[Report 1919] / Medical Officer of Health, Torquay Borough.

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BOROUGH OF TORQUAY.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1919,

BY

THOMAS DUNLOP, M.B., C.M., D.P.H.

TOGETHER WITH SUMMARY OF

Reports of the Sanitary Inspectors

AND

Meteorological Observer.

BOROUGH OF TORQUAY, 1919.

Area of the Borough, 3,996 acres.

Rateable value, £201,050.

Population—Census (1901), 33,625 ;

„ „ (1911), 38,772.

*Registrar-General's estimate (1919), 33,374.

Medical Officer's „ (1919), 39,632.

Number of separate occupiers—Census, 1911, 8,459.

Density of population, 8 persons per acre.

Corrected death rate, 1919, 15·1 per 1,000. Average for previous five years, 16·7 per 1,000.

Birth rate, 15·2 per 1,000. Average for previous five years, 12·3 per 1.000.

Infantile mortality, 1919, 47. Average for previous five years, 90·6.

Death rate from zymotic diseases, ·08 per 1,000.

Mean annual temperature, 51·0.

Hours of bright sunshine recorded, 1,360.

Total rainfall, 34·08 inches.

* *Vide* paragraph on population (page 11).

BOROUGH OF TORQUAY.

ANNUAL REPORT

OF THE

Medical Officer of Health

For 1919.

To his Worship the Mayor, and to the Aldermen and Councillors of the Borough of Torquay.

GENTLEMEN,

I beg to present the Annual Report on the health of the inhabitants, and the sanitary circumstances of the Borough of Torquay.

In January, 1920, the Ministry of Health issued a Memorandum outlining the scope of reports of the Medical Officer of Health. In this report I have endeavoured to fully comply with the requirements of that memo., and to bring it as far as possible to pre-war standard.

I have to thank the members of the Sanitary Committee and of the Town Council for their support throughout the year; also the Chief Officers of the Borough and Sanitary Inspectors for ever-ready assistance.

I am, Gentlemen,

Your obedient Servant,

THOMAS DUNLOP.

THE BOROUGH.

The Borough of Torquay is formed by the civil parishes of St. Mary-Church and Tormoham. The area of the Borough is 3,906 acres. It is divided into nine wards, the populations of which at the 1911 census were :—

Torre	..	..	..	population	4,199
Waldon	..	..	..	,,	3,495
Upton	..	..	..	,,	4,898
Ellacombe	..	..	..	,,	6,557
Strand	..	..	..	,,	3,326
Torwood	..	..	..	,,	6,107
St. Mary-Church		..	..	,,	3,628
Babbacombe		..	..	,,	3,754
Chelston	..	..	..	,,	2,807

For the purpose of Sanitary Administration, the Borough is divided into three districts. During the war owing to depletion of staff, the necessary duties were carried out by two Inspectors acting under the Medical Officer of Health. Towards the end of the year a third Inspector was appointed.

Public Institutions and their Population.

In the Upton Ward are the Torbay Hospital (population 77), St. Faith's Home for Girls (population 16), the Inebriates' Retreat (population 21).

In the Strand Ward, the Western Hospital for Consumptives (population 45), Rosehill Children's Hospital (population 37).

During the war the Western Hospital was requisitioned as a Hospital for treatment of wounded soldiers. Since its demobilisation it has not been utilised, but will in the near future be carried on by the Devon County Council as a Consumptive Hospital.

In Ellacombe Ward, Mildmay Consumptive Home (population 8).

In Torwood Ward, St. Raphael's (population 46), St. Luke's (population 27), St. Barnabas' Home for Incurables (population 42), Erith House, Home for Ladies (population 27).

In Torre Ward, St. Vincent's Orphanage for Boys (population 147).

In Waldon Ward, Ockendon Convalescent Home (population 29).

In Babbacombe Ward, Erskine Home for Orphan Girls (population 30).

The Borough Isolation Hospital is situated on the Newton Abbot Road, just outside the Borough boundary, in the Newton Abbot Rural District. The Corporation possess another Isolation Hospital, also situated outside the boundary, about half-a-mile from the village of Cockington.

Physical Features and General Character of the District.

The Borough of Torquay is situated on a promontory, being practically surrounded by the sea on three sides. This promontory is formed by hilly ridges, running N.E. and S.W. The principal heights—the Warbarry Hill, 448 feet, and the Lincombe Hill, 372 feet—are composed of the Lower Devonian grits and slates, The lesser heights, such as the Braddons, Waldon Hill, and Chapel Hill, are formed of Middle Devonian Limestone, which rests above the grits and slates mentioned.

On each side of this central area, viz., at St. Mary-Church and Chelston, rocks higher in the Geological scale for the most part prevail. These rocks belong to the Permian formation, and consist of beds of Breccia—a kind of conglomerate—and sand stone of a deep red colour, owing to the presence of peroxide of iron.

There is very little clay in any portion of the area, and what does occur, is of the nature of marl, and is confined to the lower levels of certain valleys or depressions, so that rain is not detained on the surface, as it rapidly disappears through these rather pervious rocks and soils.

It is on the sides of these hills or ridges that most of the houses are built, the main roads and streets following the lines of the valleys. Thus the largest portion of the district is afforded protection from the cold winds of the North and East, a fact that is strikingly proved by the luxuriant growth of semi-tropical shrubs and plants in both public and private gardens.

METEOROLOGY.

Full details of the Meteorology of the Borough will be seen in the appended Annual Report of the Borough Meteorologist, but the following resumè of the climatic conditions may be of interest:—

	1915	1916	1917	1918	1919
Highest Maximum Temperature ..	73·4	79·7	77·3	78·1	80·4
Lowest Maximum ,, ..	27·1	27·0	24·9	24·6	25·9
Mean Maximum ,, ..	56·9	56·8	55·5	57·8	56·7
Mean Minimum ,, ..	45·7	46·2	44·9	47·1	45·3
Mean of Maximum and Minimum ..	51·3	57·5	50·2	52·5	51·0
Difference from Average ..	—	+0·3	+1·1	+1·2	−2·6
Number of days on which rain fell ..	188	194	173	212	178
Total fall in inches	41·43	41·53	25·5	29·9	34 08
Number of hours of bright sunshine	1704	1742	1716	1856	1860·3

CLIMATE.

The position of the Town, built as it is on a promontory, surrounded on two sides by the sea, accounts, to some extent, for the mild and equable temperature experienced during winter. The meteorological records show that we enjoy a large proportion of sunshine at this period of the year. There is also an almost complete absence of fog.

The benefit of living under such climatic conditions must be apparent to all, but it is inestimable to those who are asthmatical, or who are sufferers from chronic bronchitis. To the aged and infirm, who are extremely sensitive to every change of temperature, life under such conditions is prolonged and made worth living.

The bright sunshine and the possibility of being constantly in the open air, is most advantageous to children, and those who are delicate have every chance of growing up strong and healthy.

The Summer Climate. Year by year the town becomes more popular as a holiday resort. It is unquestionable that, during the hottest days, the maximum temperature here is five to ten degrees lower than that recorded in London and the Midlands. It stands to reason, if one considers the position of Torquay, flanked by the sea, and with Dartmoor in the rear, it is constantly fanned by cool breezes, from one or other directions. It seems difficult to imagine a more delightful spot to spend a holiday in. Boating, bathing and fishing of the best, whilst in the neighbour-

hood are innumerable places of beauty and interest, which are easily accessible by sea, coach or rail. These facts are amply proved by the constantly increasing number of visitors who, year after year, spend the summer holidays here.

MEDICAL BATHS.

Recognising that the climate of Torquay is eminently suitable for invalids, the Corporation have constructed an up-to-date series of Medical Baths. There are seven bath rooms available on the female side and six on the male, each with its complement of comfortably fitted dressing rooms. Between these two blocks there is a handsome lounge or waiting room.

The following varieties of baths are available :—

Aix and Vichy Douches, Deep Baths, Reclining Baths available for use of Sulphur, Pine and Soda, etc., Nauheim and Vapour Baths, Radiant Light and Heat Baths, Needle and other Douches. All douches can be administered with either sea water or fresh water at a requisite temperature.

There is also an excellent Swimming Bath, 90ft. x 30ft. filled with filtered sea water and kept at a suitable temperature.

WATER SUPPLY.

The water supply of the Borough is derived from an upland surface gathering ground about fifteen miles from Torquay, on the borders of Dartmoor. The area of the gathering ground is about 2,241 acres, of which the Corporation are the owners, all farms and inhabited buildings have been cleared from the gathering ground, thus preventing any menace to the purity of the supply.

As a further precaution against impurities the water is submitted to mechanical filtration. Thus all suspended matter is removed, it is clarified and its appearance considerably improved. This system continues to act most satisfactorily.

The supply is ample at all seasons of the year. The total supplied was 724,915,000 gallons or 36·10 gallons per head for a population of 55,000. This population includes Newton Abbot and a few small villages on the line of the mains.

Regular measurements of the rainfall on the watershed are taken at six centres. The following is a statement of the amount :—

Kennick ..	..	..	..	43·35 inches
Mardon ..	..	..	..	38·47 „
Blackingtone	..	..	..	43·95 „
Bullaton	..	..	..	35·22 „
Smithacott	..	..	..	43·70 „
Laployd	..	..	..	47·30 „

The average rainfall over the whole catchment area is 42·16 inches.

Quality of the Water.

Professor Percy Franklin, after visiting the gathering ground and examining samples of the water, both chemically and bacteriologically, reported as follows :—

"*A source of water supply which, in respect of freedom from suspicion, ranks with the best upland surface supplies in the Kingdom. The water also contains such a small amount of lime and magnesia salts that it possesses all the well-known advantages of very soft water, whilst its slightly alkaline reaction prevents it from having any solvent power on lead.*"

Chemical and Bacteriological Examinations of the Water.

Regular monthly analysis of the water are made, samples being procured from different areas of the Borough. The attached table gives the results :—

Monthly Report on Samples of Town Water, taken from different parts of the Borough.

CHEMICAL ANALYSIS—Results shown in parts per 100,000.

Chemical Constituents.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Total Solids ..	6·4	7·3	7·0	7·4	7·5	7·2	7·09	6·8	7·8	7·6	7.0	7·3
Chloride of Sodium	1·6	1·5	1·5	1·5	1·6	1·5	1·2	1·6	1·6	1·7	1·4	1·5
Hardness	1·9°	1·5°	1·5°	1·4°	1·7°	1·4°	2·8°	2·6°	1·4°	1·8°	·97°	1·51°
Nitrates	·112	·115	·142	·099	·12	·046	·082	·096	·066	·015	·094	·14
Nitrites	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil
Free Ammonia ..	trace	traee	trace	nil	trace	nil	trace	m. trace	trace	nil	trace	trace
Organic Ammonia..	·006	·012	·0056	·010	·0095	·010	·006	·002	·005	·015	·016	·013
Oxygen	—	·095	·078	·085	·074	·075	·046	·073	·024	·082	·120	·061
Poisonous Metals.	none	none	none	none	none	none	none	none	none	none	none	none
Physical Characters.												
Colour	v. pale straw	pale straw	pale straw	v. pale straw	pale straw	pale straw	pale straw	pale straw	v. pale straw	v. pale straw	light straw	pale straw
Turbidity	none	none	none	none	none	none	none	none	none	none	none	none
Odour	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,
Deposit	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,	,,

SEWERAGE.

