[Report 1926] / Medical Officer of Health, Newcastle-upon-Tyne City & County.

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CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

Sanitary Condition of the City

DURING THE YEAR

1926.

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Members of Council who served on the

HEALTH COMMITTEE.

Councillor R. W. Simpson, M.B.. Ch.B., Chairman.

Councillor David Adams, J.P., Vice-Chairman.

The Lord Mayor (Councillor A. W. Lambert, M.C., J.P.)

Alderman Adam Wilson, J.P., F.R.C.S.

" J. J. Forster, J.P.

" Richard Mayne, J.P.

" Alex. Wilkie, C.H., J.P.

" John Proctor, J.P.

" Walter Lee, J.P.

Councillor	W. A. Allan, J.P.	Councillor	W. V. Longfield.
"	G. D. Newton, L.R.C.P.	"	John E. Scanlan, J.P.
"	W. H. Woodman.	"	John Barker, J.P.
"	R. J. Thompson, J.P.	"	James Smith.
"	J. C. Doyle.	"	John Chapman, J.P.
"	Walter Thompson.	"	Edward Middleton.
"	Catherine Auld.	"	Geo. Dixon.
"	H. Benson, J.P.	"	J. Crosby.
"	W. C. Percival.	"	H. Moat, Junr.
"	W. R. Wallace.	"	A. Louvre.

MATERNITY AND CHILD WELFARE COMMITTEE.

*Councillor JOHN CHAPMAN, J.P., Chairman.

†Mrs. H. BRACKENBURY, J.P., Vice-Chairman.

*Alderman ADAM WILSON, J.P., F.R.C.S.

*Alderman WALTER LEE, J.P.

*Councillor ANTHONY OATES, J.P.

‡	Councillor	J. G. NIXON.	*Councillor		EDWARD MIDDLETON.
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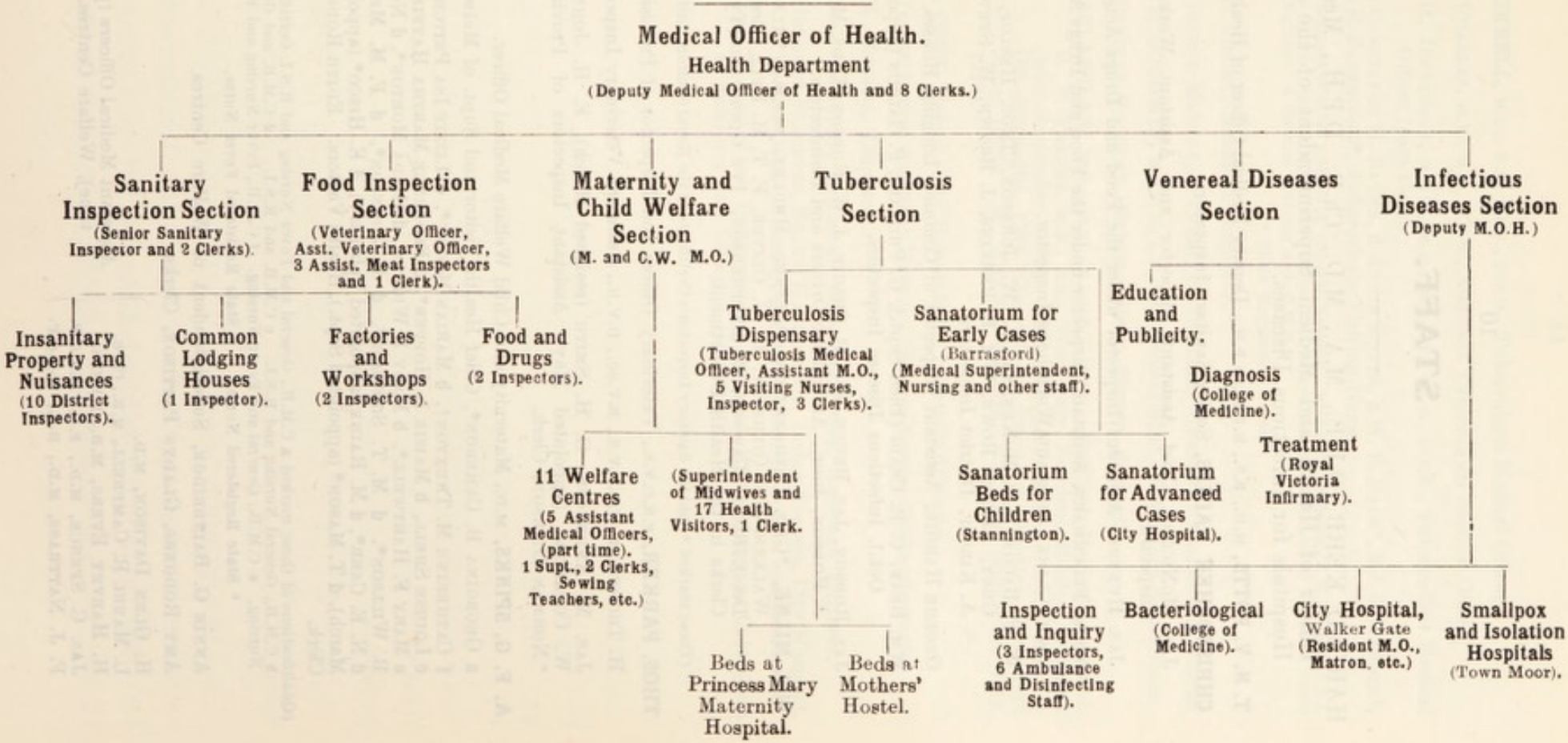
*	,,	W. H. WOODMAN.	‡	,,	J. MOORE.
*	,,	R. W. SIMPSON, M.B., Ch.B.	‡	,,	JEANIE L. GIBBIN, J.P.
*	,,	J. C. DOYLE.	†Mrs. H. LOUIS.		
‡	,,	E. C. DOUGHERTY.	†Dr. R. P. R. LYLE.		
*	,,	WALTER THOMPSON.	†Mrs. J. T. PLATT.		
*	,,	CATHERINE AULD.	†Miss G. ROWELL.		
‡	,,	H. LOWREY.	†Dr. MONA MACNAUGHTON.		
*	,,	JOHN BARKER, J.P.	†Mr. GLADSTONE WALKER.		
*	,,	DAVID ADAMS, J.P.	†Mrs. A. J. SHORTT.		
*	,,	JAMES SMITH.	†Mrs. A. A. MCCUTCHEON.		
‡	,,	W. BARKER ELLIS, J.P.	†Mrs. LOCKE.		

* Member of the Health Committee.

† Co-opted member.

‡ Appointed by City Council.

Table showing the various Sections of the Health Committee's work which is under the direct charge of the Medical Officer of Health.



STAFF.

HAROLD KERR, O.B.E., M.A., M.D., Ch.B., D.P.H., Medical Officer of Health and Medical Superintendent of the City Hospitals for Infectious Diseases.

T. N. V. POTTS, M.D., B.S., B.HY., D.P.H., Deputy Medical Officer of Health.

CHRISTOPHER RAIMES, Senior Sanitary Inspector.

JAS. MCNICHOL, Chief Assistant Inspector and Assistant Workshops Inspector.

JAS. HUNTER, Assistant Inspector under the Food and Drugs Acts.

ADAM FLOCKHART, Assistant Inspector under the Food and Drugs Acts.

ISAAC CLARK, Assistant Workshops Inspector.

W. F. BACON, JAS. MCKENDRY, L. W. JOHNSON, THOS. HESLOP, WM. GRAY, ARTHUR ROWE, WM. E. PERKINS, J. BROWN, W. STEWART, A. KIRSOP, District Inspectors.

GEORGE HARDIE, Assistant Inspector of Common Lodging Houses.

WM. BEAN, C. R. CRAIG (Died Sept.), G. PHILLIPS, F. GALTON (appointed Oct.), Infectious Disease Inspectors.

JAS. ROBSON, JAS. BRUCE, JNO. R. CRAGIE, J. W. ROBSON, THOS. MOORE, J. ROBSON, Junr., Ambulance Drivers and Disinfectors.

WM. MILNE, *GEO. CUTHBERTSON, *ALFRED HEDLEY, M.S.M., *ALEC M. WALKER, JOS. GILHESPY, H. G. OLIVER, F. T. H. BELL (Resigned Dec.), ROBT. LAWSON, D. MACPHERSON, IVY GOODHALL (Typist), Clerks in the Health Department.

(Those marked * hold the Sanitary Inspector's Certificate of the Royal Sanitary Institute).

THOS. PARKER, F.R.C.V.S., Veterinary Officer and Inspector of Provisions.

H. THORNTON, M.R.C.V.S., B.V.SC., D.V.H., Assistant Veterinary Inspector.

JAS. M. ANDERSON, G. H. SMITH (resigned March), E. H. JOHNSON, W. COCKBURN (appointed May), Assistant Inspectors of Provisions. *NORMAN DICKSON, Clerk.

A. F. G. SPINKS, M.D., Maternity and Child Welfare Medical Officer.

a GEORGINA B. CAMERON*, Chief Health Visitor and Supt. of Midwives.

f CATHERINE M. THEXTON†, **b** MARIAN MOODY*, **c** LIZZIE ISA PRITCHARD, **c** LOUISE SHELL, **b** MAISIE L. HOPPER*, **d** FLORENCE MARTHA HATFIELD*, **e** MARY F. HARTWELL*, **b** MARY I. WIGHAM, **d** HILDA MORTON*, **d** NORAH B. WILLSON*, **d** M. T. SMITHSON*, **d** E. JOHNSON*, **d** F. M. MEDD*, **d** N. E. CARR*, **d** M. RAINE (appointed February), **d** E. HISCO* (appointed March), **d** T. MASON* (appointed Sept.), Health Visitors. EDITH RODGERS, Clerk.

(Qualifications of those marked **a** C.M.B., General and Fever Nursing and R.S.I. Certificates. **b** C.M.B., General Nursing and R.S.I. **c** C.M.B. and R.S.I. **d** C.M.B. and General Nursing. **e** C.M.B., General and Fever Nursing. **f** C.M.B., Fever Nursing and R.S.I.)

* State Registered Nurse. † State Registered Fever Nurse.

ANNIE G. BAINBRIDGE, Superintendent of Welfare Centres.

AMY RODGERS, GLADYS PATTISON, Clerks.

H. GLEN DAVISON, M.D.
L. MABEL R. CAMPBELL, M.B., Ch.B.
H. HARVEY EVERS, M.B., F.R.C.S.
JAS. C. SPENCE, M.D., P.S., M.R.C.P.
F. J. NATTRASS, M.D., B.S., M.R.C.P.

Assistant Medical Officers (part time), Welfare Centres.

G. HURRELL, M.D., B.S., B.Hy., D.P.H., Tuberculosis Medical Officer.

J. A. CHARLES, M.B., B.S., D.P.H., Assistant Tuberculosis Medical Officer.

WM. H. DICKINSON, O.B.E., M.D., M.R.C.P., Ch.B., D.P.H., Tuberculosis Medical Officer (part time).

c CONSTANCE M. BAYNE, **d** ANNIE BOOTH, **a** W. E. DALE*, **b** J. P. KENMIR*, **e** E. FARBRIDGE*, Tuberculosis Visiting Nurses.

(Qualifications of those marked **a** General Nursing. **b** General Nursing, C.M.B. and R.S.I. **c** General Nursing and Health Visitors and School Nurses Certificates of R.S.I. **d** Fever Nursing. **e** General Nursing and C.M.B.)

* State Registered Nurse.

E. JOICEY, Assistant Inspector.

GEORGE MAGNAY, PAMELA E. THORATT, GERTRUDE GILLENDER, Clerks.

C. G. R. GOODWIN, M.R.C.S., L.R.C.P., Medical Supt., Barrasford Sanatorium.

FRANCES BAGULEY, Matron; Sister, Nurses, Servants.

I. MACLACHLAN, M.B., B.S., B. Hy., D.P.H. Resident Medical Assistant. R. F. TREDRE, M.B., B.S., Temporary Resident Medical Assistant (from September, 1926). **NEIL MACLAY,** M.B., F.R.C.S., Consulting Oto-rhinologist, City Hospitals for Infectious Diseases (Died 26th June, 1926). **W. FRANK WILSON,** M.B., B.S. (appointed July, 1926).

H. E. COOK, Matron, City Hospitals for Infectious Diseases.

JESSIE LAING, Assistant Matron. Sisters, Nurses, Clerks, Servants.

M. BURRILL, Dispenser.

JAS. COCKBURN, Engineer. GEO. COCKBURN, Assistant Engineer.

HERBERT BLACKTIN, FRANK HARRINGTON, Lodge Keepers, City Hospital, Walker Gate. Firemen, Porters, Gardeners, Joiner, and Handyman.

JOS. W. and JANE STEPHENSON, JAS. and MARY GREGAN, Caretakers at Smallpox and Isolation Hospitals.

To Councillor R. W. SIMPSON, M.B., Ch.B. etc., Chairman of the Health Committee of the Corporation of Newcastle-upon-Tyne.

SIR,

The year past has been specially notable for a prolonged period of industrial disturbance, commencing with a general strike on 3rd May, which was intended to paralyse all industry. This collapsed on 12th May, all but the miners resuming their occupation. The coal dispute, however, which had begun on 1st May, with the expiry of the notices to the miners, dragged on until the end of November, by which time many of the men had returned to work. The prolonged trouble in the coalfields exerted a disastrous effect upon all industry, and the prosperity of all classes, and placed burdens upon the Boards of Guardians for relief, which in many instances threatened bankruptcy to whole communities. Although there has undoubtedly been much privation, the population has not suffered in health, and the mortality rates generally for this City were the lowest on record. For this fortunate state of affairs we are indebted to the unemployment benefit under the Unemployment Insurance Acts (the " dole "), and to the relief afforded by the Boards of Guardians to those who were not qualified for unemployment relief, or whose period of qualification had run out.

The " cost of living figure " at the end of 1926 had risen from 77 to 79 per cent. above the pre-war rate.

The number of men unemployed, according to returns obtained by the courtesy of the Manager of the Labour Exchange, declined from 14,300 in January to 12,800 in April, but rose in May to approximately

21,000, from which figure it slowly declined to 16,000 in December. The number of unemployed women declined from 1,500 in January to 1,100 in April, then rose to about 2,000, which figure was maintained until December, when it again fell to about 1,500.

Owing to bad foreign markets, following the prolonged idleness in the pits, the coal trade has experienced an excessive slump, so that on the resumption of working only a proportion of the men were able to find re-employment. The high cost of imported coal limited activities in other industries, from which they have been slow to recover. Shipbuilding, one of the principal occupations on Tyneside, suffered very severely, and indeed almost every other trade and industry has been experiencing exceptionally bad times.

CLIMATE.—1925 was marked by an exceedingly severe and prolonged winter, with continuous hard frosts and heavy falls of snow, the last snow noted being on May 15th. The Summer was fairly good on the average, though not marked by any excessive heat. Winter started early, November being exceptionally wet, and the remaining months mild and comparatively free from frost or snow.

The **Sunshine Records** were continued at Armstrong College by Professor Stroud, and at Cockle Park by the late Professor Gilchrist, whose death in the present year, almost at the moment of his retirement, we deplore. The amount of sunshine in Newcastle was greater than in 1925, namely, 1,085 hours, as compared with 924 hours, that at Cockle Park being slightly less, 1,449, as compared with 1,461 hours. This lessened disparity between the two observation stations was undoubtedly due to the greater clarity of the atmosphere that resulted

from the lessened industrial activity. Normally it is found that Newcastle enjoys only about one-half of the amount of sunshine that is experienced in the surrounding country districts. The disparity in 1926 would have been still less but for the fact that much imported coal, and coal of grossly inferior quality, were being burnt.

There are three gauges for the estimation of **Atmospheric Pollution** in Newcastle, situated centrally (close to City Road), in a densely populated residential district (in Westgate Cemetery) and in the outskirts of the town (at the Smallpox Hospital, Town Moor), and these indicated a total fall of impurities equivalent respectively to 841, 413 and 263 tons per square mile. The first mentioned gauge, that in City Road, has been established for many years, and its records are those which have given Newcastle so bad a name in the reports of the Advisory Committee on Atmospheric Pollution as showing the heaviest recorded deposit in the Kingdom. It is well to remember that the bulk of this is a record rather of what we suffer than of what we produce ourselves, since very much of it comes to us from the south of the adjacent river; there is no doubt that our own Tramways Power Station chimney at the Manors contributes considerably more than its fair quota, and by its continuance handicaps the Department greatly in dealing with other offenders. Taken in conjunction with the sunshine records there can be no doubt that it is mainly due to smoke that the access of sunshine to Newcastle is so much less than it is a few miles distant. The recent move, therefore, by Newcastle Health Committee for the formation of a Regional Smoke Committee for Tyneside is a step in the right direction, and it is greatly to be hoped that some practical improvement will result from it.

The Registrar General estimated the **POPULATION** at the beginning of 1926 to be 284,700, as against 286,300 in the previous year, and the Census figure (1921) of 278,400.

The number of **MARRIAGES** during the year 1926 was 2,073, which is less than the previous year by over a couple of hundred.

The **BIRTH RATE** continues to decline, having been 21·0 births per thousand population, the lowest yet recorded, while that for the whole country was only 17·8.

The **GENERAL DEATH RATE,** 12·8 per thousand population, constitutes a record for the City; it was 11·6 for the country as a whole as also for the great towns. Although rather lower than that for other large towns in the North of England, there is little doubt that the North suffers from relatively closer packing of its population, due to shortage of dwellings, which the activities of the various Housing Committees have by no means overtaken as yet.

The *Natural Increase* of population (births minus deaths) amounted to 2,365, so that it is evident from the Registrar's general estimate of population, which is 1,600 less than in the previous year, that Newcastle is at the moment losing population by emigration either to other parts of the country or abroad. This is a further proof, if any were needed, of the unsatisfactory state of employment.

A broad analysis of the causes of death shows that diseases of the **Circulatory System** constitute a steadily growing class, which in 1926 caused about 17 per cent. of the total deaths.

Respiratory Diseases took rather less toll in 1926 (13½ per cent. of all deaths).

Diseases of the Nervous System continued to show a steady diminution (7 per cent. of all deaths).

Diseases of the **Digestive System** accounted for 5 per cent. of the total deaths.

Cancer mortality, while continuing high, accounted for fewer deaths (333) than in the two preceding years. Thus one in thirteen of the total deaths were due to this cause, as compared with one in ten in 1926. In 90 cases the disease affected the stomach or liver, in 90 the intestines, that is to say, in more than half the part affected was the digestive tract ; in 64 cases the female genital organs or breast were involved, and in 28 cases some part of the mouth. 154 deaths occurred in males and 179 in females. The average age at death was 59 for men and 60 for women.

During the present year (1927) the University of Durham College of Medicine has taken the necessary steps for the formation of a Cancer Investigation Committee for the Counties of Northumberland, Durham, and Newcastle-upon-Tyne, and has received warm support on all sides, *e.g.*, from the Lords Lieutenant of Northumberland and Durham, the Lord Mayor, Sheriff and Health Committee of Newcastle-upon-Tyne, as well as from both County Councils and all the Borough Councils. The purpose of the Committee is to make possible, and to carry out, investigation which will be closely correlated with similar work in other areas through the British Empire Cancer Campaign. Much statistical study has already been accomplished in Newcastle by the Health Department in conjunction with the Royal Victoria Infirmary, but there is an enormous

amount of valuable information still to be obtained, which is beyond the capacity of part-time voluntary workers with the limited time at their disposal. The causal processes of this disease have already been partially discovered by the laboratory researches of Dr. Gye, but very much more remains to be found out before specific means of prevention or of cure can be defined. This means a great deal of toilsome effort and the careful study of results. Up to the present, the best hope for a sufferer is the earliest possible discovery of the disease, and its immediate reference to a surgeon. All investigations go to show that delay is fatal, whereas prompt removal offers a quite good expectation of complete cure, and at the worst, considerable prolongation of life.

Since the introduction of *Insulin* for treatment in the latter half of 1923, the death returns from **Diabetes** have been carefully watched. On the whole, the deaths tend to show a diminution, having been for 1921 and for the following years 29, 28, 38, 26, 31 and 28, but except for one death of a child under two years of age, and of another between 5 and 15 in 1926, there has been a complete absence of deaths below the age of 25 since the remedy became available. Insulin is not a cure for diabetes, but it supplements the defective function of the body so long as it is being administered.

EPIDEMIC AND INFECTIOUS DISEASE incidence continued to be low, with the exception of measles.

Measles occurred in epidemic form during the spring months, reaching its height during the month of April, but the notified cases numbered only 4,242, as compared with 6,030 in 1925. There were 42 deaths, a case mortality of not quite one per cent., which is only about

half the fatality in 1925. The homes of 90 per cent. of the cases notified were visited by a Health Visitor for the purpose of advising the mothers as to the care of the sufferers, and to urge the calling in of a doctor. The mere fact that the Health Department considers the disease worthy of attention is in itself sufficient to ensure against maternal neglect.

Whooping Cough, that curse of early childhood, claimed 49 victims, which represents about the average mortality.

Diphtheria, with 202 cases, a somewhat low incidence, shows the highest case mortality (8·4 deaths per cent. of patients) since 1918, indicating a rather more severe type.

Smallpox became very prevalent in various parts of the County of Durham during the year under report, while still remaining established in one or two areas of Northumberland. It was inevitable that Newcastle should suffer through the existence of so much infection in surrounding districts, although it is satisfactory to record a considerable improvement in the methods of its control in the counties. 50 cases occurred within the City, and as previously, rarely was there any extension whatsoever from the initial cases. Smallpox, if handled promptly and thoroughly, is a comparatively easy disease to control, but it requires that those responsible for dealing with it shall have not only a free hand, but adequate support from their Authorities. Neither of these conditions has ever been lacking in Newcastle, and to these circumstances, as also to the active co-operation of employers and of the people generally, the City owes its relative freedom from the disease. The type continued to be mild, and there were

no deaths, although a number of the patients were acutely ill during the febrile stage. On various occasions the Smallpox Hospital was in use for patients from other Authorities in emergency, these numbering 85 all told. The hospital was practically in constant occupation throughout the year.

Infantile vaccinations fell from 64 to 59 per cent. in 1926. While the fall is to be deplored, the proportion of children protected in Newcastle is still very far indeed above that for surrounding districts. Vaccination is practically never refused by contacts, and its protecting power continues to be strikingly evident.

There were 14 cases of **Enteric Fever,** of whom two were members of the nursing staff of the Royal Victoria Infirmary ; these had contracted infection during attendance on certain cases admitted from beyond the City, the diagnosis of which for some time proved obscure. There were two deaths, one of whom was a nurse.

Diarrhœa caused 121 deaths, the greatest number since 1921.

Scarlet Fever, of which in 1925 we were experiencing a " crest " of high incidence, fell considerably in 1926. The fatality was low (1·4 per cent.)

There was one outbreak of suspected **Food Poisoning** involving three cases, and at least three other persons, who apparently suffered none of the characteristic symptoms. There were two deaths. It was not definitely established what particular foodstuff was concerned with the outbreak, but bacteriological examinations indicated the presence of the dysentery (Flexner) group bacillus in all the tissues of the second fatal case (the first having escaped bacteriological examination), and from the intestinal contents of case No. 3, and of three other members of the household.

There were seven cases of **Acute Poliomyelitis,** or infantile paralysis. All of these recovered, but two were left with some permanent paralysis. There were three cases of **Cerebro-Spinal Fever,** two of whom died, and 24 of **Encephalitis Lethargica** (so-called "sleepy sickness"), of whom eight died. The last named disease, which reached a somewhat high prevalence in 1924, now appears to be dwindling out. This is most fortunate, as the disease is perhaps the most dreadful, in its immediate and after effects, from which anyone may suffer.

Reference is made to **Tuberculosis** under a special heading subsequently.

Hospitals for Infectious Diseases.—To the *City Hospital,* Walker Gate, with its approximate 300 beds, were admitted 1,397 cases of fever, etc., together with 254 cases of pulmonary tuberculosis. The latter occupied not only the special tuberculosis annexe, but also one of the more isolated fever pavilions of 30 beds.

The *Smallpox and Isolation Hospitals,* with 72 and 100 beds respectively, were in use throughout the year for 139 cases of smallpox and 194 contacts with this disease, the stay of the latter being only very temporary.

On June 26th Dr. Neil Maclay, visiting oto-rhinologist to the Hospital since 1921, died suddenly. Dr. Maclay's appointment, one of the first of the kind made in Great Britain, has proved from its commencement an unqualified success. The operative treatment introduced through him has shortened considerably the stay in Hospital of cases of scarlet fever developing discharging ears or noses, thus saving a substantial amount to the Hospital, and has also been a boon to the patients themselves, many of whom would ultimately have gone to swell the ranks of the deaf, and the clinics of the

Education Committee. Dr. Maclay's thoroughness, his kindliness, and his ever-readiness to fall in with Hospital arrangements, made his loss greatly felt by the staff. His successor, Dr. W. Frank Wilson, has carried on Dr. Maclay's special functions very satisfactorily since. 38 cases in all required operation, and their stay subsequently in hospital averaged 18 days, as compared with 27 days in the case of those treated by conservative methods.

Scarlet Fever antitoxin has been administered to 78 patients suffering from severe attacks. If given at an early stage, the effect is almost magical, temperature falling rapidly, toxic symptoms disappearing, and general improvement occurring within 24 to 36 hours of the injection. The cost is now only about one-half of what it was in 1925.

A quartz-mercury vapour lamp was installed, and has been used for treatment of debilitating conditions which commonly follow the acute stages of fevers. Exposure of such patients to the ultra-violet rays has resulted in a definite exhilaration of the patient, together with increased appetite, and has proved a measure of considerable value towards recovery.

As in 1925, the amount of sickness among the nursing staff has been heavy. 59 suffered from various conditions, including seven from scarlet fever, and no less than six from appendicitis, the last-mentioned occuring almost in a batch. One member of the domestic staff contracted scarlet fever. Almost 2,000 days' duty were lost by nurses through ill-health, and this accounts to a considerable extent for the apparently large staff. It is gratifying to note that none suffered from enteric fever or from diphtheria, since all are now protected by

inoculation. A certain amount of experimental work for similar protection against scarlet fever has been carried out, but is not yet in quite so advanced a state as in the case of the two previously mentioned diseases.

Bacteriological Examinations.—5,153 specimens were submitted for examination to the Department of Bacteriology of the College of Medicine, being a slight increase upon the previous year's number. Of these 1,810 were in respect of diphtheria, tuberculosis, and enteric fever, 2,307 were for venereal disease, 708 were of milk, 189 of water, and the remaining 139 were special investigations.

The **Disinfecting Stations** at Walker Gate, and at the Moor Hospital, dealt with 49,200 articles from the City and the Hospitals. The total amount spent by the Health Department on chemical disinfectants (formalin, izal, etc.), only amounted to £58, of which £14 was for the Hospitals.

The **Venereal Disease** clinic at the Royal Victoria Infirmary, in the hands of Professor Sir Robert A. Bolam, Chief Specialist Medical Officer, is shared with the other County Boroughs and County Councils of Northumberland and Durham. The number of cases, which has fallen considerably since 1921, would appear to have become stationary now. In 1926 there were 290 cases of syphilis, 438 of gonorrhœa, 40 of soft chancre and 123 of other conditions. The attendances per case is now 17·6, indicating that treatment is persisted in until there is reasonable probability of cure. Nevertheless, 41 per cent. of patients ceased to attend before treatment was completed.

Ophthalmia Neonatorum (inflammation of the eyes in the newly born, and usually due to gonorrhœal infection from the mother), was notified in 57 instances. Although there are 348 registered blind persons in Newcastle to-day, of whom 76 are stated to have been blind from birth, there is only one blind child under five years of age, which indicates that the attention paid to ophthalmia neonatorum has had a good effect.

The three Police Women attached to the establishment at the Central Police Station are now employed chiefly as matrons, but are available for patrol and other duties.

The **MATERNITY AND CHILD WELFARE** Section (under Dr. A. F. G. Spinks) is again able to point to an infantile mortality rate of 88 deaths per thousand births, as in 1925, which is the lowest rate yet attained in this City. While the Section does not, of course, claim to have been the sole factor in bringing about the substantial saving in child life that has occurred in the present century, it can be fairly credited with having been the live force behind vastly improved conditions of infant care and nurture. As can only be expected in a great industrial community such as this, with its heavy overcrowding, there are some parts of the City in which the chances of a baby's survival to its second year are very much less than they should be. Such, for instance, is Byker Ward, with a mortality of 130 per thousand births, as compared with only 40 in Jesmond. As usual, causes affecting the child before birth accounted for almost half the deaths, the vast reductions in fatality having been effected in the conditions operative after birth. This emphasises the great need of concentration upon the work of the ante-natal sessions at the welfare centres. There were 376 of these sessions in the welfare centres during the year.

There were 41 practising midwives in the City, of whom five only remained of those registered as having been in bona-fide practice before the passing of the Midwives Act.

Doctors were sent for by midwives on account of complications or emergencies in 316 instances. Arising out of these were 200 claims from doctors for fees, amounting to £242 8s. 0d., and two from midwives for £1 15s. 0d., under the Midwives Act, 1918. Each case was closely investigated before payment was approved.

The death of the mother in childbirth or immediately subsequent to it occurred in 3·1 instances in every thousand births. This is substantially lower than the maternal mortality rate for the country as a whole (4·12 per 1,000 births). This we owe largely to the presence of the *Princess Mary Maternity Hospital*, which deals with an enormous number of severe or complicated cases of confinement among the poor. Births in Newcastle are attended in about equal proportions by the doctors, the midwives and the Maternity Hospital. The midwives receive regular supervision and tuition by the Superintendent of Midwives (Miss Georgina B. Cameron).

There are 29 regular *voluntary workers*, and a few occasional ones, at the centres. They supervise the sewing meetings for the most part, give lessons in simple cookery, and so forth, and run a nursery school at St. Peter's Centre. Another nursery school was started during the year at Diana Street, and a third is contemplated this year at Wharncliffe Street. The Department acknowledges gratefully the unselfish and enthusiastic service of these ladies, and appreciates highly their value.

During 1926 general unemployment caused a considerable increase in the number of babies requiring material assistance with dried milk, and 23 tons, equivalent to approximately 32,600 gallons of fresh milk, were given free to 2,280 women and babies, with sanctions for about the same quantity at cost price to 1,333 persons. This was 7½ tons of free milk, and two tons of cost price milk, more than in the previous year.

As will be seen from the tables on pages 9 and 10, the whole-time staff of this Section consists of one medical officer, 18 health visitors, and a centre superintendent and three clerks. In spite of the last-mentioned being kept very fully occupied, the health visitors, who are highly trained nurses, nevertheless have to devote much time to clerical work, which could be more usefully spent in their proper functions in the districts. Also as a result of shortage of clerks, Miss Cameron and Miss Thexton, the two seniors, have to do a great deal of work in the evenings. This should not be, and could be obviated by the appointment of one or two additional girl clerks.

Reference has already been made to the great work carried on by the Princess Mary Maternity Hospital, work that is performed in the closest possible association with the Health Department.

The *Hostel for Unmarried Mothers* in Osborne Road, the *Newcastle Day Nursery* in New Bridge Street, the *Babies' Hostel and Mothercraft Centre*, have continued their useful functions, also in close co-operation with the Department. These four organisations all receive financial support from the Health Committee. The last-mentioned functions as a Hospital for wasting children, and for the training of children's nurses.

TUBERCULOSIS.—As stated in last year's report, we are now feeling the effects of the prolonged period of industrial depression, and the steady gains in the fight against tuberculosis of the lungs has for the time being ceased, and we are just about barely holding our own. While the attack rate per thousand population shows a further slight increase upon the previous year, 2·04 as against 1·91, the death rate has dropped slightly from 1·20 to 1·16. When more prosperous times return, and there is money to provide more generous dietaries and better clothing, and housing conditions are improved, then the interrupted drop in mortality from tuberculosis will inevitably be resumed, provided, of course, that our efforts to combat the disease are continued. On the other hand, both the incidence and the death rate from other forms of tuberculosis are still declining, and this must be ascribed in a large part to the ever closer control of milk from tuberculous cows. Thanks to this fact, the death rate from all forms of tuberculosis is slightly lower than in the previous year, and indeed is equal to the lowest figure recorded for any year. There have been no changes in procedure or methods from those so fully described in the report for 1925.

All notifications are referred to the Tuberculosis Medical Officer, Dr. George Hurrell, at the *Tuberculosis Dispensary.* This serves as a general clearing house for the disease, and patients are classified as early or late cases; appropriate treatment is prescribed or arranged for at home under the family doctor, in the Barrasford Sanatorium, in the Children's Sanatorium at Stannington, or if home conditions are unsatisfactory and likely to tend to spread of the infection to other members of the household, the patient is sent to the Advanced Case Hospital at Walker Gate. Whereas the

beds in the latter institution are kept constantly fully occupied, so that an additional pavilion has had to be borrowed temporarily from the Fever side, the accommodation at Barrasford Sanatorium is kept fully occupied only with great difficulty, and chiefly in the summer time, because the vast majority of cases are not recognised, and indeed do not consult a doctor, until the disease is well established.

The homes of all patients are visited by the Tuberculosis Visiting Nurses, and the other members of the household are brought up to the Dispensary for overhaul. By this means the large proportion of early cases is discovered, that is, from among those who are suspected owing to their association with a known case, rather than from among those who themselves come to the doctor on account of their actual symptoms.

Housing conditions are undoubtedly the most serious difficulty with which the tuberculous patient or potentially tuberculous person has to cope. Ill-health and poverty form a vicious circle, which inevitably leads the patient, particularly if he be the head of the house, into the cheaper and nastier type of dwelling, and from this his diminished means do not allow him to remove otherwise than downwards.

By arrangement with the Housing Committee, however, precedence for Corporation houses is given to families containing one or more sufferers from tuberculosis. If they should not have the means to pay for such accommodation, other persons living in the house with them are given the precedence for a Corporation house, or else an arrangement is made whereby the tuberculous family is enabled to obtain a better house than the one they are in by getting that of out-going tenants who are

removing to a Corporation house. In this way a considerable number of consumptives have been enabled to obtain much more suitable accommodation than they were previously occupying, and thanks are due to the Housmg Committee for their most valuable, helpful, and public spirited policy. All cases are continued under observation of the Tuberculosis Medical Officers.

Wherever housing conditions are bad, tuberculosis is also excessive. Thus for the ten years 1917 to 1926, the death rate in All Saints' was 2·40, and for St. Nicholas' 2·22, whereas in Jesmond and St. Thomas' the rates were only 0·70 and 0·86. Housing is not, of course, the sole factor, but it undoubtedly helps the enemy bacillus tremendously. The staff of the Tuberculosis Dispensary report all insanitary conditions found by them in the homes of tuberculous patients to the Senior Sanitary Inspector, who deals with them so far as is possible. Many of the houses are awaiting condemnation and little palliation can be effected, but the majority of the causes of complaint can be and are remedied.

Where a patient has been to a Sanatorium, and has returned to unfavourable home surroundings or adverse conditions, he is taken in hand by the *Voluntary Tuberculosis Care Council.* This body, which works in conjunction with the Citizens' Service Society, is subsidised by the Health Committee, which is well represented upon it, and its services are rendered under the advice and supervision of the Tuberculosis Medical Officer. These include not only material assistance, but aids to suitable employment and personal encouragement, and constitute a noble work. Without some such corollary to treatment, the latter would be utterly futile.

