District, byelaws have also been prepared, but these have not yet received the approval of the Board.

COUNTY BUILDINGS,  
STIRLING, August, 1928.



NOTE

For the Central and Western Districts, figures under the  
1914 and 1915 (Scotland) Act of 1914 have not been  
approved by the Scottish Board of Health, and for reference  
it was thought it well to give a reprint of these in this Report.  
In the Eastern District, figures have also been prepared,  
but these have not yet received the approval of the Board.

W. G. BURNHAM,  
Edinburgh, August, 1928.

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In their Circular of 27th December, 1927, the Scottish Board of Health, in virtue of their powers under Section 15 of the Public Health (Scotland) Act, 1897, call upon every Medical Officer of Health to prepare a Report for the year ending 31st December, 1927, said Report to contain :—

- (a) A general account of influences and conditions injurious or dangerous to the health of the District and of the measures that in his opinion should be adopted to improve those conditions.
- (b) A statement of the general enquiries he has made during the year, of any special enquiries as to sanitary matters, and of any matters as to which he has given advice or granted certificates, including any action as to offensive trades.
- (c) A statement as to the quality of the water supplies in Special Water Supply Districts and other populous centres in the district, and the sufficiency of such supplies for all domestic and sanitary purposes.
- (d) A statement as to the efficiency, or otherwise, of the drainage systems in all Special Drainage Districts, and of the methods of sewage purification and disposal ; and any suggestions for their improvement.
- (e) An account of the presence or absence of pollution of rivers or streams in the District, the sources and nature of any such pollution, and any action taken to check it.
- (f) An account of any proceedings under the Housing (Scotland) Act, 1925, dealing specifically with (i.) the sufficiency of working-class dwellings, (ii.) the habitability of existing dwellings and the action taken to deal with defective or uninhabitable dwellings, (iii.) any schemes under consideration or contemplated for the improvement of insanitary areas under Part II. of that Act, and (iv.) the action taken where instances of overcrowding have been ascertained or suspected. In regard to (i.) information should be given as to the number of houses estimated at 31st December, 1927, as then required adequately to meet the needs of the district of the Local Authority (including houses required to replace houses at present occupied that should be closed and demolished).
- (g) An account of any proceedings under the Housing (Rural Workers) Act, 1926.
- (h) A statement showing whether any conditions have arisen, or are expected to arise, pointing to the expediency of a town-planning scheme for the proper control of further development.



- (i) A statement as to the causes, origin, and distribution of diseases within the District, and the extent to which the same have depended on or have been influenced by conditions capable of removal or mitigation.
- (j) An account, with tabular statements, shewing the incidence of infectious disease both notifiable and non-notifiable, with special reference to pneumonia and encephalitis lethargica, and of the action taken to prevent the outbreak and spread of such diseases, with special reference to arrangements for the supply of diphtheria anti-toxin and to any use made of the Schick and Dick tests of susceptibility to diphtheria and scarlet fever respectively and of the recently developed methods of artificial immunisation against these diseases. Where the Medical Officer of Health has information shewing the number of cases of infectious disease occurring in houses of different sizes he should record it in tabular form under this heading.
- (k) An account of any changes that have taken place during the year in (i.) the hospital accommodation available for persons suffering from infectious disease in general and from smallpox in particular, (ii.) the means provided for the conveyance of such persons, (iii.) the houses of reception, and (iv.) the arrangements for the destruction or disinfection of infected articles; and observations on the adequacy of the present provision for each service and on the use made of such provision.
- (l) A statement showing (i.) the number of closures of schools or parts of schools recommended and the number carried into effect; (ii.) the several periods for which the schools were closed; (iii.) the nature of the infectious disease that was the cause of closure; and (iv.) the reasons that led the Medical Officer of Health to recommend closure.
- (m) A statement of the facilities available for the treatment of persons suffering from venereal diseases and any suggestions for their improvement.
- (n) An account of the work done under the tuberculosis scheme with a note of any new measures adopted and additional facilities provided or made available during the year. A special account should be given of the institutional and other facilities that are available for the treatment of non-pulmonary forms of tuberculosis with observations on the adequacy of the existing facilities. Where use has been made of ultra-violet therapy, some account should be given of the results obtained and of any opinions formed as to the efficacy of this form of treatment. (Where the tuberculosis scheme is administered by the County Council the



information under this heading will be given by the County Medical Officer.)

- (o) A statement of the arrangements made and work performed under the scheme of maternity service and child welfare, and of other relevant particulars in the form appended to this circular. The form has been amended, and it is not proposed to re-issue it with future circulars. Medical Officers of Health of Local Authorities that have no scheme of maternity service and child welfare or that are members of Combination Authorities for maternity service and child welfare in terms of the Notification of Births (Extension) Act, 1915, need not furnish the particulars in the appended statement *except* under headings 1-4 inclusive. *The attention of the Medical Officer of Health is specially directed to the necessity for following the headings of the Appendix and supplying the necessary statistics in the form indicated.*
- (p) A report on the working of the Notification of Births Act, 1907. (This applies to areas where a scheme of maternity service and child welfare has not yet been carried into operation.)
- (q) A statement in regard to the administration of the Milk and Dairies (Scotland) Acts, with particular reference to
  - (1) the arrangements made by the Local Authority for bacteriological examination of samples in terms of Sections 20 and 21, and notes on any samples examined ;
  - (2) any action taken in connection with milk consigned from other areas, or the detection of dirty milk (Section 4 (3) of the Act of 1914) ;
  - (3) any outbreak, not previously reported, which has been spread by milk, or milk products ;
  - (4) the progress of milk grading in the district ;
  - (5) any other action taken under the Acts.
- (r) An account of the work done under Section 43 of the Public Health (Scotland) Act, 1897, for the inspection of meat and other articles of food, and a statement of work done or of arrangements that ought yet to be made under the Public Health (Meat) Regulations (Scotland), 1924, observations on slaughterhouses, oversea meat, unsound food, food inspection, and particulars of the sanitary condition of premises where foods are manufactured, prepared, stored or exposed for sale.
- (s) A report on the work done by the Local Authority under the Sale of Food and Drugs Acts and the Public Health (Preservatives, etc., in Food) Regulations, with observations on any special questions which have received or require attention.

information under this heading will be given by the  
(Local Medical Officer)

(a) A statement of the arrangements made and work per-  
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welfare, and of other relevant particulars in the form  
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or that are members of Combination Authorities for  
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except under headings 1-4 inclusive. The omission of  
the Medical Officer of Health is specially directed to the  
purpose of following the headings of the 1st paragraph and  
forwarding the necessary statistics in the form indicated.  
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(1) the arrangements made by the Local Authority  
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of sections 20 and 21, and notes on any samples  
examined;

(2) any action taken in connection with milk forwarded  
from other areas, or the detection of dirty milk  
(section 4 (3) of the Act of 1914)

(3) any outbreak, not previously reported, which has  
been traced to milk or milk products;  
(4) the progress of milk grading in the district;  
(5) any other action taken under the Act.

(r) An account of the work done under section 43 of the  
Public Health (Scotland) Act, 1907, for the inspection  
of meat and other articles of food, and a statement of  
any cases or of arrangements that ought to be  
made under the Public Health (Scotland) Regulations (1907)  
in connection with the Public Health (Scotland) Act, 1907,  
sections 43 and 44, observations on slaughterhouses, courses  
of meat, and food inspection, and particulars  
of the sanitary condition of premises where food is  
manufactured, prepared, stored or exposed for sale.

(s) A report on the work done by the Local Authority under  
the Sale of Food and Drugs Act and the Public Health  
(Scotland) Act, 1907, in connection with the  
control of any special questions which have received  
the attention of the Local Authority.



# REPORT.

## METEOROLOGICAL RECORDS.

The following notes with regard to the weather conditions as observed from month to month at Laurieston have been very kindly supplied to me by Mr. William Ballantine. Mr. Ballantine has provided me with similar notes for my Annual Report every year since I became County Medical Officer, and I have reason to believe they are much appreciated. He writes:—

“The year 1927 will be memorable for the remarkable weather varieties it has provided, especially for the heavy rains, thunderstorms and floods of the summer and autumn and the general coldness of the summer months. Yet, notwithstanding its many vagaries, the rainfall for the year just reaches the average fall of the district. What made the fall look excessive, was the unequal distribution of same, the preponderance of the rainfall occurring in the summer and autumn months through thunderstorms accompanied by rain and floods. Another peculiarity of the rainfall was that winter months, usually wet, were this year excessively dry, and summer months, which are usually moderate in their fall, were excessively wet. December was the driest month of the year, February being a good second, while July, August and September have nearly half of the total fall of the year to their credit. The frost in the middle of December, though not very intense, was notable for the cold winds which accompanied it and made it more severely felt. The frost collapsed on the 21st, but returned in time, with a sprinkling of snow, to give seasonable weather for Christmas and Hogmanay.

“January.—The first month of the year will be a memorable one in respect of some of its weather features. New Year's Day was crisp and fine, but by nightfall it had given way to rain. This was the beginning of a rainy period which continued during the first two weeks of the month. The barometer was unusually low, falling very abruptly at times. Later, light and variable south-westerly winds predominated and the weather generally hazy and frosty with morning fogs. The temperature was cold and damp, the coldest day being on the 20th of the month. This period of moderate weather was, however, suddenly broken up by the unprecedented gales which sprang up on the 26th, culminating with great violence on the 28th. This storm caused much damage to life and property on land and sea, recalling to memory the Tay Bridge gales of 1879. January 1927 will long be remembered as a month of great storms.



“February.—Michaelmas Day, though slightly foggy in the forenoon was, on the whole, a decidedly bright, fair day, according to the conditions. Therefore, we would expect ‘half of the winter to come and mair.’ The prophecy on this occasion, did not come true, as February was one of the best months of the year. It had a low rainfall and a fair amount of sunshine. Frost occurred on a good many mornings, followed by bright sunshine during the day. On several days, there were five hours of continual sunshine. The weather throughout the month was in great contrast to that usually experienced in February.

“March.—This month certainly did not, on this occasion, exhibit any lion-like tendencies, for the month throughout was, in general, mild and there was little of the piercing cold east wind so characteristic of March. After the first six days, which were rather wet, a fine, dry period set in, from the 7th to the 18th, with slight frosts and good sunshine during the day. This was the only time when the traditional March dust was appreciably in evidence. From 19th to 27th, a showery period prevailed, after which what might be termed a heat wave occurred. This was in the closing days of the month, the thermometer registering 62 degrees in the shade. The month, though changeable, was, on the whole, a fairly good spring month.

“April.—The chief characteristic of the month of April was disturbed barometer and changeable weather, quite typical of April and much like that of the preceding month. With a continuation of this type of weather, it seemed as if a mild April was to be chronicled. The first 23 days had an average of 50 degrees mean temperature, but on the last six days the thermometer went down to below freezing point every night, followed by storms of sleet and snow during the day. The month turned out to be no warmer than March and much colder than the April of last year.

“May.—Although somewhat cold May was, on the whole, a favourable month. While the first four days were wet, the rest of the month was comparatively dry, there being 20 dry days against 11 on which rain fell. It ranks amongst the low rainfall months of the year. The temperature was low throughout, and on three occasions was far from justifying the title of ‘the merrie month.’

“June.—The disposition of May was continued during the first half of June, with 17 completely dry days. This period also showed a remarkably steady barometer, while the period from the 9th to the 15th was a week of practically faultless weather, with bright sunshine daily. This spell of fine weather was suddenly interrupted by a series of violent thunderstorms. The disturbed state and local variations of the atmosphere



were strikingly illustrated in the sharp thunderstorm which proved so disastrous to Falkirk's old Steeple. With the recovery of the barometer fine weather was restored in the last days of the month. Excepting the warm spell above referred to, the rest of the month was amongst the coldest on record for the time of year.

"July.—While June was notable for its extreme cold, July was warmer than usual, the mean temperature of the month being rather above the average. High day temperature was infrequent. The increase in warmth was mainly due to the decidedly warm nights that prevailed. The excessive rainfall was chiefly due to the occurrence of thunderstorms. The month had a fair amount of sunshine, the brightest and warmest day being on the 21st, when there were 12 hours' continuous sunshine.

"August.—With the end of July the summer may be said to end, but this year the state of the weather was most unsummerlike in its nature. August being wet almost throughout, was an exceedingly bad harvest month, and greatly hindered the ingathering of what seemed a bountiful harvest. The atmosphere was frequently warm and sultry, due to the prevalence of thunderstorms. The latter part of the month did improve, but although the barometer rose to the highest point touched since May 11th, it soon dropped, and there was again a return to rain.

"September.—This month may be divided into two parts with regard to the weather. The first brought an improvement on the August weather, when there were nine dry days, and but for the flood on the 5th the rainfall was not great, but in the following thirteen days there was not a dry day. The total fall for the month (including the floods on the 5th and 21st—3.35in.) was 6.27in. Thus September was the wettest month of the year. Almost one-third of the year's rainfall in the district fell in the two harvest months.

"October.—Except for the last day, which was wet, the early part of the month was a marked improvement on the previous weather, there being 13 dry days—almost a "dry spell." Hopes were entertained that the long rainy period was over, but although the respite was of longer duration than usual, the rain returned with renewed persistence and the rest of the month comprised a succession of heavy rains, gales, and floods. There were considerable variations in the temperature, but taking it all over, mildness decidedly prevailed.

"November.—This month, which had also a wet beginning, soon distinguished itself with an exceptionally high temperature for the time of year. On the 2nd and 3rd the mean temperature for the 24 hours was 53 degrees—the highest recorded in any November for many years. Six days later,



however, there was a quick slump downwards to a mean of 32 degrees. The transition from heat to cold was accompanied by a marked descent of the barometer—to about 29 inches. It rose, however, as quickly as it fell, and the change in pressure brought clearer skies and northerly winds. The month on the whole was good, the rainfall was moderate, and there were only a few days that could be called real November days, with dull skies and drizzling rain.

“December.—The period of dry weather in the latter part of the previous month continued until about the middle of December. By the 19th only .09 of rain had fallen, but the drop in the barometer brought a storm of sleet and rain, which broke up the frost prevailing previously. The frost, however, returned in a few days with a sprinkling of snow, in time to make seasonable Christmas weather. There was practically no sunshine during the month, and the cold throughout was due to the long prevalence of east wind.”

Mr. Morrison, Town Clerk of Bridge of Allan, was good enough to send me some notes with regard to the weather conditions there, and the following is an interesting excerpt:—

“The rainfall at The Lea for the year 1927 amounted in all to 44.01 inches. For the twenty years ending 31st December, 1920, the average rainfall for the year was 35.58 inches. It will thus be seen that the 1927 rainfall was considerably above the average. But another record was broken during 1927 with 18.20 inches for the months of August, September, and October. How greatly this was in excess of the normal rainfall will be gathered from the fact that the combined average rainfall for these three months for the twenty years, ending December, 1920, amounted to 9.44 inches. With the exceptions of the year 1922, when the rainfall was very low, and 1925, when it was about normal, the years from 1919 to 1927 have all been much above the average.

“There is a School of Scientists who maintain that the weather runs in thirty-five years' cycles, and as at the present time we are just in the depth of one of these cycles, we should now begin to have better weather year by year until we get back to normal.”

With regard to rainfall throughout the County generally, I have obtained data from various observers, and these are given in Table I. In this table the stations are arranged roughly from East to West, beginning with Laurieston in the east, and ending with the Head of Duchray Valley near Aberfoyle.



TABLE I.—RAINFALL DURING 1927.

Station	Observer	Rain Gauge		1927												Total	
		Diameter	Height above Ground	Height above Sea-level	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.		Dec.
Laurieston, Falkirk	W. Ballantine, Esq.	5	1 3	132	3.98	1.71	2.54	1.84	1.81	3.46	3.27	4.81	6.27	3.56	2.34	1.26	36.85
Buckieburn Reservoir	Charles Massie, Esq.	8	1 0	825	16	10	12	10	11	14	13	20	15	11	13	5	150
Buckieburn Filters	Do.	8	1 0	700	5.71	1.44	2.35	1.30	1.65	3.63	2.74	7.46	5.58	8.29	5.88	1.31	47.34
Little Denny Filters	Do.	8	1 0	213	5.54	1.37	2.19	1.21	1.56	3.34	2.51	7.05	5.27	7.84	5.55	1.23	44.66
Little Denny Reservoir	Do.	8	1 0	325	5.50	3.20	3.62	2.10	2.68	4.55	4.90	8.57	7.62	6.50	3.85	2.02	55.11
Faughlin Reservoir	Do.	8	1 0	707	5.35	3.14	3.55	2.00	2.52	4.45	4.65	8.42	7.30	6.32	3.55	1.90	53.15
Earlsburn Reservoir	Do.	8	1 0	1202	7.10	4.80	4.85	3.20	3.80	5.95	5.50	9.30	8.20	8.75	6.50	1.80	69.75
Lea, Bridge of Allan	Laurence Pullar, Esq.	5	1 0	80	6.30	2.24	5.60	3.87	3.33	5.32	4.89	8.05	7.25	10.23	7.33	2.30	66.71
Sauchie House, Stirling	J. Fyfe, Esq.	8	..	151	4.03	2.19	2.78	2.07	2.41	3.55	4.61	6.62	5.72	5.86	2.89	1.28	44.01
Polmaise Gardens	Mr. J. M'Andie	..	..	..	5.08	2.46	3.04	1.84	2.51	3.92	3.87	6.84	5.96	5.71	3.08	0.99	45.30
Waterworks, Touch, No. 1	Aw. H. Goudie, Esq.	8	..	700	6.42	3.02	3.73	2.07	3.04	4.86	3.60	7.86	6.15	7.11	4.40	1.44	53.70
Waterworks, Touch, No. 2	Do.	8	..	..	7.78	3.45	3.78	2.86	2.87	4.88	3.74	8.15	6.63	7.66	5.16	1.53	58.49
Gargunnoch House	C. Stirling, Esq.	5	1 6	85	22	13	13	14	9	17	15	20	17	14	17	7	178
Arngomery	Mr. P. M'Cowen	5	1 6	150	6.56	3.06	3.38	2.52	2.42	4.17	3.67	9.27	6.24	7.53	4.62	1.65	54.49
Mugtock Reservoir	J. R. Sutherland, Esq.	..	..	320	6.63	3.19	3.14	2.94	1.74	4.10	3.84	7.08	5.37	9.37	4.43	2.35	54.18
Head of Duchray Valley	Do.	..	..	1500	22	14	15	14	6	18	15	21	21	14	15	12	187
		..	..	..	6.25	3.95	4.30	4.00	3.30	5.55	4.30	7.15	6.75	6.15	5.40	1.40	58.50
		..	..	..	10.80	6.60	6.90	6.70	4.50	8.45	6.20	9.45	8.85	11.30	10.10	2.50	92.40

## VITAL STATISTICS.

**Population.**—For the year 1927 the Registrar General has estimated the population of the landward part of the County at 79,186, which shows an apparent decrease of 1,848 as compared with the census of 1921. As I have said in former Reports, so far as one can make out, there has been no decrease in the population. On the contrary, there has probably been an appreciable increase, but for statistical purposes the above estimate may be taken. The Estimate for the Central District is 27,359, for the Eastern District, 40,306, and for the Western District, 11,521. Table II. gives the figures with regard to the area and the census populations of the various parishes.

**Births and Birth-Rates.**—After correction for transfers, the nett number of births within the landward area was 1652, as compared with 1822 in the previous year. The birth-rate for the year is the lowest on record for the County, being only 20·8 per 1000 of population. For the past ten years the average birth-rate was 23·3. For the twenty years, 1891-1910, the rate averaged 32·8. Table III. gives the statistics for the past six years.

For Scotland, the rate for the year was 19·8 per 1000, which is the lowest national rate recorded since the institution of registration in 1855. The maximum Scottish birth-rate occurred in the year 1876, when it reached 35·6 per 1000.



**Table II.**—POPULATION OF THE COUNTY OF STIRLING, AS ASCERTAINED AT THE CENSUS OF 1921, WITH REGISTRAR-GENERAL'S ESTIMATED LANDWARD POPULATION FOR 1927.

PARISH	AREA IN ACRES			POPULATION					
	Total	Burghal	Land-ward	CENSUS 1911			CENSUS 1921		
				Total	Burghal	Land-ward	Total	Burghal	Land-ward
CENTRAL DISTRICT.									
Denny ...	8,276	368	7,908	9,166	3,853	5,313	9,187	} 5,130	5,871
Dunipace ...	5,593	112	5,481	1,936	1,311	625	1,814		
Gargunnoch	9,862	...	9,862	573	...	573	586	...	586
Kilsyth ...	13,123	280	12,843	11,052	8,106	2,946	10,364	7,600	2,764
Kippen ...	11,268	...	11,268	1,365	...	1,365	1,518	...	1,518
Logie ...	9,096	774	8,322	4,373	3,121	1,252	5,105	3,579	1,526
St. Ninians	37,543	...	37,543	13,868	...	13,868	14,812	...	14,812
Stirling ...	1,825	1,377	448	21,461	21,200	261	31,345	21,345	388
Total for Central Dist.	96,586	2,911	93,675	63,794	37,591	26,203	65,119	37,654	27,465
Landward Population (estimated by the Registrar-General) as at the middle of 1927—27,359.									
EASTERN DISTRICT.									
Airth ...	5,561	...	5,561	1,515	...	1,515	1,777	...	1,777
Falkirk ...	15,111	1,680	13,431	42,423	33,574	8,849	42,762	33,308	9,454
Gratgemouth	8,016	1,057	6,989	19,470	10,219	9,251	18,708	9,723	8,985
Larbert ...	3,971	...	3,971	12,984	...	12,984	12,389	...	12,389
Mulravonside	7,964	...	7,964	5,706	...	5,706	5,758	...	5,758
Slamannan	10,856	...	10,856	3,440	...	3,440	3,409	...	3,409
Total for Eastern Dist.	51,509	2,737	48,772	85,538	42,793	41,745	84,803	43,031	41,772
Landward Population (estimated by the Registrar-General) as at the middle of 1927—40,306.									
WESTERN DISTRICT.									
Baldernock	4,320	...	4,320	747	...	747	763	...	763
Balfroun ...	7,821	...	7,821	1,155	...	1,155	1,190	...	1,190
Buchanan ...	41,644	...	41,644	795	...	795	585	...	585
Campsie ...	17,860	...	17,860	5,304	...	5,304	5,235	...	5,235
Drymen ...	30,854	...	30,854	1,269	...	1,269	1,214	...	1,214
Fintry ...	13,788	...	13,788	280	...	280	381	...	381
Killearn ...	15,375	...	15,375	1,085	...	1,085	1,054	...	1,054
Strathblane	9,085	...	9,085	1,024	...	1,024	1,275	...	1,275
Total for Western Dist.	140,747	...	140,747	11,659	...	11,659	11,797	...	11,797
Landward Population (estimated by the Registrar-General) as at the middle of 1927—11,521.									
Total for County ...	288,842	5,648	283,194	160,991	81,384	79,607	161,719	80,685	81,034
Total Landward Population (Registrar-General's estimate)—79,186.									



**Deaths and Death-Rates.**—Table IV. shows the figures for the past six years. From this table it will be seen that the total number of deaths (corrected for transfers) was 898, giving a death-rate of 11·3, the rate being very similar in all three districts. The average death-rate for the past six years was 11·8.

The Scottish death-rate for the year was 13·5 per 1000 of population. The Registrar-General reports that this is the third consecutive year in which the rate has been under 14 per 1000, and the eighth consecutive year in which it has been under 15 per 1000.

**Table III.**—BIRTHS AND BIRTH-RATES PER 1000 OF POPULATION WITHIN THE COUNTY OF STIRLING, EXCLUSIVE OF BURGHS, 1922-1927.

District	1922		1923		1924		1925		1926		1927	
	Births	Birth-Rates	Births	Birth-Rates	Births	Birth-Rates	Births	Birth-Rates	Births	Birth-Rates	Births	Birth-Rates
Central ...	691	24·6	699	25·6	718	26·8	672	24·5	696	25·3	555	20·3
Eastern ...	1017	23·9	959	23·5	955	23·9	925	22·7	938	23·1	916	22·7
Western ...	209	17·4	194	16·7	180	15·8	200	17·2	188	16·2	181	15·7
County ...	1917	23·2	1852	23·2	1853	23·7	1797	22·5	1822	22·8	1652	20·8

**Table IV.**—DEATHS AND DEATH-RATES PER 1000 OF POPULATION WITHIN THE COUNTY OF STIRLING, EXCLUSIVE OF BURGHS, 1922-1927.

District	1922		1923		1924		1925		1926		1927	
	Deaths	Death-Rates	Deaths	Death-Rates	Deaths	Death-Rates	Deaths	Death-Rates	Deaths	Death-Rates	Deaths	Death-Rates
Central ...	326	11·6	320	11·7	373	13·9	360	13·1	315	11·5	302	11·0
Eastern ...	473	11·1	420	10·3	498	12·4	499	12·2	431	10·6	461	11·4
Western ...	159	13·3	156	11·7	163	14·3	178	15·3	121	10·4	135	11·7
Whole County	958	11·6	876	11·0	1034	13·2	1037	12·9	867	10·9	898	11·3



## VACCINATION (SCOTLAND) ACT, 1907.

Table V. shows the number of persons in each parish of the County who, under the "conscience" clause of the above Act, refused to have their infants vaccinated. In the Central District the number was 182, in the Eastern District, 460, and in the Western District, 37, making a total of 679. Taken in conjunction with the number of births during the year, the percentage of infants remaining unvaccinated is approximately 41 per cent., the number of births being 1652. Since the Act came into force the following is a note of similar percentages of children remaining unvaccinated :—

1908—15%	1913—35%	1918—45%	1923—36%
1909—24%	1914—45%	1919—45%	1924—36%
1910—30%	1915—44%	1920—34%	1925—37%
1911—31%	1916—45%	1921—33%	1926—38%
1912—37%	1917—47%	1922—37%	1927—41%

**Table V.**—CONSCIENTIOUS OBJECTORS TO VACCINATION, 1927.

Central District Parish		Eastern District Parish		Western District Parish	
Denny ... ..	49	Airth ... ..	15	Balfron ... ..	4
Dunipace ... ..	5	Falkirk ... ..	75	Baldernock ... ..	...
Gargunnoch ... ..	1	Grangemouth	95	Buchanan ... ..	...
Kilsyth ... ..	29	Larbert ... ..	122	Campsie ... ..	30
Kippen ... ..	4	Muiravonside	95	Drymen ... ..	...
Logie ... ..	2	Slamannan ...	58	Fintry ... ..	...
St. Ninians ... ..	88			Killearn ... ..	1
Stirling ... ..	4			Strathblane ...	2
<b>Total ... ..</b>	<b>182</b>	<b>Total ... ..</b>	<b>460</b>	<b>Total ... ..</b>	<b>37</b>

## INFECTIOUS DISEASE NOTIFICATIONS.

Table VI. gives a list of the parishes in the County, with a note of the number of infectious disease notifications from each, and also the ratio of notifications per 1000 of population. For the purposes of comparison with former years, this table includes only those diseases made notifiable under the Infectious Disease Notification Act of 1889, i.e., Smallpox, Diphtheria, Erysipelas, Scarlet Fever, Typhus Fever, Enteric Fever, Continued Fever and Puerperal Fever. For the past ten years the County notification rates were :—1917, 3·5 ; 1918, 3·7 ; 1919, 5·8 ; 1920, 8·9 ; 1921, 8·2 ; 1922, 5·1 ; 1923, 4·1 ; 1924, 6·9 ; 1925, 8·9 ; and 1926, 8·24, giving an average rate of 6·3 per 1000 of population, so that the rate for 1927,



although lower than that of the two previous years, is somewhat above the average. The Eastern District of the County had the highest rate, being 2 per 1000 higher than the Central District rate, while that of the Western District was only 1·7. The Parish with the highest rate was Falkirk, with 13·65, Muiravonside and Larbert following with 10·25 and 9·76 respectively. The rates for the other parishes taper off gradually—the four last on the list being Drymen, Balfron, Killearn and Stirling, in each of which there was not a single case.

**TABLE VI.**—INFECTIOUS DISEASE NOTIFICATIONS PER 1000 OF POPULATION (exclusive of Tuberculosis, Chickenpox, Malaria, and other Diseases made notifiable within recent years) IN EACH LANDWARD PARISH IN STIRLINGSHIRE for the Year 1927. Only those Diseases specified in the Notification Act of 1889 are included.

Parish	Population	No. of Notifications	Rate per 1000 of Population
Falkirk ... ..	9,451	129	13·65
Muiravonside ... ..	5,758	59	10·25
Larbert ... ..	12,389	121	9·76
Kippen ... ..	1,508	13	8·62
Gargunnoch ... ..	586	5	8·55
Logie ... ..	1,526	13	8·51
Denny ... ..	5,251	38	7·23
Kilsyth ... ..	2,764	20	7·20
St. Ninians ... ..	14,832	96	6·47
Airth ... ..	1,777	11	6·13
Grangemouth ... ..	9,008	44	4·88
Baldernock ... ..	763	3	3·93
Strathblane ... ..	1,275	4	3·14
Fintry ... ..	381	1	2·63
Campsie ... ..	5,335	11	2·06
Buchanan ... ..	585	1	1·70
Dunipace ... ..	620	1	1·61
Slamannan ... ..	3,409	2	0·58
Drymen ... ..	1,214	...	0·00
Balfron ... ..	1,189	...	0·00
Killearn ... ..	1,052	...	0·00
Stirling ... ..	388	...	0·00
<b>Total ... ..</b>	<b>81,061</b>	<b>572</b>	<b>7·05</b>
Central District ... ..	27,475	186	6·77
Eastern District ... ..	41,792	366	8·76
Western District ... ..	11,794	20	1·70

## INFLUENZA.

In response to a request from the Scottish Board of Health for certain information with regard to influenza, I issued a letter of enquiry to all the medical men in my area, asking for detailed information regarding cases of influenza occurring in their practice during the epidemic in the early part of the year. The information obtained in this way was of a somewhat scrappy nature, very few of the medical men having kept

particular notes. As a matter of fact many parts of the County entirely escaped, and in no case could it be said that the disease had been worse than in an ordinary year.

Appended is a tabular statement of the replies received, which I transmitted to the Board.

In accordance with the Board's request I also extracted the data with regard to the deaths from the Registrars' Returns for each week from the beginning of the year until the end of March for each of my areas separately. Appendix (2) gives a statement of the general mortality and also of the deaths from Influenza, affections of the respiratory system, and of the heart.



## APPENDIX (1).—INFLUENZA—SUMMARY OF REPORTS FROM MEDICAL MEN, MAY, 1927.

District and Area.	Type of Disease.	Approx. No. of Cases. Mild      Severe	Approx. Date of first cases.	Complications.	Frequency of Complications.
CENTRAL—					
St. Ninians,	"Less influenza than in any previous year."				
	Respiratory	25	4/1/27	1 Pleurisy, 12 Bronchitis	13 cases.
Buchlyvie,	Gastro-Intestinal	6	11/2/27	—	—
	Febrile	4	17/1/27	—	—
Kilsyth (landward)	Really no epidemic in this area, the cases which did occur being mostly of the gastro-intestinal type. "Colds" were prevalent, but very little true influenza.				
EASTERN—					
Falkirk (landward),	Respiratory	31	January	Pneumonia	1 case.
	Gastro-Intestinal	7	February	—	—
	Febrile	4	February	—	—
	Pyrexia averaging 4-5 days—Chief Symptoms—Headache, Backache, Loss of Appetite, and Sore Throat.				
Larbert	Respiratory	9	5/2/27	Bronchitis, Pneumonia	1 in 12, 2 in 12.
	Nervous	1	3/4/27	Depression, Bronchitis	1 in 3, 1 in 4.
	Gastro-Intestinal	3	6/3/27	Diarrhoea	2 in 4.
	Febrile	28	1/3/27	—	—
	Mild epidemic—one death in a lady aged 70.				
Slamannan,	Respiratory	17	1/1/27	Broncho-pneumonia	4 in 21
	Gastro-Intestinal	5	8/3/27	Bronchitis	17 in 21.
	Febrile	20	1/1/27	—	—
Grangemouth (landward),	"Practically no cases" in this area.				