The sewage of the whole district, and most of the storm-water, is conveyed to the main sewer in Fleet Street. That of the Strand, Torbay Road, Vaughan Parade, Victoria Parade, Beacon Hill, George Street and Swan Street, being pumped into the main sewer. The main sewer is seven feet in diameter, and runs from Fleet Street to Hope's Nose, a distance of about two miles. The outfall is at such a level that the sewage is discharged at all states of the tide. No method of treatment is adopted, as the flow of current is out towards mid-channel beyond Berry Head, and does not under any circumstances return towards the bay.

Closet Accommodation.

With a very few exceptions the whole of the houses in Torquay have water closets with water waste preventor cisterns. The closets are in almost all cases drained to the sewers, the exceptions being where the houses are at such levels as to necessitate the provision of cesspools. In one or two out-lying situations where there are no sewers a few cottages have earth closets.

Streams.

There are only two small streams running through the district and they are free from sewage pollution.

Collection and Disposal of House Refuse.

The Council possess Bye-laws dealing with the storage of house refuse in sanitary galvanised iron ash bins.

These Bye-laws are applicable to both old and new buildings. No attempt has been made to enforce a wholesale substitution of these receptacles, but as occasion arises the owners are called upon to provide them, such as after inspections made under the Housing and Town Planning Act, and where nuisances are detected.

House refuse is moved by the employees of the Corporation under the Surveyor's Department. In most parts of the town it is removed once a week, but in certain parts twice. It is carted to the destructor works in Upton Valley, and there consumed, 11,462 tons being dealt with annually. The destructor is a "Warner Perfectus," of six cells. The boilers are heated from the furnaces, and the steam generated can be used to drive donkey-

engine, vertical engine for running blower, 25-horse-power engine for running mortar mill and electrical installation. The clinker produced is ground and used for mortar.

During the war a system of salvage has been inaugurated paper, bottles, tins, etc., being separated and disposed of. This has now been established on a permanent basis.

THE ELEMENTARY SCHOOLS.

Matters pertaining to the above are dealt with in the Report to the Education Authority. The Sanitary Inspectors make monthly inspections of the conveniences attached to the schools, any defects found are reported to the Sanitary Committee.

There is also a large Secondary School with a Preparatory Department attended by close on 500 scholars. This is under the control of the Devon County Council, but as regards inspection, these duties have been delegated to the Local Education Authority. The School Annual Report deals with this also.

POPULATION
and Social Condition of Torquay.

Torquay is essentially a residential town and health resort, consequently a large proportion of its inhabitants are villa residents, while the remaining portion may be said to obtain a livelihood by catering for them. There are numerous large hotels, and many up-to-date boarding houses for the accommodation of visitors. There are no manufactories in the district.

During the summer and early autumn there is a very large influx of visitors, who are catered for by the inhabitants of the smaller houses.

At this remote period after the census and considering the various movements of the population during the recent war, it is extremely difficult to give anything like an accurate estimate of the population. From personal knowledge I know that there is hardly a house in the area unoccupied, and I should say that in at least 50% of the houses of the working classes, more than one family are in occupation. At the census in 1911, the population recorded was 38,771, of whom 2,149 were sailors on ships in the Harbour and Bay. The civilian population was therefore equal to 36,622. The population calculated on these figures, would in

1920 be equal to 39,632. I am satisfied that our present population closely approximates to this figure. The Registrar General has during the last four or five years furnished us with an estimated population, which for this year is 33,374, and this figure must be used in the calculation of all death-rates. The Registrar General explains that "These estimates are based mainly upon the rationing returns kindly placed at the Registrar General's disposal by the Ministry of Food." However, after next year's census correct figures will be obtainable.

BIRTHS.

As the births registered include those whose parents are soldiers and sailors, the Registrar General advises that our birth rate should be calculated on an estimated population of 34,765.

The total births registered in the Borough was 517—males 267—females 250, of these 69 or 13·3% were illegitmate, against 59 or 14·3% in 1918. To the above total have to be added 14 births, which occurred in outside areas, but whose parents are residents of the Borough.

	Males	Females	Illegitimate
First Quarter ..	66	56	20
Second Quarter ..	47	59	16
Third Quarter ..	58	49	12
Fourth Quarter ..	96	86	21
Totals ..	267	250	69

Ward Distribution.

	Males.	Females.	Illegitimate.
Torre	27	21	9
Waldon	16	18	2
Upton	40	35	10
Ellacombe ..	64	49	19
Strand	29	23	7
Torwood	11	13	1
St. Mary-Church ..	37	33	8
Babbacombe ..	32	40	10
Chelston	11	18	3
Totals	267	250	69

The birth-rate for the Borough is equal 15·2 per 1,000 per annum, against 12·0 in 1918. The rate for England and Wales during 1919 was 18·5 per 1,000 and that for the 148 smaller towns (census population 20,000 to 50,000) 18·3.

The following table gives the total births and birth-rate for the past ten years compared with those for England and Wales.

Years.	Number of Births.	Torquay Birth Rate, per 1,000 living.	England & Wales Birth Rate, per 1,000 living.
1910	539	14·1	24·8
1911	536	13·8	24·4
1912	569	14·5	23·8
1913	535	13·6	23·9
1914	542	13·7	23·6
1915	490	12·4	21·9
1916	459	13·3	21·6
1917	401	11·7	17·8
1918	412	12·0	17·7
1919	531	15·2	18·5

It will thus be seen that the birth-rate is the highest recorded since 1909. This may possibly be due to the termination of the war, but the presence of many New Zealand Soldiers and their wives sent to the Discharge Depôt here, is also a factor in the increase.

In comparing the birth-rate of such a town as Torquay with other districts, it is necessary to consider the constitution of the population.

Here we have a large excess of females over males, a large proportion of the females are spinsters, and some 40% are either above or below the child-bearing age. In the face of such facts, it is unreasonable to expect anything but a low birth-rate.

The notification of Births Act was adopted in 1915. This Act requires that the Medical Officer of Health shall be informed of every birth within 36 hours of its occurrence, this includes still-births occurring after the expiration of twenty-eight weeks of pregnancy.

VACCINATION.

Through the courtesy of Mr. Edwards, the Vaccination Officer, I am able to give the results of primary vaccination for the years from 1898 to 1918.

Year.	Total births registered	Successfully vaccinated	Insusceptible of Vaccination	Had Small-pox	Number of Certificates from Conscientious Objectors	Died Unvaccinated	Postponed by Medical Certificate	Removed to other districts the Vaccination Officer of which has been apprised	Removed Address unknown	Percentage successfully Vaccinated	Excluding those who died Unvaccinated. Percentage
										%	%
1898	664	544	2	—	10	64	6	7	25	82	90
1899	612	505	6	—	14	67	6	3	11	83	93
1900	596	502	1	—	15	47	7	3	21	84	91
1901	597	491	2	—	16	57	13	1	17	82	91
1902	579	488	2	—	8	61	4	4	8	84	92
1903	565	508	2	—	14	34	1	3	3	90	95
1904	564	476	—	—	20	49	3	6	8	84	92
1905	561	504	—	—	16	30	5	2	4	90	94
1906	591	501	1	—	25	47	5	2	8	84	92
1907	582	447	2	—	41	39	5	4	13	76	82
1908	546	394	—	—	83	48	8	4	9	72	80
1909	596	370	3	—	158	37	12	1	11	62	66
1910	568	302	2	—	197	43	12	2	8	53	57
1911	560	269	1	—	231	37	9	4	9	48	54
1912	583	270	3	—	239	48	3	4	15	46	54
1913	569	215	—	—	281	47	6	3	14	37	41
1914	572	217	1	—	301	26	11	—	12	37	40
1915	514	198	1	—	254	28	17	—	8	38	40
1916	474	176	2	—	223	41	10	16	—	37	40
1917	414	162	1	—	200	20	9	3	13	39	41
1918	425	176	2	—	182	21	11	6	21	41	43

From the above it will be seen that about **45** per cent. of children born are unprotected by vaccination. A very precarious position for such a town as Torquay to be in, should small-pox be introduced.

INFECTIOUS DISEASES.

The following is the list of Infectious Diseases notifiable in the District during 1919, and the number of notifications received :—

Small Pox	.. ..	0	
Cholera	.. ..	0	
Diphtheria	.. ..	36	
Erysipelas	.. ..	3	
Scarlet Fever	.. ..	29	
Enteric Fever	.. ..	2	
Typhus Fever	.. ..	0	
Relapsing Fever	..	0	
Continued Fever	..	0	
Puerperal Fever	..	1	
Cerebro-Spinal Fever	..	0	
Poliomyelitis	.. ..	1	
Ophthalmia Neonatorium	..	4	
Acute Encephalitis	..	1	
Tuberculosis	.. ..	112	
Other forms of Tuberculosis		24	
Measles	.. ..	117	
Pneumonia	.. ..	50	
Malaria	.. ..	17	
Total	..	397	

Table II. of the Ministry of Health series on page 44 gives the age distribution, the cases notified in the various wards, and the number of such removed to the Isolation Hospital.

The following table gives the number of notifications from certain diseases, together with the average meteorological conditions prevailing during each month of 1919.

Month.	Meteorological Data.					Infectious Diseases Notified.					
	Mean Temperature	Mean Daily Range.	Relative Humidity.	No. of Rainy Days.	Rainfall. Inches.	Measles.	Diphtheria and Croup.	Enteric Fevers.	Scarlet Fever.	Erysipelas.	Total.
January ..	41·8	9·0	87	19	5·67	3	6	—	6	—	15
February ..	41·7	7·7	87	12	5·88	37	1	—	3	—	41
March ..	43·7	11·2	81	17	3·92	1	3	2	—	1	7
April ..	48·0	13·2	74	8	1·78	5	2	—	1	—	8
May ..	56·0	10·8	75	3	0·64	3	—	—	—	—	3
June ..	58·8	12·5	70	5	0·97	4	—	—	—	—	4
July ..	60·4	12·9	72	6	1·50	2	—	—	1	—	3
August ..	64·3	13·8	76	9	2·98	6	—	—	1	—	7
September ..	58·0	11·4	82	8	1·61	4	5	—	—	—	9
October ..	50·2	12·8	80	4	0·81	1	3	—	9	1	14
November ..	42·1	9·9	82	14	3·23	19	8	—	5	—	32
December ..	46·8	9·7	89	17	5·09	32	8	—	3	1	44
Totals and averages	50·9	11·2	79.7	122	34·08	117	36	2	29	3	187

Cases Isolated in Hospital.

The Isolation Hospital provides accommodation for the isolation of Diphtheria and Scarlet Fever, an isolation ward block is utilised for Cerebro-Spinal Fever, etc. Enteric Fever cases are received for treatment by the Torbay Hospital Authorities.

Diphtheria,	out of 36 cases notified	30	were removed	= 83%
Scarlet Fever	„ 29 „	26	„	= 90%

Two cases of Enteric Fever, one of Encephalitis Lethargica and one of Poliomyelitis, were treated in the Torbay General Hospital. Seven cases of Pneumonia were also treated in this Hospital.

Steps Taken to Prevent the Spread of Infectious Disease.

On receipt of a notification, the house is visited as soon as possible, particulars as to source of infection, milk supply, school attended, drainage, etc., obtained, and, if necessary, arrangements made for the removal of the patient to the Sanatorium. Frequently the Medical Attendant notifies that the case is one for treatment in the Sanatorium, a step which greatly facilitates their early removal.

After removal, or on recovery, should the patient be isolated at home, the infected rooms and bedding are fumigated with formalin. Next day the bedding and clothing is removed to the Disinfecting Station and there sterilised in a steam disinfector. In every case of notifiable disease this is done free.

The disinfector is one of the Thresh Disinfector Company's machines. It has now been in constant use for eleven years without requiring any special attention. During the year some 10,000 articles were disinfected.