During the year the Tuberculosis Sub-Committee has given considerable thought to the establishment of work-shops for occupational therapy at Barrasford Sanatorium, chiefly for their wholesome mental effect upon the patients rather than for the purpose of teaching them new trades. The idea, however, has not yet fructified, owing to considerations of cost.

While the average duration of life in fatal cases of tuberculosis of the lungs was about 3 years 7 months in adult males, 3 years 3 months in adult females, and 9½ months in children, the period between notification of the disease and death was only about 20½ months, cases having been actually suffering from the disease for an average of 19 months before notification. This matter has been taken up again and again with the doctors, and while undoubtedly an occasional case of negligence may have occurred, in the vast majority of instances the patient either has not gone to his doctor at all until the disease was well advanced, or the earlier stages have been masked by some other condition. 81 per cent. of the patients referred to the Dispensary were afforded institutional treatment in Sanatorium or Hospital—a very high proportion.

The average stay of patients in the 30 beds leased at *Stannington Sanatorium* for children was for boys 199 days and for girls 269 days. Of the 47 patients, nine were improved, two did not respond to treatment, and in the remainder the disease was rendered quiescent.

At *Barrasford Sanatorium*, the Corporation's own institution, the Medical Superintendent (Dr. C. G. R. Goodwin), reports that 50 of the 90 beds have been in constant occupation by Newcastle cases, and 131 of 228 total admissions were from the City. The duration of stay in the Sanatorium averaged just 4½ months, which

is entirely insufficient to secure a cure or even quiescence. Various lines of treatment have been in use, including. first and foremost, rest, with good and liberal feeding, careful nursing and plenty of fresh air. In addition, use has been made in appropriate cases of pneumothorax, intra-tracheal injections of lipiodol, with X-ray examination, injection of sanocrysin, ultra-violet radiation, and in one or two instances resort to other operative methods. Many of the cases received from the City were more extensively diseased than have been admissible in the past, and consequently the results are not particularly striking. None of those in whose sputum tubercle bacilli were found are reported to be quiescent, but the great majority discharged from the Sanatorium had improved during their stay there.

At the *Advanced Case Hospital* at Walker Gate 254 patients, of whom 59 were ex-service men, were admitted. Nearly half were females. The average length of stay was about 17 weeks. 136 patients were improved, 12 of them passing the doctor for transfer to Barrasford Sanatorium, 49 left without improvement, and 69 died in the Hospital. While similar methods to those in use at Barrasford are adopted here, the main purpose is, of course, segregation in the interests of the community, and more particularly of the other members of the patients' own households, and there is no doubt whatever of the very high value this measure has in the control of the disease. This circumstance being borne in mind, it is possible to relax discipline considerably in the Hospital as compared with the Sanatorium, and it is also judicious in order to make the place attractive, and so induce these sources of infection to remain there.

Mention must be made again of the Education Committee's *Open Air School* at Pendower, one of the finest preventatives that could be devised. The City requires more and more institutions of this sort, and it is to be hoped sincerely that these will be forthcoming as soon as possible. The *Dental Clinics* of the Education Committee are another valuable preventative in that they heal dangerous gaps in the defences against tuberculosis.

FOOD AND PROVISIONS. Bovine Tuberculosis.—376 samples of milk were examined for the presence of tubercle bacilli, which were found in 15 of them, equivalent to 4 per cent. This result, while by no means ideal, is at least a considerable improvement upon the very bad record—8 per cent.—of 1925, which was the highest since 1916. It is noteworthy, however, that more than 10 per cent. of the samples from Cumberland supplies proved tuberculous, that county being the principal source of the City's milk.

By the coming into force from 1st September, 1925, of the Milk and Dairies (Consolidation) Act, 1915, with the Tuberculosis Order, 1925, our power for controlling the placing on the market of tubercle infected milk has been greatly strengthened. Upon the County Councils is placed the duty of inspecting the milk herds for the discovery of tuberculous stock, and although it cannot be said that the performance of this duty as it should be carried out is as yet particularly noticeable, at any rate there is no lack of thoroughness about the way in which diseased animals responsible for the production of a milk discovered in the City to be tuberculous are now sought out and dealt with by the responsible County Council. This has proved an immense help in securing the safety of the City's milk supply. If only there were a speedy

alternative to the test for tubercle bacilli in milk by production of the disease in a guinea pig inoculated with the milk, a matter of a month to six weeks, our means of defence would be enormously strengthened.

The only milk that can be absolutely guaranteed at the present time to be free from tuberculosis is Graded Milk, sold under the Milk Designations Order, namely, "Certified" and "Grade A (Tuberculin-Tested)" of both of which the supply exceeds the demand. There are many farmers who would willingly provide this milk if the public would only pay the additional price for it. This they would surely do if they only realised the safety its use would give to their children. It is very encouraging to find that the use of these two grades of milk, from herds that are absolutely free from all taint of tuberculosis, is now becoming more general on the part of the managers of public institutions in the City that deal with children, notably hospitals and schools.

The Veterinary Officer and Inspector of Provisions (Mr. Thomas Parker, F.R.C.V.S.), reports that there are now 20 cow-keepers occupying 31 cow sheds on 21 premises, with 410 milch cows, within the City. This is a slight increase on the number of cows in 1925. Inspection of these animals is carried out regularly at least four times a year by Mr. Parker or the Assistant Veterinary Officer. Eleven diseased animals were found by him during 1926, seven of them being tuberculous.

The Milk and Dairies Order, 1926, became operative on 1st October, and makes possible a much closer control of the sanitary condition of all persons and premises concerned with the handling of milk.

There are 101 separate slaughterhouses in 15 different localities in the City. In spite of the coming into force in 1925 of the Public Health (Meat) Regulations, which control the hours of killing, a thorough inspection of animals slaughtered is well nigh impossible, and a single public abattoir is the only solution of the difficulty. A scheme for this, quite agreed upon by the Health Committee, has been much discussed of late, but its promotion is still held up owing to financial stringency. 430 carcases with 14,711 lbs. of meat were seized and condemned during the year, one-third being on account of tuberculosis. 257 food-carrying vessels came to the Quayside during 1926, which is about 40 more than in 1925, and indicates a steadily increasing importation of food through the Tyne Port. All imported articles were kept under supervision by Mr. Parker and his staff.

Food and Drugs Adulteration Acts.—The Inspector under the Food and Drugs Acts (Mr. C. Raimes) reports the taking of 1,164 samples for analysis, including 899 of milk. Of the latter 550 were rough tested in the Health Department and appeared to be genuine. Of the remaining 349 the Public Analyst (Dr. J .T. Dunn) found 51 to be below the minimal limits fixed by the Sale of Milk Regulations, 1901. Of the 265 samples of food and drugs other than milk, two were found to be "not genuine."

23 milk cases were taken to court, and convictions were obtained in 20 of them, with fines aggregating £44. Cautions were issued by the Committee in respect of 21, and no proceedings were taken in seven cases. There was one prosecution for selling milk from cans and vehicles not inscribed with the vendor's name, which resulted in a fine of 10s.

12 samples of condensed milk were taken under the Public Health (Condensed Milk) Regulations, 1923, all of which complied with the requirements.

190 samples of milk were examined for evidence of excremental pollution, which was found present to an undesirable degree in 87 (or 45·8 per cent.), as compared with 35·9 per cent, in 1925, and 56 per cent. in 1924. A great proportion of dirty milks occurred between June and September, when 61 per cent. were found polluted. Milk coming from the more distant sources (Dumfriesshire, Cumberland and Yorkshire), as one would anticipate, showed the worst bacterial counts. Under the Milk and Dairies Order, 1926, the insistence upon the rinsing of empty churns before returning them to the farmer, as first practised in this City, is now made a legal requirement. About 24,000 churns were examined on the railway stations, and only 64 (or 0·3 per cent.) were found unrinsed. There were examined in addition to the foregoing 3,005 empty churns passing through Newcastle in course of transit to the farms from retailers outside the City. Of these 47 (or 1·5 per cent.) were found unrinsed. In every instance the responsible retailer within the City, or the Medical Officer of Health of the retailer's area outside the City was communicated with, and the results of the action taken proved very satisfactory.

The Agricultural Department of Armstrong College has continued the practice of giving instructions to farmers and organising clean milk competitions, a very valuable undertaking.

There are 277 small shops in which milk is sold with other articles. These are kept under close observation and strict control as to licences. In addition to these,

there are 220 shops selling sterilised milk in sealed bottles. These shops are also carefully controlled, and are fairly satisfactory.

The ice-cream trade has been maintained under close supervision, and permits to manufacture and to sell are given by the Health Department. Such registration, however, is not legally compulsory, although considering the readily contaminable nature of ice cream, and the class of people who indulge in its production, a measure of this sort is most desirable. Since the practice was adopted in Newcastle many years ago, there has been a complete freedom from disease associated with any of the ice-creameries within the City, although there have been a number of serious outbreaks definitely ascribable to ice cream in neighbouring areas.

Restaurant kitchens, together with margarine warehouses and fried fish shops, have also been kept under supervision. Restaurant kitchens come within the category of "work places," and are inspected as such. They also come within the scope of the Public Health (Meat) Regulations, 1924, under which improvements have been effected at the instance of the Veterinary Officer, working in conjunction with the Inspector of Workshops.

A number of apples was examined for the presence of arsenic, resulting from the use of spray in the orchard. In six cases only were traces of arsenic found, which in one instance amounted to 1·2 parts per million of the whole apple.

189 samples of water were examined for the presence of bacillus coli as indicative of excremental contamination, animal or human. 62 were classed by the Bacteriologist

as satisfactory, 70 as doubtful, and 57 as unsatisfactory. The seven batteries of rapid filtration tanks which were lately added to the filtration plant of the Water Company have since been supplemented by chlorination of the water, and this resulted in a notable reduction of the bacilli.

THE HOUSE AND THE WORKPLACE.—Nuisance Abatement.—The Senior Sanitary Inspector (Mr. C. Raimes) reports that 6,589 notices were served for the remedy of defects in houses, and the purpose was effected without legal proceedings in all but 33 cases.

House closure is still practically impossible, and houses which were wholly condemnable still proved a difficult problem in that their occupants could not be turned out owing to the absence of alternative accommodation, and the owners were naturally averse to spending money on repairs.

About 700 dry closets have been removed, together with over 100 dry ashpits, at the owners' expense. There still remain in the City 2,559 conservancy closets, but progress in conversion has now become much more rapid.

Atmospheric Pollution.—436 observations were made of 98 industrial chimneys, 11 of which showed excessive output of smoke on 12 occasions. No prosecutions were instituted, but the representations of the Department were all accepted seriously and genuine efforts made to prevent recurrence. The practice of cleaning domestic chimneys by firing them is all too common. This is a punishable offence under the Newcastle-upon-Tyne Improvement Act, 1865, Section 102, which is administered by the Police.

Housing.—1,101 new houses were erected during the year, 441 in Corporation housing schemes, and 660 by private enterprise. At the end of the year, however, there were 1,854 in course of erection by the Corporation.

Of the 441 completed houses, 83 were " compensatory " for houses demolished under improvement schemes, as also were 326 of the 1,854 in course of erection, so that the Corporation contribution to the housing shortage represented 358, with 1,528 partially completed.

In spite of these additions to the accommodation in the City, there is still a very great need for houses, and the poorer classes more particularly have to put up with insufficient, bad, and relatively expensive dwellings which undoubtedly exert an evil effect upon the general health.

In 1926 the death rates were 17·6 per thousand in Elswick Ward, 16 in All Saints, and 15·5 in St. Andrew's, as compared with 9·1 in Jesmond, 9·6 in Dene, and 9·9 in St. Thomas'. In All Saints' Ward the death rate from all forms of tuberculosis was 2·64 per thousand population, while in Dene it was 0·68. About 34 per cent. of the population live in one and two-room houses, yet over 45 per cent. of the deaths from consumption were among these.

In Byker Ward 130 babies under one year of age died to every thousand born, and in St. Nicholas' 128, whereas in Jesmond the rate was only 40, and in St. Thomas' 44 deaths of infants per thousand births. Over a period of 19 years the deaths of babies in one-room, two-room and three-room houses have been respectively 133, 117, and 99 per thousand births.

Demolition of houses in the three condemned areas goes slowly on. The compensatory houses for Lower Pilgrim Street and Prudhoe and Liverpool Street areas are now almost completed, and mostly occupied, in Barrack Road (block dwellings) and at Cowgate (self-contained houses and flats). So far at least the transfer of the dispossessed occupants has been an unqualified success, since they are revelling in the immense improvement in their conditions, and by their care of their new homes and gardens are exhibiting all the symptoms of newly-developed house pride. Also, in spite of the hard times, there are very few arrears of rent.

Preliminary steps are being taken for scheduling the area about Elswick East Terrace, and the property is at present under consideration by the District Valuer.

The accommodation in common lodging houses continues to be adequate. At the end of the year there were 44 such houses, two of the old ones having been converted into business premises, and two new ones registered.

Factories and Workshops, Offices, Places of Amusement and Schools.—8,689 inspections of factories and workplaces were made and 372 notices to remedy defects were served. The homes of outworkers were also kept under observation.

Your Medical Officers have continued to maintain touch with the Industrial Welfare Organisers of the various great firms.

Special attention has been paid to the condition of **Cinemas and Theatres** by the Senior Sanitary Inspector, who has continued by the use of the kata-thermometer to

estimate the efficiency of their ventilation. Observations made in the 33 buildings examined in 1925 showed a very great improvement in that whereas in the previous year only 16 reached a sufficient standard, in 1926 this number had risen to 19.

The **Temperance Festival** was held as usual in June, in fairly good weather, and there was the usual enormous concourse of people. The Town Clerk and the City Engineer now, in their respective roles of control, co-operate closely with the Health Department, making possible much closer supervision of stall holders and other itinerant vendors of food, including milk and ice-cream. The sanitary arrangements also were much better contrived than previously.

NEW LEGISLATION.—The year 1926 has seen the coming into force of a number of new and useful Acts and Regulations, among them being the Public Health Act, 1925, which operated from May 1st, 1926, the Newcastle-upon-Tyne Corporation Act, 1926 (4th August), the Milk and Dairies Order, 1926 (October 1st), the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926, and the Midwives and Maternity Homes Act, 1926.

POPULAR EDUCATION.—Lectures and addresses were given as usual by the medical staff to social bodies of various kinds in the City, upon numerous subjects.

Health week, 3rd to 9th October, was observed by publication of articles upon health subjects in every Newcastle newspaper each day, by exhibition of special films and slides at the cinemas, and a series of three lectures in 42 Newcastle schools by a dozen practising dentists and the school dental officers. Prizes

were offered to scholars for the best teeth by the Health Committee, Dr. George Foggin, Principal School Medical Officer, being the adjudicator. Dr. Spinks gave two addresses at the welfare centres to fathers. Posters were exhibited in all the trams, and the Clergy were invited to make special reference to health in their sermons on the Sunday.

STAFF.—Sympathetic reference has already been made to the sudden death of Dr. Neil Maclay, the Consulting Oto-Rhinologist to the City Hospital, in the month of June.

In September there died under tragic circumstances Charles R. Craig, one of the Senior Inspectors in connection with infectious diseases, after 13 years' faithful service.

By resignation the Veterinary Officer's Section lost Mr. F. A. Davidson, B.Sc., M.R.C.V.S., at the beginning of the year, he having been appointed Veterinary Inspector to the Dumfriesshire County Council. In his place was appointed Mr. Horace Thornton, B.V.Sc., M.R.C.V.S., D.V.H.

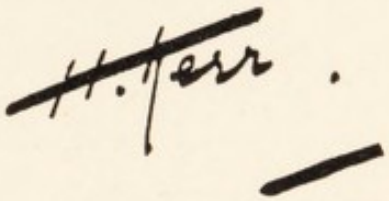
As usual, the functions of the Department have been carried on smoothly and efficiently, all members of the staff working well and loyally.

By the death of Councillor W. H. Woodman, Chairman of the Cattle Trade Sub-Committee, both the Health Committee and the Department lost a wise colleague and a staunch friend. Councillor Woodman had been a member of the Health Committee since 1921, and was one of the most regular and interested of its members.

For the constant support and consideration of the Committee, and particularly of that received from yourself, I desire to express my thanks.

I have the honour to be, Sir,

Your obedient Servant,



M.D.,
Medical Officer of Health.

Health Department,
Town Hall,
Newcastle-upon-Tyne,
1*st July*, 1927.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

Health Report, 1926.

I.—GENERAL.

MORTALITY TABLES,
SOCIAL CONDITIONS, CLIMATOLOGY,
WATER SUPPLY, DISPOSAL OF REFUSE.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

Health Report, 1926.

I.—GENERAL.

MORTALITY TABLES,
SOCIAL CONDITIONS, CLIMATOLOGY,
WATER SUPPLY, DISPOSAL OF REFUSE.

Population, Birth Rate, and Special Mortality Rates during the period of the Notification of Infectious Diseases.

[illegible]

*Calculated on population for 1914. † Calculated on population of 286,171. ‡ Calculated on population of 287,255. * Civilians only. ‡ 1 no inward transfer. ** Under the heading of Measles, Rubella is included from 1918 onward. Prior to 1911 figures uncorrected for cases belonging to other Districts.

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1926—**284,700.**

RETURN SHEWING THE ESTIMATED POPULATION OF THE DIFFERENT WARDS IN THE CITY, ACREAGE, POPULATION PER ACRE, ETC.

Ward.	Population (estimated)	Gross Area in acres	Less for Open Spaces in acres.	Nett Area in acres.	Population per acre, gross.	Nett.
St. Nicholas'	3,658	127	1	126	29	29
St. Thomas'	14,658	1,636	1,111	525	9	28
St. John's.....	15,742	169	1	168	93	94
Stephenson	19,226	215	..	215	89	89
Armstrong	16,021	178	31	147	90	109
Elswick.....	12,978	253	17	236	51	55
Westgate	15,654	90	1	89	174	176
Arthur's Hill	11,717	142	6	136	82	86
Benwell	18,844	550	27	523	34	36
Fenham	12,536	1,189	4	1,185	10	10
All Saints'	18,150	176	2	174	103	104
St. Andrew's	12,794	173	3	170	74	75
Jesmond	11,450	441	33	408	26	28
Dene	13,244	818	88	730	16	18
Heaton	15,897	225	27	198	71	80
Byker	17,939	140	5	135	128	134
St. Lawrence	18,375	181	7	174	101	106
St. Anthony's	16,182	601	..	601	27	27
Walker	19,635	1,149	34	1,115	17	18
CITY	284,700	8,453	1,398	7,055	34	40

INHABITED HOUSES.—61,902 inhabited houses, which, on the estimated population, shows an average of 4·6 persons per dwelling.

RATEABLE VALUE.— £2,471,045. A penny rate produced £9,244.

SOCIAL CONDITIONS.—The principal **Trades and Occupations** are of a healthy nature, being generally engineering and machine making; conveyance of men, goods, and messages; building and works of construction, *e.g.*, ship building; and connected with ships and

boats, sea-faring and harbour work; food, tobacco, drink, and lodging; coal and shale mines; and commercial or business occupations.

The amount of **Poor Law Relief** granted during the year ended 31st March, 1926, was £362,328 for outdoor relief, and £38,696 for indoor maintenance, making a total of **£401,024,** as compared with **£290,733** in the previous year.

The number of registered unemployed rose from 15,800 at the beginning of the year, to 17,500 at its close.

The City contains many **Hospitals** and other medical charities, but since wide surrounding districts are also served by them, figures as to patients treated are not of local value.

MARRIAGES.—2,073 marriages took place during the year, as compared with 2299 in 1925, and 2,329 in 1924.

BIRTHS.—6,007, equivalent to a rate of 21·0 per 1,000 population.

DEATHS.—(All causes)—4,460, equivalent to an uncorrected rate of 15·7 per 1,000 population, and, after deduction of the deaths of 979 non-citizens, and addition of 161 Newcastle residents who died elsewhere, to a corrected rate of 12·8 per 1,000 population, the lowest on record. In 1925 the death rate was 13·6.

13 deaths were uncertified (angina pectoris, 2; convulsions, 1; bronchitis, 1; premature birth, 7; arterio sclerosis, 1; cerebral hæmorrhage, 1).

20 *Orders for Burial* (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were given, 7 being in respect of bodies lying in inhabited rooms, and 13 being cases from hospital.

TOTAL DEATHS DURING RECENT YEARS FROM CERTAIN CLASSES OF DISEASE.

Classification in Table III. of Ministry of Health.

	II. Nervous System.	III. Circulatory.	IV. Respiratory.	V. Digestive.	XIII. External Causes.
1912	410	435	603	204	152
1913	457	453	722	332	114
1914	448	505	863	465	142
1915	470	635	873	361	163
1916	477	448	856	281	117
1917	497	478	864	268	135
1918	498	503	957	252	135
1919	439	497	1,040	272	133
1920	384	534	861	275	124
1921	347	581	726	297	113
1922	363	689	913	181	92
1923	363	623	623	219	112
1924	376	667	749	206	110
1925	359	696	681	248	131
1926	335	742	596	220	158

INFANTILE MORTALITY.—530 infants died before completing the first year of life, representing a rate of **88** deaths per 1,000 births.

ZYMOTIC DEATH RATE.—There were 243 deaths from the " Chief Zymotic Diseases "—smallpox, measles, scarlet fever, diphtheria, whooping cough, fever (typhus, simple continued, and enteric) and diarrhœa (all ages)—equivalent to 0·86 deaths per 1,000 population.

TUBERCULOSIS.—415 persons died from various forms of tuberculosis, 331 being from pulmonary, and 84 from other forms. The equivalent death rates are *All Forms* 1·46, *Pulmonary,* 1·16, and *Other Forms than Pulmonary* 0·30 per 1,000 population.

For comparison of death rates with previous years see large table page 44A.

For particulars of deaths, as to site of disease, age, etc., see table, page 53A.

GEOLOGY.—The geological formation of the area consists of heavy clay on the top of hard sandstone, which overlies coal seams.

CLIMATOLOGY.—Owing to the general strike and the coal dispute in 1926 the proprietors of the "North Mail and Newcastle Chronicle" were unable to keep records of rainfall and other meterological conditions during a large part of the year. Other sources were tried, but it was not possible to obtain the information.

Cockle Park and Armstrong College.

Sunshine records have been available by the courtesy of Professors H. Stroud and the late D. A. Gilchrist, of Armstrong College. The observations are taken at Cockle Park Farm (some miles north of the City, and in a rural area), and at the College itself. During the year 1,085 hours of sunshine were registered in the City, as compared with 1,449 at Cockle Park.

WATER SUPPLY.—The City is served by the Newcastle and Gateshead Water Company with a plentiful supply of pure upland surface water, collected from large catchment areas at Catcleugh, close to the Cheviots, and in lower Northumberland.

It is stored in large impounding reservoirs at Catcleugh, Hallington, and Whittle Dene, and passes through sand filters at Whittle Dene and Throckley.

In the vast majority of cases the household taps are served directly from the mains without intervening cisterns.

A separate trade supply is piped to some of the great riverside works from a point above the filters.

The bacteriological reports upon the water are given on page 129.

During the year 1925 the new battery of rapid filtration drums, dealing with seven million gallons per day, equal to approximately one third of the City's consumption, came into service, and were being " tuned up." It was found, however, that they did not bring about the degree of clearance of bacteria that was anticipated, and they have since been supplemented by chlorination of the water, with marked improvement.

SEWERAGE.—There are 299 miles and 428 yards of sewers discharging directly into the Tyne, which is tidal, at various points along the seven miles of river frontage.

CLEANSING AND SCAVENGING.—With the exception of certain areas, the ashbins are now only emptied once per week instead of twice. With the prevailing high costs it is improbable that the frequency of removal can be increased.

There are 61,867 dry ashtubs and galvanised iron bins, and 57,804 water closets and 2,559 conservancy system closets in the City. Conversion of the latter was proceeding steadily up to the outbreak of war, at the rate of 600 to 700 per annum. During 1926, 446 pail-closets, 246 cell privies and 4 privies with 3 ashpits were removed and water closets substituted. All the schools are served by the water-carriage system.

TABLE I. OF MINISTRY OF HEALTH.

Vital Statistics of Whole District during 1926 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.			
			Nett.						Under 1 Year of Age.		At all Ages.	
		Uncorrected Number	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
1906	257,113	8,210	..	..	4,831	18·8	..	..	..	..	..	..
1907	259,082	8,093	..	..	4,594	17·7	..	..	..	..	..	..
1908	261,065	8,382	..	..	4,801	18·4	..	..	..	..	..	..
1909	263,064	7,682	..	..	4,459	16·9	..	..	..	..	..	..
1910	265,077	7,543	..	..	4,252	16·0	..	..	..	..	..	..
1911	267,261	7,089	7,082	26·5	4,667	17·5	448	165	973	137	4,384	16·4
1912	269,193	7,219	7,194	26·7	4,221	15·7	529	146	727	101	3,838	14·5
1913	271,295	7,480	7,460	27·5	4,611	17·0	560	141	908	122	4,192	15·5
1914	271,523	7,564	7,538	27·8	5,069	18·7	546	138	1,029	137	4,660	17·2
1915	278,107	7,575	7,545	27·8†	5,257	18·9	693	207	1,007	133	4,771*	17·2*
1916	278,107	7,332	7,248	26·2	4,875	17·5	680	232	899	123	4,427*	15.9*
1917	278,107	6,548	6,495	23·4	4,646	16·7	718	246	732	113	4,174*	15·0*
1918	278,107	6,555	6,468	23·3	5,380	19·3	872	308	692	107	4,816*	17·3*
1919	275,099	6,793	6,674	23·3§	5,358	19·5	737	234	806	120	4,855*	17·6*
1920	286,061	8,433	8,070	28·0‡	4,609	16·1	779	195	817	101	4,025	14·0
1921	278,400	7,720	7,284	26·2	4,602	16·5	817	142	699	96	3,927	14·1
1922	281,600	7,432	6,987	24·8	4,698	16·7	831	145	646	92	4,012	14·2
1923	283,800	6,961	6,367	22·4	4,298	15·1	789	150	623	98	3,659	12·9
1924	285,900	7,029	6,335	22·2	4,607	16·1	929	172	632	100	3,850	13·5
1925	286,300	7,031	6,215	21·6 x	4,732	16·5	989	165	550	88	3,908	13·6
1926	284,700	6,728	6,007	21·0*	4,460	15·7	979	161	530	88	3,642	12·8

Area of District in acres (exclusive of area covered by water) 8,453.

Total population at all ages at census 1921, 278,400.

† In accordance with the instructions of the Supt. of Statistics, General Register Office, Somerset House, this rate is calculated on the population for 1914. * Civilians only.

§ Calculated on a population of 286,571. ‡ Calculated on a population of 287,255.

x ,, ,, ,, 287,100.

* ,, ,, ,, 285,400.

Corrected Death Rates in different Wards, 1926.

St. Nicholas'.	St. Thomas'.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	City.
10·7	9·9	15·0	13·8	12·9	17·6	12·2	10·1	14·1	11·5	16·0	15·5	9·1	9·6	11·2	12·4	14·0	10·8	12·9	12·8

All deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE II. OF MINISTRY OF HEALTH.

(*See under* **INFECTIOUS DISEASES,** *pages* 90 & 91).

TABLE IV. OF MINISTRY OF HEALTH

See under **INFANTILE MORTALITY** *page* 58*a*).

TABLE III. OF THE MINISTRY OF HEALTH.

Return of Deaths from "All Causes" during the 52 Weeks ended 1st January, 1927.

Age Periods (Gross and Net)

Cause of Death	Gross: Under 1 year	Gross: 1 year and under 2	Gross: 2 years and under 5	Gross: 5 years and under 15	Gross: 15 years and under 25	Gross: 25 years and under 45	Gross: 45 years and under 65	Gross: 65 years and above	Total (Gross)	Net: Under 1 year	Net: 1 year and under 2	Net: 2 years and under 5	Net: 5 years and under 15	Net: 15 years and under 25	Net: 25 years and under 45	Net: 45 years and under 65	Net: 65 years and above	Total (Net)
I.—GENERAL DISEASES.																		
Enteric Fever	..	..	..	..	2	..	..	..	2	..	..	..	..	2	..	..	..	2
Smallpox (Unvaccinated)	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
Measles	10	19	11	3	..	..	..	..	43	10	18	13	1	..	..	..	..	42
Scarlet Fever	..	1	4	7	1	1	..	..	14	..	1	4	7	1	1	..	..	14
Whooping Cough	23	17	7	4	..	..	..	..	51	23	17	6	3	..	..	..	..	49
Diphtheria	2	4	9	5	..	..	..	..	20	2	4	7	4	..	..	..	..	17
Influenza	2	6	..	3	1	7	15	18	52	1	5	..	3	1	6	15	18	49
Dysentery	..	..	1	1	..	..	..	..	2	..	..	1	1	..	..	..	..	2
Erysipelas	3	..	..	..	..	2	1	1	7	2	..	..	..	..	2	1	..	5
Mumps	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1
Chickenpox	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1
Pyæmia, Septicæmia	1	1	3	2	..	2	2	1	12	..	1	1	2	..	1	1	1	7
Tetanus	..	..	1	1	1	..	..	..	3	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Pulmonary Tuberculosis (not acute)	3	7	4	11	78	117	53	6	279	2	7	3	11	77	122	53	6	281
Phthisis (not defined as Tuberculous)	..	..	..	3	9	15	11	..	38	..	..	..	3	9	16	11	..	39
Acute Phthisis	..	..	1	..	4	4	3	..	12	..	..	1	..	4	4	2	..	11
Acute Miliary Tuberculosis	4	2	..	1	2	..	2	..	11	3	2	..	..	2	..	1	..	8
Tuberculous Meningitis	4	8	14	17	9	5	1	..	58	3	6	9	9	4	1	..	..	32
Tuberculosis of Peritoneum and Intestines	3	7	6	4	12	1	3	1	37	3	5	3	3	5	1	..	..	20
Tuberculosis of Spinal Column	..	..	..	1	3	2	..	..	6	..	..	..	1	3	1	..	..	5
Tuberculosis of Joints	..	..	1	..	..	3	..	..	4	..	..	1	..	..	3	..	..	4
Tuberculosis of other Organs	..	..	..	1	2	2	..	2	7	..	..	..	..	2	..	..	2	4
Disseminated Tuberculosis	2	..	1	2	4	3	2	1	15	1	..	..	1	4	2	2	1	11
Total Tuberculosis	16	24	27	40	123	152	75	10	467	12	20	17	28	110	150	69	9	415
Rickets, Softening of Bones	1	5	1	..	..	..	..	..	7	1	4	1	..	..	..	..	..	6
Syphilis	9	..	..	..	..	2	4	..	15	8	..	..	..	1	1	1	..	11
Other Venereal Diseases	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Cancer of the Buccal Cavity	..	1	..	..	2	3	13	13	32	..	1	..	..	1	3	12	11	28
Cancer of the Stomach, Liver, etc.	..	..	..	..	..	13	64	47	124	..	..	..	..	..	9	39	42	90
Cancer of the Peritoneum, Intestines and Rectum	..	..	1	..	..	18	70	54	143	..	..	1	..	..	10	40	39	90
Cancer of the Female Genital Organs	..	..	..	..	..	9	30	6	45	..	..	..	..	..	7	19	7	33
Cancer of the Breast	..	..	..	..	..	3	24	6	33	..	..	..	..	..	2	23	6	31
Cancer of the Skin	..	..	..	..	..	..	1	3	4	..	..	..	..	..	..	1	2	3
Cancer of other or unspecified Organs	..	1	2	1	1	13	42	26	86	..	..	..	..	1	8	29	20	58
Other Tumours (situation undefined)	..	..	..	..	..	5	4	3	12	..	..	..	..	..	1	2	2	5
Rheumatic Fever	..	..	..	5	4	5	6	4	24	..	..	..	5	3	4	4	4	20
Chronic Rheumatism, Osteo-Arthritis	..	..	..	..	..	..	8	4	12	..	..	..	..	..	..	8	4	12
Scurvy	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1
Diabetes	..	1	..	1	..	8	14	16	40	..	1	..	1	..	3	8	15	28
Exophthalmic Goitre	..	..	..	..	..	4	3	..	7	..	..	..	..	..	1	2	..	3
Addison's Disease	..	..	..	..	1	2	1	..	4	..	..	..	..	..	..	1	..	1
Leucocythæmia, Lymphadenoma	1	1	1	2	1	4	3	2	15	..	..	1	1	..	1	2	2	7
Anæmia, Chlorosis	1	..	1	1	1	9	11	2	26	..	..	..	..	1	4	6	2	13
Alcoholism	..	..	..	..	..	1	..	..	5	..	..	..	..	..	1	..	..	1
Other General Diseases	1	..	1	1	1	3	..	..	3	1	..	1	..	..	1	..	..	3
II.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.																		
Encephalitis Lethargica	1	..	..	1	2	5	7	..	16	1	..	..	..	1	3	3	..	8
Encephalitis	..	..	..	2	2	3	1	..	8	..	..	..	1	1	1	..	..	3
Cerebro-Spinal Fever	2	..	..	..	..	1	..	..	3	2	..	..	..	..	..	..	..	2
Meningitis	4	1	3	4	1	2	..	..	15	4	1	3	4	..	2	..	..	14
Locomotor Ataxy	..	..	..	..	..	2	6	2	10	..	..	..	..	..	2	6	1	9
Other Diseases of the Spinal Cord	..	1	..	..	..	5	11	7	24	..	..	..	..	..	3	7	6	16
Cerebral Hæmorrhage, Apoplexy	..	..	..	..	..	5	59	101	165	..	..	..	..	..	4	55	101	160
Softening of the Brain	..	..	..	..	..	..	6	3	9	..	..	..	..	..	1	7	3	11
Hemiplegia	..	..	..	..	..	1	2	7	10	..	..	..	..	..	1	2	8	11
Paraplegia	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1
General Paralysis of the Insane	..	..	..	..	..	..	1	..	1	..	..	..	..	..	10	13	..	23
Other forms of Mental Alienation	1	1	..	..	..	1	2	1	6	..	1	..	..	..	1	2	1	5
Epilepsy	..	..	..	..	1	7	3	1	12	..	..	..	..	1	5	3	1	10
Convulsions (5 years and over)	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	1
Convulsions with Teething (under 5 years)	5	2	..	..	..	..	..	..	7	5	2	..	..	..	..	..	..	7
Other Infantile Convulsions (under 5 years)	27	1	3	..	..	..	..	..	31	26	1	3	..	..	..	..	..	30
Chorea	..	..	..	2	2	..	1	..	5	..	..	..	1	..	..	..	..	1
Hysteria, Neuralgia and Neuritis	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1
Other Diseases of the Nervous System	..	2	2	3	..	4	7	1	19	..	1	2	1	..	2	3	3	12
Diseases of the Eye and Annexa	..	..	..	..	1	..	1	..	2	..	..	..	..	1	..	..	..	1
Mastoid Disease	1	..	1	6	..	1	1	..	10	..	..	..	3	..	1	..	..	4
Other Diseases of the Ears	..	1	1	4	4	5	1	..	16	..	..	1	..	2	2	..	..	5
III.—DISEASES OF CIRCULATORY SYSTEM.																		
Pericarditis	..	..	..	1	2	..	1	..	4	..	..	..	1	1	..	1	..	3
Acute Endocarditis	..	1	..	2	7	14	27	2	53	..	1	..	2	5	6	22	2	38
Valvular Disease of the Heart	..	..	..	5	4	32	100	73	214	..	..	..	3	3	28	95	72	201
Fatty Degeneration of the Heart	..	..	..	..	..	2	9	6	17	..	..	..	..	..	2	9	9	20
Other Organic Disease of the Heart	..	..	..	1	..	8	44	95	148	..	..	..	1	..	9	46	100	156
Angina Pectoris	..	..	..	..	..	1	12	16	29	..	..	..	..	..	1	13	14	28
Aneurysm	..	..	..	..	..	6	8	2	16	..	..	..	..	..	4	9	1	14
Arterial Sclerosis	..	..	..	..	..	1	36	198	235	..	..	..	..	..	1	33	197	231
Other Diseases of Arteries	..	..	..	..	..	..	3	..	3	..	..	..	..	..	..	3	..	3
Cerebral Embolism and Thrombosis	..	..	..	1	1	4	11	22	39	..	..	..	..	..	..	10	22	32
Other Embolism and Thrombosis	..	..	..	..	1	1	6	2	10	..	..	..	..	..	1	4	1	6
Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, etc.)	..	..	..	..	..	5	3	2	10	..	..	..	..	..	3	1	2	6
Hæmorrhage	1	..	..	..	..	..	..	1	2	1	..	..	..	..	1	..	1	3
IV.—DISEASES OF RESPIRATORY SYSTEM.																		
Diseases of the Nasal Fossæ	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1
Diseases of the Larynx	1	..	..	..	..	1	1	2	5	1	..	..	..	..	1	1	2	5
Diseases of the Thyroid Body	..	..	..	..	..	2	2	1	5	..	..	..	..	..	2	1	1	4
Bronchitis	40	22	8	1	2	13	41	134	261	38	20	7	1	2	11	41	136	256
Broncho-Pneumonia	59	51	18	11	3	10	16	24	192	53	42	14	12	2	9	11	24	167
Lobar Pneumonia	6	3	2	5	9	24	30	13	92	5	3	2	4	7	21	28	12	82
Pneumonia (type not stated)	10	4	8	2	3	8	10	4	49	10	3	7	2	2	4	10	4	42
Pleurisy	..	2	6	2	2	5	7	4	28	..	..	3	..	..	2	3	4	12
Pulmonary Congestion, Pulmonary Apoplexy	2	..	..	..	..	..	..	4	6	2	..	..	..	..	..	..	4	6
Asthma	..	..	..	..	1	3	10	4	18	..	..	..	..	1	2	9	4	16
Pulmonary Emphysema	..	..	..	..	..	..	3	1	4	..	..	..	..	..	..	1	1	2
Other Diseases of the Respiratory System	1	..	..	..	..	2	2	..	5	..	..	..	..	..	1	2	..	3
Carried forward	233	173	123	131	188	450	884	952	3134	210	147	93	95	150	363	739	923	2720

