[Report 1920] / Medical Officer of Health, St Annes-on-the-Sea U.D.C.

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Urban District Council of St. Annes-on-the-Sea.

ANNUAL REPORT

FOR 1920

by

JOHN TENNANT, M.A., M.D., F.R.C.S., Edin.
MEDICAL OFFICER OF HEALTH,

together with the

ANNUAL REPORTS

of

J. R. RIGBY, M.R.C.V.S.
VETERINARY INSPECTOR,

and

WILLIAM E. PROCTER, C.R.S.I., C.M.S.I.A.
CHIEF SANITARY INSPECTOR.

ST. ANNES-ON-THE-SEA:
J. ROBERTSON & CO., LTD., ST. LEONARD'S ROAD.
1921.

ANNUAL REPORT

On the Health of the Urban District of St. Annes-on-the-Sea.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL OF ST. ANNES-ON-THE-SEA.

GENTLEMEN,

The instructions of the Ministry of Health for the preparation of the Annual Reports by Medical Officers of Health for 1920 are very similar to those for 1919.

Natural and Social Conditions.

The population at the 1911 census was 9,842. In the middle of 1920 it was estimated by the Registrar General at 9,941. The increase of 381 over that of 1919 is due to the completion of demobilization and the addition to the 1919 population of the males estimated to be at that time serving in His Majesty's Forces. During 1920 three of the four wards were inspected under the Housing and Town Planning Act and found actually to contain 9,404 persons. In the ward which was not inspected there are 273 inhabited houses, which would contain 1,329 persons if the density of its population were the same as in 1911, on this supposition the population would be 10,733, which would materially alter the birth and death rates.

The physical features of the district and social characteristics of the population are described in my report for 1919.

Vital Statistics.

During the year 142 children were born—75 males and 67 females, of whom eight and seven respectively were illegitimate.

This is the largest number of births since 1911. If the Registrar General's estimate of population is accepted the birth-rate is 14.2 per 1,000, the largest since 1908.

The mean birth-rate for the ten years 1910-1919 is 10.8. The birth-rate calculated from the locally estimated population of 10,733 is 12.38, and still shows an increase over that of recent years.

The birth-rate of England and Wales in 1920 was 25.4 per 1,000 inhabitants, and in 1919 18.5. St. Annes showed an increase of nearly 24% as compared with 32% in the country generally.

Death-rate.

The number of deaths, after deduction of those of visitors and addition of those of residents who died elsewhere, was 152, 63 being of males and 89 of females. The death-rate was 15.3. If the local computation of population is accepted, the death-rate was 14.1 per 1,000 inhabitants. That for England and Wales was 12.4.

The death-rate during 1910-1914 averaged 9.3, and during the next four years 10.7 for St. Annes. The number of deaths of persons over 65 years of age was 62, or 43% of the whole, as compared with 29.7% in 96 large towns of England and Wales. In St. Annes-on-the-Sea during the preceding 5 years the average percentage of the whole deaths that occurred in persons over 65 years was 42.4.

The epidemic death-rate was 1.30, as against an average of 0.49 during the preceding 10 years, and the phthisis death-rate was 0.50, as against 0.49. As regards the causes of death, there is an increase in deaths from zymotic diseases to 12, against 1 last year; heart disease 22, against 15; and violence 5, as against 3. On the other hand, influenza fell from 17 to 3, tuberculosis from 10 to 5, and cancer from 17 to 13. Fifty-eight of the deaths did not come within the causes enumerated by the Ministry of Health, as against 45 in 1919.

The deaths of infants under one year of age numbered nine, and were at the rate of 63 per 1,000 births. The infantile death-rate for England and Wales was 80. There was one death from infantile indigestion.

The following is an extract from the quarterly return of the Registrar General published January 30th, 1921:—

"957,994 births and 466,213 deaths were registered in England and Wales in the year 1920. The natural increase of population, the excess of births over deaths, was therefore 491,781. The average annual increase in the preceding five years having been 187,625. This statement excludes all war deaths, except those registered in this country. The number of persons married during the year was 759,316.

"The numbers of births and of marriages are the highest ever recorded, while the number of deaths is the lowest since 1862, when the population was only about 20 millions. Natural increase also was the greatest on record. The marriage-rate in England and Wales during the year 1920 was 20.1 per 1,000 of the estimated population in the middle of the year, the birth-rate was 25.4 per 1,000, and the death-rate 12.4 per 1,000. Infant mortality was 80 per 1,000 registered births. The marriage-rate was higher and the total death-rate and infant mortality lower than in any other year on record. The birth-rate was the highest since 1909."

SANITARY CIRCUMSTANCES OF THE DISTRICT.

There has been a sufficient and constant supply of water from the Fylde Water Board. The water is free from pollution and plumbo solvent action and fairly soft (hardness 3°).

There is no pollution of rivers or streams.

Drainage and Sewerage.

All the sewage and storm water is conducted into the sea by gravitation, and the sewers are at present sufficient for that purpose. The sewers do not reach some of the remote houses, which are provided with privies or water closets draining into cesspools.

Closet Accommodation.

Every house within the sewered area has a water closet, the total number being 4,695. In the outlying areas are 19 fixed and 48 movable privies. The number of houses was 2,408, an increase on the previous year of 55. There have been no privies in the sewered area for many years.

Scavenging.

All houses are provided with covered dust-bins, and these and privies are emptied once a week or oftener. Cesspools are cleared out at least once a year.

Sanitary Inspection.

Mr. Procter, the Sanitary Inspector, reports that during the year 759 inspections were made and 253 nuisances discovered, of which 229 were remedied before the end of the year, and that it was only necessary to serve four legal notices. In Mr. Procter's Report a detailed list of the nuisances found will be discovered.

Schools.

All the Public Elementary Schools were inspected by me in the course of the year, and were found to have a good water supply and satisfactory sanitary arrangements. I inspected the inmates of all the schools twice, in January and April, and found one child, at the Sydney Street School, convalescing from Scarlet Fever.

On January 15th, the Medical Inspector of School Children notified two children attending the Heyhouses School as suffering from Scarlet Fever, and on March 31st three children at three different schools were notified by the School Nurse as having Scarlet Fever, which I verified.

Food.

(*a*) MILK SUPPLY.

A full report on this subject was presented to you in August, 1920. In the district are 18 registered cowsheds and 6 registered dairies, all of which have been inspected

from time to time by myself, the Veterinary Inspector, and the Sanitary Inspector. Appended is the report of Mr. J. R. Rigby, M.R.C.V.S., who examined all the cows and cowsheds at intervals of three months. Eighteen samples of milk were examined for tubercle bacilli, 16 being mixed samples taken at random by Mr. Procter, and two being samples procured from single cows by Mr. Rigby. In one of the latter tubercle bacilli were found.

(*b*) MEAT.

There is a public slaughter-house in the district, where all carcases are inspected before removal. Parts or the whole of 13 were condemned and destroyed on account of tuberculosis.

NUMBER OF SLAUGHTER-HOUSES IN USE IN THE DISTRICT.

	In 1914.		In January, 1920.		In December, 1920.
Registered	—	...	—	...	—
Licensed	1	...	1	...	1
Total.....	1	...	1	...	1

Other Foods.

Inspections of food have been diligently carried out by Mr. Procter. No insanitary conditions have been found in premises where foods are manufactured, prepared, stored, or exposed for sale. No outbreaks of food poisoning have occurred.

Infectious Diseases.

Scarlet Fever has been prevalent during the whole year. The total number of cases was 105, of which 29 occurred in July and August. The disease was common at the end of 1919 (11 cases in December) and reached its highest number in summer, but cases occurred in every month. The largest number in recent years have been 32 in 1919, 54 in 1911, 45 in 1910, and 38 in 1918. Seventy cases were sent to the Isolation Hospital, and three proved fatal.