Where it is found that children in an infected house are attending one of the public elementary schools, the Attendance Officer is notified of the case. All cases suspected to be infectious by the School Attendance Officer, and where no doctor is in attendance, are notified to me as Medical Officer to the Education Authority.

The systematic notification of all cases of infectious or suspected illness amongst the children attending the elementary schools by the Head Teachers has, on the whole, proved of much assistance to me as Medical Officer of Health.

Means of Isolation.

The Borough Sanatorium, Newton Abbot Road, consists of the Administrative Building—Scarlet Fever ward block, consisting of two wards, with seven beds in each; and a Diphtheria ward block, two wards with seven beds in each. There is also a private ward for one patient, with Nurse's room attached.

Enteric Fever.

When there is accommodation, the Authorities of the Torbay Hospital admit cases of this disease.

Cockington Sanatorium.

Taken over from the Cockington Urban District at the time of the amalgamation. This hospital is considerably more than half-a-mile from any inhabited building, and is kept in readiness for the reception of small-pox, should any arise. In a health resort such as Torquay, where the introduction of small-pox is not unlikely, and the consequence of an epidemic would be disastrous, such accommodation is absolutely indispensable.

Small-Pox.

No cases were notified. In the event of its occurrence the Cockington Isolation Hospital is kept ready for the reception of cases without delay. I desire to draw your attention to the figures concerning Vaccination given on page 14 and the subsequent note.

Diphtheria.

The total number of cases notified was 36, eleven fewer than in 1918. Cases occurred during the first and last four months of the year, the intermediate months being free. At no time was there any considerable outbreak. At the latter end of the year several cases appeared to contract infection from contact at St. James' School. Of the 36 cases, 30 were removed for treatment in the Isolation Hospital a percentage of 83. Two deaths were registered, which is equal to 5·5 per cent. of the notified cases and gives a death rate equal to ·06 per 1,000 per annum.

The age and sex distribution is as follows :—

Ages.	1—5	5—15	15—25	25—65	Totals
Males	3	12	—	1	16
Females	6	8	3	3	20
Totals	9	20	3	4	36

It is the routine practice to examine and take swabs from contacts, and in a considerable proportion of instances, prophylactic injections of antitoxin are given.

Bacteriological Examination.

Specimens from suspected cases are examined at the expense of the Town Council by Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory, who reports that during the year he examined specimens as follows :—

Diphtheria	104	Positive	11
		Negative	78
		For freedom from infection	15
Enteric Fever	..	nil	
Tubercular Sputum	..	47 examinations	
For Meningococci	..	2	
Wassarman re-action	..	3	

In the Laboratory attached to the Health Department we have examined 133 specimens from inflamed or suspicious throats of children attending the elementary schools. Some 78 specimens for other pathological conditions were examined.

Enteric.

For the second year in succession we have had practically complete freedom from this disease. Only two cases were notified, both were soldiers sent home ill and treated in the Torbay Hospital. This immunity is probably due to our excellent water supply and efficient drainage.

Scarlet Fever.

Twenty-nine cases were notified and there were no deaths. twenty-six or 90% were removed for treatment. In October a series of ten cases were notified. On enquiring into their histories I found they all received milk from one dairy. On further investigation at the dairy I obtained the names of all helpers, among

whom was a lad who delivered milk out of school hours. At the school he attended I learnt he had been excluded on account of "Itch," he was sent for and on examination he was found to be desquamating freely and there was a history of febrile attack and rash. Although the lad was said to be only employed to deliver filled cans to certain customers, there can be little doubt in some way he must have infected the supply on one or more days.

Puerperal Fever.

One case was notified, this unfortunately ended fatally.

Ophthalmia Neonatorum.

Four cases occurred. Arrangements have been made with the Queen Victoria Jubilee Nursing Association to attend cases of this disease where such assistance is required. I am satisfied that in at least one of these cases such help has prevented serious consequences to the eyes.

Encephalitis Lethargica.

Only one case was notified and here although suspected, the cause was only definitely found on post mortem examination. The patient was a postman aged 47 and was in the Torbay Hospital for ten days.

Cerebro Spinal Fever.

One fatal case occurred. The patient was a waitress in a tea-shop. When first taken ill she was thought to have a severe cold and was sent to her home near Newton Abbot. Later the diagnosis was made, and the patient was removed to the Newton Isolation Hospital. Enquiries at the place she was employed failed to throw any light on the source of infection. No further cases occurred.

Poliomyletis.

One case was notified, a boy aged 16, and was removed for treatment to the Torbay Hospital. He was the only member of the family affected in any way. He was discharged from hospital with a certain amount of paralysis of the right leg and some atropy of the affected muscles.

Measles.

One hundred and seventeen cases of measles were notified against six hundred and ninty-one the previous year. The disease was of a very mild type and no deaths were registered from it. As in the case of Ophthalmia Neonatorum, similar arrangements have been made with the Q.V.J.N. Association for nursing certain cases.

Isolation Hospital Report.

For the Financial Year ending 31st March, 1919.

At the end of the financial year 1918 there were 12 patients in the Hospital. From that date till March 31st, 1919, 89 new cases were admitted, giving a total of 101 treated during the year.

The various diseases treated were as follows :—

Diphtheria	39
Scarlet Fever	16
Suspected Diphtheria	4
„ Cerebro Spinal Fever	1
Influenza	41
Total	101

The patients were under treatment a period of 2,270 days or an average of 22·5 each against 1,229, or an average of 30·7 days each in 1917-18. The average stay of Scarlet Fever cases was 43·2 days, of Diphtheria 26·7 and Influenza 13.

The Influenza cases were all sailors from H.M.S. Onyx and motor patrol boats employed in Torbay.

The following table shows the cost of working for 12 months.

	£	s.	d.
Nurses' Diet and Wages	253	11	6
Patients Diet	212	15	7
Laundress	108	7	0
Porter and Matron, Wages and Diet	124	16	0
Doctors' Fees	98	14	0
Fuel	69	5	4
Tradesmen	26	0	10
Removal of Patients	20	7	0
Drugs, Disinfectants, etc.	43	8	5
Rents, Rates, and Taxes	13	13	6
Insurances	4	16	0
Telephone	12	10	0
Kitto—New Boiler	119	6	6
Torbay Hospital	10	0	0
Treasurer	3	15	0
Surveyor	13	18	0
	£1,107	11	8

Cockington Sanatorium.

This Hospital was not required during the year, but was kept in readiness for the admission of patients at the shortest notice. The cost of maintenance is as follows :—

	£	s.	d.
Caretaker - - - - -	5	0	0
Rents, Rates, and Taxes - - -	50	0	0
	£55	0	0

VITAL STATISTICS.

The total deaths registered in the Borough during 1918 was 501, from this must be excluded 60 deaths of non-residents transferred to outside areas and included 63 deaths of residents occurring outside Torquay.

The nett deaths belonging to Torquay was therefore 504, males 230, females 274. A decrease of 118 from last year's total, due to some extent to the large number of deaths recorded from Influenza in 1918.

Taking the Registrar Generals estimated population of 33,374, we get a death-rate equal to 15·1 per 1,000 per annum, but if calculated on my estimated population of 39,632, it would only be 12·7 per 1,000 per annum. This shows the difficulty of preparing statistics on data provided by the census nine years ago, and is a strong argument of taking the census every five years.

The death-rate for England and Wales in 1919 was equal to 13·8 per 1,000 per annum, and that for the 148 smaller towns 12·6.

The following table gives the Torquay death-rates for recent years, compared with those in England and Wales for the same years :—

Year.	Number of Deaths.	Death-rate corrected.	Death-rate of England and Wales.
1910	504	13·1	13·4
1911	548	14·1	14·6
1912	479	12·2	13·3
1913	521	13·2	13·4
1914	492	12·5	13·6
1915	576	17·7	15·1
1916	542	17·2	14·0
1917	562	18·3	14 4
1918	622	20·2	17·6
1919	504	15·1	13·8

In order to render it possible to compare the death-rate here with that of the country as a whole, it has to be corrected for age and sex distribution. In 1914 the Registrar General supplied a factor ·8730, by which the Torquay rate had to be multiplied. This has the effect of reducing the rate by 2 per 1,000 and gives us a rate corrected for age and sex distribution equal to 13·1 per 1,000 against that of England and Wales of 13·8 per 1,000.

Of the 504 deaths :—

		Percentage of Total Deaths.
25	were under 1 year of age - - - equals	5·0
6	were 1 year and under 2 years - - „	1·2
6	were 2 years and under 5 years - - „	1·2
12	were 5 years and under 15 years - - „	2·3
23	were 15 years and under 25 years - - „	4·6
65	were 25 years and under 45 years - - „	12·9
104	were 45 years and under 60 years - - „	20·6
263	were 65 years and over - - „	52·2
504	at all ages.	100·0

It will thus be seen that 263 or 52·2 per cent. were persons aged 65 and upwards.

Ward Distribution of Deaths.

Ward.	Deaths at all ages.	Under 1 year.
Torre	75	3
Waldon	39	3
Upton	80	8
Ellacombe ..	74	3
Strand	38	2
Torwood	36	1
St. Mary-Church ..	51	3
Babbacombe ..	65	1
Chelston	46	1
Totals ..	504	25

There were twelve inquests, while five deaths were uncertified.

Infantile Mortality.

There were 25 deaths of infants under 1 year registered against 31 in 1918. As the births numbered 531 the Infantile Mortality is equal to 47 per 1,000 births. The rate for England and Wales was 89 and that for the 148 smaller towns 90. The figure for this year creates a record, the lowest previously recorded was in 1917, when the rate was 65. This is highly satisfactory. The factors producing this result are an increased number of births and a low total of infantile deaths. I have in dealing with the birth-rate referred to those occurring among the New Zealanders, which increased our total by 56. Still we show a lowered number of deaths, this I attribute, to some extent to the Authorities' efforts in dealing with Maternity and Child Welfare. The Notification of Birth's Act came into force in 1915 and since then we have shown an annual drop in the infantile deaths.

The following table shows the principal cause of death among infants during the past five years :—

	1915	1916	1917	1918	1919
Measles	3	1	—	3	—
Whooping Cough	1	2	—	1	—
Diarrhœa	3	2	2	2	1
Tubercular Diseases	1	—	2	—	—
Bronchitis	8	2	2	7	5
Pneumonia	6	5	4	3	1
Premature Birth / Congenital Defects	10	18	8	6	10
Accidents	—	—	—	—	—
All other causes	9	13	8	9	8
Totals	41	43	26	31	25

Fuller particulars, giving exact details as to cause of death and the age stated in weeks and months under one year, are given in Table IV., page 47.

From the above table it will be noted that 10 deaths were due to premature birth and congenital defects. It is now well known that Venereal Disease is the chief cause of these defects. Besides the recorded deaths, there are many still births and abortions in the earlier months of pregnancy due to the same cause, which are not registered.

The establishment of Venereal Disease Treatment Centres throughout the country for free treatment of these diseases ought, in the near future, to have a marked effect in reducing such mortality.

The opening of a Centre for this area is badly wanted. The County Council have this matter in hand and the Medical Officer of Health informs me every effort is being made to push on with it. Suitable and adequate premises have been obtained and it is hoped that early in the year treatment will be obtainable for all. During the year 1918, many patients made application to me for treatment, in all cases arrangements were made for them to attend the Centre at Exeter, the County Council affording every facility. These are, I am afraid, but a small proportion of those requiring treatment.

Maternity and Child Welfare.

The Inspection of Midwives is under the control of the Devon County Council. It has been our custom to report to the County Medical Officer of Health, any suspected breaches of the Rules of the Central Midwives Board.