Wards—Net Deaths; Transferable Deaths; Deaths in Institutions in the City of "Non-Residents"

Cause of Death	St. Nicholas'	St. Thomas'	St. John's	Stephenson	Armstrong	Elswick	Westgate	Arthur's Hill	Benwell	Fenham	All Saints'	St. Andrew's	Jesmond	Dene	Heaton	Byker	St. Lawrence	St. Anthony	Walker	Transferable Deaths: Inward	Transferable Deaths: Outward	Deaths in Institutions in the City of "Non-Residents"
I.—GENERAL DISEASES.																						
Enteric Fever	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Smallpox (Unvaccinated)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Measles	..	2	5	5	..	2	2	1	1	1	3	4	..	1	..	6	4	2	3	..	1	12
Scarlet Fever	..	..	..	1	1	..	1	..	3	2	1	..	..	2	1	..	1	..	1	..	..	14
Whooping Cough	..	2	2	1	3	6	3	..	1	..	8	..	..	2	1	4	9	3	4	..	2	5
Diphtheria	..	..	1	..	2	..	1	..	2	..	1	1	..	..	..	4	4	..	1	..	3	19
Influenza	..	1	3	2	1	2	2	3	5	3	4	2	2	3	3	5	2	..	6	1	4	7
Dysentery	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	1	..	1	..	2	4
Mumps	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Chickenpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Pyæmia, Septicæmia	..	..	1	..	2	..	1	1	..	1	..	..	..	..	..	..	..	1	..	..	5	9
Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Pulmonary Tuberculosis (not acute)	8	9	20	18	21	13	18	13	13	10	29	14	5	6	10	14	20	20	20	12	10	157
Phthisis (not defined as Tuberculous)	..	2	3	3	..	..	4	1	..	1	6	2	1	1	4	1	3	3	4	1	..	1
Acute Phthisis	..	..	1	..	1	..	1	..	..	..	..	..	1	..	1	1	2	2	1	..	1	4
Acute Miliary Tuberculosis	..	2	..	..	..	..	1	..	..	1	1	..	..	1	..	1	..	..	1	..	3	5
Tuberculous Meningitis	..	1	1	3	1	..	1	..	5	2	2	3	1	..	..	5	3	1	3	1	27	45
Tuberculosis of Peritoneum and Intestines	..	1	2	3	..	..	1	..	2	..	6	1	..	1	..	..	3	..	..	1	18	27
Tuberculosis of Spinal Column	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	1	..	1	..	1	3
Tuberculosis of Joints	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	1	1	1
Tuberculosis of other Organs	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	1	..	..	..	..	3	4
Disseminated Tuberculosis	..	1	1	1	..	..	..	..	2	..	4	..	..	..	..	..	..	..	2	..	4	7
Total Tuberculosis	8	16	30	28	23	15	27	14	23	16	48	20	8	9	15	23	33	26	33	16	68	254
Rickets, Softening of Bones	..	..	1	1	..	..	..	..	..	..	1	1	..	..	..	1	..	..	1	..	1	1
Syphilis	1	..	2	..	1	..	1	..	..	..	1	2	..	..	1	1	1	..	..	1	5	11
Other Venereal Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Cancer of the Buccal Cavity	..	1	3	2	4	3	..	..	2	1	2	3	1	1	2	2	..	..	1	..	4	17
Cancer of the Stomach, Liver, etc.	..	4	1	7	9	5	3	2	2	4	7	10	4	4	6	7	6	3	6	1	35	59
Cancer of the Peritoneum, Intestines and Rectum	..	5	5	8	4	7	6	6	9	4	4	3	7	3	7	3	4	1	4	2	55	77
Cancer of the Female Genital Organs	..	..	3	3	3	2	..	1	4	3	2	3	1	..	1	..	5	2	..	1	13	25
Cancer of the Breast	..	3	4	1	1	2	..	1	3	3	..	1	2	5	..	1	..	..	4	..	2	4
Cancer of the Skin	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	1	..	1	2
Cancer of other or unspecified Organs	1	1	6	2	6	..	4	8	4	3	2	..	4	3	1	3	5	4	1	1	29	47
Other Tumours (situation undefined)	..	1	..	..	1	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..	7	9
Rheumatic Fever	..	1	..	2	..	..	4	1	3	2	2	1	2	1	..	..	..	..	1	..	4	8
Chronic Rheumatism, Osteo-Arthritis	..	1	1	1	1	..	..	1	1	..	2	1	..	..	1	..	..	2	..	..	..	4
Scurvy	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Diabetes	..	2	1	3	1	2	5	..	2	1	..	..	3	2	..	1	2	..	3	..	12	18
Exophthalmic Goitre	..	..	..	1	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	4	5
Addison's Disease	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
Leucocythæmia, Lymphadenoma	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	4	..	8	9
Anæmia, Chlorosis	..	..	..	1	1	1	1	..	..	3	..	2	1	..	1	2	..	..	..	..	13	19
Alcoholism	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	2
Other General Diseases	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	2	5
II.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.																						
Encephalitis Lethargica	..	1	1	2	..	..	..	..	1	..	..	..	..	..	..	..	1	1	1	..	8	10
Encephalitis	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	1	..	5	8
Cerebro-Spinal Fever	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	3
Meningitis	1	2	..	1	2	..	..	..	2	..	..	1	1	..	1	..	2	..	1	..	1	9
Locomotor Ataxy	..	..	2	1	1	..	..	..	..	..	1	..	..	..	2	2	..	..	..	..	1	6
Other Diseases of the Spinal Cord	..	..	..	..	..	1	..	5	3	2	..	..	1	1	1	..	..	1	1	..	8	11
Cerebral Hæmorrhage, Apoplexy	2	5	12	14	5	11	6	6	13	4	17	9	4	11	12	6	7	10	6	4	9	56
Softening of the Brain	1	1	..	2	..	..	..	1	1	2	..	..	1	..	..	..	1	1	..	2	..	5
Hemiplegia	..	..	..	2	..	3	..	1	1	..	..	..	1	..	1	..	1	..	1	1	..	1
Paraplegia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
General Paralysis of the Insane	3	1	1	..	3	1	1	..	..	1	1	..	..	3	..	1	6	1	..	22	..	1
Other forms of Mental Alienation	..	..	..	..	..	1	..	..	1	..	..	1	..	..	..	..	1	..	1	..	1	3
Epilepsy	..	..	..	..	1	2	..	1	1	..	1	2	..	..	1	..	..	..	1	..	2	6
Convulsions (5 years and over)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Convulsions with Teething (under 5 years)	..	..	2	..	..	..	..	..	..	..	2	1	..	..	..	1	1	..	..	..	..	..
Other Infantile Convulsions (under 5 years)	1	1	2	..	2	..	2	..	4	3	1	3	..	1	..	..	3	3	4	..	1	4
Chorea	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	4	4
Hysteria, Neuralgia and Neuritis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Other Diseases of the Nervous System	..	..	2	..	..	..	2	..	..	..	..	2	2	..	3	..	..	1	..	4	11	14
Diseases of the Eye and Annexa	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	2
Mastoid Disease	..	..	1	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	6	10
Other Diseases of the Ears	..	1	..	..	..	1	..	..	..	..	1	..	..	..	1	..	1	..	..	..	11	16
III.—DISEASES OF CIRCULATORY SYSTEM.																						
Pericarditis	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	1	2
Acute Endocarditis	..	2	4	1	1	2	2	1	1	3	6	3	1	..	3	2	3	1	2	..	15	30
Valvular Disease of the Heart	..	11	7	13	11	13	12	11	7	16	20	8	6	10	14	10	17	6	9	6	19	101
Fatty Degeneration of the Heart	..	2	1	..	2	3	2	3	..	..	..	3	1	..	..	1	1	..	1	3	..	2
Other Organic Disease of the Heart	..	8	7	13	12	8	9	7	9	6	6	12	2	5	6	10	13	9	14	10	2	29
Angina Pectoris	..	3	2	2	1	..	1	3	1	..	1	1	2	3	2	1	1	1	3	2	3	2
Aneurysm	..	3	..	1	2	..	..	1	1	..	1	..	..	..	..	1	3	1	..	1	3	7
Arterial Sclerosis	4	8	12	19	11	21	15	9	18	8	30	16	4	4	17	11	10	4	10	6	10	132
Other Diseases of Arteries	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..
Cerebral Embolism and Thrombosis	..	2	2	2	..	2	1	2	2	..	2	1	..	3	4	6	3	..	..	..	7	16
Other Embolism and Thrombosis	..	1	..	..	1	2	..	..	..	..	..	..	1	..	..	..	1	..	..	..	4	6
Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, etc.)	..	..	..	..	..	2	..	..	1	..	..	1	1	..	..	..	..	..	1	..	4	6
Hæmorrhage	..	..	..	..	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..
IV.—DISEASES OF RESPIRATORY SYSTEM.																						
Diseases of the Nasal Fossæ	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Diseases of the Larynx	..	..	..	1	..	2	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..
Diseases of the Thyroid Body	1	1	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	1
Bronchitis	4	12	11	27	16	28	15	3	10	4	27	13	4	5	8	15	22	15	17	5	10	41
Broncho-Pneumonia	1	3	19	9	8	9	3	4	13	5	7	8	4	2	6	22	14	12	18	2	27	72
Lobar Pneumonia	1	1	7	4	9	4	5	..	7	3	5	3	..	2	2	5	7	5	12	1	11	53
Pneumonia (type not stated)	2	1	2	5	5	3	..	..	1	1	15	..	2	..	1	1	1	1	1	..	7	16
Pleurisy	..	2	..	3	..	..	1	..	1	..	1	..	..	1	..	..	1	1	1	..	16	21
Pulmonary Congestion, Pulmonary Apoplexy	..	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..
Asthma	..	..	1	..	2	1	..	..	2	2	1	..	1	..	4	..	1	..	1	..	2	2
Pulmonary Emphysema	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2	2
Other Diseases of the Respiratory System	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Carried forward	31	113	173	194	164	168	141	98	171	111	238	149	77	89	135	161	200	119	188	93	507	1371

TABLE III. OF THE MINISTRY OF HEALTH.—*Continued.*

RETURN OF DEATHS FROM "ALL CAUSES" DURING THE 52 WEEKS ENDED 1ST JANUARY, 1927.

CAUSE OF DEATH.	AGE PERIODS. — GROSS. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	TOTAL (GROSS).	AGE PERIODS. — NET. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	TOTAL (NET).	WARDS—NET DEATHS. St. Nicholas'.	St. Thomas'.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	TRANSFERABLE DEATHS. Inward.	Outward.	Deaths in the City of "Residents" or "Non-Residents." (See Instructions in the Introduction.)
Brought forward	233	173	123	131	188	450	884	952	3134	210	147	93	95	150	363	739	923	2720	31	113	173	194	164	168	141	98	171	111	238	149	77	89	135	161	200	119	188	93	507	1371
V.—DISEASES OF DIGESTIVE SYSTEM.																																								
Diseases of the Mouth and Annexa	2	..	..	..	..	1	..	..	3	2	..	..	..	..	1	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	4
Diseases of the Pharynx, Tonsillitis	1	..	..	1	1	2	1	..	6	1	..	..	1	..	1	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	1	..	..	..	1	1
Diseases of the Œsophagus	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	16	12
Perforating Ulcer of Stomach	..	..	..	..	2	9	15	1	27	..	..	..	..	..	4	6	1	11	..	..	1	1	1	1	..	..	..	1	2	..	1	..	1	2	..	..	..	..	3	4
Other Diseases of the Stomach	6	..	..	2	..	1	2	3	14	5	..	..	2	..	..	1	3	11	..	2	1	1	1	..	..	..	..	..	1	2	1	..	..	1	1	..	..	..	..	..
Diarrhœa and Enteritis (under 2 years), *excluding* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	72	21	..	..	..	..	..	..	93	66	19	..	..	..	..	..	..	85	..	1	11	8	3	4	5	..	2	3	5	5	..	1	3	10	8	9	7	..	8	40
Ulceration of the Intestines	..	1	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	3	1	..	..	4	6
Diarrhœa and Enteritis (2 years and over)	..	..	10	5	1	2	3	7	28	..	..	6	5	1	2	3	7	24	..	1	2	3	5	..	..	..	2	2	2	..	1	..	1	1	2	3	1	2	23	32
Duodenal Ulcer	..	..	..	..	1	11	14	6	32	..	..	..	..	..	3	6	2	11	..	..	1	..	..	..	..	..	1	2	..	..	1	..	1	1	1	1	..	1	..	30	34
Appendicitis	1	1	1	11	8	9	12	1	44	..	..	..	..	..	2	2	..	14	..	..	..	2	..	1	1	1	2	1	..	1	2	1	..	1	1	..	..	..	40	51
Hernia, Intestinal Obstruction	8	1	3	1	..	7	21	17	58	4	1	..	..	..	2	4	7	18	..	2	3	1	2	1	2	..	1	..	..	1	2	1	..	..	3	1	1	..	..	3
Other Diseases of the Intestines	..	..	..	2	1	..	1	..	4	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4
Acute Yellow Atrophy of Liver	..	..	1	..	..	2	1	..	4	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	6	9
Cirrhosis of the Liver (Non-Alcoholic)	..	..	..	..	..	3	10	2	15	..	..	..	..	..	1	6	2	9	..	..	..	1	1	..	1	1	..	..	..	1	..	..	..	2	..	..	..	..	17	20
Biliary Calculi	..	..	..	..	..	3	16	7	26	..	..	..	..	..	1	4	4	9	..	..	..	1	2	3	1	..	..	..	..	..	..	..	1	1	..	..	..	1	1	3
Other Diseases of the Liver	..	..	..	..	..	1	4	2	7	..	..	..	..	..	1	3	3	7	..	..	..	1	..	..	2	..	..	..	..	..	1	1	..	..	1	1	..	1	5	7
Peritonitis (cause unstated)	..	..	3	1	1	1	..	2	8	..	..	1	..	..	2	..	1	4	..	..	..	..	..	..	2	..	..	..	..	1	1	..	..	1	1	1	1	1	6	10
Other Diseases of the Digestive System	..	..	..	..	..	2	8	2	12	..	..	..	..	..	1	5	1	7	..	..	..	..	..	..	..	..	..	..	1	1	1	..	1	1	1	1	..	..	..	..
VI.—NON-VENEREAL DISEASES OF GENITO-URINARY SYSTEM AND ANNEXA.																																							
Acute Nephritis	..	..	..	4	4	13	3	5	29	..	..	..	1	2	8	2	5	18	..	1	2	..	..	4	1	..	1	1	..	2	2	..	..	2	..	1	1	..	11	19
Bright's Disease	..	..	..	1	1	20	30	35	87	..	..	..	1	..	10	20	34	65	..	2	3	2	2	8	2	3	5	3	2	1	5	6	1	2	4	4	10	..	22	31
Other Diseases of the Kidney and Annexa	1	..	..	..	2	2	3	1	9	..	..	..	..	1	1	3	1	6	..	1	..	1	1	..	..	..	1	..	..	..	..	..	1	..	1	..	..	1	4	6
Calculi of the Urinary Passages	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
Diseases of the Bladder	..	..	..	1	..	3	3	7	14	..	..	..	..	..	1	1	3	5	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	1	10	11
Diseases of the Urethra, Urinary Abscess, &c.	..	..	..	..	..	1	5	1	7	..	..	..	..	..	1	1	..	2	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	5	7
Diseases of the Prostate	..	..	..	..	..	1	8	23	32	..	..	..	..	..	..	2	13	15	1	1	1	3	1	1	1	..	..	2	1	1	..	..	..	1	..	1	..	1	18	27
Uterine Tumour (non-cancerous)	..	..	..	..	..	2	..	1	3	..	..	..	..	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	1
Other Diseases of the Uterus	..	..	..	..	..	1	1	..	2	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Ovarian Cyst, Tumour (non-cancerous)	..	..	..	1	..	2	2	..	5	..	..	..	..	..	1	2	..	3	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	2	4
Other Diseases of the Female Genital Organs	..	..	..	1	2	1	1	..	5	..	..	..	..	..	1	1	1	3	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Non-Puerperal Disease of Breast (non-cancerous)	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
VII.—THE PUERPERAL STATE.																																							
Abortion	..	..	..	..	..	6	..	..	6	..	..	..	..	..	4	..	..	4	..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	..	..	..	1	..	2	5
Other Accidents of Pregnancy	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Puerperal Hæmorrhage	..	..	..	1	5	..	..	..	6	..	..	..	1	2	..	..	..	3	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	3	5
Other Accidents of Childbirth	..	..	..	2	7	..	..	..	9	..	..	..	1	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	9
Puerperal Fever	..	..	..	3	16	..	..	..	19	..	..	..	..	..	5	..	..	5	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	14	17
Puerperal Albuminuria and Convulsions	..	..	..	3	5	..	..	..	8	..	..	..	1	3	..	..	..	4	..	..	..	..	..	..	..	1	1	1	..	..	1	..	..	..	..	..	..	..	4	12
Puerperal Phlegmasia	..	..	..	1	2	..	..	..	3	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	2
VIII.—DISEASES OF SKIN AND CELLULAR TISSUE.																																							
Senile Gangrene	..	..	..	..	..	.	4	5	9	..	..	..	..	..	4	4	..	8	..	1	1	..	..	2	1	..	1	..	1	..	..	1	..	..	..	..	..	..	1	3
Gangrene, other types	1	..	..	..	1	1	..	1	4	1	..	..	..	1	1	..	1	4	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	3
Carbuncle—Boil	..	..	..	..	1	.	3	1	5	..	..	..	..	..	1	1	..	2	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	3	5
Phlegmon, Acute Abscess	4	..	2	..	1	5	3	3	18	2	..	..	..	..	2	2	2	8	..	..	2	2	..	..	..	..	1	1	..	..	..	2	..	..	..	..	..	10	15
Diseases of the Integumentary System	5	..	..	..	..	1	..	..	6	6	..	..	..	..	..	..	..	6	..	..	1	..	1	..	..	..	1	1	..	..	..	..	1	1	1	1	1	1	3
IX.—DISEASES OF BONES, etc.																																							
Diseases of the Bones	..	..	2	8	2	3	2	..	17	..	..	1	1	..	..	1	..	3	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	1	..	14	16
Diseases of the Joints	1	..	..	1	..	1	..	1	4	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	3	4
X.—MALFORMATIONS.																																							
Congenital Malformations	41	4	4	1	..	..	..	..	50	23	2	4	..	..	..	..	..	29	..	3	..	1	1	3	2	1	1	1	3	1	2	..	1	1	3	1	4	2	23	28
XI.—DISEASES OF EARLY INFANCY.																																							
Premature Birth	143	..	..	..	..	..	..	..	43	124	..	..	..	..	..	..	..	124	..	..	15	9	6	7	4	..	15	3	4	3	..	2	6	15	10	15	10	..	19	44
Infantile Atrophy, Debility, and Marasmus	52	3	1	..	..	..	..	..	156	46	3	1	..	..	..	..	..	50	..	..	3	5	..	2	6	2	6	1	6	1	..	1	1	3	1	5	7	1	7	12
Icterus Neonatorum, Sclerema and Œdema Neonatorum	4	..	..	..	..	..	..	..	4	4	..	..	..	..	..	..	..	4	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..
Diseases of Umbilicus	3	..	..	..	..	..	..	..	3	3	..	..	..	..	..	..	..	3	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1
Atelectasis	16	..	..	..	..	..	..	..	16	15	..	..	..	..	..	..	..	15	..	..	3	1	..	..	..	..	..	3	..	..	1	1	1	2	1	..	2	..	1	8
Injuries at Birth	12	..	..	..	..	..	..	..	12	8	..	..	..	..	..	..	..	8	1	1	..	..	..	..	..	1	1	..	..	3	..	..	1	..	..	..	..	..	4	6
Lack of Care	2	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
XII.—OLD AGE.																																							
Senile Dementia	..	..	..	..	..	..	1	7	8	..	..	..	..	..	..	1	11	12	..	..	1	1	..	4	..	..	2	1	..	..	..	..	1	..	..	..	2	4	..	5
Old Age	..	..	..	..	..	..	..	108	108	..	..	..	..	..	..	..	113	113	1	3	3	9	3	12	3	1	10	2	8	6	4	16	12	5	5	4	6	6	1	11
XIII.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.																																							
Suicide by Poison	..	..	..	..	..	3	1	..	4	..	..	..	..	..	1	1	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	2
" Asphyxia	..	..	..	..	..	5	5	2	12	..	..	..	..	..	4	5	2	11	..	1	..	2	..	1	2	2	..	..	..	1	..	..	..	1	1	..	..	..	1	5
" Hanging and Strangulation	..	..	..	..	..	1	3	1	5	..	..	..	..	..	1	3	1	5	..	..	..	1	..	1	..	..	1	1	..	..	..	..	1	..	..	..	..	..	..	1
" Drowning	..	..	..	2	..	..	1	..	3	..	..	..	2	..	1	..	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..
" Firearms	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Cutting and Piercing Instruments	..	..	..	..	..	5	5	3	13	..	..	..	..	..	3	3	2	8	..	1	..	..	1	..	..	..	1	..	..	1	1	1	1	..	1	..	..	..	5	8
" Jumping from High Place	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Other Suicide	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	2	..	2	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2
Poisoning	..	1	..	..	..	1	1	..	2	..	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1
Burns (conflagration excepted)	2	4	7	1	3	3	1	1	22	..	2	4	1	1	1	1	1	11	1	..	..	3	..	..	2	1	..	..	1	1	1	..	..	1	..	..	..	11	19
Absorption of Deleterious Gases	5	..	..	..	1	1	1	1	9	5	..	..	..	1	1	1	1	9	..	..	..	2	..	1	2	..	..	..	1	1	1	1	1	..	..	..	..	..	1
Accidental Drowning	..	..	..	1	..	..	..	1	2	..	..	..	1	2	1	1	1	6	..	..	..	..	..	..	..	..	1	..	1	1	1	..	..	..	..	1	1	4	..	..
Injury by Firearms	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Injury by Fall	..	..	2	2	2	4	12	15	37	..	..	..	1	..	2	5	11	20	..	..	..	2	1	1	3	2	1	3	1	1	1	1	2	..	1	..	..	2	19	30
Injury in Mines and Quarries	..	..	..	..	3	8	5	..	16	..	..	..	1	10	13	10	..	34	..	1	..	..	4	..	..	..	28	1	..	..	..	..	..	..	..	..	..	32	14	16
Injury by Machines	..	..	..	..	..	1	2	..	3	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	3
Injury by other Crushing (vehicles, railways, landslides, &c.)	..	..	5	11	18	14	14	7	69	..	..	1	6	8	10	4	5	34	2	5	3	3	2	..	1	1	4	..	3	3	1	1	2	1	..	1	1	5	40	61
Injury by Animals	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Electricity (Lightning excepted)	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Homicide by Cutting and Piercing Instruments	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Homicide	..	..	..	..	1	1	..	1	3	..	..	..	..	..	1	..	1	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	3
Fractures (cause not specified)	..	..	..	..	1	1	1	1	4	..	..	..	..	..	..	1	1	2	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
Other Violence	..	..	..	1	..	1	2	..	4	..	..	..	1	1	1	..	..	3	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	..	1	2	4
XIV.—ILL-DEFINED CAUSES.																																							
Syncope (aged 1 year and under 70)	..	..	..	..	..	..	2	2	4	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..
Heart Failure (aged 1 year and under 70)	..	..	..	..	..	..	..	3	3	..	..	..	..	..	..	2	3	5	..	2	..	..	..	1	..	1	..	..	1	..	..	..	..	..	1	..	2	..	..
Other ill-defined causes	..	1	..	1	..	..	..	..	2	..	1	..	1	..	..	..	1	2	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Cause not specified	1	..	..	..	..	2	2	..	5	1	..	..	..	..	1	1	..	3	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1
TOTAL	617	210	164	188	257	654	1125	1245	4460	530	177	112	125	188	467	864	1179	3642	39	145	236	266	206	228	190	118	265	144	291	198	104	127	178	223	257	174	253	161	979	2112

REPORT OF THE
MATERNITY AND CHILD WELFARE
MEDICAL OFFICER.

II.—THE CHILD.

INFANTILE MORTALITY, MATERNITY AND
CHILD WELFARE.

INFANTILE MORTALITY.

SUMMARY OF BIRTHS AND DEATHS, 1926.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the Year ..	3,334	3,078	6,412	179	137	316	6,728
Nett „ „ „	3,014	2,761	5,775	133	99	232	6,007
Nett Deaths under 1 year ..	286	210	496	21	13	34	530
Death Rate per 1,000 births	95	76	86	158	131	147	88

BIRTHS (CORRECTED) IN WARDS IN THE DIFFERENT QUARTERS OF THE YEAR 1926.

WARD.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTALS.
St. Nicholas'	11	11	12	13	47
St. Thomas'.....	50	47	39	46	182
St. John's	98	111	102	106	417
Stephenson	120	123	120	117	480
Armstrong	108	92	96	84	380
Elswick	52	63	51	49	215
Westgate	76	78	89	80	323
Arthur's Hill	32	25	20	26	103
Benwell	128	118	127	114	487
Fenham	70	59	56	55	240
All Saints'	112	109	85	116	422
St. Andrew's	79	74	79	72	304
Jesmond	26	31	25	19	101
Dene	33	35	28	27	123
Heaton	53	70	58	52	233
Byker	120	102	75	95	392
St. Lawrence	148	149	141	102	540
St. Anthony's	104	102	96	108	410
Walker	147	158	161	142	608
CITY	1,567	1,557	1,460	1,423	6,007

DISTRIBUTION OF DEATHS.

Wards.	Nett Deaths of Children under 1 year of age in 1926.					Children under 1 year of age—Death rate per 1,000 Births.	Birth Rate per 1,000 Population (corrected).
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.		
St. Nicholas' ..	2	1	1	2	6	128	12·8
St. Thomas' ..	1	..	2	5	8	44	12·4
St. John's	11	12	15	10	48	115	26·5
Stephenson ...	12	6	5	11	34	71	24·9
Armstrong ...	2	7	7	6	22	58	23·7
Elswick	9	4	6	5	24	112	16·6
Westgate	6	3	9	7	25	77	20·6
Arthur's Hill .	2	..	..	4	6	58	8·8
Benwell	12	9	6	19	46	94	25·8
Fenham	5	3	5	2	15	62	19·1
All Saints'	7	14	12	10	43	102	23·3
St. Andrew's .	6	10	8	9	33	108	23·8
Jesmond.....	..	1	1	2	4	40	8·8
Dene	5	5	..	..	10	81	9·3
Heaton	3	5	5	4	17	73	14·7
Byker	12	18	10	1	51	130	21·8
St. Lawrence .	17	14	8	1	50	93	29·4
St. Anthony's .	15	6	9	12	42	102	25·3
Walker	7	10	12	17	46	76	30·9
City.....	134	128	121	146	530	88	21·0

All births and deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE IV. OF MINISTRY OF HEALTH.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 1ST JANUARY, 1927.

CAUSE OF DEATH.	AGE PERIODS.																				Deaths in Institutions in the City of "Residents" or "Non-Residents"
	GROSS.										NETT (after allowing for transfers).										
	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 under 1 Year of Age.	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 under 1 Year of Age.	
I.—GENERAL DISEASES.																					
Measles	..	..	..	..	..	..	..	7	3	10	..	..	..	..	..	..	..	7	3	10	3
Whooping Cough	..	..	..	1	1	4	1	8	9	23	..	..	..	1	1	4	1	8	9	23	..
Diphtheria	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	2	..	2	2
Influenza	..	..	..	..	..	..	1	..	1	2	..	..	..	..	..	..	1	..	..	1	1
Erysipelas	..	..	..	..	..	1	2	..	..	3	..	..	..	..	..	1	1	..	..	2	2
Chickenpox	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..
Pyæmia, Septicæmia	..	..	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Pulmonary Tuberculosis (not acute)	..	..	..	..	..	..	2	1	..	3	..	..	..	..	..	..	1	1	..	2	1
Acute Miliary Tuberculosis	..	..	..	..	..	1	1	..	2	4	..	..	..	..	..	1	1	..	1	3	1
Tuberculous Meningitis	..	..	..	..	..	1	..	2	1	4	..	..	..	..	..	1	..	1	1	3	2
Tuberculosis of Peritoneum and Intestines	..	..	..	..	..	..	1	2	..	3	..	..	..	..	..	..	1	2	..	3	..
Disseminated Tuberculosis	..	..	..	..	..	..	1	..	1	2	..	..	..	..	..	..	..	..	1	1	1
TOTAL TUBERCULOSIS	..	..	..	..	..	2	5	5	4	16	..	..	..	..	..	2	3	4	3	12	5
Rickets, Softening of Bones	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	1	..	1	..
Syphilis	1	1	..	..	2	3	2	1	1	9	1	1	..	..	2	2	2	1	1	8	5
Scurvy	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	1
Leucocythæmia, Lymphadenoma	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Anæmia, Chlorosis	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1
Hæmophilia	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	1
II.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.																					
Encephalitis Lethargica	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	1
Cerebro-Spinal Fever	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	2	2	1
Meningitis, undefined	..	..	..	..	..	..	..	3	1	4	..	..	..	..	..	..	..	3	1	4	4
Mental Alienation	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1
Convulsions with Teething	..	..	..	..	..	1	1	1	2	5	..	..	..	..	..	1	1	1	2	5	..
Other Infantile Convulsions	12	2	..	1	15	7	3	1	1	27	11	2	..	1	14	7	3	1	1	26	4
Mastoid Disease	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	1
III.—DISEASES OF CIRCULATORY SYSTEM.																					
Hæmorrhage	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..
IV.—DISEASES OF RESPIRATORY SYSTEM.																					
Diseases of the Larynx	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	..
Bronchitis	..	..	1	2	3	8	8	11	10	40	..	..	1	2	3	8	8	9	10	38	2
Broncho-pneumonia	..	1	1	1	3	11	13	18	14	59	..	..	1	1	2	11	11	16	13	53	14
Lobar Pneumonia	..	..	..	1	1	..	1	2	2	6	..	..	..	1	1	..	1	2	1	5	2
Pneumonia (type not stated)	..	..	..	..	..	1	4	1	4	10	..	..	..	..	..	1	4	1	4	10	1
Pulmonary Congestion	1	1	..	..	2	..	..	..	..	2	1	1	..	..	2	..	..	..	..	2	1
Fibrosis of Lung	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Carried forward	15	5	3	6	29	43	42	63	56	233	14	4	2	6	26	41	36	56	51	210	55

TABLE IV. OF MINISTRY OF HEALTH.—Continued.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 1ST JANUARY, 1927.