District and Area.	Type of Disease.	Approx. No. of Mild Cases.	Approx. No. of Severe Cases.	Approx. Date of first Cases.	Complications.	Frequency of Complications.
WESTERN— Strathblane,	"In this scattered area there were very few cases altogether, none of them serious. About two-thirds were of the respiratory type, and one-third gastro-intestinal and febrile—chiefly gastro-intestinal."					
Drymen,	Respiratory	30	3	27/4/27	Bronchitis and pneumonia or pulmonary congestion—pneumonia was not typical.	Bronchitis in nearly all cases, aged 45-70.
	Gastro-intestinal	40	10	1/1/27	Obstinate constipation and vomitings, no appetite, Temperature not high.	—
	Febrile	20	5	1/1/27	—	—
	In early part of epidemic most of the cases were gastro-intestinal in type—mostly in children and young people. March was a very sunny month, with the result that epidemic ceased. April was cold and wet, causing a recrudescence of the disease, but mostly of the respiratory type, with bronchitis pneumonia and pulmonary congestion in young children. Older people suffered—generally from 45 upwards.					
Lennoxton,	Respiratory	4	...	January	—	—
	Gastro-intestinal	2	1	January	—	—
	Febrile	14	...	December, 1926	—	—
	Cases were very mild, a week or two being the duration of the attack.					
BURGH OF DENNY,	A fair number of cases—mostly mild and of the respiratory type. Few complications. Complete records not available.					



Week Ending.	Deaths from Influenza—								Deaths from—		
	Total	At Ages—Years.							All Causes.	Affections of the Respiratory System.	Affections of the Heart.
		Under 1	1-5	5-15	15-25	25-45	45-65	65+			
CENTRAL DISTRICT.											
Jan. 8	...	...	...	...	...	...	...	...	3	..	...
" 15	...	...	...	...	...	...	...	...	5	1	4
" 22	...	...	...	...	...	...	...	...	4	1	...
" 29	...	...	...	...	...	...	...	...	4	1	...
Feb. 5	1	...	...	...	...	...	...	1	5	1	2
" 12	...	...	...	...	...	...	...	...	4	1	1
" 19	...	...	...	...	...	...	...	...	10	4	1
" 26	...	...	...	...	...	...	...	...	9	5	3
Mar. 5	...	...	...	...	...	...	...	...	5	3	...
" 12	1	1	...	...	...	...	...	...	7	2	...
" 19	1	...	...	...	...	...	...	1	6	3	...
" 26	...	...	...	...	...	...	...	...	4	...	1
Total	3	1	...	...	...	...	...	2	66	22	12
EASTERN DISTRICT.											
Jan. 8	...	...	...	...	...	...	...	...	11	3	2
" 15	...	...	...	...	...	...	...	...	6	2	1
" 22	...	...	...	...	...	...	...	...	8	2	2
" 29	...	...	...	...	...	...	...	...	15	2	4
Feb. 5	...	...	...	...	...	...	...	...	10	2	3
" 12	1	...	...	...	...	...	...	1	6	2	...
" 19	1	...	...	...	...	...	...	1	13	4	3
" 26	4	1	...	...	...	...	1	2	14	7	2
Mar. 5	...	...	...	...	...	...	...	...	9	2	2
" 12	...	...	...	...	...	...	...	...	8	2	1
" 19	...	...	...	...	...	...	...	...	8	1	4
" 26	...	...	...	...	...	...	...	...	6	1	2
Total	6	1	...	...	...	...	1	4	114	30	26
WESTERN DISTRICT.											
Jan. 8	...	...	...	...	...	...	...	...	...	...	...
" 15	...	...	...	...	...	...	...	...	1	...	...
" 22	...	...	...	...	...	...	...	...	4	1	1
" 29	...	...	...	...	...	...	...	...	3	...	...
Feb. 5	...	...	...	...	...	...	...	...	2	1	...
" 12	2	...	...	...	...	...	...	2	4	2	...
" 19	2	...	...	...	...	...	...	2	3	1	1
" 26	...	...	...	...	...	...	...	...	5	1	...
Mar. 5	...	...	...	...	...	...	...	...	3	...	...
" 12	...	...	...	...	...	...	...	...	3	...	1
" 19	...	...	...	...	...	...	...	...	4	1	3
" 26	3	...	...	...	...	1	...	2	3	3	...
Total	7	...	...	...	...	1	...	6	35	10	6
Grand Total	16	2	...	...	...	1	1	12	215	62	44

BURGHES OF BRIDGE OF ALLAN AND DENNY AND DUNIPACE.

Week Ending	Deaths from Influenza.								Deaths from		
	Total	At Ages—Years.							All Causes	Affections of the Respiratory System.	Heart Affections
		—1	1-5	5-15	15-25	24-45	45-65	65+			

BRIDGE OF ALLAN.

Jan. 8	...	...	...	...	...	...	...	...	1	1	...
" 15	...	...	...	...	...	...	...	...	1	...	...
" 22	...	...	...	...	...	...	...	...	1	1	...
" 29	...	...	...	...	...	...	...	...	...	...	...
Feb. 5	...	...	...	...	...	...	...	...	...	...	...
" 12	...	...	...	...	...	...	...	...	...	...	...
" 19	...	...	...	...	...	...	...	...	1	1	...
" 26	...	...	...	...	...	...	...	...	...	...	...
Mar. 5	...	...	...	...	...	...	...	...	...	...	...
" 12	...	...	...	...	...	...	...	...	...	...	...
" 19	...	...	...	...	...	...	...	...	1	...	...
" 26	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	5	3	...

DENNY AND DUNIPACE.

Jan. 8	...	...	...	...	...	...	...	...	2	...	...
" 15	...	...	...	...	...	...	...	...	2	...	...
" 22	...	...	...	...	...	...	...	...	..	...	...
" 29	...	...	...	...	...	...	...	...	2	...	...
Feb. 5	...	...	...	...	...	...	...	...	...	...	...
" 12	...	...	...	...	...	...	...	...	2	1	...
" 19	...	...	...	...	...	...	...	...	4	1	1
" 26	...	...	...	...	...	...	...	...	2	...	...
Mar. 5	...	...	...	...	...	...	...	...	2	...	...
" 12	...	...	...	...	...	...	...	...	2	...	...
" 19	...	...	...	...	...	...	...	...	1	...	...
" 26	...	...	...	...	...	...	...	...	1	1	...
" 26	...	...	...	...	...	...	...	...	1	...	...
Total	...	...	...	...	...	...	...	...	19	3	1

DEATHS FROM INFLUENZA.

The following five years showed a further fall in the deaths under one year, and the rate of diminution has been more rapid throughout the winter years, so that in 1920 the figure...

1901-1910, the birth rate fell to 21.3 and the infant death rate...



## BACTERIOLOGICAL WORK.

As I stated in my last Annual Report, all pathological specimens from this department, with the exception of specimens taken in connection with the Venereal Diseases Scheme and samples of milk under the Milk and Dairies Acts, are now examined at the Bacteriological Department of the University of Edinburgh. As will be seen from the following table, the annual charges for such work amount to quite a large sum.

Table VII.—NO. OF SPECIMENS SUBMITTED FOR BACTERIOLOGICAL EXAMINATION, WITH A NOTE OF THE COST, DURING THE YEAR 1927.

District or Burgh.	Throat Swabs for Diphtheria Bacillus.	Specimens of Blood in suspected Enteric Fever.	Samples of Sputum for T.B.	Total Number.	Total Cost including Telegram Charges, etc.
Central District	257	7	49	313	£70 18 3
Eastern District	408	6	41	455	100 11 10
Western District	25	...	12	37	9 5 3
Burgh of Denny	10	1	10	21	4 18 1
Burgh of Bridge of Allan	23	...	4	27	6 9 0
Total	723	14	116	853	£192 2 5

Specimens taken in connection with the diagnosis and treatment of Venereal Diseases are sent to the Physicians and Surgeons Laboratory, Edinburgh, and Professor Carstairs Douglas, of Anderson College, Glasgow, examines samples of milk sent to him under the Milk and Dairies Acts and the Tuberculosis Order.

## INFANTILE MORTALITY, 1891-1927.

Table VIII. gives for each of the County Districts for the past 37 years the number of births, the birth-rate and the infantile mortality rate. To economise space the first two decades are each condensed into one line, but it will be seen that for the decade, 1891-1900, the average annual birth-rate for the County was over 34 per 1000 of population, and that the infant death-rate was 110 per 1000 births. For the next decade, 1901-1910, the birth-rate fell to 31·3 and the infant death-rate to 98.

The following five years showed a further fall in the deaths under one year, and the rate of diminution has been maintained throughout succeeding years, so that in 1926 the figure

had fallen to 70, and in 1927 it was down to 60. The birth-rate likewise has dwindled from 34 per 1000 of population to 20 per 1000—the figures for 1927 being the lowest recorded.

The infantile mortality rate for the whole of Scotland for the year 1927 was 89. Had the same mortality rate held in the County of Stirling Administrative Area, the infantile deaths would have numbered 148 instead of the actual figure of 100. There has, therefore, been during 1927 a saving of 48 infantile lives, as compared with Scotland as a whole. As compared with the whole Country, a lower infantile mortality rate may be expected here, but the difference in favour of the County Administrative Area is so great as to indicate very favourable conditions from the Public Health point of view.

*(The following table is extremely faint and largely illegible due to fading and bleed-through from the reverse side of the page. It appears to be a statistical table with multiple columns and rows of data.)*



TABLE VIII.—BIRTHS AND BIRTH-RATES AND DEATHS UNDER ONE YEAR PER 1000 BIRTHS, 1891-1927.

Year	CENTRAL DISTRICT			EASTERN DISTRICT			WESTERN DISTRICT			COUNTY			
	No. of Births	Birth-rate	Deaths under 1 Year per 1000 Births	No. of Births	Birth-rate	Deaths under 1 Year per 1000 Births	No. of Births	Birth-rate	Deaths under 1 Year per 1000 Births	No. of Births	Birth-rate	Deaths under 1 Year per 1000 Births	
1891 to 1900	5272	31.3	110	15,056	32.6	115	3006	24.9	109	23,424	34.4	2601	110
1901 to 1910	7355	33.0	102	13,233	36.9	96	2468	21.2	88	23,056	31.3	2253	98
1911	846	32.082	107	1206	28.673	100	235	20.128	85	2287	28.5	230	100
1912	797	29.557	99	1155	27.679	88	202	17.361	54	2154	26.9	192	90
1913	844	31.5	98	1173	28.8	104	237	20.8	68	2254	28.5	221	98
1914	845	31.2	101	1169	28.9	87	219	10.4	78	2233	28.2	204	91
1915	784	28.2	102	1088	26.7	98	207	18.3	82	2079	26.0	204	100
1916	688	24.3	74	1442	24.7	82	190	16.8	89	1885	23.4	151	80
1917	646	22.3	80	1399	21.4	106	190	16.7	68	1712	21.1	158	92
1918	665	22.4	60	1380	22.2	84	178	15.5	51	1757	21.3	132	75
1919	669	22.2	84	1317	24.5	88	156	13.7	141	1834	22.2	167	91
1920	838	27.4	69	1384	20.2	78	231	20.2	61	2268	27.2	166	73
1921	813	20.6	60	1273	27.5	76	221	18.7	45	2182	26.9	153	70
1922	691	24.6	94	1231	23.9	98	200	17.4	62	1917	23.2	178	93
1923	699	25.6	77	1308	23.5	75	194	16.7	46	1852	23.2	133	72
1924	718	26.8	75	1247	23.9	69	180	15.8	94	1853	23.6	137	75
1925	572	24.5	88	1252	22.7	85	200	17.2	70	1797	22.5	152	84
1926	696	25.3	70	938	23.1	71	188	16.2	59	1822	22.8	127	70
1927	555	20.3	61	916	22.7	61	181	15.7	55	1652	20.8	100	60

## MATERNITY SERVICE AND CHILD WELFARE SCHEME.

In an Appendix to the Circular by the Scottish Board of Health, referred to at the beginning of this Report, it is requested that Statistics be furnished under various headings. It is stated that it is not proposed to re-issue this appendix, and that the headings should be retained for future reference. Although therefore, a number of the queries do not, as yet, apply to the County Scheme, the complete schedule of questions is given below, with relative answers. The area embraced by the Joint Scheme for Maternity Service and Child Welfare Work includes the Central, Eastern and Western Districts of the County, together with the Burghs of Bridge of Allan and Denny and Dunipace.



I.—Infantile Mortality.	Central District	Eastern District	Western District	Burghs of		Total	Rate per 1000 Births
				Denny and Dunipace	Bridge of Allan		
Number of Deaths ... ..	34	56	10	7	1	108	60.1
Age-Groups—							
Under 1 week ... ..	10	17	4	4	...	35	19.5
1-4 weeks ... ..	3	6	3	...	...	12	6.6
4 weeks to 3 months	5	15	...	2	...	22	12.3
3-6 months ... ..	7	13	...	...	1	21	11.7
6-12 months ... ..	9	5	3	1	...	18	9.9
CAUSES OF DEATH—							
Chickenpox ... ..	...	...	...	...	...	...	...
Measles ... ..	...	1	1	...	...	2	1.1
Scarlet Fever ... ..	...	...	...	...	...	...	...
Whooping-Cough ... ..	...	...	...	...	...	...	...
Diphtheria and Croup ...	...	...	...	...	...	...	...
Erysipelas ... ..	...	...	...	...	...	...	...
Tuberculous Diseases ...	2	1	...	...	...	3	1.6
Meningitis (not Tuberculous)	4	2	...	...	...	6	3.3
Hydrocephalus ... ..	...	...	...	...	...	...	...
Convulsions ... ..	1	2	...	1	...	4	2.2
Pneumonia (all forms) ...	6	12	2	1	...	21	11.7
Bronchitis ... ..	3	2	1	...	...	6	3.3
Diarrhœa and Enteritis ...	1	1	...	...	1	3	1.6
Other Digestive Diseases	1	...	...	...	...	1	0.6
Congenital Malformations	...	...	...	...	...	...	...
Congenital Heart ... ..	...	...	...	...	...	...	...
Premature Birth ... ..	9	10	3	3	...	25	13.8
Atrophy, Debility, and Marasmus ... ..	4	12	2	1	...	19	10.5
Atelectasis ... ..	...	1	1	...	...	2	1.1
Injury at Birth ... ..	...	2	...	...	...	2	1.1
Suffocation, overlying ...	...	...	...	...	...	...	...
Syphilis ... ..	...	1	...	...	...	1	0.6
All other Causes ... ..	3	9	...	1	...	13	7.2

II.—Births.	Central District	Eastern District	Western District	Burghs of		Total
				Denny and Dunipace	Bridge of Allan	
Number Registered ... ..	555	916	181	118	26	1796
Legitimate ... ..	511	845	171	112	22	1661
Illegitimate ... ..	44	71	10	6	4	135
Number Notified ... ..	546	811	137	84	20	1598
Number attended by Doctor...	276	534	124	51	20	1005
Number attended by Midwife	270	277	13	33	..	593
Number of Still Births ... ..	23	25	5	6	...	59

III.—Maternal Mortality.						
Number of deaths resulting from Miscarriage or Child-Birth ...	2	5	1	..	..	8
Number of Deaths resulting from Puerperal Sepsis ... ..	1	2	1	..	1	5

#### IV.—Report under Midwives Act, 1915.

##### (1).—LIST OF CERTIFIED MIDWIVES.

##### Central Stirlingshire.

- 5972—Margaret Binnie, 129 Watson's Place, Dennyloanhead.  
 1842—Susan Chalmers, 3 East Borland, Denny.  
 853—Julia Coleman, 9 Russell Place, Bonnybridge.  
 902—M. R. Dickie, Main Street, Plean.  
 792—Isabella Dingwall, Redgatehill, Kippen.  
 3598—Elizabeth Ferguson, Anchor Cottage, Dunipace.  
 3300—Jean Hendry, Stonewood, Denny.  
 1107—Sarah Hughes, 22 High Street, Kilsyth.  
 523—Helen Innes, Wallace Street, Bannockburn.  
 —Catherine Kaney, 50 Spittal Street, Stirling.  
 3004—Ellen Muir, 12 Anderson Terrace, Longcroft.  
 458—Bridget M'Guire, 23 Broad Street, Denny.  
 5250—Jane Risk M'Gibbon, Faraway Farm, Kippen.  
 5452—Mary C. M'Gregor, The Cottages, Fallin.  
 521—Margaret M'Phail, Russell Place, Bonnybridge.  
 6000—Annie M'Phail, Clifford Home, Bonnybridge.  
 5830—Marion S. MacMillan, 5 The Brae, Cambusbarron.  
 1742—Catherine O'Berg, Main Street, Bonnybridge.  
 398—Mary Peebles, 1 Church Street, Kilsyth.  
 7033—Elizabeth S. Porteous, Mayfield, Bonnybridge.  
 5479—Marion S. Rankine, Clifford Home, Bonnybridge.  
 1162—Mary Reynolds, 7a Ochil View, Cowie.  
 2017—Elizabeth Somerville, 107 Fallin.  
 2077—Catherine Stanley, 4 Middle Craigs, Stirling.  
 2930—Sarah Stewart, Main Street, Buchlyvie.  
 1931—Charlotte Thomson, 59 D Block, Fallin.  
 557—Helen Thomson, P. O. Buildings, Banknock.  
 2842—Mary Traynor, Garden City, Bannockburn.  
 456—Mary Wilkie, 60 Allandale, Bonnybridge.  
 7053—Margaret R. Wilson, 21 George Street, Stirling.  
 7287—Christina Wright, 10 Station Buildings, Kilsyth.

##### Eastern Stirlingshire.

- 1722—A. Allison, Broomfield Cottage, Polmont.  
 695—Elsie Campbell, 34 Mary Street, Laurieston.  
 823—Mary Cockburn, East Shieldhill, by Falkirk.  
 853—Julia Coleman, 9 Russell Place, Bonnybridge.  
 558—Helen Copland, Broomhill, Laurieston.  
 441—Jane Cowan, Longdyke, by Falkirk.  
 597—Agnes English, Glen Village, by Falkirk.  
 745—N. R. Ferguson, Main Street, Carronshore.



- 439—Ann Gillon, Mosscastle Road, Slamannan.  
 2057—Maggie Gordon, Limerigg, Slamannan.  
 999—Janet Harris, Station House, Avonbridge.  
 1148—Janet Kelly, Taylor's Buildings, Thistle Street, Camelon.  
 2333—Mary Law, Craigbank, Avonbridge.  
 521—Margaret M'Phail, Russell Place, Bonnybridge.  
 6000—Annie MacPhail, Clifford Home, Bonnybridge.  
 7384—Elizabeth M'Phee, Airth.  
 1742—Catherine O'Berg, Main Street, Bonnybridge.  
 694—Martha Rankine, Kersebrook Cottage, Larbert.  
 2807—Agnes Rankine, Limerigg, Slamannan.  
 5479—Marion S. Rankine, Clifford Home, Bonnybridge.  
 446—Agnes Small, Blackbraes, by Falkirk.  
 6167—Annie Smith, 7 Burnhead Lane, Falkirk.  
 2708—Jean Shearer, Ancrum Cottage, Stenhousemuir.  
 2401—Margaret Stein, 2 Carron Street, Alloa.  
 557—Helen Thomson, P. O. Buildings, Banknock, Bonny-  
 bridge.  
 456—Mary Wilkie, 60 Allandale, Bonnybridge.  
 490—Isabella Wells, Milnquarter, Bonnybridge.  
 6518—Isabella Wilson, Block 17, Carronside Street, Carron.  
 503—Jessie G. Young, Greylands, Slamannan.

#### **Western Stirlingshire.**

- 792—Isabella Dingwall, Redgatehill, Kippen.  
 2668—Margaret Gordon, Crosshill Street, Lennoxton.  
 5319—Marion N. Pollock, Rose Cottage, Drymen.

#### **Burgh of Denny and Dunipace.**

- 1842—Susan Chalmers, 3 East Borland, Denny.  
 3300—Jean Hendry, Stonewood, Denny.  
 458—Bridget M'Guire, 23 Broad Street, Denny.  
 3598—Elizabeth Ferguson, Anchor Cottage, Dunipace.

#### **Burgh of Bridge of Allan.**

- 591—Christian F. Pringle, Queen's Buildings, Bridge of Allan.

#### **Births in Area.**

Total number of births during 1927—1800.

Total number of deaths of new-born children (within ten days) during 1927—34.

Actual number of births attended by Midwives during 1927—583.

Actual number of deaths of new-born children (within ten days) occurring in the practice of Midwives during 1927—9.

Actual number of cases not attended by a Doctor or Midwife during 1927 :—Births, Nil ; Deaths, Nil.



### Cases of Ophthalmia Neonatorum.

Total number of cases during 1927—5.

Actual number of cases occurring in the practice of Midwives during 1927—Nil.

Actual number of cases occurring where confinement not attended by a Doctor or Midwife during 1927—Nil.

### Cases of Puerperal Sepsis.

Total number of cases during 1927—6.

Total number of deaths during 1927—2.

Actual number of cases occurring in the practice of Midwives during 1927—Nil.

Actual number of deaths occurring in the practice of Midwives during 1927—Nil.

Actual number of cases occurring where confinement not attended by a Doctor or Midwife during 1927—Cases, Nil ; Deaths, Nil.

### Cases of Still-Birth (Dead born).

Total number of cases during 1927—59.

Actual number of cases occurring in the practice of Midwives during 1927—8.

### Cases of Emergency.

The total number of cases of emergency in which Medical Practitioners have been called in under Section 22 of the Act during 1927, distinguishing the different classes of emergency :

Delayed Labour, 26 ; Ruptured Perineum, 12 ; Breech Presentation, 5 ; Premature Labour, 2 ; Retained Placenta, 2 ; Painful Labour, 1 ; Contracted Pelvis, 1 ; Uterine Inertia, 1 ; Adherent Placenta, 1 ; Post Partum Haemorrhage, 1 ; total, 52.

### General Report on the Working of the Act.

Again, there is little to report under this heading. With one or two possible exceptions regarding which inquiry is presently being made, the unregistered Midwives in the County now only work under the supervision of the medical attendant.

### V.—Home Visitation.

	Number Visited.	Total Visits
Infants, ... ..	1735	3342
Children (1-5 years), ...	2942	2942
Expectant Mothers, ... ..	...	...
Total, ... ..	4677	6284



## VI.—Voluntary Health Visitors' Reports—

**BANNOCKBURN CHILD WELFARE CENTRE.**—Miss Wilson reports that the Nurse made 340 visits during the year to newly born infants and their mothers. In all, 42 meetings were held, and 49 babies were brought to the Centre, the average attendance at each meeting being from 12 to 14.

**FALLIN CHILD WELFARE CENTRE.**—In connection with this Centre, Mrs. Porter states that the number of first visits made by the Nurse was 63, the total number of domiciliary visits being 340. During the year 22 clinics were held, and the number of babies brought to the Centre was 48. The total attendances at the Centre numbered 251, giving an average attendance of between 11 and 12. Mrs. Porter also reports that from the proceeds of a concert they were able to give the mothers a delightful tea and a Christmas gift to all the babies who had been brought to the Centre throughout the year.

**DRUMBOWIE AND AVONBRIDGE CHILD WELFARE CENTRE.**—Meetings are held fortnightly here, but owing to an outbreak of measles no meetings were held during July and August of last year. The actual number of meetings therefore were only 17. The Secretary, Mrs. Walker, informs me that the number of infants on the roll for the year was 52, and that the total attendances for the 17 meetings numbered 226, making an average attendance at each meeting of from 12 to 14. The Nurse at the Centre has not so far made systematic visitation of the mothers and babies, and has kept no record.

## VII.—Ante-Natal Consultations—

(Number of weekly sessions and duration of each session should be stated).

(a) Total number of expectant mothers attending—  
None.

(b) Total number of attendances—None.

(c) Classified summary of conditions found—None.

(d) Number of cases (i.) referred to ante-natal ward—  
None.

(ii.) referred to family doctor—None.

(iii.) treated at clinic—None.

## VIII.—Post-natal and other Consultations.—

Number of attendances—None.

## IX.—Child Welfare Consultations.—

(Number of weekly sessions and duration of each session should be stated).

(a) Number of children attending (i.) under 1 year of  
age—None.

(ii.) over 1 year of  
age—None.



- (b) Total number of attendances (i.) under 1 year of age—None.  
(ii.) over 1 year of age—None.
- (c) Illnesses recorded. (Special information to be given in regard to prevalence of rickets).

#### X.—Special Treatment Centres—

- (1) Teeth—  
(a) Number of attendances (i.) mothers, (ii.) children—None.  
(b) Number of dentures supplied—None.  
(c) Classified summary of conditions remedied (i.) mothers, (ii.) children—None.
- (2) Eyes—  
(a) Number of attendances, 20.  
(b) Classified summary of conditions remedied, 16 Strabismus; 4 Blepharitis.
- (3) Other ailments—  
(a) Number of attendances—None.  
(b) Classified summary of conditions—None.
- (4) Ultra-Violet Light Clinic—  
(a) Number of attendances—None.  
(b) Number of Cases—None.  
(c) Note of conditions treated and results obtained—None.

#### XI.—Day Nurseries, Kindergartens, and Play-Centres—

- (a) Number of attendances (i.) under 1 year of age—None.  
(ii.) over 1 year of age—None.
- (b) Charges made—None.

#### XII.—Food and Milk—

- (a) Number of persons in respect of whom applications were made for food or milk (i.) mothers, 105; (ii.) children, 70.
- (b) Number of cases certified on medical grounds as requiring food or milk (i.) mothers, 66; (ii.) children, 38.
- (c) Number of cases under (b) certified as necessitous—(i.) mothers, 66; (ii.) children, 38.

#### XIII.—Measles—

- (a) Number of cases notified. (If notification is in force. If partial notification is in force, this should be stated)—Not notifiable.
- (b) Number of deaths—(i.) from measles, 12; (ii.) from sequelae, None.



- (c) Number of cases removed to hospital, 4.
- (d) Number of special domiciliary visits, 129.
- (e) Details of special staff, if any, engaged for epidemics  
—No special staff.

**XIV.—Whooping Cough—**

- (a) Number of cases notified—Disease is not notifiable.
- (b) Number of deaths—(i.) from whooping cough, 4 ;  
(ii.) from sequelae—None.
- (c) Number of cases removed to Hospital, 1.
- (d) Number of special domiciliary visits, 35.
- (e) Details of special staff—No special staff.

**XV.—Ophthalmia Neonatorum—**

- (a) Number of cases notified (i.) by doctor, 5.  
(ii.) by midwife, 0.  
(iii.) by institution, 0.
- (b) Number of cases in which infection is gonococcal  
(if known)—Not known.
- (c) Number treated in residential institutions—None.
- (d) Number of cases in which there was appreciable  
loss of vision—None.

**XVI.—Maternity Hospitals or Homes (None in County)—**

- (1) Ante-natal cases—
  - (a) Number of cases treated—None.
  - (b) Statement of conditions found—None.
  - (c) Statement of results of treatment—None.
- (2) Abortions—
  - (a) Number of cases—None.
  - (b) Results—None.
- (3) Abnormal or complicated confinements—
  - (a) Number of cases—None.
  - (b) Statement of conditions found—None.
  - (c) Results—None.
- (4) Other cases of confinement—
  - (a) Number of normal deliveries (i.) with medical  
attendance—None.  
(ii.) without medical  
attendance—None.
  - (b) Number of instrumental deliveries (exclusive of  
those appearing under (3) )—None.
  - (c) Number of cases of morbidity (B.M.A. standard)—  
None.

Note.—The British Medical Association include within the term “ Puerperal Morbidity ” all conditions in which the temperature reaches a height of 100 degrees fahrenheit on two of the bi-daily readings from the end of the first to the end of the eighth day after delivery.

- (d) Number of cases under (c) in which delivery was instrumental—None.
- (e) Number of deaths (classified)—None.
- (5) Number of infants born—(i.) alive, None; (ii.) still—None.
- (6) Number of deaths of infants under 1 week—None.
- (7) Number of cases of puerperal fever removed from Institution—None.

**XVII.—Homes for Unmarried Mothers before and after Confinement—**

Number of cases received—None.

It may be stated that under arrangement, 14 Ante-natal cases were treated in Glasgow Royal Maternity Hospital.

**XVIII.—Hospitals for Sick Children—**

- (a) Number of admissions—None.
- (b) Conditions treated—None.
- (c) Results of treatment—None.
- (d) Average period of residence—None.
- (e) Notes as to infectious disease (if any)—None.

**XIX.—Convalescent Homes—**

- (a) Number of cases treated : —
- (i.) Mothers—None
- (ii.) Children under 1 year of age—None.
- (iii.) Children over 1 year of age—None.
- (b) Average duration of residence—None.
- (c) Notes as to infectious disease (if any)—None.

**XX.—Boarding-out—**

- (a) Number of cases (i.) under 1 year of age, (ii.) over 1 year of age—None.
- (b) Remarks as to reasons for boarding-out under Local Authority—None.

**XXI.—Home Helps—**

- (a) Number employed—None.
- (b) Number of cases taken—None.
- (c) Average period of assistance—None.

**XXII.—Educational—**

**XXIII.—Note of Agencies, not referred to above, associated with Scheme—None.**

**XXIV.—Other Provisions** (e.g., treatment of pneumonia and bronchitis; after-care of cases of poliomyelitis anterior acuta)—None.

**TREATMENT OF VENEREAL DISEASES.**

Good work continues to be done at the out-patient treatment centre at the Stirling Royal Infirmary, and it is expected



that the accommodation at the new infirmary at Stirling will be available before the end of 1928. The days and hours at which the present clinic is open are as before, namely :—

MONDAY, ...	5.30 to 7 p.m.,	... males
WEDNESDAY, ...	5.30 to 7 p.m.,	... males.
THURSDAY, ...	5.30 to 7 p.m.	... females.

For the year ending 15th May, 1928, the total attendances of all persons at the treatment centre was 7397, this being the highest attendance figure yet attained, and the total number of patients dealt with was 531, which is also a record for this clinic. Of the 531, however, 114 turned out to be suffering from conditions other than venereal, so that the number of venereal patients was 417, of whom 316 were males and 101 females.

These were from the areas of the Counties of Stirling, Clackmannan and Perth, but from the "Home" area, i.e., Stirlingshire, the total attendances of patients numbered 6178, and the number of patients dealt with during the year, for the first time, was 271, of whom 168 were actually suffering from venereal disease.

For the whole area of treatment the following is the age classification of the 417 cases referred to above :—

	Males.	Females.	Total.
Under one year, ...	3	4	7
One and under five years,	5	2	7
Five and under 15 years,	11	15	26
Fifteen and under twenty-five years, ...	90	20	110
Twenty-five and upwards,	207	60	267
Totals, ...	316	101	417

The personnel of the staff remains the same as in my former report, the clinic being under the charge of Dr. Angus, with Dr. Lindsay as assistant, and Sister Wilson in attendance.