In 1915 the Notification of Birth's Act, became compulsory throughout the country. The Council then appointed a Health Visitor to carry out the duties of birth investigation and to keep under supervision such cases as required it, more especially illegitimate children. During the year Nurse Mylan gives the the following record :—

302	Birth investigations at the homes
1690	Revisits
54	Ante-natal visits
13	Enquiries *re* cases of ophthalmia neonatorum
16	To the Door of Hope for Friendless Girls
67	To tubercular cases (supervision of nourishment benefit)
47	Infectious cases
2189	Total

In connection with the above, two cases were referred to the Charity Organisation Society and four to the National Society for the Prevention of Cruelty to Children.

Infant Welfare Centres.

Up till April, 1919, the Council maintained two Welfare Centres, one at Ellacombe Parish Room and one at Furrough Cross School Room, St. Mary-Church, meeting on Fridays and Thursdays respectively. After consideration it was decided to start a third centre to meet on Mondays at the Abbey

Road Congregational Schoolroom to meet the convenience of many mothers residing in this thickly populated area. This centre has been well attended, and shows a large proportion of infants under 12 months; a proposal to start a centre at Chelston was also discussed, but it was not considered expedient to open a centre there. At the Ellacombe and Abbey Road Centres, Miss Brindley the Matron of the Q.V.J.N.A., acts as Superintendent, assisted by voluntary workers and some V.A.D.'s. At St. Mary-Church Centre, there have been changes in the Superintendency. The District Nurses attended regularly and have charge of the weighing, voluntary workers also assist. The Health Visitor, Nurse Mylan, attends all the Centres as Clinic Nurse, her knowledge of the mothers and homes being of much value to the Medical Officer. In September when Dr. Mary Baird, was appointed Assistant School Medical Officer, arrangements were made for her to carry out the work of inspection, this will have the effect of bringing Child Welfare into close connection with School Inspection. The attendance at the Centres is satisfactory, averaging about 18 to 20 per session of whom half are under 12 months of age. Besides the inspection of infants, health talks, lessons in cutting out and sewing are given. During the year entries were made for the Daily Sketch Cup Competition. A preliminary selection was made of Torquay infants. In the first heat, when competitors from Teignmouth and Dartmouth were present, two Torquay children were among the selected, but were knocked out in the second heat. However, our Local Baby Show proved a success, almost 100 infants being judged.

Supply of milk to necessitous and nursing mothers. Early in December owing to the high price of milk, arrangements were made with the consent of the Ministry of Health, to supply milk either free or pay part cost. All applications had to be made to me and after obtaining full particulars of income, number in family, etc., arrangements were made to insure that necessitous cases were receiving a sufficiency of milk to maintain the health of the infant. I am certain this proved a great boon to many families.

Causes of Death.

Full details as to the cause and age at death are given in the Local Government Board Table III., on page 45.

Death from Zymotic Diseases.

The zymotic death-rate is calculated from the seven principal zymotic diseases. The following table enumerates them and the number of deaths recorded from each :—

Small-pox		0
Measles		0
Whooping Cough		0
Scarlet Fever		0
Diphtheria		2
Fevers	Typhus	0
	Enteric	0
	Continued	0
Diarrhœa		1
		3

The zymotic death-rate is therefore equal to ·08 per 1,000 against ·38 per 1,000 in 1918.

Influenza and Pneumonia.

There were 36 deaths registered from this disease. The majority occurred during the first four months of the year and appears to have been the continuation of the epidemic which started in October, 1918 and caused such a heavy mortality. During the year there were 50 notifications of pneumonia, many of which were complications of Influenza. Eleven deaths were caused by pneumonia.

Diarrhœa.

Only one death occurred from Diarrhœa. Torquay usually has considerable immunity from this complaint and as with Enteric Fever this freedom may to some extent be attributed to good water and drainage. As customary, frequent inspections of the more crowded areas were made by the Sanitary Inspector in the summer months, with a view to detecting accumulations of refuse and manure.

Tuberculosis.

During the year 190 notifications of Pulmonary Tuberculosis were received (against 219 in 1918), these refer however to 110 notifications under Form A, that is primary notification of the case. The remaining 80 notifications consisted of 47 under Form C admission to, and 29 under Form D discharge from a public institution. There was also 1 notification under Form B, *i.e.* by the School Medical Inspector. There were 26 notifications of other forms of Tubercular Diseases.

Monthly Notifications of Tuberculosis in the Year 1919.

Month	Pulmonary Tuberculosis.													Other Forms of Tuberculosis.											
	Form A.			Form B.			Form C.			Form D.				Form A.			Form B.			Form C.			Form D.			
	Residents	Visitors	Total	Residents	Visitors	Total	Residents	Visitors	Total	Residents	Visitors	Total	Totals.	Residents	Visitors	Total	Residents	Visitors	Total	Residents	Visitors	Total	Residents	Visitors	Total	Totals.
January ...	12	6	18	—	—	—	4	1	5	2	—	2	25	1	—	1	—	—	—	—	—	—	—	—	—	1
February ...	6	8	14	—	—	—	—	—	—	—	—	—	14	—	—	—	—	—	—	—	1	1	1	—	1	2
March ...	6	3	9	—	—	—	3	—	3	1	—	1	13	3	1	4	—	—	—	—	—	—	—	—	—	4
April ...	7	3	10	—	—	—	4	1	5	2	2	4	19	—	—	—	—	—	—	—	—	—	—	—	—	—
May... ...	5	1	6	—	—	—	9	—	9	2	—	2	17	—	—	—	—	—	—	—	—	—	—	—	—	—
June ...	3	—	3	—	—	—	3	—	3	2	—	2	8	—	—	—	—	—	—	—	—	—	—	—	—	—
July ...	2	1	3	—	—	—	2	—	2	3	—	3	8	—	—	—	—	—	—	—	—	—	—	—	—	—
August ...	4	—	4	—	—	—	1	—	1	4	1	5	10	—	—	—	—	—	—	—	—	—	—	—	—	—
September ...	8	2	10	—	—	—	1	1	2	2	1	3	15	3	9	12	—	—	—	—	—	—	—	—	—	12
October ...	6	4	10	—	—	—	9	2	11	4	1	5	26	2	1	3	—	—	—	—	—	—	—	—	—	3
November ...	8	—	8	—	—	—	1	1	2	3	1	4	14	2	—	2	—	—	—	—	—	—	—	—	—	2
December ...	14	1	15	1	—	1	4	—	4	1	—	1	21	2	—	2	—	—	—	—	—	—	—	—	—	2
Totals ...	81	29	110	1	—	1	41	6	47	26	6	32	190	13	11	24	—	—	—	—	1	1	1	—	1	26

Note.—Form A. Form of Notification of all cases not previously notified. Form B. Form of Notification by School Medical Officer. Form C. Form of Notification by Medical Officer of Poor Law Institutions and Sanatoria of patients previously notified before admission. Form D. Form of Notification ditto, of discharge.

Forty-six deaths were registered from Pulmonary Tuberculosis among Torquay residents, besides which there were 18 deaths among visitors, whose deaths were transferred to other sanitary areas.

The death-rate is equal to 1·3 per 1,000 per annum, against 2·0 per 1,000 in 1918.

The following table gives the sex and age at death :—

Age period		1—5	5—15	15—25	25—45	45—65	over 65	Totals.
Residents	Males	—	2	5	14	4	2	27
	Females	—	1	4	6	5	3	19
Totals		—	3	9	20	9	5	46

There were no deaths from Tubercular Meningitis, but six from other forms of Tubercular diseases.

A detailed list of notifications is forwarded each week to the County Medical Officer of Health and they are subsequently forwarded to the District Tuberculosis Officer, who visits each case unless requested not to do so.

As a means of avoiding unnecessary overlapping of visits and irritation of patients, an arrangement has been made with that official that visits from the Sanitary Department would only be made in such cases as he considered it advisable, and he would periodically send us copies of the particulars of family history and home surroundings of the patients for entry in our register. The names of all Elementary School children living in such houses are also sent, these are entered on special cards so that the children may be examined at the regular visits of the School Medical Officer.

Free disinfection of rooms and bedding is carried out after death or removal of patients from houses in the Borough.

The Health Visitor paid 67 home visits to supervise the nourishment benefit ordered for Tubercular patients.

At present the Devon County Council hold a Tuberculosis Dispensary at "Smyrna," where also advanced cases of pulmonary tuberculosis are received. It is understood that negotiations are in progress for the purchase of the late Western Consumptive Hospital, which is more commodious and better suited for the reception of consumptives. Early cases of the disease are taken out into the Hawkmoor Sanatorium near Bovey Tracey, a most suitable position for such an institution. There is still a great want for a residental institution for children of school age suffering from pulmonary tuberculosis, where they could uot only be treated, but receive some educatien. At present such cases are excluded from school without efficient supervision, which is neither good for them physically or morally.

Cancer, Malignant Disease.

There were 55 deaths registered from the above cause, 6 more than in 1918. The age and sex distribution is as follows :—

Age period	under 30	30—35	35—45	45—55	55—65	65—75	over 75	Totals
Males	1	1	4	4	4	4	4	22
Females	2	1	1	1	6	11	11	33
Totals	3	2	5	5	10	15	15	55

It is thus seen that the incidence of this disease is considerably more in females than males.

In considering such a disease as cancer, which usually affects persons in the prime or later years of life and more especially females, it must be borne in mind that in communities such as Torquay whose population have a larger proportion of such people than the country as a whole, must suffer more severely.

The death-rate for the year is equal to 1·6 per 1,000 corrected for age and sex distribution it is equal to 1·4.

SANITARY WORK IN 1919.

The work of the Department, at least the essential work, has as in the previous year been carried out by Mr. MacMahon and Mr. Body and this has fully occupied their time and energies. In December a third Inspector, Mr. P. C. Steventon, was appointed, but did not start work till the new year. It is hoped that during the year 1920 we will be able to carry out the work in the efficient manner of pre-war days, although we must expect many difficulties arising through the lack of houses and the cost of building materials.

I append a summary of the work done.

Inspection of Meat and Slaughterhouses.

The whole of this important work is under the supervision o Mr. Body, and even under the difficulties in which meat has been apportioned, he has carried out his duties in the same satisfactory manner as in the past. He reports as follows :—

As in past years a considerable amount of time has been spent in supervising the food supply of the town, both in slaughter houses and shops, but the scarcity of supplies was not experienced as during the early parts of 1918. On the other hand the quantity was not excessive or the quality above reproach.

The condition of several consignments of frozen meat and bacon were extremely bad, especially in the case of frozen mutton, a number of carcases being badly affected with blue and black mildew, pointing to unhygenic condition of cold storage. As this mildew was apparent when the carcases left the cold store and could be detected at sight, it was very evident that the supervision at that end of transit must have been very lax. Delay and bad handling during transit, also accounted for a large amount being comdemned, some of the carcases arriving in a most filthy condition.

The quantity of frozen meat condemned weighed approximately 5,706lbs. against 9,000lbs. during 1918.

The quantity of bacon condemned weighed 1,121lbs. or nearly 700lbs. less than last year. The conditions associated with the bacon were somewhat unusual, the majority of sides on arrival appeared quite fresh, but after cutting up the sides for the purpose of sale and on exposing to the air for a few hours a most offensive

odour was given off; in some cases nothing could be detected until the bacon was being cooked. The only explanation of this condition, in my opinion, being insufficient curing, *i.e.*, the brine had not penetrated deep into the muscular tissue, but as the outer surface had excluded the air, decomposition had not set in until the inner surface had been exposed to the atmosphere.