CAUSE OF DEATH.	AGE PERIODS.																				
	GROSS.										NETT (after allowing for transfers).										Deaths in Institutions in the City of "Residents" or "Non-Residents."
	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 under 1 Year of Age.	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 under 1 Year of Age.	
Brought forward	15	5	3	6	29	43	42	63	56	233	14	4	2	6	26	41	36	56	51	210	55
V.—DISEASES OF DIGESTIVE SYSTEM.																					
Diseases of the Mouth and Annexa	..	1	..	..	1	1	..	..	..	2	..	1	..	..	1	1	..	..	..	2	1
Diseases of the Pharynx—Tonsilltis	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	1
Diseases of the Stomach	2	1	..	..	3	2	..	1	..	6	2	1	..	..	3	1	..	1	..	5	1
Diarrhœa and Enteritis *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	..	..	3	1	4	22	24	14	8	72	..	..	3	1	4	21	22	11	8	66	29
Appendicitis	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Hernia, Intestinal Obstruction	1	..	..	..	1	..	2	4	1	8	..	..	..	..	..	..	1	2	1	4	6
VI.—NON-VENEREAL DISEASES OF GENITO-URINARY SYSTEM AND ANNEXA.																					
Other Diseases of the Kidneys [illegible]exa....	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Non-Puerperal Disease of Brea[illegible]ancerous)	..	..	..	1	1	..	..	..	..	1	..	..	..	1	1	..	..	..	..	1	..
VII.—DISEASES OF SKIN AND CELLULAR TISSUE.																					
Gangrene	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	1
Phlegmon, Acute Abscess	..	..	..	..	..	3	..	..	1	4	..	..	..	..	..	1	..	..	1	2	4
Diseases of the Integumentary System.....	..	..	1	1	2	1	1	..	1	5	..	..	1	2	3	1	1	..	1	6	2
VIII.—DISEASES OF BONES, &c.																					
Diseases of the Joints	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	1
IX.—MALFORMATIONS.																					
Congenital Malformations	13	4	1	1	19	7	9	5	1	41	9	4	..	..	13	5	3	1	1	23	19
X.—DISEASES OF EARLY INFANCY.																					
Premature Birth	113	11	4	4	132	8	2	..	1	143	96	10	4	4	114	7	2	..	1	124	44
Infantile Atrophy, Debility, and Marasmus.....	21	2	2	2	27	11	11	3	..	52	20	2	2	2	26	10	7	3	..	46	12
Icterus Neonatorum, Sclerema and Œdema Neonatorum	2	1	..	..	3	..	1	..	..	4	2	1	..	..	3	..	1	..	..	4	..
Diseases of Umbilicus	1	2	..	..	3	..	..	..	..	3	1	2	..	..	3	..	..	..	..	3	1
Atelectasis	13	2	1	..	16	..	..	..	..	16	12	2	1	..	15	..	..	..	..	15	8
Injuries at Birth	12	..	..	..	12	..	..	..	..	12	8	..	..	..	8	..	..	..	..	8	6
Lack of Care	2	..	..	..	2	..	..	..	..	2	2	..	..	..	2	..	..	..	..	2	..
XI.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.																					
Burns (conflagration excepted)	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	2
Absorption of Deleterious Gases	2	..	..	1	3	2	..	..	..	5	2	..	..	1	3	2	..	..	..	5	..
XII.—ILL-DEFINED CAUSES.																					
Cause not stated.....	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
TOTAL	198	29	15	17	259	103	93	92	70	617	169	27	13	17	226	92	73	74	65	530	195

ANALYSIS OF INFANTILE MORTALITY SINCE COMMENCEMENT OF ORGANISED MATERNITY AND CHILD WELFARE WORK BY THE HEALTH DEPARTMENT.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Death-rate of Infants *under 1 year* per 1,000 births	177	139	166	155	138	153	126	139	122	123	137	101	122	137	133	123	113	107	120	101	96	92	98	100	88	88
Death-rate of Infants *under 3 months* per 1,000 births	83·8	74·8	84·9	82·6	71·6	75·6	68·6	76·6	64·8	66·9	71·5	60·3	67·7	70·7	68·2	66·2	58·7	58·6	64·1	62·1	61·0	57·2	54·4	59·0	53·4	52·9
Death-rate of Infants from *Premature Birth*, per 1,000 births	20·1	20·7	25·1	20·9	19·7	22·0	21·2	24·8	19·8	18·8	21·7	19·3	22·0	19·5	24·0	22·0	22·3	27·4	24·6	20·6	22·2	18·4	21·2	26·7	19·0	20·6
Death-rate of Infants *under 1 year* per 1,000 births, from *Premature Birth*, plus all *Congenital Causes**	40·8	51·7	62·1	60·6	52·1	61·5	43·0	44·6	42·3	42·6	43·9	48·0	57·4	51·1	56·6	51·0	46·0	45·3	51·5	43·1	39·0	34·8	41·5	45·5	38·6	38·6
Death-rate of Infants *under 1 year* per 1,000 births, from *Diarrhœa and all other Digestive Diseases* †	45·7	12·8	26·9	21·8	22·4	35·2	12·7	24·8	13·5	16·7	25·1	7·8	16·6	25·3	20·1	14·3	14·8	11·9	14·7	14·9	16·0	9·1	11·5	9·6	11·6	13·1
Death-rate of Infants *under 1 year* per 1,000 births, from *Infantile Atrophy, Debility and Marasmus*	15·8	19·8	30·8	29·2	24·4	31·4	11·1	10·6	14·6	13·5	22·7	21·4	25·6	23·0	25·0	22·4	17·7	13·0	18·0	16·9	13·0	9·4	11·5	9·5	10·3	7·7
Death-rate of Infants *under 1 year* per 1,000 births, from *Measles*	..	..	..	..	..	5·35	2·60	0·60	3·64	2·26	4·95	3·61	2·28	4·65	6·90	2·50	2·46	0·77	3·89	0·99	2·88	0·29	4·87	1·10	1·9	1·7
Death-rate of Infants *under 1 year* per 1,000 births, from *Whooping Cough*	..	..	..	..	..	3·42	7·30	5·73	4·30	5·05	7·35	2·78	5·50	5·20	5·17	4·10	3·70	6·65	0·60	3·1	3·7	1·6	5·3	1·9	4·2	3·8
Death-rate of Infants *under 1 year* per 1,000 births, from *Respiratory Diseases*	..	..	..	..	..	20·8	24·6	27·0	24·4	25·2	26·4	20·4	22·2	30·6	24·9	28·0	27·0	20·9	27·6	26·9	18·7	32·0	23·6	27·9	22·7	18·1
Death-rate of Infants *under 1 year* per 1,000 births, from *Tuberculosis* (all forms)	..	..	..	..	..	3·53	3·71	4·65	4·55	4·25	2·40	3·20	3·88	3·88	3·40	2·60	1·54	2·63	1·80	1·36	1·51	1·29	2·2	1·6	0·6	2·0

Prior to 1911 figures uncorrected for cases belonging to other districts.

*"*All Congenital Causes*" includes Syphilis, Congenital Defects, and Diseases of Early Infancy.

†"*Diarrhœa and all other Digestive Diseases*" includes Diarrhœa, Dysentery, Epidemic or Zymotic Enteritis, Rickets, Diseases of the Stomach, Enteritis, Obstruction of Intestine, Peritonitis and other Diseases of the Digestive System.

For particulars of deaths, as to causes, etc., see Tables on pages 53A and 58A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1926, per 1,000 births in the years 1922 to 1925 (inclusive) was 11·1. The corresponding figure for each of the previous four years was as follows:—1925, 15·1; 1924, 13·8; 1923, 14·3; 1922, 13·8.

DEATHS FROM "THE PUERPERAL STATE."

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Population	217,862	255,160	257,113	259,082	261,065	263,064	265,077	267,261	269,193	271,295	271,523	278,107	278,107	278,107	278,107	275,009	286,061	278,400	281,600	283,800	285,900	286,300	284,700
Deaths	30	23	19	16	27	27	24	29	29	23	22	28	37	18	21	29	27	24	28	26	15	18	19
*Rate per 1,000 population	0·14	0·09	0·07	0·06	0·10	0·10	0·09	0·10	0·10	0·08	0·08	0·10	0·13	0·06	0·08	0·10	0·09	0·09	0·10	0·09	0·05	0·06	0·07
*Rate per 1,000 births	3·64	2·24	2·07	1·73	2·99	3·12	2·92	3·81	4·03	3·08	2·92	3·71	5·10	2·46	3·25	4·35	3·34	3·29	4·01	4·08	2·37	2·89	3·16

* From 1904 to 1911 the figures are uncorrected.

Report of the Maternity and Child Welfare Medical Officer.

To the Medical Officer of Health.

Sir,

General.

On the whole, 1926 was not an unhealthy year so far as the young children of the City were concerned, and had it not been for the unfortunate condition of industrial affairs which resulted in the general strike and the coal dispute, there is little doubt but that it would have been an unusually satisfactory year from a maternity and child welfare point of view. Even with the adverse conditions which prevailed, and which were bound to affect prejudicially the well-being of the poorer members of the community, there was a drop of one point in the infantile mortality rate among children of legitimate birth: this reached the record low level of 86 per 1,000 births, but owing to the excessive loss of life among illegitimate children—147 per 1,000 births—the total rate is unaltered, and remains at 88 for the year.

The high illegitimate death rate is commented on in a special paragraph on a subsequent page.

In spite of the unusually severe weather experienced at the beginning and end of the year, resulting as it always does in the widely-spread prevalence of bronchitis and other respiratory diseases among children, the death rate from these causes for the year shows an appreciable decrease. Most mothers of young children fear to a marked degree the effects of cold on a child, and in

their efforts to guard against these they err in the opposite direction by applying too many body and night clothes and giving too little fresh air. Experience proves that it is the child who is kept in who gets "cold," not the child who gets out. Mothers are therefore urged to clothe their children loosely and warmly, and to get them out of doors.

Diarrhoea among children was prominent throughout the year, and especially in the months of September and October. Although of a mild type, and usually yielding to prompt treatment, it nevertheless increased the death rate from this particular cause during the year. The spreading tendency of this disease is not often recognised, and the point is emphasised at the Centres both verbally and by means of leaflets.

The death rate from tuberculosis (all forms) among infants during the year has also risen. In this case, however, allowance must be made for diagnostic errors. It is extremely difficult, for instance, and may be impossible, to certify the true cause of meningitis in an infant: it may be tuberculosis, but it may also be due to one of several other diseases, and a positive diagnosis is only possible in those cases in which the specific germ is isolated, a very difficult procedure to carry out in general practice.

Illegitimate Children.

The number of illegitimate children born in the City remains fairly constant, and for the last five years averages 241 per annum. When looked at in that form it seems formidable and disturbing, especially when we add—as we must—that it shows no sign of decreasing: on the contrary, there was a slight increase in 1926.

But analysis proves it to be not so bad as it seems, for out of every 100 children born in the City during the last five years, less than four were illegitimate. This will be found to compare very favourably with the like statistics from similar towns. All the same, every effort should be made to reduce the illegitimacy rate, if for no other reason than the high mortality prevailing among the children. The illegitimate child from the outset of its creation suffers in a marked and unjust degree from all the disabilities of the unwanted, and is lost or injured accordingly. Taking the country as a whole, the mortality of illegitimate babies every year is about twice as heavy proportionately as that of the legitimate, and of those who survive a great many must do so chronically unhealthy in mind or body, or both. It has already been pointed out that whereas 86 out of every 1,000 legitimate children died in Newcastle last year, 147 illegitimates died. From the maternity and child welfare point of view, therefore, it is not so much the mother as the child that matters, and while it has always had our attention in the past, it is obviously necessary that it should receive even more of it in the future.

Staff Changes.

The following members of the Health Visiting Staff resigned during the year : Misses Gordon, Johnson, and Marsh.

These were replaced by the Misses Raine, Hisco, and Shipley—the last resigning in September and being replaced by Miss Mason.

Ante-Natal Centres.

The greatest importance is attached to the ante-natal period, not only because of its bearing on the welfare of the mother, but also because it is of vital importance to the child. During recent years attention has been forcibly and repeatedly called to the fact that while the infant mortality everywhere has very appreciably decreased, the mortality due directly and indirectly to childbirth remains unaffected, and in some instances has increased. Every opportunity therefore has been used to extend facilities in the City for giving skilled advice during the ante-natal period to those needing it, and the number of ante-natal sessions was increased from 319 in 1925 to 376 in 1926. The following table gives the attendances at these centres each year for the last five years :—

Attendances at the Ante-Natal Centres :—

YEAR.	SESSIONS.	INDIVIDUALS.	ATTENDANCES.
1922.....	95	252	667
1923.....	95	281	618
1924.....	170	414	1072
1925.....	319	679	2135
1926.....	376	1015	2628

Additional nourishment in the form of dried milk was given during the last three months of pregnancy to those in need of it, gratis to those unable to procure it in the ordinary way. Others were assisted with orders enabling them to buy milk at cost price. Regarding its influence on the welfare of the infant, the ante-natal

period is chiefly significant as affecting the large number of infants who are either dead when they are born, or who die at, or soon after, birth. These latter comprise nearly 50 per cent. of the infant mortality everywhere, and have always presented a problem difficult to solve. Owing to the peculiar circumstances, and the importance of protecting them from exposure to cold, it is very rarely possible to get these premature, and therefore feeble children, to the Centres in time to do them any good, and the only way to reach them seems to be through the mothers during the ante-natal period.

Toddlers.

These, as the name implies, are children of pre-school age, who are no longer infants and who have found their feet and usually their tongues too. It is a very important stage in a child's life, and one fraught with a certain amount of danger on account of the relaxation of the maternal care which is, of necessity, bestowed on a child during its helpless infant period. The toddler runs about, and has no longer to be carried or wheeled ; for this reason he gets into mischief, and is frequently the victim of burning, scalding, or other accidents. He has teeth, too, and, in the words of his mother, " can eat anything," and unfortunately he often does so, with dire results. Although he may be less than two years old, he " gets the same as we," which usually includes tea—often strong—among many other unsuitable things. Experience in Newcastle proves that deterioration in health takes place in a very large number of these children, and often to an extreme degree. From the outset, therefore, they have been encouraged to attend the Centres, and as the following table shews,

they are being brought in annually increasing numbers. In 1925 it was decided to devote the first Centre day in each month at every Centre entirely to the Toddler, and by permission of the Committee special scales were procured which allow of both weighing and measuring. In this way the growth of a child can be accurately gauged.

TODDLERS ATTENDING THE NEWCASTLE CENTRES.

YEAR.	NUMBER OF CHILDREN.
1922	1,361
1923	1,627
1924	1,726
1925	1,992
1926	2,268

Nursery Schools.

These are for children of pre-school age, and their aim is to provide healthy recreation for those of two or three years of age who normally play about the streets and are therefore exposed to the risks of bad weather and the dangers of traffic, combined with a little instruction in the letters of the alphabet and the simplest words, etc. Round games are played and songs are sung. One such school has been in existence at St. Peter's Centre for some time, and an additional one was commenced at Diana Street Centre during the year. They are managed entirely by the voluntary workers, and great credit and gratitude is due to all those ladies who so kindly give their time and skill in the interests of the children. The nursery schools do a great deal of good, and are highly appreciated by scholars and parents. It is proposed to start one in Wharncliffe Street in the forthcoming year.

Births.

The City's birth rate continues to decline steadily, as will be seen from the following table :—

YEAR	BIRTHS.
1922	6,987
1923	6,367
1924	6,335
1925	6,215
1926	6,007

There can be little doubt in the minds of all who come into contact with women of child-bearing age that much of this decline is intentional, and is due to the obvious causes of (*a*) industrial distress, and (*b*) shortage of houses ; and of the two, the latter cause may be the chief.

Deaths.

530 of the City's children died before they had reached the completion of their first year of life, as compared with 550 in the previous year, and of this number, 226—or 43%—died before they were one month old. This last fact presents a problem which is difficult to solve, because of the children who died during the first month of life the overwhelming majority (169) died during the first week—that is before any public health influence could be brought to bear in their favour. The cause of death in many of these infants is obscure, but the principal stated cause is " prematurity," which accounted for 114 out of a total of 226. " Debility " and " marasmus " are also prominent stated causes of early death. While all these terms are well recognised, none of them can be regarded as complete, and it is probable that further study and experience will some day reveal more accurate terms. There were no triplet children born during 1926, and the deaths among twin children numbered 55, compared with 50 in 1925.

It is not the least of many disadvantages of a multiple pregnancy that it increases the infantile mortality rate of the town concerned. Often enough the birth of another child in a poor home, which already possesses as many as can be provided for, is unfortunate, but when two or three arrive at the same birth it is something in the nature of a calamity, because so many of these latter almost inevitably die from feebleness or lack of necessary care and attention.

The number of deaths attributed to bronchitis and pneumonia was 106, as compared with 141 for 1925. The following table shows graphically what is set out above :—

	1923.	1924.	1925.	1926.
Deaths of children during first week of life	165	202	167	169
Deaths of children during first month ..	245	285	248	226
Deaths from Prematurity	135	169	118	124
Deaths of Twins and Triplets	61	73	50	55
Deaths from Pneumonia and Bronchitis	150	176	141	106

Sex Infant Mortality.—Of the 6,007 children who were born in the City during the year, 3,147 were boys and 2,860 were girls : that is there were 287 more boys than girls. In a previous report attention was drawn to the fact that although each year sees an excess of male births over female births, it also sees an excess of male infant deaths, which, unfortunately, is out of proportion to the birth excess ; and 1926 was no exception to the rule. Thus 307 boys (or 97 per thousand of those born) died during their first year, compared with 223 girls (or 78 per thousand births).

Welfare Centres.

The following table shows the geographical position of the Centres in the City, together with details of Centre days, etc. :—

Centre.	Address.	Women and Children.	Medical Officer.	Health Visitor.	Ante-Natal Sessions.
Benwell	Y.W.C.A. Club, Buddle Road	Monday.....	Dr. Glen Davison ...	Miss Willson....	Friday, 2 p.m. Mr. Harvey Evers.
Byker	Corner of Dalton Street and Shipley Street	Monday..... Friday, 10 a.m.	Dr. Spinks	Miss Hisco	Friday, 2 p.m. Dr. Mabel Campbell.
City	Princess Mary Maternity Hospital, Jubilee Road	Wednesday...	Dr. Spinks	Miss Pritchard .	Thursday, 2 p.m. Mr. Harvey Evers.
Diana Street, Westgate ...	25, Diana Street	Tuesday ..... Friday, 2 p.m.	Dr. Spinks	Miss Smithson ..	Wednesday, 10 a.m. Mr. Harvey Evers.
Portland Street, Elswick ..	Salvation Army Rooms, Portland Street	Thursday	Dr. Glen Davison ...	Miss Hatfield ..	Tuesday, 2 p.m. Mr. Harvey Evers.
Scotswood	Denton Road	Tuesday	Dr. Spence	Miss Hartwell ..	Benwell (see above).
Shieldfield.....	St. Jude's Parish Hall, Dinsdale Road	Thursday	Dr. Spinks	Miss Medd	Byker (see above).
Spital Tongues.....	Dunn's Cottages	Tuesday (Afternoon only)	Dr. Mabel Campbell	Miss Wigham ..	Diana St. (see above) or Wharncliffe Street (see below).
St. Peter's	Corner of Glasshouse Street ...	Friday	Dr. Glen Davison ...	Miss Hopper....	Tuesday, 10 a.m. Mr. Harvey Evers.
Walker	Presbyterian Church Hall, Church Street	Friday	Dr. Nattrass.....	Miss Morton	Monday, 10 a.m. and 2 p.m. Mr. Harvey Evers.
Wharncliffe Street, Scotswood Road	18, Wharncliffe Street	Wednesday...	Dr. Mabel Campbell	Miss Shell	Tuesday, 10 a.m Dr. Mabel Campbell.

Centre Attendances.—It is impossible to exaggerate the importance of regular attendance at the Centres. A doctor can do a very great deal for a child whom he sees, but little or nothing for one whom he does not see. Not only is the health of Centre children better than that of non-Centre children, but it is practically certain that many children owe their lives to the fact that they were taken regularly by their mothers to the Centres. How else can one explain the widely common experience that the mortality among Centre children, even after allowing for ambiguities, is but a fractional part of the general infantile mortality rate—from a quarter to a third less in Newcastle ?

In 1925 the attendances numbered 45,476, and in 1926 50,697, an increase of 5,221. In 1926 3,725 children made their first attendance at the Centres, as compared with 3,355 in 1925.

Attendances at Maternity and Child Welfare Centres.

CHILDREN.

YEAR.	No. of Attendances.	No. of Individuals.	Average Attendance per Individual.	Average Attendance at each Session.
1920 ...	22,596	3,751	6·0	44·2
1921 ...	32,538	4,734	6·8	40·7
1922 ...	36,020	4,835	7·4	44·9
1923 ...	42,515	5,153	8·2	46·5
1924 ...	45,766	5,587	8·2	45·5
1925 ...	45,476	5,744	7·9	43·6
1926 ...	50,697	6,467	7·8	46·2

Sewing and Knitting Classes.

Each Centre in the City has its one or more days every week which are set apart for the instruction of mothers in these useful arts, and the resulting benefit is substantial. One or other of the four professional teachers attends her particular Centre regularly, and at Shieldfield Centre the class is voluntarily taken by Mrs. Holmes, to whose kindness and self-sacrifice it is a pleasure to pay tribute. Our thanks are also due to Mrs. John Challoner and Mrs. Roy Williamson, who very kindly started an additional sewing and knitting class during the year at Byker Centre.

Lectures.

Various lectures or papers relating to Maternity and Child Welfare were given during the year, and the Centres were used for this purpose.

Among the most important were those given to a class of medical students, which related to the work generally and particularly in its legal aspect, and another given to 86 girl students from the Kenton Lodge Training College. Subsequent to the latter lecture, the girls were brought to the Centres in relays to see the practical work done. As all these students in both classes will at some future period come into close contact with young children, it is hoped that this experience will be of help to all concerned. During Health Week short informal meetings for men only were held in the evenings at two Centres (Byker and Diana Street), and Mr. Harvey Evers again gave a series of valuable post-graduate lectures to Midwives and Health Visitors.

Dried Milk.

The following table shews the quantity of dried milk distributed each month during the year :—

Month.	Free. lbs.	At Cost Price. lbs.
January	2,082	4,286
February	2,510	4,203
March	3,861	5,160
April	2,946	3,921
May	3,541	3,954
June	4,369	4,372
July	4,860	4,597
August	4,735	3,651
September	7,037	5,516
October	5,948	3,860
November	5,299	3,599
December	4,542	4,666
	51,730	51,785

Number of children attending Centres :—6,467.

Number of children who were given free milk :—2,055, or 32 per cent. of those who attended the Centres.

Number of children who received orders for milk at cost price only :—1,333, or 21 per cent.

Of the total amount given free :—

49,952 lbs. were given to children.

1,778 lbs. were given to 225 expectant mothers.

Number of Free Orders given :—

In 1925 8,707

In 1926 13,268

Month.	Ante-Natal Sessions.	Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.			Medical Sessions	
		Attend-ances.	Individ-uals.	Attend-ances.	Individ-uals.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Number.	Average Attend'ce
January	32	181	138	34	32	278	35	313	1197	773	1970	2416	1160	3576	92	38·8
February	32	154	127	18	15	262	45	307	1245	834	2079	2554	1275	3829	92	41·6
March	38	215	163	28	22	281	41	322	1325	894	2219	2952	1619	4571	109	41·9
April	27	194	159	15	15	262	26	288	1282	627	1909	2525	1001	3526	83	42·4
May	27	189	156	12	11	224	42	266	1304	800	2104	2524	1197	3721	83	44·8
June	24	199	157	8	7	221	37	258	1298	832	2130	2243	1172	3415	69	49·4
July	32	219	163	31	24	397	39	436	1531	899	2430	3140	1446	4586	92	49·8
August	30	225	176	26	26	275	43	318	1481	955	2436	2823	1419	4242	88	48·2
September	40	316	222	25	22	311	91	402	1646	1132	2778	3907	2105	6012	115	52·2
October	32	242	185	14	13	202	69	271	1473	1160	2633	2839	1727	4566	92	49·6
November	32	268	207	20	15	243	69	312	1464	1220	2684	2769	1813	4582	92	49·8
December	30	226	182	11	10	197	35	232	1296	1234	2530	2268	1803	4071	89	45·7
Total ..	376	2628	1015	242	103	3153	572	3725	4199	2268	6467	32960	17737	50697	1096	46·2

MATERNITY AND CHILD WELFARE CENTRES, 1926.

Centre.	Ante-Natal Sessions.	Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.			Medical Sessions.		Illegitimate.	Individuals.	
		Attendances.	Individuals.	Attendances.	Individuals.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Number.	Average Attend'ce.		Boys.	Girls.
Benwell	47	506	168	30	30	360	49	409	459	274	733	3934	1715	5649	92	61·4	18	385	348
Byker.....	47	390	125	39	20	421	67	488	537	264	801	3699	1889	5588	140	39·9	22	405	396
City Road	..	..	..	..	..	225	38	263	304	195	499	2263	1747	4010	98	40·9	12	260	239
Diana Street	49	336	132	45	9	412	85	497	533	281	814	3893	2176	6069	141	43·0	24	421	393
Portland Street	47	315	115	29	12	283	59	342	387	212	599	3286	1648	4934	98	50·3	17	312	287
Scotswood	..	..	..	..	..	86	24	110	137	120	257	1515	1223	2738	94	29·1	10	140	117
Shieldfield	..	..	..	..	..	264	63	327	383	250	633	3085	1946	5031	98	51·3	18	326	307
Spital Tongues	..	..	..	..	..	90	19	109	119	72	191	979	374	1353	47	28·7	..	107	84
St. Peter's.....	47	156	147	18	..	353	77	430	461	247	708	3385	1969	5354	95	56·3	14	370	338
Walker	92	583	224	55	13	367	39	406	501	185	686	3920	1687	5607	95	59·0	17	370	316
Wharncliffe St.	47	342	104	26	19	292	52	344	378	168	546	3001	1363	4364	98	44·5	12	251	295
Total ..	376	2628	1015	242	103	3153	572	3725	4199	2268	6467	32960	17737	50697	1096	46·2	164	3347	3120

SUMMARY OF CENTRE REPORT, 1926.

Total Sessions, all Medical	1,096	Average attendance at each....	46·2
Total Individuals	6,467	Average visits per individual....	7·8
Total Ante-Natal Sessions	376	Average attendance at each	7·6
Total Ante-Natal and Post-Natal Individuals	1,118	Average visits per individual....	2·5
Benwell Ante-Natal Sessions	47	Average attendance, 11·4; average visits per individual	2·7
Byker Ante-Natal Sessions	47	Average attendance, 9·1 ; average visits per individual	2·9
Diana St. Ante-Natal Sessions ..	49	Average attendance, 7·7 ; average visits per individual.....	2·7
Portland St. Ante-Natal Sessions	47	Average attendance, 7·3 ; average visits per individual.....	2·7
St. Peter's Ante-Natal Sessions ...	47	Average attendance, 3·7 ; average visits per individual.....	1·1
Walker Ante-Natal Sessions	92	Average attendance, 6·9; average visits per individual	2·6
Wharncliffe St. Ante-Natal Sessions	47	Average attendance, 7·8 ; average visits per individual	2·9
Illegitimate Children Attending ..	164		

Total Deaths	148 (all ages).
Death Rate	22·8 per 1,000 (all ages).
Death Rate among all the Infants in the City	88 per 1,000 births.

SEWING AND KNITTING CLASSES, 1926.

Centre.	Subject.	Teacher.	Day.	Attend-ance.	Sessions.	Average.
Benwell	Sewing and Knitting	Miss Crawford	Thursday	497	48	10·3
Byker	Sewing and Knitting	Miss Whipp	Friday	603	47	12·8
Do.	Do.	*Mrs. John Challoner	Wednesday			
Do.	Do.	*Mrs. Roy Williamson	Wednesday			
City	Knitting	Miss Whipp	Wednesday	1645	94	17·4
City	Sewing	Miss Stokoe	Thursday			
Diana Street	Sewing	Miss Stokoe	Wednesday	1240	94	13·2
Diana Street	Knitting	Miss Whipp	Thursday			
Portland Street	Sewing and Knitting	Miss Robson	Tuesday	706	47	15·0
Scotswood	Sewing and Knitting	Miss Whipp	Tuesday	607	47	12·9
Shieldfield	Sewing	*Mrs. A. Holmes	Tuesday	352	45	7·8
Spital Tongues	Sewing	Miss Stokoe	Monday	659	45	14·6
St. Peter's	Sewing	Miss Robson	Wednesday	791	48	16·5
St. Peter's	Knitting	Miss Crawford	Wednesday			
Walker	Knitting	Miss Crawford	Friday	486	47	10·3
Wharncliffe Street	Sewing and Knitting	Miss Crawford	Tuesday	287	46	6·2

* VoluntaryWorkers.

Voluntary Workers.

One or more lady voluntary workers are now attached to each Centre, and all have given most freely of their services throughout the year. Mrs. Brackenbury —the President of the Voluntary Association—has kindly provided the following report :—

Report of the Voluntary Workers at the Child Welfare Centres for 1926.

There are 29 voluntary workers. About a year ago the Chief Health Visitor asked for more help on the Doctors' days, with the result that voluntary workers attend to take details of new mothers ; this sets the Health Visitors free from clerical work, and shortens the sessions. The voluntary workers attend the sewing days at the 11 Centres. During the year 1926 there were 608 sewing days, with an attendance of 7,873 mothers, generally accompanied by one or more children, who are kept amused by the voluntary workers.

One pleasing point is the large number of expectant mothers who now come to make their little outfit. The patterns and materials are the best possible, and the labour is a pleasure to all concerned. The cost is less than buying equally good things, besides the advantage of learning how to sew or knit them. The first size vest for an infant, made of good pure wool, costs 4½d. ; night-gown, 1s. 9½d. ; and other garments at proportionate prices. The mothers pay in small sums for the material, and if necessary receive help from money made by Jumble Sales and donations from the Voluntary Workers' Fund.

A supplementary sewing day has been opened at Byker, with voluntary workers only, and it is attracting some who could not attend on Fridays.

The occasional Jumble Sales, to which the mothers look forward, provide them with good material which the teachers help them to alter into useful and pretty clothes for their children. A good saving is effected on the clothing expenses of the household, which helps out the weekly wage. A sewing machine has been given to Shieldfield. Tea at 1d. a cup is given at the close of each meeting and is appreciated.

The Citizens' Service Guild is sending expectant mothers to some Centres, paying for materials for outfits, if they are taught how to make them. There has been more re-modelling of old garments than is usual, and the help and experience of the teachers in this difficult work is of great use to the mothers.

89 lbs. of plum pudding were made at the Centres at Christmas by the mothers. The result was excellent, and it worked out at 6d. a lb., by buying the ingredients in these quantities.

Toys have been kindly given for all Centres. A beautiful doll's house was presented by the Byker Girls' Club, made by themselves, to their little neighbours at Dalton Street. There were Christmas and garden parties given at most of the Centres, and these were much enjoyed. There was an exchange of hospitality between St. Peter's and Mill Lane Centres; this met with such success that others are being arranged.

A meeting was held of voluntary workers at Seaton Burn House in October, at which Dr. Spinks and Mrs. Kitson Clark, (head of the large organisation of voluntary workers in connection with the Leeds Corporation Infant Welfare Work), kindly gave most useful and inspiring addresses.

One new Nursery School has been started since my last report, and we now have two, one at St. Peter's and one at Diana Street. The older children of mothers attending the Centres come readily, and there are between 16 and 35 attending at each Centre.

£20 has been paid out of the small fund at the disposal of the voluntary workers to send mothers (recommended by the doctors at the Centres) needing change and rest to the Rose Joicey Home at Whitburn for two or three weeks. There are so many on the waiting list that the Roman Catholic Home at Heddon-on-the-Wall and Miss Taylor's Home at Barrasford were approached to see if they would take mothers with their babies, but they both regretfully declined. Spectacles and dental attendance have also been paid for several mothers.

The Centres are most fortunate in retaining the services of the four teachers who have attended them for so many years; also, in many cases, much credit is due to the caretakers, who help in many little ways, and whose attitude to the mothers makes so great a difference in the homliness and happiness of the Sewing Classes.

Wherever it has been possible, voluntary workers, teachers and caretakers have done their utmost in these and other ways to help to brighten the lives which they feel in many cases are difficult ones. They all wish to express their gratitude for the unremitting support and encouragement of the doctors, and for the pleasant feeling that those in authority on the City Council and the Maternity and Child Welfare Committee sympathise in their labour of love.

Winifred Brackenbury,

Chairman of the Voluntary Workers' Committee.

Notification of Births Acts.

Of the 6,728 births (gross) which were registered in the City in 1926, 4,958, or 73·3 per cent. were notified as follows :—

Notified by.	Living Births.	Still-Births.
Medical Practitioners	955	35
Midwives	2082	45
Maternity Hospital	1594	72
Wingrove Hospital	96	3
Gables Maternity Home	200	6
Parents	31	..
	4,958	161

Still-Births.

Of the total notifications of births received, still-births were in the following proportion :—

Year.	Percentage.	Year.	Percentage.
1921	2·9	1924	2·7
1922	3·0	1925	2·9
1923	3·0	1926	3.2

Four burials were reported by the Superintendents of Cemeteries, and the number of still-births notified was 161.

Details of 155 of the above still-births which were visited by members of the staff :—

Duration of Pregnancy.—At or under 7 months, 28, or 18% ; at or under 8 months, 39, or 25% ; at full time, 88, or 56%.

Suggested causes of the still-births :—

	Cases.
(*a*) Ill-health of the mother	29
(*b*) Fœtal deformities and malpresentations	61
(*c*) Premature delivery	27
(*d*) Other causes	38

The following table shows the position in the family of the still-born child :—

	Cases.		Cases.
1st child	37	4th child	12
2nd child	28	5th child	12
3rd child	25	6th child	41

In 128 cases it was the first still-birth, in 20 the second, in 5 the third, and in 2 cases there were more than three previously still-born.

Syphilis was returned as a cause of death in 8 children below the age of 1 year.

Health Visitors.—18 Health Visitors, including the Chief Health Visitor, were engaged solely in Maternity and Child Welfare Work during 1926.

5,241 births were visited, and 26,375 re-visits were paid, an average of 5 visits per child. These give a total of 31,616 visits to children under 1 year.

WORK OF HEALTH VISITORS.

SUMMARY OF VISITS.

	Primary.	Subsequent.	Total.
Births	5,241	26,375	31,616
Measles	3,826	4,540	8,366
Pneumonia	886	1,252	2,138
Diarrhœa	137	217	354
Children over One Year	....	....	12,527
Hospital Cases	....	....	269
Expectant Mothers	....	....	1,160
*Special Visits.....	....	....	370
Unsuccessful Visits (Outs and Removals)	....	....	1,962
	....	....	58,762

* Includes 33 to Crippled Children and 16 to Mentally Deficient Children.

The addresses of 149 children who left the City were sent to the Medical Officers of Health for the districts to which they had gone to reside.

Summary of Infants on Visiting List:—

Of 5,389 children born in the City in 1925, 4,602 completed their first year in 1926, and of the remainder:

472 died,
129 left the City,
155 disappeared and could not be traced,
31 were visited only once.

The following figures are therefore based on the 4,602 who completed the first year, *plus* the 472 who died, making in all a total of 5,074, and of that total 2,619 or 51 per cent., attended the Welfare Centres.

Influence of Housing Conditions.

During the 19 years, 1908—1926, 70,496 births have been under the supervision of the Health Visitors, and of these 8,070 died. The following table shows the numbers of births and deaths in the various classes of house :—

Year.	Houses of							
	1 Room.		2 Rooms.		3 Rooms.		4 Rooms or more.	
	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
1908.....	247	32	515	57	312	32	13	2
1909.....	339	53	694	86	168	32	29	3
1910.....	536	62	723	68	51	4	7	2
1911.....	462	68	794	79	77	6	20	1
1912.....	465	48	746	60	110	6	25	1
1913.....	241	40	348	28	91	3	17	3
1914.....	245	36	375	31	90	11	25	3
1915.....	631	104	2,140	306	1,416	144	692	74
1916.....	611	121	2,333	343	1,584	180	756	85
1917.....	730	104	2,199	284	1,349	150	776	84
1918.....	607	90	2,018	270	1,285	144	766	83
1919.....	664	111	2,056	306	1,358	188	810	102
1920.....	843	167	2,155	291	1,529	171	1,052	121
1921.....	1,263	140	2,523	234	1,651	134	1,036	88
1922.....	1,223	159	2,267	241	1,342	97	655	61
1923.....	1,357	149	2,187	243	1,155	86	637	54
1924.....	1,440	188	1,946	200	1,096	100	666	62
1925.....	1,395	151	1,803	192	1,001	89	654	50
1926.....	1,472	153	1,774	162	1,108	94	720	63
19 years ..	14,771	1,976	29,596	3,481	16,773	1,671	9,356	942
Death rate per 1,000 births		133·7		117·6		99·6		100·6

Walking and Talking.—Of the 4,602 children who completed their first year, 81 per cent. were walking at the end of the year, and 82 per cent. were talking at the end of the year.

Illnesses.—Among the children visited 245, or 5 per cent., developed measles ; 117, or 3 per cent., developed whooping cough ; 243, or 5 per cent., developed diarrhœa ; 432, or 9·3 per cent., developed bronchitis or pneumonia.