In both 1919 and 1920 the incidence of Scarlet Fever in the country generally, and in some parts of Lancashire in particular, was higher than usual The patients are capable of conveying the disease in many cases for some weeks (although some writers question the infectivity of the later stages of desquamation) and, if the nose or ear is inflamed, for a still longer period. Mild and unrecognised cases are common, and the living virus is less perishable than that of many diseases, and may persist for a long time in clothes or dust. These circumstances add greatly to the difficulty of controlling the spread of Scarlet Fever from one centre of population to another, and among the inhabitants of a place where a case has occurred. After making allowance for these difficulties, I cannot say that my efforts to check the spread of Scarlet Fever in St. Annes have been so successful as they should.

The means employed for this purpose are isolation of the sick, and disinfection of the places they have occupied and their contents. The first step for these purposes is to receive a notification of the disease, and this ought to be done at the beginning when the condition is most infectious and also most easily recognised. Throughout the year there was a failure of prompt notification, often of any notification at all. I have notes altogether of 24 such cases. One-third of these occurred in charitable institutions to which poor children from inland districts are sent for their health. Of the local cases, some were discovered in the course of school inspection, some were notified by doctors late in the course of the disease, and others were discovered during inquiries into the origin of the illness in neighbours whom they had infected. No doubt there were others undiscovered. Excluding the Children's Homes, nearly all the cases occurred in the East Ward. In no case had a doctor visited at the beginning when the recognition of the disease is easy. Praise is due to Mr. Procter, the Sanitary Inspector, and his late assistant, for the way in which these cases were searched out. Seventy of the 105 cases were isolated in the Fylde Hospital. Of the remaining 35 a small number were taken immediately to their own homes outside the

district, and the others were isolated in their own homes in St. Annes. This isolation, when it was effected early, was in all but two cases successful in preventing further infection, so far as is known.

In two instances there was a return of fever in houses from which children had been sent to hospital, within two weeks of the children's return from hospital, and the parents stated that the children had returned home with a nasal discharge. I discussed the matter with Dr. Court, and he informed me that before discharging patients from hospital he always examines them with reference particularly to desquamation, and the condition of the nose and ears. The other means of preventing the spread of infection is the disinfection of the room or rooms occupied by the patients, and their contents. When precautions have not been taken, this may mean the disinfection of practically the whole house, including stairs and passages which cannot be rendered airtight, and is almost impossible.

There were five instances in which outbreaks occurred in houses, at intervals, which suggested that disinfection had not been successful. Some of these may have been due to an overlooked case of fever. Disinfection of rooms and furniture is effected by first spraying with a solution of formaldehyde and then sealing the room and liberating steam and formaldehyde in it; for apparel and bed clothes superheated steam is used. These are effective methods and are carried out by experienced men. But perfect disinfection of a dwelling-house after scarlet fever is very difficult.

Thirty-five cases of Diphtheria were notified during the year, with 6 deaths. They occurred chiefly during the earlier months, when there was a small outbreak at the Ormerod Home, one of several that have occurred in recent years; 10 cases occurred from October, 1919, to April 30th, 1920. Four newly-admitted children sickened at the end of April. Dr. Fisher, Assistant County Medical Officer, kindly assisted me in investigating the outbreak and

advised that the house was overcrowded (120 children) and that not more than 90 should be admitted at one time. There have been no more cases in the house.

There were two return cases of diphtheria, that is, cases of infection conveyed by patients on their return from hospital.

Doctor Court informs me that he does not discharge them until two consecutive examinations of the throat and nose have failed to discover the bacillus. My suggestion to the Practioners in the district is to have three such negative examinations before letting the patient out of quarantine. To show the difficulties that have to be met and the elusive character of diphtheria carriers, I give the history of D.S.; she took Scarlet Fever and was sent to the hospital on March 9th and kept among the Scarlet Fever patients. On April 9th, having a suspicious throat, she was put by herself in a small ward; bacteriological examination showed diphtheria, and she was put in a diphtheria ward. The examination was negative on April 20th and 29th, and May 2nd. After further negative examinations she was sent home on May 29th. On September 30th her little brother took diphtheria and died. On October 4th the diphtheria bacilli was present in her throat though she was not ill, and she was sent back to hospital and stayed until October 29th, the examination having proved negative at the hospital on 7th, 11th, 13th and 22nd October.

On November 14th she was tested again at home before admission to school by the school nurse and found to have the bacillus, whereupon she went back to the hospital for the third time and remained there until December 15th. On January 14th, 1921, the examination was again negative, and again in March. This child developed Diphtheria in a Scarlet Fever Ward when she had not come in contact with any case of Diphtheria, had a mild attack but continued to be infective for eight months, although from time to time the bacillus could not be detected.

Serum containing 124,000 units of anti-toxin was supplied to medical practitioners at the public expense. There were also notified 8 cases of Pneumonia, 3 of Typhoid Fever (all acquired elsewhere), 2 of Puerperal Fever, 15 of Whooping Cough, 2 of Malaria (in ex-soldiers), 1 of Encephalitis Lethargica, and 7 of Tuberculosis; 5 Pulmonary and 9 extra-Pulmonary.

Influenza was not epidemic during the year. Influenza vaccine supplied by the Ministry of Health was furnished to a number of practitioners in the district, but in the absence of an epidemic very few of the inhabitants asked for it. Anti-tetanus serum was provided by the County Medical Officer of Health for two patients, neither of whom developed the disease.

Sanitary Administration.

(1) The staff consisted of myself, Mr. Procter (Sanitary Inspector), the Assistant Sanitary Inspector, and a clerk. The Assistant Sanitary Inspector, in addition to some office work, carried out inspections under the Housing and Town Planning Act, and visited premises where infectious diseases had occurred. Mr. Procter and the clerk were also engaged in the Food Office.

(2) Hospital accommodation for infectious diseases are the Small-Pox Hospital at Elswick, containing 15 beds, and Fylde Joint Hospital at Moss Side, containing 48 beds and 12 cots for the reception of cases of Enteric and Scarlet Fevers, and Diphtheria.

(3) Local Acts in force are the St. Annes-on-the-Sea Improvements Acts of 1896 and 1914; adoptive Acts are the Public Health Acts Amendment Acts of 1890 and 1907.

Chemical and Bacteriological Work.

These analyses were performed at the Public Health Laboratories in Manchester, under the direction of Professor Delepine.

Specimens were examined from 8 cases of suspected Tuberculosis, 70 cases of suspected Diptheria, and 7 of suspected Typhoid Fever.

The finding was positive in two cases of Tuberculosis, 16 of Diphtheria, and two cases of Typhoid Fever.

Housing.

There were 2,408 houses in the district, all occupied. In 1919 the number was 2,353. Five hundred and seventy-four had rental of less than £26 per annum. The demand for houses greatly exceeded the supply, but many new houses were under construction. The deficiency of small houses led in several cases to the occupation of one house by two families, and to a few cases of overcrowding. The municipal housing scheme will provide for 60 working-class houses. The general standard of housing is a high one; the space behind all houses is ample, water closets are in almost universal use, and most of the houses contain baths. None of the houses are unfit for habitation; defects which exist are of a minor character and easily capable of being rectified.

There are no unhealthy areas.

Bye-Laws.

Bye-laws relating to buildings are the model bye-laws issued by the Local Government Board.

I am, Gentlemen,

Your obedient Servant,

JOHN TENNANT,

Medical Officer of Health.

APPENDICES.

HOUSING CONDITIONS.

Statistics.

Year ended 31st December, 1920.

1.—General.

(1) Estimated population	9941
(2) General death rate	15.2
(3) Death rate from tuberculosis	0.50
(4) Infantile mortality	63
(5) Number of dwelling houses of all classes	2408
(6) Number of working class dwelling houses	574
(7) Number of new working class houses erected	8

2.—Unfit Dwelling-Houses.