One side of imported bacon was found to be affected with tuberculosis. This side was much emaciated and absolutely devoid of fat. It is therefore surprising that it was not detected at the time of export or on landing here.

The number of tinned foods found to be unsound were much above normal. The condition of the tins gave me the impression that skilled labour had not been employed in soldering the tins, the tins not having been hermetically sealed with the result that air had gained access to the contents.

A considerable number of calves heads and plucks, bullocks and sheeps internal organs had to be condemned on arrival owing to unsoundness, viz.:—66 calves heads and plucks weighing 403lbs. and 209 bullocks and sheeps organs weighing 1,703lbs. These articles were sent from either Newton Abbot or Exeter, where the animals had been slaughtered. Delay in transit was not so much the cause of unsoundness as want of care in dressing and packing the offals before the body heat had left the organs. A considerable amount of waste also arose from butchers being allocated sufficient dead meat for their trade for nearly a week, consequently during muggy weather their stock went bad before it could be sold, whereas if each butcher had been allowed a sufficient number of live animals these would have been slaughtered as required and waste avoided. The idea of the Food Control Authority was modelled to centralize the slaughtering, which in towns and districts of a permanent population and where weather conditions are suitable, could be carried out with success, but with a floating population of a town like Torquay, where the demand for meat varies from week to week, or even day to day, the supply to butchers on the lines before mentioned is bound to lead to waste and give rise to complaints.

Tuberculosis in pigs was the same as last year, viz.:—12, but bullocks show an increase of over 100%. The carcases of 2½ cows and one heifer having to be destroyed owing to the generalised condition of the disease. The total number of bullocks affected were 14.

The total amount of food stuffs destroyed has been a record since food inspection was inaugurated, viz. :—19,883¼lbs., compared with 17,691lbs. during 1918.

The diseases found in animals slaughtered in the local slaughter houses, were of the usual type common to food animals, the majority of which are preventable, flukes, cirrhosis and tuberculosis being the most common. The former disease could be prevented, or at least considerably diminished, if the land on which the animals were reared was properly drained and the ground treated with lime. The lime would kill the ova of the fluke or other parasites and micro-organisms and efficient drainage would prevent the multiplication of the intermediate host, the water-snail.

As regards tuberculosis, the preventative remedy is ample ventilation, light and cleanliness of the cowsheds, the separation of obviously diseased animals from healthy ones and the application of the tuberculin test to the herds from which the diseased animals have come. It would be a simple matter to ascertain through the auctioneer the name and address of the person who sent the animal to market for sale, a course contemplated under the Tuberculosis Order, which came in force in 1913, but was withdrawn at the commencement of the war.

The question of the exposure of meat in butchers shops is one which calls for attention. At present one sees meat hung in the front of the shops exposed to clouds of filthy street dust, without any attempt at protection. It is not only appalling to contemplate with what germs the joints become infected, but such infection must surely affect the keeping properties of the food. It is not sufficient to say that these germs are killed in cooking, as it is now established that many germs grow well on meat and produce as the result of their growth certain poisons which are unaffected by heat and are injurious to the health. It is not beyond human ingenuity to use some form of protection which at the same time would allow for proper ventilation of butchers shops. The difficulty seems to be to overcome the trades disinclination to alter time immemorial customs ; there is no doubt public opinion could effect some improvement, but I am afraid not much will be done without special legislation.

The same remarks apply to the carrying of carcases of meat in open carts through the streets between the slaughter house and shop.

TABLE A.

DISEASED OR UNSOUND FOOD DESTROYED.

Organs, etc. Destroyed.		Diseases.												
		Tuberculosis.	Flukes.	Cirrhosis.	Abscess.	Cysts	Strongyli.	Inflammation.	Pleurisy.	Injury.	Actinomycosis	Unsound.	Others.	Totals.
Beasts:	Lungs ..	1	—	1	3	5	—	—	—	—	—	5	—	15
	Livers ..	1	124	59	4	—	—	—	—	—	—	11	1	200
	Tongues ..	—	—	—	—	—	—	—	—	—	1	—	—	1
	Heads.. ..	—	—	—	—	—	—	—	—	—	2	2	—	4
	Carcases	—	—	—	—	—	—	—	—	—	—	—	—	—
Cows:	Lungs ..	8	—	—	5	11	—	—	—	1	—	3	2	30
	Livers.. ..	10	77	45	9	—	—	—	—	1	—	2	12	156
	Tongues ..	2	—	—	—	—	—	—	—	—	1	—	—	3
	Heads.. ..	4	—	—	—	—	—	—	—	—	2	1	2	9
	Carcases ..	3	—	—	—	—	—	—	—	1	—	—	1	5
Heifers:	Lungs.. ..	3	—	—	—	—	—	—	—	—	—	—	—	3
	Livers.. ..	3	25	9	—	—	—	—	—	—	—	—	—	37
	Tongues ..	1	—	—	—	—	—	—	—	—	—	—	—	1
	Heads.. ..	3	—	—	—	—	—	—	—	—	—	—	2	5
	Carcases ..	1	—	—	—	—	—	—	—	—	—	—	—	1
Sheep:	Lungs.. ..	—	—	—	3	—	224	—	—	—	—	50	—	277
	Livers.. ..	—	190	—	181	—	7	—	—	—	—	53	—	431
	Heads ..	—	—	—	—	—	—	—	—	—	—	106	1	107
	Carcases ..	—	—	—	—	—	—	—	—	—	—	1	—	1
Pigs:	Lungs.. ..	1	—	—	1	—	—	6	—	—	—	—	—	8
	Livers.. ..	1	—	3	2	3	—	2	—	—	—	—	—	11
	Heads.. ..	9	—	—	—	—	—	—	—	—	—	1	—	10
	Carcases ..	—	—	—	—	—	—	—	—	—	—	2	1	3
Other Organs:														
	Mesenteries	15	—	—	1	—	—	—	—	—	—	7	2	25
	Spleens ..	4	—	—	—	—	—	1	—	—	—	7	1	13
	Stomachs ..	3	—	—	—	—	—	1	—	1	—	—	2	7
	Miscellaneous	11	—	—	8	2	—	2	1	16	—	279	3	322
Calves		—	—	—	—	—	—	1	—	—	1	—	12	14
Fruit, tins, etc.		—	—	—	—	—	—	—	—	—	—	35	—	35
Bacon		1	—	—	—	—	—	—	—	—	—	95	—	96
Fish, tins, cases, etc. ..		—	—	—	—	—	—	—	—	—	—	29	—	29
Tinned Meat		—	—	—	—	—	—	—	—	—	—	23	—	23
Rabbits		—	—	—	—	—	—	—	—	—	—	14	—	14
Tins of Milk		—	—	—	—	—	—	—	—	—	—	24	—	24
Chickens and Ducks ..		14	—	—	—	—	—	—	—	—	—	15	—	29
Totals ..		99	416	117	217	21	231	13	1	20	7	765	42	1949

TABLE B.

Carcases Examined.

1918.		1919.
538	Bullocks	773
512	Cows	504
244	Heifers	381
5574	Sheep	4725
548	Pigs	794
125	Calves	401
7646		9497

TABLE C.

Carcases Destroyed.

1	Calf	Immature	1	Calf	Bruised
1	,,	Inflammation	1	,,	Dirty
1	Sheep	Septicemia	½	Cow's carcase	Tuberculosis
2	Cows	Tuberculosis	1	Heifer	Tuberculosis
1	Cow	Johnes Disease	1	Cow	Injury
2	Pigs	Unsound	1	Pig	Pneumonia

TABLE D.

Number of Carcases Examined in the Different Slaughter-Houses in the Borough.

No.	Bullocks.	Cows.	Heifers.	Sheep.	Pigs.	Calves.	Lambs.	Total
1	9	10	1	65	13	—	—	98
2	5	10	1	22	2	1	6	47
3	5	9	4	25	7	—	—	50
4	22	23	—	98	29	5	5	182
5	14	8	3	197	—	4	—	226
Abattoir	240	178	150	1767	351	151	160	2997
						Total		3600

Note—The figure 589 carcases required to make up to the total of Table E were inspected in slaughter-houses in the Cockington District.

TABLE E.

Total Number of Carcases Examined in Different Slaughter-Houses and Shops during the Year 1919.

Slaughter-houses	4189
Shops	5308
Total	9497

TABLE F.

Diseased or Unsound Food Destroyed.

1918					1919			
tons	cwts.	qrs.	lbs.		tons	cwts.	qrs.	lbs.
5	2	0	16½	Voluntary surrendered (approximate weight)	5	7	2	2
2	1	1	24½	Surrendered after inspection (approximate weight)	2	16	1	26½
—	14	1	10½	Seized	—	13	2	3
7	17	2	23½	Totals	8	17	2	3½

Slaughter Houses in the Borough.

The total number of these was six. One being registered and the other five licensed. No slaughtering has been done during the year at the registered slaughter house at Lawes Bridge. Early in the year the Council purchased Kings Slaughter House at Babbacombe. This was highly necessary owing to its being situated in a closely populated area not suitable for the purpose, and abutting on the Elementary School. The above are under almost daily supervision by Mr. Body, and on the whole are kept in a satisfactory condition. Besides visits to the above, frequent inspections are made of butchers shops, butchers vans from which meat is hawked, and also of places where sausages are prepared.

During the year the Market Company intimated to us that they intended to close the public slaughter house in Parkfield Road This would have meant that many butchers who used these premises would have to find accommodation elsewhere. Considering all the facts, the Council opened negotiations with the Company with the object of obtaining a lease, but they were only prepared to sell. As the Council have been seriously considering the question of providing an up-to-date abattoir, and this site did not commend itself for the purpose, negotiations fell through. However, the previous leaseholder of the premises has purchased and intends carrying on the slaughter house on similar lines.

There is no doubt the Council must in the immediate future face the question of the provision of a modern abattoir. A Sub-Sanitary Committee are dealing with the matter and have visited several suitable sites in the districts where such a building could be erected.

The Fish Quay is inspected regularly, and on the whole the quality is satisfactory.

Sale of Food and Drugs Act.

Samples are taken by the County Police. Through the courtesy of Superintendent Crooke, I am enabled to give the following results :—Fifty samples of milk were taken and submitted to the County Analyst. All were found to be genuine.

Examination, Chemical and Bacteriological.

During the year in the Laboratory attached to the Health Department 21 samples of milk were obtained from various dairymen and chemically examined, 14 being bacteriologically examined,

also special attention was directed to the presence of extraneous dirt. There was not so much to complain of as to the chemical quality, but in various samples the number of organisms and amount of dirt was excessive.

Milk Supply.

There are 79 registered dairymen and cowkeepers in the Borough. Their dairies and cowsheds are inspected twice a year. Most of them receive milk from farms situated outside the Borough. Owing to the shortage of labour it has not been possible to strictly enforce the Cowshed and Dairies' Regulations, but by the instructions of the Sanitary Committee dairymen have now been notified that in future these must be complied with.

We also inspect the outside farms, obtaining particulars of the conditions of the cowsheds as to cleanliness, lighting, ventilation and paving, the washing of milk vessels; cleanliness of dairies, etc.; the water supply and its freedom from pollution; the number and condition of the cows in milk.

After these inspections, a complete register is compiled of all dairies and cowsheds in the Borough, together with the farms outside which supply them with milk, etc. The register is printed in the form of a bill, and is posted up throughout the town, copies being forwarded to all dairymen and farmers concerned. Such bills are a guarantee that we are satisfied with the Sanitary state of the places at the time of inspection. We also know the source of each dairyman's milk supply, which is of great value in tracing possible sources of infection. From my knowledge of the farms, etc., I am in a position to advise residents who enquire, concerning a milk supply, and it is surprising the number of such that are made. So that it is to the benefit of individual dairymen to be satisfied as to the condition of the farms from which he derives his milk.