## PREVENTION, DETECTION, AND TREATMENT OF TUBERCULOSIS.

**Deaths and Death-Rates.**—For the year 1927 the number of deaths from tuberculosis in the County of Stirling—exclusive of Burghs—was 56, of which 31 were due to pulmonary tuberculosis, and 25 to other forms of the disease. The corresponding death-rates per 1000 of population were respectively 0·70, 0·39, and 0·31. For comparison, I give in Table IX. a statement showing how the death-rates have fallen during the past



37 years. In 1891-95 the death-rate from all forms of tuberculosis was 2·07 per 1000 persons, while for the year under review, as above stated, the rate was only 0·70.

**Table IX.**—MEAN DEATH RATES FROM TUBERCULOSIS IN QUINQUENNIAL PERIODS, FROM 1891 ONWARDS.

Quinquennial Period	Death Rates per 1000 of Population		
	All forms of Tuberculosis	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis
1891-1895	2·07	1·32	0·75
1896-1900	1·80	1·33	0·47
1901-1905	1·58	1·16	0·42
1905-1910	1·55	1·03	0·52
1911-1915	1·34	0·77	0·57
1916-1920	1·00	0·72	0·38
1921-1925	0·86	0·55	0·31

**Notification—Pulmonary and Non-Pulmonary Tuberculosis.**

—From the District statements of notifications of infectious disease, it will be seen that the notifications of pulmonary tuberculosis in the Central District numbered 29, in the Eastern District 43, and in the Western District 14, making a total of 86. For non-pulmonary tuberculosis the figures are:—for the Central District, 46; Eastern District, 45; and Western District, 6, a total of 97. Table X. is a copy of a statement asked for by the Scottish Board of Health with regard to the area under the County Scheme of Treatment, which area includes the whole County exclusive of the Burghs of Stirling and Falkirk. Part I. of this table shows the number of cases, male and female, notified during the year, while Part II. gives the number of persons resident in the area at the end of the year who were known to be suffering from tuberculosis. It will be seen that the total number of persons known to be so suffering was 1266, of whom 561 were affected with tuberculosis of the lung. The population of the area concerned is approximately 108,000, so that it would seem that roughly one person in every 85 has been notified as having tuberculosis—but only one person in 192 has pulmonary tuberculosis. Part III. of Table X. deals with the treatment of patients in Sanatoria and other institutions.



As will be seen from this latter part of the table, there were at the 1st January, 1927, 39 patients under treatment in various institutions, while 138 commenced institutional treatment during the year. Of these 177 patients, 9 proved fatal, and at 31st December 45 remained under treatment.

**Pulmonary Tuberculosis.**—Of the 39 patients under institutional treatment at the beginning of the year, 33 were of pulmonary tuberculosis, of whom 25 were in the Ochil Hills Sanatorium, 6 in Bannockburn Hospital, and 2 in Camelon Hospital. During the year, 83 pulmonary patients were admitted—51 to Ochil Hills Sanatorium, 17 to Camelon Hospital, 11 to Bannockburn Hospital, 2 to Lennox Hospital, one to Stirling Royal Infirmary, and one to a sanatorium in England (by private arrangement). Of the 116 patients treated, 8 died, 77 were discharged, while 31 were still under institutional treatment at the end of the year.

With regard to the results obtained from such institutional treatment, the discharge reports are very favourable indeed. In three cases the disease was apparently arrested, in 21 the patients' health was very much improved, in 14 the patient was much improved, and 33 of the patients were improved in health. Only six were reported not improved. In almost every case where improvement was reported there was also an increase of the patient's weight, in varying degree.

**Non-Pulmonary Tuberculosis.**—The number of non-pulmonary cases treated in institutions throughout the year was 61, of which six were under treatment at the beginning of the year.

With regard to the treatment by Ultra Violet Ray therapy, referred to in my last Annual Report, an installation has now been procured for Camelon Hospital. In all, 45 cases of tuberculosis were treated, four of these being of pulmonary and 41 non-pulmonary tuberculosis, but by the end of the year none of the patients had completed the course of treatment. Already, however, it may be stated that a marked general improvement in the health of some of the patients has been noted.

**Domiciliary Treatment.**—A grant of extra nourishment was given to 88 patients who really required it as part of their treatment at home. This number is only about one-half the number to whom a grant was given in the previous year, when domiciliary treatment was given to 154 persons. The extra nourishment in most of the cases took the form of milk and eggs, but in certain cases meat was recommended, and in others cod liver oil or an emulsion of malt with cod liver oil. With a few exceptions, the weekly value of the grant did not exceed 3/6. At the end of the year the number of persons in receipt of domiciliary treatment was 46.



**TABLE X.—TUBERCULOSIS—STATISTICAL RETURNS, 1927.**  
I.—RETURN OF CASES OF TUBERCULOSIS NOTIFIED DURING THE YEAR ENDED 31st DECEMBER, 1926.

AREA—All Striving County (excluding Falkirk and Stirling Burghs).

	NUMBER OF CASES NOTIFIED AS SUFFERING FROM TUBERCULOSIS										No. of Cases notified during year in which diagnosis of Tuberculosis has been confirmed by M.O.H. or T.O.
	Under 5	5 and under 10	10 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 65	65 and upwards	Total		
	Under 5	5 and under 10	10 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 65	65 and upwards	Total		
Pulmonary* ...	1	4	5	13	10	4	16	...	53	53	
{ Males ...	1	6	7	12	13	7	1	...	47	47	
{ Females ...	17	14	6	10	5	1	1	...	54	54	
Non-Pulmonary ...	17	12	7	12	7	2	3	...	60	60	

\*Where a case is notified as suffering from both Pulmonary and Non-pulmonary Tuberculosis, it is included under "Pulmonary" only.

II.—RETURN OF NUMBER OF PERSONS RESIDENT IN THE AREA AT 31st DECEMBER, 1927, WHO WERE KNOWN TO BE SUFFERING FROM TUBERCULOSIS.

	NUMBER OF KNOWN CASES										Total
	Under 5	5 and under 10	10 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 65	65 and upwards	Total		
	Under 5	5 and under 10	10 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 65	65 and upwards	Total		
<b>PULMONARY—</b>											
1. Tubercle Bacilli found ...	...	...	6	16	20	13	14	...	69	69	
{ Males ...	...	...	12	22	17	3	6	...	60	60	
{ Females ...	4	25	25	74	53	27	43	1	252	252	
2. Tubercle Bacilli not found ...	3	17	32	36	48	21	22	1	180	180	
<b>NON-PULMONARY—</b>											
1. Abdominal ...	31	24	6	14	7	1	1	...	84	84	
{ Males ...	31	27	9	8	2	1	1	...	86	86	
{ Females ...	1	5	2	3	...	...	...	...	13	13	
2. Spine ...	2	1	3	3	1	...	...	...	10	10	
{ Males ...	25	23	20	20	14	5	1	...	108	108	
{ Females ...	19	10	16	13	4	4	1	...	67	67	
3. Bones and Joints (exclusive of Spine) ...	19	30	20	19	10	7	2	...	109	109	
{ Males ...	18	39	28	30	10	3	1	...	129	129	
{ Females ...	...	1	3	3	1	4	...	...	12	12	
4. Superficial Glands ...	...	...	...	...	...	...	...	...	16	16	
{ Males ...	13	6	6	5	6	3	2	...	41	41	
{ Females ...	6	3	5	4	4	6	2	...	30	30	
5. Lupus ...	...	...	...	...	...	...	...	...	...	...	
6. Other Parts or Organs ...	...	...	...	...	...	...	...	...	...	...	
<b>Total</b> ...	172	212	193	272	209	106	98	4	1266	1266	

III.—RETURN SHOWING THE NUMBER OF CASES WHICH RECEIVED TREATMENT UNDER THE TUBERCULOSIS SCHEME IN SANATORIA OR OTHER INSTITUTIONS DURING THE YEAR ENDED 31st DECEMBER, 1927.

	NUMBER OF PATIENTS						Died in the Institutions on December 31
	In Institutions on January 1		Admitted during the Year		Discharged during the Year		
	Males	Females	Males	Females	Males	Females	
<b>Pulmonary</b> ...	13	43	32	20	3	21	10
{ Adults ...	13	22	20	5	...	...	...
{ Children ...	5	8	13	12	...	...	...
{ Males ...	2	10	12	...	...	...	...
{ Females ...	2	11	9	9	...	...	...
<b>Non-Pulmonary</b> ...	...	...	...	...	...	...	...
{ Adults ...	...	...	...	...	...	...	...
{ Children ...	3	16	15	13	1	3	4
{ Males ...	1	16	13	...	...	...	...
{ Females ...	39	138	123	9	...	...	...
<b>Total</b> ...	39	138	123	9	...	...	45



# MONTHLY STATEMENT OF INVESTMENT ACCOUNT

DATE	DESCRIPTION	DEBIT		CREDIT		BALANCE
		AMOUNT	PERCENT	AMOUNT	PERCENT	
1900						100
1901						100
1902						100
1903						100
1904						100
1905						100
1906						100
1907						100
1908						100
1909						100
1910						100
1911						100
1912						100
1913						100
1914						100
1915						100
1916						100
1917						100
1918						100
1919						100
1920						100

STATE OF ILLINOIS  
 DEPARTMENT OF REVENUE  
 CHICAGO, ILL., APRIL 15, 1920.

LETTER NO. 100  
 TO ALL INVESTORS OF THE STATE OF ILLINOIS  
 CONCERNING THE INVESTMENT ACCOUNT

WHEREAS the State of Illinois has established an Investment Account for the purpose of investing the moneys of the State in certain securities, and whereas it is the duty of the Department of Revenue to keep a correct record of the investments made by the State and to report the same to the General Assembly at each annual session, I hereby certify that the following is a true and correct statement of the investments made by the State of Illinois during the year 1919:

DATE	DESCRIPTION	AMOUNT	PERCENT	BALANCE
1919				100
1920				100
1921				100
1922				100
1923				100
1924				100
1925				100
1926				100
1927				100
1928				100
1929				100
1930				100

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the Department of Revenue, at Chicago, Illinois, this 15th day of April, 1920.

*[Signature]*  
 COMMISSIONER OF REVENUE

STATE OF ILLINOIS  
 DEPARTMENT OF REVENUE  
 CHICAGO, ILL., APRIL 15, 1920.

LETTER NO. 100  
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DATE	DESCRIPTION	AMOUNT	PERCENT	BALANCE
1919				100
1920				100
1921				100
1922				100
1923				100
1924				100
1925				100
1926				100
1927				100
1928				100
1929				100
1930				100

## DIABETES—PROVISION OF INSULIN.

Towards the end of 1926, I issued a circular in the following terms to the medical practitioners practising in the County (landward) area, and in the Burghs of Bridge of Allan and Denny and Dunipace :—

“The Public Health (Scotland) Amendment Act, 1925, provides that the powers of Public Health Authorities shall include power to make arrangements for providing medicines (e.g., insulin) and treatment to persons suffering from Diabetes and who, in the opinion of the Local Authority, require assistance in obtaining such medicines and treatment.

“It should be noted, however, that certain classes of persons are already provided for out of public funds, and are therefore not intended to be included in the above provision. These include :—

- (a) Insured persons under the National Insurance Acts ;  
and
- (b) Poor persons who may receive Poor Law Medical Relief from Parish Councils.

“In a circular on the subject, the Scottish Board of Health point out that the vast majority of cases are sufficiently mild to be able to do without the drug ; only severe cases require it.

“In order to avoid unnecessary and possibly dangerous delay in dealing with applications for insulin my Local Authorities have empowered me to deal with applications in the first instance, subject to review when necessary by the Local Authority, and to order supplies of insulin as and when required direct from the Board of Health. In this connection I may say that the Board have very kindly made arrangements with certain manufacturers of the drug Insulin whereby Local Authorities may obtain supplies at a special rate per 100 units.

“Applications for supplies of the drug may therefore now be made to me, and such applications should state the name, age and address of the patient, the quantity and the make of Insulin required. (The manufacturers with whom the Board have contracted are : Boots Pure Drug Company, Ltd., British Drug Houses, Ltd., and Burroughs, Wellcome and Company. The latter firm also supply the drug in tabloid form, each tabloid equivalent to ten units.)”

In accordance with the foregoing arrangement, nine applications for insulin were received up to the end of 1927, and in each case the application was granted, seven of the patients so provided being in the Eastern District and two in the Central District. The total amount of insulin issued was 28,000 units, and the doses varied from 10 units to 60 units per day. At the end of the year, however, only four persons were being supplied with the drug at the expense of the Local Authority, the dosage being at the rate of 16, 30, 40 and 60 units per day respectively.



## MILK AND DAIRIES ACT, 1914.

In my last Annual Report it was stated that new Dairy Bye-laws had been drafted in 1925, and that after correspondence with the Board of Health I had been requested by the Board to prepare a statement of my opinion of the proposed Bye-laws, a copy of which statement was given in that Report. During the year 1927, Bye-laws for the Central and Western Districts have been finally approved by the Board, and a copy of these are hereafter reproduced for reference, in the Reports for these Districts. For the Eastern District, however, Bye-laws are still under consideration.

## RIVERS POLLUTION.

The year was comparatively free from complaint with regard to pollution of rivers. Towards the end of February and the beginning of March, however, my Sanitary Inspector noticed that the Westquarter Burn was much polluted by coal washings from the Glen Colliery, the property of the Callendar Coal Company. The water was so black as to resemble ink. Mr. Gough wrote the Company and sent me on copy of the correspondence, from which it appeared that the effluent from the coal washer is pumped by electric motor to a clay field south of the works, where there is a storage about 100 yards square and from which the water is filtered through a 20 feet stone bank before it is passed to the Westquarter Burn. The electric motor, however, had broken down, and the effluent was passed to the settling tanks instead of to the usual place. The settling tanks, however, were practically full and had little effect by way of silt deposit.

In a letter dated 14th March, the General Manager acknowledged the pollution, and said that for the future the Company intended to purchase a spare electric motor so that it would be ready in any similar occurrence. I also advised as an additional precaution that the settling tanks be kept in such a condition as to effect the purpose for which they are intended.

I duly reported the matter to my Rivers Pollution Committee, but in view of the General Manager's letter, no further action was taken.

## FOOD AND DRUGS ACT.

The number of samples taken for analysis in terms of the above Acts was 177. Of these, 65 were from the Central District, 77 from the Eastern District, and 35 from the Western District. The number certified as genuine was 159, while 18 samples were reported as not genuine. Prosecutions were instituted in connection with four of the non-genuine samples, the results of prosecution being that three of the vendors were fined, in one case £5 and in the other two, £2 each. The verdict in the fourth case was "not proven."

Table XI. gives the figures for the various samples analysed.

TABLE XI.—SAMPLES TAKEN UNDER THE SALE OF FOOD AND DRUGS ACTS DURING THE YEAR 1927.

Nature of Samples	Central District		Eastern District		Western District	Total
	North	South	North	South		
Butter ... ..	2	4	1	1	4	12
Cheese ... ..	1	2	1	1	...	5
Cinnamon ... ..	2	...	1	1	...	4
Coffee ... ..	...	...	...	...	1	1
Cream ... ..	...	1	...	...	...	1
Cream of Tartar ... ..	1	...	1	...	...	2
Flour ... ..	...	...	...	2	...	2
Lard ... ..	1	1	1	...	2	5
Margarine ... ..	3	4	2	2	4	15
Milk (Sweet) ... ..	10	24	30	18	14	96
Mustard ... ..	1	...	...	...	...	1
Oatmeal ... ..	...	...	...	1	2	3
Pepper ... ..	1	...	1	1	...	3
Sugar ... ..	2	...	1	1	...	4
Sweets ... ..	4	...	...	...	...	4
Tea ... ..	...	...	...	2	2	4
Whisky ... ..	1	...	...	...	...	1
Miscellaneous... ..	...	...	...	8	6	14
<b>Total ... ..</b>	<b>29</b>	<b>36</b>	<b>39</b>	<b>38</b>	<b>35</b>	<b>177</b>
Certified Genuine ... ..	26	33	29	36	35	159
Certified Not Genuine	3	3	10	2	0	18
Proceedings Taken ...	2	0	2	0	0	4
Proceedings Successful	2	0	1	0	0	3



## INSPECTIONS.

The following is a statement by the Sanitary Inspectors of proceedings under the Public Health and other Acts during the year :—

	Central		Eastern		West-	Total
	North	South	North	South	ern	
<i>I.—Nuisances.</i>						
Subordinate Sanitary Inspectors employed	0	0	0	0	0	0
Complaints received ... ..	7	29	31	9	16	92
Intimations served under Section 19 ...	47	67	219	229	31	593
Notices served under Section 20 ... ..	2	1	3	9	0	15
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0
<i>II.—Workshops.</i>						
Inspections ... ..	41	98	85	216	45	485
Notices served under Section 2 (3) of Factory and Workshop Act, 1901	2	0	5	3	0	10
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0
<i>III.—Tents and Vans.</i>						
Inspections ... ..	6	35	0	31	80	152
<i>IV.—Underground Dwellings.</i>						
Reported to Local Authority ... ..	0	0	0	0	0	0
Notices to Owners (Section 74) ... ..	0	0	0	0	0	0
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0
<i>V.—Common Lodging-Houses.</i>						
On Register at 31st December, 1926 ...	0	0	0	1	0	1
Common Lodging-Houses belonging to the Local Authority ... ..	0	0	0	0	0	0
Inspections between 8 a.m. and 10 p.m.	0	0	0	27	0	27
Inspections between 10 p.m. and 8 a.m.	0	0	0	2	0	2
Intimations of Irregularities sent to Keepers	0	0	0	3	0	3
Cases of Infectious Disease reported to Medical Officer (Section 97) ... ..	0	0	0	0	0	0
Unregistered Premises dealt with ... ..	0	0	0	0	0	0
Cases in which legal proceedings were taken (Breaches of Bye-laws, etc.) ... ..	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0

	Central		Eastern		West-	Total
	North	South	North	South	ern	
<i>VI.—Houses Let in Lodgings.</i>						
On Register at 31st December, 1926 ...	0	0	0	0	0	0
Inspections ... ..	0	0	0	0	0	0
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0

<i>VII.—Infectious Diseases.</i>						
Visits of Inquiry, etc. ... ..	206	340	503	286	294	1629
Patients removed to Hospital ... ..	46	63	207	109	20	445
Persons removed to House of Reception	0	0	0	0	0	0
Notices served under Section 50 (2)	200	114	203	115	39	671
Notices served under Section 53 (2)						
Intimations to School Boards, Teachers, etc.	309	98	574	214	9	1204
Houses or Premises disinfected ... ..	100	85	216	130	26	557
Sets of Clothing, Bedding, etc., disinfected or destroyed ... ..	100	85	220	126	15	546
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0

<i>VIII.—Burials.</i>						
Burials undertaken in terms of Section 69	2	0	1	4	1	8

<i>IX.—Slaughter-Houses and Offensive Trades.</i>						
Applications under Section 32 for sanction to establish ... ..	1	0	0	0	0	1
Applications granted ... ..	0	0	0	0	0	0
Applications under Section 33 for Licence or Renewal of Licence ... ..	9	3	4	8	5	29
Applications granted ... ..	9	3	4	8	5	29
Public Slaughter-Houses (if any) belonging to Local Authority ... ..	0	0	0	0	0	0
Private Slaughter-Houses ... ..	9	3	4	8	0	24
Unlicensed Slaughter-Houses dealt with	0	0	0	0	0	0
Inspections of Slaughter-Houses ... ..	55	158	103	314	46	676
Inspections of other Offensive Businesses...	0	0	17	0	0	17
Number of other Offensive Businesses at 31st December, 1926 ... ..	0	0	1	0	0	1
Cases in which legal proceedings were taken (Breaches of Bye-laws, etc.) ... ..	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0



	Central		Eastern		West-	Total
	North	South	North	South	ern	
<i>X.—Unsound Food.</i>						
Inspections under Section 43 (a) Meat ...	77	135	139	524	43	918
(b) Other Foods	0	14	4	0	21	39
Seizures of Unsound Food (a) Meat ...	1	0	0	5	0	6
(b) Other Foods	0	1	2	0	0	3
Animals or carcasses or articles of food destroyed with owner's consent by or at the instance of the Sanitary Inspector	0	1	2	5	0	8
Cases in which owners of Unsound Food were prosecuted ...	0	0	0	0	0	0
Convictions in connection with above cases	0	0	0	0	0	0

*XI.—Sale of Food and Drugs Acts.*

Samples procured for Analysis ...	29	36	39	38	35	177
Certified to be genuine ...	26	33	29	36	35	159
Certified to be adulterated ...	3	3	10	2	0	18
Cases in which legal proceedings were taken	2	0	2	0	0	4
Do. do. do. successful	2	0	1	0	0	3

*XII.—Rag Flock Act, 1911.*

Samples procured for Analysis ...	0	0	0	0	0	0
Certified to conform to Board's Standard	0	0	0	0	0	0
Certified not to conform to Board's Standard	0	0	0	0	0	0
Cases in which legal proceedings were taken	0	0	0	0	0	0
Do. do. do. successful	0	0	0	0	0	0

*XIII.—Bye-Laws.*

Inspections in carrying out Bye-laws relating to:—

(a) Pigstyes ...	20	66	109	230	15	440
(b) Public Conveyances ...	0	4	6	0	11	21
(c) Buildings ...	90	161	462	297	203	1213
(d) Cleansing in Special Scavenging Districts ...	48	138	278	170	146	780
(e) Other Sanitary matters ...	0	0	291	533	161	985

# DISTRICT REPORTS

## CENTRAL DISTRICT.

### HOUSING.

**New Buildings—Northern Area.**—In the northern part of the District, 18 sets of plans were submitted to, and approved by, the Committee. These included plans for the erection of 33 new dwelling-houses, including 20 houses at Fallin and 4 at Kippen, to be erected under the Committee's Housing Scheme. The other plans were for a hall at Fallin, the plan of a site for a double villa at Causewayhead, and there were 7 plans for alterations or additions to existing buildings. Of the 33 new dwellings 24 were of three apartments, 3 of, four apartments, and 6 of more than four apartments.

**Southern Area.**—Four plans were submitted from the Southern area. Two of these were for cottages, one was for a wooden house, and the fourth was for Queenzieburn Housing Scheme. In all the plans covered 43 new dwelling-houses of which 42 were of three apartments and one of four apartments.

**Local Authority's Housing Scheme.**—Mr. Glass, at my request, has again been so good as to supply me with the following statement as to the position of the Housing Schemes in the District, including information with regard to houses built by private enterprise under the Subsidy Scheme :—

“ For the year ended 31st December, 1927, housing progress, under the Housing and Financial Provisions Act of 1924, was as follows :—

Site.	Completed			Uncompleted			Total.
	3 Apart.	4 Apart.	5 Apart.	3 Apart.	4 Apart.	5 Apart.	
Bannockburn 2nd Development ...	...	...	2	...	...	...	2
Haggs, ... ..	25	4	...	...	...	...	29
Banton, ... ..	12	...	...	...	...	...	12
Kippen, ... ..	2	2	...	...	...	...	4
Buchlyvie, ... ..	4	...	...	...	...	...	4
Bonnybridge (Highland Dykes 4th Develop- ment) ... ..	4	...	...	...	...	...	4
Fallin ... ..	...	...	...	22	...	...	22
Queenzieburn (Central District Committee)	...	...	...	30	...	...	30
Queenzieburn (for Messrs. Baird & Co., Ltd.)	...	...	...	10	...	...	10
Totals, ...	47	6	2	62	...	...	117



“ It will thus be noted that 55 houses have been completed during the year, and 62 were in varying stages of erection.

“ Building progress has been steady, although the abnormally wet weather for the greater part of the year has, to some extent, caused delay in the completion of the houses.

“ The Housing Committee has given consideration to the need for further housing at Bannockburn, Dennyloanhead and Banton areas, but for the period under review nothing definite transpired pending the receipt of further information regarding the number of unsatisfied applicants for houses and the present shortage existing in these localities.

“ Under the Housing, etc., Acts, 1923, 1924 and 1925, Certificates qualifying for the Subsidy of £100 per house have been issued as follows:—Certificates “ A ” authorising the erection of houses for Subsidy erected by private builders have been granted for 41 houses, and Certificates “ B,” being the final Certificates, have been granted for 28 houses.

“ The following particulars give the whole extent of private building for which Subsidy has been approved and granted since the commencement of the Acts :—

Type.	No. of houses for which Certificate “ A ” has been issued.	No. of houses for which Certificate “ B ” has been issued.	Total.
<b>ONE-STOREY HOUSES.</b>			
3 apartments,	10	9	10
4 apartments,	11	8	11
<b>TWO-STOREY HOUSES.</b>			
3 apartments,	12	2	12
4 apartments,	9	8	9
5 apartments,	28	25	28
<b>FLATS.</b>			
3 apartments,	24	22	24
	94	74	94

“ There have been two applications for Loans under the Committee’s Scheme during the year.

“ A Scheme for assistance by way of Grant under the Housing (Rural Workers) Act, 1926, has been drawn up and approved by the Scottish Board of Health. Up to the period under review, no application for Grant has been received, although one has been received since.

“ The following table shows the position up to the 31st December, 1927, of the whole of the housing undertaken by the Committee under the Housing Acts, 1919, 1923, 1924 and 1925 ; and also the extent of building by private enterprise

for which Subsidy has been granted, from which it will be noted that under the 1919 Housing Act 180 houses were completed, under the 1923 and 1924 Acts 130 houses were completed, 52 houses being uncompleted, making a total of 362 houses.

“In this connection it will be noted from the following table, showing the average cost per house, that the cost of houses built under the 1919 and 1920 Acts has gradually but surely come down nearer to the economic basis.”





## LOCAL AUTHORITY'S SCHEME IN COURSE OF ERECTION.

Site.	Act.	3 apts.	4 apts.	5 apts.	Total.
Fallin, ... ..	1923				
	1924	22	...	...	22
	1925				
Queenzieburn, ... ..	Do.	30	...	...	30
Queenzieburn, ... ..		10	...	...	10
		62	...	...	62

## PRIVATE ENTERPRISE UNDER HOUSING ETC., ACTS, 1923 AND 1924

Type	No. of Houses for which Certificate 'A' granted	No. of Houses for which Certificate 'B' granted	No. of Houses under Construction.	No. of Houses Completed
One-Storey Houses—				
3 Apartments ... ..	10	9	1	9
4 Apartments ... ..	11	8	3	8
Two-Storey Houses—				
3 Apartments ... ..	12	2	10	2
4 Apartments ... ..	9	8	1	8
5 Apartments ... ..	28	25	3	25
Flats—				
3 Apartments ... ..	24	22	2	22
Totals ... ..	94	74	20	74

**Housing at Dennyloanhead.**—Towards the end of December I was instructed to make inquiry and report on the housing conditions here with reference to the question as to the necessity if any for erecting more houses. I reported as follows:—

“ In connection (1) with the question as to whether additional houses require to be built by the Central District Committee in the Dennyloanhead area, and (2) with the remit to me to present such a report on the housing circumstances of the neighbourhood as might be of some use in assisting the Housing Committee in their deliberations on the subject, I requested Mr. Goldie to make a visitation of all the houses from Dennyloanhead to Coney Park, and to tabulate the information obtained under certain headings on a form which I had drawn up.

“ This stretch of houses, which comprises the districts of Dennyloanhead, Longcroft, Haggs, Banknock and Coney Park, really forms a single unit, the number of houses in the whole area being 720, which may be classified according to the number of apartments as follows:—



	Number of Apartments.					Total.
	One.	Two.	Three.	Four.	More than Four.	
Denny Parish, ...	49	342	119	50	30	590
Kilsyth Parish, ...	24	90	12	1	3	130
Total, ...	73	432	131	51	33	720

“As a result of the survey of the houses in the County carried out during the years 1919-21 (inclusive), 62 or approximately one-twelfth of these 720 houses were considered to be in “Category (3),” that is to say they were in such bad condition that they could not at reasonable expense be made fit for human habitation. These sixty-two Category (3) houses were distributed as follows:—

Dennyloanhead	...	...	19
Longcroft,	...	...	2
Haggs, ...	...	...	5
Banknock (Kilsyth Parish), ...	...	...	35
Coney Park,	...	...	1
			—
Total	...	...	62
			==

“The recent inquiry elicited the fact that in the 590 houses in Denny Parish there are eight empty houses. Two of these are in Category (3). One is a house of six apartments named Longcroft House, recently occupied by a lady who has just died. Two of the empty houses are to be converted into a four-apartment house, so that there are really only three houses for letting.

“Of the 130 houses within Kilsyth Parish, there are eleven empty. Nine of these, however, are in Category (3). Another is the schoolhouse of five-apartments belonging to the Education Authority, and which is for sale, so that there is really only one empty house here.

“One of the principal objects of the present inquiry was to ascertain the extent of overcrowding of these houses, and in this connection it may be stated that the Royal Commission on Housing considered as overcrowded any house where the average number of adult inmates exceeded three per room, inmates over 10 years being considered adults, while each inmate under 10 was considered a half adult. On the Royal Commission’s basis it was found that 23 houses of one-apartment, 45 two-apartment houses, 5 three-apartment houses,



and 2 four-apartment houses, making in all 75 houses, were more or less overcrowded, that is, fully one-tenth of the whole. Of these overcrowded houses 52 were in the Denny Parish portion and 23 in the Kilsyth Parish portion.

“If the basis be taken of an average of four adults per apartment as the limit of permissible occupancy, which is admittedly too high, it is then found that 10 one-apartment houses and 9 two-apartment houses, making 19 in all, are overcrowded. Of the 19, 14 are within the Denny Parish portion and 5 within the Kilsyth Parish portion.

“It is also to be noted that among the overcrowded houses are four where the room is let to a separate family, and four others where lodgers are kept. Of the four houses occupied by more than one family, one is No. 12 of the Haggs Housing Scheme, where a married daughter and her two children reside with her parents.

“There is just one other point to which I would draw the Committee’s attention, and that is that of the 720 houses, 73 or fully one-tenth are of one apartment, 49 of these being in the Denny Parish portion, and 24 in the Kilsyth Parish portion.”

The whole matter was still under consideration at the end of the year.

#### SUFFICIENCY OF WORKING CLASS DWELLINGS AND HABITABILITY OF EXISTING DWELLINGS.

In my Report for the year 1926, I made a very full statement with regard to this question. Briefly, my estimate was that to relieve overcrowding, basing my calculation on a survey taken in 1919, 430 new houses would be required, and also that other 236 new houses would be needed to replace houses that could not be made habitable at reasonable expense, giving a total of 666 houses, although possibly in view of reduced costs more of these old houses might be made habitable.

Up to the end of 1926 the number of houses that had been completed in the District was 428, the number erected under the Committee’s Housing Scheme being 257, and the number built by private enterprise 171.

To these 428 houses completed in 1926, there now falls to be added the number of houses completed during 1927, namely :—

Houses erected under Housing Schemes, ... ..	55
Houses erected under Private enterprise, ... ..	12

---

67

Add—Housing Scheme Houses in progress or contemplation, ... ..	62
--	----

---

Total, ... ..	129
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so that the grand total of houses erected, plus those in progress or contemplation, is now 557. Of that total the number of one-apartment houses was three (these being in the nature of bothies at farm houses, intended principally for the sleeping accommodation of male farm workers). Of two-apartment houses there were only 5, while 345 were of three-apartments, 146 of four apartments, and 58 of more than four apartments.