I. Inspection.

(1) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts)	1004
(2) Number of dwelling houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	803
(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	0
(4) Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for habitation	732

II. Remedy of Defects Without Service of Formal Notices.

Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their officers	695

III. Action under Statutory Powers.

A. Proceedings under Section 28 of the Housing, Town Planning, &c., Act, 1919 :—

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	0
(2) Number of dwelling houses which were rendered fit :—	
(a) By owners	0
(b) By Local Authority in default of owners	0
(3) Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	0

B. Proceedings under Public Health Acts :—

(1) Number of dwelling houses in respect of which notices were served requiring defects to be remedied 7

(2) Number of dwelling houses in which defects were remedied :—

(a) By Owners 7
(b) By Local Auhority in default of owners 0

C. Proceedings under Sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909 :—

(1) Number of representations made with a view to the making of Closing Orders 0

(2) Number of dwelling houses in respect of which Closing Orders were made 0

(3) Number of dwelling houses in which Closing Orders were determined, the dwelling houses having been rendered fit 0

(4) Number of dwelling houses in respect of which Demolition Orders were made 0

(5) Number of dwelling-houses demolished in pursuance of Demolition Orders 0

3.—Unhealthy Areas.

Areas represented to the Local Authority with a view to Improvement Schemes under the Act of 1890 0

(4) Number of houses not complying with the Building Bye-laws, erected with consent of Local Authority under Section 25 of the Housing, Town Planning, &c., Act, 1919 24

(5) Staff engaged on housing work with, briefly, the duties of each officer 2

Inspection under Housing and Town Planning Act, and Inspection of New Houses.

ANNUAL REPORT

OF THE

VETERINARY INSPECTOR

J. R. RIGBY, M.R.C.V.S.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL OF ST. ANNES-ON-THE-SEA.

GENTLEMEN,

I have the honour to present to you a Report on my work as Veterinary Inspector of Cattle, Cowsheds and Dairies during 1920.

I have made quarterly inspections of all cattle on farms within your district, examining on an average about 300 cattle at each inspection. These examinations are carried out with a view to the detection of any affection of the cattle, or defect in their management or surroundings likely to affect the purity of their milk. Each animal is examined individually as regards the general health and condition and also the state of milk gland, from each segment of which milk is drawn and its appearance noted.

The state of cleanliness of the animals and the hygienic conditions of the cowsheds also receive attention. Besides the quarterly inspections further visits are made when necessary to observe the progress of any cow with suspicious symptoms.

By these means it is possible to detect any disease, either constitutional or local, which would be inimical to the production of pure milk, and to exercise some supervision of the conditions under which it is produced.

At each inspection it has been found necessary to temporarily stop the use of milk from certain animals, chiefly on account of inflammatory disease of the udder,

which was more than usually prevalent during the summer and early autumn, due to the persistent wet weather and water-logged state of the pastures.

Apart from this the health of the stocks has been very satisfactory, and constitutional affections necessitating suspension of milk have been rare.

A careful lookout was kept for cases of tuberculosis, so that cattle showing symptoms could be got rid of in the early stages of the disease. Tuberculosis of the udder in this district is fortunately rare, but cattle suffering from the disease in the lungs are still not uncommon. In such cases the risk of the milk being affected is not nearly so great as when the udder is diseased, but there is always a possibility of stray baccilli entering the milk, and it is desirable that such animals should be disposed of before the disease becomes advanced, as, apart from the danger of milk infection, a cow with tuberculosis in the lungs is a menace to every other animal in the cowshed.

The incidence of tuberculosis in cattle is not likely to show any pronounced decline until legislative measures are re-introduced.

The pre-war Tuberculosis Order was a comparatively mild measure, but it did help to eliminate the most dangerous animals.

The seven years which have elapsed since its suspension by the war have probably nullified most of the good it accomplished during the short time it was in force.

It was hoped that the campaign would be re-opened this year by the introduction of the Milk and Dairies Act (Consolidation), 1915, and the Milk and Dairies Act, 1920, but more serious matters have prevented these measures being put into operation.

Drastic legislation against cattle re-acting to the tuberculin test is economically impossible, and therefore the eradication of bovine tuberculosis must be extremely slow and difficult, unless an efficacious immunising method can be discovered.

Until lately, little success has been attained in this direction, but recent experiments have given better results and suggest that it is on these lines that the problem will finally be solved.

During the winter of 1919, as was mentioned in my last Annual Report, there was much to complain of as regards the cleanliness of the cattle and cowsheds.

This last winter there was considerable improvement in this respect. Straw was plentiful this year, whereas last year it was almost unobtainable, and a liberal allowance of bedding is a most important factor in keeping cattle clean.

Generally speaking, the cowsheds in the district might be improved on as regards their lighting, ventilation, and paving, the majority being considerably below the standard of modern cowsheds.

I have the honour to be, Gentlemen,

Your obedient Servant,

J. R. RIGBY, M.R.C.V.S.

ANNUAL REPORT

OF THE

CHIEF SANITARY INSPECTOR

WILLIAM E. PROCTER, C.R.S.I., C.M.S.I.A.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL OF ST. ANNES-ON-THE-SEA.

GENTLEMEN,

I have great pleasure in presenting to you my Nineteenth Annual Report for the year 1920.

Introduction.

The year under review has been one which has brought many new aspects to bear upon the health of the community; all of which go to prove that the welfare of the people is secured by the attention to details, even though these be small and apparently insignificant.

New legislation dealing with rents has brought Sanitary and other Health Officers within its purview, and the public can demand the services of the Department of Health in securing better housing accommodation and up-to-date sanitary fitness of premises.

Several tests have been made of the air inside large public rooms and other premises so as to ascertain the amount of air impurities.

Further details are given of the work of the Department under various headings.

Mr. Harold Hornby has ably performed the duties of Assistant Sanitary Inspector. During the year he obtained first place in the Sanitary Inspector's Association's Examination, and after a thorough training he is competent and possesses excellent qualifications for his new post at Scunthorpe, upon which he enters in January, 1921. He has been a faithful servant, his good work shows him to be intelligent and smart, and, although it will be to the loss of St. Annes-on-the-Sea, he will no doubt prove a gain in his new sphere of work.

During the year Miss Madge Moore, Clerk in the Department, resigned prior to her marriage. Owing to these changes Miss Alice Hibberson, who has been engaged on Food Control work, will commence her duties in the Health Office in the new year, 1921, and a youth will be engaged as junior assistant to qualify for the position of Sanitary Inspector.

Nuisances.

Two hundred and fifty-three nuisances have been dealt with and 229 have been remedied, the remainder being in course of abatement.

	Number
Blocked Drains	18
Blocked Gullies	10
Blocked Water Closets	8
Dampness in Ceilings	9
Dampness in walls	15
Defective :—	
Basement Floor	7
Bath and Lavatory Waste Pipes	8
Dishbricks to Gullies	9
Downspouts	11
DRAINS :	
Bath and Lavatory	2
Downspout	7
House	11
Slop Water	3
Wash House	1
Water Closet	7
Yard	4
Dust Bins	15
Fire Ranges	2
Floors	3
Inspection Chambers	8
Manure Pits	2
Roofs	7
Slopstones	2
Slop Water Pipes	9
Soil Pipes	10
Troughings	11
Walls	3
Water Closets	7
Water Closet Fittings	8
Window Frames, Sills, and Cords	5
Yards	6

Insanitary:	
Houses	2
Water Closets	6
Yards	7
Insufficient Drains	1
,, Light	1
,, Ventilation	2
,, Water Closet Accommodation	1
Offensive Accumulations	3
Waste Water Lodging	2

Seven hundred and fifty-nine inspections and re-inspections were made whilst these nuisances were being remedied, so as to ensure that the work was carried out in a satisfactory manner.

Legal Notices.

Three legal notices were served upon one owner to abate nuisances and to provide circular galvanized iron dust-bins with proper handles and suitable covers for six houses. The nuisances have been remedied and dust-bins have been provided. One legal notice was served upon an occupier of a dirty house.

Informal Notices.

Seven hundred and twenty-four informal notices in the form of letters have been sent out to those responsible for sanitary defects or because of insanitary conditions; 212 of these were the outcome of periodical inspections, whilst 512 related to insanitary conditions found during house-to-house inspections.

House-to-House Inspections.

Eight hundred and three house-to-house inspections were made. Two wards have now been completed, the third is almost finished, whilst the fourth is not yet commenced with.

Defective conditions were found at 531 houses, but in most cases the defects were of a minor character. The records of these inspections are kept in books which include much valuable information under the Clauses of the Housing Act, 1909.