The mortality per 1,000 births in 1926 was as follows :—

1 roomed dwellings	104
2 roomed dwellings	91
3 roomed dwellings	85
Dwellings over 3 rooms	87

Feeding of the 5,074 children under supervision was stated to be as follows :—

	Breast. %	Mixed. %	Artificial. %
Children who *survived* first year ; feeding during first month	92·6	3·3	4·1
Children who *died* during first year ; feeding during first month.....	79·0	6·1	14·9
Children who *survived* first year ; feeding at nine months	43·3	25·0	31·7
Children who *died* during first year ; feeding at time of death	61·0	7·4	31·6
Feeding of 61 children who died from enteritis	25·0	20·0	55·0

Illegitimacy.—232 illegitimate children were born ; of these 34 died, a death-rate of 147 per 1,000, as compared with 86 among legitimate children.

MIDWIVES ACTS, 1902 and 1918.

During the year 41 midwives notified the Local Supervising Authority of their intention to practise in the City, and of these 36 held the examination certificate of the Central Midwives Board, and five were

registered as having been in *bona fide* practice before the passing of the Midwives Act. Two midwives possessing the Central Midwives Board Certificate left the district, and 7 additional Midwives notified their intention to practise.

Inspections—241 visits were paid by the Superintendent of Midwives to the homes of certified midwives for the purpose of inspecting midwifery bags and appliances, and to ascertain that the necessary records of their work were being satisfactorily kept, also to investigate cases of ophthalmia neonatorum, septicæmia, or other abnormalities occurring in their practices. In addition, 226 visits were paid to midwives' cases on account of some abnormal condition. The results of these inspections were generally satisfactory.

The clothing and appliances of ten midwives were disinfected after being in contact with puerperal septicæmia, one after smallpox, one after measles, and one after pemphigus neonatorum.

Three handy-women were interviewed as to conduct, and, on investigation, it was found that they had acted in emergencies.

Births attended by Midwives.—2,082 living births and 45 still-births were attended by midwives during the year; these figures show an increase of 15 in the former and an increase of 3 in the latter. Midwives attended 34·5 per cent. of the total births in the City, as compared with 33 per cent. in 1925, and 27 per cent. in 1924.

Lectures to Midwives.—Fortnightly meetings of midwives practising in the City were held in the Health Department. Discussions took place and midwives were kept up-to-date with regard to new requirements and general progress. The closest co-operation and loyalty exist between the midwives practising in the City and the staff of the Health Department, and midwives are encouraged to send their cases to the ante-natal clinics. Much benefit was derived by those mothers who were sent, as well as by the midwives concerned.

A post graduate course of six lectures with practical demonstrations was given by Mr. Harvey Evers to midwives and Health Visitors. These lectures were given at Diana Street Centre, and were highly appreciated and of the greatest value to those who attended.

Notices for Medical help sent to Local Authority by the Midwives :—

For the Mother.	
During Pregnancy—	
Ante Partum Hæmorrhage ...	12
Abortions	4
	16
During Labour—	
Uterine Inertia	51
Malpresentations	21
Contracted Pelvis	2
Retained Placenta	10
Placenta Prævia	1
Post Partum Hæmorrhage ...	8
Ruptured Perineum	59
	152
During Puerperium—	
Rise of Temperature.....	21
Fits	1
Undefined Illness of Mother ..	21
Varicose Veins	6
	49
Total calls for mother	217
For Child.	
Prematurity	41
Discharging Eyes	26
Cyanosis	2
Congenital Defects	8
Convulsions, etc.....	3
Illness of Baby	19
	99
Total calls for mother and child	316

In 14 per cent. of the midwives' cases the services of a doctor were requisitioned.

Claims from Doctors for Fees in respect to calls from Midwives, viz. :—

	Cases.
For forceps delivery	56
For post partum hæmorrhage	14
For illness of mother	32
For illness of child	27
For premature birth	11
For discharging eyes	16
Other	44
Total cases	200

Two claims for *payment of midwives' fees* were received.

Ophthalmia Neonatorum.—The number of cases notified was 64, of which 56 were visited, the remainder being cases occurring in Hospital, or admitted to Hospital from outside areas. This number is an increase of 10 on that for 1924. The confinements were attended by :—

Doctors	30
Midwives	19
Maternity Hospital (2 from outside).	9
Wingrove Hospital	1
Cases resident outside of the City sent into Hospital for Treatment	5
	64

In five cases the children were born outside Newcastle area, and were sent into Hospitals in Newcastle for treatment, and notified from there as suffering from ophthalmia neonatorum. Two cases which occurred in the Princess Mary Maternity Hospital were non-resident in the City.

326 visits were paid to the 56 cases in the City, and the ultimate results were :—

Recovered completely	54
One Eye slightly defective	1
Died	1
	56

The *ophthalmia incidence* per 1,000 births for the last six years has been as follows :—

1921	13·0
1922	9·9
1923	11·0
1924	8·0
1925	8·0
1926	9·5

Puerperal Septicæmia.—36 cases of this disease (31 puerperal fever, 5 pyrexia) were notified during the year, 16 of which were from outside the City area, and were admitted to Hospitals in the City. Of the remaining 20 the following table shows the attendance at birth :—

Doctors	6
Doctors and Midwives	4
Midwives	7
Princess Mary Maternity Hospital Staff	2
Wingrove Hospital	1
Total	20

Deaths during the Puerperal Period.—During the year 19 deaths occurred in the City during the puerperal period, and the following table gives the causes and a comparison with the three previous years :—

Causes.	1926	1925	1924	1923
Abortions	4	1	1	3
Accidents of Pregnancy	1	1	..	..
Puerperal Hæmorrhage	3	1	..	5
Other Accidents of Child-birth	1	2	6	1
Puerperal Fever	5	4	6	10
Puerperal Albuminuria and Convulsions	4	8	2	5
Puerperal Phlegmasia	1	1	..	2
	19	18	15	26

I am, Sir,

Your obedient servant,

A. F. G. Spinks, M.D.,
Maternity and Child Welfare Medical Officer.

Health Department,
Town Hall,
Newcastle-upon-Tyne,
18th June, 1927.

INCLUDING REPORTS OF THE
RESIDENT MEDICAL OFFICER OF THE
INFECTIOUS DISEASES HOSPITAL
AND THE BACTERIOLOGIST.

III.—INFECTIOUS DISEASE.

FEVERS, FOOD POISONING,
CITY HOSPITAL FOR INFECTIOUS DISEASES,
DISINFECTION, BACTERIOLOGY.

INFECTIOUS DISEASES.

NUMBER OF CASES PER 1,000 POPULATION IN 1926.

DISTRICT.	ATTACK-RATE PER 1,000 POPULATION.						
	Small-pox.	Typhus	Scarlet Fever.	Diph-theria.	Enteric Fever and Con-tinued Fever.	Puer-peral Fever.	Ery-sipelas.
England and Wales	0·26	..	2·10	1·31	0·07	0·07	0·38
NEWCASTLE-UPON-TYNE	**0·18**	..	**3·47**	**0·71**	**0·05**	**0·05**	**0·60**
Hull	0·12	..	1·76	2·50	0·03	0·06	0·49
Leeds	0·01	..	1·60	0·79	0·02	0·10	0·69
Bradford	0·01	0·00	2·16	1·15	0·08	0·09	0·49
Sheffield.....	0·31	..	2·96	2·00	0·09	0·11	0·66
Manchester	..	..	3·00	1·50	0·04	0·23	0·50
Salford	..	..	2·91	2·15	0·04	0·08	0·56
Liverpool.....	..	..	2·60	1·80	0·05	0·08	0·70
Nottingham	..	..	1·43	2·43	0·08	0·04	0·54
Leicester	0·00	0·00	1·97	1·50	0·01	0·09	0·45
Stoke-on-Trent	0·01	..	2·02	0·95	0·07	0·16	0·50
Birmingham	..	..	1·78	1·91	0·05	0·16	0·46
Cardiff	..	..	1·15	1·08	0·04	0·10	0·29
Bristol	..	..	2·50	1·80	0·04	0·07	0·35
Portsmouth.....	..	..	2·38	4·07	0·06	0·03	0·21
†London	0·00	..	2·68	2·95	0·07	4·24 ‡	0·39
Gateshead	3·42	..	3·21	1·31	0·01	0·05	0·55
South Shields	3·16	..	1·05	0·38	0·09	0·06	0·24
Tynemouth	0·42	..	3·74	0·97	0·03	0·03	0·51
Sunderland	0·10	0·00	0·51	0·49	0·03	0·07	0·79
Middlesbrough	0·06	..	2·89	0·56	0·04	0·21	0·70
†Northumberland	1·82	..	2·98	0·29	0·08	0·03	0·46
†Durham	5·81	..	2·45	0·66	0·05	0·05	0·54

† Administrative County. ‡ Per 1,000 births.

DEATHS (CORRECTED) FROM NOTIFIABLE INFECTIOUS DISEASES AND NON-NOTIFIABLE ZYMOTIC DISEASES, EXCLUSIVE OF TUBERCULOSIS

WARD.	Diphtheria.	Erysipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Cerebro-Spinal Fever.	Encephalitis Lethargica.	Poliomyelitis	Measles.	Puerperal Fever.	Small-pox.	Whooping Cough.	Zymotic Diarrhœa (under 2 years of age).	Chicken Pox.
St. Nicholas'	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Thomas'	..	..	..	..	1	..	1	..	2	..	..	2	1	..
St. John's	1	..	..	..	..	1	1	..	5	1	..	2	11	..
Stephenson	..	..	1	..	1	..	2	..	5	..	..	1	8	..
Armstrong	2	..	1	..	..	..	..	..	..	1	..	3	3	..
Elswick	..	..	..	..	..	..	..	..	2	..	..	6	4	..
Westgate	1	..	1	..	..	..	..	..	2	1	..	3	5	..
Arthur's Hill	..	..	..	..	..	..	..	..	1	1	..	..	..	..
Benwell	2	..	3	..	..	..	1	..	1	..	..	1	2	..
Fenham	..	1	2	..	..	..	..	..	1	..	..	..	3	..
All Saints'	1	..	..	..	..	..	..	..	3	..	..	8	5	..
St. Andrew's	1	1	1	..	..	..	..	..	4	..	..	..	5	..
Jesmond	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Dene	..	..	2	..	..	..	..	..	1	..	..	2	1	..
Heaton	..	..	1	..	..	..	..	..	..	..	..	1	3	..
Byker	4	..	..	..	..	1	..	..	6	..	..	4	10	..
St. Lawrence	4	1	1	..	..	..	1	..	4	..	..	9	8	..
St. Anthony's	..	..	..	..	..	..	1	..	2	1	..	3	9	1
Walker	1	1	1	..	..	..	1	..	3	..	..	4	7	..
CITY	17	5	14	..	2	2	8	..	42	5	..	49	85	1

Note :—All deaths in Public Institutions have been allotted to the Wards to which they properly belong.

For particulars of deaths from **TUBERCULOSIS** see Section IV.

NOTIFIED CASES OF INFECTIOUS DISEASE,

EXCLUSIVE OF TUBERCULOSIS.

AGES OF CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1926. (TABLE II. OF MINISTRY OF HEALTH.)

NOTIFIABLE DISEASE.	AT AGES—YEARS.								GROSS TOTAL (ALL AGES).		*NET CASES.
	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.	Ages not known.	1926.	1925.	1926.
Diphtheria (including Membranous Croup)	6	69	90	20	9	1	..	15	210	197	202
Erysipelas	7	10	11	30	46	50	21	4	179	200	172
Scarlet Fever	7	267	561	114	34	4	..	11	998	1231	987
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	6	7	6	2	..	1	22	28	14
Cerebro-Spinal Fever	2	..	..	1	..	..	..	1	4	2	3
Acute Poliomyelitis	1	2	7	..	1	..	..	..	11	8	7
Acute Polio-Encephalitis	..	1	..	..	1	..	..	..	2	1	..
Encephalitis Lethargica	1	2	8	10	10	10	1	..	42	47	24
Measles and Rubella	312	2394	1509	17	11	1	..	11	4255	6050	4242
Puerperal Fever	..	..	..	9	19	..	..	3	31	25	15
†Puerperal Pyrexia	..	..	..	3	2	..	..	..	5	..	5
Ophthalmia Neonatorum	64	..	..	..	..	..	..	..	64	54	57
Pneumonia	125	413	192	99	131	98	40	1	1099	1018	1037
Trench Fever	..	..	..	..	1	..	..	..	1	..	1
Dysentery	..	..	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	1	..	..	..	1	5	1
Smallpox	1	2	11	16	18	10	1	..	59	84	50
Chickenpox	59	368	771	19	11	4	..	23	1255	1636	1240
TOTALS	585	3,528	3,166	345	301	180	63	70	8,238	10,586	8,057

* Cases from outside the City excluded for the purpose of calculating NET death rates.

† Puerperal Pyrexia. Notifiable from 1st October, 1926.

WARD DISTRIBUTION OF INFECTIOUS DISEASES (NET).

(TABLE II. OF MINISTRY OF HEALTH.)

WARD.	Diphtheria.	Erysipelas.	Enteric Fever.	Scarlet Fever.	Cerebro-Spinal Fever.	Poliomyelitis.	Acute Polio-Encephalitis.	Encephalitis Lethargica.	Measles.	Rubella.	Puerperal Fever.	Puerperal Pyrexia.**	Ophthalmia Neonatorum.	Acute Primary Pneumonia.	Acute Influenzal Pneumonia.	Smallpox.	Trench Fever.	Chickenpox.	Malaria.	TOTAL.
St. Nicholas'	3	2	..	9	..	..	..	1	41	2	..	..	..	7	1	..	..	19	..	85
*St. Thomas'	37	10	6	70	..	..	..	3	218	3	..	..	..	29	..	1	..	65	..	442
St. John's	11	11	..	62	1	..	..	1	328	10	1	..	3	77	3	2	..	42	..	552
Stephenson	10	13	1	84	..	..	..	1	342	8	4	..	7	88	3	2	..	88	..	651
Armstrong	7	13	..	41	..	..	..	..	134	4	2	..	11	63	13	7	1	32	..	328
Elswick	9	4	..	43	..	..	..	2	114	6	..	..	2	25	3	1	..	46	..	255
Westgate	7	4	..	55	..	..	..	1	220	..	2	..	2	34	5	1	..	106	..	437
†Arthur's Hill	2	16	1	53	..	1	..	4	99	4	1	..	1	82	..	1	..	44	..	309
Benwell	9	21	..	93	..	..	..	2	379	4	1	1	11	101	15	6	..	121	..	764
Fenham	10	8	..	49	..	..	..	..	245	3	2	..	1	25	3	6	..	91	..	443
All Saints'	14	17	..	44	1	..	..	..	327	9	..	1	2	83	4	1	..	80	..	583
St. Andrew's	4	7	1	28	..	1	..	..	224	..	..	..	2	27	..	2	..	24	..	320
Jesmond	4	4	1	33	..	2	..	..	82	7	..	..	..	10	1	7	..	38	..	189
Dene	7	3	..	35	..	..	..	..	124	2	..	..	..	19	1	2	..	23	..	216
Heaton	5	5	..	39	..	2	..	..	128	2	..	..	1	18	3	1	..	66	..	270
Byker	16	12	2	37	..	1	..	4	304	5	1	2	4	49	2	3	..	83	..	525
St. Lawrence	19	7	1	77	1	..	..	2	367	1	..	1	3	47	3	7	..	88	..	624
St. Anthony's	6	5	1	25	..	..	..	1	207	..	1	..	2	45	3	..	..	19	..	315
‡Walker	22	10	..	110	..	..	..	2	289	..	..	..	5	140	5	..	..	165	1	749
CITY	202	172	14	987	3	7	..	24	4172	70	15	5	57	969	68	50	1	1240	1	8,057

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children.
† ,, Poor Law Institution and Wingrove Hospital.
‡ ,, City Hospital for Infectious Diseases, Walker Gate.
** Notifiable from 1st October, 1926.

For particulars of cases of **TUBERCULOSIS,** see Section IV.

WARD INCIDENCE OF INFECTIOUS DISEASES (Net).

EXCLUSIVE OF TUBERCULOSIS.

WARD.	NOTIFIABLE DISEASES—Cases per 1,000 Population.																DEATHS per 1,000 Pop.		
	Diphtheria	Erysipelas.	Scarlet Fever.	Enteric Fever.	Cerebro-Spinal Fever.	Poliomyelitis.	Acute Polio-Encephalitis.	Encephalitis Lethargica.	Measles (including Rubella).	Puerperal Fever.	Puerperal Pyrexia. **	Smallpox.	Chickenpox.	Ophthalmia Neonatorum.	Pneumonia.	Trench Fever.	Malaria.	Measles. (including Rubella).	Whooping Cough.	Zymotic Diarrhœa (under 2 years of age).
St. Nicholas' ..	0·82	0·55	2·46	..	..	..	..	0·27	11·8	..	..	..	5·19	..	2·19	..	..	..	..	..
*St. Thomas' ..	2·52	0·68	4·78	0·41	..	..	..	0·20	15·0	..	..	0·07	4·43	..	1·98	..	..	0·14	0·14	0·07
St. John's	0·70	0·70	3·94	..	0·06	..	..	0·06	21·4	0·06	..	0·13	2·67	0·19	5·08	..	..	0·32	0·13	0·70
Stephenson ...	0·52	0·68	4·37	0·05	..	..	..	0·05	18·2	0·21	..	0·10	4·58	0·36	4·73	..	..	0·26	0·05	0·42
Armstrong	0·44	0·81	2·56	..	..	..	..	..	8·6	0·12	..	0·44	2·00	0·69	4·74	0·06	..	..	0·19	0·19
Elswick	0·69	0·31	3·31	..	..	..	..	0·15	9·2	..	..	0·08	3·55	0·15	2·16	..	..	0·15	0·46	0·31
Westgate	0·45	0·36	3·51	..	..	..	..	0·06	14·1	0·11	..	0·06	6·77	0·11	2·49	..	..	0·11	0·19	0·32
†Arthur's Hill ..	0·17	1·37	4·52	0·08	..	0·08	..	0·34	8·8	0·08	..	0·08	3·72	0·08	7·00	..	..	0·08	..	..
Benwell	0·48	1·11	4·93	..	..	..	..	0·11	20·4	0·05	0·05	0·32	6·42	0·58	6·16	..	..	0·05	0·05	0·11
Fenham	0·80	0·64	3·91	..	..	..	..	..	19·8	0·16	..	0·48	7·26	0·08	2·23	..	..	0·08	..	0·24
All Saints'	0·77	0·94	2·42	..	0·05	..	..	..	18·5	..	0·05	0·05	4·41	0·11	4·80	..	..	0·17	0·44	0·58
St. Andrew's ..	0·31	0·55	2·19	0·08	..	0·08	..	..	17·5	..	..	0·15	1·88	0·15	2·11	..	..	0·31	..	0·39
Jesmond	0·35	0·35	2·88	0·09	..	0·17	..	..	7·8	..	..	0·61	3·32	..	0·96	..	..	..	..	..
Dene	0·53	0·23	2·65	..	..	..	..	..	9·5	..	..	0·15	1·74	..	1·51	..	..	0·07	0·15	0·08
Heaton	0·31	0·31	2·45	..	..	0·13	..	..	8·2	..	..	0·06	4·15	0·06	1·32	..	..	..	0·06	0·19
Byker	0·95	0·67	2·06	0·11	..	0·06	..	0·22	17·2	0·06	0·11	0·17	4·63	0·22	2·84	..	..	0·33	0·22	0·56
St. Lawrence ..	1·03	0·38	4·19	0·05	0·05	..	..	0·11	20·0	..	0·05	0·38	4·79	0·16	2·72	..	..	0·22	0·49	0·43
St. Anthony's .	0·37	0·31	1·54	0·06	..	..	..	0·06	12·8	0·05	..	..	1·17	0·12	2·97	..	..	0·12	0·19	0·56
‡Walker	1·12	0·51	5·60	..	..	..	..	0·10	14·7	..	..	..	8·40	0·25	7·40	..	0·05	0·15	0·20	0·36
CITY	0·71	0·60	3·46	0·05	0·01	0·02	..	0·08	14·9	0·05	0·02	0·18	4·36	0·20	3·64	0·004	0·004	0·15	0·17	0·30

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children. † Includes Poor Law Institution and Wingrove Hospital.
‡ Includes City Hospital for Infectious Diseases, Walker Gate. ** Notifiable from 1st October, 1926.

For Particulars of **TUBERCULOSIS,** see Section IV.

HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES,

EXCLUSIVE OF TUBERCULOSIS, MEASLES AND CHICKENPOX.

DISEASES.	HOUSEHOLDS WITH						Military or Naval Cases	Institutions *	TOTAL CASES. (Gross).	Cases from outside of City.	NET CASES.
	Single Cases	2 Cases each	3 Cases each	4 Cases each	5 Cases each	6 Cases and over					
Diphtheria (including Membranous Croup)	146	10	..	..	..	..	..	44	210	8	202
Erysipelas	150	2	..	..	..	..	..	25	179	7	172
Scarlet Fever	695	83	18	3	..	..	12	59	998	11	987
Enteric (or Typhoid Fever)	10	..	..	..	..	..	..	12	22	8	14
Cerebro-Spinal Fever	3	..	..	..	..	..	..	1	4	1	3
Poliomyelitis	7	..	..	..	..	..	..	4	11	4	7
Polio-Encephalitis	..	..	..	..	..	..	..	2	2	2	..
Encephalitis Lethargica	22	..	..	..	..	..	..	20	42	18	24
Puerperal Fever	15	..	..	..	..	..	..	16	31	16	15
†Puerperal Pyrexia	5	..	..	..	..	..	..	..	5	..	5
Ophthalmia Neonatorum	57	..	..	..	..	..	..	7	64	7	57
Pneumonia	853	45	1	1	..	..	..	149	1099	62	1037
Smallpox	29	5	..	..	1	1(7)	..	8	59	9	50
Malaria	1	..	..	..	..	..	..	..	1	..	1
Trench Fever	1	..	..	..	..	..	..	..	1	..	1
TOTAL	1994	145	19	4	1	1(7)	12	347	2728	153	2575

* See next page.

† Notifiable from 1st October, 1926.

Schools and Infectious Disease.—It was not found necessary to close any school on account of infectious disease during the year.

PUBLIC INSTITUTIONS AND INFECTIOUS DISEASE.

The following notifications were received during the year :—

Institutions, &c.	Diphtheria.	Erysipelas.	Scarlet Fever.	Encephalitis Lethargica.	Measles and Rubella.	Puerperal Fever.	Pneumonia.	Chickenpox.	Ophthalmia Neonatorum.	Enteric Fever.	Poliomyelitis.	Polio-Encephalitis.	Cerebro-Spinal Fever.	Smallpox.	Total. *
Royal Victoria Infirmary....	4	12	15	17	11	7	61	7	3	11	2	1	1	7	159
Fleming Memorial Hospital..	19	3	7	..	9	..	..	8	1	..	2	1	..	..	50
Wingrove Hospital.....	..	9	7	3	22	..	79	2	..	1	..	..	..	..	123
City Hospital for Infectious Diseases (Staff)	1	..	6	..	..	..	..	..	..	..	..	..	..	..	7
Deaf and Dumb Institution .	..	..	..	..	1	..	..	1	..	..	..	..	..	..	2
St. Cuthbert's Grammar School	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Maternity Hospital	..	..	9	..	..	9	1	..	2	..	..	..	..	..	21
Throat and Ear Hospital ...	5	1	1	..	..	..	..	..	..	..	..	..	..	..	7
Military Barracks	3	..	13	..	..	..	2	12	..	..	..	..	..	..	30
Northern Counties Orphanage	10	..	1	..	..	..	..	..	..	..	..	..	..	..	11
Royal Victoria School for the Blind	..	..	..	..	1	..	2	..	..	..	..	..	..	..	3
Lady Stephenson Orphanage	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2
Eye Infirmary	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
P.C.H.A. Home, Percy St. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Gresham House	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
St. Joseph's Home	..	..	..	..	..	..	4	..	..	..	..	..	..	..	4
Total.....	44	25	59	20	46	16	149	30	7	12	4	2	1	8	423

* Does not include any cases belonging to the City which could properly be assigned to their homes.

MILK SUPPLY IN RELATION TO INFECTIOUS DISEASES.

The source of the milk supply was ascertained in every case of fever and diphtheria. In no instance was there reason to suspect that milk was responsible for the conveyance of infection.

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13 cases of scarlet fever and 5 cases of diphtheria occurred at premises of various kinds, in connection with which business was carried on.

SCARLET FEVER.

Notifications of 987 cases were received during the year, and there were 14 deaths, equivalent to a mortality of 1·4 per cent. This figure is slightly higher than in 1925, and, indeed, greater than in any year since 1920.

DIPHTHERIA.

202 cases were notified during the year, and 17 died, a case mortality of 8·4 per cent. The type of the disease tended to be more severe, and the mortality rate is the highest since 1918.

Antitoxin was distributed free to medical practitioners in the City as follows :—

Number of medical practitioners who made application for antitoxin	27
Number of phials of antitoxin supplied	104
Number of cases of diphtheria notified	202
Number of notified cases removed to Hospital	187
Number of Hospital cases in which antitoxin was injected prior to admission	27

The fatality of the disease in recent years is shown in the subjoined table :—

Year.	Diphtheria Cases. (All Forms.)	
	Number.	Case Mortality (per cent.).
1909	456	12·7
*1910	443	9·0
1911	507	7·5
1912	501	6·6
1913	368	7·6
1914	362	7·7
1915	275	9·5
1916	272	10·3
1917	226	14·6
1918	250	9·2
1919	320	6·9
1920	348	6·9
1921	353	6·2
1922	254	5·9
1923	200	5·0
1924	256	6·6
1925	187	3·7
1926	202	8·4

* Antitoxin first distributed gratis April, 1910.

Particulars of the type of the disease as noted in cases sent to hospital will be found later in the section dealing with the City Hospitals.

MEASLES AND RUBELLA.

4,242 cases (including 70 of rubella) were notified, and there were 42 deaths (corrected) in 1926, representing a death rate of 0·15 per 1,000 population, as compared with 0·40 in 1925, and a case mortality of 0·99 per cent. of notified cases (net).

DEATHS, 1926 (CORRECTED).

MONTH.	YEARS OF AGE.							Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	Over 10.	
January	..	..	..	..	..	..	..	..
February ...	..	..	..	..	..	..	..	..
March	3	2	4	..	..	..	..	9
April	2	7	2	2	..	..	..	13
May	2	2	1	..	..	2	..	7
June	..	1	1	..	1	1	..	4
July	..	2	..	..	..	..	..	2
August	1	1	..	..	..	..	..	2
September ..	..	1	..	..	..	..	..	1
October	..	..	..	..	..	..	..	..
November...	1	1	..	..	..	..	..	2
December ..	1	1	..	..	..	..	..	2
TOTAL ...	10	18	8	2	1	3	..	42

The following table shows the deaths in the various wards, and at different age periods :—

WARD.	Under 3 months.	3 and under 6 months.	6 and under 9 months.	9 and under 12 months.	1 and under 2 years.	2 and under 3 years.	3 and under 4 years.	4 and under 5 years.	5 and under 10 years.	Over 10 years.	TOTALS.
St. Nicholas'	..	..	..	..	..	..	..	..	..	..	..
St. Thomas'	..	..	..	..	..	1	1	..	..	..	2
St. John's.....	..	..	..	..	2	2	1	..	..	..	5
Stephenson	..	..	1	1	..	3	..	..	..	..	5
Armstrong	..	..	..	..	..	..	..	..	..	..	..
Elswick.....	..	..	..	..	..	..	..	1	1	..	2
Westgate	..	..	..	..	2	..	..	..	..	..	2
Arthur's Hill	..	..	..	..	..	..	..	..	1	..	1
Benwell	..	..	..	..	1	..	..	..	..	..	1
Fenham	..	..	..	..	..	..	..	..	1	..	1
All Saints'	..	..	..	1	2	..	..	..	..	..	3
St Andrew's	..	..	2	..	2	..	..	..	..	..	4
Jesmond	..	..	..	..	..	..	..	..	..	..	..
Dene	..	..	..	..	1	..	..	..	..	..	1
Heaton	..	..	..	..	..	..	..	..	..	..	..
Byker	..	..	2	..	3	1	..	..	..	..	6
St. Lawrence	..	..	..	..	3	1	..	..	..	..	4
St. Anthony's	..	..	1	1	1	..	..	..	..	..	3
Walker	..	..	..	1	1	..	..	..	..	..	2
TOTAL	..	..	6	4	18	8	2	1	3	..	42

Each Health Visitor visited and revisited selected cases occurring in her district. By this arrangement each case is seen immediately on receipt of the notification, and advice is given regarding the nursing and isolation

of the patient. The cases are kept under supervision until they recover, and should subsequent cases occur in the family they are recorded.

Measles Cases, including Rubella, notified during 1926.

Cases notified by Medical Practitioners	3,371	
Cases found by Health Visitors	860	
Cases notified by Parents	20	
Cases found from Returns of Deaths	4	
	4,255	gross.
	4,242	net.

Of the total number of measles cases notified, 3,826, in 2,702 households (or 89·9 per cent.) were visited by the Health Visitors, and 4,540 revisits were paid.

The following particulars refer to the cases visited :—

	Dwellings of					Total houses visited.
	1 room.	2 rooms.	3 rooms.	4 rooms.	More than 4 rooms.	
Families	554	894	669	436	149	2,702
Children	1,412	2,852	1,890	1,124	352	7,630
Cases	814	1,285	952	594	*181	3,826
Percentage of Cases to Children	57·6	45·0	50·3	52·8	51·4	50·1
Cases developing Pneumonia	24	23	12	6	1	66
Percentage of cases developing Pneumonia	2·9	1·7	1·2	1·0	0·5	1·7
Deaths from Measles	16	15	3	4	2	40
Cases notified as Measles, Death certified as due to Pneumonia, Bronchitis or Convulsions	3	6	4	..	..	13
Case Mortality per cent. ...	2·3	1·6	0·7	0·6	1·1	1·3

* In addition to the 181 cases, 383 cases were reported in better-class houses and were not visited. Amongst these 2 deaths occurred, so that the actual mortality rate in houses of over 4 rooms was 0·7 per cent.

Medical Attendance.—In 96·5 per cent. of the cases visited a doctor was in attendance.

Condition of Patient.—In 87 per cent. of the cases visited the disease ran a normal course, but bronchitis, pneumonia or other complications developed in the remainder.

Attendance at Schools.—1,197, or 31·2 per cent. of the affected children visited had previously attended school, and 2,629, or 68·7 per cent. had never attended school. In 1,560 of these latter cases, however, or 40·7 per cent. of the total cases, other children from the infected houses were scholars.

The following were the ages of children (visited) suffering from measles :—

Under 1 year	302
1–2 years	558
2–3 years	557
3–4 years	582
4–5 years	593
5–6 years	790
Over 6 years	444
	3,826

WHOOPING COUGH.

49 deaths occurred from whooping cough. The particulars are as follows :—

Month.	Years of Age.						Total.
	0-1.	1-2.	2-3.	3-4.	4-5	5-10.	
January	3	..	..	1	..	..	4
February	..	..	..	..	..	1	1
March	1	..	..	..	1	1	3
April	4	2	..	..	..	..	6
May.....	5	3	1	..	..	..	9
June	3	3	2	1	..	..	9
July	5	1	..	..	..	..	6
August	..	..	..	..	..	1	1
September	..	3	..	..	..	..	3
October	1	1	..	..	..	..	2
November	1	1	..	..	..	..	2
December	1	2	..	..	..	..	3
Total	23	17	3	2	1	3	49

The death rate in 1926 was equivalent to 0·17 per 1,000 population, as compared with 0·27 in 1925.

ENTERIC FEVER.

22 cases of enteric fever were discovered in the City during the year. Of these 14 were Newcastle cases, 2 of whom died, giving a death rate of 0·01 per 1,000 population, and a case mortality of 14·3 per cent. The remaining 8 patients had been admitted to the Royal Victoria Infirmary from outside districts. They were transferred to Walker Gate after the diagnosis of typhoid fever had been confirmed.

Of the 14 City cases three were members of the nursing and domestic staffs of the Royal Infirmary. The infection in these patients had probably been contracted while attending on the "imported" cases mentioned above. One was a nurse in the Wingrove Hospital, and no definite source of infection could be traced. In the 10 other cases no definite source of infection could be ascertained; they resided in different parts of the town.

Bacteriological examination showed the causal organism to be B. Typhoid in 15 cases, and B. Paratyphoid B. in 7.

DIARRHŒA.

There were in all 121 deaths from the disease, equal to a death rate of 0·42 per 1,000 population, and this number included 85 deaths of children under two years of age.

TYPHUS.

No case of this disease occurred during the year.

SMALLPOX.

59 cases of smallpox were discovered in Newcastle during the year. 9 of the patients were from outside districts who were sent into City institutions as suffering from some illness other than smallpox, and were found to have the latter disease.

Of the 50 patients resident in Newcastle, 16 were probably infected by cases in the Counties of Northumberland and Durham, one patient so infected being the source of 3 secondary cases in the City. Two other cases were traced to a previous case in the City. In the remaining 29 cases the source of infection was not ascertained.

80 further cases from districts outside the City were admitted to the Smallpox Hospital, Town Moor, by arrangement with the Authorities concerned. There were also admitted 8 other patients (3 Newcastle, and 5 extra-mural) who proved not to be suffering from smallpox.

The disease, as in the preceding year, was of the so-called " mild " type, although most of the patients were acutely ill during the febrile stage of the disease. One patient died. This was an elderly woman admitted from outside the City. She was already in a very weakly state as the result of limb paralysis and prolonged confinement to bed, and it is likely that smallpox contributed only to a small extent to the end.

The evidence of the efficacy of vaccination as a preventative against smallpox was again very conspicuous. It will be seen (pages 125 and 126) that among all cases (139) both from the City and outside, not one had been successfully vaccinated during the previous 15 years.

1,411 direct contacts were kept under supervision by the Sanitary Inspectors until the incubation period of the disease for each individual contact had expired; and in addition 194 contacts were detained in the small-pox hospital—isolation side—for varying periods.

The following are the particulars, courteously furnished by the Clerk to the Guardians, of infant **Vaccination** in Newcastle during recent years. (Walker, which belongs to the Tynemouth Rural area for registration purposes, is not included).

Year.	Births Registered.	Successful Vaccinations	Unsuccessful Vaccinations	Exemption Certificates.	
				Number.	Percentage to Total Births
1905	7,958	7,264	27	65	0·8
1906	7,721	6,733	28	92	1·2
1907	7,610	6,702	16	94	1·2
*1908	7,747	6,414	20	449	5·8
1909	7,180	5,667	30	517	7·2
1910	7,023	5,532	22	683	9·7
1911	6,604	5,002	24	767	11·6
1912	6,715	4,625	18	982	14·6
1913	6,874	4,441	7	1,173	17·0
1914	7,023	4,230	11	1,499	21·2
1915	7,116	4,487	1	1,485	20·9
1916	7,117	4,405	9	1,509	21·2
1917	6,166	3,688	5	1,478	24·0
1918	6,092	3,488	15	1,362	22·4
1919	6,131	3,405	8	1,582	25·8
1920	7,955	4,403	45	2,074	26·7
1921	7,258	4,159	11	2,128	29·3
1922	6,936	3,556	16	2,116	30·5
1923	6,417	4,464	—	1,373	21·4
1924	6,481	3,967	6	1,121	17·3
1925	6,403	4,069	14	952	14·8
1926	6,274	3,679	—	985	15·7

* Vaccination Act, 1907, came into force.