It will therefore be seen that the Committee have gone a considerable way towards making up the deficit of houses in the District, as on the above showing there is a balance outstanding of only 117 houses, and as I have already said, in view of reduced costs for repairs, it may now be possible to make good at a reasonable price some of the old houses which I formerly classed as in Category (3), i.e., houses which could not be made fit for human habitation—at an economic cost.

**Housing Acts.**—The following is a copy of a Report sent to the Scottish Board of Health, for the year ended 31st December, 1927, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-houses :—

A.—HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

1. Number of dwelling-houses inspected	...	5
2. Number of dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	... ..	5
3. Number of representations made to the Local Authority with a view to the making of closing orders	... ..	5
4. Number of dwelling-houses in respect of which closing orders were made	... ..	5
5. Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, 1925	... ..	—
6. Number of dwelling-houses which after the making of closing orders were put into a fit state for human habitation	... ..	—

B.—HOUSING (SCOTLAND) ACT, 1925.

1. Number of dwelling-houses in respect of which notices were served under Section 3 (1)	...	—
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1)	...	—
3. Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1)	... ..	—

4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2) ... ..	—
5. Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—	
(a) Cases where requirement complied with by owners ... ..	18
(b) Cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) Cases still pending ... ..	144
6. Number of houses of (a) one apartment and (b) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section 111 ... ..	—

C.—HOUSING, TOWN PLANNING, &C., (SCOTLAND), ACT, 1919.

1. Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply :—	
(a) Cases where requirements complied with by owners ... ..	13
(b) Cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) Cases still pending ... ..	55

### WATER SUPPLY.

The water supplied to the various Special Districts is of excellent quality, and with one or two minor exceptions the quantity has been sufficient for all purposes.

In the Cambusbarron Special District complaint of shortage was received from some of the houses on the higher level. To remedy this, instructions were given to have the water main scraped. At Kippen also certain parts of the water pipes had to be scraped. Banton Special District was extended during the year to include the twelve new houses built under the Committee's Housing Scheme. To augment the supply here a new fireclay water pipe was laid from two hill springs, beyond those already tapped, to the small intake tank near Drumnessie. The cottages at Rosehill, referred to in my last report, have not yet got a proper supply, but I am in hopes that the matter will receive attention this year.

Outwith Special Water Districts, there has been no complaint of insufficiency, but Mr Barr, the Sanitary Inspector



of the district, states that the supply to Buchlyvie village appears very limited. For the forty new houses in course of erection at Queenzieburn, water is to be obtained from the Kilsyth Burgh gravitation supply.

### WATER ANALYSIS.

Only four samples of water were taken for analysis during the year, and an abstract of the Analysts' figures for each sample is given in Table XII.

The first sample was taken in consequence of a complaint by a ratepayer at Kippen, who complained of sediment and that sometimes the water had a smell. Analysis showed that the sample "contained traces of suspended matter, and had a slight brown tint due to the presence of a little unobjectionable peaty matter." It was found also that the water was free from animal matter or sewage.

Sample No. 2, from a tap in the scullery at Todholes Farm, in the parish of Dunipace, was also found free from contamination, although it was a very hard water, and contained traces of iron in solution.

Number 3 was taken from a well near a potato diggers' hut on Oxhill Farm, Buchlyvie, and number 4 from a burn which flows past the same hut, water from both sources being used by the diggers. The samples from both the well and burn were found free from contamination.

Table XII.—CENTRAL DISTRICT—WATER ANALYSES (IN GRAINS PER GALLON)—1927.

No.	Date of Report	Where Taken.	Mineral Matter	Organic Matter	Total Solids	Nitrates	Free Ammonia	Albuminoid Ammonia	Total Ammonia	Temporary Hardness	Permanent Hardness	Total Hardness	Colour (Loch Katrine Water=10)	Degree of Sewage Contamination
1	25/7/27	Burnside Street Fountain, Kippen (Red Sandstone Borehole)	4.58	.60	5.18	tr.	.003	.010	.013	2.80	.51	3.31	11	0
2	25/8/27	Tap in Scullery, Todhills Farm, near Larbert	20.40	.30	20.70	.03	...	.006	.006	17.86	.79	18.65	4	0
3	7/11/27	Dip Well, near Potato Diggers' Hut, Oxhill, Buchlyvie...	7.25	.53	7.78	...	.004	.010	.014	4.69	.58	5.27	10	0
4	7/11/27	Burn which passes Potato Diggers' Hut, Oxhill, Buchlyvie	6.52	.40	6.92	.04	.002	.007	.009	3.32	.74	4.06	8	0

\*NOTE.—Messrs. Tatlock & Thomson's regular method of stating their opinion of a water as to Sewage Contamination is as follows:—"It may be regarded as being equal to a mixture of one part of average sewage with.....parts of pure water which had been filtered through earth till clear." The figures in the fourth last column of the table give the result according to this method.



## DRAINAGE.

The Special Drainage Districts are substantially the same as specified in my Report for the year 1922. At Bannockburn the effluent is not satisfactory, and is taken by an outfall sewer to the lower reaches of the Bannock Water. It is proposed to extend this sewer further down the Bannock, but the work has been postponed on economic grounds.

At Banton the District has been extended to include the new Housing Scheme there. The resulting increase of sewage may require larger settling tanks, but meantime the question as to cost is engaging attention.

The effluent from the Bonnybridge works continues to be fairly satisfactory, and the sewers have suffered less from siltage probably owing to the heavy rainfall throughout the year.

In the Buchlyvie District only a portion of the sewage is dealt with. A complete sewerage system is certainly indicated, but again the question of the cost to the ratepayers has to be faced.

The sewage from the Special Districts of Causewayhead, Cowie, and Park Place is discharged directly into the tidal waters of the River Forth. The Causewayhead District was enlarged during the year.

At East Plean the system continues satisfactory.

With regard to populous areas outside of these Special Districts, there is great need for improvement in the drainage of such places as Cambusbarron, Kippen, Gargunnoch and Whins of Milton, but in each case the great obstacle to improvement in this respect is the question of cost. Meantime in these villages, the sewage is principally dealt with by means of septic tanks or cesspools, the effluent from which finds its way to the neighbouring streams.

The usual amount of necessary repairs and improvements to existing sewers and drains was carried out under the supervision of the two District Sanitary Inspectors, Mr. Barr and Mr. Goldie.

## SCAVENGING.

For the Northern area of the District, Mr. Barr, the Sanitary Inspector, reported that the original coup for the Bannockburn and Whins of Milton District is about filled up, and negotiations are in progress for having the coup extended into an adjoining field.

In December complaint was made to the Local Authority regarding the condition of the sand pit at Dowan Place, which had been used by the surrounding inhabitants and others as

a free coup. The proprietor of the ground was communicated with, and he closed the place against deposit of refuse. Since the end of the year a requisition for the formation of a Scavenging District has been made to the Local Authority, who have the matter under consideration.

### NUISANCES.

The number of nuisances for which intimation was served under Section 19 of the Public Health Act was 114. The nature of the principal nuisances dealt with was as follows:—Dampness in dwelling-houses, choked drains, foul ashpits and surroundings, water closets in disrepair, foul cesspool, overcrowding and muddy road surfaces.

### SANITARY CONVENIENCES.

Progress has been continued throughout the year with the work of getting the old style privies, etc., converted into modern water closets. As will be seen from the statement under the Housing (Scotland) Act, 1925, 162 intimations were given under Section 20 (1) of that Act. By the end of the year, however, in only 18 cases had the intimation been complied with, but assurances were given in a large number of the cases pending, that the work would be proceeded with at an early date.

### DAIRIES.

As mentioned in the first part of this Report, since the end of the year the Scottish Board of Health and the Board of Agriculture have given their confirmation to the Bye-laws prepared by the Committee under the Milk and Dairies (Scotland) Act, 1914. For reference, the Bye-laws are reprinted below, together with appendices giving (1) a summary of the provisions of the Milk and Dairies (Scotland) Order, 1925, and (2), a Memorandum with regard to the Milk and Dairies (Amendment) Act, 1922, and the Milk (Special Designations) Order (Scotland), 1922.



“ DAIRY BYE-LAWS.

“ MILK AND DAIRIES (SCOTLAND) ACT, 1914.

“ Bye-laws made by the Central District Committee of the County Council of Stirlingshire, being the Local Authority under Section 8 of the above Act, providing :—

- (a) For the inspection of cattle in dairies.\*
- (b) For prescribing and regulating the structure, lighting, ventilation (including air and floor space), cleansing, drainage, washing and scalding facilities, and water supplies of dairies and their appurtenants.
- (c) For the prevention of impurities in milk intended for human consumption and for securing the cleanliness and health of the cows and the cleanliness of the persons and clothing of those engaged or assisting in the business, and of the milk, cows, dairies, sculleries, boiler-houses, and all utensils, vehicles, and vessels used for the reception, conveyance, storage, or sale of milk.
- (d) For prescribing precautions to be taken by dairymen against infection or contamination.

\* A “ dairy ” includes any creamery, farm, farmhouse, cowshed, byre, milk store, milk shop, or other premises from which milk is sold or supplied for sale or in which it is kept for purposes of sale, or which are used for the making of butter, cheese or other milk products for human consumption for purposes of sale, but does not include premises from which a person sells milk only in small quantities and for their own consumption, to persons in their employment or to neighbours. (Section 2 of the Act).

“ INTERPRETATION.

“ 1. In these Bye-laws, unless the context otherwise requires :—

- ‘ the Act ’ means the Milk and Dairies (Scotland) Act, 1914 ;
- ‘ Local Authority ’ means the Central District Committee of the County Council of Stirlingshire ;
- ‘ duly authorised officer,’ in relation to the Local Authority, means such officer as may be designated by or in accordance with the provisions of the Act as the officer of the Local Authority for the purpose of making an inspection or exercising any other powers under or in terms of the Act :
- ‘ new,’ in relating to any premises used as a cowshed or byre or as a milk store, means premises, the erection or reconstruction of which is commenced on or after the date of Confirmation of these Bye-laws, or premises which (not having been used as at that



date as a cowshed, byre, or milk store), have been adapted by reconstruction for use and are being used for that purpose; and 'existing' means any premises not being new premises;

'reconstruction' includes alterations (other than internal alterations not affecting the stability of the building, or alterations of a minor character).

"Other expressions shall have the meanings assigned to them in the Act.

"2. These Bye-laws shall not apply to a shop from which milk or cream is supplied only in the properly closed and unopened receptacles in which it was delivered to the shop, nor to a shop or other place in which milk is sold for consumption on the premises only.

"In the case of premises occupied by a Dairyman who is registered solely by reason of making butter and selling it in small quantities during part of each year, the Local Authority may, if they think fit, and to such extent as shall appear to them proper, modify the provisions of all or any of the following Byelaws numbered 4 to 17, both inclusive.

**" (a) Inspection of Cattle in Dairies.**

"3. A dairyman shall, when applied to by any duly authorised officer of the Local Authority, or, in the case of an inspection authorised under the Act, by the duly authorised officer of the Local Authority of any district or burgh to which milk from the dairy is consigned, furnish to such officer such information as the said officer may reasonably require in order to satisfy himself as to the general health and cleanliness of the cattle.

**" (b) Structure, Lighting, Ventilation, Cleansing, Drainage, Washing and Scalding Facilities, and Water Supplies of Dairies and their Appurtenants.**

**" PERTAINING TO COWSHEDS OR BYRES.**

"4. The inner surface of the walls of every cowshed or byre shall be covered, in the case of new byres to a height of not less than 5 feet, and in the case of existing byres to a height of not less than 4 feet 6 inches from the floor, with a smooth impervious material so as not to absorb or retain moisture and so as to be easily cleansed. The remainder of the walls above the portion so covered shall be so constructed as to be capable of being easily cleansed. Provided that if the Local Authority are satisfied that no special covering of the walls is required in an existing byre, the provision in regard thereto shall not apply.

"The interior of the roof of every new cowshed or byre shall be so constructed as to be capable of being easily cleansed.



“ 5. The floor and grips or channels of every cowshed or byre shall be paved with material approved by the Local Authority, and so constructed as to be impervious to water or other liquid. For a space of 3 feet from the feeding trough the floor may be laid with brick grouted in cement to form a smooth surface, or with other material approved by the Local Authority. The floor shall be laid with an adequate fall to the grips or channels.

“ 6. The grips or channels in every cowshed or byre shall be formed with a proper and uniform slope to a properly trapped drain situated outside the cowshed or byre, all to the satisfaction of the Local Authority. The bottom of the grips or channels shall have a fall towards the side next the passage, to the satisfaction of the Local Authority.

“ 7. In every new cowshed or byre, there shall be no loft or other premises above the cowshed or byre.

“ In the case of existing cowsheds or byres there shall be no internal communication between the cowshed and any loft or other premises above it, and the floor of the loft or other premises shall be so constructed or altered that as far as possible dust from above shall not pass into the cowshed or byre.

“ 8. Every new cowshed or byre shall be provided with feeding troughs constructed of a smooth impervious material, and any space adjacent to the trough that cannot be readily cleansed shall be filled with suitable material, the surface of which shall be sloped towards the trough and finished in such a manner as will facilitate cleaning and prevent the lodgment of food or other material round the trough, all to the satisfaction of the Local Authority. The trevisses in new cowsheds or byres shall be constructed of smooth impervious material. In existing cowsheds the trevisses and troughs shall be kept in proper condition and repair, to the satisfaction of the Local Authority.

“ 9. Every cowshed or byre shall be properly lighted by a sufficient number of windows or openings in the walls or roof, the total light-giving area of which shall not be less than  $1\frac{1}{2}$  square feet in the case of an existing byre, and 2 square feet in the case of a new byre, for every cow stalled therein. The windows or openings shall be so placed as to secure the efficient lighting of every part of the interior of the cowshed or byre, and the window panes shall at all times be kept clean. No materials shall be placed against or near to the walls of any byre so as to interfere with the proper lighting thereof, nor shall any buildings be erected against the byre without proper provision for maintaining the lighting of the byre. Every cowshed or byre shall be provided with means of adequate artificial lighting to the satisfaction of the Local Authority.

“ 10. Every cowshed or byre shall be properly ventilated by



a sufficient number of openings in the external walls and roof communicating with the external air, so as to keep the air in such cowshed or byre in a fresh and wholesome condition. The openings shall be placed, constructed, and maintained to the satisfaction of the Local Authority, so as to ensure a sufficient supply of fresh air to each animal. No materials shall be placed against or near to the walls of any byre so as to interfere with the proper ventilation thereof, nor shall any buildings be erected against the byre without proper provision for maintaining the ventilation of the byre.

“ 11. Every cowshed or byre shall have an air space of not less than 600 cubic feet, and a floor space of not less than 40 square feet for every cow stalled therein, and no greater height than 16 feet from the floor shall be taken in account in the calculation of air space provided that

- (1) In the case of existing byres which were in use before 28th May, 1892, the air space shall be not less than 450 cubic feet per cow, and the floor space shall be not less than 35 square feet per cow ;
- (2) In the case of byres erected or occupied between 28th May, 1892, and the date of confirmation of these Byelaws, the floor space per cow shall be to the satisfaction of the Local Authority, and the height to be taken into account in the calculation of air space may, at their discretion, be increased ;
- (3) In exceptional circumstances, and if they are satisfied that sustained measures are being undertaken to ensure the production of clean milk, the Local Authority, may, if they think fit, and to such an extent as shall appear to them proper, modify the requirements of Clause (1) of this Byelaw in the case of existing byres which are so constructed as to contain less than 450 cubic feet per cow, but in no case shall any byre contain less than 350 cubic feet of air space and 30 square feet of floor space per cow.

“ In no case, except with the express permission of the Local Authority, shall the width of the passage and grips or channels in a double byre be less than 7 feet in the case of an existing byre, and 8 feet in the case of a new byre, nor shall the width of the passage and grip or channel in a single byre be less than 5 feet in the case of an existing byre, and 7 feet in the case of a new byre. The height of the wall shall not be less than 7 feet from the floor level in the case of an existing byre, and 8 feet in the case of a new byre.

“ In every cowshed or byre the wallhead shall be brought up flush with the roof in the interior in order to prevent the lodgment of dust on the top of the wall.



“ 12. The floors, troughs, and such other parts of the cowshed or byre as are readily soiled shall be thoroughly cleansed at least once every day, and all dung and refuse shall be removed therefrom at least twice every day when cows are lying in, and at least once every day at other times.

“ 13. Every cowkeeper shall cause the ground surface around the cowshed or byre and around the dungstead and all other dairy premises to be kept clean and free from any deposit of manure. The situation and construction of the dungstead, and the arrangements for the disposal of dung, shall be to the satisfaction of the Local Authority. Where dung is deposited in a covered court where cattle stock is being kept, there shall be no direct communication by door or other opening with the cowshed or byre.

#### PERTAINING TO MILK STORE.

“ 14. The inner surface of the walls of every milk store shall be covered up to a height of 5 feet from the floor with a smooth impervious material, approved by the Local Authority, so as not to absorb or retain moisture and so as to be easily cleansed. The upper portion of the walls and the ceiling of every such milk store shall be so constructed as to be capable of being easily cleansed.

“ 15. The floor of every milk store shall be well paved with material approved by the Local Authority, and so constructed as to be impervious to water or other liquid. No inlet to any drain shall be situated within a milk store.

“ 16. The shelves erected in every new milk store shall be constructed of smooth impervious material approved by the Local Authority, and shall be so constructed as to be capable of being easily cleansed. Such shelves shall have the junction between the wall and shelf rounded to permit of easy cleaning.

“ 17. Every new milk store shall be properly lighted by a sufficient number of windows in the walls or roof thereof. The windows shall be constructed so as to open, and on the windows or other openings there shall be fitted metal gauze network or similar durable material so as to prevent, as far as possible, the entrance of flies, dust or other impurities. The windows of every new milk store and milk shop shall be so placed as to secure the efficient lighting of every part of the interior of such milk store or milk shop, and the window panes in every milk store and milk shop shall at all times be kept thoroughly clean. Every milk store and milk shop shall be provided with through ventilation to the satisfaction of the Local Authority, and any windows in such milk store or milk shop which are made to open shall be fitted with metal gauze network or similar durable material as above provided for new milk stores.



“ PERTAINING TO DAIRY PREMISES GENERALLY.

“ 18. Every dairy shall be provided with proper appliances for the regular and effective use of water in maintaining general cleanliness in the dairy, and also with efficient means whereby a plentiful supply of boiling water or steam will be available for washing and scalding all utensils and appliances used in connection with the dairy, all to the satisfaction of the Local Authority.

“ 19. Every dairy shall be provided with an adequate supply of pure water.

“ 20. Every dairy and every yard and passage in connection therewith shall be drained to the satisfaction of the Local Authority.

“ 21. The walls and ceiling or interior of the roof of every cowshed or byre, milk store and milk shop shall be kept at all times clean, to the satisfaction of the Local Authority. Where the walls of a milk store or milk shop and the walls of a cowshed or byre are not painted or varnished they shall be thoroughly lime washed at least twice in each year (except the portion of the wall that is covered with smooth impervious material), namely, in or about the months of June and October, and at such other times as may be required by the Local Authority. The trevisses of a cowshed or byre shall also be thoroughly cleansed at the same times. Where the walls are painted or varnished, the paint or varnish shall be washed as often as required to keep the same clean, and shall be renewed at such times as may be required by the Local Authority.

NOTE.—In order to ensure that the provisions of the Bye-laws are complied with any person who proposes to erect or reconstruct a cowshed, milkhouse, or milk shop, should submit plans to the Local Authority before the building is commenced.

“ (c) **Prevention of Impurities in Milk intended for Human Consumption, and Securing the Cleanliness and Health of the Cows, and the Cleanliness of the Persons and Clothing of those Engaged or Assisting in the Business, and of the Milk, Cows, Dairies, Sculleries, Boiler-houses, and all Utensils, Vehicles, and Vessels used for the Reception, Conveyance, Storage, or Sale of Milk.**

“ 22. No dry fodder shall be given to cows in a cowshed or byre during the process of milking, or so long as milk is contained in any open vessel in such cowshed or byre. No fodder, roots, grain, or feeding stuffs shall be stored in any cowshed or byre, except such as is required for immediate use, nor shall straw or other material be placed on rafters or stalls over the cows.

“ 23. No sweeping or dusting operations shall be carried on in a cowshed or byre, immediately before or during the process



of milking, or in any part of a dairy where milk is contained in an uncovered vessel.

“ 24. No material shall be used as bedding for the cows in a cowshed or byre that has been previously used as bedding for horses or other animals, nor any wool refuse, or other material likely to convey impurities to the milk. No material that has been previously used as bedding for horses or other animals shall be placed in the grips or channels.

“ 25. The cows in every dairy shall be kept clean and shall be groomed at least once a day while lying in, but shall not be groomed immediately before milking. The dairyman shall be bound to see that no manure remains upon the tail, flanks, udder, or belly of any cow in his dairy. The hair on the tail shall be cut to such a length that the brush does not reach the ground, and long hairs on the udder shall be clipped so as to prevent the collection of dust thereon. Before milking, the udders and teats of every cow in a dairy shall be thoroughly cleansed.

“ 26. Where a cow shows signs of losing flesh, or wasting, or other symptom of chronic disease, the dairyman shall forthwith report the circumstances to the Local Authority.

“ 27. All persons employed in or about a dairy shall keep themselves and their clothing at all times in a thoroughly clean condition, and wash-basins, soap, and towels, convenient of access to such persons, shall be provided at every dairy.

“ 28. The hands and forearms of the milkers, and of all persons engaged in handling milk or milk vessels, shall be thoroughly washed and carefully dried on a clean towel before milking is begun, and shall be kept clean throughout milking. The hands and forearms of persons employed in making butter, cheese, or other milk products for human consumption for purposes of sale shall be thoroughly washed before commencing to make such butter, cheese, or other milk products, and shall be kept clean while so employed. No person shall be allowed to milk or to make butter, cheese, or other milk products, whose hands are affected with sores, or who is known to be suffering from disease of the skin or venereal disease, or any other disease likely to affect the milk.

“ 29. Clean overalls, which shall not be used for any other purpose, shall be worn by milkers during the milking of the cows and by persons employed in making butter, cheese, or other milk products for human consumption for purposes of sale. When not in use, such overalls shall be kept in a clean place.

“ 30. The walls and every part of a dairy (including the plaster-work, flooring, woodwork, furnishings, and fittings thereof) shall be kept thoroughly clean and in a proper state of repair. All milking stools shall be kept thoroughly clean.



The floors, shelves, and counters of milk stores and milk shops shall be washed daily. The walls and floors and woodwork of sculleries and boiler-houses and all appliances in such sculleries and boiler-houses shall be kept thoroughly clean and in a proper state of repair.

“ 31. As each cow is milked the milk shall be removed immediately from the cowshed or byre or covered.

“ 32. All utensils and vessels used for the reception, conveyance, storage, or sale of milk shall be thoroughly washed and thereafter scalded with boiling water or steam after use and dripped so that no water shall be left therein. Such utensils and vessels shall not be set down to dry in any place where dust or other material may enter them. All such utensils and vessels when not in use shall be so stored as to prevent as far as possible the entrance of dust or other impurities, and immediately before use care shall be taken to see that they are clean.

“ 33. All road vehicles used for the conveyance of milk shall while so used be thoroughly clean.

“ 34. Where there is communication, direct or indirect, between the milk store or any apartment where milk or milk vessels are stored or kept, and a cowshed or byre, kitchen, dwelling-room or sleeping apartment, the arrangements shall be subject to the satisfaction of the Local Authority and to such conditions as they may impose.

“ (d) **Precautions to be taken by Dairymen against Infection or Contamination.**

“ 35. A dairyman and his milkers shall not permit the first streams of milk from each teat to be passed into the milking pail or other vessel used for the reception of the milk.

“ 36. A dairyman shall not keep or retain, in any part of a dairy where milk, butter, cheese, or other milk products intended for sale for human consumption are kept or stored, any matter or thing that, in the opinion of the Local Authority, is likely to cause contamination of such milk, butter, cheese, or other milk products.

“ 37. A dairyman shall cause all lids, sieves, strainers, filters, churns, vats, coolers, presses, milking machines and other appliances used in connection with the dairy to be thoroughly washed and thereafter scalded with boiling water or steam immediately after use. No oxidising or preserving agent shall be used in the cleansing of these articles or appliances. Where cloth or other strainers are used they shall be frequently changed, and at all times when in use shall be clean. A dairyman shall cause all such lids, sieves, strainers, filters, churns, vats, coolers, presses, and other appliances when not in use to be so stored as to prevent as far as possible contamination



by dust or other impurities, and immediately before use care shall be taken by him to see that they are clean.

“ 38. A dairyman shall not keep nor permit to be kept in any cowshed or byre in his occupation any poultry, pigeons or animals other than bovine animals, or any cow suffering from any disease that, in the opinion of the Local Authority, might render the milk from the cows in such cowshed or byre liable to infection or contamination. He shall not keep nor permit to be kept any animals in any premises used for the making of butter, cheese, or other milk products for human consumption for purposes of sale.

“ 39. A dairyman shall not permit to be sold for human consumption the milk from any cow after calving, until the milk has become normal.

“ 40. Where a dairyman sells milk in bottles, he shall not use the bottles for milk unless and until they have been thoroughly cleansed before each sale. He shall cause the doors of the room in which the bottling is carried out to be kept closed during the process of bottling, and the bottles shall be capped, sealed or closed, as soon as possible after filling. The windows of any room in which bottling is carried on shall be covered with metal gauze network or similar durable material.

“ 41. A dairyman shall not allow any vessels in which he delivers milk to be retained overnight in the house of any of the persons employed by him, but shall be bound to see that such vessels are returned to the dairy as soon as possible after the milk has been delivered.

“ 42. A dairyman shall take all reasonable precautions to provide against and prevent infection or contamination of milk, butter, cheese, or other milk products intended for sale for human consumption.

#### “ PENALTIES.

“ 43. Every dairyman shall as regards any dairy in his occupation observe or cause to be observed the requirements of the foregoing Bye-laws, and every person who fails to comply with the provisions of the said Bye-laws shall be deemed to offend against the said Bye-laws.

“ 44. Any person who shall offend against any of the foregoing Bye-laws shall be liable for every such offence to a penalty of Five pounds, and in the case of a continuing offence to a further penalty of Forty shillings for each day after written notice of the offence from the Local Authority.

“ Provided, nevertheless, that the Sheriff or other Magistrate before whom any complaint may be made or any proceedings may be taken in respect of any such offence, may, if he think fit, adjudge the payment as a penalty of any sum less



than the full amount of the penalty imposed by this Bye-law.

“ COMMENCEMENT OF THE BYE-LAWS.

“ 45. The foregoing Bye-laws shall come into force on and after the date of confirmation thereof by the Scottish Board of Health.

“ APPENDIX NO. I.

“ Summary of the Provisions of The Milk and Dairies (Scotland) Order, 1925, so far as affecting Dairymen.

“ ARTICLE 3. Dairymen are to take steps to inform their employees of the Provisions of the Order, so far as it affects employees.

“ ARTICLE 5. Milk for sale is not to be transferred from one vessel to another in such places as railway stations, streets, etc., but this does not interfere with retail sales if precautions are taken to prevent contamination by dust or otherwise.

“ ARTICLE 6. Milk or milk vessels are not to be kept (a) in a byre, kitchen, dwelling-room or sleeping-apartment ; (b) in any place used for washing, drying, ironing, or mangling clothes, or for any other purpose likely to cause contamination ; nor (c) in any place exposed to foul effluvia or impure air.

“ ARTICLE 7. Vessels used for milk are not to be used for any other purpose that is likely to cause contamination of the milk. Boilers, steam-tanks, etc., which are used for cleansing milk vessels or dairy appliances are not to be used for washing bed or body clothing, or for any purpose likely to cause contamination of the milk.

“ ARTICLE 8. While milk is being carried on a vehicle nothing that can contaminate the milk is to be carried at the same time.

“ ARTICLE 9. Every vessel containing milk is to be properly covered, or else effectively protected from dust, dirt, flies and other sources of contamination.

“ ARTICLE 10. As soon as an employee at a dairy becomes aware that anyone in his household is suffering from an infectious disease he is to inform his employer of the fact.

“ ARTICLE 11. No colouring or thickening matter is to be added to cream.

(The colouring of milk, skimmed milk or separated milk is already forbidden by law.)

“ ARTICLE 12. No dairyman is to use or keep in his possession another person's churns or vessels, without the consent of the owner.

“ ARTICLE 13. (1) The conveyance of milk in wooden vessels is prohibited. This does not apply to buttermilk,



(2) All vessels used for the transit of milk, except bottles, are to have the name and address of the owner permanently marked on them, and they are to be provided with lids suitable for keeping out dirt, dust and rain, and for preventing the return to the interior of milk that may have been splashed above the lid.

(3) No one is to interfere with the name and address or mark on another person's vessels.

“ARTICLE 14. Common carriers and others are to take reasonable steps to prevent milk vessels from being exposed to unnecessary heat or from being contaminated.

“ARTICLE 15. All milk vessels (except bottles) consigned to a common carrier for transit are either to be sealed by a leaden seal or locked.

NOTE.—It is understood that the Railway Companies have no objection to the locking of milk churns, if the tare weight of the churn is conspicuously stamped thereon.

“ARTICLE 16. All retail sales of cream, skimmed milk or separated milk are to be made from cans clearly labelled or marked ‘cream’ or ‘skimmed milk’ or ‘separated milk,’ as the case may be.

NOTE.—Failure to comply with the requirements of the Order renders the offender liable to a penalty not exceeding £10, or in the case of a continuing offence, to a penalty not exceeding £5 for every day during which the offence continues. The Certificate of Registration may also be suspended or cancelled. Full copies of the Order may be obtained from H.M. Stationery Office, 120 George Street, Edinburgh. Price 2d. Net.

## APPENDIX NO. II.

“Memorandum with regard to The Milk and Dairies (Amendment) Act, 1922, and The Milk (Special Designations) Order (Scotland) 1922.

“This Act and Order prohibit the sale of designated Milk, except in accordance with a Licence to be granted by the Local Authority. These designations are:—

1. Certified Milk ;
2. Grade A. (Tuberculin Tested) Milk ;
3. Grade A. Milk ; and
4. Pasteurised Milk.

“For the information of Dairymen or others interested, it may be explained that (1) Certified Milk is milk which is obtained from herds certified to be free from tuberculosis, and which is bottled on the farm ; (2) Grade A. (Tuberculin Tested) Milk is the same, but consigned in bulk ; (3) Grade A. Milk is milk which has been produced from herds subjected to a clinical examination by a Veterinary Surgeon at least three times a year ; (4) Pasteurised Milk refers only to milk which



is sold under the designation 'pasteurised.' In this case the milk must be kept for at least half an hour at a temperature of not less than 145° F. and not more than 150° F., and immediately cooled to not more than 50° F.; (5) 3·5 per cent. butter fat is required in connection with each of the first three designations; and (6) the equipment and methods of producers of milk sold under these three designations are to be to the satisfaction of the Local Authority, on the basis of the Score Card issued by the Board of Health.

"Should any person desire to qualify for Licence under the above Act and Order, they will be furnished with a print of a Memorandum issued by the Board of Health giving full particulars as to the steps to be taken before a Licence is granted and as to the conditions to be observed under the Licence.

"Applications for the Memorandum should be sent to:—

"THE CENTRAL DISTRICT CLERK,

"UNION BANK HOUSE,

"STIRLING."