The above-named figures refer to more than one ward, but as North Ward has been completed entirely it is given in full:—

NORTH WARD.

Name of Street.	Population. Adults.	Children.	Total.	Total No. of Houses.	Average No. People per House.	Baths. With.	Without.
Ashley Road	29	6	35	10	3.5	10	—
Crosby Road	14	6	20	7	2.9	7	—
Cross Street	55	11	66	12	5.5	0	12
Cudworth Road	31	5	36	12	3.0	12	—
Church Road	17	8	25	3	8.3	2	1
Dalton Street	37	5	42	15	2.8	15	—
Glen Eldon Road	210	19	229	60	3.8	60	—
Healey Road	12	3	15	3	5.0	3	—
Headroomgate Road	114	9	123	29	4.2	23	6
Highbury Road	75	14	89	23	3.9	20	3
Heyhouses Road	104	14	118	28	4.2	10	18
Knowles Road	68	5	73	21	3.5	21	—
Kilnhouse Lane	160	31	191	47	4.0	32	15
Lord Street	28	3	31	6	5.2	6	—
Leach Lane	75	8	83	26	3.2	26	—
Mayfield Road	46	24	70	10	7.0	10	—
Mellings Lane	7	3	10	2	5.0	0	2
Oxford Avenue	31	5	36	11	3.3	11	—
Oxford Road	31	2	33	11	3.0	11	—
St. Annes Road East	262	28	290	68	4.3	68	—
St. David's Road North	219	33	252	66	3.8	57	9
Stephen Street	28	2	30	7	4.3	6	1
St. Patrick's Road North	16	3	19	5	3.8	5	—
Westby Road	39	7	46	12	3.8	12	—
Dwelling-houses in outlying parts of North Ward	33	4	37	8	4.6	1	7
Summary	1741	258	1999	502	3.98	428	74
K.L.C.C., Squire's Gate	550	—	550	3	—	3	—
Summary (inclusive of K.L.C.C., Squire's Gate)	2291	258	2549	505	5.04	431	74

SOUTH WARD.

Name of Street.	Population. Adults.	Children.	Total.	Total Number of Houses.	Average No. People per House.	Baths. With.	Without.
All Saints' Road	168	19	187	46	4.0	46	—
Alexandria Drive	38	8	46	12	3.8	12	—
Bromley Road	54	—	54	14	3.8	14	—
Balmoral Road	64	13	77	16	4.8	16	—
Cartmell Road	88	8	96	26	3.7	26	—
Derbe Road	132	9	141	33	4.3	33	—
East Bank Road	34	1	35	8	4.4	8	—
Fairhaven Road	81	9	90	20	4.5	20	—
Hornby Road	19	1	20	5	4.0	5	—
Lightburne Avenue	197	8	205	58	3.5	58	—
Laverton Road	20	2	22	8	2.8	8	—
Orchard Road	266	15	281	66	4.2	66	—
Osborne Road	18	—	18	6	3.0	6	—
Park Road	273	19	292	77	3.8	77	—
Queen's Road	62	4	66	18	3.7	18	—
Richmond Road	66	2	68	17	4.0	17	—
Riley Avenue	124	12	136	35	3.9	35	—
St. Annes Road W. (South Side only)	93	44	137	25	5.5	25	—
St. Andrew's Road South	516	78	594	135	4.4	135	—
South Drive (includes Three Schools)	358	100	458	95	6.1	95	—
St. Thomas' Road	81	10	91	21	4.3	21	—
South Promenade (includes Two Hotels)	304	54	358	54	6.6	18	—
Victoria Road	147	8	155	37	4.2	37	—
West Crescent	44	9	53	12	4.4	12	—
Wood Street	140	5	145	39	3.7	39	—
York Road	82	12	94	22	4.3	22	—
Summary	3469	450	3919	885	4.43	885	—

Note.—Every house in the above list is fitted with a Bath.

As regards South Ward the inspections are not completed, but the population was definitely ascertained as follows:—

With respect to West Ward the number of houses occupied has been obtained, and, with an average of 4.87 per house, according to the last census, shews the number of persons to be 1,329.

Population.

The method of obtaining the number of people living in the district during previous years has been to count the number of occupied houses and multiply this figure by the number of persons per house as certified at the last census, viz.:—4.87.

During 1920 three of the four wards have been visited and the number of persons per house ascertained. In the case of West Ward the last census figure is used.

The following result is obtained:—

Ward.	Houses occupied.	Houses empty.	Total.	Average No. of Persons per house.	Population.
North ..	520	Nil	520	3.98	2069
South ...	885	Nil	885	4.43	3919
East.....	730	Nil	730	4.68	3416
West.....	273	Nil	273	4.87	1329
	2408		2408		10733

On this basis the population is 10,733.

Rent Restriction Act and the County Court.

Owing to the scarcity of houses many persons are buying houses only to find that there is no likelihood of obtaining vacant possession, and often as a last resource the Sanitary Inspector receives a subpœna to give evidence, sometimes on behalf of the owner, at other times on behalf of the tenant; sometimes with a solicitor for plaintiff, sometimes with the same solicitor for a defendant. This matter is one where diplomacy is needed, because you are with or against, certain landlords, certain tenants, and certain solicitors.

Having had to appear at the County Court in a few of these cases, my policy has always been to state facts, and in no way to deviate therefrom, because in each

instance all parties are bound to admit the Inspector has been fair and straight whether the case has been lost or won.

Air Tests.

It is essential to have pure, fresh air in living and working rooms, in public places and in premises where animals are kept which supply human food, and where food is prepared.

Tests have been made so as to ascertain the amount of carbon-dioxide or impurity of the atmosphere inside several places.

Method of Conducting the Pettinkofer Air Test.

A sample of air is collected in a bottle, holding about 2,700 c.c., 50 c.c.'s of clear lime water are then placed in the bottle, which is stoppered and made perfectly air tight. The lime water is from time to time agitated round the inside of the bottle and at the end of about eight hours the exposed lime water is tested as follows:—

25 c.c.'s are placed in a small flask and tinted pink with a drop of phenol-phthalein, and a *standard solution of oxalic acid* is added until the lime water is exactly neutralised, when the amount of oxalic solution used is exactly read off. The disappearance of the pink colour indicates the point of neutralization.

25 c.c.'s of clear lime water are then tested as above. The difference in the amount of acid solution required to neutralize

(*a*) 25 c.c.'s of unexposed lime water, and

(*b*) 25 c.c.'s of exposed lime water

indicates the amount of carbon dioxide in the bottle.

The capacity of the bottle being known, the proportion of carbon dioxide in the room is easily calculated, and expressed in these tests as vols. per 1,000.

The standard solution of oxalic acid is made up in such proportions that 1 c.c. of solution possesses the neutralizing power of 5 c.c. of carbon dioxide.

EXAMPLE. TEST AT PUBLIC HALL.

Temp. (F) 65°.

Capacity of test bottle, 2,710 c.c.

No. of c.c. standard acid solution to neutralise 25 c.c. *unexposed* lime water—24 c.c.

No. of c.c. standard acid solution to neutralize 25 c.c. *exposed* lime water—19 c.c.

Note.—As each c.c. of acid solution = 5 c.c. of $C.O._2$ and only $\frac{1}{2}$ quantity of lime water was taken, this result equals the amount of $C.O._2$ in the bottle.

	c.c.
Unexposed...—	24
Exposed.....—	19
	—
c.c.'s of $C.O._2$—	5
	—

NO. OF C.C.'S OF $C.O._2$ IN BOTTLE = VOLS. PER 1,000.
Capacity of bottle in litres.

$$\frac{5}{2.660} = 1.87 \text{ Vols per 1,000.}$$

Correction for temp.:—Add 2% for every degree F. above freezing point.

In this example:—65 F. = 32 F. = 33 F. above freezing point.

33 x 2%—6.6% to be added to first result.

1.87 x 1.066 = 1.99 *Vols. per* 1,000 (corrected amount of $C.O._2$).

Sanitary Conveniences.