During the year I prepared a statement on the production of clean milk supply and on the instructions of the Sanitary Committee got into communication with the Local Dairymen's Association.

They considered the subject, but felt that it was more a matter for the producer than for them, ignoring the fact that they have the power to bring some pressure to bear on the producer. I am more and more persuaded that it will only be through legislation that it will be possible to compel the producer to use such precaution as would insure pure milk. I am perfectly aware

that there are difficulties and certain prejudices to be overcome, but of this I am satisfied that if any dairyman or combination of dairymen was to inaugurate and carry out the principles of clean milk production, thoroughly advertise their project, they would be able to sell their milk at increased prices, and in all probability double the number of their customers within 12 months.

Milk and Cream Regulations, 1912-1917. These regulations are enforced by the County Police. The Superintendent informs me no special samples were taken for the purpose of ascertaining the amount of preservatives present.

Milk (Mothers & Childrens) Order, 1918. Vide remarks under Infant Welfare on page

Factory and Workshops.

It has not been found possible with the present staff to carry out regular inspections under the Factory and Workshops Acts. Now that a third Inspector has been appointed an endeavour will be made to return to pre-war standards. From the accompanying tabular statement of sanitary work done it will be seen that 69 workshops were inspected.

Bakehouses.

There are 33 bakehouses on the register. These are periodically inspected, and are generally kept in a satisfactory condition. Occasionally we find that lime-washing has been neglected, but this is usually carried out on verbal notice.

Common Lodging Houses.

There are three Common Lodging Houses in the Borough. They are inspected regularly. In March it was found necessary to prosecute the keeper of one house for continued neglect, bedding was dirty and verminous, floors not washed, etc. He was fined £1 with the alternative of three days. This has produced a marked improvement in the way the house is kept.

Port Sanitary Work.

For a considerable portion of the year, the Harbour was practically under the control of the Government. Now occasional trading vessels arrive and these have been inspected. Mr. Steventon has been appointed Port Sanitary Inspector and the vessels entering will be regularly inspected.

HOUSING.

It is well to bear in mind that I estimate the population of the Borough at almost 40,000.

Houses in Torquay may be roughly divided into classes :—

Large villa residences with large gardens, in which group may be included hotels and large boarding houses.

Smaller semi-detached houses and terrace houses, for which there was considerable demand before the war.

Better-class artisans' terrace houses.

Working-class houses, more or less crowded on area, and more or less overcrowded.

Small cottage property.

The total number of dwellings	..	= 7423
Number of working-class dwellings	..	= 5025
New houses erected during the year, or in course of erection, for members of the working classes	..	Nil.

Prior to the war, houses were being erected at about the rate of 100 per annum, so that we are practically 600 houses in arrear. In an endeavour to meet the shortage of houses the Council through their Housing Committee have formulated a scheme and have acquired an estate of 28 acres, known as the Westhill Estate, on which it is possible to erect 240 houses.

The lay-out has been prepared by the Borough Surveyor, and approved by the Housing Commission. The plans of the various styles of houses have been prepared, arrangements are being made with local builders for the erection of the first 75 houses, under an "agreed price contract," to be completed within 6 months from the date of signing the contract, so that it is hoped they will be ready for occupation during 1920.

Overcrowding. Owing to the absolute dearth of accommodation there is undoubtedly a certain amount of overcrowding, but the Sanitary Authority have only dealt with gross cases. From enquiries made when investigating infectious diseases and in other ways I estimate that in at least 50% of houses of the working classes there are more than one family occupying. In many instances these extra occupants are married sons and daughters with possibly one or two young children. The only remedy in contemplation is the early erection of new houses.

Fitness of Houses. The more modern houses are generally speaking satisfactory. The older class of houses in pre-war days required constant attention and this they have not received during the war. The consequence is that the roofs are not weather tight,

walls damp through outside cement perishing, defective eavespouting and in many cases colour-washing is badly needed. In one of the districts in which an official representation has been made, all the houses were examined in 1913 under the Housing and Town Planning Act, and the houses showing defects were thoroughly repaired. The condition of these houses is now worse than ever and almost beyond repair without practically reconstructing them, Much difficulty is met in dealing with housing defects. For example, a house is inspected and is found to have such a defective roof that in wet weather water pours through, and unless caught in some vessel, runs through the bedroom to the floor beneath. The attention of the owner is drawn to it. and he replies either that he has no money to repair or that he cannot obtain labour or material to remedy. He is then informed that it will be necessary to close the premises, and you are at once met with the statement "That is just what I want you to do." It would be possible then to sell the property or to do it up and obtain a largely increased rent. In most instances one has to use persuasion to get owners to do such repairs as are absolutely necessary to allow tenants to live in tolerable comfort.

One house was closed, but on being thoroughly repaired, the order was determined.

Defects in drainage, water supply, w.c. accommodation, are in all instances required to be put right.

UNHEALTHY AREAS.

In January, 1919, I reported to the Sanitary Committee on the condition of the houses in Lower Union Lane and Pimlico. I expressed the opinion that many were in such a condition as to be unrepairable, others being back to back or not having through light and ventilation or being obstructive buildings, ought to be closed, and suggested that the only method of dealing with them was by declaring the areas unhealthy. The Sanitary Committee visited the areas in question and fully discussed the best solutions of the problem. It was then felt that as the Council had formed a special Housing Committee, this subject should be dealt with by them. The latter Committee also visited and inspected these houses, and to them I presented in conjunction with Mr. Garrett, a full report on the areas in question. I also furnished an official representation that in my opinion the areas were unhealthy. This the Council accepted. As a consequence the first consideration

was the provision of accommodation for those dispossessed. It was suggested that the new houses about to be erected on the West Hill Estate, would fulfil this requirement. I pointed out that most of these people were employed in or around the harbour, where it was essential for them to be on the spot when required, and that it was most unlikely that they could afford to take such houses, or that they could be persuaded to go so far from their work.

As an alternative the question of erecting two storied flats in the Council's Quarry on Stentifords Hill was suggested ; this however was vetoed. But a suggestion of cottages on the higher Quarry site was agreed to.

This would not supply all that are required, so enquiries were ordered to be made concerning the land in Ellacombe now used as allotments.

The first essentials (the provision of houses) is thus started. The question of the unhealthy areas, as to what is to be included in the areas and how the area is to be utilised when cleared of houses is however still far from solution, at least so far as Pimlico is concerned. Here we have to look ahead. The portion of Union Street fronting this area is so narrow as to form a bottle neck both for traffic from the portion above Market Street corner and also for that coming up from Fleet Street. The widening of this Street is certainly a much needed improvement, especially in these days of motor traffic, but is likely to prove extremely costly, although in time would, I believe, more than repay the outlay. A further argument in favour of this, is that the back portion of many shops here abutting into the unhealthy area are in as dilapidated and overcrowded condition as the houses actually in the area.

If Government aid can be secured to help this improvement, a bold scheme should be adopted.

As an alternative we have a suggestion of the formation of making a relief artery down through Pimlico itself. On account of the contour this is an engineering problem. Such a diverted street would allow for opening up in front of St. Michaels School and would permit of the erection of a few workmen's houses, with sufficient air space at the rear. A great improvement could also be effected by the clearing of the shops at the Market Street corner, and making a gradual sweep round into Union Street.

Temperance Street. The Committee have here decided on the closing of the tenements, widening the street and making a connection with Lower Union Lane. The area denuded of houses could be utilised for builder's yards, stores or workshops.

Church Lane, Torre. This is not a matter of such difficult solution. The demolition of a few houses or the throwing of two houses into one would greatly improve the area.

From the tabular statement of Sanitary Work done it will be seen that 198 houses were inspected and 608 visits made to houses, and defects such as dirty rooms, leaking roofs, insanitary drains remedied. Three cases of overcrowding were abated. One house was closed as unfit for habitation and two determining orders made.

In connection with the report on unhealthy areas in Temperance Street and Pimlico, most of the houses were inspected by me on several occasions.

The following table gives a resumé of work carried out by the Inspectors during the year :—

HOUSING & TOWN PLANNING ACT AND PUBLIC HEALTH ACTS.
TABULAR STATEMENT OF WORK DONE IN 1919.

Houses inspected	198
Houses visited	608
Dirty premises limewashed and cleaned	72
Rooms disinfected	152
Cases of overcrowding abated	3
Defective floors repaired	25
Water supply laid direct from main to tap over sink	16
Defective yards re-paved	31
Lighted and ventilated rooms	8
R. W. P.'s and gutters repaired	45
Nuisances from keeping fowls and animals	10
Ashbin provided for house refuse	5
Roofs repaired	34
Smoke tests applied	286
Water „ „	59
New sets of house drains laid	29
Defective house drains repaired	29
Old masonry drains found and abolished	—
Intercepting traps with fresh air inlets fixed	29
Old "Mason's" and other old type of traps abolished	7
Inspection chamber to drains built	50
Drains ventilated at head of system	27
New sanitary conveniences with water supply fixed	75
Soil pipes fixed outside buildings and ventilated	30
Iron and brick traps removed and earthenware gullies fixed	83
Waste pipes from baths, lavatories, and sinks trapped	47
Choked drains cleared	40
Defective w.c. cisterns repaired or new provided	33
W.C.'s repaired and cleansed	17
Glazed sinks fixed	20

Miscellaneous.

Offensive accumulations removed	56
Nuisances from stables and manure pits abated	6
Miscellaneous	106
Re-visits in connection with above work	410
Legal notices	16
Preliminary notices served	76
Letters and communications in connection with the work of the department	695
Verbal notices	7
Written complaints	93
Verbal complaints	133
Slaughter-houses	1048
Butchers' shops	1236
Butchers' carts	27
Fish Quay	96
Railway siding	11
Market	60
Other shops	388
Dairies and cowsheds	239
Number of vessels inspected	13
Houses closed as unfit for human habitation	1
Workshops visited	69
Disinfectants supplied	2682

Table I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1919 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.						Under 1 year of age		At all ages.	
			Number	Rate.	Number.	Rate.	of Non-Residents registered in the District.	of Residents not registered in the District.	Number.	Rate per 1,000 Nett Births	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1912	39000	560	571	14·6	485	12·4	58	52	52	91	479	12·2
1913	39250	530	535	13·6	495	12·6	45	71	58	108	521	13·2
1914	39440	533	542	13·1	482	12·2	44	54	45	83	492	12·4
1915	32520	482	490	12·4	543	16·6	59	92	41	83·6	576	17·7
1916	31540	449	459	13·3	554	17·2	65	56	43	93·7	542	17·2
1917	30685	389	401	11·7	562	18·3	88	80	26	64·8	554	18·0
1918	30710	407	412	12·0	597	19·4	85	110	31	75	622	20·2
1919	33374	517	531	15·2	501	15·0	60	63	25	47	504	15·1

TABLE II.

CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1919.