Mr. M'Gregor, the County Veterinary Inspector, in his Annual Report writes as follows:—

"In the District there are 164 dairy herds containing 2280 cows. As provisional registration has been granted to every applicant pending the adoption of Bye-laws, no attempt has been made to classify the various dairies. This number (164) includes all the dairies that will ultimately be registered, as well as those from which milk is only sold in small quantities. Each herd was inspected at least once during the year, when the udder of every cow was examined clinically for tuberculosis. In addition to the statutory inspection further inspections of herds were made during the carrying out of my duties under the Diseases of Animals Acts, and in this way 33 herds were examined twice, 6 thrice, and 1 four times. In all, 212 inspections were made and 3078 examinations made.

"Sixty-five cows were found with abnormal udders, of which 15 exhibited symptoms that were suggestive of tuberculosis, and a bacteriological examination of the milk from these cows was carried out, which proved positive in 7 cases. During the period that the milk was under examination, the provisions of the Tuberculosis Order were applied to the suspected cows, and the milk from these animals was not permitted to be used for human consumption. The 7 cows found to be suffering from tuberculosis of the udder were immediately slaughtered under the above Order. Sixteen cows were found to be



suffering from acute mastitis (non-tuberculous), and in no instance was the milk from the affected quarters being used for human consumption. Thirty cases of atrophy and 4 of induration of a non-tuberculous character were found. These were probably the result of previous attacks of mastitis.

“ In addition to the 7 cases of tuberculosis of the udder mentioned above, 17 cows with tuberculous emaciation and 12 which showed symptoms of tuberculosis and had a chronic cough were seized and slaughtered under the Tuberculosis Order during the year.

**“ Milk (Special Designations) Order (Scotland) 1923.**

“ One licence for the production of Grade A. Milk was voluntarily relinquished during the year, and one new licence was granted after the prescribed examination of the Dairy Herd had been carried out. There is apparently no demand in the District for Graded milk, and until the consuming public is educated to its value it is difficult to get producers to incur the extra expense involved.

During these visits of inspection throughout the year when dairy herds were found in which a sufficient number of heifer calves were reared to replenish the herd and render it self-supporting, the attention of the owner was drawn to the method of eradicating tuberculosis associated with the name of Professor Bang, whereby that disease could be eliminated from such a herd at little cost, and the measures necessary in each case were indicated.

“ The general condition of the milk cows in the District was good. Automatic Drinking Bowls have been introduced into a large number of byres with marked improvement in the health of the cows. The cleanliness of the cows in the dairy byres depends in great measure on the length of the stall being suitable for the breed of cow which is kept. If the stall is too short the cow stands back in the grip, and if too long she defæcates on the stall. In either case when she lies down she soils herself. Where the length of the stall suits the breed of cow no difficulty is found in keeping the cows clean ; but where this relationship is altered it demands a great deal of time and labour on the part of the dairyman to carry out the provisions of the Dairy Bye-laws with regard to cleanliness of the cows. The crop of 1926 was good and straw for bedding was plentiful during 1927. This helped greatly in maintaining the cleanliness of the dairy cows in the District.

“ Fodder and diet were sufficient as a rule to maintain the condition of the dairy cows and quality of the milk produced ; but reliable statistics on the point are not available, as milk recording is only carried out in a few herds, and scientific rationing of the cows according to production is rare. While



it is true that many farms give extra rations to their heavier milking cows, little effort is made to balance the ration and take advantage of the present day knowledge of dietetics.

"No occasion arose during the year which necessitated action being taken under Sections 21 or 22 of the Act of 1914."

The Grade A. Farm to which a licence was granted, and to which Mr. M'Gregor refers, is Oxhill Farm, Buchlyvie, the dairyman being Mr. Robert M'Farlane. As I mentioned in my last Annual Report, Mr. Cook of Burnhouse Farm has discontinued the sale of Grade A. Milk.

### SLAUGHTER-HOUSES AND MEAT INSPECTION.

The number of licenses granted for slaughter-houses in the District was 12, being one less than in the previous year, the owner of Banknock Slaughterhouse not having applied for a licence.

Mr. M'Gregor, the Veterinary Inspector, reports that during the year he condemned the following on account of tuberculosis, namely, the forequarters and lungs of a bullock, the carcass and organs of a cow, and the lungs of a heifer. In addition, the forequarters of the heifer were condemned by him as being unfit for food owing to extensive bruising.

### INFECTIOUS DISEASE.

During the year 1927, a total of 371 cases of infectious disease were notified, as compared with 344 in 1926 and 442 in 1925. As 71 of the cases in 1927, however, referred to chickenpox, which was made temporarily notifiable, the comparable figure for that year is only 300, which is appreciably below the average for the past ten years. Tables XIII. and XIV. show the figures, the former in the various parishes and the latter in age groups according to the schedule prescribed by the Board of Health. In addition, I give a statement showing the number of cases of the chief infectious diseases in houses of various sizes, together with a note of the incidence of the same diseases with regard to the number of persons per apartment. It will be seen that 4 cases occurred in badly overcrowded houses, and that 27 occurred in houses where there were from 3 to 4 people per apartment. In this table two children under 14 were considered equal to one adult.

**Scarlet Fever.**—The number of Scarlet Fever cases notified was 93, as compared with 160 in the previous year. As usual the great majority of the cases were amongst children, 79 of the patients being under 15 years of age.



TABLE XIII.—CENTRAL DISTRICT.—CASES OF INFECTIOUS DISEASE COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH DURING THE YEAR 1927.

PARISH	Smallpox	Diphtheria and Membranous Croup	Erysipelas	Scarlet Fever	Typhus Fever	Enteric Fever	Continued Fever	Puerperal Fever	Cerebro-Spinal Fever	Ophthalmia Neonatorum	Infective Jaundice	Malaria	Dysentery	Trench Fever	Chickenpox	Infantile Paralysis	Acute Primary Pneumonia	Acute Influenzal Pneumonia	Encephalitis Lethargica	Tuberculosis		Total
																				Pulmonary	Non-Pulmonary	
Denny ...	...	19	1	18	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	4	56
Dunipace ...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	9
Gargunnoch ...	...	2	...	3	...	...	...	...	...	1	...	...	...	...	...	...	6	1	...	...	...	10
Kilsyth ...	...	1	3	15	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	31
Kippen ...	...	8	5	...	...	...	...	...	...	1	...	...	...	...	7	...	...	...	...	...	...	22
Logie ...	...	3	...	10	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	5	20
St. Ninians ...	...	37	11	47	...	1	...	...	...	...	...	...	...	...	53	...	16	1	2	...	33	221
Stirling ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
Total ...	...	70	21	93	...	1	...	1	...	3	2	...	...	...	71	...	30	2	2	...	46	371
Removed to Hospital ...	...	69	2	84	...	1	...	1	...	...	...	...	...	...	...	...	3	...	1	...	25	202

TABLE XIV.—CENTRAL DISTRICT.

RETURN OF CASES OF INFECTIOUS DISEASE NOTIFIED, &C., DURING THE YEAR ENDING  
31ST DECEMBER, 1927.

DISEASE	NUMBER OF CASES COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.									
	At all Ages	At Age—Years							Cases re-moved to Hos-pital	Cases not re-moved Hos-pital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards		

*A.—Diseases specified in the Infectious Disease (Notification) Act, 1889.*

Typhoid or Enteric Fever	1	...	...	...	1	...	...	...	1	...
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...
Scarlet Fever or Scarlatina	93	2	29	48	7	5	2	...	84	9
Diphtheria and Membranous Croup ... ..	70	...	7	49	10	2	2	...	69	1
Erysipelas ... ..	21	...	...	2	3	5	10	1	2	19
Puerperal Fever .....	1	...	...	...	...	1	...	...	1	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...
Relapsing Fever ... ..	...	...	...	...	...	...	...	...	...	...
Continued Fever ... ..	...	...	...	...	...	...	...	...	...	...

*B.—Diseases notifiable in terms of Regulations made under Section 78 of the Public Health (Scotland) Act, 1897.*

Ophthalmia Neonatorum	3	3	...	...	...	...	...	...	...	3
Chickenpox ... ..	71	13	28	28	...	2	...	...	...	71
Infective Jaundice ... ..	2	...	...	...	2	...	...	...	...	2
Malaria ... ..	...	...	...	...	...	...	...	...	...	...
Dysentery ... ..	...	...	...	...	...	...	...	...	...	...
Trench Fever ... ..	...	...	...	...	...	...	...	...	...	...
Infantile Paralysis ... ..	...	...	...	...	...	...	...	...	...	...
Polio-Encephalitis ... ..	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	2	...	...	...	2	...	...	...	1	1
Acute Primary Pneumonia	30	3	11	3	7	5	1	...	3	27
Acute Influenzal Pneumonia ... ..	2	...	1	1	...	...	...	...	...	2
Pulmonary Tuberculosis	29	...	1	7	8	10	3	...	16	13
Non-Pulmonary Tuberculosis ... ..	46	3	7	16	15	4	1	...	25	21
Total of A. and B.	371	24	84	154	55	34	19	1	202	169

Cases notified in a previous year and removed to Hospital for the first time during 1926.

2  
5  
7

*State Name of Hospital in which Cases were treated.*

Bannockburn Fever Hospital      Ochil Hills Sanatorium      Stirling Royal Infirmary



## CENTRAL DISTRICT.

STATEMENT WITH REGARD TO THE PREVALENCE OF CERTAIN  
INFECTIOUS DISEASES IN HOUSES OF VARIOUS SIZES.

Disease.	No. of Cases in houses of			
	1 Apartment.	2 Apartments.	3 Apartments.	4 or more Apartments.
Scarlet Fever, ...	9	43	23	18
Diphtheria, ...	3	41	17	9
Enteric Fever, ...	...	...	...	1
Erysipelas, ...	1	8	6	6
Puerperal Fever, Encephalitis	...	1	...	...
Lethargica,	1	...	1	...
Pulmonary Tuberculosis,	2	18	4	5

INCIDENCE OF THESE DISEASES WITH REFERENCE TO  
QUESTION OF OVERCROWDING.

Note—A house with 4 or more persons per apartment may be considered  
as much overcrowded.

Disease.	No. of Persons* per Apartment of House.			
	4 or more.	3 to 4.	2 to 3.	less than 2.
Scarlet Fever, ...	3	11	28	51
Diphtheria, ...	...	11	26	33
Enteric Fever, ...	...	...	...	1
Erysipelas, ...	1	...	5	15
Puerperal Fever, Encephalitis	...	...	1	...
Lethargica,	...	1	...	1
Pulmonary Tuberculosis,	...	4	16	9

\*2 Children under 14 equal one adult.

Just over one-half of the cases were in the parish of St. Ninians, while there were 18 in the parish of Denny, 15 in Kilsyth parish, 10 in the parish of Logie, and 3 in the parish of Gargunnoch. The greatest prevalence, however, according to the number of cases per 1000 of population, was in the parishes of Logie, Kilsyth, and Gargunnoch, where the rates were 6, 5 and 5 respectively, which are relatively low figures. Of the 93 cases, 84 or 90 per cent. were removed to Hospital, and fortunately all recovered.

**Diphtheria.**—Seventy cases of diphtheria were notified, 56 of these being between the ages of 1 and 15 years. The table shows the distribution of the cases over the parishes. Only one case was not removed to hospital. There were four deaths.

On the 9th December, my Sanitary Inspector, Mr. Goldie, informed me that there had been some cases of diphtheria in connection with a particular class in Longcroft School. I strongly suspected that the disease was being spread by members of the class. I accordingly visited the school on the same day along with Mr. Goldie, and examined all the members of the class. As a result of the examination I selected six from whom throat swabs were taken, and four of these gave positive results. On Monday 12th, Mr. Goldie phoned me that three children had returned to their class after being off school with sore throat. We again visited the school on the Monday afternoon and, from the throat swabs taken, two positive cases were found. All the six positive cases were at once isolated in hospital until their throats were clear of infection.

This is an excellent illustration how diphtheria may be spread in a school. It is also an illustration of the advantage to be derived from the close co-operation of the school medical service with the general public health service.

**Enteric Fever.**—Only one case was notified, the patient being a young woman living at Cowie. She was removed to Hospital and made a good recovery.

**Tuberculosis.**—Of Pulmonary Tuberculosis, 29 cases were notified, and of non-pulmonary, 46, a total of 75. In the County part of this Report more details are given with regard to tuberculosis, and especially with regard to treatment of the disease.

**Other Notifiable Diseases—Ophthalmia Neonatorum.**—Three cases of this disease were notified and were all treated at home by their medical attendant. In no case was there loss of vision.

**Chickenpox.**—On account of the occurrence of smallpox in Scotland, and especially in Dundee, the Scottish Board of Health considered it wise again to make chickenpox notifiable for a period, as there is always the danger that mild cases of smallpox may be confused with chickenpox. In the Central District, 71 cases were notified, but there was nothing suspicious about any of them.

**Infective Jaundice.**—Two cases suspected to be suffering from this disease were notified from Kippen area. Investigation was made and specimens were taken for bacteriological examination, but with negative results.

**Encephalitis Lethargica.**—Two cases were notified. One



of these was removed to Bannockburn Hospital, but the patient died.

**Acute Primary Pneumonia and Acute Influenzal Pneumonia.**

—In all 32 cases of these diseases were notified. Three cases of acute primary pneumonia were treated in Hospital and one of these died.

**Non-Notifiable Infectious Diseases.**—With regard to measles and whooping cough, which are not notifiable in the usual manner, great assistance is given by the Headmasters of the various schools, who are in the habit of sending word to the Health Department when there is an outbreak or threatened outbreak. On receipt of such intimation, I ask my Sanitary Inspector to make a visitation and report, and if necessary I visit the school concerned myself, in order to decide whether closure of the school or a department of the school would help to check further spread of the disease. During the year under review, such action was found necessary in connection with only one school. This was at Banknock, where Classes I. and II. of the Infant Department were closed for a week from 2nd to 7th November, on account of measles. The reasons for closure were that it had been some considerable time since there had been an epidemic of measles in the neighbourhood, that a case of measles had been in attendance at the infant department in an infectious condition, and that closure as recommended would allow any children infected from that case to develop the disease at home.

The number of cases of non-notifiable infectious disease coming to my knowledge in the manner above mentioned was :—Measles, 48 ; and whooping cough 32.

### BANNOCKBURN HOSPITAL.

**Statistics.**—The number of admissions to Bannockburn Hospital in the year 1927 was 248, as compared with 265 in 1926 and 327 in 1925. The 248 cases were admitted from the following areas :—

Central District	...	...	...	184
Eastern District,	...	...	...	2
Burgh of Denny,	...	...	...	15
Burgh of Stirling,	...	...	...	26
Burgh of Grangemouth,	...	...	...	20
And the County of Clackmannan,	...	...	...	1

At the end of December, 1926, the number of cases remaining in the Hospital was 35, and at the end of the year under review there were 27 cases remaining, so that as will be seen from Table XV. the number treated to a termination was 256, with a total days' residence of 11,125. The average number of patients in Hospital throughout the year was 27.

One hundred and twenty-six scarlet fever patients were nursed in the Hospital, and all recovered. The average period of treatment was 46·9 days.

Of diphtheria, 91 cases were treated, the average residence in the wards being 30·5 days. Four deaths occurred.

Only two cases of enteric fever were treated, one having been in the hospital for 32 days and the other for 43 days. Both patients recovered.

The 27 tuberculous patients who completed a period of treatment were all discharged in a much better condition of health than when they were admitted. At the end of the year there remained other three patients in the special pavilion, and one of these died early in the present year. The average duration of treatment in Hospital was 79·5 days.

Certain other diseases were also treated, i.e., 5 cases of erysipelas, 2 of scabies, one of pneumonia and one of encephalitis lethargica. The two last mentioned cases proved fatal.

**Ultra Violet Ray Installation.**—The results obtained from treatment by ultra violet radiation in Camelon Hospital have been so favourable that the Committee have decided to obtain an installation for Bannockburn Hospitals.



TABLE XVI.—ADMISSIONS TO BANNOCKBURN HOSPITAL, 1927.

AGE IN YEARS	0-5		5-10		10-20		20-30		30-40		40 and Over		Total		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Both
Scarlet Fever ... Recovered ...	17	8	12	22	8	23	2	6	3	1	3	1	45	61	106
... Remaining ...	1	1	...	2	1	1	...	1	...	...	...	...	2	5	7
Diphtheria ... Recovered ...	6	2	18	12	15	10	5	4	2	2	...	...	47	30	77*
... Died ...	...	...	1	2	...	...	...	1	...	...	...	...	1	3	4
... Remaining ...	1	1	...	7	1	7	...	...	...	...	...	...	2	15	17
Enteric Fever ... Recovered ...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1
... Discharged ...	1	2	3	5	2	6	...	1	2	...	2	1	8	15	23
Tuberculosis ... Remaining ...	...	...	...	2	...	1	...	...	...	...	...	...	...	3	3
... Recovered ...	...	...	...	1	1	...	1	2	...	1	...	2	2	6	8
Others ... Recovered ...	...	...	...	...	...	...	1	...	...	...	1	...	2	...	2
... Died ...	...	...	...	...	...	...	...	1	...	...	1	...	2	...	2
Total ... ..	26	14	34	53	28	48	9	16	8	4	8	4	109	139	248

\* Four of these were of double infection—diphtheria and scarlet fever.

TABLE XV.—BANNOCKBURN FEVER HOSPITAL, 1927.

	Scarlet Fever		Diphtheria		Enteric Fever		Tuberculosis		Others*		Total	
	Cases	Days' Residence	Cases	Days' Residence	Cases	Days' Residence	Cases	Days' Residence	Cases	Days' Residence	Cases	Days' Residence
Cases remaining, 1st Jan., 1927...	20	1086	10	364	1	32	4	514	...	...	35	1996
Admitted during Year	113	5098	98	2699	1	43	26	1772	10	209	248	9821
Total ...	133	6184	108	3063	2	75	30	2286	10	209	283	11,817
Cases remaining, 31st December, 1927 ...	7	270	17	283	...	...	3	139	...	...	27	692
Cases treated to a termination ...	126	5914	91	2780	2	75	27	2147	10	209	256	11,125

\*Including Erysipelas, Encephalitis Lethargica, Scabies, and Pneumonia.



## VITAL STATISTICS.

**Population.**—For the middle of the year 1927, the Registrar General estimates the population of the Central District at 27,359, which indicates a decrease of 106 as compared with the census taken seven years ago. The estimate is used in the calculation of these statistics, although in all probability an actual census now would show an appreciable increase in the population.

**Births and Birth-Rates.**—The total number of births registered in the District was 544, but after correction for transfers the net figure was 555, of which 269 were males and 286 females. This shows a birth-rate of 20·3 per 1000 of population, which is very far below the average of the past seven years—26·2.

**Deaths and Death-Rates.**—The deaths registered numbered 251, but after correction for transfers the number was increased to 302. The death-rate was therefore 11·0, which is not far off the average rate for the past ten years. The rates for these years were as follows:—1917, 10·7; 1918, 12·1; 1919, 9·6; 1920, 10·5; 1921, 11·7; 1922, 11·6; 1923, 11·7; 1924, 13·9; 1925, 13·1; 1926, 11·5; giving an average rate of 11·6.

The deaths from tuberculosis numbered 23 in all, giving a death-rate of 0·84 per 1000 of population. Fifteen of these deaths were due to tuberculosis of the respiratory system, the death-rate being 0·55.

From the "Principal Epidemic Diseases" the number of deaths was 8, giving a death-rate of 0·29. The diseases which made up this death-rate were Whooping Cough, Diphtheria, and Diarrhoea and Enteritis.

The number of deaths under one year of age was 34, which gives the very low infant mortality rate of 61 per 1000 births.

Table XVII. gives the figures for the principal rates and the causes of death.

TABLE XVII.—CENTRAL DISTRICT. BIRTHS, MARRIAGES, AND DEATHS DURING THE YEAR 1927

Principal Rates per 1000 of Estimated Population.

	Numbers Registered in District		Transfers		Corrected Number		Uncorrected	Corrected for Transfers	Corrected for age and sex Distribution
	In	Out	In	Out	Both Sexes	Males			
Total Births (including Illegitimate Births)	544	24	35	555	269	286	19.9	20.3	.....
Marrriages	34	1	11	44	18	26	4.7	7.9	.....
Deaths	129	8	59	302	149	153	9.2	11.0	11.9
	251	8	59	302	149	153	.....	0.84	.....
Birth-rate	.....	.....	.....	.....	.....	.....	.....	.....	.....
Illegitimate Birth-rate per 100 Total Births	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marrriage-rate	.....	.....	.....	.....	.....	.....	.....	.....	.....
Death-rate.—All Causes	.....	.....	.....	.....	.....	.....	.....	.....	.....
" All Tuberculosis	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Tuberculosis of Respiratory System	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Principal Epidemic Diseases (asterisked below)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Infantile Mortality Rate (Deaths under One Year per 1000 Births)	.....	.....	.....	.....	.....	.....	.....	.....	.....

CAUSES OF DEATH (corrected for Transfers).

CAUSES OF DEATH	ALL AGES		AGE											
	Both Sexes	Males	Females	1—	5—	10—	15—	25—	35—	45—	55—	65—	75—	85 and over
				—	—	—	—	—	—	—	—	—	—	—
*Enteric Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Typhus Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smallpox	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Measles	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Scarlet Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Whooping-Cough	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Diphtheria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Influenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Encephalitis Lethargica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cerebro-Spinal Meningitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Epidemic Diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuberculosis of Respiratory System	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuberculous Meningitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuberculosis of Intestines and Peritoneum	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Tuberculous Disease	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malignant Tumours	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rheumatic Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Meningitis (not Cerebro-Spinal or Tuberculous)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Apoplexy	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Heart Disease	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diseases of Arteries	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bronchitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pneumonia (all forms)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Diseases of Respiratory System	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Diarrhoea and Enteritis (under 2 years)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Appendicitis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All Diseases of Liver (not Malignant)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nephritis, Acute and Chronic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puerperal Sepsis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Diseases and Accidents of Pregnancy and Parturition	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diseases of Early Infancy and Malformations	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Suicide	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Violent Deaths	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Defined Diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Causes Ill-defined or Unknown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All Causes	302	149	153	34	18	9	3	17	11	19	34	58	51	11





## EASTERN DISTRICT.

### HOUSING.

**Building Bye-laws.**—In the Northern Division of the Eastern District, twenty-five sets of plans were approved by the Committee, of which 17 were for new dwelling-houses, 3 for alterations or additions to existing houses, one for a church hall, one for new byres, one for cloakroom accommodation for Larbert Central School, one for reconstruction of byre, and one for new business premises. The number of new dwelling-houses provided for was 39, of which 35 were of three apartments, two of four apartments, and two of five apartments. In one case it was found necessary to report the occupancy of two houses before intimation of completion of the houses had been given.

In connection with certain houses built under the Subsidy Scheme, the attention of the Local Authority was drawn to the quality of the damp-proof course, which was not of the standard required. In this connection it is well to point out that the specification for damp-proof courses when of material should state that it has a Hessian core and that it weighs not less than 7 lbs. to the superficial yard.

The number of plans submitted for the Southern Division was 14. Seven of these were for new dwelling-houses, six were for additions and alterations to existing buildings, and one was in connection with new accommodation for nurses at the Falkirk Burgh Fever Hospital. Of the seven new dwellings covered by the plans, 3 were of three apartments, 2 were of four apartments, and 2 of five or more apartments. Thirty-six drain smoke tests were made.

**Local Authority's Housing Scheme**—In my Report for the year 1926 I stated that an additional 212 houses were to be erected. The position with regard to these now is that

At Airth, the 12 houses are in course of erection ;

At Larbert (Muirhall Road), the 20 houses are completed and occupied ;

At Stenhousemuir, the 32 houses are completed and occupied ;

At Bonnybridge (Thornton), 20 houses are completed and occupied ; and 12 are completed with the exception of the painter work ;

At Laurieston, the 20 houses are completed and occupied ;

At Skinflats, the 8 houses are completed and occupied ;

At Lime Road, the 4 houses are completed and occupied ;

At Brightons, the 16 houses are completed and occupied ;



At Maddiston, the 12 houses are completed and occupied ;  
 At Polmont, the 12 houses are completed and occupied ;  
 At Redding, the 16 houses are completed and occupied  
 At Standburn, the 8 houses are being erected ;

At Whitecross, the 8 houses are completed and occupied ;  
 while at Blackbraes the Scheme for building 8 houses was  
 abandoned owing to the increased estimated cost, due to  
 mineral subsidence.

The Committee have under contemplation another instal-  
 ment of houses, of which, it is understood, 8 are to be erected  
 at Stenhousemuir, 8 at Larbert, 8 at Carronshore, 32 at Bonny-  
 bridge, 12 at Laurieston, 12 at Brightons, 22 at Redding, 14 at  
 Polmont, 16 at Greenyards, and 28 at Rumford. At the end  
 of the year 1927 the following Schemes had been commenced :  
 —Redding, Polmont, Greenyards, and Rumford. The  
 Brightons Scheme was not commenced owing to the difficulty  
 of acquiring suitable ground.

**Housing Acts.**—Report for the year ended 31st December,  
 1927, on proceedings taken as regards the Inspection, Improve-  
 ment, and Closure of Dwelling-Houses.

A.—HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

1. Number of dwelling-houses inspected ... ..	33
2. Number of dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..	33
3. Number of representations made to the Local Authority with a view to the making of closing orders ... ..	33
4. Number of dwelling-houses in respect of which closing orders were made ... ..	33
5. Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, 1925 ... ..	—
6. Number of dwelling-houses which after the making of closing orders were put into a fit state for human habitation ... ..	—

B.—HOUSING (SCOTLAND) ACT, 1925.

1. Number of dwelling-houses in respect of which notices were served under Section 3 (1) ... ..	—
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1) ... ..	—
3. Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1) ... ..	—



4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2) ... ..	—
5. Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—	
(a) Cases where requirement complied with by owners ... ..	54
(b) Cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) Cases still pending ... ..	35
6. Number of houses of (a) one apartment and (b) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section III. ... ..	—
C.—HOUSING, TOWN PLANNING, &C. (SCOTLAND) ACT, 1919.	
1. Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply :—	
(a) Cases where requirements complied with by owners ... ..	22
(b) Cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) Cases still pending ... ..	32

**The Sufficiency and Habitability of Existing Dwellings.—**  
 In my Report for the year 1926 I gave an approximate estimate of the houses required to meet the needs of the District. As at the end of that year it was calculated that to replace houses that were in such a condition that they could not be made habitable at a reasonable cost, the number of new houses required would be 602. In addition to these, the number required to relieve overcrowding was 660, giving a total of 1262. These figures were based on a Housing Survey which was carried out in the year 1919. Since then the cost of building repairs has become somewhat less, so that in all probability it might now be possible to make habitable at a reasonable cost a considerable number of these old houses, the expense of the repair of which was prohibitive in 1919.

Under the Committee's Housing Schemes up to the end of 1926 the number of houses erected was 190, and by private enterprise 328, a total of 518.

During the year 1927 the number of houses erected under the Local Authority's Scheme was 180, and by private enterprise 46. To that number might be added the number of Housing Scheme houses in progress or in contemplation,



namely, 180, making a grand total of 924. Subtracting this figure from the estimate above given of the houses required still leaves a deficit of approximately 338.

### WATER SUPPLY.

Under the system of the Stirlingshire and Falkirk Water Board, the water supply of the District has been well maintained, the quality of the water being excellent and the quantity sufficient for all purposes. The supply to various localities, including High Bonnybridge, Lime Road, Laurieston, and Bothkennar, was augmented by the laying of larger water mains.

At Wester Greenhill, as a result of successful negotiation between the Railway Company and the Local Authority, a supply has now been introduced into the five dwelling-houses here.

Mr. Charles Massie, Engineer to the Water Board, states that the supplies to some of the high level districts at Wallacestone have given trouble, but that arrangements are being made to assist this District as well as Shieldhill. A new 9-inch main has been laid to Laurieston, and will be in use shortly and will supply water from Loch Coulter instead of Buckieburn. The turning on of this main is contingent upon certain other alterations which are being pushed forward. The former Laurieston supply will thus be set free to augment the high levels mentioned above.

Small extensions of distribution pipes were made in connection with the Housing Scheme at Rumford.

TABLE XVIII.—EASTERN DISTRICT.—WATER ANALYSIS (IN GRAINS PER GALLON), 1927.

No.	Date of Report	Where Taken	Mineral Matter	Organic Matter	Total Solids	Nitrates	Free Ammonia	Albuminoid Ammonia	Total Ammonia	Temporary Hardness	Permanent Hardness	Total Hardness	Colour (Loch Katrine Water=10)	Degree of Sewage Contamination
1	25/4/27	Blackloch, Limerigg, Slamanuan ... ..	4.35	.60	4.95	..	.001	.009	.010	.65	2.08	2.73	12	...
2	18/5/27	Pipe in Glen, South of Roughcastle Firebrick Works, Falkirk Parish	11.05	.90	11.95	..	.005	.012	.017	...	7.02	7.02	10	...
3	1/6/27	Pump Well, at Blairlea Cottage, Bonnybridge ... ..	12.85	.60	13.45	.02	..	.007	.007	1.78	7.23	9.01	8	...
4	5/7/27	Pump at Milnquarter Farm, Bonnybridge ... ..	11.85	.40	12.25	.23	.003	.005	.008	2.53	5.79	8.32	...	1 to 120
5	4/11/27	Pump at Milnquarter Farm, Bonnybridge ... ..	19.18	.85	10.53	.68	.004	.010	.014	2.31	4.70	7.01	...	1 to 35

*Note.*—Messrs. Tatlock & Thomson's regular method of stating their opinion of a water as to sewage contamination is as follows :—“ It may be regarded as being equal to a mixture of one part of average sewage with . . . . parts of pure water which had been filtered through earth till clear.” The figures in the last column of the table give the result according to this method.



## WATER ANALYSES.

As will be seen from Table XVIII., the number of samples of water taken for analysis was 5. The table gives a note of the Analysts' figures.

No. 1 Sample was taken from Blackloch, Limerigg, Slammannan, in order to ascertain the degree of pollution, if any. The analysts reported that the sample contained a slight trace of suspended matter, but that it was free from pollution by animal matter or sewage. This question of pollution of the loch arose out of a misunderstanding between the Education Authority and the owner of the loch as to the discharge of sewage from school property. The Authority are to be allowed to discharge the sewage into the loch after treatment, and on condition that should the water be required, at any future date, for domestic purposes, the whole question would be further considered.

No. 2, from pipe in Glen, south of Roughcastle Firebrick Work, was taken to ascertain whether the water from a disused mine was suitable for drinking by the workers. The water was found to have a considerable degree of acidity, and, as suggested by the analysts, the owners have agreed to pass the water through a limestone filter before it passes into the pipes, and have also provided enamel-lined containers and drinking utensils.

Sample No. 3 was taken from a pump well at Blairlea Cottage, Bonnybridge. The analysis showed that the water was free from animal matter or sewage, but that it contained considerable traces of suspended matter, and it was recommended that this should be removed before the water was used for drinking purposes. The owner was communicated with, and the well was thoroughly cleansed and also deepened in order to augment the supply.