This list of Sanitary Conveniences shows a preponderance of fresh water closets over every other class:—

Fresh Water Closets	4,695
Waste Water Closets	21
Privies (fixed) (in rural portion of district)	19
Privy Pails (movable) do.	48
Portable Circular Galvanized Dust Bins...	2,447

Smoke Observations.

Thirty-two observations were made of the amount of black smoke issuing from factory chimneys. In no instance was the fixed time limit exceeded.

Dust Bins.

There are 2,447 dust bins, which are emptied weekly and bi-weekly. The kind in use is the circular galvanized iron one, with fixed metal handles; with the cover to fit over the bin. These receptacles last for many years and if care is taken by placing inorganic matter in them only, then their life-time will be doubled and trebled. Wet material soon corrodes a bin; the place for such matter is on the kitchen fire.

Privies.

This form of closet only exists in the rural parts of the district, there being 19 Privies and 48 Privy Pails. Owing to the sewers not being within reach of remote dwellings this type of closet is inevitable.

Manure Pits.

These are decreasing in number, and those that remain have been periodically visited. Horse owners are notified early in each year to clear the manure away weekly, and any not complying are interviewed. Owners are endeavouring to satisfy the requirements of the Council, and by this means the fly pest will eventually be reduced to a minimum.

Cost of Refuse Removal.

The cost of removal of refuse has increased considerably during the past few years. This is accounted for owing to rise of wages, increased cost of hiring drivers and harnessed horses, and the upward tendency in cost of repairing carts and accessories.

A few years ago a driver and harnessed horse could be obtained for six shillings a day—to-day the price is thirty shillings; then again, a cart could be bought for

£18—to-day it costs this amount in repairs alone. Wages have increased proportionately.

The cost to-day for removal of refuse amounts to £2,512 annually.

This works out with *3278* loads (each about one ton) at nearly *15/4* per ton.

Cost of Refuse Destruction.

Refuse destruction is expensive in its means of disposal of material deposited in dust bins.

The costs mount up owing to increases for new parts of plant, men's wages, repairs, and final disposal of clinkers and flue dust.

The cost of the year's working of the Refuse Destructor is *£1,600;* with a total of *3,278* loads (or tons) this works out at *9/9* per load (or ton).

The removal of clinker is one of the costly items connected with the Destructor.

The only way to reduce the cost of refuse destruction is to adopt the best method of salving as much of the material as it is possible to save. There are great possibilities in this direction, and it is pleasing to note the Council are intending to adopt some plan which will utilize all the valuable properties to be found in discarded refuse.

Refuse Destructor.

Although the refuse destructor is in a dilapidated condition, all refuse has been consumed there. During the latter part of the year an attempt was made to screen the refuse, and, if successful, arrangements will be made for screening and sorting out all the valuable products, after which the residue will be burned.

Scavenging.

During the year the following work in the Scavenging Department was carried out under my supervision. A similar table for 1919 is shown for comparison:—

	1919.	1920.
Dust Bins emptied.....	131,820 ...	132,252
Privy Pails emptied in Country Districts	2,028 ...	2,032
Dust Bins and Water Closets Disinfected	5,252 ...	5,252
Loads of Refuse taken to Destructor	2,812 ...	3,278
Loads of Refuse taken to tip	— ...	—
Dead Animals found on Shore	19 ...	27

Salvage Plant.

The time has arrived when every effort should be put forth to prevent every possibility of waste. Refuse is a conglomeration of material mixed together in a mass, and if properly dealt with it will become valuable.

In past years it has been the practice to sort out all tins, bottles, jars, metal, rubber, and similar material, which have been sold and utilized for commercial purposes.

The method suggested now is that this system should be extended and instead of being done in a primitive way a suitable plant should be erected for dealing with the screening of the ashes and to obtain coal, coke, and fine cinders from the refuse; also the screened dust which would contain fine particles of vegetable, animal and other suitable products would be useful as manure. Experiments are now in progress with a view to ascertaining the best method of dealing with the refuse, and also with an endeavour to obtain the percentage of cinders, metal, crockery, rags, paper, vegetable, animal, and fine dust. When these facts are known the problem of suitable salvage plant will be nearer solution. There is no reason why some of these commodities should not be done up in nice packets with covers of beautiful coloured designs, and when placed on the market would attract attention, command a ready sale and also reach the most humble customer.

Salvage.

WASTE PAPER.—This has been collected from shops, offices, and large premises in the town, deposited at the depot and baled into bundles each weighing from 50 to 70 lbs. *7 tons 2 cwts.* and *3 qrs.* have been sent away by rail.

RAGS.—These, after being picked out of the refuse, have then been stored in bags and delivered to a local dealer.

OLD CRUSHED TINS.—Over *46 tons* have been crushed in a primitive way—*i.e.*, putting them under the steam roller. This has been done to lessen the bulk, so that they would pack tighter together in the railway wagons.

BOTTLES AND JARS.—These were sorted out and special kinds have afterwards been thoroughly washed and cleansed before despatching same to the dealers or customers.

Milk.

Samples of Milk were obtained and sent to the Bacteriologist for examination for tubercle bacilli, and others for the purpose of ascertaining whether there had been any adulteration. All these samples were obtained by myself from mixed milk, with the exception of two samples taken from two separate cows by Mr. Rigby, the Veterinary Inspector.

The total number taken was 59 and was made up as follows:—

16 Examined for tubercle bacilli:—
15 Tubercle bacilli not found.
In the other case the inoculated animal died before the period of inoculation.

41 Analysed:—
33 Genuine.
8 Adulterated (7 slightly);
but in the case of No. 33 the Council, after hearing the statement of the vendor, gave him a caution, with the warning that in future if he was in possession of adulterated milk he would be prosecuted.

2 Examined for tubercle bacilli :—
One free from the germ.
One tubercle bacilli found.

In the latter case the cow was disposed of immediately.

Below are given the results of the eight adulterated samples :—

No. 30—Deficient in cream fat 2.7%
No. 32—Slightly deficient in cream fat 2.9%
No. 33—Milk fat, 3.35% 3.35%
Other milk solids..... 7.58%
(And contained added water).

Calculating on the basis of the limit 8.5% for milk solids other than milk fat fixed by the Sale of Milk Regulations, 1901, the amount of added water would be 10%.

No. 43—Slightly deficient in cream 2.9%
No. 1—Milk fat ..... 2.86% (slightly deficient in milk fat)
Other milk solids ... 8.80% do. do.

The deficiency in milk fat is 4% of the limit of 3% fixed by the Sale of Milk Regulations, 1901.

No. 7—Milk Fat ..... 2.76% (slightly deficient in milk fat)
Other milk solids ... 9.03% do. do.
The deficiency is 8% of the limit of 3%.

No. 9—Milk fat ..... 2.80% (slightly deficient in milk fat)
Other milk solids ... 8.88% do. do.
The deficiency in milk fat is 6% of the limit of 3%.

No. 12—Slightly deficient in cream..... ..... 2.8%

Samples of Food and Drugs.

In addition to the above-named samples of milk, Superintendent Thompson, of the County Constabulary, has kindly supplied me with the undermentioned return, shewing that during the year ending 31st December, 1920, 26 samples of food and drugs were obtained as follows :—

8 Milk; 3 Ground Ginger; 2 Coffee; 2 White Pepper; 2 Tartaric Acid; and one each of Oatmeal, Linseed Meal, Pearl Barley, Rice, Liquorice Powder, Boracic Acid, Boracic Ointment, Vaseline, Baking Powder.

All of which were certified as genuine.

Public Abattoirs.

All animals slaughtered by the St. Annes-on-the-Sea butchers are dealt with at the Public Abattoirs, this being the only slaughterhouse in the district, so that all the meat is examined and if in sound condition is passed for food of man, but if diseased or unsound it is condemned and destroyed.

For many years a Humane Killer has been and is still in use for the slaughtering of Cattle, and it is proposed to obtain a spring pistol for despatching of pigs.

During the year the Abattoir was visited during the day and night on 286 occasions, when 6,556 animals were examined, *i.e.*, 5,177 lambs and sheep, 414 pigs, 384 calves, and 581 beasts.

The majority of these carcases were found in good, sound, healthy condition.