NOTIFIABLE DISEASE.	Number of Cases notified.								Total cases notified in each locality.									Total cases removed to hospital.
	At all ages.	At Ages—Years.							Torre	Waldon	Upton	Ellac'mbe	Strand	Torwood	St. M'C'h.	Babbac'be	Chelston	
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards										
Small-pox ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Cholera ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Diphtheria,incl'd'g Membranous croup	36	—	11	20	1	4	—	—	8	-	19	2	3	-	3	1	-	30
Erysipelas ..	3	—	—	—	—	1	1	1	-	-	2	-	-	1	-	-	-	—
Scarlet fever ..	29	—	2	10	7	8	2	—	10	1	2	1	2	2	2	5	4	26
Enteric fever ..	2	—	—	—	2	—	—	—	-	-	2	-	-	-	-	-	-	2
Typhus fever ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Relapsing fever ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Continued fever ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Puerperal fever ..	1	—	—	—	—	1	—	—	-	-	-	1	-	-	-	-	-	1
Cerebro-spinal Meningitis ..	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
Poliomyelitis ..	1	—	—	—	1	—	—	—	-	-	-	-	-	1	-	-	-	—
Opthalmia Neonatorum	4	4	—	—	—	—	—	—	-	-	-	1	1	-	1	1	-	—
Acute Encephalitis Lethargica .	1	—	—	—	—	—	1	—	-	-	-	1	-	-	-	-	-	1
Pulmonary Tuberculosis ..	112	—	—	3	29	58	21	1	20	2	12	16	17	18	7	11	9	—
Other form of Tuberculosis ..	24	—	2	11	4	5	2	—	4	-	5	10	1	2	-	1	1	—
Measles ..	117	—	16	89	6	5	1	—	6	5	12	14	1	37	14	23	5	—
Pneumonia ..	50	—	6	8	10	16	6	4	3	1	11	18	3	3	4	4	3	—
Malaria ..	17	—	—	—	1	15	1	—	2	1	-	5	-	-	3	3	3	—
Totals ..	397	4	37	141	61	113	35	6	53	10	65	69	28	64	34	49	25	

NOTE—Of the above, 15 were in the Army and 2 in the Navy.

The Isolation Hospital is situated outside the Borough on the Newton Abbot Road. The Cockington Isolation Hospital is reserved for cases of small-pox.

Total available beds for general Infectious Diseases, 16. Two Diseases can be treated concurrently.

TABLE III. CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1919. (see Notes next page).

CAUSES OF DEATH.	Net deaths at the subjoined ages of Residents whether occurring within or without the District (a).									Total Deaths whether of Residents or non Residents in Public Institutions in the District
	All ages	under 1	1 and under 2	and under 5	5 and under 15.	15 & under 25.	25 & under 45.	45 & under 65.	65 & upwards	
All causes (Certified (c)	499	25	6	6	12	23	64	103	260	36
All causes Uncertified	5	—	—	—	—	—	1	1	3	—
Enteric Fever ..	—	—	—	—	—	—	—	—	—	—
Small-pox	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—
Scarlet Fever ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough ..	—	—	—	—	—	—	—	—	—	—
Diphtheria & croup	2	—	—	2	—	—	—	—	—	—
Influenza	36	2	3	1	2	2	11	12	3	1
Erysipelas ..	2	—	—	—	—	—	—	1	1	—
Phthisis (Pulmonary Tuberculosis) ..	46	—	—	—	3	9	20	9	5	12
Tuberculous Meningitis	—	—	—	—	—	—	—	—	—	—
Other tuberculous diseases	7	—	—	—	1	1	1	3	1	—
Cancer, malignant disease ..	55	—	—	—	—	—	10	15	30	4
Rheumatic Fever ..	2	—	—	—	1	—	—	—	1	1
Meningitis (*See* note *d*)	3	—	1	—	1	1	—	—	—	1
Organic Heart Disease	62	—	—	—	—	2	3	14	43	3
Bronchitis ..	44	5	—	—	—	—	1	5	33	1
Pneumonia (all forms)	11	1	—	1	—	1	4	1	3	1
Other diseases of respiratory organs	7	—	—	1	—	—	—	1	5	—
Diarrhœa and Enteritis (*See* note *e*)	1	1	—	—	—	—	—	—	—	—
Appendicitis and Typhlitis ..	1	—	—	—	—	1	—	—	—	1
Cirrhosis of liver ..	2	—	—	—	—	—	—	1	1	—
Alcoholism ..	—	—	—	—	—	—	—	—	—	—
Nephritis & Bright's disease	14	—	—	—	—	1	3	5	5	2
Puerperal fever ..	1	—	—	—	—	—	1	—	—	1
Other accidents and diseases of Pregnancy and Parturition	2	—	—	—	—	—	2	—	—	1
Congenital Debility and Malformation, including Premature Birth ..	10	10	—	—	—	—	—	—	—	—
Violent Deaths, excluding Suicide ..	7	—	—	—	2	—	—	2	3	1
Suicides	4	—	—	—	—	1	1	2	—	—
Other Defined Diseases	184	6	2	1	2	4	8	32	129	6
Diseases ill-defined or unknown ..	1	—	—	—	—	—	—	1	—	—
	504	25	6	6	12	23	65	104	263	36
SUB-ENTRIES included in above figures										
(a) Cerebro-spinal Meningitis ..	1	—	—	—	—	1	—	—	—	—
(a) Poliomyelitis ..	—	—	—	—	—	—	—	1	—	1
Encephalitis Lethargica ..	1	—	—	—	—	—	—	1	—	1

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death.

(*a*) All "transferable deaths" of residents, *i.e.*, of persons resident in the district who have died outside it, are *included* with the other deaths in columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the district, are in like manner *excluded* from these columns.

The total deaths in column 2 of Table III. should equal the figures for the year in column 12 of Table I.

(*b*) All deaths occurring in institutions for the sick and infirm situated in the district, whether of residents or non-residents, are to be entered in the last column of Table III.

(*c*) All deaths certified by registered medical practitioners, and all inquest cases, are to be classed as "Certified:" all other deaths are to be regarded as "Uncertified."

(*d*) Exclusive of "Tuberculosis Meningitis" (10), but inclusive of Cerebro Spinal Meningitis.

(*e*) Title 19 should be used for deaths from Diarrhœa and Enteritis at all ages. (In the "Short List" deaths from Diarrhœa and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28).

TABLE IV.

INFANT MORTALITY DURING THE YEAR 1919.

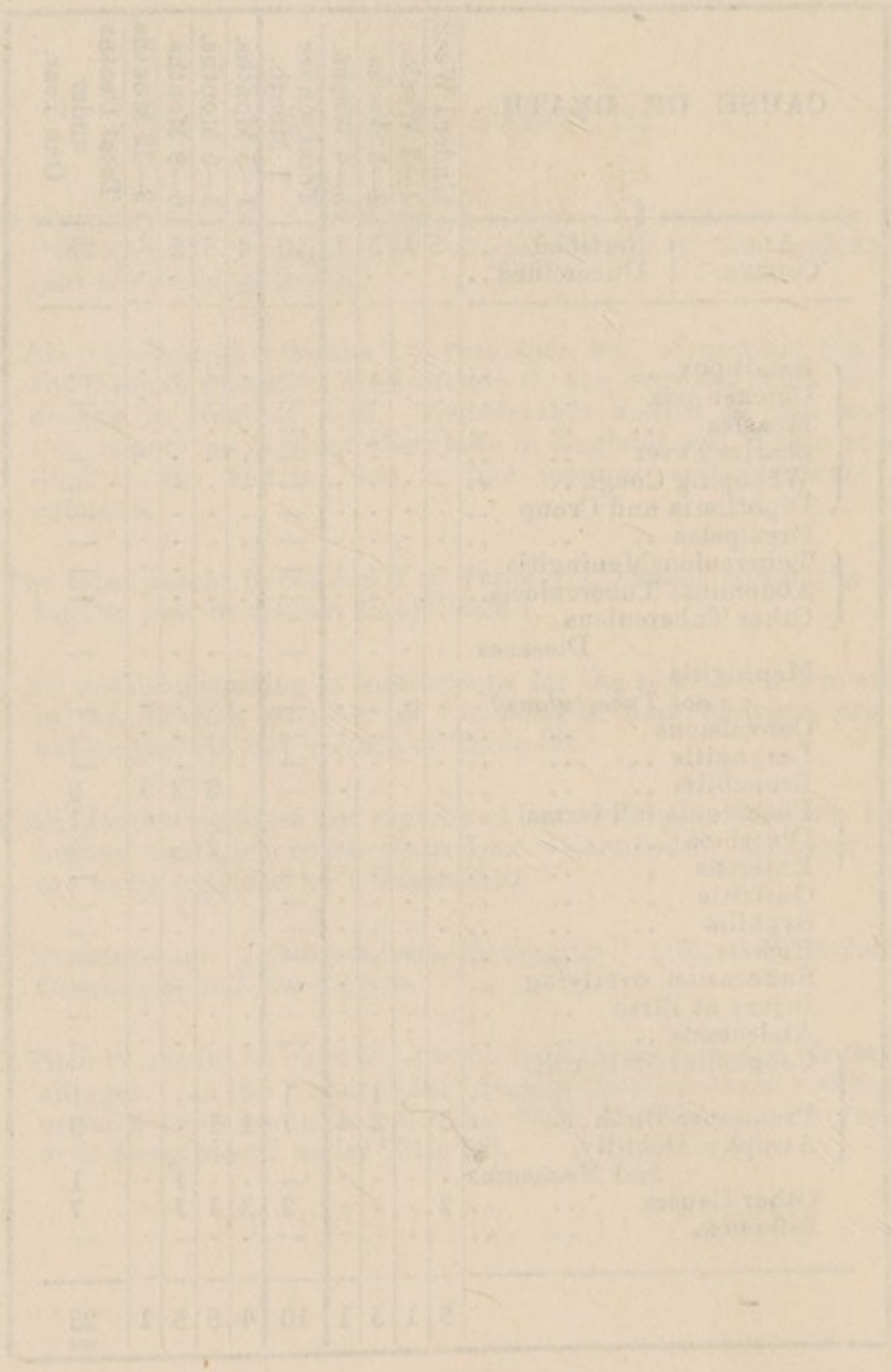
NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.	Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	Total Deaths under One Year.
ALL CAUSES. Certified ..	5	1	3	1	10	4	5	5	1	25
ALL CAUSES. Uncertified ..	-	-	-	-	-	-	-	-	-	-
Small-pox	-	-	-	-	—	-	-	-	-	—
Chicken-pox	-	-	-	-	—	-	-	-	-	—
Measles	-	-	-	-	—	-	-	-	-	—
Scarlet Fever	-	-	-	-	—	-	-	-	-	—
Whooping Cough	-	-	-	-	—	-	-	-	-	—
Diphtheria and Croup ..	-	-	-	-	—	-	-	-	-	—
Erysipelas	-	-	-	-	—	-	-	-	-	—
Tuberculous Meningitis ..	-	-	-	-	—	-	-	-	-	—
Abdominal Tuberculosis..	-	-	-	-	—	-	-	-	-	—
Other Tuberculous Diseases	-	-	-	-	—	-	-	-	-	—
Meningitis *(not Tuberculous)*	-	-	-	-	—	-	-	-	-	—
Convulsions	-	-	-	-	—	-	-	-	-	—
Laryngitis	-	-	-	-	—	-	-	-	-	—
Bronchitis	-	-	-	-	—	-	2	2	1	5
Pneumonia (all forms) ..	-	-	-	-	—	-	-	1	-	1
Diarrhœa	-	-	-	-	—	-	1	-	-	1
Enteritis	-	-	-	-	—	-	-	-	-	—
Gastritis	-	-	-	-	—	-	-	-	-	—
Syphilis	-	-	-	-	—	-	-	-	-	—
Rickets	-	-	-	-	—	-	-	-	-	—
Suffocation, overlying ..	-	-	-	-	—	-	-	-	-	—
Injury at Birth	-	-	-	-	—	-	-	-	-	—
Atelectasis	-	-	-	-	—	-	-	-	-	—
Congenital Malformations ..	-	-	1	-	1	-	-	-	-	1
Premature Birth	3	1	2	1	7	1	1	-	-	9
Atrophy, Debility, and Marasmus	-	-	-	-	—	-	-	1	-	1
Other Causes	2	-	-	-	2	3	1	1	-	7
Influenza		-	-	-	—	-	-	-	-	—
	5	1	3	1	10	4	5	5	1	25

Nett Births in the year { legitimate - 450. illegitimate - 81. } Population: Registrar-General's Estimate 33374

Nett Deaths in the year of { legitimate infants 18. illegitimate infants 7. }

Deaths from all causes at all ages - 504.