Nos. 4 and 5 were from the pump at Milnquarter Farm, both samples being found polluted. The supply to this farm has been under consideration for some considerable time, the reason for the delay in introducing a gravitation supply probably being that the premises are situated some 500 yards distant from the nearest water main. From time to time efforts have been made to eliminate the pollution of the present supply, but these having failed, there is now some definite prospect that the gravitation supply will be laid on to the premises, and modern sanitary conveniences provided as well. Milnquarter Farm, it should be explained, is no longer used for dairy purposes, the premises being now occupied by three different families.



## DRAINAGE.

The Special Drainage Districts in the Eastern District are as follows :—

	Approximate population.	Approximate amount of effluent daily. Gallons.
Airth, ... ..	660	9,900
Bonnybridge, ... ..	5,000	130,000
Larbert, ... ..	13,500	420,000
Laurieston, ... ..	3,000	90,000
Lime Road, ... ..	850	42,000
Polmont,* ... ..	3,500	45,000
Redding,* ... ..	1,900	57,000
Rumford, ... ..	850	26,000

\* Amalgamated, 1926.

The conditions in these districts remain fairly similar to what they were in 1922, and as described in my Annual Report for that year.

At Bonnybridge the works will require extension at an early date owing to the new Housing Scheme houses.

It is possible that new filters may be required at Westquarter Sewage Works in the Redding area.

In the Polmont District, the sewer at Park Avenue was extended to afford drainage facilities to a number of new houses.

The supervision of these various special Districts and sewage disposal works and the keeping of them in good working condition necessitated a great amount of attention on the part of the Sanitary Inspectors, Mr. Macfarlane and Mr. Gough. Periodically sewers required to be cleaned and "chained," manholes got silted up, sewage distributors got out of condition, and tanks required cleaning out, all of which took up a considerable part of their time.

## NUISANCES.

Mr. Macfarlane, Sanitary Inspector of the Northern Division, states that 379 nuisances were dealt with by him, and that 219 formal intimations were made. In addition, three Statutory Notices were served, but no legal proceedings were necessary. The nuisances were of the usual type—choked and defective drains, traps and rhone-pipes, dirty common passages and stairs, defective roofs, defective wash-houses, dirty or defective water closet apartments, and so on.

In the Southern Division, Mr. Gough attended to 371 nuisances, the number of intimations served being 229. No



legal proceedings were required. The nuisances in this area were generally of a like nature to those mentioned above.

### SLAUGHTER-HOUSES AND OFFENSIVE TRADES.

The number of slaughter-houses in the District is as before, namely, 12, and these were kept under supervision by the Sanitary Inspectors throughout the year. One breach of licence was reported, the owner of a slaughter-house having slaughtered on an unauthorised day. Warning was given to the proprietor that slaughtering must be confined to the days and hours specified.

**Scottish Fish, Oil and Guano Works, Roughcastle.**—Seventeen inspections were made by Mr. Macfarlane. These works are now under new management, and have undergone great changes for the better. There is evidence of greater care being taken with a view to the prevention of the emission of noxious fumes. Two notices were served on the owners for minor contraventions of the Bye-laws.

### FOOD AND MEAT INSPECTION.

The Sanitary Inspectors make inspection from time to time for the detection of unsound meat and food. Mr. Macfarlane made 143 inspections. Two seizures were made, these being of two cases of pears which were in a putrefying state. The fruit was destroyed with the owner's consent.

In the Southern area, Mr. Gough made 314 inspections for the detection of unsound food and examined 524 carcasses. Two bovine livers with cirrhosis and two bovine livers with flukes were condemned and destroyed with the owner's consent.

Mr. M'Gregor, the County Veterinary Inspector, condemned the carcasses and organs of two bullocks which were affected with generalised tuberculosis.

### DAIRIES, COWSHEDS AND MILKSHOPS.

The draft Dairy Bye-laws were still under consideration at the end of the year.

Mr. M'Gregor, the County Veterinary Inspector, reports as follows with regard to his work :—

“ In the District there are 190 dairy herds, containing 2732 cows. As provisional registration has been granted to every applicant pending the adoption of Bye-laws, no attempt has been made to classify the various dairies. This number (190) includes all the dairies that will ultimately be registered, as well as those from which milk is only sold in small quantities.



Each herd was inspected at least once during the year, when the udder of every cow was examined clinically for tuberculosis. In addition to the statutory inspection, further inspections of herds were made during the carrying out of my duties under the Diseases of Animals Acts, and in this way 23 herds were examined twice, 7 thrice and 2 four times. In all 233 inspections were made, and 3868 cows examined.

“ One hundred and twenty-two cows were found with abnormal udders. Twenty of these exhibited symptoms that were suggestive of tuberculosis, and a bacteriological examination of the milk from these cows was carried out, which proved positive in 4 cases. During the period that the milk was under examination, the provisions of the Tuberculosis Order were applied to the suspected cows, and the milk from these animals was not permitted to be used for human consumption. The 4 cows found to be suffering from tuberculosis of the udder were immediately slaughtered under the above Order. Twenty eight cows were found to be suffering from acute mastitis (non-tuberculous), and in no instance was the milk from the affected quarters being used for human consumption. Sixty-three cases of atrophy and 11 of induration of a non-tuberculous character were found. These were probably the result of previous attacks of mastitis. An eruption of the nature of cow pox was found affecting the teats of one cow. In addition to the 4 cases of tuberculosis of the udder mentioned above, 14 cows with tuberculous emaciation and 7 which showed symptoms of tuberculosis and had a chronic cough were seized and slaughtered under the Tuberculosis Order during the year.

“ During these visits of inspection throughout the year when Dairy Herds were found in which a sufficient number of heifer calves was reared to replenish the herd and render it self-supporting, the attention of the owner was drawn to the method of eradicating tuberculosis associated with the name of Professor Bang whereby that disease could be eliminated from such a herd at little cost, and the measures necessary in each case were indicated.

“ The general condition of the milk cows in the District was good. Automatic drinking bowls have been introduced into a large number of byres, with marked improvement in the health of the cows. The cleanliness of the cows in the Dairy byres depends in great measure on the length of the stall being suitable for the breed of cow which is kept. If the stall is too short the cow stands back in the grip and if too long she defœcates on the stall. In either case when she lies down she soils herself. Where the length of the stall suits the breed of cow, no difficulty is found in keeping the cows clean ; but where this relationship is altered it demands a great deal of time and labour on the part of the dairyman to carry out the provisions



of the proposed Dairy Bye-laws with regard to cleanliness of the cows. The crop of 1926 was good and straw for bedding was plentiful during 1927. This helped greatly in maintaining the cleanliness of the dairy cows in the district.

“Fodder and diet were sufficient as a rule to maintain the condition of the dairy cows and quality of the milk produced ; but reliable statistics on the point are not available as milk recording is only carried out in a few herds, and scientific rationing of the cows according to production is rare. While it is true that many farms give extra rations to their heavier milking cows, little effort is made to balance the ration and take advantage of the present day knowledge of dietetics.

“Under Section 21 of the Act of 1914, information was received in January from the Sanitary Inspector of the Burgh of Falkirk that a sample of milk purchased in the Burgh, but produced in the Eastern District, had been found tuberculous by the Bacteriologist to the Burgh. I examined the herd of cows belonging to this producer immediately, and found one cow with an abnormal udder. Biological examination proved that this cow was not giving tuberculous milk. A similar test was applied to the milk of the other cows on the premises, and a negative result was obtained in each case. As about this time a second biological examination of the mixed milk of this herd was found by the Burgh Bacteriologist to be negative for tuberculosis, no further action was taken in the matter.

“Towards the end of December the Sanitary Inspector of the Burgh of Falkirk again reported that this herd was producing milk which on inoculation was tuberculous, and I immediately carried out a clinical examination and found two cows whose udders were suspiciously indurated. The provisions of the Tuberculosis Order of 1925, under Articles 10 and 11 were immediately applied to these animals, and microscopical examination of these samples revealed the presence of tubercle bacilli. The two cows were slaughtered under the Tuberculosis Order of 1925. Biological examination of a sample of mixed milk taken from this herd, after removal of the two cows mentioned, was negative for tuberculosis.

“It was not found necessary during the year to employ the tuberculin test during the inspection of dairy herds, and no action was taken under Section 22 of the Act of 1914.”

**Milk (Special Designations) Order.**—In the Eastern District there is now only one Grade A. Farm, namely, David Reid, Glen Farm, by Falkirk. Mr. Reid is steadily improving his dairying plant and introducing the most modern appliances to ensure a thoroughly clean milk.



## HOUSING OF POTATO DIGGERS.

Two inspections were made by Mr. Macfarlane to farm premises where intimation had not been given either by the contractor or the farmer that potato diggers were to be housed. The contravention was reported to the Local Authority, and a warning was given.

## FACTORY AND WORKSHOPS ACT.

With a few exceptions, the workshops in the District have been found on inspection to be kept in a cleanly condition. The number of inspections made by the Sanitary Inspectors was 123, of which 22 were of factories and 101 of workshops. Sixteen defects were found, and were remedied after written Notices were served. The defects consisted of want of cleanliness, 7; unsuitable or defective sanitary accommodation, 4; and other nuisances, 5.

## INFECTIOUS DISEASE.

For the year ended 31st December, 1927, the number of notifications of cases of infectious disease in the Eastern District was 644, which figure includes 155 cases of Chickenpox, which was made notifiable temporarily in view of the occurrence of Smallpox in various parts of the country. Exclusive of Chickenpox, however, the notifications numbered 489, which is considerably in excess of the average annual number and is in fact the greatest number notified for over ten years. The following are the numbers for the past decade:—

1917,	...	231	1922,	...	254
1918,	...	179	1923,	...	237
1919,	...	259	1924,	...	298
1920,	...	440	1925,	...	471
1921,	...	385	1926,	...	448

The average for these years works out at 320.

Tables XIX. and XX. give the figures, the first for the various parishes and the second with regard to the age-groupings of the patients. A further table is given showing the size of the houses from which cases were notified, and also showing the state of these houses with regard to the number of persons per apartment. In twenty-one of the cases the house was undoubtedly overcrowded, while in 68 cases the persons per apartment numbered between 3 and 4.

**Scarlet Fever.**—The number of Scarlet Fever cases was very much less than in the previous year, being 180, as compared with 269 in 1926. Most of the cases occurred in the parishes



of Larbert, Falkirk, and Grangemouth, with 64, 59, and 33 respectively, while in the parish of Muiravonside, 18 cases occurred and six in the parish of Airth. As usual the majority of the cases were of school age, there being 37 under 5 years of age and 45 over 15 years. Eighty-five per cent. of the patients were removed to Hospital. Of the total cases, four proved fatal, three of these being between 5 and 10 years of age, the other being an adult.

**Diphtheria.**—Unlike Scarlet Fever, the incidence of Diphtheria was considerably higher than in recent years, the number of cases being 147 as compared with 81 in 1926, 117 in 1925, and 83 in 1924. The greatest number was in Falkirk parish, where there were 59 cases. In Larbert parish there were 40, in Muiravonside 35, while in Grangemouth parish only ten cases were notified, in Slamannan parish two, and Airth, one. With the exception of one, all the cases were removed to Hospital. Six of the patients died.

**Enteric Fever.**—Six cases were notified, five from Larbert parish and one from the parish of Falkirk. Four of these occurred in the Stirling District Mental Hospital at Larbert, and were isolated in one of the wards of that institution. The other two were removed to Camelon Hospital and one of the cases proved fatal.

**Tuberculosis.**—The total number of cases notified was 88, of which 43 were of pulmonary tuberculosis and 45 of other forms of the disease. The treatment of this disease is referred to in the County part of the Report.

**Encephalitis Lethergica.**—Only one case came to my notice, but it was considered better not to remove the patient to Hospital. As a matter of fact, Hospital treatment would not appear to be of much benefit to the patient, except perhaps in the acute stage, when the home conditions are not suitable.

**Non-Notifiable Infectious Diseases—Measles, Whooping Cough, and Mumps.**—No provision is made for the notification of these diseases, but on receipt of information of a case or cases from head teachers or others, I instruct my Sanitary Inspectors to visit the locality and report. In this way the number of cases brought to my notice was—Measles 40, Whooping Cough 20, and Measles 19.

**School Closure.**—In only two instances was school closure resorted to with a view to preventing spread of infectious disease. The first was in connection with the occurrence of several cases of Measles in Larbert amongst pupils attending Classes II.a and II.b of the Infant Division, and also Junior Class II.b of Larbert Central School, when I recommended that these classes be closed as from the 17th to the 21st October,

so that any children infected by the first cases might not be in school when they developed the disease. The second instance was when I recommended closure of Bonnybridge Public School as from the 23rd to the 30th December (when the school New Year holidays commenced). At this school there had been an outbreak of Whooping Cough, complicated with Measles, and it was considered that the week's closure, plus the usual vacation period, would enable many of the children to escape infection. There is every reason to believe that these brief periods of closure did succeed in preventing the infection of at least some of the pupils.



TABLE XIX.—EASTERN DISTRICT.—CASES OF INFECTIOUS DISEASE COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH DURING THE YEAR 1927.

Parish	Smallpox	Diphtheria and Membranous Croup	Krysipelas	Scarlet Fever	Typhus Fever	Enteric Fever	Continued Fever	Puerperal Fever	Cerebro-Spinal Fever	Ophthalmia Neonatorum	Chickenpox	Infantile Paralysis	Malaria	Infective Jaundice	Encephalitis Lethargica	Acute Primary Pneumonia	Acute Influenzal Pneumonia	Tuberculosis		Total
																		Pulmonary	Non-Pulmonary	
Airth ...	...	1	3	6	...	...	...	1	...	...	5	...	...	...	...	...	...	...	2	18
Falkirk ...	...	59	8	59	...	1	...	2	...	...	16	...	...	...	...	1	1	17	17	181
Grangemouth	...	10	1	33	...	...	...	...	...	...	32	...	...	...	...	1	1	2	2	87
Larbert ...	...	40	11	64	...	5	...	1	...	...	93	1	...	...	...	...	...	13	11	239
Muiravonside	...	35	6	18	...	...	...	...	...	1	7	1	...	...	...	3	3	8	10	93
Slamannan ...	...	2	...	...	...	...	...	...	...	1	2	...	...	...	1	6	4	7	3	26
Totals ...	...	147	29	180	...	6	...	4	...	2	155	2	...	...	1	21	9	43	45	644
Removed to Hospital, etc. ...	...	146	4	154	...	2	...	3	...	...	...	...	...	...	...	3	1	27	22	362

TABLE XX.—EASTERN DISTRICT.

RETURN OF CASES OF INFECTIOUS DISEASE NOTIFIED, &amp;C., DURING THE YEAR ENDING 31ST DECEMBER, 1927.

DISEASE	NUMBER OF CASES COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH									
	At all Ages	At Age—Years							Cases removed to Hospital	Cases not removed to Hospital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards		
<i>A.—Diseases specified in the Infectious Disease (Notification) Act, 1889</i>										
Typhoid or Enteric Fever	6	...	...	...	2	3	1	...	2	4
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...
Eruptive Fever or Scarletina	180	4	33	98	38	4	3	...	154	26
Diphtheria and Membranous Croup ... ..	147	1	30	94	16	6	...	...	146	1
Measles ... ..	29	1	...	1	4	6	13	4	4	25
General Fever ... ..	4	...	...	...	1	3	...	...	3	1
Erysipelas ... ..	...	...	...	...	...	...	...	...	...	...
Relapsing Fever ... ..	...	...	...	...	...	...	...	...	...	...
Continued Fever ... ..	...	...	...	...	...	...	...	...	...	...
<i>B.—Diseases notifiable in terms of Regulations made under Section 78 of the Public Health (Scotland) Act, 1897</i>										
Malta Neonatorum	2	2	...	...	...	...	...	...	...	2
Measles ... ..	155	13	50	91	1	...	...	...	...	155
Acute Jaundice ... ..	...	...	...	...	...	...	...	...	...	...
Maternal ... ..	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ... ..	...	...	...	...	...	...	...	...	...	...
Infantile Paralysis ...	2	1	...	1	...	...	...	...	...	2
Encephalitis Lethargica	1	...	...	...	...	1	...	...	...	1
Primary Pneumonia	21	3	10	3	1	3	1	...	3	18
Influenzal Pneumonia	9	...	2	...	4	2	...	1	1	8
Primary Tuberculosis	43	...	1	11	9	15	7	...	27	16
Pulmonary Tuberculosis ... ..	45	1	18	16	4	3	3	...	22	23
Total of A. and B.	644	26	144	315	80	46	28	5	362	282

Cases notified in a previous year and removed to Hospital for the first time during 1927.

One of these cases was subsequently diagnosed as Paratyphoid B. and was removed to Hospital.

*Name of Hospital or Hospitals in which Cases were Treated.*Camelon Fever Hospital, Falkirk.  
Ochil Hills Sanatorium, Milnathort.



STATEMENT WITH REGARD TO THE PREVALENCE OF CERTAIN  
INFECTIOUS DISEASES IN HOUSES OF VARIOUS SIZES.  
EASTERN DISTRICT.

Disease.	No. of Cases in Houses of			
	1 Apartment	2 Apartments.	3 Apartments.	4 or more Apartments.
Scarlet Fever, ...	11	92	37	40
Diphtheria, ...	17	98	16	16
Enteric Fever, ...	...	1	1	4
Erysipelas, ...	3	12	5	9
Puerperal Fever,	1	2	1	...
Pulmonary Tuberculosis,	6	26	5	6

INCIDENCE OF THESE DISEASES WITH REFERENCE TO QUESTION  
OF OVERCROWDING.

Note—A house with 4 or more persons per apartment may be considered as overcrowded.

Disease.	No. of Persons* per Apartment of House.			
	4 or more.	3 to 4.	2 to 3.	less than 2.
Scarlet Fever, ...	3	24	49	104
Diphtheria, ...	13	35	44	55
Enteric Fever, ...	...	...	1	5
Erysipelas, ...	1	3	10	15
Puerperal Fever,	...	...	1	3
Pulmonary Tuberculosis,	4	6	20	13

\*2 Children under 14 equal one adult.

CAMELON HOSPITAL.

**Statistics.**—The number of cases admitted to Camelon Hospital during the year 1927 was 353, being 20 less than in the preceding year. At the end of 1926 there were in the Wards 54 cases, and at the end of 1927 there were 35 cases, so that the number treated to a termination was 372.

Of the 353 admissions, one was transferred from Falkirk Infirmary.

The total length of residence of the 353 cases until the end of the year was 12,834 days. The length of residence of the 54 cases remaining at the end of 1926 was 1,859 days. The daily average number of patients in the Wards during the year was 36.

The number of Scarlet Fever patients treated to a termination was 143. The total length of residence was 4,191 days, giving an average of 29.4 days. One case died.

The number of Diphtheria patients treated to a termination was 137. The total residence of these was 2,548 days, giving an average of 18.4 days. Five cases died.

One case of Scarlet Fever and Chickenpox was treated, and the length of residence was 85 days.

One case of Enteric Fever was treated, but the patient died 11 days after admission.

Six cases of Erysipelas were treated. The length of residence was 108 days, an average of 18 days per patient.

Four cases of Pneumonia were treated. The length of residence was 90 days, an average of 22.5 days per patient.

Three cases of Puerperal Fever were treated. The average length of residence was 18 days per patient. One case died 24 hours after admission.

One case of Encephalitis Lethargica was treated. The length of residence was 22 days.

One case of Measles and Pneumonia was treated. The length of residence was 16 days.

One case of Whooping Cough and Pneumonia died 4 days after admission.

One case of Ophthalmia Neonatorum was treated for 3 days.

One case of Membranous Croup died 20 minutes after admission.

The number of Tuberculous patients treated to a termination was 19. The length of residence was 958 days, averaging 50.4 days per patient. Five of these cases died.

One case of Para-Typhoid remained under treatment at the end of the year.

The following Table shews the admissions to the Public Health Hospital, Camelon, during the year 1927.



TABLE XXI.—ADMISSIONS TO CAMELON HOSPITAL, 1927.

Disease	0-5		5-10		10-20		20-30		30-40		40-50		Over 50		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
	AGE IN YEARS																
Scarlet Fever ... Recovered ...	17	21	24	24	21	21	5	7	...	...	...	1	1	...	68	74	142
... Died ...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	1
... Remaining ...	2	2	2	6	1	1	...	...	...	...	...	...	...	...	5	9	14
Diphtheria ... Recovered ...	23	23	27	26	7	14	1	10	...	1	...	...	...	...	58	74	132
... Died ...	...	1	2	1	1	...	...	...	...	...	...	...	...	...	3	2	5
... Remaining ...	1	...	2	3	1	...	1	1	...	...	...	...	...	...	4	4	8
Erysipelas ... Recovered ...	...	...	...	...	...	...	1	1	...	...	2	...	...	...	3	3	6
Pneumonia ... Recovered ...	1	1	...	...	...	...	2	...	...	...	...	...	...	...	3	1	4
Puerperal Fever ... Recovered ...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	2	2
... Died ...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1
Scarlet Fever and Chickenpox Recovered ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Measles and ... Recovered ...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Whooping Cough and Pneumonia Died ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Knephalitis ... Discharged ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1
Lethargia ... Died ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Mem. Croup ... Remaining ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1
Para-Typhoid ... Died ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1
Ophthalmia ... Discharged ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Neonatorum ... Discharged ...	...	1	2	2	4	2	1	2	...	...	...	1	...	...	7	8	15
Tuberculosis ... Died ...	...	2	...	...	...	...	...	1	...	...	...	1	...	...	...	4	4
... Remaining ...	2	...	1	2	1	2	2	...	...	...	...	...	1	...	7	4	11
Totals ... ..	49	53	60	65	37	41	12	23	...	3	3	3	2	2	163	190	353







**Ultra Violet Rays Treatment.**—On 30th June a portable Hanovia Mercury Vapour Ultra Violet Ray Lamp was installed in the Hospital.

Treatment by Ultra Violet Radiation of Tuberculosis patients commenced immediately the Lamp had been installed. At the end of the year 13 in-patients and 32 out-patients were being treated.

The following is a summary of the cases treated, viz. :—

Pulmonary Tuberculosis, ... ..	4
Tuberculosis of Abdomen, ... ..	7
Tubercular Glands, ... ..	19
Lupus (Tuberculosis of Skin) ... ..	7
Tubercular Abscesses, ... ..	4
Tubercular Joints, ... ..	3
Tubercular Spine, ... ..	1
—	
Total, ... ..	45

A marked general improvement in the health of some of the patients exposed to the Ultra-Violet Rays was noted, but no patient had completed the course of treatment by the end of the year.

#### VITAL STATISTICS.

The population of the Eastern District as estimated to the middle of 1927 by the Registrar General was 40,306, as compared with 41,772 when the census was taken in 1921. The figure is obviously an underestimate, but has been used in the calculation of the Registrar General's figures.

**Births and Birth-Rates.**—After correction for transfers, the net number of births credited to the District was 916, giving a birth-rate of 22·7 per 1000. The rates for the past five years were 1922, 23·9; 1923, 23·5; 1924, 23·9; 1925, 22·7; 1926, 23·1. These give an average of 23·4, so that the figure for 1927 is not quite up to the very low average of recent years.

**Deaths and Death-Rates.**—The total number of deaths registered was 460. Of these, 83 were transferred to other districts, and 84 transfers were received from other local authorities, so that the corrected number is 461. This gives a death-rate of 11·4 per thousand, which is rather below the average for recent years.

The death-rate from Tuberculosis was ·65, the rate from Tuberculosis of the respiratory system being ·32.

From the "Principal Epidemic Diseases" the rate was ·60, the diseases contributing to this rate being, Enteric Fever, 1; Measles, 8; Scarlet Fever, 4; Whooping Cough, 2; Diphtheria, 6; and Diarrhoea and Enteritis, 3. The number of deaths of children under one year of age was 56, giving an Infantile Mortality rate of only 61.

The figures for Births, Deaths and Marriages are given in Table XXII.



## WESTERN DISTRICT.

## HOUSING.

**New Buildings.**—During the year 1927, 32 sets of plans were submitted to and approved by the Western District Committee, being an increase of 12 as compared with the previous year.

The plans were for the following :—

New Buildings, ... ..	6
Temporary Huts, ... ..	7
Premises altered or added to, or reconstructed, ... ..	13
Alterations and additions to Public Halls, Schools, Shops, etc., ...	6
	—
	32
	—

Of the six plans for new buildings, three were for dwelling-houses of three apartments, two for houses of four apartments, and one for a mansion house of fourteen apartments.

Housing Subsidies were granted in respect of three of these.

**Local Authority's Scheme.**—Under the Committee's Housing Scheme, 34 houses were completed throughout the year, and sanction was given for the erection of a further instalment of 46 houses. The completed houses are situated as follows :—At Torrance of Campsie, 12 ; at Balfron, 12 ; and at Drymen, 10. Of the 46 houses sanctioned, 28 are being erected at Lennoxton, 12 at Strathblane and 6 at Campsie Glen. Since the end of the year the building of these has progressed satisfactorily, and at the time of writing six of them have been completed and are now occupied.

**Housing of Seasonal Workers.**—Potato digging was carried out on the gang system at 27 farms, and 230 diggers (129 male and 101 female) were employed. In all, Mr. Gough, the Sanitary Inspector, made 109 inspections.

The accommodation provided for the diggers is gradually improving year by year, and Mr. Gough reports that overcrowding and the non-separation of the sexes—two of the most common forms of complaint—are now seldom experienced. The general cleanliness of the workers is also improving.

As already said, potato diggers were engaged at 27 farms, but only at 13 of these were gangs accommodated, the other fourteen farms being worked from centres. The approximate acreage of potato crop dealt with by these gangs was 232.



**Housing Acts.**—Report for the year ended 31st December, 1927, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-Houses :—

A.—HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

1. Number of dwelling-houses inspected ... ..	70
2. Number of dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..	2
3. Number of representations made to the Local Authority with a view to the making of closing orders ... ..	2
4. Number of dwelling-houses in respect of which closing orders were made ... ..	2
5. Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, 1925 ... ..	—
6. Number of dwelling-houses which after the making of closing orders were put into a fit state for human habitation ... ..	—

B.—HOUSING (SCOTLAND) ACT, 1925.

1. Number of dwelling-houses in respect of which notices were served under Section 3 (1) ... ..	—
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1) ... ..	—
3. Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1) ... ..	—
4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2) ... ..	—
5. Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—	
(a) Cases where requirement complied with by owners ... ..	73
(b) Cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) Cases still pending ... ..	137
6. Number of houses of (a) one apartment and (b) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section III. ... ..	—



## C.—HOUSING, TOWN PLANNING, ETC., (SCOTLAND) ACT, 1919

1. Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply :—			
(a) Cases where requirements complied with by owners	...	...	9
(b) Cases where works carried out by Local Authority after failure of owners to do so	...	...	—
(c) Cases still pending	...	...	2

**Sufficiency and Habitability of Existing Dwellings.**—Based on a Housing Survey made in the year 1919, in my last Annual Report my estimate of the number of houses in "Category (3)," i.e., houses that can not be made fit for human habitation at reasonable cost, was 180. In order to replace these and in order to relieve overcrowding in existing one-apartment houses and two-apartment houses, it was estimated that a total of 290 up-to-date houses would be required.

Up to the end of 1926 the number of new houses erected was :—

Housing Schemes,	...	...	50
Private Enterprise,	...	...	49
A total of	...	...	99
			—

and by the end of the year 1927, that number had been added to by

Housing Schemes,	...	...	34
Private Enterprise,	...	...	6
A total of	...	...	139
			—

To these might also be added the houses in progress or in contemplation at the end of the year, namely, 46, so that the grand total of new houses erected, in progress and in contemplation is 185. Comparing this figure with my estimate of the houses required, leaves a balance of 105 houses. In this connection, however, I would again point out that the Western District differs considerably from the Central and Eastern Districts in that it is much more agricultural and pastoral than industrial, and also that most of the industries have declined and many of the workers have departed. In some of the industrial areas the houses have stood empty for longer or shorter periods, but now quite a number of these houses in certain areas are rented by people from Glasgow, many of whom have houses also in Glasgow, and merely use the Western District houses for week-end and holiday purposes. Others,



again, are occupied by people who have been attracted there from places outside the Western District simply because these houses were to be had for a very cheap rent. Thus the Western District has, through no fault of its own, come to be saddled with a population from outside, too large a proportion of whom may be considered of an undesirable class. It is to the type of house occupied by these that a large number of the category (3) houses belong, and in the circumstances it can hardly be expected that the District Committee would build a corresponding number of up-to-date houses, the required rentals for which either could not or would not be paid by many of the tenants.

### FACTORIES AND WORKSHOPS.

At the end of the year the number of workshops on the register was 64, and these on the whole were found to be well conducted. There are no factories. Thirty-four inspections of workshops and 11 inspections of workplaces were made, but no defects were found calling for written notice.

### WATER SUPPLY.

The Special Water Supply areas in the District have been maintained in good condition. The water supplies of the District generally are of good quality, and the quantity has been sufficient for all domestic and sanitary purposes.

### WATER ANALYSES.

Table XXIII. gives a note of the places from which samples were taken together with the results of the analyses. A total of 11 samples were taken.

Samples Nos. 1 and 2 were taken from Dumbrock Loch to ascertain its fitness for a general water supply for a proposed new feuing area. The samples were found satisfactory in all respects, but the initial cost of piping the water to the proposed site was so great that the scheme has not been proceeded with.

No. 3 was taken from a cottage supply after a case of diphtheria.

Nos. 4, 8, 9 and 10 were taken to ascertain the fitness of the supply for Milton Special District.

Sample No. 5 was from a cottage supply.

Samples 6 and 7 were taken from the stables at Duntreath Castle on receipt of a complaint that the water had a smell, and

Sample No. 11 was taken from butler's pantry at Buchanan Castle, after a complaint had been received that the water



TABLE XXIII.—WESTERN DISTRICT.—WATER ANALYSIS (IN GRAINS PER GALLON), 1927.

No.	Date of Report	Where Taken	Mineral Matter	Organic Matter	Total Solids	Nitrates	Free Ammonia	Albuminoid Ammonia	Total Ammonia	Temporary Hardness	Permanent Hardness	Total Hardness	Colour (Loch Katrine Water=10)	Degree of Sewage Contamination
1	12/1/27	West side of Dumbrook Loch, Parish of Strathblane ...	3.80	.64	4.44	...	.001	.006	.007	.63	1.52	2.15	13	...
2	12/1/27	East side of Dumbrook Loch, Parish of Strathblane ...	3.92	.68	4.60	...	.001	.007	.008	.60	1.64	2.24	14	...
3	19/7/27	Outlet Pipe in yard at Muirhouse, near Milngavie ...	3.15	.30	3.45	...	.001	.005	.006	...	1.26	1.26	0	...
4	25/7/27	Pump Well at Russell's Land, Milton ...	5.80	.95	6.75	...	.002	.013	.015	3.57	1.08	4.66	19	...
5	28/7/27	Tap in Kitchen at Annandale, Strathblane ...	4.62	.96	5.58	...	.003	.012	.015	.84	1.69	2.53	20	...
6	12/8/27	Tap in Scullery at Duntreath Stables, Blanesfield ...	5.84	1.18	7.02	...	.004	.014	.018	4.45	.59	5.04	26	...
7	12/8/27	Tap in Scullery at Duntreath Castle, Blanesfield ...	5.08	1.24	6.32	...	.002	.015	.017	2.66	1.63	4.29	28	...
8	9/9/27	Milton Reservoir, Campsie Parish ...	5.32	1.06	6.38	...	.001	.011	.012	3.25	.90	4.15	22	...
9	9/9/27	Bathroom Tap, Wabry House, Campsie Parish ...	5.40	1.10	6.50	...	.001	.011	.012	3.29	.87	4.16	23	...
10	9/9/27	Tap in House at Co-operative Buildings, Campsie Parish ...	5.38	1.02	6.40	...	.002	.011	.013	3.31	.84	4.15	20	...
11	19/10/27	Tap in Butler's Pantry at Buchanan Castle, Drymen ...	12.35	.25	12.60	.16	.001	.006	.007	8.86	1.75	10.61	...	1 to 165

*Note.*—Messrs. Tatlock & Thomson's regular method of stating their opinion of a water as to sewage contamination is as follows:—"It may be regarded as being equal to a mixture of one part of average sewage with . . . parts of pure water which had been filtered through earth till clear." The figures in the last column of the table give the result according to this method.

had a peculiar taste since new copper pipes had been introduced.