Three cows were affected with generalized or miliary tuberculosis, amounting to 1,390 lbs. in weight, and one sucking pig, weighing 35 lbs., was found to be affected with the same disease.

The organs, consisting of lungs, livers, stomachs and intestines of eight cows, and kidneys of one heifer were slightly affected with tuberculosis. The total weight of these organs was 296 lbs.

The whole carcases of two pigs were badly affected with swine fever (100 lbs.) and dropsy (120 lbs.).

Other diseased and abnormal conditions dealt with included the following:—

	lbs.
Diseased and inflamed uterus.....	35
Bruised and putrid forequarter of cow.....	125
Angiomatosis of cow's liver	15
Discoloured lungs & liver of pig (abnormal)	8
Hypertrophic liver of pig (abnormal)	8

All these diseased animals or unsound organs were destroyed.

Casualty Animals.

It is necessary to explain that in addition to the number of animals brought into a Public Abattoir there are others that are allowed to be brought in—although in a moribund condition, and it is advisable to do this because such carcases are then properly examined and disposed of according to the merits of each case. Such cases and those where apparently healthy animals have died at premises in and around the district are recorded here for the purpose of shewing the great necessity for vigilance so as to safeguard the food supply of the district.

During the early part of the year a sow pig was brought in dead; the lungs were found to be filled with dark red blood, and clots like abscesses. The pleura, peritoneum and sacral regions were all inflamed, and musculature was flabby and wet. This carcase and all organs were destroyed. Four other pigs after slaughter, brought in from the same source outside the district, were found on examination to be sound and wholesome. Nine pigs from another source in the district proved to be sound and wholesome.

In once case a cow had suddenly died in a clover field, and it was thought that it had succumbed because of partaking of too much rich food. The carcase, when opened, was found to be one mass of tubercle, every part and organ being affected. It was destroyed.

One cow was brought into the Abattoir having been slaughtered quickly because of calving trouble. Apart from the udders being in an abnormal condition, the carcase was otherwise sound, and the udders were destroyed.

Unsound Food.

On visiting premises where food is stored prior to sale, or in preparation for sale,

140 lbs. of Dates, and
70 lbs. of Kippers

were found to be in unsound condition and were destroyed as being unfit for human food.

Shaving Brushes and Anthrax.

Two shaving brushes with bone handles and imitation badger hair bristles were obtained from a trader and sent away for examination for anthrax bacilli. These brushes were from two consignments which may have been originally exported to this country from a suspicious source However, the examination for anthrax bacilli gave a negative result in each instance.

Disinfection.

DISINFECTOR. Two thousand three hundred and fifty-three articles were removed to the Steam Disinfector for disinfection.

ROOMS. Two hundred and eighty-seven rooms have been fumigated with vapour from Formalin tablets, and also sprayed with Formalin solution.

Farms.

The farms have been visited periodically. There are defects as regards ventilation, air space, lighting, and structure at several farms. It is hoped that many of these matters will be attended to during the summer season, when the cattle are out to grass.

Cowkeepers and Dairymen or Milk Purveyors.

There are 18 Cowkeepers, and the milk from sixteen premises is distributed in the town.

There are also six Dairymen or Milk Purveyors who distribute milk which is obtained from outside the district.

Workshops.

Sixty-three Visits have been paid to the workshops for the purpose of ascertaining the condition of the premises as regards lighting, ventilation, cleanliness, and sanitary arrangements.

In eleven cases limewashing was required, and in six instances the w.c.'s were in an insanitary condition. Various defects, consisting of defective W.C. fittings,

drains, downspouts, and insufficient light and ventilation; also one case of overcrowding.

After informing those responsible, the matters mentioned were rectified. One W.C. was not partitioned off from workroom. This has also been remedied.

Bakehouses.

Fifty-four Inspections were made of the bakehouses. In nine instances it was necessary to remind the occupiers of the need for limewashing the premises. Four defects were found, viz., a W.C., a downspout, a gully, and a back yard surface. All these have been remedied.

Factories.

Visits were paid to the Factories for the purpose of inspecting the W.C. accommodation, and except in two instances these were in satisfactory condition.

Certificates of Habitation.

Forty-two Certificates of Habitation have been granted. This is a greater number than in any previous year since 1911.

I am, Gentlemen,

Yours faithfully,

WILLIAM E. PROCTER,

Chief Sanitary Inspector.

FACTORY & WORKSHOPS ACT, 1901.

The Workshops on the Register number 82, and include:—

Baking and Confectionery	17
Blacksmith	3
Boot Repairing	9
Cabinet Making and Upholstering	8
Cycle Repairing	1
Dressmaking	11
French Polishing	1
Golf Bag Making	1
Harness Making	2
Joinery	3
Laundries	1
Leather Belts	1
Leather Buckles and Laces	1
Millinery	14
Sheet Metal	1
Stained Glass	1
Tailoring	2
Tin Plate Working	2
Wheelwright	3

The Factories number 26, and include the following:—

Aerated Water and Bottling Depots	3
Boot Repairing	2
Blacksmith	1
Electricity Works	1
Gas Works	1
Joinery	6
Laundries	3
Letterpress Printing	2
Motor Repairing Works	1
Refuse Destructor Works	1
Shoeing Forge	1
Shoe Making	1
Stone Dressing	1
Tram Car Repair Works	1
Wheelwright	1

OFFENSIVE TRADES.

Gut Scraping	1
Rag and Bone Depot	1

Annual Report of the Medical Officer of Health for the year 1920, for the Urban District of St. Annes-on-the-Sea, on the administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Workplaces, and Homework.

1.—INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections	Written Notices.	Prosecutions.
1	2	3	4
Factories (including Factory Laundries) ...	9	1	...
Workshops (including Workshop Laundries)...	117	30	...
Workplaces (other than Outworkers' Premises included in Part 3 of this Report)	12	...	...
Total...	138	31	...

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES

Particulars.	Number of Defects.			Number of Prosecutions.
	Found	Remedied.	Referred to H.M. Inspector.	
1	2	3	4	5
NUISANCES UNDER THE PUBLIC HEALTH ACTS :				
Want of Cleanliness	11	11	...	...
Want of Ventilation	2	2	...	...
Overcrowding	1	1	...	...
Want of Drainage of Floors	...	...	...	...
Other Nuisances	15	15	...	...
Sanitary Accommodation — insufficient	1	1	...	...
Sanitary Accommodation — unsuitable or defective...	6	6	...	...
Sanitary Accommodation — not separate for sexes ...	...	...	...	...
OFFENCES UNDER THE FACTORY AND WORKSHOP ACT :				
Illegal occupation of underground bakehouse (s. 101)	...	...	...	...
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)...	9	9	...	...
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)...	...	...	...	...
Total	45	45	...	...

3.—HOMEWORK—Nil.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year (1)		Number (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshop Bakehouses	17
	Other Workshops	65
	Total number of workshops on Register ...	82

5.—OTHER MATTERS.

Class. 1		Number. 2
Matters notified to H.M. Inspector of Factories :		
Failure to affix Abstract of the Factory and Workshop Act (s. 133, 1901)		None.
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory Acts (s. 5).	Notified by H.M. Inspector	2
	Reports (of action taken) sent to H.M. Inspector	2
Other		None.
Underground Bakehouses (s. 101) in use at the end of the year		None.

JOHN TENNANT,
Medical Officer of Health.

February 15th, 1921.

TABLE I.—Cases of Infectious Disease notified during the Year 1920.

URBAN DISTRICT OF ST. ANNES-ON-THE-SEA.