The *Public Vaccinators* and *Vaccination Officers* for the various districts of the City are :—

Dene, Heaton and Byker Municipal Wards :—

DR. J. MACRAE, 4, Benton Terrace.
Deputy—DR. A. SUTCLIFFE, 1, Lesbury Road.

St. Anthony's and St. Lawrence Municipal Wards :—

DR. RICHARD DAGGER, 1, Rothbury Terrace.
Deputy—DR. ERIC C. DAGGER, 1, Rothbury Terrace.

Walker District :—

Dr. T. J. Ryan, Welbeck Road.
Deputy—Dr. Wm. Hutchinson, Welbeck Road.

All Saints', St. Nicholas', St. Andrew's, Jesmond, and St. Thomas' Municipal Wards :—

Dr. Frank Hawthorn, 10, Ellison Place.
Deputy—Dr. O. W. Ogden, 4, St. Mary's Terrace.

Fenham, Arthur's Hill, Westgate and St. John's Municipal Wards :—

Dr. A. M. Paterson, 1, Grove Street.
Deputy—Dr. H. L. Taylor, 242, Westgate Road.

Stephenson, Elswick, Armstrong and Benwell Municipal Wards :—

Dr. G. D. Newton, 115, New Bridge Street.
Deputy—Dr. H. Rosenbloom, 16, Denton Road, Scotswood.

Wingrove Hospital :—

Dr. G. P. Harlan.

Vaccination Officers :—

Western—W. J. White, 9, Victoria Street.
Eastern—Wm. Garrett, 34, Harbottle Street.

CHICKENPOX

1,240 cases were notified. One of the patients died.

ERYSIPELAS.

172 cases of this disease were notified and there were 5 deaths.

PUERPERAL SEPTICÆMIA AND PUERPERAL PYREXIA.

20 cases were notified, with 5 deaths. Inquiries were made concerning all of these. 10 of the cases were attended by doctors.

INFLUENZA AND PNEUMONIA.

These diseases accounted for 340 deaths as against 407 last year.

Total deaths at age periods.

Under 5 years.	5-15.	15-25.	25-45.	45-65.	65 and over.	Total.
145	21	12	40	64	58	340

As will be seen from the above figures, 145, or 43 per cent., of the deaths occurred below the age of 5 years.

Appended is a statement of the total net deaths at all ages in the City from influenza and pneumonia during 1926 and the previous 14 years :—

YEAR.	INFLUENZA.	PNEUMONIA.
1912	18	248
1913	19	339
1914	22	424
1915	22	433
1916	36	392
1917	27	418
1918	680	540
1919	604	561
1920	90	468
1921	65	411
1922	273	495
1923	15	342
1924	105	415
1925	41	366
1926	49	291

1,037 cases of pneumonia, including influenzal-pneumonia, were notified. For the ages and ward distribution, see pages 91 and 92.

Of that number 886, or 85 per cent., were visited by Health Visitors.

It was found that of these 886 visited cases, 657, or 74·25 per cent., were primary pneumonia, 98, or 11 per cent., were cases of influenzal-pneumonia, and 131, or 14·75 per cent., were cases of pneumonia following other diseases.

Sex.—56 per cent. of the cases were males.

Ages.—The ages of the 886 cases visited were as follows :—

Under 1 year	118
1–5 years	363
5–15 years	156
15–25 years	68
25–45 years	92
45–65 years	66
and over 65 years	23
	886

Of these, 76 were school children.

Housing.—187 cases occurred in 1 roomed dwellings, 325 cases occurred in 2 roomed dwellings, 208 cases occurred in 3 roomed dwellings, and 166 cases occurred in more than 3 roomed dwellings.

Type of House.—415 cases occurred in flats, 347 cases in tenements, and 124 in self-contained houses.

Previous History—

There was a	previous	history of	Measles	in 368 cases.
,,	,,	,,	Whooping Cough	in 193 cases.
,,	,,	,,	Influenza	in 82 cases.
,,	,,	,,	frequent winter Coughs and Colds	in 675 cases.
,,	,,	,,	Pneumonia	in 93 cases.
,,	,,	,,	Tuberculosis	in 2 cases.

Hospital Treatment.—75 of the more serious cases of pneumonia were admitted to the Infectious Diseases Hospital from houses where there was overcrowding or other unsuitable home conditions. 13 of these patients died, giving a case mortality of 17·3 per cent.

Deaths.—151, or 17 per cent. of the visited cases of pneumonia died.

VENEREAL DISEASES.

Syphilis was certified as the cause of death in 11 cases.

The work of the treatment clinic has been continued successfully. 1,585 old and new cases attended 28,071 times as out-patients. 9 cases accounted for 477 in-patient days. Of the 891 new cases 290 were syphilis, 438 gonorrhœa, 40 soft chancre, and 123 conditions other than venereal. 78 per cent. were males.

2,226 doses of salvarsan substitutes were administered to out-patients, and 14 to in-patients.

2,191 Wasserman reactions were carried out at the College of Medicine, and 116 microscopical examinations of pathological material were made at the College and 948 at the treatment clinic. The irrigation stations for males and for females in connection with the clinic have been in full use during the year.

38 medical practitioners in the City are qualified to receive free supplies of arseno-benzol compounds. 15 made application for these supplies during the year and 841 doses were given.

Newcastle Residents Notified as Attending other Centres.

Cases.—Syphilis, 13; gonorrhœa, 17; conditions other than venereal, 1.

Attendances.—195.

Doses of salvarsan substitute given, 35.

In-Patients.—In-patient days, 133. Doses of salvarsan substitutes administered, 4.

Information as to ophthalmia neonatorum will be found on page 84.

ENCEPHALITIS LETHARGICA.

42 cases of encephalitis lethargica, including 24 Newcastle residents, and 18 extra-mural patients, were notified during the year. 12 of these patients were admitted to the City Hospital, Walker Gate.

The clinical type, as in the previous year, was definitely severe, the case mortality being 37 per cent.; but there was a continuance of the decline in the incidence of the disease, the number of City cases being only 24 in 1926, compared with 39 in 1925.

The following table, taken from the 1925 report, has been brought up to date by the addition of the 1926 cases. It sets out the fate of all known cases of encephalitis lethargica which have occurred in Newcastle.

Year.	No. of Cases.	Recovered.	Deaths.	Mental or Nervous Impairment	Removed; Address Unknown.
1919.....	1	..	1	..	..
1920.....	8	..	4	4	..
1921.....	18	6	6	5	1
1922.....	4	2	1	..	1
1923.....	4	..	3	..	1
1924.....	124	39	35	39	11
1925.....	47	17	18	12	..
1926.....	42	6	16	17	3
TOTAL	248	70	84	77	17

Treatment of even the hospital cases has of necessity been merely palliative in nature, combining for the most part reduction of pressure on nerve-tissue by lumbar puncture and the judicious use of sedatives.

The dire nature of this acute brain infection was again very much in evidence, despite the comparatively few cases which occurred during the year. It will be seen from the table that of the 42 cases only 6 recovered, while 16 died and 17 were left with mental or nervous impairment, the latter rendering them quite incapable of following any form of employment.

Visits were again made at the homes of all patients (77) of whom records are available, and who were left with any of the mental after-effects of encephalitis. In only 5 of those cases were the parents or friends of the patients of the opinion that some improvement in nervous stability had taken place. Of the remainder (72), one was dying, 12 were in-patients of mental hospitals, and 59 were still victims of some incapacitating form of nervous affection.

ACUTE POLIOMYELITIS.

7 cases occurred in the City. There was no death, but two of the patients are reported to be permanently paralysed.

CEREBRO-SPINAL FEVER.

3 cases were reported during the year, with 2 deaths.

CITY HOSPITALS FOR INFECTIOUS DISEASES.

Accommodation.

Names and Situation of Hospitals.	Total Available Beds.
City Hospital for Infectious Diseases, Walker Gate (including Phthisis Pavilions, 62 Beds)	294
Smallpox and Isolation Hospitals, Town Moor	172

City Hospital, Walker Gate.

Year.	Population of the City.	Number of Beds at Hospital for Fever Cases.	Total Admissions (exclusive of Phthisis and Smallpox).	Percentage of Scarlet Fever, Diphtheria and Enteric Fever Cases Admitted to Cases Notified.
1890	182,866	104	219	21·3
1900	213,039	104	290	38·6
1909	263,064	172	1,090	78·0
1910	265,077	172	912	83·0
1911	267,261	172	1,110	83·1
1912	269,193	172	1,542	86·4
1913	271,295	172	1,286	88·3
1914	271,523	172	1,835	78·9
1915	278,107	232	1,886	90·5
1916	278,107	232	1,380	87·0
1917	278,107	232	1,303	87·5
1918	278,107	232	1,245	87·5
1919	275,099	232	1,370	84·3
1920	286,061	232	1,710	86·4
1921	278,400	232	1,683	82·4
1922	281,600	232	1,032	86·3
1923	283,800	232	991	92·6
1924	285,900	232	1,502	90·5
1925	286,300	*232	1,711	86·4
1926	284,700	*232	1,397	89·1

* 30 of these beds are at present used for tuberculosis.

CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE.

Diseases Admitted—1926.

Sent in as	Number.	After Observation Proved to be:—																								
		Scarlet Fever.	Diphtheria.	Diphtheria Carriers.	Enteric Fever.	Measles.	Rubella.	Varicella.	Pertussis.	Erysipelas.	Encephalitis Lethargica.	Epidemic Cerebro-Spinal Meningitis.	Tuberculous Meningitis.	Other forms of Meningitis.	Puerperal Fever.	Pneumonia.	Influenza.	Other Respiratory Diseases.	Tonsillitis.	Acute Rheumatism.	Skin and Septic Diseases.	Gastro-intestinal Diseases.	Dysentery.	Tetanus.	No appreciable Disease.	Unclassified.
Scarlet Fever	866	817	1	..	..	8	3	..	..	..	..	..	..	1	1	..	1	..	17	..	3	..	..	..	13	1
Diphtheria	208	13	150	..	..	8	..	..	..	..	..	..	..	..	..	2	..	6	27	..	..	..	..	..	1	1
Diphtheria Carriers	8	1	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	32	..	..	..	23	..	..	..	..	..	1	..	..	..	..	1	..	1	..	1	..	4	..	..	..	1
Measles	39	..	1	..	..	35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..
Rubella	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Varicella	23	..	..	..	..	..	..	22	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Pertussis	9	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	34	..	..	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..
Encephalitis Lethargica	15	..	..	..	..	..	..	..	..	..	10	..	2	1	..	..	..	..	..	..	..	1	..	..	1	..
Epidemic Cerebro-Spinal Meningitis	5	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	1	..	..	..	..
Tuberculous Meningitis	3	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Other forms of Meningitis	9	..	..	..	..	..	..	..	..	..	1	..	4	1	..	..	..	..	..	..	..	1	..	1	1	..
Puerperal Fever	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	81	..	1	..	..	..	..	..	..	..	..	..	..	..	..	71	..	8	..	..	..	1	..	..	..	..
Influenza	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..
Other Respiratory Diseases	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Tonsillitis	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..
Acute Rheumatism	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..
Skin and Septic Diseases	7	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	6	..	..	..	..	..
Gastro-intestinal Diseases	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	1	..	..	..
Unclassified	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	18
Totals	1397	831	153	7	23	51	4	22	9	31	13	3	9	4	3	75	8	15	48	7	15	23	1	1	20	21

CITY HOSPITAL, WALKER GATE.

(Fever Pavilions).

Admissions during the year—1,397.

The *average daily number* of patients in the hospital was 140, exclusive of 89 cases of phthisis.

RATE PER CENT. OF CASES REMOVED TO HOSPITAL TO CASES NOTIFIED.

	1890	1895	1900	1905	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Scarlet Fever	18·4	33·0	35·0	50·1	84·5	83·8	88·0	90·6	81·4	91·3	94·5	91·9	99·3	88·0	85·7	82·3	84·7	91·9	90·4	85·0	86·6
Diphtheria	8·3	28·7	40·0	36·8	80·1	80·5	81·8	81·5	84·8	89·1	84·6	82·0	91·6	74·4	89·1	82·7	91·7	93·6	90·2	94·1	93·3
Enteric Fever	38·9	48·0	54·5	52·0	90·5	92·0	91·2	91·1	94·1	87·0	96·6	96·0	93·1	80·0	90·0	71·4	84·2	100·0	96·6	96·4	90·9
All cases of the above, together with Continued and Typhus Fever and Cerebro-Spinal Fever, etc.	21·3	34·6	38·6	47·8	83·0	83·1	86·4	88·3	82·6	90·5	87·0	87·5	87·5	84·3	86·4	82·4	86·3	92·6	90·5	86·0	87·2

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES NOT REMOVED DURING 1926.

DISEASE.	HOSPITAL.			NOT REMOVED.		
	Total Cases. (Verified)	Deaths.	Case Mortality per cent.	Total Cases.	Deaths.	Case Mortality per cent.
Scarlet Fever	831	15	1·8	134	..	..
Diphtheria ...	153	15	9·8	14	1	7·1
Enteric Fever	23	2	8·7	2	..	..

Expenses of Maintenance.—Of the patients admitted, the expense of maintenance is charged as under :—

	CASES.
To the Newcastle Sanitary Authority	1,377
To private guarantors	3
Tyne Port Sanitary Authority	2
Military	1
Other Local Authorities	14
TOTAL.....	1,397

Admissions and Deaths, 1926.

Disease.	Admissions.													Deaths.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	50	88	52	58	61	56	67	73	98	104	60	64	831	3	2	1	3	2	..	1	1	1	1	..	..	15
Diphtheria	10	12	20	6	13	7	7	12	9	14	10	33	153	3	..	2	1	..	..	1	..	3	..	3	2	15
Diphtheria Carriers	..	..	1	1	..	3	..	1	1	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	1	..	1	1	..	1	1	..	6	6	2	4	23	1	..	..	..	..	..	..	..	..	..	..	1	2
Measles	3	5	11	9	5	5	1	2	2	4	4	..	51	..	..	2	..	..	..	1	..	..	1	2	..	6
Rubella	..	1	..	..	..	1	1	..	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicella	3	..	6	5	3	..	1	..	1	..	1	2	22	..	..	..	..	..	..	..	..	..	..	..	..	..
Pertussis	1	..	2	1	..	..	1	1	1	..	1	1	9	..	..	1	..	..	..	..	1	1	..	1	..	4
Erysipelas	1	..	2	1	3	1	5	2	5	1	5	5	31	..	..	..	..	..	..	..	1	..	..	..	1	2
Encephalitis Lethargica	2	..	1	1	2	4	..	..	1	..	1	1	13	..	..	..	..	..	..	..	..	1	..	..	..	1
Epidemic Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	..	1	..	1	1	3	..	..	..	..	..	..	..	..	1	..	1	1	3
Tuberculous Meningitis	..	1	3	1	..	1	..	..	1	2	..	..	9	..	1	3	1	..	1	..	..	..	2	..	..	8
Other forms of Meningitis	2	1	..	..	..	..	..	..	..	..	..	1	4	1	1	..	..	..	..	..	..	..	..	..	..	3
Puerperal Fever	..	1	..	..	..	..	..	..	..	..	1	1	3	..	1	..	..	..	..	..	..	..	..	..	..	2
Pneumonia	4	7	1	10	9	4	6	3	6	7	9	9	75	1	2	..	2	2	..	2	..	..	1	2	1	13
Influenza	..	..	4	3	1	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Respiratory Diseases	1	2	2	4	2	..	..	..	..	1	2	1	15	..	..	..	..	..	..	..	..	..	..	1	..	1
Tonsillitis	6	3	10	6	2	4	4	2	2	6	1	2	48	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute Rheumatism	..	..	1	..	..	..	..	1	2	1	2	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..
Skin and Septic Diseases	4	1	1	1	..	2	..	1	..	2	1	2	15	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastro-Intestinal Diseases	..	..	2	3	5	4	2	2	1	3	1	..	23	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1
No appreciable Disease	..	4	4	3	1	1	2	..	..	2	3	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Unclassified	..	3	3	5	3	2	1	..	1	1	1	1	21	..	..	..	..	..	..	..	..	..	..	..	1	1
Totals	88	129	127	119	110	96	100	100	138	154	106	130	1397	9	7	9	7	4	1	5	3	7	5	10	10	77

Length of Stay in Hospital of Fatal Cases.—Of the foregoing, the following *died within* 24 *hours of admission*—diphtheria, 10; scarlet fever, 2; pneumonia, 4; measles with broncho-pneumonia, 1; pertussis with pneumonia, 1; encephalitis lethargica, 1; septic meningitis, 1; sarcoma of thymus, 1; puerperal fever, 1; while 1 case of scarlet fever, 1 of pneumonia, 1 of pneumococcal meningitis, and 1 of tuberculous meningitis died within 48 hours of admission to hospital.

Present Death Rates compared with those of Previous Years.

RETURN SHOWING THE NUMBER OF CASES OF SCARLET FEVER, DIPHTHERIA, AND ENTERIC FEVER ADMITTED TO HOSPITAL AND MORTALITY RATES PER CENT.
1891–1900.

YEAR.	NUMBER OF CASES ADMITTED TO HOSPITAL.			NUMBER OF DEATHS.			CASE MORTALITY PER CENT.		
	Scarlet Fever.	Diphtheria.	Enteric Fever.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Scarlet Fever.	Diphtheria.	Enteric Fever.
1891.....	110	10	67	5	6	6	4·5	60·0	8·9
1892.....	244	18	26	8	5	5	3·3	27·8	19·2
1893.....	202	15	49	5	2	6	2·5	13·3	12·2
1894.....	230	8	60	6	3	13	2·6	37·5	21·7
1895.....	319	41	75	10	10	21	3·1	24·4	28·0
1896.....	294	24	67	7	..	14	2·4	..	20·9
1897.....	210	10	64	7	2	17	3·3	20·0	26·6
1898.....	179	21	197	9	5	33	5·0	23·8	16·7
1899.....	193	19	77	9	6	14	4·7	31·6	18·2
1900.....	211	29	37	9	8	8	4·3	27·6	21·6
	2,192	195	719	75	47	137	3·4	24·1	19·1
1915–1924.									
1915.....	1,305	223	88	37	18	10	2·8	8·0	11·4
1916.....	677	210	57	19	23	8	2·8	10·9	14·0
1917.....	409	164	12	13	22	1	3·1	13·5	8·3
1918.....	381	205	26	9	13	2	2·6	6·3	7·8
1919.....	630	196	11	21	13	..	3·3	6·6	0·0
1920.....	1,105	244	11	17	19	1	1·5	7·7	9·0
1921.....	1,115	241	9	9	15	2	0·8	6·2	22·2
1922.....	560	173	15	2	14	3	0·3	8·0	20·0
1923.....	434	163	13	4	7	1	0·9	4·3	7·7
1924.....	705	216	30	5	18	2	0·7	8·3	6·7
	7,321	2,035	272	136	162	30	1·9	8·0	11·0
1925-1926.									
1925.....	1,036	151	20	16	9	3	1·5	6·0	15·0
1926.....	831	153	23	15	15	2	1·8	9·8	8·7
	1,867	304	43	31	24	5	1·7	7·9	11·6

Diphtheria.—Of the 153 patients in hospital 125 were faucial or pharyngeal cases, of whom 7 died, a case mortality per cent. of 5·6 ; 28 were laryngeal or tracheal cases, of whom 8, or 28·6 per cent., died ; 9 of the faucio-pharyngeal cases had also involvement of the nasal passages and 3, included above, or 33·3 per cent., died. In 7 of the laryngeal and tracheal cases the obstruction was so considerable as to require operation immediately upon admission to hospital. Intubation was performed upon one of these patients, but the child died ; and tracheotomy was performed upon the remaining 6, of whom 5 died.

With the exception of the one survivor, all the above patients were admitted to hospital too late to derive the full benefit of antitoxin or operation. Irrespective of how hopeless the outlook, however, a child is always given the chance afforded by intubation or tracheotomy.

Two cases of laryngeal diphtheria already operated upon for tracheotomy, were admitted from other hospitals. One died. One other tracheotomy operation was performed upon a child which was sent in as laryngeal diphtheria. The case died, and as there had been some doubt as to the cause of the severe obstruction, a postmortem examination was made, when it was found that the condition was one of inoperable sarcoma of thymus pressing upon and partially occluding the trachea.

The diagnosis of each case was confirmed bacteriologically, either before or after admission to hospital, but in the great majority of instances this is done before admission.

Antitoxin is administered to all cases of diphtheria admitted to hospital which have not received the remedy at home.

Mixed Infections.—19 patients sent into hospital, or 1·4 per cent., were found on admission to be suffering from two or more distinct infectious diseases, as follows:—

Scarlet Fever with Diphtheria	1
Scarlet Fever with Measles	1
Scarlet Fever with Varicella	2
Scarlet Fever with Pertussis	1
Diphtheria with Measles	1
Diphtheria with Pertussis	1
Measles with Laryngeal Diphtheria	1
Measles with Pneumonia	8
Pertussis with Pneumonia	3
	19

Cross Infection.—During the year 3 scarlet fever patients contracted a second infection (chicken pox) in the wards, or 0·2 per cent. of the total admissions to hospital. The origin of the secondary infections was the same for each of the three cases, namely a scarlet fever patient in the same ward who had been incubating chickenpox on admission to hospital, developing this disease 5 days afterwards. The attacks were all of a mild character.

"Return" Cases.—The following are details of the "return" cases of scarlet fever during the year:—

Scarlet Fever.	"Infecting" Cases.		"Return" Cases.		"Infecting" Cases.
Total Admissions.	No.	Per-centage.	No.	Per-centage.	Average Day of Disease when Discharged.
831	31	3·7	33	3·9	40·5

Seasonal Occurrence.

Quarter.	Total Scarlet Fever Admissions.	"Infecting" Cases.		"Return" Cases.	
		No.	Percentage	No.	Percentage.
January to March	190	4	2·1	3	1·6
April to June	175	3	1·7	3	1·7
July to September	238	8	3·3	5	2·1
October to December ..	228	16	7·0	22	9·6

Of the 31 "infecting" cases: (*a*) 18 had no complications or discharges whilst in hospital, and remained "clean" after reaching home; (*b*) 7 had no complications whilst in hospital but developed discharges after reaching home; and (*c*) 6 were "dirty" cases whilst in hospital but were "clean" on discharge.

Of the above classes, the average day of disease on discharge from hospital of the supposed infecting cases, and the period elapsing after that discharge and the onset of illness in the "return" case, were as follows:—

Class (*a*)—33 and 10 days.
Class (*b*)—35 ,, 12 ,,
Class (*c*)—64 ,, 9 ,,

"RETURN" CASES FOR YEARS 1906–1926.

YEAR.	Total Scarlet Fever Admitted.	"Infecting" Cases.		"Return" Cases.	
		No.	Percentage.	No.	Percentage.
1906.....	442	7	1·6	10	2·3
1907.....	390	11	2·8	17	4·4
1908.....	283	4	1·4	5	1·8
1909.....	623	23	3·7	30	4·8
1910.....	465	18	3·9	20	4·3
1911.....	605	26	4·3	30	4·9
1912.....	1,018	47	4·6	52	5·1
1913.....	853	23	2·7	24	2·8
1914.....	1,404	78	5·6	96	6·8
1915.....	1,305	43	3·3	49	3·7
1916.....	677	22	3·3	24	3·5
1917.....	409	9	2·2	13	3·2
1918.....	381	13	3·4	14	3·6
1919.....	630	23	3·6	22	3·5
1920.....	1,105	37	3·3	39	3·5
1921.....	1,115	24	2·1	30	2·7
1922.....	560	9	1·6	7	1·2
1923.....	434	14	3·2	16	3·6
1924.....	705	24	3·4	29	4·1
1925.....	1036	22	2·1	23	2·2
1926.....	831	31	3·7	33	3·9

Hospital and Home "Isolation" Compared.

In order to determine the relative liability to further infection, subsequent to the first, in hospital and home-isolating households respectively, a careful record has been kept for fourteen years of the number of presumably susceptible persons in each invaded house, all, other than the original patient, below 12 years of age being so classed, and the proportionate incidence of secondary cases calculated.

Cases occurring within seven days of the "isolation" of the original case are not counted, as these probably acquired their infection before the influence of the "isolation" could be felt.

Cases occurring subsequently to the seventh day of "isolation" of the original case, and prior to the release of the latter, are classed as "incidental" infections.

Cases occurring within 28 days after the release of the original case from "isolation" are classed as "return" infections.

The table on page 118A shows the results obtained.

Hospital and Home "Isolation" compared.

Year	1913		1914		1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926.		14 Years.	
Patient "isolated" at.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home'	Hospital.	Home.	Hospital.	Home.
"Susceptibles" in the homes of each class of patient	1131	53	1708	244	1462	86	800	8	509	17	450	20	726	47	1203	87	1401	147	647	50	563	16	807	32	1084	154	911	67	13402	1028
"Incidental" infections	69	3	78	28	85	7	33	2	25	..	18	..	59	1	69	5	88	16	37	5	31	2	34	3	74	10	32	3	742	85
Percentage of "incidentals" to "susceptibles"	6·1	5·7	4·6	11·5	5·8	8·1	4·1	25·0	5·0	..	4·0	..	8·1	2·1	5·7	5·7	6·3	10·9	5·7	10·0	5·5	12·5	4·2	9·4	6·8	6·5	3·5	4·5	5·5	8·2
"Return" Infections	29	..	84	..	55	2	21	1	20	..	14	..	22	..	49	3	30	7	7	1	17	1	29	..	23	..	34	1	434	16
Percentage of "returns" to "susceptibles"	2·6	..	4·9	..	3·8	2·3	2·6	12·5	3·9	..	3·1	..	3·0	..	4·1	3·4	2·1	4·8	1·0	2·0	3·0	6·2	3·6	..	2·1	..	3·7	1·5	3·2	1·6
Total of "incidental" and "return" infections	98	3	162	28	140	9	54	3	45	..	32	..	81	1	118	8	118	23	44	6	48	3	63	3	97	10	66	4	1166	101
Percentage of this total to "susceptibles"	8·7	5·7	9·5	11·5	9·6	10·5	6·7	37·5	8·8	..	7·1	..	11·2	2·1	9·8	9·2	8·4	15·6	6·8	12·0	8·5	18·7	7·8	9·4	8·9	6·5	7·2	6·0	8·7	9·8

For the purpose of this table a "return" case is counted to the year in which the "infecting" case was admitted, even though the latter may have been discharged, or the "return" case admitted, in the following year

OTORRHŒA AND RHINORRHŒA.

There was again a slight decrease this year in the percentage of nose and ear complications among scarlet fever patients. The number of cases developing rhinorrhœa or otorrhœa was 125, or 15 per cent. of the total scarlet fever admissions (831). As in previous records, it should be remembered that a large proportion of the rhinorrhœa cases had only very slight watery discharges lasting for merely 2 or 3 days.

This decrease is thought to be accountable in some measure to the fairly extensive use through the year of the new scarlet fever antitoxin ; for although the total admissions was less than the two previous years, yet there appeared to be a more definite tendency with many patients to a reversion to the old classical toxic and septic attacks. The slight increase in case mortality supports this view.

As the result of this increased severity in certain individual cases, a more prolonged stay in hospital was necessary, particularly in patients with otorrhœa (whether operated on or not), but even so, it will be seen from the following table that despite such increase, the average length of stay for all complicated cases (55 days) shewed only slight variation, being even less than last year (59 days).

	Number of Cases.	Average length of Stay (days).	Av. No. days treatment after operation. (In cases operated upon.)	Av. No. days conservative treatment. (In cases not operated upon).
Otorrhœa	48	56	23	34
Rhinorrhœa	58	49	7	17
Both Otorrhœa & Rhinorrœa	19	61	24	30
All Cases	125	55	18	27

Subsequent Progress.—Of 125 cases of otorrhœa and rhinorrhœa visited from six to twelve months after leaving hospital, 115, or 92 per cent. were found to have remained free from discharges. 10 cases (4 otorrhœa and 6 rhinorrhœa) still suffered from occasional watery discharge from nose or ear, and these patients were being kept under observation by Mr. Wilson at the out-patient department of the Royal Victoria Infirmary.

Included in the above patients visited were 34 " tonsils and adenoids " and 3 " mastoid " cases, and 1 case of meringotomy. All except 3 " tonsils and adenoids " patients had remained free from recurrence of complications. Of these 3 patients, 2 were old standing cases of otorrhœa and the other a recent case ; all still had occasionally a slight discharge.

Operations.—The specialist examinations and surgical treatment of throat, nose, and ear complications in scarlet fever, commenced $5\frac{1}{2}$ years ago by the late Dr. Maclay, was continued by Mr. Frank Wilson.

Happily only three operations for mastoidectomy were required during the year. One of these, admitted with extensive disease of both mastoid bones and infection of lateral sinuses, necessitated the operation on both sides of the head. This child died, but complete recovery was obtained in the two other cases.

34 operations for removal of tonsils and adenoids and 1 drum incision were also performed. In the rhinorrhœa cases the discharges dried up in an average of 7 days, and in the ottorrhœa cases in an average of 23 days after operation.

Treatment with Scarlet Fever Streptococcus Antitoxin.—Mention was made in the last annual report of the good results which had been obtained from the administration of this serum in cases of scarlet fever at the City Hospital. At that time, owing to difficulties of standardisation and preparation, the serum was very expensive, and its therapeutic use was still in the experimental stage; consequently it was administered only to a selected number of serious cases. Now, however, most of these obstacles have been overcome, and the antitoxin is obtainable from British manufacturers at less than half the original cost.

The following tables set out some interesting points relating to those cases injected with the antitoxin:—

Total No. of Cases receiving Scarlet Fever Antitoxin..	78
Total No. of these 78 Cases Developing Complications	21 (including 5 deaths.)
Total No. of these 78 Cases Not Developing Complications	57
Average day of disease of Administration of Antitoxin to the 21 cases who developed complications..	5
Average day of disease of Administration of Antitoxin to the 57 cases who did not develop complications	3
No. of Deaths (all included among 21 complicated cases)	5

ANALYSIS OF SCARLET FEVER CASES WHO RECEIVED ANTITOXIN AND WHO DEVELOPED COMPLICATIONS.

Day of Disease of Administration.	No. of Cases Receiving Antitoxin.	Nature of Complication.	Duration of Complication.
1st	Nil.		
2nd	3	1 Rhinorrhœa. 1 Albumenuria (trace only) 1 Adenitis.	2 days. 2 ,, 5 ,,
3rd	3	1 Albumenuria (trace) 1 ,, ,, 1 Rhinorrhœa	2 days. 3 ,, Present on admission and until 10th day disease.
4th	2	1 Albumenuria (trace) 1 ,, ,,	21 days 16 ,,
5th	3	1 Rhinorrhœa 1 Otorrhœa 1 Death	4 days 20 ,,
Later than 5th day	10	4 Deaths 4 Rhinorrhœa Av. duration 14 days 1 Double Otorrhœa 1 Otorrhœa	 32 ,, 25 ,,

In considering this statement it should be borne in mind that the total number (78 cases) were selected for treatment on account of being the most seriously ill of the 831 cases of scarlet fever admitted to hospital. It was, therefore, reasonable to anticipate that a greater incidence of complications would occur among this group than among the remainder of the 831 patients. This increase actually did take place, for 21 out of 78 patients with very acute attacks (27 per cent.) developed complications of varying severity, ranging from a trivial nasal discharge to death. The latter figure (27 per cent.) was an increase of 9 per cent. upon the incidence of complications in all cases (18 per cent).

The outstanding feature of the table is the evidence that of the 8 cases who received antitoxin on or before the fourth day of disease, not one developed any serious

complication. After that day it would appear that the damage to the system had progressed to too great an extent to allow of appreciable benefit from administration of the antitoxic serum.

The value of the scarlet fever antitoxin as a distinct advance in therapeutics has, of course, been very much more apparent to clinical observation than merely the evidence of the comparatively few statistics detailed. Almost without exception in the average early case (2nd or 3rd day of disease), it has been most gratifying to note the rapid fall in temperature, disappearance of toxic symptoms, and general improvement in the patient within 24-36 hours of the injection.

Ultra Violet Therapy.—The installation of an ultra violet lamp at the City Hospital in November, 1925, has proved to be a measure of real economy and a valuable therapeutic adjunct.

The lamp, which is of the quartz-mercury-vapour type, has been used on both the tuberculosis and " infectious diseases " sides of the hospital. Treatment with the infectious diseases cases has been directed more particularly to the debilitated conditions which so commonly supervene after the acute stages of these maladies have passed. It is at this stage of commencing convalescence when the bodily resistance is at a low ebb that children, especially those who had been weakly or ill-nourished beforehand, are decidedly more liable to the ravages of other diseases, for example, tuberculosis.

In the majority of the cases treated, exposure to the ultra violet rays produced a definite exhilaration of the patient, together with an increased appetite, and there is no doubt that the increased progress made by many patients resulted in their more rapid discharge from hospital.

With the cases of non-pulmonary tuberculosis, enlarged glands, skin, and other localised affections, the local improvement—diminution of discharges, etc.—was especially noticeable.

The following is a summary of the patients treated during the year :—

(*a*) Debility, Boils, Acne (among Staff)	11
(*b*) Tuberculosis :—	
Tuberculous Peritonitis	4
,, Ankle	1
,, Glands.....	3
,, Dermatitis	1
Pulmonary Tuberculosis (Debility) ..	1
Lupus on Face	1
(*c*) Debilitated conditions following upon Infectious Diseases :—	
After Scarlet Fever	9
,, Pertussis and Pneumonia	4
,, Measles	7
,, Diphtheria	2
,, Enteric Fever	1
(*d*) Syphilitic Eruption (congenital)	1
(*e*) Septic Sores	4
TOTAL.....	50

Average stay in Hospital during the last Nineteen Years.

YEAR.	All Cases.		Scarlet Fever.		Diphtheria (including carriers).		Enteric Fever.		Other Diseases.	
	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days
1908	614	48·4	283	56·3	220	40·0	88	48·5	25	31·8
1909	1,090	49·2	623	54·3	334	41·6	56	45·9	78	42·8
1910	912	44·4	465	51·3	317	37·2	47	46·4	83	32·5
1911	1,110	45·6	605	50·5	375	41·9	68	44·4	62	20·2
1912	1,542	45·8	1,018	46·1	383	45·7	82	46·2	59	20·9
1913	1,286	45·5	853	47·6	254	47·9	109	43·4	70	19·6
1914	1,835	41·6	1,404	44·4	251	34·4	86	41·2	94	20·2
1915	1,886	41·3	1,305	47·1	223	35·6	88	44·0	271	17·2
1916	1,380	35·7	677	42·5	210	38·2	57	48·8	436	22·3
1917	1,303	33·9	409	46·5	164	43·5	12	59·8	718	24·0
1918	1,245	32·1	381	45·2	205	46·6	27	52·3	632	18·7
1919	1,370	33·8	630	41·5	196	54·8	11	39·2	533	16·9
1920	1,710	32·4	1,105	35·0	244	44·8	11	57·5	350	16·7
1921	1,682	28·0	1,115	31·1	241	31·6	9	36·4	318	13·9
1922	1,033	29·9	560	32·5	189	38·0	15	47·5	268	17·9
1923	991	29·6	434	33·7	172	41·2	13	49·4	372	18·7
1924	1,502	32·5	705	36·3	229	37·0	30	53·9	538	24·6
1925	1,711	34·4	1036	37·3	154	46·8	20	59·1	501	23·0
1926	1,397	36·0	831	37·1	160	54·8	23	64·1	383	24·1

Staff Sickness.