BOROUGH OF TORQUAY.

Meteorological Report

FOR THE YEAR 1919.

PERCY C. STEVENTON,

Borough Meteorologist.

The Borough Observatory,

February 21st, 1920.

OBSERVATORY AND INSTRUMENTS.

The Observatory is organised and maintained by the Town Council, and is under the supervision of the Meteorological Office, London.

The several Barometers, Thermometers, and Rain Gauges have been verified at Kew Observatory, and are regularly examined by an Inspector on the staff of the Meteorological Office. Readings are all corrected for instrumental errors.

The Hygrometrical Results are deduced from the daily morning readings of the Dry and Wet Bulb Thermometers by means of Glaisher's Tables.

The averages for sunshine are the result of 20 years', for Temperature and Rainfall of 43 years', and for Pressure of 35 years' observations.

The following are the instruments and appliances in regular use, those marked with an asterisk being the property of the Torquay Natural History Society, and lent by them to the town :—

* The **Barometer** is a Fortin Standard, and is read twice daily, at 9 a.m. (local time) and at about 6 p.m. All readings are reduced to 32° F. and mean sea level, and are thus comparable with readings similarly reduced.

* An **Aneroidograph**, by Richard Freres, gives in graphic manner the alternations of pressure.

Two double-louvred **Stevenson's Screens**, each containing **Dry** and **Wet Bulb**, and **Maximum** and **Minimum Thermometers.** The instruments are of standard make (Negretti and Zambra), and are so placed that the bulbs of the hygrometer are four feet above the level of the ground. One of these sets has been working throughout the year at Cary Green, where the published temperatures have been taken ; the other in the Princess Gardens.

The **Rain Gauges** are of copper, by Casella, and of the Snowdon pattern. They are placed: one on Cary Green, one in the Princess Gardens, with the upper edges 12 inches above the level of the ground.

A third ***Stevenson's Screen**, also double-louvred has been in position in the Princess Gardens, in which is placed an **Ozonometer**.

The **Grass Minimum** by Negretti and Zambra, is placed in the Princess Gardens an inch above the ground.

The **Sunshine Recorder** is situated on the covered shelter at the southern end of the Pier deck, and is a Curtis Improved Campbell-Stokes instrument, fitted with a $3\frac{1}{2}$-inch spherical lens of crown glass, working on the principle of the burning-glass.

SHADE TEMPERATURES

Taken at 9 a.m. (Local Time)

1919.	Maximum *mean.*	Minimum *mean.*	Max. & Min. *mean.*	Difference from Average.	Range *mean.*	Highest.	Date.	Lowest.	Date.
	°	°	°	°	°	°		°	
Jan. ...	46·3	37·3	41·8	+0·7	9·0	52·9	14th	30·0	31st
Feb. ...	45·5	37·8	41·7	−1·5	7·7	54·6	20th	30·4	1st
March .	49·3	38·1	43·7	−0·5	11·2	57·9	3rd	30·0	26th
April . .	54·6	41·4	48·0	−0·3	13·2	68·3	19th	33·0	1st
May ...	61·4	50·6	56·0	+2·5	10·8	71·0	24th	45·6	3rd
June...	65·1	52·7	58·9	+0·4	12·5	74·0	1st	47·0	15th
July ...	66·8	53·9	60·4	−1·4	12·9	74·1	11th	48·9	1st
Aug....	71·2	57·4	64·3	+2·6	13·8	80·4	14th	47·0	30th
Sept. . .	63·7	52·3	58·0	−0·3	11·4	72·9	11th	38·7	29th
Oct. ...	56·6	43·8	50·2	−2·2	12·8	63·4	6th	32·4	29th
Nov....	47·0	37·1	42·1	−5·3	9·9	59·6	22nd	25·9	12th
Dec. ...	51·6	41·9	46·8	+2·7	9·7	55·8	20th	33·9	9th
Year	56·6	45·3	51·0	−2·6	11·3	80·4	14th Aug.	25·9	12th Nov.

DURATION OF BRIGHT SUNSHINE

In hours and tenths of an hour,

As recorded by the Campbell-Stokes' Standard Instrument.

1919.	Total Bright Sunshine.	Difference from Average.	Greatest Amount in one day.	Date.	Sunless Days.
	Hours.	Hours.	Hours.		
January	70·2	+ 7·7	6·8	18th	9
February	55·8	− 31·3	8·6	27th	12
March	135·7	+ 0·6	11·2	30th	9
April	199·9	+ 13·9	12·1	14th & 21st	2
May	203·2	− 24·5	13·0	28th & 29th	0
June.....	254·6	+ 32·0	14·5	13th & 16th	1
July.....	226·1	− 13·6	14·8	13th	2
August.....	246·8	+ 31·5	14·0	8th	1
September.....	163·5	− 1·7	11·8	9th	4
October	174·5	+ 64·4	9·9	4th	1
November.....	71·3	− 10·1	6·4	12th	12
December.....	58·7	+ 1·1	7·2	8th	11
Year.....	1860·3	+70·0	14·8	13th July	64

RAINFALL

In inches and hundredths.

1919.	Total Amount.	Difference from Average.	Rainy Days.		Greatest fall in 24 hours.	Date
			Days of 0·01 and upwards	Days of 0·04 and upwards		
January ...	5·67	+2·54	24	19	0·71	4th
February ...	5·88	+3·03	15	12	1·10	16th
March	3·92	+1·20	20	17	0·52	4th
April	1·78	−0·39	15	8	0·53	14th
May.....	0·64	−1·29	5	3	0·30	14th
June.....	0·97	−1·11	7	5	0·28	19th
July	1·50	−0·75	9	6	0·61	19th
August.....	2·98	+0·23	13	9	1·65	27th
September	1·61	−0·64	14	8	0·50	5th
October ...	0·81	−3·26	11	4	0·29	23rd
November	3·23	−0·27	18	14	0·65	30th
December	5·09	+0·87	27	17	0·81	31st
Year.....	34·08	+0·16	178	122	1·65	27th Aug.

HUMIDITY, CLOUD, OZONE, AND WIND.

1919.	Humidity.			Cloud	Ozone. Percentage of possible.	Wind.	Grass Temperatures.		
	Dry Bulb *mean.*	Wet Bulb *mean.*	Relative Humidity.	Cloud *mean* 1 to 10.	*Mean* Daily Amount.	Prevailing Quarters.	Mean.	Lowest.	No. of days at or below 32°
	°	°	%		%		°	°	
January	41·1	39·5	87	7	46	Variable	33·4	27·2	15
February	41·3	39·7	87	7	46	E.	35·8	26·9	8
March ...	44·1	41·5	81	6	58	Variable	34·7	25·8	10
April ...	48·7	44·8	74	6	55	Variable	36·7	27·2	5
May	56·5	52·5	75	6	48	E.	47·2	41·4	0
June.....	59·6	54·5	70	4	44	Variable	48·8	42·4	0
July	60·6	55·9	72	6	43	Variable	50·5	44·4	0
August...	64·4	60·1	76	5	43	Variable	54·2	44·0	0
Sept. ...	57·8	54·9	82	6	40	Westerly	50·1	35·6	0
October	50·7	47·6	80	4	43	N.W. & N.	40·3	28·4	2
Nov.....	41·2	39·5	87	6	34	N.	34·9	24·1	10
Dec.	47·1	45·7	89	7	56	W.	39·8	29·2	3
Year...	51·0	48·3	80	6	46	N., W., & N.W.	42·2	24·1	53

BAROMETRIC PRESSURE

In inches and thousandths.

Reduced to 32° F. and Sea Level.

1919.	*Mean* of Month.	Difference from Average.	Highest Reading.	Date.	Lowest Reading.	Date.	Extreme Range of Pressure.
January ...	29·803	−0·255	30·666	24th	28·681	7th	1·985
February ...	29·757	−0·228	30·637	9th	28·942	17th	1·695
March	29·853	−0·077	30·688	17th	29·449	20th	1·239
April	30·035	+0·110	30·708	20th	29·065	15th	1·643
May	30·059	+0·079	30·393	24th	29·617	2nd	0·776
June.....	30·210	+0·195	30·556	10th	29·948	12th	0·608
July	30·087	+0·083	30·279	13th	29·658	1st	0·621
August.....	30·052	+0·077	30·292	11th&12th	29·277	28th	1·015
September .	30·049	+0·010	30·456	17th	29·484	23rd	0·972
October ...	30·267	+0·321	30·581	19th	29·538	12th	1·043
November ..	29·837	−0·104	30·397	16th	29·444	26th	0·953
December ..	29·935	−0·034	30·453	19th	29·390	31st	1·063
Year	29·995	+0·177	30·708	20th April	28·681	7th Jan.	2·027

MONTHLY MEANS FOR THE TEN YEARS 1901–10.

MONTHS.	Temperature of Air.				Humidity.	Hours of Sunshine.	Cloud.	Rain.	
	Maximum.	Minimum.	Mean daily range.	Mean.				Days it fell.	Inches.
January	47·8	38·8	9·0	43·3	85	69·5	8	16	3·03
February	47·4	37·8	9·6	42·6	83	96·0	6	14	2·57
March	50·3	39·1	11·2	44·7	79	143·7	6	16	2·98
April	54·2	41·9	12·3	48·1	74	182·3	6	14	2·32
May	59·3	46·9	12·4	53·1	73	231·8	6	14	1·88
June	63·1	51·7	11·4	57·4	75	211·2	6	12	2·00
July	68·0	55·3	12·7	61·7	74	235·1	6	12	2·15
August	67·5	55·2	12·3	61.4	74	215·5	6	14	2·49
September	64·1	52·5	11·6	58·3	78	165·2	6	12	1·98
October	58·9	48·6	10·3	53·8	82	108·5	7	20	4·22
November	52·1	42·2	9·9	47·2	85	85·1	6	14	2·78
December	48·9	40·4	8·5	44·7	86	54·1	7	18	4·13
Year	56·8	45·9	10·9	51·4	79	1798·0	6·3	176	32·53

DIRECTION OF WIND.

MONTHS.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
January	6	3	3	1	2	5	6	5	—
February	5	2	11	6	1	—	2	1	—
March	5	—	6	2	1	2	8	7	—
April	9	—	4	2	—	2	6	6	1
May	2	—	13	4	4	—	6	2	—
June	5	—	6	2	8	1	4	4	—
July	6	3	3	6	6	—	2	5	—
August	5	—	3	5	2	3	8	5	—
September	2	1	4	2	3	6	5	5	2
October	10	3	1	2	2	1	3	6	3
November	13	2	2	—	—	3	3	7	—
December	2	—	—	—	3	4	12	5	5
Year	70	14	56	32	32	27	65	58	11

METEOROLOGICAL ABSTRACT, 1919.

Highest Shade Temperature	80·4
Lowest Shade Temperature	25·9
Mean Maximum Temperature	56·6
Mean Minimum Temperature	45·3
Mean Temperature	51·0
Mean Range of Temperature	11·3
Total Rainfall in Inches	34·08
Hours of Bright Sunshine	1860·3
Sunny Days	301
Mean Humidity, percentage of possible	80%
Mean Ozone	46%

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