Notifiable Disease.	Number of Cases notified.							Total Cases notified in each Locality.				No. of Cases Removed to Hospital from each Locality.				Total Cases removed to Hospital.	Deaths in Hospital of Patients removed from this District.
	At all ages	At Ages (Years).						N.	S.	E.	W.	N.	S.	E.	W.		
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwd's										
Pneumonia	8	...	...	1	1	6	...	5	1	2	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	35	...	4	26	3	2	...	3	5	20	7	2	2	15	7	26	6
Erysipelas	10	...	...	1	...	8	1	2	1	6	1	...	...	1	...	1	...
Scarlet Fever	105	1	10	70	16	8	...	13	16	60	16	4	7	47	12	70	1
Enteric Fever	3	...	...	...	...	3	...	1	2	...	...	...	...	...	...	...	...
Puerperal Fever	2	...	...	...	...	2	...	...	1	1	...	...	...	...	...	...	...
Phthisis — Pulmonary ...	5	...	...	...	...	5	...	1	1	1	2	...	...	...	...	...	...
Phthisis — Other than Pulmonary	2	...	...	...	...	2	...	...	2	...	...	...	...	...	...	...	...
Whooping Cough	15	2	9	4	...	...	...	3	4	7	1	...	...	...	...	...	...
Influenza	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
Malaria	2	...	...	...	...	2	...	...	...	2	...	...	...	...	...	...	...
Encepnelitis Lethargica ...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...
Totals	189	3	23	102	21	39	1	28	34	100	27	6	9	63	19	97	7

Isolation Hospital: Moss Side Infectious Diseases Hospital, near Lytham.

Causes of Death in St. Annes-on-the-Sea Urban District.

CIVILIANS ONLY.

Causes of Death.	Males.	Females.
All Causes	63	89
Enteric Fever	—	1
Small-pox	—	—
Measles	—	—
Scarlet Fever	2	1
Whooping Cough	—	2
Diphtheria and Croup	1	5
Influenza	2	1
Erysipelas	—	—
Pulmonary Tuberculosis	2	3
Tuberculous Meningitis	—	—
Other Tuberculous Diseases	—	—
Cancer, Malignant Disease	6	7
Rheumatic Fever	—	—
Meningitis	—	—
Organic Heart Disease	8	14
Bronchitis	2	4
Pneumonia (all forms)	3	2
Other Respiratory Diseases	—	2
Diarrhœa, &c. (under 2 years)	1	—
Appendicitis and Typhlitis	—	1
Cirrhosis of Liver	1	1
Alcoholism	—	—
Nephritis and Bright's Disease	3	2
Puerperal Fever	—	2
Parturition, apart from Puerperal Fever	—	—
Congenital Debility, &c.	5	1
Violence, apart from Suicide	1	4
Suicide	—	1
Other Defined Diseases	24	34
Causes ill-defined or unknown	2	1
Special Causes (included above)—		
Cerebro-spinal Fever	—	—
Poliomyelitis	—	—
Deaths of Infants under 1 year of age:—		
Total	6	3
Illegitimate	2	—
Total Births	75	67
Legitimate	67	60
Illegitimate	8	7
Population (for Births and Deaths)		9,941

	Per 1,000 of Population.				Rate of Deaths under one year to 1,000 births.
	Birth rate.	Death rate.	Epidemic Death rate.	Phthisis Death rate.	
1920	14.2	15.2	1.30	0.50	63
1919	10.1	14.2	1.04	0.83	79
Mean of 10 years— 1910 to 1919	10.8	11.4	0.49	0.49	69
Increase or Decrease in 1920 on—					
Previous Year	+4.1	+1.0	+0.26	−0.33	−16
Ten Years' Average ..	+3.4	+3.8	+0.81	+0.01	− 6

Table VI.—BIRTH-RATE, DEATH-RATE, AND ANALYSIS OF MORTALITY DURING THE YEAR 1920.

(Provisional figures. Provisional populations estimated to the middle of 1920 have been used for the purposes of this Table. The mortality rates refer to the whole population as regards England and Wales, but only to civilians as regards London and the groups of towns.)

	Birth-rate per 1,000 Total Population.	Annual Death-rate per 1,000 Population.									Rate per 1,000 Births.		Percentage of Total Deaths			
		All Causes.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Influenza.	Violence.	Diarrhœa and Enteritis (under 2 Years).	Total Deaths under One Year.	Deaths in Public Institutions.	Certified Causes of Death.	Inquest Cases.	Uncertified Causes of Death.
England and Wales	25·4	12·4	0·01	0·00	0·19	0·04	0·11	0·15	0·28	0·48	8·3	80	24·3	92·2	6·6	1·2
96 Great Towns, including London (Census Populations exceeding 50,000)	26·2	12·5	0·01	0·00	0·22	0·04	0·14	0·16	0·31	0·43	10·4	85	31·3	92·2	7·1	0·7
148 Smaller Towns (Census Populations 20,000—50,000)	24·9	11·3	0·02	0·00	0·19	0·03	0·10	0·14	0·27	0·38	7·8	80	16·5	93·2	5·3	1·5
London	26·5	12·4	0·01	0·00	0·22	0·05	0·17	0·22	0·30	0·47	9·5	75	46·8	91·2	8·6	0·2

METEOROLOGICAL OBSERVATIONS.

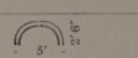
1920. ST. ANNES-ON-THE-SEA.

LONGITUDE ... 3 1 17
LATITUDE 53 44 38

Month.	Atmospheric Pressure.			Temperature.						Earth Grass Thermometers			Rain-fall.		Sun-shine.		Direction of Wind at 9 a.m.								At 9 a.m. No. of Days of			
	Mean.	Maximum.	Minimum.	Mean Maximum in Shade.	Highest Maximum in Shade.	Lowest Minimum in Shade.	Mean Minimum in Shade.	Mean Daily Range.	Mean Humidity of Air. Saturation 100.	1 ft. below Ground (mean).	4 ft. below Ground (mean)	Grass (mean).	Rainfall in inches.	No. of Days on which it fell.	Hours of Bright Sunshine.	Minutes.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	Rain.	Overcast.	Bright.	Gales.
January ...	29·809	30 606	28·715	44·2	51·6	27·0	35 6	8·6	89	39·6	41 9	37·2	3·10	21	37	15	1	...	3	3	4	4	12	...	4	...	24	7	...
February.	30·485	30·678	29·644	46 5	55 4	30 6	38·8	7·7	97	41·8	43·2	37·0	1·86	15	62	50	1	...	2	5	2	5	8	1	5	3	18	8	...
March.....	30·194	30 586	28 776	48·1	61·0	32 0	39·7	8·4	82	44·1	45·0	37 3	3 87	22	77	8	1	...	1	4	3	2	9	5	6	2	22	7	...
April	29 660	30·140	29·042	50 7	56·0	37 6	41 6	9·1	87	47·0	47·3	39·9	4·30	24	87	...	...	...	7	1	6	1	9	4	2	7	14	9	...
May	30·012	30·466	29·275	57 8	78·8	36·0	46·8	11·0	78	53·4	51 1	45 3	3 55	18	160	...	...	...	6	2	5	6	9	1	2	6	13	12	...
June	30·064	30 380	29·740	64 4	74 2	41·2	51·6	12·8	73	59·1	56·2	49·5	3·20	14	137	45	...	1	10	5	2	2	5	3	2	1	13	16	...
July	29·917	30·600	29·450	61 5	66 0	49·0	54 2	7·3	81	59 5	58 0	53·0	4 29	20	115	15	4	...	...	6	5	8	6	2	...	4	20	7	...
August ...	30 112	30 528	29·450	61·5	65 0	45·0	53·3	8·2	77	59 4	58·1	51·0	1·62	12	124	40	2	...	2	2	1	1	7	13	3	1	19	11	...
September	30·055	30 370	29·450	61 2	69·2	43·0	50 4	10·8	85	56·8	57 3	48 3	2 41	12	90	40	1	1	5	6	3	1	8	2	3	3	16	11	...
October ...	30·009	30·416	29·400	57·9	70·0	38·2	46·3	11·6	84	51·5	54·2	43 0	1·27	11	82	...	...	...	7	16	1	...	...	...	7	4	14	13	...
November.	30 387	30 490	29·406	49·9	56·4	26·4	40 8	9·1	86	55·2	42·3	38 6	1·35	12	29	...	...	...	2	9	7	2	4	...	6	3	16	11	...
December.	29 959	30 600	29·178	43·7	53·6	22·0	34·9	8·8	85	38·3	43·5	*	2 14	16	19	30	...	2	2	2	5	2	7	1	10	3	23	4	1
Sums ...	360·663	365·860	351·526	647·4	757·2	428·0	534·0	113·4	1004	605·7	608·1	480·1	32·96	197	1023	3	10	4	47	61	44	34	84	32	50	37	212	116	1
Means .	30 055	30·488	29·293	53 9	63·1	35 6	44·5	9·4	83	50·4	50·6	40·0																	

* From 12th to 19th December Grass Thermometer broken.