With the exception of No. 11, the samples were all reported on as being suitable waters for domestic purposes. In the case of No. 11 the Analysts reported that the water contained slight traces of pollution, stated as "a mixture of one part of average sewage with about 165 parts of pure water, the ammonia originally present having become practically all nitrified." With regard to the peculiar taste reported since new copper pipes were introduced, the Analysts stated: "There is no copper in the water, nor will this water act on copper, and the presence of small quantities of that metal does not give any taste to water. When received, the water had a faint peculiar taste, which we could not identify, but minute traces of matter from a pipe recently tar-coated would account for this. If this is the cause for the taste, it will gradually disappear, but we could not detect anything that would account for it."

#### DRAINAGE.

In the Western District there are three Special Drainage Districts, namely, Balfron, with a population of slightly over 1000; Drymen, with a population of approximately 320; and Lennoxton, with about 2500 of a population. The two first-mentioned of these Special Districts are much as they were when described in my report for the year 1922, and are quite efficient. In the Lennoxton District, however, a new system of sewers and sewage disposal works have been provided and are in good working order.

#### DAIRIES.

The number of dairies on the Register at the end of the year was 177, the number of dairy herds being 158, containing in all approximately 3,285 cows.

Since the end of the year the New Dairy Bye-laws prepared in accordance with the Act of 1914, have been confirmed by the Scottish Board of Health, and for reference I give here a reprint of them:—



“ DAIRY BYE-LAWS.

“ MILK AND DAIRIES (SCOTLAND) ACT, 1914.

“ Bye-laws made by the Western District Committee of the County Council of Stirlingshire, being the Local Authority under Section 8 of the above Act, providing :—

- (a) For the inspection of cattle in dairies.\*
- (b) For prescribing and regulating the structure, lighting, ventilation (including air and floor space), cleansing, drainage, washing and scalding facilities, and water supplies of dairies and their appurtenants.
- (c) For the prevention of impurities in milk intended for human consumption and for securing the cleanliness and health of the cows and the cleanliness of the persons and clothing of those engaged or assisting in the business, and of the milk, cows, dairies, sculleries, boiler-houses, and all utensils, vehicles, and vessels used for the reception, conveyance, storage, or sale of milk.
- (d) For prescribing precautions to be taken by dairymen against infection or contamination.

7 A “dairy” includes any creamery, farm, farmhouse, cowshed, byre, milk store, milk shop, or other premises from which milk is sold or supplied for sale or in which it is kept for purposes of sale, or which are used for the making of butter, cheese or other milk products for human consumption for purposes of sale, but does not include premises from which a person sells milk only in small quantities and for their own consumption, to persons in their employment or to neighbours. (Section 2 of the Act).

“ INTERPRETATION.

“ 1. In these Bye-laws, unless the context otherwise requires :—

- ‘ the Act ’ means the Milk and Dairies (Scotland) Act, 1914 ;
- ‘ Local Authority ’ means the Western District Committee of the County Council of Stirlingshire ;
- ‘ duly authorised officer, ’ in relation to the Local Authority, means such officer as may be designated by or in accordance with the provisions of the Act as the officer of the Local Authority for the purpose of making an inspection or exercising any other powers under or in terms of the Act :
- ‘ new, ’ in relation to any premises used as a cowshed or byre or as a milk store, means premises, the erection or reconstruction of which is commenced on or after the date of Confirmation of these Bye-laws, or premises which (not having been used as at that date as a cowshed, byre, or milk store), have been



adapted by reconstruction for use and are being used for that purpose ; and ' existing ' means any premises not being new premises ;

' reconstruction ' includes alterations (other than internal alterations not affecting the stability of the building, or alterations of a minor character).

" Other expressions shall have the meanings assigned to them in the Act.

" 2. These Bye-laws shall not apply to a shop from which milk or cream is supplied only in the properly closed and unopened receptacles in which it was delivered to the shop, nor to a shop or other place in which milk is sold for consumption on the premises only.

" In the case of premises occupied by a Dairyman who is registered solely by reason of making butter and selling it in small quantities during part of each year, the Local Authority may, if they think fit, and to such extent as shall appear to them proper, modify the provisions of all or any of the following Byelaws numbered 4 to 17, both inclusive.

**" (a) Inspection of Cattle in Dairies.**

" 3. A dairyman shall, when applied to by any duly authorised officer of the Local Authority, or, in the case of an inspection authorised under the Act, by the duly authorised officer of the Local Authority of any district or burgh to which milk from the dairy is consigned, furnish to such officer such information as the said officer may reasonably require in order to satisfy himself as to the general health and cleanliness of the cattle.

**" (b) Structure, Lighting, Ventilation, Cleansing, Drainage, Washing and Scalding Facilities, and Water Supplies of Dairies and their Appurtenants.**

**" PERTAINING TO COWSHEDS OR BYRES.**

" 4. The inner surface of the walls of every cowshed or byre shall be covered, in the case of new byres to a height of not less than 5 feet, and in the case of existing byres to a height of not less than 4 feet 6 inches from the floor, with a smooth impervious material so as not to absorb or retain moisture and so as to be easily cleansed. The remainder of the walls above the portion so covered shall be so constructed as to be capable of being easily cleansed. Provided that if the Local Authority are satisfied that no special covering of the walls is required in an existing byre, the provision in regard thereto shall not apply.

" The interior of the roof of every new cowshed or byre shall be so constructed as to be capable of being easily cleansed.

" 5. The floor and grips or channels of every cowshed or byre shall be paved with material approved by the Local Authority, and so constructed as to be impervious to water or other liquid.



For a space of 3 feet from the feeding trough the floor may be laid with brick grouted in cement to form a smooth surface, or with other material approved by the Local Authority. The floor shall be laid with an adequate fall to the grips or channels.

“ 6. The grips or channels in every cowshed or byre shall be formed with a proper and uniform slope to a properly trapped drain situated outside the cowshed or byre, all to the satisfaction of the Local Authority. The bottom of the grips or channels shall have a fall towards the side next the passage, to the satisfaction of the Local Authority.

“ 7. In every new cowshed or byre, there shall be no loft or other premises above the cowshed or byre.

“ In the case of existing cowsheds or byres there shall be no internal communication between the cowshed and any loft or other premises above it, and the floor of the loft or other premises shall be so constructed or altered that as far as possible dust from above shall not pass into the cowshed or byre.

“ 8. Every new cowshed or byre shall be provided with feeding troughs constructed of a smooth impervious material, and any space adjacent to the trough that cannot be readily cleansed shall be filled with suitable material, the surface of which shall be sloped towards the trough and finished in such a manner as will facilitate cleaning and prevent the lodgment of food or other material round the trough, all to the satisfaction of the Local Authority. The trevisses in new cowsheds or byres shall be constructed of smooth impervious material. In existing cowsheds the trevisses and troughs shall be kept in proper condition and repair, to the satisfaction of the Local Authority.

“ 9. Every cowshed or byre shall be properly lighted by a sufficient number of windows or openings in the walls or roof, the total light-giving area of which shall not be less than  $1\frac{1}{2}$  square feet in the case of an existing byre, and 2 square feet in the case of a new byre, for every cow stalled therein. The windows or openings shall be so placed as to secure the efficient lighting of every part of the interior of the cowshed or byre, and the window panes shall at all times be kept clean. No materials shall be placed against or near to the walls of any byre so as to interfere with the proper lighting thereof, nor shall any buildings be erected against the byre without proper provision for maintaining the lighting of the byre. Every cowshed or byre shall be provided with means of adequate artificial lighting to the satisfaction of the Local Authority.

“ 10. Every cowshed or byre shall be properly ventilated by a sufficient number of openings in the external walls and roof communicating with the external air, so as to keep the air in such cowshed or byre in a fresh and wholesome condition.



The openings shall be placed, constructed, and maintained to the satisfaction of the Local Authority, so as to ensure a sufficient supply of fresh air to each animal. No materials shall be placed against or near to the walls of any byre so as to interfere with the proper ventilation thereof, nor shall any buildings be erected against the byre without proper provision for maintaining the ventilation of the byre.

“ 11. Every existing cowshed or byre shall have an air space of not less than 400 cubic feet and a floor space of not less than 35 square feet for every cow stalled therein.

“ Every new cowshed or byre shall have an air space of not less than 500 cubic feet and a floor space of not less than 35 square feet for every cow stalled therein.

“ In exceptional circumstances, and if they are satisfied that sustained measures are being undertaken to ensure the production of clean milk, the Local Authority may, if they think fit, and to such extent as shall appear to them proper, modify the requirements of the first paragraph of this Byelaw, but in no case shall any byre contain less than 350 cubic feet of air space and 30 square feet of floor space per cow.

“ In no case, except with the express permission of the Local Authority, shall the width of the passage and grips or channels in a double byre be less than 6 feet in the case of an existing byre, and 8 feet in the case of a new byre, nor shall the width of the passage and grip or channel in a single byre be less than 5 feet in the case of an existing byre, and 7 feet in the case of a new byre. The height of the wall shall not be less than 7 feet from the floor level in the case of an existing byre and 8 feet in the case of a new byre, and in no case shall a greater height than 16 feet from the floor be taken into account in the calculation of air space. In every cowshed or byre the wall-head shall be brought up flush with the roof in the interior, in order to prevent the lodgment of dust on the top of the wall.

“ 12. The floors, troughs, and such other parts of the cowshed or byre as are readily soiled shall be thoroughly cleansed at least once every day, and all dung and refuse shall be removed therefrom at least twice every day when cows are lying in, and at least once every day at other times.

“ 13. Every cowkeeper shall cause the ground surface around the cowshed or byre and around the dungstead and all other dairy premises to be kept clean and free from any deposit of manure. The situation and construction of the dungstead, and the arrangements for the disposal of dung, shall be to the satisfaction of the Local Authority. Where dung is deposited in a covered court where cattle stock is being kept, there shall be no direct communication by door or other opening with the cowshed or byre.



## PERTAINING TO MILK STORE.

“ 14. The inner surface of the walls of every milk store shall be covered up to a height of 5 feet from the floor with a smooth impervious material, approved by the Local Authority, so as not to absorb or retain moisture and so as to be easily cleansed. The upper portion of the walls and the ceiling of every such milk store shall be so constructed as to be capable of being easily cleansed.

“ 15. The floor of every milk store shall be well paved with material approved by the Local Authority, and so constructed as to be impervious to water or other liquid. No inlet to any drain shall be situated within a milk store.

“ 16. The shelves erected in every new milk store shall be constructed of smooth impervious material approved by the Local Authority, and shall be so constructed as to be capable of being easily cleansed. Such shelves shall have the junction between the wall and shelf rounded to permit of easy cleaning.

“ 17. Every milk store shall be properly lighted by a sufficient number of windows in the walls or roof thereof. The windows of new milk stores shall be constructed so as to open, and on the windows or other openings there shall be fitted metal gauze network or similar durable material so as to prevent, as far as possible, the entrance of flies, dust or other impurities. The windows of every new milk store and milk shop shall be so placed as to secure the efficient lighting of every part of the interior of such milk store or milk shop, and the window panes in every milk store and milk shop shall at all times be kept thoroughly clean. Every milk store and milk shop shall be provided with through ventilation to the satisfaction of the Local Authority, and any windows in existing milk stores or milk shops which are made to open shall be fitted with metal gauze network or similar durable material as above provided for new milk stores.

## “ PERTAINING TO DAIRY PREMISES GENERALLY.

“ 18. Every dairy shall be provided with proper appliances for the regular and effective use of water in maintaining general cleanliness in the dairy, and also with efficient means whereby a plentiful supply of boiling water or steam will be available for washing and scalding all utensils and appliances used in connection with the dairy, all to the satisfaction of the Local Authority.

“ 19. Every dairy shall be provided with an adequate supply of pure water.

“ 20. Every dairy and every yard and passage in connection therewith shall be drained to the satisfaction of the Local Authority.

“ 21. The walls and ceiling or interior of the roof of every



cowshed or byre, milk store and milk shop shall be kept at all times clean, to the satisfaction of the Local Authority. Where the walls of a milk store or milk shop and the walls of a cowshed or byre are not painted or varnished they shall be thoroughly lime washed at least twice in each year (except the portion of the wall that is covered with smooth impervious material), namely, in or about the months of June and October, and at such other times as may be required by the Local Authority. The trevisses of a cowshed or byre shall also be thoroughly cleansed at the same times. Where the walls are painted or varnished, the paint or varnish shall be washed as often as required to keep the same clean, and shall be renewed at such times as may be required by the Local Authority.

NOTE—In order to ensure that the provisions of the Bye-laws are complied with, any person who proposes to erect or reconstruct a cowshed, milkhous, or milk shop should submit plans to the Local Authority before the building is commenced.

“(c) **Prevention of Impurities in Milk intended for Human Consumption, and Securing the Cleanliness and Health of the Cows, and the Cleanliness of the Persons and Clothing of those Engaged or Assisting in the Business, and of the Milk, Cows, Dairies, Sculleries, Boiler-houses, and all Utensils, Vehicles, and Vessels used for the Reception, Conveyance, Storage, or Sale of Milk.**

“22. No dry fodder shall be given to cows in a cowshed or byre during the process of milking, or so long as milk is contained in any open vessel in such cowshed or byre. No fodder, roots, grain, or feeding stuffs shall be stored in any cowshed or byre, except such as is required for immediate use, nor shall straw or other material be placed on rafters or stalls over the cows.

“23. No sweeping or dusting operations shall be carried on in a cowshed or byre, immediately before or during the process of milking, or in any part of a dairy where milk is contained in an uncovered vessel.

“24. No material shall be used as bedding for the cows in a cowshed or byre that has been previously used as bedding for horses or other animals, nor any wool refuse, or other material likely to convey impurities to the milk. No material that has been previously used as bedding for horses or other animals shall be placed in the grips or channels.

“25. The cows in every dairy shall be kept clean and shall be groomed at least once a day while lying in, but not immediately before milking. The dairyman shall be bound to see that no manure remains upon the tail, flanks, udder, or belly of any cow in his dairy. The hair on the tail shall be cut to such a length that the brush does not reach the



ground, and long hairs on the udder shall be clipped so as to prevent the collection of dust thereon. Before milking, the udders and teats of every cow in a dairy shall be thoroughly cleansed.

“ 26. Where a cow shows signs of losing flesh, or wasting, or other symptom of chronic disease, the dairyman shall forthwith report the circumstances to the Local Authority.

“ 27. All persons employed in or about a dairy shall keep themselves and their clothing at all times in a thoroughly clean condition, and wash-basins, soap, and towels, convenient of access to such persons, shall be provided at every dairy.

“ 28. The hands and forearms of the milkers, and of all persons engaged in handling milk or milk vessels, shall be thoroughly washed and carefully dried on a clean towel before milking is begun, and shall be kept clean throughout milking. The hands and forearms of persons employed in making butter, cheese, or other milk products for human consumption for purposes of sale shall be thoroughly washed before commencing to make such butter, cheese, or other milk products, and shall be kept clean while so employed. No person shall be allowed to milk or to make butter, cheese, or other milk products, whose hands are affected with sores, or who is known to be suffering from disease of the skin or venereal disease, or any other disease likely to affect the milk.

“ 29. Clean overalls shall be worn by milkers during the milking of the cows and by persons employed in making butter, cheese, or other milk products for human consumption for purposes of sale. When not in use, such overalls shall be kept in a clean place.

“ 30. The walls and every part of a dairy (including the plaster-work, flooring, woodwork, furnishings, and fittings thereof) shall be kept thoroughly clean and in a proper state of repair. All milking stools shall be kept thoroughly clean. The floors, shelves, and counters of milk stores and milk shops shall be washed daily. The walls and floors and woodwork of sculleries and boiler-houses and all appliances in such sculleries and boiler-houses shall be kept thoroughly clean and in a proper state of repair.

“ 31. As each cow is milked the milk shall be removed immediately from the cowshed or byre or covered.

“ 32. All utensils and vessels used for the reception, conveyance, storage, or sale of milk shall be thoroughly washed and thereafter scalded with boiling water or steam after use and dripped so that no water shall be left therein. Such utensils and vessels shall not be set down to dry in any place where dust or other material may enter them. All such utensils and vessels when not in use shall be so stored as to prevent as far as possible the entrance of dust or other im-



purities, and immediately before use care shall be taken to see that they are clean.

“ 33. All road vehicles used for the conveyance of milk shall while so used be thoroughly clean.

“ 34. Where there is communication, direct or indirect, between the milk store or any apartment where milk or milk vessels are stored or kept, and a cowshed or byre, kitchen, dwelling-room or sleeping apartment, the arrangements shall be subject to the satisfaction of the Local Authority and to such conditions as they may impose.

“ (d) **Precautions to be taken by Dairymen against Infection or Contamination.**

“ 35. A dairyman and his milkers shall not permit the first streams of milk from each teat to be passed into the milking pail or other vessel used for the reception of the milk.

“ 36. A dairyman shall not keep or retain, in any part of a dairy where milk, butter, cheese, or other milk products intended for sale for human consumption are kept or stored, any matter or thing that, in the opinion of the Local Authority, is likely to cause contamination of such milk, butter, cheese, or other milk products.

“ 37. A dairyman shall cause all sieves, strainers, filters, churns, vats, coolers, presses, milking machines and other appliances used in connection with the dairy to be thoroughly washed and thereafter scalded with boiling water or steam immediately after use. No oxidising or preserving agent shall be used in the cleaning of these articles or appliances. Where cloth or other strainers are used they shall be frequently changed, and at all times when in use shall be clean. A dairyman shall cause all such lids, sieves, strainers, filters, churns, vats, coolers, presses, and other appliances when not in use to be so stored as to prevent as far as possible contamination by dust or other impurities, and immediately before use care shall be taken by him to see that they are clean.

“ 38. A dairyman shall not keep nor permit to be kept in any cowshed or byre in his occupation any poultry, pigeons or animals other than bovine animals, or any cow suffering from any disease that, in the opinion of the Local Authority, might render the milk from the cows in such cowshed or byre liable to infection or contamination. He shall not keep nor permit to be kept any animals in any premises used for the making of butter, cheese, or other milk products for human consumption for purposes of sale.

“ 39. A dairyman shall not permit to be sold for human consumption the milk from any cow after calving, until the milk has become normal.

“ 40. Where a dairyman sells milk in bottles, he shall not use the bottles for milk unless and until they have been



thoroughly cleansed before each sale. He shall cause the doors of the room in which the bottling is carried out to be kept closed during the process of bottling, and the bottles shall be capped, sealed or closed, as soon as possible after filling. The windows of any room in which bottling is carried on shall be covered with metal gauze network or similar durable material.

“ 41. A dairyman shall not allow any vessels in which he delivers milk to be retained overnight in the house of any of the persons employed by him, but shall be bound to see that such vessels are returned to the dairy as soon as possible after the milk has been delivered.

“ 42. A dairyman shall take all reasonable precautions to provide against and prevent infection or contamination of milk, butter, cheese, or other milk products intended for sale for human consumption.

#### “ PENALTIES.

“ 43. Every dairyman shall as regards any dairy in his occupation observe or cause to be observed the requirements of the foregoing Bye-laws, and every person who fails to comply with the provisions of the said Bye-laws shall be deemed to offend against the said Bye-laws.

“ 44. Any person who shall offend against any of the foregoing Bye-laws shall be liable for every such offence to a penalty of Five pounds, and in the case of a continuing offence to a further penalty of Forty shillings for each day after written notice of the offence from the Local Authority.

“ Provided, nevertheless, that the Sheriff or other Magistrate before whom any complaint may be made or any proceedings may be taken in respect of any such offence, may, if he think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this Bye-law.

#### “ COMMENCEMENT OF THE BYE-LAWS.

“ 45. The foregoing Bye-laws shall come into force on and after the date of confirmation thereof by the Scottish Board of Health.

“ The foregoing Bye-laws were made and enacted by the Western District Committee of the County Council of Stirlingshire at their Meeting on the 21st December, 1927.”

The Bye-laws also contain two Appendices similar to those given in the Central District Bye-laws at pp. 73 and 74.



Mr. M'Gregor, the County Veterinary Inspector, reports as follows with regard to his work during 1927 :—

“ In accordance with Section 4 (5) of the Milk and Dairies (Scotland) Act of 1914, I have the honour to submit the report on the Veterinary Inspection of the Dairy Herds carried out during the year 1927 in the area of the Western District Committee of the County of Stirling.

“ In the District there are 158 dairy herds containing 3285 cows. As provisional registration has been granted to every applicant pending the adoption of Bye-laws, no attempt has been made to classify the various dairies. This number (158) includes all the dairies that will ultimately be registered, as well as those from which milk is only sold in small quantities. Each herd was inspected at least once during the year, when the udder of every cow was examined clinically for tuberculosis. In addition to the statutory inspection, further inspections of herds were made during the carrying out of my duties under the Diseases of Animals Acts, and in this way 18 herds were examined twice, 9 thrice, and 4 four times. In all, 206 inspections were made, and 4699 cows examined.

“ One hundred and sixty-seven cows were found with abnormal udders. Twenty of these exhibited symptoms that were suggestive of tuberculosis, and a bacteriological examination of the milk from these cows was carried out, which proved positive in 5 cases. During the period that the milk was under examination, the provisions of the Tuberculosis Order were applied to the suspected cows, and the milk from these animals was not permitted to be used for human consumption. The 5 cows found to be suffering from tuberculosis of the udder were immediately slaughtered under the above Order. Twenty-eight cows were found to be suffering from acute mastitis (non-tuberculous), and in no instance was the milk from the affected quarters being used for human consumption. One hundred and eight cases of atrophy and 11 of induration of a non-tuberculous character were found. These were probably the result of previous attacks of mastitis. Eruptions of the nature of Cow Pox were found affecting the teats of 5 cows. In addition to the 5 cases of tuberculosis of the udder mentioned above, 9 cows with tuberculous emaciation and 2 which showed symptoms of tuberculosis and had a chronic cough were seized and slaughtered under the Tuberculosis Order during the year.

**“ Milk (Special Designations) Order (Scotland) 1923.**

“ At the beginning of the year Grade A. licences were renewed for six of the seven producers who had that licence for 1926, and during the year two other producers received a Grade A. licence. These Grade A. Herds contain 237 cows, and their produce is placed on the Glasgow Market as



Grade A. Pasteurised milk. As indicated in the report for last year, one farmer holding a Grade A. licence built up a tubercle-free herd by purchasing cows from herds that had Grade A. (Tuberculin Tested) licences of a neighbouring Local Authority. He kept the newly purchased animals in a byre, separate from his original stock, each animal of the latter being disposed of as it approached calving. At the beginning of 1927 this producer made application for a Certified Licence, and his new herd was subjected to the prescribed tuberculin test. Two animals reacted, probably due to infection received from some of the original stock, and they were disposed of privately to a purchaser, who was informed of the situation. A certified licence was granted to this herd, and at the subsequent application of the prescribed tuberculin test no reactors were found.

“ In addition one other farmer on my advice had his herd tested by his private Veterinary Surgeon, and the result being favourable, he applied for a “ Grade A. (Tuberculin Tested) ” licence. After a suitable interval I subjected the herd to the prescribed tuberculin test and repeated it 6 months later. On both occasions all the cows forming the herd passed.

“ As the result of propaganda which I have carried out since taking over the duties of Veterinary Inspector, a number of farmers in the district have taken the preliminary steps to obtain a tubercle-free herd, and I feel confident that as the demand for the higher grades of milk increases in Glasgow, it will be adequately met by the farmers of the Western District.

“ The general condition of the milk cows in the District was good. Automatic drinking bowls have been introduced into a large number of byres with marked improvement in the health of the cows. The cleanliness of the cows in the Dairy byres depends in great measure on the length of the stall being suitable for the breed of cow which is kept. If the stall is too short, the cow stands back in the grip, and if too long she defæcates on the stall. In either case when she lies down she soils herself. Where the length of the stall suits the breed of cow no difficulty is found in keeping the cows clean ; but where this relationship is altered, it demands a great deal of time and labour on the part of the dairyman to carry out the provisions of the Dairy Bye-laws with regard to cleanliness of the cows. The crop of 1926 was good, and straw for bedding was plentiful during 1927. This helped greatly in maintaining the cleanliness of the dairy cows in the district.

“ Fodder and diet were sufficient as a rule to maintain the condition of the dairy cows and quality of the milk produced ; but reliable statistics on the point are not available, as milk recording is only carried out in a few herds, and scientific rationing of the cows according to production is rare. While



it is true that many farms give extra rations to their heavier milking cows, little effort is made to balance the ration and take advantage of the present day knowledge of dietetics.

"No occasion arose during the year which necessitated action being taken under Sections 21 or 22 of the Act of 1914."

**Milk (Special Designations) Order (Scotland), 1923.**—As stated above, two new licences were granted for the sale of "Grade A." milk, making a total of 8 "Grade A." farms and one "Certified Milk" Farm in the District. These are:—

"CERTIFIED MILK" FARM—

Wm. Semple, Ballagan Farm, Strathblane.

"GRADE A. (TUBERCULIN TESTED)" FARMS—

J. B. Arneil, Ballewan Farm, Blanefield.

W. J. THOMSON, Craigbrock, Blanefield.

"GRADE A." FARMS—

Jas. Lawrie, Head of Balglass, Balfron.

J. Paterson, Claylands, Balfron.

J. Haddow, Broughmore, Balfron.

J. Alston, Ballikinrain Home Farm, Balfron.

Jas. J. Leitch, Broadgate, Strathblane.

Ross & M'Lean, Rashiehill, Fintry.

#### SLAUGHTER-HOUSES.

In the Western District there are five licensed slaughter-houses under private ownership. Two of these are situated at Lennoxton, the other three being at Balfron, Drymen, and Killearn respectively. Forty-six inspections were made by Mr. Gough, the Sanitary Inspector, who reports that all five continue to be well conducted.

#### INFECTIOUS DISEASE.

The total number of notifications of infectious disease received by my department was 59, which includes 12 notifications of cases of Chickenpox. Chickenpox, as I have said elsewhere, was made notifiable merely temporarily on account of the occurrence of Smallpox in certain areas of the country. Excluding these notifications, the total is only 47, as compared with 75 in 1926 and 76 in 1925, the average number for the ten years previous to that being 70. Table XXIV. gives the figures for each disease for the various parishes in the District, while Table XXV. shows the age groupings for each disease. I also give a statement with regard to the prevalence of the principal notifiable diseases in houses of various sizes, together with a note of the incidence of cases with reference to the question of overcrowding. Only two



cases were notified from a one-apartment house, and in three of the cases the number of persons per apartment was between 3 and 4. In such conditions, of course, a house may be considered overcrowded, but in no case was there gross overcrowding such as may be found occasionally in some of the mining districts.

**Scarlet Fever.**—Only 11 cases of this disease were notified, six being from the parish of Campsie, four from the parish of Strathblane, and one from Baldernock parish. All were removed to Hospital, and all made a good recovery.

**Diphtheria.**—Eight cases were notified, five from Campsie parish, two from Baldernock parish, and one from the parish of Buchanan. All but one were removed to Hospital, and here also, fortunately, none of the cases proved fatal.

**Tuberculosis.**—Of the 20 cases of tuberculosis, 14 were of phthisis and six of non-pulmonary tuberculosis. A statement as to the treatment of this disease is given in the first part of this Report.

**Non-Notifiable Infectious Diseases—Measles.**—On receipt of intimation from Headmasters or others of the reported occurrence of non-notifiable infectious disease, my Sanitary Inspector invariably makes a visitation of the cases in order to give advice and to hand the parents a print of the necessary precautions to be taken. During the year some twenty cases of measles came to my knowledge in this way.

**School Closure on Account of Infectious Disease.**—In only one case did I advise closure of a school, and that was at Torrance, where I recommended that the school be closed as from the morning of Monday, 27th June till the evening of Thursday, 30th June—that was for the four days immediately preceding the summer vacation. In this way it was thought that measles, which was just commencing in the village, might be limited, and also that children coming from a distance might be saved from the chance of infection.

TABLE XXIV.—WESTERN DISTRICT—CASES OF INFECTIOUS DISEASE COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH DURING THE YEAR 1927.

Parish	Smallpox	Diphtheria and Membranous Croup	Erysipelas	Scarlet Fever	Typhus Fever	Enteric Fever	Continued Fever	Puerperal Fever	Cerebro-Spinal Fever	Ophthalmia Neonatorum	Chickenpox	Malaria	Dysentery	Trench Fever	Acute Primary Pneumonia	Acute Influenzal Pneumonia	Infective Jaundice	Encephalitis Lethargica	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total	
Buchanan ...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Balfour ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1
Drymen ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Baldernock ...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	6
Campsie ...	...	5	1	6	...	...	...	...	...	10	...	...	...	...	6	...	...	...	7	5	...	40
Killearn ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Fintry ...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Strathblane ...	...	...	...	4	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	8
Total ...	...	8	2	11	...	...	...	...	...	12	...	...	...	...	6	...	...	...	14	6	...	59
Removed to Hospital	...	7	...	11	...	...	...	...	...	...	...	...	...	...	2	...	...	...	4	2	...	26



TABLE XXV.—WESTERN DISTRICT.

RETURN OF CASES OF INFECTIOUS DISEASE NOTIFIED, &C., DURING THE YEAR ENDING  
31ST DECEMBER, 1927.

DISEASE	NUMBER OF CASES COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH									
	At all Ages	At Age—Years							Cases removed to Hospital	Cases not removed Hospital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards		
<i>A.—Diseases specified in the Infectious Disease (Notification) Act, 1889.</i>										
Typhoid or Enteric Fever	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...
Scarlet Fever or Scarletina	11	...	1	5	5	...	...	...	11	...
Diphtheria and Membranous Croup	8	...	2	3	3	...	...	...	7	1
Erysipelas	2	...	...	...	...	1	1	...	...	2
Puerperal Fever	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...
<i>B.—Diseases notifiable in terms of Regulations made under Section 78 of the Public Health (Scotland) Act, 1897.</i>										
Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	...	...
Chickenpox	12	1	4	7	...	...	...	...	...	12
Infective Jaundice	...	...	...	...	...	...	...	...	...	...
Malaria	...	...	...	...	...	...	...	...	...	...
Dysentery	...	...	...	...	...	...	...	...	...	...
Trench Fever	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia	6	...	1	2	...	1	1	1	2	4
Do. Influenzal Pneumonia	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	14	...	...	...	4	6	4	...	4	10
Non-Pulmonary Tuberculosis	6	...	1	3	1	1	...	...	2	4
Total of A. and B.	59	1	9	20	13	9	6	1	26	33

Cases notified in a previous year and removed to Hospital for the first time during 1927.

3

1

4

## WESTERN DISTRICT.

STATEMENT WITH REGARD TO THE PREVALENCE OF CERTAIN  
INFECTIOUS DISEASES IN HOUSES OF VARIOUS SIZES.