Nursing Staff.—59 of the Nursing Staff were off duty owing to sickness for a total of 1,953 days. 7 contracted scarlet fever, 12 influenza, 27 tonsillitis, 5 rheumatism, and 6 appendicitis.

Domestic Staff.—25 were off duty through sickness for a total of 359 days. 1 contracted scarlet fever, 3 tonsillitis, and 3 influenza.

Bacteriological Laboratory, City Hospital.

The following examinations were made in connection with the patients in the fever wards :—

Swabs for Diphtheria Bacilli	876
Other Examinations	186
TOTAL	1062

SMALLPOX AND ISOLATION HOSPITALS, TOWN MOOR.

147 patients were admitted to the Smallpox Hospital during the year. Of these, 59 were Newcastle cases of smallpox and 3 were cases which proved not to be smallpox admitted for observation from local institutions. (See p. 102).

The remainder of the cases were admitted at the request of the following Local Authorities, each of the latter being charged with the expenses of maintenance :—

Brandon and Byshottles Urban District	46
Weetslade Urban District	21
Morpeth Rural District	6
Castle Ward Rural District	5
Chester-le-Street Urban District	3
Chester-le-Street Rural District	2
Newbiggin-by-the-Sea Urban District	2
* (Includes 5 proved not to be Smallpox.)	85*

The following are details as to age and vaccinal conditions of the Newcastle and other cases :—

NEWCASTLE CASES.

Age.	No. of Cases.	Vaccinal Condition.
0-15	15	All unvaccinated.
15-20	8	6 unvaccinated, 2 vaccinated in infancy.
20-25	8	7 ,, 1 ,, ,,
25-35	12	8 ,, 3 ,, ,, 1 ,, 18 yrs. ago.
35 and over	16	1 ,, 15 vaccinated in infancy.

EXTRA MURAL CASES.

Age.	No. of Cases.	Vaccinal Condition.
0-15	40	All unvaccinated.
15-20	11	10 unvaccinated, 1 vaccinated in infancy.
20-25	3	2 ,, 1 ,, ,,
25-35	5	4 ,, 1 ,, ,,
35 and over	21	1 ,, 20 ,, ,,

The diagnosis in the 8 cases which proved not to be smallpox were as follows :—

NEWCASTLE CASES (from Institutions).

Vaccinia Rash	1
Syphilitic Eruption	1
Varicella	1

EXTRA MURAL CASES.

Varicella	3
No appreciable disease	2

194 direct contacts were admitted to the Isolation Hospital, and were detained for varying periods during the disinfection of their homes.

DISINFECTION, Etc.

7,809 cases of notifiable infectious disease have been inquired into by the Infectious Disease Inspectors and Health Visitors, and, with the exception of measles and chickenpox, the houses or rooms connected therewith disinfected by spraying with formalin. In connection with cases of tuberculosis, 731 houses, including 798 rooms, were similarly disinfected. 296 visits were made, and disinfection was also carried out in 173 special cases.

334 extra visits of supervision to cases treated at home were made by the Infectious Disease Inspectors.

143 visits were made to cases who had suffered from otorrhœa and rhinorrhœa whilst in hospital.

Inquiries were also made in connection with 1,411 smallpox contacts. These persons were kept under observation until the possible incubation period was over.

INFECTED ARTICLES TREATED IN THE DISINFECTING APPARATUS AT THE CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE.

ARTICLES FROM CITY.		ARTICLES—HOSPITAL PROPERTY.	
1926	1925	1926	1925
22,806	30,137	18,255	19,388

8,139 articles of clothing, etc., were also disinfected at the Smallpox Hospital.

The staff have thus dealt with 49,200 articles at the two disinfectors during the year.

Fluid disinfectant, in half-pint tins, was given out free on the order of the special inspectors, for home use in connection with infectious disease. Every precaution was taken to ensure that the disinfectant was properly and economically used.

DISINFECTANTS DISTRIBUTED—1926.

FROM	FOR INFECTIOUS DISEASES.	FOR PHTHISIS.
	FLUID (½ pint tins.)	FLUID (½ pints.)
Health Department	318	....
Tuberculosis Dispensary	....	640
Corporation Yard, Benwell	50	....
TOTAL	368	640

BACTERIOLOGICAL INVESTIGATIONS, 1926.

The following is a summary of the bacteriological investigations carried out on behalf of the Health Department of the Newcastle Corporation by the Department of Bacteriology at the University of Durham College of Medicine.

5,153 specimens were submitted for examination. The nature of the investigations and the results obtained were as follows :—

	Diphtheria.			Phthisis.			Enteric.		
	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.	* Positive.	Negative.
No. of Examinations	1145	94	1051	630	114	516	35	13	22

* Of these positive cases of Enteric Fever :—
8 cases were B. typhosus, and
5 ,, ,, B. paratyphosus B.

Milk Examinations :—

	Total.	Found.	Not Found.
1. For the tubercle bacillus	376	15	361

2. Bacterial content of organisms other than the tubercle bacillus (the colon bacillus being taken as the indicator) :—

Colon bacilli not found in 1 cc. or less	5
Colon bacilli found in 1 cc., but not in less	42
Colon bacilli found in 0·1 cc., but not in less	29
Colon bacilli found in 0·01 cc., but not in less	27
Colon bacilli found in 0·001 cc., but not in less	22
Colon bacilli found in 0·0001 cc., but not in less....	22
Colon bacilli found in 0·00001 cc., but not in less..	43
	190

142 samples of "Graded Milk" were examined during the year in accordance with the scheme of the Ministry of Health under the Milk and Dairies (Amendment) Act, 1922. The following is a summary of the results obtained :—

	Satisfied the Test.	Failed to satisfy the test.
"Certified" Milk	28	12
"Grade A" Milk (Tuberculin tested).....	50	32
"Grade A" Milk	11	9
	89	53

WATER EXAMINATIONS :—

Class I. (Colon bacilli not found in 100 cc. or less).....	62
Class II. (Colon bacilli found in 100 cc. but not in less)	70
Class III. (Colon bacilli found in 10 cc. but not in less)	50
Class IV. (Colon bacilli found in 1 cc. but not in less)..	7
	189

There is a notable improvement in the results of the bacteriological examination of the water samples compared with previous years, and the results for 1925 are, therefore, appended for comparison :—

1925.	Class I.	9
	Class II.	59
	Class III.	95
	Class IV.	18
		181

VENEREAL DISEASES :—

	Total.	Serological reactions.	Microscopical examinations.
From Treatment Centres	1,282	1,282	..
From Private Practitioners ...	1,025	909	116
TOTAL	2,307	2,191	116

OTHER EXAMINATIONS :—

(*a*) **Enteric Fever.**—2 specimens of urine and 51 specimens of fæces were received from the City Infectious Diseases Hospital and examined for organisms of the enteric group. Both of the first-named were negative.

From the fæces :—

B. typhosus was isolated in 9 examinations, including three successive examinations in one temporary carrier.

B. paratyphosus B. was isolated in 3 cases.

The remaining cases were negative as regards organisms of the enteric group, but

B. Morgan No. 1 was isolated in 5 cases,
B. pyocyaneus and B. proteus each in 1 case.

As in the previous year, a considerable proportion of the specimens came from acute cases.

5 specimens from sources other than the Hospital proved negative.

(*b*) The following examinations were also carried out for the City Hospital for Infectious Diseases, and reports furnished :—

4 specimens of urine,
2 specimens of C. S. Fluid,
1 specimen of pus, and
1 specimen from mastoid.

In addition an autogenous vaccine was prepared from the discharge in a case of mastoid disease.

(*c*) **Diphtheria.**—Virulence tests of the diphtheria bacilli from throats were carried out in 6 cases.

3 cases proved virulent.
3 cases proved non-virulent.

In 7 other cases no diphtheria bacilli were isolated.

(*d*) Of 24 shaving brushes submitted for examination for B. anthracis, one was found positive, and the remaining 23 proved to be negative.

(*e*) During July an investigation was carried out in connexion with an outbreak of suspected food-poisoning occurring in the West End of the City. The specimens consisted of :—

5 postmortem specimens.

1 sample of tomatoes.

9 agglutination tests on specimens of blood and

11 cultural examinations of fæces and agglutination tests of the organisms isolated, which proved to be B. dysenteriæ (Flexner).

A detailed report was furnished at the time.

(*f*) A number of inoculation experiments (9) were carried out to determine the presence of Leptospira Ictero Hæmorrhagica in apparently normal rats trapped on premises in the city. The examination of 8 rats gave 50 per cent. of positive results, but one specimen of urine from a patient suspected of suffering from infective jaundice was negative.

F. W. A. Clayton, M.D.,
Bacteriologist.

University of Durham College of Medicine,
14*th June,* 1927.

REPORTS OF THE
TUBERCULOSIS MEDICAL OFFICER
AND THE
MEDICAL SUPERINTENDENT OF BARRASFORD SANATORIUM.

IV.—TUBERCULOSIS.

TUBERCULOSIS DISPENSARY
INSTITUTIONAL TREATMENT.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

To the Medical Officer of Health.

Sir,

I herewith beg to submit my report on the work of the Tuberculosis Section for the year 1926.

Several new tables have been added, chiefly in accordance with Memo. 37/T of the Ministry of Health.

Compared with 1925, there has been an increase in the total number of notifications, and in attendances at the Tuberculosis Dispensary, while the death rate was slightly lower ; the non-pulmonary death rate being the lowest yet recorded.

The administration has not changed since the last Annual Report, and the relations with the General Practitioners and Institutions in the City has continued very satisfactory. Memo. 286, in connection with Insurance Practitioners, has now been put into full operation.

In accordance with recent instructions from the Ministry of Health, school children have been more referred to the School Medical Officers, and not kept under long periods of observation, as has formerly been done. In this connection, it is to be regretted that there is not a uniform Health Service, embracing School Medical work, the Union Hospital, etc., as, by its aid, overlapping could be avoided and better co-operation and use made of existing facilities.

There have been no changes in the methods of treatment at the Sanatorium Pavilions, Walker Gate. Rest in bed until the rectal temperature was normal has remained the essential before exercise was allowed.

Artificial pneumothorax has been induced in all suitable cases.

Sanocrysin has been used, but unfortunately expense prevented its extensive employment. It does not, however, appear to give the results that were at first anticipated.

The X-ray machine has continued to give very valuable service, and is in daily and constant use. In connection with it, to aid in diagnosis, intra-tracheal injections of lipiodol have been made.

Encouragement with regard to the housing problems of the City has been given by the action of the Housing Committee, who by arrangement with individual cases, provided rent could be paid, have given preference to a number of tuberculous and ex-sanatorium patients, thus enabling these persons to get a home in a healthy area of the town.

The Voluntary Tuberculosis Care Council has continued its very valuable work, without which "after care" and assisting needy cases would be exceedingly difficult. It has done much to prevent the spread of infection in the home by the lending of beds and bedding where necessary.

Since the establishment of the Tuberculosis Section of the Newcastle-upon-Tyne Health Department in 1913, records have been kept of all cases of pulmonary tuber-

culosis, where bacilli have been found in the sputum, who have produced offspring. This information has been recently reviewed and brought up to date, and the details are to be found at the end of this report (page 162).

Yours faithfully,

GEORGE HURRELL, M.D.,

Tuberculosis Medical Officer.

1*st May*, 1927.

REPORT.

Notifications.—973 notifications were received during the year but some were duplicates, so that the total number of new cases was 872, of whom 580 were certified to be suffering from 'pulmonary' and 292 fron 'non-pulmonary' tuberculosis.

The details as regards sex and age are given in the accompanying table.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD, 1ST JANUARY to 31ST DECEMBER, 1926.

AGE PERIODS.	Primary Notifications.												Total Notifications (including Cases previously notified by other doctors).	Number of Notifications on Form "B."				Number of Notifications on Form "C."		Number of Notifications on Form "D."	
	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	TOTAL.		Primary Notifications. Under 5.	5 to 10.	10 to 15.	TOTAL.	Total Notifications (including Cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.
Pulmonary—																					
Males	2	11	14	17	40	22	55	49	59	24	2	295	322	During the year the School Medical Officers referred all suspicious cases to the Tuberculosis Medical Officer.					26	257	16	220
Females	2	9	18	18	40	48	63	47	30	8	2	285	323						24	161	20	133
Non-Pulmonary—																					
Males	14	36	26	22	11	11	11	7	2	2	..	142	167						6	10	7	5
Females	5	47	24	31	16	12	5	4	4	..	2	150	161						4	5	1	6
TOTAL	23	103	82	88	107	93	134	107	95	34	6	872	973						60	433	44	364

Form "A."—Notification by any Medical Practitioner of a case of Tuberculosis (whether at an Institution or otherwise).

Form "B."—Notification by School Medical Officers of cases of Tuberculosis in children attending Public Elementary Schools of which he has become aware in the course of inspection.

Form "C."—Notification by the Medical Officers of Poor Law Institutions and Sanatoria of persons admitted who are suffering from Tuberculosis.

Form "D."—Notification by the Medical Officers of Poor Law Institutions and Sanatoria of persons discharged who are suffering from Tuberculosis.

As far as possible every notified case is visited by the nurses and urged to visit the Dispensary for examination and classification with a view to treatment.

Of the 872 cases notified, 547 attended the Dispensary and 182 others were visited in their homes by the Health Visitors in the course of the year. The names of the patients certified to have died from tuberculosis, but not previously notified, are entered in the notification register, so that if the 58 patients in this category be deducted it will be seen that the Dispensary gets into touch with most of the known cases of tuberculosis.

With reference to the 85 cases neither examined at the Dispensary nor visited by the nurses, some were living in institutions, or died before they could be visited, while others were notified at the end of the year, and were visited early in 1927.

A table has been prepared to illustrate these points, and also to show the nature of the institutional treatment afforded to the cases notified during 1926. While 236 of the 580 patients notified as suffering from pulmonary tuberculosis were treated in beds belonging to, or controlled by the City Council, it is particularly noteworthy that only 9 out of a total of 292 patients notified as suffering from forms of tuberculosis other than pulmonary were treated in such beds.

The number of patients dying in the year of notification is also given, and it will be seen that 27·8 per cent. of all the new cases died in the same year as they were notified.

NOTIFICATIONS OF TUBERCULOSIS DURING 1926.

Part Affected.	Notifications.	Attended Dispensary.	Visited by Nurse but not attended Dispensary.	Received Institutional Treatment.				Died during the Year.
				Barrasford Sanatorium.	Sanat. Pav. Walker Gate.	Stannington Sanatorium.	Total.	
Pulmonary (Male) ..	295	211	46	54	65	6	125	89
,, (Female).	285	198	46	27	81	3	111	86
Non-Pulmonary— (Male)	142	71	47	..	..	7	7	35
(Female)	150	67	43	..	..	2	2	33
TOTAL	872	547	182	81	146	18	245	243

The cases re-admitted to the Sanatorium Pavilions, Walker Gate, and transferred to Barrasford Sanatorium during the year, are counted as only receiving treatment on one occasion.

During the year 133 cases (approximately 15 per cent. of the total) were notified by the Dispensary Medical Staff.

Non-notified deaths were 9·9 per cent. of deaths from pulmonary tuberculosis.

Non-notified deaths were 34·5 per cent. of deaths from non-pulmonary tuberculosis.

Practitioners were written to by the Medical Officer of Health when notification appeared to have been neglected.

Deaths.—467 deaths were registered as due to some form of tuberculosis, and of these 329 were certified as due to pulmonary tuberculosis (including cases of acute phthisis) and 138 to other forms of the disease.

On these figures the death rates per 1,000 population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	329	1·16
Non-Pulmonary Tuberculosis	138	0·48
Total Tuberculosis Death Rate (uncorrected) ...	467	1·64

It must be noted, however, that 16 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (13 pulmonary ; 3 non-pulmonary), while 68 of the deaths (11 pulmonary ; 57 non-pulmonary) registered in Newcastle were those of temporary residents.

The corrected deaths and death rates per 1,000 of the population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	331	1·16
Non-Pulmonary	84	0·30
All forms of Tuberculosis (corrected)	415	1·46

The details as regards sex and age, together with the form of the disease, are given in the accompanying table :—

DEATHS FROM TUBERCULOSIS.—Sex and Age Distribution.

	Under 1 year.		1 and 2		3 and 4		5 to 10		10 to 15		15		16 to 20		20 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 70		70 and upwards		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Pulmonary Tuberculosis ...	1	1	3	5	1	1	1	2	4	9	2	4	16	14	24	26	44	28	35	30	31	15	11	6	3	..	1	2	177	143
Acute Phthisis	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	2	1	2	1	..	..	1	..	1	..	..	..	..	4	7
Acute Miliary Tuberculosis .	2	1	1	1	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	4	4
Tuberculous Meningitis.....	3	..	4	7	2	2	2	2	3	2	..	..	1	1	2	..	..	..	..	1	..	..	..	..	..	..	..	..	17	15
Abdominal Tuberculosis ...	2	1	2	4	..	2	..	2	..	1	..	1	..	1	2	1	..	..	1	..	..	..	..	..	..	..	..	..	7	13
Spinal Column	..	..	..	..	..	..	..	..	..	1	..	..	..	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	3	2
Tuberculosis of Joints	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	3	1
Tuberculosis of other Organs	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	3	1
Disseminated Tuberculosis..	1	..	..	..	..	..	..	..	1	..	1	..	..	1	2	..	..	1	1	..	..	..	1	1	..	..	..	1	7	4
Total	9	3	11	17	3	6	3	6	9	13	3	6	19	18	35	29	46	32	40	31	31	17	12	8	3	..	1	4	225	190

80·7 per cent. of the ' lung ' cases were known to the dispensary staff, 222 having visited the dispensary and an additional 45 having been attended in their homes by the visiting nurses.

Only 30·9 per cent. of the ' non-pulmonary ' were attended at or from the dispensary. The proportion is much too low ; the main reason is that 34·5 per cent. of the non-pulmonary cases were not notified before death (see later).

Of 331 deaths from pulmonary tuberculosis the diagnosis was verified bacteriologically in 219 instances, *i.e.*, 66·1 per cent.

65 of the sputum positive cases who died during the year were notified by the dispensary staff.

6 other dispensary patients who were known to be suffering from pulmonary tuberculosis and in whose sputum tubercle bacilli had been found, died during the year, the causes of death being registered as cardiac disease in 2 cases, chronic bronchitis, miliary tuberculosis, general tuberculosis, and senility in 1 case each.

Duration of Illness.—Wherever possible, in pulmonary cases, enquiry was made as to the length of time the deceased had been ill, and the average duration of illness was found to be 39·7 months. As in previous years, important differences were discovered when age and sex were considered, the figures being 43·9 months for adult males, 39·2 months for adult females, and 9·7 months for those below 15 years of age (both sexes).

The period between notification and death was, as one would expect, longer in the adult males than in the adult females and children, but averaged 20·5 months for all cases.

As the duration of illness for all cases was 39·7 months, each patient who died during the year must, on the average, have been ill for 19 months before notification.

37·1 per cent. of the patients had either not been notified prior to death (9·9 per cent.), or died within 3 months of notification (27·2 per cent.).

Further details and comparative figures for previous years are submitted in the following table :—

RETURN OF DEATHS FROM TUBERCULOSIS OF THE LUNGS OCCURRING IN :—

	Deaths which occurred in these years.								
	Average for 1913—17.	Average for 1918—22.	1923.	1924.	1925.	1926.			
						M.	F.	Children.	Total.
Persons not notified	43	51	42	37	26	16	11	6	33
,, notified under 1 month .	35	47	51	53	62	19	20	9	48
,, between 1 and 3 ,,	94	48	42	43	43	22	15	5	42
,, between 3 and 6 ,,	53	30	44	27	43	26	14	4	44
Total under 6 months	226	183	179	160	174	83	60	24	167
Persons notified between 6 and 12 months ..	47	46	37	39	46	17	18	2	37
,, 12 and 18 ,, ..	28	21	23	29	21	7	10	2	19
,, 18 and 24 ,, ..	15	15	14	17	20	8	12	..	20
,, 2 and 3 years	20	18	19	25	22	15	9	1	25
,, over 3 years	21	47	39	52	60	41	22	..	63
TOTAL	357	331	311	322	343	171	131	29	331

The figures for non-pulmonary forms of tuberculosis were even worse, for in 29 instances out of the 84 deaths, the disease had not been notified prior to death.

The records show that 25 of the 33 fatal unnotified cases of pulmonary tuberculosis, and 23 of the 29 fatal unnotified cases of non-pulmonary tuberculosis, died in hospitals ; included in the 23 " other forms " were 15 cases of tuberculous meningitis.

Occupation.—The nature of the work done and the conditions under which it is carried on have an important bearing on the incidence of disease, and probably account for the excess of adult male over adult female deaths from pulmonary tuberculosis.

149 ' insured persons ' (122 males and 27 females) are included in the 331 deaths.

59 of the males were ex-Service men.

Family History.—In 103 instances amongst the 285 cases investigated after death, *i.e.*, in 36·1 per cent., there was a history that some near relation was suffering from, or had died of pulmonary tuberculosis. The figures were 33·1 for men, 39·8 for women.

House Accommodation.—The home conditions of the working classes are intimately associated with occupation and family history as predisposing to tuberculosis

The numbers of rooms in the dwellings occupied by 285 persons who died of pulmonary tuberculosis were as follows :—

Rooms in Dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Total.
Deaths	49	80	71	48	35	2	285

As regards the type of house occupied 141 were flats, 95 tenements, 47 self-contained, and 2 were common lodging houses.

Treatment in Institutions.—It is noteworthy that of the 233 patients suffering from pulmonary tuberculosis who attended the Dispensary and died in 1926

189, or 81 per cent., had received institutional treatment on one or more occasions. This is a high percentage, and shows what a large proportion of the cases visiting the Dispensary avail themselves of the accommodation provided.

Ward Distribution.—As in previous years a table is presented to show the ward distribution of tuberculosis during 1926. The estimated population of each ward is given, together with the number of notifications and deaths, and the rates per thousand living.

Of course the figures for one year are relatively small, and the rates may show great fluctuation from year to year, but when an average is taken over a period it is apparent at once that the death rate and notified incidence are both much higher in the poorer and more congested wards of the City.

Considerations of space prevent the publication of all the figures, but, while the tuberculosis death-rate for the City in 1926 was 1·46 the average for the ten years 1917-26 for St. Nicholas' Ward was 2·22, and for All Saints' 2·40, whereas the corresponding figures for St. Thomas' and Jesmond Wards were 0·86 and 0·70 respectively. When one ward shows, over a period of years, a death rate from tuberculosis more than three times as great as that of another ward of the same city, it is obvious that there is great scope for preventive measures in tackling tuberculosis, and that further careful consideration of the problem is warranted.

The following table shows the number of positive cases living in one, two, three, four, and more than four roomed houses, and also the total number of persons

living under these conditions. It will be seen that the largest number of cases occur in two and three roomed houses. This point in conjunction with the Ward distribution of the disease emphasises the necessity of improving the homes of the people in order to stamp out tuberculosis.

Housing Conditions of Sputum Positive Cases.

Holding.	Number of Cases.	Number of Persons.	Average number of persons to one Room.
1 Room	64	189	2·95
2 Rooms	161	685	2·12
3 Rooms	156	746	1·59
4 Rooms	146	729	1·25
More than 4 Rooms	92	474	1·03
TOTAL	619	2,823	1·49

In 15 instances there were 2 cases in one house.

In 1 instance there were 3 cases in one house.

WARD DISTRIBUTION OF TUBERCULOSIS, 1926.

WARD.	Population 1926.	NOTIFICATIONS.						DEATHS.						New Patients Dispensary Register
		Pulmonary	Attack rate per 1,000 of population.	Non-Pulmonary	Attack rate per 1,000 of population.	Total.	Attack rate per 1,000 of population.	Pulmonary	Death rate per 1,000 of population.	Non-Pulmonary	Death rate per 1,000 of population.	Total.	Death rate per 1,000 of population.	
St. Nicholas'	3,658	6	1·64	2	0·54	8	2·18	8	2·18	..	..	8	2·18	8
St. Thomas'	14,658	16	1·09	9	0·61	25	1·70	11	0·74	5	0·35	16	1·09	25
St. John's	15,742	35	2·22	20	1·27	55	3·49	24	1·52	6	0·38	30	1·90	68
Stephenson	19,226	37	1·92	22	1·15	59	3·07	21	1·09	7	0·36	28	1·45	70
Armstrong	16,021	54	3·37	17	1·06	71	4·43	22	1·37	1	0·06	23	1·43	92
Elswick	12,978	19	1·46	4	0·31	23	1·77	13	1·00	2	0·16	15	1·16	27
Westgate	15,654	34	2·17	20	1·28	54	3·45	23	1·47	4	0·25	27	1·72	53
Arthur's Hill	11,717	11	0·94	4	0·34	15	1·28	14	1·20	..	..	14	1·20	17
Benwell	18,844	44	2·33	24	1·27	68	3·60	13	0·69	10	0·53	23	1·22	91
Fenham	12,536	18	1·43	7	0·56	25	1·99	11	0·87	5	0·40	16	1·27	32
All Saints'	18,150	68	3·75	42	2·31	110	6·06	35	1·93	13	0·71	48	2·64	86
St. Andrew's	12,794	31	2·42	8	0·62	39	3·04	16	1·25	4	0·31	20	1·56	47
Jesmond	11,450	12	1·05	2	0·17	14	1·22	7	0·61	1	0·09	8	0·70	7
Dene	13,244	7	0·53	2	0·15	9	0·68	7	0·53	2	0·15	9	0·68	9
Heaton	15,897	27	1·69	6	0·38	33	2·07	15	0·94	..	..	15	0·94	35
Byker	17,939	30	1·67	22	1·23	52	2·90	16	0·89	7	0·39	23	1·28	79
St. Lawrence	18,375	48	2·61	21	1·14	69	3·75	25	1·36	8	0·45	33	1·79	106
St. Anthony's	16,182	43	2·65	23	1·42	66	4·07	25	1·54	1	0·06	26	1·60	81
Walker	19,635	40	2·04	37	1·88	77	3·92	25	1·27	8	0·41	33	1·68	84
City	284,700	580	2·03	292	1·02	872	3·05	331	1·16	84	0·30	415	1·46	1017

* Note.—Deaths occurring in Public Institutions have been allocated in every case to the Wards in which they resided.

The Tuberculosis Dispensary.

The number of new patients entered on the register was 992. In addition there were 25 cases who had been discontinued previous to the year 1925, and are counted as new cases in accordance with instructions in Memo. 37/T, making a total of 1,017 cases.

485 of them were sent direct by general practitioners, 347 were referred to the dispensary by the visiting nurses, 30 by the School Medical Officers, and the remainder came from various sources, *e.g.*, Royal Victoria Infirmary 47, Citizen's Service Society, etc.

419 had been notified previously, and the balance, 598, of whom 133 were notified by the Dispensary Medical Staff, were suspects, or contacts of known cases. Of the last mentioned category 179 had lived with patients known to have bacilliferous sputum, and 74 were home contacts of persons certified to have died of pulmonary tuberculosis. The following table gives the details of the new cases, including contacts :—

NEW CASES EXAMINED, INCLUDING CONTACTS, DURING THE YEAR 1926.
(Table I., Sect. A. & B., Memo. 37/T.).

Diagnosis.	Males.		Females.		Total.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis	141	10	127	8	286
Non-Pulmonary Tuberculosis .	12	29	20	26	87
Diagnosis not completed after one month's observation ...	30	29	47	29	135
Non-Tuberculous	148	126	119	116	509
	331	194	313	179	1,017

In respect of these new patients, after observation it was found that 64 per cent. were not suffering from active tuberculosis.

367 were 'insured persons,' and 543 were dependents of 'insured persons,' leaving only 107 of the uninsured classes.

2,510 patients visited the dispensary during the course of the year, and registered 8,508 attendances, an average of over 3 per patient.

The total number of complete physical examinations made was 2,176, including 847 males, out of 1,987 attendances; 639 females, out of 1,496 attendances; and 690 children out of 2,849 attendances; giving an average of 1 every 3 visits for adults, and every 4 for children.

27·7 per cent. of the cases had been verified bacteriologically—45·5 per cent. of the males, 36·5 per cent. of the females, and only 1·9 per cent. of those under 15 years of age. The details are tabulated below :—

Sputum Examination.	Number of Patients who attended the Dispensary during the Year 1926.			
	Total.	Males.	Females.	Under 15 years of age.
Bacilli found	695	416	262	17
Bacilli *not* found	1,815	498	438	879
TOTAL	2,510	914	700	896

Sputum Positive Cases.—The number of living sputum positive cases on the Dispensary Register on January 1st, 1926, was 672; during the year 137 of these died, and also 67 patients in whose sputa tubercle bacilli were found in the course of the year. In addition 73 cases were written off the Dispensary Register as cured, or left the district.

224 cases were added to the register, making a total at the end of the year of 619, consisting of 379 males, (including 146 ex-service men), 227 females and 13 children.

531 of these patients visited the Dispensary during the year. Of the 88 who failed to attend 56 were reported by the nurses to be working or fit for work; 17 were moderately well, while 10 had relapsed, and were mostly confined to bed; in respect of the remaining 5 no information could be obtained.

In 4 instances Sanatorium treatment had been refused, but 63 patients had been treated at Barrasford Sanatorium, or the Sanatorium Pavilions, Walker Gate.

The year of the original booking of all the sputum positive cases is given in the following table :—

YEAR PATIENTS FIRST ATTENDED DISPENSARY.
(Cases with Tubercle Bacilli in Sputum.)

1913.		1914.		1915.		1916.		1917.		1918.		1919.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
9	4	7	9	10	8	9	8	11	10	16	5	14	7

1920.		1921.		1922.		1923.		1924.		1925.		1926.		Total.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
32	6	23	8	31	14	40	16	38	31	69	33	77	74	386	233

"Negative" Cases.—The records of the patients in respect of whom no tubercle bacilli have been found in the sputum are filed separately from those of the sputum positive cases, and 1,815 patients in this category attended during the year. This number included 958 males and 857 females. The preponderance of male cases was nothing like so pronounced as in the sputum

positive group, and it is noteworthy that children were much more numerous, constituting 48·4 per cent. of the total as opposed to 2·4 per cent. of the bacteriologically verified cases. The majority of these "negative" cases were "suspects" or "contacts."

1,591 "negative" cases were removed from the Dispensary Register, and the details are given in the following table :—

"NEGATIVE" CASES WRITTEN OFF THE DISPENSARY REGISTER DURING THE YEAR 1926.
(Table I., Sect. C., Memo. 37/T.)

DIAGNOSIS.	MALES.		FEMALES.		TOTAL.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis, Cured	28	2	8	1	39
Non-Pulm. Tuberculosis, Cured	16	7	9	11	43
Non-Tuberculous.....	394	286	348	231	1,259
Left District, Lost sight of, or will not attend Dispensary ..	82	46	79	43	250
	520	341	444	286	1,591

The number of "negative" patients on the Dispensary Register at the end of the year are tabulated below :—

NUMBER OF "NEGATIVE" CASES ON DISPENSARY REGISTER AT END OF YEAR 1926.
(Table I., Sect. D., Memo. 37/T.)

DIAGNOSIS.	MALES.		FEMALES.		TOTAL.
	Over 15 yrs.	Under 15 yrs.	Over 15 yrs.	Under 15 yrs.	
Pulmonary Tuberculosis	97	15	59	13	184
Non-Pulmonary Tuberculosis ..	44	73	56	67	240
Diagnosis Not Completed	141	223	151	223	738
	282	311	266	303	1,162

Relations with other Departments, etc.— The majority of new cases entered on the Dispensary Register were referred either directly by the local doctors (47·5 per cent.) or else by the visiting nurses after notification (34 per cent.).

In many cases it was considered that more appropriate treatment or advice could be given elsewhere, and 332 letters of recommendation were given to other departments, hospitals or charitable agencies.

Thus 132 cases were referred to the Voluntary Tuberculosis Care Council, 48 to the Citizens' Service Society, 29 to the United Services Fund, 23 to the Principal School Medical Officer, 29 to the Board of Guardians, 30 to the Royal Victoria Infirmary, 16 to the Housing Committee, 12 to the Maternity and Child Welfare Department, and smaller numbers to the Dental Hospital, etc.

Every effort is made to verify each notified case by bacteriological means, and during the year 1,175 specimens of sputum were examined at the Dispensary.

Of this number 286 were found to contain tubercle bacilli, while 889 gave negative results.

In addition 630 samples of sputum were sent, for examination, to the College of Medicine by the medical practitioners of the City.

Of these 114 proved positive, and 516 negative.

Work of the Nurses.—1,173 new patients were seen as against 996 in 1925, and 10,339 subsequent visits were made, giving a grand total of 11,512 for the year.

1,575 of these visits were paid to ex-Service men.

The number of patients on the Nurses' lists on December 31st, 1926, was 2,086, comprising 758 males (including 229 ex-Service men), 599 females, and 729 children.

In 617 cases tubercle bacilli had been found in the sputum, and special attention has always been paid to these infective cases.

They are visited at least once monthly, and their contacts are kept under the closest possible supervision.

During the year, the names of 1,379 patients were removed from the nurses' lists ; this total includes 340 deaths (220 sputum positive and 120 negatives).

Visits to 1,039 patients were discontinued on the instruction of the Tuberculosis Medical Officer ; of these only 72 were sputum positive cases, while 967 were negatives.

54 sputum positive cases were discontinued because there was no longer evidence of active disease, and in addition 18 left the district and were also discontinued.

In the vast majority of the negative cases the names were removed because there was no evidence of active tuberculosis.

The Work of the Sanitary Inspector.—This officer disinfects houses after deaths or changes of address of persons suffering from pulmonary tuberculosis, arranges for the removal and disinfection of patients' clothing and bedding, and reports on any insanitary conditions existing in the homes of dispensary patients, such as overcrowding, insufficient ventilation, or defective sanitary arrangements.

The details of his work were as follows :—

Houses visited		731
Houses disinfected (total)		702
For patients going to Sanatoria	134	
For patients changing their address	72	
For patients going to Hospital	318	
After death	178	
Rooms disinfected in above houses		798
Total number of visits		1430

The types of houses disinfected were as follows :— one roomed, 54 ; two-roomed, 185 ; three-roomed, 201 ; four-roomed, 148 ; more than four rooms, 114.

Houses found to have sanitary defects (including overcrowding) and referred to the Senior Sanitary Inspector	124

INSTITUTIONAL TREATMENT.

55 beds were provided at Barrasford Sanatorium for early or moderately advanced cases of pulmonary tuberculosis, 92 beds were available for more advanced or emergency cases at the Sanatorium Pavilions at the City Hospital, Walker Gate, while at Stannington Sanatorium (Private Sanatorium) 30 beds were maintained for the treatment of tuberculous children.

Barrasford Sanatorium.—131 patients (94 men and 37 women) were admitted in the course of the year, including 5 " suspects " sent for observation purposes ; 12 were suffering from pleurisy with effusion, and of the remainder, 9 were classified at the Dispensary as being in Stage I., 84 in Stage II., and 21 in Stage III.

Details of the admissions and discharges are given in the following table. The total number of days, and average length of stay is given in the table on page 166 :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM DURING THE YEAR 1926.
(Table II. B., Memo. 37/T.)

	Sex.	In Barrasford Sanat'm on 1st January, 1926.	Admitted during the Year.	Discharged during the Year.	In Barrasford Sanat'm on 31st December, 1926.
Patients	M.	32	91	100	23
Do.	F.	14	35	37	12
Observation Cases	M.	1	3	4	..
Do.	F.	..	2	2	..
TOTAL		47	131	143	35

2 Patients were re-admitted, and are counted as 4 admissions.

Of the 6 patients who had been under observation, 3 were found to be suffering from tuberculosis.