PARTICULARS OF AIR TESTS MADE BY THE PETTINKOFFER METHOD.

Date. 1920	Time.	Description of Premises.	Dimensions and Particulars of Room.	Number of Occupants.	(F.) Temp.		Particulars as to Ventilation Arrangements.	CO_2 Vols. per 1000		Amount of Respiratory Impurity. Vols. per 1000.
					In Room	Outside		In Room	Outside.	
Oct. 22	a.m. 11	St. Annes Council School.	Class Room on South Side, 23′ 0″ × 20′ 0″ × 12′ 0″ = 5,520 cu. ft.	50 Children 1 Teacher	68°	52°	INLETS.—4 Sheringham Valves, each 1′ 0″ × 6″ ; 2 Tobins Tubes, each 9″ × 4½″. OUTLETS.—Window (hinged), 5′ 0″ × 9″, 5′ 0″ × 4″ ; 1 Roof Outlet, 2′ 0″ × 2′ 0″. 50% effective.	.9	.46 Weather calm and somewhat misty.	.44 NOTE.—Over twice the admissible amount of impurity.
Oct. 22	p.m. 3	St. Annes Council School.	Class Room on West side, 21′ 0″ × 21′ 0″ × 12′ 0″ = 5,292 cu. ft.	28 Children 1 Teacher	60°	52°	INLETS.—4 Sheringham Valves, each 1′ 0″ × 6″ ; 2 Tobin Tubes, each 9″ × 4″½. OUTLETS.—Window (hinged), 5′ 0″ × 9″. 5′ 0″ × 4″. 1 Roof Outlet, 2′ 0″ × 2′ 0″. 50% effective.	.68	.46 Weather calm and somewhat misty.	.22 NOTE.—Room had become fresh, due to children having left 3 minutes before test was made.
Oct. 28	p.m. 8.31	Public Hall (Picture Theatre).	GROUND FLOOR.—40′ 0″ × 70′ 0″ × 12′ 0″ = =33,600 cu. ft. GALLERY.—40′ 0″ × 26′ 0″ × 12′ 0″ = 12,480 cu. ft. (Actual height, 32 ft.) (Gallery, average height. 15 ft.).	513 150	65°	40°	INLETS.—9 Windows 20′ 0″ from ground.  OUTLETS.—2 Circular Outlets in roof, each 8′ 0″ interior diameter. (Large amount of space behind stage.)	1.99	.56 Weather damp and foggy.	1.43 NOTE.—Over 7 times the admissible amount of impurity.
Oct. 28	p.m. 8.24	Empire (Picture Theatre).	GROUND FLOOR.—100′ 0″ × 50′ 0″ × 12′ 0″ = 60,000 cu. ft. GALLERY.—28′ 0″ × 50′ 0″ × 12′ 0″ = 16,800 cu. ft.	720 130	64°	40°	INLETS.—10 Tobins Tubes, 8″ × 4″. OUTLETS.—5 approximate 2′ 0″ × 2′ 0″ (2 natural, 3 with fans) ; 1 Extractor under balcony.	2.5	.56 Weather damp and foggy.	1·94 NOTE.—Over 9 times the admissible amount of impurity.
Oct. 29	p.m. 4	Heyhouses Endowed School.	Class Room, 26′ 6″ × 23′ 8″ × 12′ 0″ = 7,524 cu. ft.		63°	44°	INLETS.—2 French Windows, 2′ 9″ × 1′ 10″ each ; 4 Swivel Windows, 1′ 9″ × 1′ 6″ each ; 1 Swivel Window, 1′ 9″ × 1′ 6″ ; 1 Roof Outlet, 2′ 0″ square. 50% effective.	.79	.44 Weather calm and somewhat misty.	.35 NOTE.—Ventilators open.
Oct. 29	p.m. 3.30	Roman Catholic School.	Class Room, 30′ 0″ × 15′ 0″ × 16′ 6″ = 5,400 cu. ft. (12′ 0″ useful).	37 Children 1 Teacher.	60°	44°	INLETS.—3 Hoppers, 1′ 9″ × 6″. OUTLETS.—2 Windows, 1′ 9″ × 9″ each ; 1 Roof Outlet, 2′ 0″ × 2′ 0″. 25% effective.	.59	.44 Weather calm and somewhat misty.	.15 NOTE.—Ventilator open and 2 doors open to external air.
Nov. 2	a.m. 11.15	Harrison's Bakehouse, Back West Crescent.	Dimensions.—14′ 0″ × 42′ 0″ × 7′ 9″ = 4,557 cu. ft. (About 10% of space taken up by tables, boxes, etc.)	3	70°	46°	No Ventilators or Windows actually open when test was made. The provision for ventilation comprises : 2 hinged Windows near ceiling, each 2′ 0″ × 9″ 2 sash Windows, made to open, each 4′ 0″ × 3″.	1.01	.43 Weather calm and dull.	.58 NOTE.—Nearly 3 times the admissible amount of impurity.
Nov. 3	a.m. 7.30	Cowshed at Eaves Farm, Heyhouses Road.	Stalls.—10. 33′ 0″ × 17′ 6″ × 10′ 0″ = 5,775 cu. ft.	10 Cows.	64°	42°	INLETS.—None. OUTLETS.—6 Ridge Tiles of combined ventilation area of 144 sq. inches, if they were not blocked up. NOTE.—There are 4 doors to this cowshed and when test was taken two doors opening directly into the external air were half open. The cowshed would therefore be much purer than would be found when the doors are closed as would be the case during the night.	1.00	.43 Weather calm and dull.	.57 NOTE.—Nearly 3 times the amount of admissible impurity. Note remarks on ventilation.
Nov. 3	p.m. 2.30	St. Thomas' School. Small Front Class Room.	19′ 0″ × 22 0″′ × 12′ 0″ = 5016 cu. ft.	20 Children 1 Teacher.	62°	48°	INLETS.—6 Hinged Windows, 3′ 0″ × 2′ 0″ (2 open) ; 3 Tobins Tubes, 9′ 0″ × 3″. 50% effective. OUTLETS.—1 Roof Outlet, 3′ 0″ square. 75% effective.	1.2	.43 Weather calm and dull.	.77 NOTE.—Nearly 4 times the amount of admissible impurity.
Nov. 3	p.m. 2.30	St. Thomas' School. Large front Class Room.	25′ 6″ × 27′ 6″ × 12′ 0″ = 8,415 cu. ft.	25 Children 1 Teacher.	62°	48°	INLETS.—10 Hinged Windows, 3′ 0″ × 2′ 0″ (7 open) ; 3 Tobins Tubes, 9″ × 3″. 50% effective. OUTLETS.—4 Roof Outlets, 3′ 0″ square. 75% effective. NOTE.—*As regards ventilation arrangements this is an ideal class room (apparently).*	.83	.43 Weather calm and dull.	.4 NOTE.—This is twice amount of admissible impurity, though ventilation and air-space are good. (Test was taken in the centre of the children, and 2′ 0″ above floor.
Nov. 19	a.m. 11.40	44, Albert Road.	Large front Bedroom, 14′ 0″ × 9′ 6″ × 9′ 6″ = 1,283.5 cu. ft.	Room had been vacated four hours.	60°	56°	Fireplace and Sash Window to open. (No window open when test was made.)	.59	.37 Weather calm.	.22 NOTE.—This room, having been vacated 4 hours before test was made, the air ought to have been almost as pure as the outside air.

NOTE.—Pure air normally contains .4 vols. C.O. per 1,000.
Admissible amount of impurity estimated on $C.O._2 = 2$ vols. per 1,000.
Therefore the air in a well-ventilated room should never exceed .6 vols. per 1,000.