Disease.	No. of Cases in Houses of			
	1 Apartment.	2 Apartments.	3 Apartments.	4 or more Apartments.
Scarlet Fever, ...	...	3	3	5
Diphtheria, ...	1	5	1	1
Erysipelas, ...	...	...	...	2
Pulmonary Tuberculosis,	1	7	4	2

INCIDENCE OF THESE DISEASES WITH REFERENCE TO QUESTION  
OF OVERCROWDING.

Note—A house with 4 or more persons per apartment may be considered  
as overcrowded.

Disease.	No. of Persons per Apartment of House.			
	4 or more.	2 to 4.	2 to 3.	less than 2.
Scarlet Fever, ...	...	...	4	7
Diphtheria, ...	...	2	5	1
Erysipelas, ...	...	...	...	2
Pulmonary Tuberculosis,	...	1	5	8



TABLE XXVI.—ADMISSIONS TO LENNOX JOINT HOSPITAL, 1927.

Disease	AGE IN YEARS										Totals					
	0-5	5-10	10-20	20-30	30-40	40-50	50-60	60-70	M.	F.	M.	F.	Both			
Scarlet Fever...	6	8	3	8	...	...	...	...	...	...	...	...	...	17	35	52
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Remaining	1	2	1	2	...	...	...	...	...	...	...	...	...	3	6	9
Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ...	4	3	5	3	3	3	2	2	1	1	...	...	...	13	16	29
Recovered	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Remaining	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1	2
Enteric Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	3
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia ...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	3	5
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Remaining	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Recovered	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Remaining	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Died	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals ...	13	23	14	16	9	17	5	12	5	6	5	3	1	52	77	129

## LENNOX HOSPITAL, 1927.

The total admissions to this Hospital during the year amounted to 129.

Of that total 46 were from East Dumbartonshire.  
 27 were from West Stirlingshire.  
 1 outside the primary area, and  
 55 were from Kirkintilloch.

—  
 Total 129 patients.  
 =

Of the 46 cases from East Dumbartonshire—

Scarlet Fever, ... ..	20
Diphtheria, ... ..	9
Puerperal Fever, ... ..	1
Pneumonia, ... ..	1
Enteric Fever, ... ..	1
Observation Enteric Fever,	1
Tuberculosis, ... ..	13
—	—
Total, ... ..	46
—	—

Of the 28 cases from West Stirlingshire—

Scarlet Fever, ... ..	12
Diphtheria, ... ..	6
Pneumonia, ... ..	3
Measles, ... ..	3
Scabies, ... ..	1
Tuberculosis, ... ..	3
—	—
Total, ... ..	28
—	—

Of the 55 cases from Kirkintilloch—

Scarlet Fever, ... ..	29
Diphtheria, ... ..	17
Pneumonia, ... ..	1
Measles, ... ..	1
Tuberculosis, ... ..	7
—	—
Total, ... ..	55
—	—

Of the 61 cases of scarlet fever—

52 recovered.  
 9 remained under treatment.

—  
 Total 61  
 =



Of the 32 cases of diphtheria—

29 recovered.

1 remained under treatment.

2 died after being in Hospital 1 and 11 hours respectively.

—  
Total 32  
=

Tracheotomy was performed once, patient died after 11 hours.

Of the 23 cases of tuberculosis—

4 improved and were dismissed.

5 went home not improved.

3 dismissed but re-admitted.

7 remained.

4 died after 3 hours, 11, 8, 102 days.

—  
Total 23  
=

From the previous year, 1926, 18 cases of tuberculosis remained under treatment. Of these—

7 improved and were dismissed.

3 improved, dismissed and readmitted 1927, mentioned above.

1 went home not improved.

5 still remain under treatment.

2 died.

—  
Total 18

Of the 5 cases of pneumonia, all recovered.

Of the 4 cases of measles, 3 recovered, 1 died after 2 days.

Of the 1 case of enteric fever, recovered.

Of the 1 case of observation enteric fever, recovered.

Of the 1 case of puerperal fever, recovered.

Of the 1 case of scabies, recovered.

At the end of the year 1926 there were 28 patients in the wards—

7 scarlet fever.

3 diphtheria.

—  
Total 28

Of the 59 cases of scarlet fever treated to a termination, all recovered.

Of the 34 cases of diphtheria treated to a termination, 32 recovered, 2 died.

Of the 26 cases of tuberculosis treated to a termination, 6 died.

The total length of residence of the 129 cases was 5058 days.

Up to the end of the year the total length of residence of the 25 cases still in Hospital was 3476 days.

And up to the end of the year 1926 the total length of residence of the 28 patients was 1630 days.

Adding the	5058
to	1630
	<hr style="width: 50px; margin: 0 auto;"/>
	6688
Deducting	3476
	<hr style="width: 50px; margin: 0 auto;"/>
Total	3212
	<hr style="width: 50px; margin: 0 auto;"/>

Average length of residence, 18·4 days.

The total length of residence of the 59 cases of scarlet fever was 2221 days, giving an average of 37·6 days.

The total length of residence of the 34 cases of diphtheria was 733 days, giving an average of 21·3 days.

The total length of residence of the 5 cases of pneumonia was 169 days, giving an average of 33·4 days.

The total length of residence of the 4 cases of measles was 44 days, giving an average of 11 days.

### VITAL STATISTICS.

Table XXVII gives a copy of the Registrar-General's figures for Births, Deaths and Marriages in the Western District during 1927.

For the middle of the year the population has been estimated by the Registrar-General at 11,521, as compared with the Census figure of 11,797 in 1921. This, I think, is an under-estimate, as, so far as one may gather, there has been no decrease in the population these last six years.

The number of births, after correction for transfers was, 181, which is equal to a birth-rate of 15·7 per 1000 of population, which, with the exception of that for the year 1919, is the lowest rate yet recorded for the District.

The deaths, after correction for transfers, numbered 135. This gives a death-rate of 11·7, which is 1·3 higher than that of the previous year, but is 1·3 lower than the average of the past six years.

From tuberculosis the deaths numbered 7, giving a death-rate of 0·61 per 1000 of population. Of these, 3 were due to tuberculosis of the respiratory system, or 0·26 per 1000 of the population.



The death-rate from the Principal Epidemic Diseases was 0.35, the total of these deaths being 4, all of which were due to measles.

The Infantile Mortality Rate (deaths under one year per 1000 births) was 55.

Principal Rates per 1000 of Estimated Population

	Numbers Registered in District		Transfers		Corrected Number		Birth-rate ... .. Illegitimate Birth-rate per 100 Total Births ... .. Marriage-rate ... .. Death-rate.—All Causes ... .. " All Tuberculosis ... .. " Tuberculosis of Res- piratory System Principal Epidemic " Diseases (asterisked below) Infantile Mortality Rate (Deaths under One Year per 1000 Births)	Corrected for Transfers	Corrected for and adjusted for Age and Sex Distribution
	In District	Out	In	Males	Females				
						Both Sexes			
Total Births (including illegitimate)	163	3	21	181	97	84	14.1	15.7	.....
Illegitimate Births	5	1	6	10	3	7	.....	5.5	.....
Marrriages	48	.....	.....	.....	.....	.....	4.2	.....	.....
Deaths	126	14	23	135	56	79	10.9	11.7	10.7
							.....	0.61	.....
							.....	0.26	.....
							.....	0.35	.....
							.....	55	.....

CAUSES OF DEATH (corrected for Transfers).

CAUSES OF DEATH	ALL AGES		AGE											86 and over	
	Both Sexes	Females	—1	5—	10—	15—	25—	35—	45—	55—	65—	75—			
			Males	Males	Males	Males	Males	Males	Males	Males	Males	Males			
*Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Measles	4	2	1	3	...	...	...	...	...	...	...	...	...	...	...
*Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Whooping-Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Diphtheria	10	3	7	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Epidemic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Respiratory System	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Intestines and Peritoneum	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Disease	17	6	11	...	...	...	...	...	...	...	...	...	...	...	...
Malignant Tumours	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (not Cerebro-Spinal or Tuberculous)	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Apoplexy	16	6	10	...	...	...	...	...	...	...	...	...	...	...	...
Heart Disease	17	5	12	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Arteries	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	5	3	2	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia (all forms)	8	4	4	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Respiratory System	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
*Diarrhoea and Enteritis (under 2 years)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Appendicitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All Diseases of Liver (not Malignant)	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Nephritis, Acute and Chronic	7	4	3	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Sepsis	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases and Accidents of Pregnancy and Parturition	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Early Infancy and Malformations	6	2	4	...	...	...	...	...	...	...	...	...	...	...	...
Suicide	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Violent Deaths	5	3	2	...	...	...	...	...	...	...	...	...	...	...	...
Other Defined Diseases	22	6	16	...	...	...	...	...	...	...	...	...	...	...	...
Causes Ill-defined or Unknown	4	2	2	...	...	...	...	...	...	...	...	...	...	...	...
All Causes	135	56	79	10	5	3	12	6	25	29	32	10	...	...	...





## BURGH OF BRIDGE OF ALLAN.

### VITAL STATISTICS.

**Population.**—The Registrar-General's estimate of the population of the Burgh as at the middle of 1927 was 3,732. This estimate, as I have explained in former Reports, is based on the Census population of 1921, which included a temporary military population of 611, so that a corrected estimate would be 3,121.

**Births and Birth-Rates.**—After correction for transfers, the births numbered 26, eleven being of males and fifteen of females. The birth-rate as given by the Registrar-General is 7·0 per thousand of population, but if the corrected figure for population be taken, the rate becomes 8·3.

**Deaths and Death-Rates.**—The number of deaths in the Burgh, after correction for transfers, was 24, giving a death-rate, according to the Registrar-General, of 6·4, which should be 7·7, if the reduced estimate of population be used in the calculation. Not a single death was due to tuberculosis, and only one death came within the Group of the "Principal Epidemic Diseases," the death being due to diarrhoea and enteritis. Only one death occurred amongst children under one year of age, giving an infantile mortality rate of 38 per 1000 births.

Table (2) is a copy of the statement prepared by the Registrar-General.

### INFECTIOUS DISEASE.

Table (1) gives the figures with regard to notifications of infectious disease. The total numbered 18, which includes two cases of chickenpox, this disease, as explained elsewhere in this Report, having been made temporarily notifiable on account of the occurrence of smallpox in other parts of the country. Excluding these two cases, the remainder is considerably higher than in the previous year, when only six cases were notified, but as the mean annual number of notifications for the past twelve years, 1915-1926, works out at nearly 19, the year 1927 was well below the average. The nine cases of scarlet fever and the three diphtheria cases were removed to Hospital, and all made a good recovery.

Only two cases of tuberculosis were notified, both non-pulmonary. One of these was treated in Stirling Royal Infirmary, while another patient, notified in the previous year, was also treated in that institution.



TABLE (1).—BURGH OF BRIDGE OF ALLAN.

RETURN OF CASES OF INFECTIOUS DISEASE NOTIFIED, &c., DURING THE YEAR ENDING 31ST DECEMBER, 1927.

DISEASE	NUMBER OF CASES COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.									
	At all Ages	At Age—Years							Cases removed to Hospital	Cases not removed Hospital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards		

A.—Diseases specified in the Infectious Disease (Notification) Act, 1889.

Typhoid or Enteric Fever	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...
Scarlet Fever or Scarlatina	9	...	...	7	1	1	...	...	9	...
Diphtheria and Membranous Croup	3	...	...	...	1	2	...	...	3	...
Erysipelas	1	...	...	...	...	1	...	...	...	1
Puerperal Fever	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...

B.—Diseases notifiable in terms of Regulations made under Section 78 of the Public Health (Scotland) Act, 1897.

Ophthalmia Neonatoru	...	...	...	...	...	...	...	...	...	...
Chickenpox	2	...	2	...	...	...	...	...	...	2
Infective Jaundice	...	...	...	...	...	...	...	...	...	...
Malaria	...	...	...	...	...	...	...	...	...	...
Dysentery	...	...	...	...	...	...	...	...	...	...
Trench Fever	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia	...	...	...	...	...	...	...	...	...	...
Acute Influenzal Pneumonia	1	...	...	...	...	...	...	1	...	1
Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	...
Non-Pulmonary Tuberculosis	2	...	1	...	...	1	...	...	1	1
<b>Total of A. and B.</b>	<b>18</b>	...	<b>3</b>	<b>7</b>	<b>2</b>	<b>5</b>	...	<b>1</b>	<b>13</b>	<b>5</b>

Cases notified in a previous year and removed to Hospital for the first time during 1927.

## HOUSING.

By the end of the year the twelve new three-apartment houses approved under the Town Council's No. 2 development Scheme were well forward. As mentioned in my last Annual Report, it was first of all proposed to erect 8 additional two-apartment houses and 4 three-apartment houses, but after inquiry as to the demand for such houses, it was ultimately agreed to erect twelve three-apartment houses instead.

## WATER SUPPLY.

As I have mentioned in former reports, the town has now an abundant supply of excellent water.

## VACCINATION (SCOTLAND) ACT, 1907.

The number of conscientious objectors to the vaccination of their infants was two. This is equal to 7·7 per cent. of the total births for the year.

## SLAUGHTERHOUSE AND MEAT INSPECTION.

The private slaughterhouse in the Burgh is kept in a cleanly state. The other local butcher uses the Stirling Slaughterhouse

## FOOD AND DRUGS ACTS.

Under the above Acts, seventeen samples were taken for analysis, of which only one was found not genuine.

## FACTORY AND WORKSHOPS ACT.

There are three factories and 29 workshops in the Burgh. Twenty inspections were made of the factories and 27 of the workshops, but no defects were found.

## DAIRIES.

Since the end of the year the Town Council have approved of Bye-laws under the Milk and Dairies (Scotland) Act, 1914. These Bye-laws, with one or two minor amendments to suit the conditions in the Burgh, are substantially the same as those approved by the Central District Committee of the County of Stirling, a copy of which is reprinted in the Central District part of this Report.



Mr. M'Gregor, the Veterinary Inspector, reports as follows :—

“ During the early months of the year there were in the Burgh four registered dairy herds containing 103 cows ; but at the Whitsunday Term one producer with a herd of 8 cows gave up business, and registration of these premises lapsed. The remaining dairies were examined twice during the year, when a clinical examination was made of the udder of each cow. One cow was found with an indurated udder ; but microscopical examination of the milk proved that the cause was not tuberculosis. Five cases of atrophy of the udder were discovered, the result probably of previous mastitis, which caused the udder to shrink and become functionless in one or more quarters. An eruption involving the teats was found in two instances ; but the milk from these cows was not being used for human consumption.

“ The general condition and cleanliness of the cows were good, and the fodder and diet were sufficient in every instance to maintain quality of milk and condition of body.

“ The general conditions under which milk is produced in the Burgh are good, and efforts to eradicate tuberculosis from the dairy cows continue to be made. The producers are aware of their responsibilities as dairymen, and make every endeavour to fulfil them.”

Principal Rates per 1000 of Estimated Population

	Transfers		Corrected Number		Uncorrected	Corrected for Transfers	Corrected for and adjusted for Age and Sex Distribution
	Numbers Registered in District	Out	In	Both Sexes			
Total Births (including Illegitimate)	24	1	3	26	6.4	7.0	.....
Illegitimate Births	2	...	2	4	3.5	15.4	.....
Marrriages	13	...	...	...	5.9	6.4	5.9
Deaths	22	2	4	24	0.00	0.00	.....
					.....	0.00	.....
					.....	0.27	.....
					.....	38	.....

Birth-rate ... ..  
 Illegitimate Birth-rate per 100 ... ..  
 Total Births ... ..  
 Marriage-rate ... ..  
 Death-rate.—All Causes ... ..  
 " All Tuberculosis ... ..  
 " Tuberculosis of Respiratory System ... ..  
 " Principal Epidemic Diseases (asterisked below) ... ..  
 Infantile Mortality Rate (Deaths under One Year per 1000 Births) ... ..

CAUSES OF DEATH (corrected for Transfers).

CAUSES OF DEATH	ALL AGES						AGE						
	Both Sexes	Males		Females		—1	1—5	5—10	15—25	35—45	55—65	75—85	85 and over
		Both Sexes	Males	Females	Females								
*Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...
*Measles	...	...	...	...	...	...	...	...	...	...	...	...	...
*Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
*Whooping-Cough	...	...	...	...	...	...	...	...	...	...	...	...	...
*Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Epidemic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Respiratory System	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Intestines and Peritoneum	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Disease	2	...	...	...	...	...	...	...	2	...	...	...	...
Malignant Tumours	...	...	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (not Cerebro-Spinal or Tuberculous)	...	...	...	...	...	...	...	...	...	...	...	...	...
Apoplexy	3	...	...	...	...	...	...	...	...	...	...	...	...
Heart Disease	2	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Arteries	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	2	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia (all forms)	7	2	2	5	...	...	...	...	...	...	...	...	...
Other Diseases of Respiratory System	1	1	...	...	...	...	...	...	...	...	...	...	...
*Diarrhoea and Enteritis (under 2 years)	1	...	...	...	...	...	...	...	...	...	...	...	...
Appendicitis	...	...	...	...	...	...	...	...	...	...	...	...	...
All Diseases of Liver (not Malignant)	...	...	...	...	...	...	...	...	...	...	...	...	...
Nephritis, Acute and Chronic	...	...	...	...	...	...	...	...	...	...	...	...	...
Fuerceral Sepsis	1	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases and Accidents of Pregnancy and Parturition	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Early Infancy and Malformations	...	...	...	...	...	...	...	...	...	...	...	...	...
Suicide	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Violent Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Defined Diseases	4	4	...	...	...	...	...	...	...	...	...	...	...
Causes Ill-defined or Unknown	1	...	...	...	...	...	...	...	...	...	...	...	...
All Causes	24	8	16	1	1	1	1	1	3	10	7	...	





## BURGH OF DENNY AND DUNIPAGE.

## VITAL STATISTICS.

**Population.**—From year to year a local Census is made of the population of the Burgh. For 1927 the figures were:—

	Males.	Females.	Total.
Denny, ... ..	2149	2070	4219
Dunipace, ... ..	698	639	1337
	<hr/>	<hr/>	<hr/>
	2847	3079	5556
	<hr/>	<hr/>	<hr/>

This total is 600 more than the estimate given by the Registrar-General, who makes the figure 4,956.

**Births and Birth-Rates.**—The number of births in the Burgh, corrected for transfers, was 118, giving a birth-rate of 23·8 per thousand of population, which is considerably below the average for the past ten years, namely, 27·4. It is also the lowest rate since the war year, 1917, when it was so low as 17·8.

**Deaths and Death-Rates.**—The number of deaths for the year, after correction as above, was 59, exactly one-half of the number of births, which gives a death-rate of 11·9 per 1000 of population. This is very much below the average for past years, but is higher than that for 1926 (which was only 10·0 per thousand and was the lowest in my records for the Burgh). The following are the death-rates from 1911 onwards:—  
1911, 15·6 ; 1912, 13·7 ; 1913, 12·9 ; 1914, 12·5 ; 1915, 14·0 ; 1916, 14·9 ; 1917, 11·6 ; 1918, 16·8 ; 1919, 15·1 ; 1920, 11·8 ; 1921, 12·9 ; 1922, 18·8 ; 1923, 12·3 ; 1924, 15·6 ; 1925, 14·3 ; 1926, 10·0. These give an average annual death-rate of 13·9 per thousand over the sixteen years.

From tuberculosis, the number of deaths was 6, of which 4 were due to pulmonary tuberculosis or phthisis, giving a death-rate of 1·21 for all forms of the disease, and 0·81 for tuberculosis of the lungs. No deaths were recorded as due to the "Principal Epidemic Diseases." The infantile mortality rate, i.e., deaths under one year per 1000 births, was 59, the actual number of infantile deaths being 7.

## HOUSING.

No new houses were built during the year, but one large house was converted into two five-apartment houses with all modern conveniences, and one cottage had all the outer walls strapped, lathed and plastered, with sinks and water installed. There is a large number of old, done houses in the town which might be closed, but owing to the want of alternative housing



accommodation for the class that would be displaced nothing has been done meantime. The conditions with regard to housing therefore are pretty much as they were at the end of 1926. At that time I estimated that 257 new houses were needed, while the total of new houses provided was :—

Housing Schemes, ... ..	148
Private Enterprise, ... ..	47
Total, ... ..	195

**Housing Return.**—The following is a copy of a tabular Report, asked for by the Scottish Board of Health, for the year ended 31st December, 1927, on proceedings taken as regards the Inspection, Improvement, and Closure of Dwelling-Houses :—

A.—HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

1. Number of dwelling-houses inspected ... ..	—
2. Number of dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..	—
3. Number of representations made to the Local Authority with a view to the making of closing orders ... ..	—
4. Number of dwelling-houses in respect of which closing orders were made ... ..	—
5. Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, Act, 1925 ... ..	—
6. Number of dwelling-houses which after the making of closing orders were put into a fit state for human habitation ... ..	—

B.—HOUSING (SCOTLAND) ACT, 1925.

1. Number of dwelling-houses in respect of which notices were served under Section 3 (1) ... ..	—
2. Number of dwelling-houses rendered fit for human habitation under Section 3 (1) ... ..	—
3. Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1) ... ..	—
4. Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2) ... ..	—

5. Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—	
(a) cases where requirement complied with by owners ... ..	36
(b) cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) cases still pending ... ..	19
6. Number of houses of (a) one apartment, and (b) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section 111 ... ..	—

C.—HOUSING, TOWN PLANNING, ETC. (SCOTLAND) ACT, 1919.

1. Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply :—	
(a) cases where requirements complied with by owners ... ..	8
(b) cases where works carried out by Local Authority after failure of owners to do so ... ..	—
(c) cases still pending ... ..	—

WATER SUPPLY.

Mr. Cook, the Sanitary Inspector and Water Superintendent, reports that the supply was maintained at full pressure except for a few days at the end of the year, when the outlets in both dams became frozen. At the request of the Water Convener, however, the Managing Director of Carrongrove Paper Company very kindly issued instructions to pump water from above the mill into the Burgh mains which pass nearby, and so saved the situation.

DRAINAGE,

The drainage system of the Burgh is quite efficient. The sewage is treated by means of two grit chambers and two settling tanks, one grit chamber and one settling tank being always in operation while the others are resting. The effluent is thereafter treated by land irrigation and filtration on a suitable flat field of seven acres, all as described in my Annual Report for the year 1922.

During the year under report, Mr. Cook, Sanitary Inspector, states that the sewage field had not been receiving from the Contractor the attention which, in his opinion, it ought to get, and arrangements have now been made to have the work



done by direct labour. On Mr. Cook's suggestion, also, the Town Council have agreed to the erection of a large settling tank in addition to those already in use. This tank is now under construction.

### INFECTIOUS DISEASE.

As will be seen from Table (3), the total number of cases of infectious disease notified to me during the year was 60, of which, however, 23 were of chickenpox. This disease was made notifiable as a temporary measure in view of outbreaks of smallpox in various parts of the country, and of the possibility of unrecognised cases passing as chickenpox. Excluding this disease, for the purpose of comparison, the remainder of the notifications number 37, as compared with 36 in the previous year, 39 in 1925, and 55 in 1924. Nine of the cases were of scarlet fever, and were all removed to Hospital. The six diphtheria patients also were all treated in Hospital. The other notifications were:—Two of erysipelas (one of which was treated in Hospital), a case of puerperal fever (also treated in Hospital), one case of encephalitis lethargica, 5 of acute primary pneumonia, and 13 cases of tuberculosis. In another case suffering from encephalitis lethargica, but notified in a former year, it was decided to make arrangements for the local nurse to visit periodically, and also for the Town Council to give assistance to the people in the way of paying part of the rent of a larger house. The treatment of tuberculosis comes under the County Scheme, the number of patients treated in Sanatoria or other institutions throughout the year being 9, while 8 received grants of domiciliary treatment.

**School Closure.**—Towards the end of November I received notice of a case of measles in Class IIa. of the Infant Department of Denny Public School. As this appeared to be the first case in the class I visited the school, and decided to close Class IIa. as from the evening of the 24th until the morning of the 30th November, with a view to preventing spread of the disease. The period mentioned, it was thought, would allow any children infected from the first case to develop the disease at home. In all probability, the temporary closure served the purpose for which it was intended.

TABLE (3).—BURGH OF DENNY AND DUNIPACE.

RETURN OF CASES OF INFECTIOUS DISEASE NOTIFIED, &c., DURING THE YEAR  
ENDING 31ST DECEMBER, 1927.

DISEASE	NUMBER OF CASES COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.									
	At all Ages	At Age—Years							Cases re- moved to Hos- pital	Cases not re- moved Hos- pital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and up- wards		

## A.—Diseases specified in the Infectious Disease (Notification) Act, 1889.

Typhoid or Enteric Fever	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...
Scarlet Fever or Scarletina	9	...	2	5	2	...	...	...	9	...
Diphtheria and Membranous Croup	6	...	1	3	...	2	...	...	6	...
Erysipelas	2	...	...	...	...	1	1	...	1	1
Puerperal Fever	1	...	...	...	1	...	...	...	1	...
Cholera	...	...	...	...	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...

B.—Diseases notifiable in terms of Regulations made under Section 78 of the Public Health  
(Scotland) Act, 1897.

Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	...	...	Cases notified in a previous year and removed to Hospital for the first time during 1927.	
Chickenpox	23	...	7	15	1	...	...	...	...	23		
Infective Jaundice	...	...	...	...	...	...	...	...	...	...		
Malaria	...	...	...	...	...	...	...	...	...	...		
Dysentery	...	...	...	...	...	...	...	...	...	...		
Encephalitis Lethargica	1	...	...	...	1	...	...	...	...	1		
Acute Primary Pneumonia	5	1	2	2	...	...	...	...	...	5		
Acute Influenzal Pneumonia	...	...	...	...	...	...	...	...	...	...		
Pulmonary Tuberculosis	7	...	...	1	3	1	2	...	3	4		
Non-Pulmonary Tuberculosis	6	1	...	2	2	1	...	...	3	3		
<b>Total of A. and B.</b>	<b>60</b>	<b>2</b>	<b>12</b>	<b>28</b>	<b>10</b>	<b>5</b>	<b>3</b>	<b>...</b>	<b>23</b>	<b>37</b>		<b>2</b>



## FACTORY AND WORKSHOPS ACT.

There are 20 workshops and 23 factories in the Burgh, and twenty visits of inspection were made by the Sanitary Inspector. Only one defect was found, which was remedied without the necessity for written notice. There are no home workers.

## VACCINATION (SCOTLAND) ACT.

Under this Act 47 declarations of conscientious objection to vaccination were made, as compared with 49 in 1926. The total births during the year was 118, so that at least two out of every five infants remain unvaccinated.

## COMMON LODGING HOUSES.

Mr. Cook reports that owing to lack of work in the town the demand for lodgings was very poor. The three lodging-houses are fairly well kept and satisfactorily managed generally.

## FOOD AND DRUGS ACTS.

Ten test samples of milk were taken in course of delivery. They were duly analysed and found to be genuine and of a high standard of quality. There is a good demand for milk of this kind. Mr. Cook states that a farmer in the district began selling bottled milk in the early part of the year, his first week's sales being 100 gallons. Now he is selling 450 gallons per week. The Co-operative Society also are providing accommodation for all the plant required for an up-to-date dairy.

## SLAUGHTERHOUSE AND MEAT INSPECTION.

The slaughterhouse has been kept in good order. The total amount of meat condemned was 1140 lbs. (627 lbs. of which was condemned at the slaughterhouse), and included (1) the forequarters, head and internal organs of a cow; (2) the entire carcass and organs of a cow; (3) the thoracic and abdominal organs of a cow. The total number of animals slaughtered during the year was 1284, including 435 oxen, 106 heifers, 2 bulls, 28 cows, 70 calves, 289 sheep, 283 lambs and 71 pigs.

## DAIRIES, COWSHEDS AND MILK SHOPS.

The number of dairymen on the register is 19, two being dairymen and cow keepers, seven purveyors of milk, and ten wholesale milk dealers.

Mr. M'Gregor, the Veterinary Inspector, examined the cows on the premises of the two cow keepers, 15 in all, twice during the year. The udders of the cows were found healthy, and no case of tuberculosis was detected amongst them. One case of tuberculosis of the udder, however, was found in a herd outside the Burgh supplying milk to the town. The cow was duly slaughtered under the Tuberculosis Order.



TABLE (4).—BURGH OF DENNY AND DUNIPACE. BIRTHS, MARRIAGES, AND DEATHS DURING THE YEAR 1927.

Principal Rates per 1000 of Estimated Population.

	Numbers Registered in District		Transfers		Corrected Number		
	In	Out	In	Out	Both Sexes	Males	Females
Total Births (including Illegitimate Births)	115	2	5	118	49	69	1
Illegitimate Births	5	...	1	6	5	1	...
Marrriages	38	...	...	...	...	...	...
Deaths	47	2	14	59	28	31	...

  

	Corrected for Transfers		Corrected for Transfers	Corrected for Transfers and adjusted for Age and Sex Distribution
	Uncorrected	Corrected		
Birth-rate	23.2	23.8	23.8	.....
Illegitimate Birth-rate per 100	.....	5.1	5.1	.....
Total Births	7.7	.....	.....	.....
Marrriage-rate	9.5	11.9	11.9	13.4
Death-rate.—All Causes	.....	1.21	1.21	.....
" All Tuberculosis	.....	.....	.....	.....
" Tuberculosis of Respiratory System	.....	0.81	0.81	.....
" Principal Epidemic Diseases (asterisked below)	.....	0.00	0.00	.....
Infantile Mortality Rate (Deaths under One Year per 1000 Births)	.....	59	59	.....

CAUSES OF DEATH (corrected for Transfers).

CAUSES OF DEATH	ALL AGES		AGE											
	Both Sexes	Males	Females	1—	5—	10—	15—	25—	35—	45—	55—	65—	75—	85 and over
				—1	—5	—10	—15	—25	—35	—45	—55	—65	—75	—85 and over
*Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Whooping-Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	1	1	1	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Meningitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Epidemic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Respiratory System	4	3	1	1	1	2	...	...	...	...	...	...	...	...
Tuberculous Meningitis	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Intestines and Peritoneum	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malignant Tumours	7	4	3	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (not Cerebro-Spinal or Tuberculous)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Apoplexy	10	4	6	...	...	...	...	...	...	...	...	...	...	...
Heart Disease	5	2	3	...	...	...	...	...	...	...	...	...	...	...
Diseases of Arteries	1	1	1	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	5	3	2	...	...	...	...	...	...	...	...	...	...	...
Pneumonia (all forms)	4	1	3	1	...	...	...	...	...	...	...	...	...	...
Other Diseases of Respiratory System	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea and Enteritis (under 2 years)	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Appendicitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All Diseases of Liver (not Malignant)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nephritis, Acute and Chronic	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Sepsis	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases and Accidents of Pregnancy and Parturition	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Early Infancy and Malformations	6	3	3	6	...	...	...	...	...	...	...	...	...	...
Suicide	1	1	1	...	...	...	...	...	...	...	...	...	...	...
Other Violent Deaths	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Other Defined Diseases	8	4	4	1	1	1	...	...	...	...	...	...	...	...
Causes Ill-defined or Unknown	2	...	2	...	...	...	...	...	...	...	...	...	...	...
All Causes	59	28	31	7	3	1	1	3	2	4	7	10	9	2



Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
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Grains in DRYLAND (including rice)

Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
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Grains in WETLAND (including rice)

Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
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Grains in OTHER (including rice)