The results of treatment in the institution were satisfactory, and the condition of the patients on discharge was as follows :—

RESULTS.	Males.	Females.	TOTAL.
Fit to Work	46	22	68
Improved	42	10	52
Without Improvement	16	7	23
TOTAL	104	39	143

Each discharged patient is visited at frequent intervals by one of the Dispensary Staff and is encouraged to report periodically so that he can be examined and records kept.

In the next table a summary is given of the condition on December 31st, 1926, of all the patients treated at the Corporation expense since 1908. It will be noticed that most of the earlier cases are returned as dead or untraceable :—

Patients who received Treatment in Barrasford Sanatorium, and the Results.

Year.	Number of Patients discharged from Barrasford Sanatorium.	Males.	Females.	Condition at end of Year 1926.					Total Number of days in the Sanatorium.	Average number of days in the Sanatorium.
				Well, working or fit to work.	Improved or moderately well.	Relapsed.	Dead.	Lost sight of, or left the district.		
1909	55	34	21	2	2	..	39	12	6,260	114
1910	63	40	23	6	3	..	39	15	6,471	101
1911	72	46	26	10	2	1	48	11	6,868	97
1912	67	47	20	6	1	..	40	20	5,396	81
1913	85	58	27	10	..	1	48	26	9,567	112
1914	78	59	19	19	1	..	43	15	9,723	124
1915	74	54	20	9	4	1	39	21	10,803	146
1916	64	45	19	7	3	..	40	14	10,005	156
1917	68	45	23	15	3	1	33	16	10,603	156
1918	89	81	8	23	4	1	46	15	11,926	134
1919	107	85	22	25	6	1	59	16	14,207	133
1920	131	105	26	42	8	1	59	21	17,127	129
1921	112	88	24	26	9	1	63	13	13,544	122
1922	77	58	19	21	7	3	37	9	10,515	136
1923	100	76	24	35	10	3	44	8	14,062	140
1924	94	66	28	30	20	6	31	7	13,254	141
1925	109	70	39	58	15	6	29	1	15,716	144
1926	143	104	39	94	30	7	11	1	19,518	136
Total ..	1,588	1,161	427	438	128	33	748	241	..	..
Received treatment in previous years ..	111	80	31	31	26	3	45	6	..	..
Nett Cases	1,477	1,081	396	407	102	30	703	235	205,565	129

Sputum Positive Cases.—The appearance of tubercle bacilli in the sputum indicates that there is active destruction of lung tissue, but it must be recognised that there is always a doubt about any case in which the diagnosis has not been verified bacteriologically.

Accordingly the bacterial history of each patient admitted to Barrasford Sanatorium has been investigated as thoroughly as possible, and the results are tabulated below :—

BACTERIAL HISTORY OF PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM.

YEAR.	Persons discharged from Barrasford Sanatorium.			Number who had Tubercle Bacilli found in the Sputum after discharge.	Persons deceased at the end of the year.				Cases who had Tubercle Bacilli in the Sputum and could not be traced at end of Year.
	TOTAL Nett Cases.	Number who had Tubercle Bacilli found in the Sputum.	Number who had *not* Tubercle Bacilli found in the Sputum.		TOTAL.	Tubercle Bacilli found in the Sputum before or during treatment.	Tubercle Bacilli found in the Sputum after discharge.	No record of Tubercle Bacilli ever found in Sputum.	
1909	55	35	20	2	39	31	2	6	2
1910	63	45	18	3	39	32	3	4	9
1911	67	45	22	6	44	36	4	4	6
1912	63	36	27	10	37	26	6	5	9
1913	81	52	29	3	47	38	3	6	10
1914	74	53	21	2	41	37	2	2	5
1915	73	51	22	3	38	33	3	2	7
1916	63	47	16	3	40	35	3	2	7
1917	64	42	22	5	30	25	3	2	6
1918	83	55	28	4	44	39	2	3	9
1919	102	82	20	4	56	54	2	..	10
1920	127	89	38	3	58	55	1	2	7
1921	106	84	22	4	58	52	3	3	6
1922	64	49	15	2	33	29	1	3	3
1923	95	77	18	1	41	39	1	1	7
1924	84	70	14	..	25	25	..	..	3
1925	89	71	18	..	22	20	..	2	1
1926	124	104	20	..	11	10	..	1	1
TOTAL	1,477	1,087	390	55	703	616	39	48	108

The very heavy mortality experienced by the bacteriologically verified cases shows how serious is the finding of tubercle bacilli in the sputa of patients of the industrial classes.

STANNINGTON SANATORIUM.

The 30 beds were kept fully occupied throughout the year, and 47 patients completed treatment.

The details appear below :—

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM DURING YEAR 1926.

	In Sanatorium on 1st Jan., 1926.	Admitted during the Year.	Persons who completed Treatment during the year.			In Sanatorium on 31st Dec. 1926.
			Number	Total Number of Days	Average length of stay in Days.	
Males	16	26	23	4,596	199	19
Females	13	22	24	6,455	269	11
TOTAL	29	48	47	11,051	235	30

In nearly every case great benefit accrued to the patient, as is shown in the following return :—

	Males.	Females.	Total.
Disease quiescent	17	19	36
Improved	5	4	9
Without Improvement	1	1	2
TOTAL	23	24	47

SANATORIUM PAVILIONS, WALKER GATE.

The 92 beds were kept fully occupied, and at times there were patients awaiting admission. 254 patients were admitted, and of these 59 were ex-service men. 109, *i.e.*, 43 per cent. of the new cases admitted, were

female patients, which ranks with last year as the highest proportion of female cases admitted in any year.

Details of the number of patients admitted and discharged are given in the accompanying table :—

PATIENTS WHO RECEIVED TREATMENT IN THE SANATORIUM PAVILIONS, WALKER GATE, DURING THE YEAR 1926.

(Table II. B., Memo. 37/T.)

		Sex.	In Institution on 1st January 1926.	Admitted during the Year.	Discharged during the Year.	Died in Institution during the Year.	In Institution on 31st Dec., 1926.
Number of Patients.	Adults ..	M.	38	120	86	36	36
	Do.	F.	32	89	61	25	35
	Children .	M.	7	4	5	2	4
	Do.	F.	2	8	5	3	2
Observation Cases.	Adults ..	M.	2	14	13	2	1
	Do.	F.	..	8	8	..	..
	Children .	M.	..	7	4	..	3
	Do.	F.	1	4	3	1	1
TOTAL ..	..	..	82	254	185	69	82

N.B.—7 patients were re-admitted and are counted as 14 admissions.

Of the 31 patients who had been under observation 12 were found to be suffering from tuberculosis.

The total number of days of those who received treatment was 29,847, giving an average length of stay of 117 days.

Treatment has been on Sanatorium lines, modified to some extent in view of the type of patient ; the essentials are the same, however, namely, rest and good food under satisfactory hygienic conditions, with exercise graduated to the patient's tolerance.

There were 3 initial inductions of artificial Pneumothorax and 186 refills performed at Walker Gate Sanatorium during the year.

Since the year 1922, 135 patients have received this form of treatment at Walker Gate Sanatorium, and 68 at Barrasford Sanatorium.

69 patients, all of whom were residents of Newcastle, died in the institution; the condition of the other patients on discharge is given in the table below :—

	Males.	Females.	Total.
Improved	81	55	136
Without Improvement	27	22	49
Died in Hospital	40	29	69
TOTAL	148	106	254

Many of those discharged "improved" were fit for light work, while 12 were transferred to Barrasford Sanatorium.

Other Institutions.—Numerous cases of surgical tuberculosis were treated in the general hospitals, *e.g.*, the Royal Victoria Infirmary and the Fleming Memorial Hospital. In addition, 122 patients admitted to the Poor Law Institution (Wingrove Hospital) were notified as suffering from tuberculosis; 103 of these (53 males and 50 females) being lung cases and 19 (11 males and 8 females) suffering from non-pulmonary tuberculosis.

Deaths in Institutions.—208 of the deaths from tuberculosis (162 "lungs" and 46 "other forms") occurred in institutions. As previously mentioned 69 patients died in Walker Gate Hospital from pulmonary tuberculosis, in addition 8 non-pulmonary cases died in that institution. 87 patients (72 "lungs" and 15 "other forms") died in Wingrove Hospital, 17 patients (7 "lungs" and 10 "other forms") in the Royal Victoria Infirmary, 9 patients (4 "lungs" and 5 "other forms") in the Fleming Memorial Hospital, and 18 patients in other institutions.

The various activities of the Tuberculosis Section have been summarised, and are set out on page 163, together with the corresponding figures for previous years.

TUBERCULOSIS AND FECUNDITY, 1913-1926.

Number of T.B. Positive Mothers who had children			64
,, ,, ,, ,,	dead	35	
,, ,, ,, ,,	discharged as cured	1	
,, ,, ,, ,,	left district	1	
Number of Children born of above			78
,, ,,	dead		28
,, ,,	alive		50
,, ,,	said to be well	29	
,, ,,	delicate	1	
,, ,,	Tuberculous Glands	1	
,, ,,	not traced	19	
		—	50
Mothers pregnant			1
Children under 5 Years of Age			35
Mothers who had 2 children			8
,, ,, 4 ,,			2
Cases where Tubercle Bacilli were not found until after confinement			14

Cause of Death of Children.

Tuberculosis	6	Cause Unknown	5	Meningitis	1
Mastoid Abscess	1	Pneumonia	1	Gastritis	1
Marasmus	3	Premature Birth	1	Miscarriages	4
Stillborn	3	Died in Pregnancy	2	Total	28

Number of T.B. Positive Fathers who had children			105
,, ,, ,, ,,	dead	50	
,, ,, ,, ,,	discharged as cured	7	
,, ,, ,, ,,	left district	6	
Number of Children born of above			144
,, ,,	dead		25
,, ,,	alive		119
,, ,,	said to be well	78	
,, ,,	said to be delicate	5	
,, ,,	Tuberculous Bowels	1	
,, ,,	not traced	35	
		—	119
Wife Pregnant			1
Children under 5 Years of Age			98
Fathers had 2 children			22
,, ,, 3 ,,			7
,, ,, 4 ,,			1

Cause of Death of Children.

Pneumonia	9	Convulsions	3	Cause Unknown	3
Tuberculosis	2	Debility	1	Meningitis	3
Premature	1	Stillborn	3	Total	25

TUBERCULOSIS SECTION.

Summary of Work Done.

	Average for 5 years.		1923	1924	1925	1926
	1913-17	1918-22				
Notifications ..... Total	1013	786	833	812	849	872
Pulmonary	661	538	544	540	546	580
Non-Pulmonary.....	352	248	289	272	303	292
Notified by Disp. Med. Staff..	174	184	170	163	146	133
Deaths (Corrected)..... Total	536	469	414	421	444	415
Pulmonary	382	354	311	322	343	331
Non-Pulmonary.....	154	115	103	99	101	84
Attendances at Dispensary.....	6777	10588	8758	8476	8043	8508
New Patients	899	919	925	954	937	1017
Barrasford Sanatorium						
Admitted.....	74	105	93	99	121	131
Discharged	74	103	100	94	109	143
Stannington Sanatorium.						
Admitted.....	58	44	37	41	45	48
Discharged	52	44	37	41	46	47
Sanatorium Pavilions, Walker Gate.						
Admitted.....	92	187	211	304	336	254
Discharged	62	134	153	222	250	185
Died	23	48	46	63	89	69
Bacteriological Exams.						
College of Med.....Total	690	604	602	639	595	630
Sputum—Positive	177	138	107	114	113	114
Negative	513	466	495	525	482	516
Dispensary ..... Total	678	1546	1713	1454	1375	1175
Sputum—Positive	151	343	387	298	267	286
Negative	527	1203	1326	1156	1108	889
Urine Examinations	586	921	944	936	929	1024
Evening Consultations.						
Attendances	1023	1378	961	888	807	765
New Patients	99	63	32	47	46	47
Work of Nurses.						
New Patients	800	632	934	1023	996	1173
Subsequent Visits	5362	11295	11969	11885	11309	10339
Total Visits	6162	11927	12903	12908	12305	11512
Special Inspector's Visits.....	1560	1016	1145	1300	1406	1430
Houses Disinfected	533	513	687	721	753	702
Rooms Disinfected	853	578	740	846	856	798
Sanitary Defects—						
Houses.....	38	68	109	177	210	124

BARRASFORD SANATORIUM.

Report of the Medical Superintendent.

To the Medical Officer of Health.

Sir,

Herewith is submitted a report of the work at Barrasford Sanatorium during the year 1926.

Unfortunately there has still been no real advance in the treatment of pulmonary tuberculosis, and the conditions of sanatorium life have not altered to any degree. The efficiently run sanatorium is still the most important agent in the treatment of the tuberculous sick. The sanatorium is able to restore the general health of the majority of the sufferers from pulmonary tuberculosis who are sent with reasonably limited disease. In the absence of a definite cure, as, for example, exists for diphtheria, all that can be done is to place the sufferer under such conditions that his own inherent powers of resistance can be utilised to the utmost, and it is with this end in view that the routine of sanatorium treatment is designed. The type of resistance, good, indifferent, or poor, is the important factor in the outlook of any individual case, rather than the extent of disease.

The sanatorium seeks to put the patient under the best therapeutic conditions by the employment of rest, food, graduated exercise, and other agents, amongst which may be included fresh air, sunlight, and medicines. Of all the factors, the two of outstanding value are rest and food ; without these an individual

with active tuberculous disease of the lungs stands little chance of making a recovery. It might be thought that these agencies could be utilised in the homes with the same results as are seen in the sanatoriums, but unfortunately this does not seem to be the case—the supervision and experience of a tuberculosis physician being apparently essential. This is particularly the case in the matter of the enforcement of rest and in the detection of a raised temperature, when rest becomes the prime factor.

As before, the library has been used to a great extent by the patients, and it has been augmented by gifts from the British Red Cross Society, and from numerous private contributors.

The X-ray plant has been used extensively, and has been of the greatest assistance in the clinical work. A great number of screen examinations were made in the course of the artificial pneumothorax work, and 207 radiographs of the chest were completed and filed.

Admissions.—The number of incoming cases was 13 less than in 1925, and is accounted for by fewer cases being sent from outside authorities. Newcastle itself had 10 more admissions than in 1925.

29 of the cases admitted during the year had been in the sanatorium previously, and were disposed as follows :—

Newcastle Corporation	18 out of 131
Gateshead Corporation	6 out of 38
Northumberland County Council	2 out of 4
West Hartlepool Corporation	2 out of 24
South Shields Corporation.....	1 out of 1

ADMISSIONS TO THE SANATORIUM DURING 1926.

Authority.	Male.	Female.	Total.
*Newcastle Corporation	94	37	131
Northumberland County Council	4	..	4
Gateshead Corporation	38	..	38
Tynemouth Corporation	3	4	7
West Hartlepool Corporation	17	7	24
South Shields Corporation	1	..	1
Tynemouth Union	..	1	1
Armstrong, Whitworth's Employés' Medical Fund	1	..	1
Private Cases	4	3	7
Durham County Council	..	10	10
Post Office Sanatorium Society	4	..	4
	166	62	228
During 1925	182	59	241
During 1924	150	51	201
During 1923	155	52	207
During 1922	212	55	267
During 1921	220	60	280

* Includes 2 cases admitted twice during the year, and counted as 4 admissions.

Discharges.—The number of cases discharged was approximately as in the previous 12 months. There was only one summary dismissal from the sanatorium during the year, the first since prior to the Corporation taking over the institution in February, 1921. On the whole, the Medical Superintendent's recommendations as to the length of treatment were accepted willingly.

No case died in the sanatorium during the year.

12 cases were discharged soon after admission, at periods varying from 6 to 71 days, as they appeared to be too ill to justify their being retained in the sanatorium, and 7 of these are known to have died.

DISCHARGES FROM THE SANATORIUM DURING 1926.

Authority.	Male.	Female.	Total.
Newcastle Corporation	104	39	143
Northumberland County Council	3	..	3
*Gateshead Corporation	38	..	38
Tynemouth Corporation	4	3	7
West Hartlepool Corporation	13	7	20
South Shields Corporation	1	..	1
Durham County Council	..	8	8
Tynemouth Union	..	1	1
Armstrong, Whitworth Employés' Medical Fund	1	1	2
Private Cases	5	2	7
Post Office Sanatorium Society	3	..	3
	172	61	233
During 1925	171	57	228
During 1924	152	46	198
During 1923	167	52	219
During 1922	229	65	294
During 1921	212	62	274

* One case discharged twice and counted as 2 discharges.

SUMMARY OF MOVEMENTS OF PATIENTS DURING 1926.

Authority.	In residence night of Dec. 31st, 1925.	Admitted during 1926.	Discharged during 1926.	In residence night of Dec. 31st, 1926.
Newcastle Corporation	47	131	143	35
Northumberland County Council	..	4	3	1
Gateshead Corporation	10	38	38	10
Tynemouth Corporation	3	7	7	3
West Hartlepool Corporation	5	24	20	9
South Shields Corporation	..	1	1	..
Tynemouth Union	..	1	1	..
Armstrong, Whitworth Employés' Medical Fund	1	1	2	..
Private Cases	2	7	7	2
Post Office Sanatorium Society	..	4	3	1
Durham County Council	2	10	8	4
	70	228	233	65

The particulars of patients and the results of their treatment, which are set out later, are based on the discharged, *i.e.*, the completed cases.

Of the 233 cases discharged from the sanatorium during the year, one was a case of non-pulmonary tuberculosis, 18 were judged not to be suffering from clinical tuberculosis of the lungs, and these are excluded from the particulars and results of treatment which follow later, and which refer only to the 214 cases of definite tuberculosis of the lungs or pleuræ. Only 8 cases sent from the Newcastle Tuberculosis Dispensary were judged to be not suffering from active pulmonary tuberculosis.

Some details of the 214 definite cases discharged during the year are set out :—

SOCIAL STATUS.

	Male.	Female.	Total.
Single	71	43	114
Married	81	14	95
Widowers	4	..	4
Widows	..	1	1
TOTAL	156	58	214

AGE.

Years.	Male.	Female.	Total.
16—20	19	13	32
20—25	31	17	48
25—30	21	16	37
30—35	22	3	25
35—40	16	3	19
40—45	15	4	19
45—50	28	1	29
50—55	4	1	5
	156	58	214

OCCUPATIONS OF 156 MALE PATIENTS :—

Engineering and Metal Workers	24
Labourers	22
Clerks	12
Joiners	5

Motor Drivers and Mechanics	5
Warehousemen	4
Painters	4
Bar Managers and Barmen	3
Commercial Travellers	3
Platers	2
Miners	2
Firemen	2
Police	2
Bricklayers	2
Platelayers	2
Butchers	2
Hairdressers	2
Grocers and Provision Merchants	2
Van Boys	2
Seamen	2
Chemists	2
Plumbers	2
Compositors and Printers	2
Draughtsmen	2
Blacksmiths and Strikers	2

and one each of the following :—

Shop assistant, shoemaker, cabinet maker, stoker, surveyor, grinder, brass worker, acetylene welder, driller, millwright, dairyman, chargeman, boat builder, motor body builder, fishmonger and poulterer, manager, forge foreman, leather worker.

Occupations of 58 Female Cases :—

Housewives	26
Domestic Servants	8
Shop Assistants	5
Clerks	3
Dressmakers	2
Warehouse Assistants	2
Tailoresses	2

and one each of the following :—

Telephonist, sweet wrapper, machinist, teacher, bookbinder, waitress, theatre attendant, trained nurse, children's nurse, upholsteress.

The average duration of treatment of all cases was 121·66 days. The average period of residence of the tuberculous cases only was 127·33 days, and that for the 135 Newcastle tuberculous cases alone was 141·55. The 143 (tuberculous and non-tuberculous) Newcastle patients averaged a period of treatment of 137·65 days, the 104 males staying 129·95 and the 39 females 158·17. The longest stay made by any completed case was 732 days, and the shortest 6 days. The average number of beds occupied daily during the year was 76·46 (71·37 in 1925), the average for males being 54·89 (49·18 in 1925), and that for females 21·575 (22·19 in 1925). The total number of patient days was 27,911, divided into male 20,036, and female 7,875.

Below is given an analysis of the average number of beds occupied, and the number of patient days :—

Authority.	Average Beds occupied daily.	Patient Days.
Newcastle Corporation	49·89	18,211
Northumberland County Council	0·57	210
Gateshead Corporation	9·96	3,636
Tynemouth Corporation	2·29	836
West Hartlepool Corporation	6·92	2,528
South Shields Corporation	0·03	12
Durham County Council	3·63	1,327
Tynemouth Union	0·23	84
Armstrong, Whitworth Employés' Medical Fund	0·07	26
Private Cases	2·25	823
Post Office Sanatorium Society	0·59	218

The diagnosis of pulmonary tuberculosis was confirmed bacteriologically either before admission or during residence in 186 cases ; 135 males and 51 females.

44 Patients—36 males and 8 females—were apparently without tubercle bacilli in the sputum, and 1 male and 2 females said they had no expectoration. 584 sputum examinations were made at the sanatorium during the year, and of these 205 were positive as regards the presence of tubercle bacilli, and 379 were negative. 965 complete examinations of the chest were made during the year, together with routine examinations of the larynx and urine on admission of the patients, and subsequently when necessary.

Diagnosis.—The greatest care has been taken to confirm as far as possible the diagnosis of active pulmonary tuberculosis in all admissions. Many cases do not come for treatment until the disease is well established. This is probably largely due to the mode of onset of the condition, and to the fact that patients often do not seek advice until they are compelled. But there is nothing in this peculiar to tuberculosis, as seems to be thought ; the same is seen in many other conditions : for example, malignant disease and diseases of the heart. At the other end are cases with slight symptoms and inconclusive signs, and it is amongst these that difficulty in diagnosis arises.

Any case with persistent expectoration in which tubercle bacilli cannot be found after repeated search, is, in the first instance, deemed to be unlikely to be suffering from active pulmonary tuberculosis. In these cases the X-ray plant has been of the greatest assistance, and it is difficult to see how any sanatorium for the treatment of pulmonary tuberculosis, worthy of the name, can do its work effectively in the absence of an efficient X-ray set.

During the year, intra-tracheal injections of lipiodol were carried out when necessary. This is of great value in the investigation of cases of prolonged expectoration where the cause is not clear. The procedure consists of introducing into the lungs an oil which is opaque to X-rays, and then taking an X-ray picture. By this means the structure of the lung tissue often can be clearly seen, and abnormal conditions shown up in such a way that a definite diagnosis can frequently be easily arrived at, where previously it had been obscure or a matter of conjecture.

The cases sent in for observation entail a considerable amount of work. In all cases it is aimed to make a definite diagnosis within three weeks of admission. A diagnosis in a doubtful case is only arrived at after three or more examinations of the chest, careful rectal temperature observations, multiple sputum examinations, and the study of X-ray films of the lungs, together with an examination of other systems and special investigations where necessary. During the year, 18 cases were discharged as not suffering from pulmonary tuberculosis. All these cases showed no conclusive physical signs of tubercle of the lung, X-ray films of their lungs showed no appearances characteristic of the condition, and repeated examinations of their sputa failed to show the presence of tubercle bacilli.

The diagnoses arrived at were as follows :—

Chronic Bronchitis	3
Chronic Bronchitis with Emphysema	2
Pulmonary Fibrosis without evidence of Tuberculosis	4
Pulmonary Fibrosis following gun-shot wound of Lungs	1

Mediastinal new growth (confirmed by post mortem examination)	1
Bronchiectasis	4
Scoliosis	1
No definite pathological condition detected	2

Treatment.—Treatment has been continued on the general lines that have been described in previous reports, the corner stone of which has been the insistence on abundance of rest with graduated exercise, and later, light work as a substitute for walking exercise. A point of the greatest importance in all cases is an investigation of the bodily temperature, and rest in bed is insisted on until a normal course of temperature is secured. Patients do not seem to be resentful at being kept at rest in bed even for long periods when the temperature proves to be raised. The position is carefully explained to each patient, and it is as pleasing to the patient as to the staff to see a temperature subside gradually with rest, and improvement in general condition commence from that time. 114 of the 214 definite cases were found to have normal temperatures during the whole of the course of their residence, 100 patients therefore being feverish at some or other time of their treatment in the sanatorium, and spending amongst them 3,821 days in bed.

Afebrile throughout Treatment.	Febrile on Admission, Afebrile on Discharge.	Febrile Intermittently	Febrile throughout Treatment.	Afebrile on Admission, Febrile on Discharge.
114	46	9	44	1

Considerable use has been made of treatment by artificial pneumothorax, though not to the extent that it would be employed if there were an assistant medical officer at the sanatorium, so that more time could be

devoted to this form of treatment. Hitherto, in the main, it has been reserved for cases with extensive disease mostly in one lung, but it seems clear that early cases with limited disease would derive more permanent benefit from treatment if the damaged lung were put at physical rest for the period they were undergoing sanatorium treatment. Five cases had an artificial pneumothorax induced before admission, and had the lung collapse maintained during their stay in the sanatorium. In 30 other cases a pneumothorax was recommended, but 3 declined to take the advice. Of the remaining 27 cases, 9 proved to be unsuitable when an attempt was made, owing to the lung being adherent to the chest wall and therefore not being free to collapse, and 1 case left the sanatorium after the first operation and therefore did not give the treatment a chance.

In connection with the 35 cases referred to, 198 operations were carried out, whilst the total for the year, which included those for pneumothorax patients who remained in residence, was 290. In the 22 cases in which a pneumothorax was induced or maintained, 9 were left sided and 13 right, and 7 cases developed fluid on the side of the pneumothorax. In 8 cases the treatment failed to control symptoms, and after a fair trial was abandoned, but only 1 patient was worse and she, a very ill patient, developed a spontaneous pneumothorax on the side of the artificial one. In 14 cases there was a very distinct improvement up to the time of discharge from the sanatorium, and in the majority of cases the lung collapse was maintained subsequently.

The most satisfactory effect of the treatment in a successful case, from a patient's point of view, is the disappearance or great diminution of cough and spit, the presence of which, to the pulmonary invalid, always makes him feel different to other people.

Ultra-Violet Radiation was employed in only a few cases. One, of extensive lupus of the skin of the face and limbs, made considerable progress, but the patient left the sanatorium when the condition seemed to be coming under control and was healing nicely. The treatment of lupus by ultra-violet radiation, which is a very long procedure, is essentially an out-patient one. Two cases of tuberculous glands of neck, with discharging sinuses and multiple ulcerating skin areas, cleared up and healed with every evidence of permanency, as did a tuberculous ulcer of the skin in another case. Two cases of bone tuberculosis made good recoveries.

The few good results obtained were very slow, and improvement could only be obtained by prolonged treatment—the rapid and dramatic effects which have been described so often to the public have not been found in practice in the few cases treated at Barrasford.

Results of Treatment.—The immediate results of treatment were, as usual, excellent. 153 of the 214 definitely tuberculous cases improving very considerably in general health. Apart from the artificial pneumothorax cases, however, it is quite the exception to note any definite improvement in the local condition, even in cases which continued treatment for many months.

The weight records of the 214 definite cases of tuberculosis, and those of the non-tuberculous cases are as follows :—

		Gained up to 7 lbs.	Gained 7 to 14 lbs.	Gained over 14 lbs.	Remained station-ary.	Lost up to 7 lbs.	Lost over 7 lbs.	Not weighed on discharge.	Total.
214 definite cases.	Gained weight..	63	77	46	..	..	..	..	186
	Lost weight....	..	..	..	..	22	2	..	24
	Stationary	..	..	..	1	..	..	..	1
	Not weighed on discharge....	..	..	..	..	..	..	3	3
	Total.....	63	77	46	1	22	2	3	214
19 non tuber-culous cases.	Gained weight..	7	7	3	..	..	..	..	17
	Lost weight ..	..	..	..	..	2	..	..	2
	Stationary	..	..	..	..	..	..	..	..
	Not weighed on discharge ...	..	..	..	..	..	..	..	..
	Total.....	7	7	3	..	2	..	..	19

Under the new classification of cases introduced by the Ministry of Health, patients suffering from pulmonary tuberculosis are divided into :—

Class T.B. minus, or those cases in which tubercle bacilli have never been demonstrated in the sputum, and

Class T.B. plus, viz., cases in which tubercle bacilli have at any time been found.

The latter class is further divided into 3 groups :—

Group 1.—Cases with slight constitutional disturbance, if any, and in which the obvious physical signs are of very limited extent.

Group 3.—Cases with profound systemic disturbance or constitutional deterioration, with marked impairment of function and with little or no prospect of recovery.

Group 2.—All cases which cannot be placed in groups 1 or 3.

To indicate the results of treatment, the following terms are laid down :—

"Quiescent."—Cases which have no symptoms of tuberculosis and no signs of tuberculous disease except such as are compatible with a completely healed lesion, and in which the sputum, if present, is free from tubercle bacilli.

"Arrested."—In pulmonary cases the term should be applied only to cases which have been "quiescent" for a period of at least 2 years.

"Improved."—Cases short of "quiescent," in which the general health is fair and the symptoms of tuberculosis have materially diminished.

"No Material Improvement."—All other patients who are alive.

When considered in these terms, the results of treatment of the 214 tuberculous cases can be set out as follows :—

T.B. Minus.

	M.	F.	Total.
Quiescent	1	2	3
Improved	16	6	22
No material improvement	4	0	4

T.B. Plus.

		M.	F.	Total.
G.1	Quiescent	..	..	..
	Improved	4	1	5
	No material improvement	..	..	..
G.2	Quiescent	..	..	..
	Improved	84	38	122
	No material improvement	18	3	21
G.3	Quiescent	..	..	..
	Improved	5	1	6
	No material improvement	24	7	31

It will be seen that a large proportion of the cases sent for treatment have extensive disease, and that the results of treatment are much better in the higher grades, as would be expected.

The problem of how to deal with working class tuberculous patients after they have had their general health restored by sanatorium treatment remains unsolved. The formation of settlements for the tuberculous is good in theory, but with one notable exception, they seem to fail in practice, and, as stated in the report of the London County Council, who considered the matter recently, they show no solution to the tuberculosis problem. The soundest line of attack seems to lie in the re-housing of the ex-patients when they return to the cities, if their home conditions are bad, and the building of hostels for the accommodation of single working men and women who are in lodgings and unable to disclose the fact that they are sufferers from pulmonary tuberculosis by following the modified treatment that is necessary, lest the prejudice that all "lungers" suffer leads to their being cast out into the streets. As, however, the establishment of such a hostel would be a financial hazard, it is not likely to eventuate.

The satisfactory running and general tone of the sanatorium owe much to the Matron, to whom I am indebted for her support.

Yours faithfully,

CECIL G. R. GOODWIN,

Medical Superintendent.

Barrasford Sanatorium,
Northumberland,
5th May, 1927.

REPORTS OF THE VETERINARY OFFICER
AND INSPECTOR OF PROVISIONS,
AND OF THE INSPECTOR UNDER THE FOOD AND
DRUGS ACTS (SENIOR SANITARY INSPECTOR).

V.—FOOD.

BOVINE TUBERCULOSIS.
INSPECTION OF MEAT AND PROVISIONS.
INSPECTION OF FOOD AND DRUGS.

BOVINE TUBERCULOSIS, AND THE INSPECTION OF MEAT AND PROVISIONS AND FOOD AND DRUGS.

TUBERCULOUS MILK.

15 samples of milk from 15 different farms were reported by the Bacteriologist to contain Tubercle Bacilli. Of the dairies implicated, two were in Newcastle, ten in Cumberland, two in Northumberland, and one in the North Riding of Yorkshire.

In one case only was the tuberculin test applied. Of seven cows, two reacted, though one of these showed no clinical signs of the disease.

In eight cases clinical examination of the herds revealed diseased cows. In seven of these check samples collected after the removal of affected animals were reported negative. In the other it was not possible to obtain a further sample.

At the remaining six farms, no cows could be found with conditions which would account for the bacilli in the milk. In some of these herds biological tests were carried out on samples from individual cows without result. In four instances changes had taken place in the herds, and it must be assumed therefore that some of these discarded animals were responsible for the mischief, as later samples from five of the herds were reported negative. In the sixth case no check was obtained, as the County Authorities concerned had already, in addition to individual samples, examined the mixed milk of the herd by means of a biological test without success.

Prior to the coming into operation, on 1st September, 1925, of the Milk and Dairies Act, 1915, and the Tuberculosis Order of 1925, it was seldom possible to ascertain what action was taken with regard to diseased or suspected cows which had been excluded from the herds. A farmer whose milk supply was stopped usually called in his private veterinary adviser, who furnished a certificate that he had dealt with certain animals, but rarely stated what became of them. Under the new powers, however, the examinations of the herds are carried out by the County Veterinary Officers, who are able to supply definite information as to the disposal of the affected cows.

The following statement shows the percentage of milks found to be tuberculous each year since the institution of the bacteriological tests in 1906.

Year.	Percentage of Samples found Tuberculous.
1907	5·9
1908	3·8
1909	9·0
1910	5·4
1911	3·0
1912	10·4
1913	8·4
1914	6·7
1915	5·8
1916	8·7
1917	3·1
1918	2·9
1919	3·6
1920	6·3
1921	5·5
1922	7·0
1923	4·5
1924	3·2
1925	8·0
1926	4·0

Report of the

Veterinary Officer, Inspector of Meat, etc.

To the Medical Officer of Health.

Sir,

I have pleasure in submitting the following Report which includes the work of inspection during the year 1926, under the Public Health Acts.

DISEASES OF ANIMALS.

Diseases of Animals Acts, 1894-1925.

During the year seven outbreaks of scheduled disease occurred amongst the animals within the City, as compared with three during the previous year. In each of five cases the outbreak was due to disease communicable from animal to man.

The Milk and Dairies Order of 1926, and * The Dairies, Cowsheds, and Milkshops Orders, 1885-1899.

Within the City there are 20 cow-keepers, who occupy 31 cowsheds on 21 premises, and possess a total of 410 milch cows. During the year 189 visits were made to the cowsheds and dairies for the purpose of inspecting the buildings, and the conditions as to cleanliness, etc.

The Milk and Dairies Order of 1926.

This Order, issued by the Ministry of Health with the concurrence of the Ministry of Agriculture, came into operation on 1st October, 1926. It not only revokes the Dairies, Cowsheds and Milkshops Orders of 1885 to 1899, but also any regulations made by Local Authorities in England and Wales under these Orders.

(* Revoked by the Milk and Dairies Order of 1926.)

Under the Order :—

(*a*) Each Sanitary Authority is required to keep a register of cowkeepers or dairymen, and of all farms or other premises used as dairies.

(*b*) Each county and county borough council is required to cause to be made such inspections of cattle as may be necessary and proper for the purposes of the Act and of the Order.

(*c*) The following diseases affecting cows, in addition to those specified in section 5 of the Act, are included as diseases for the purposes of that section, namely :—

Any comatose condition ;

Any septic condition of the uterus ;

Any infection of the udder or teats, which is likely to convey disease.

In addition there are sections of the Order dealing with :—

(1) General provisions for securing the cleanliness of dairies, etc., and for protecting milk against infection and contamination.

(2) Special provisions applicable to cowkeepers concerning :—

(*a*) Cleansing of cowsheds and construction of floors.

(*b*) Precautions to be taken in connection with milking.

(*c*) The cooling of milk.

(3) Special provisions applicable to buildings used for sale, etc., of milk.

(4) The conveyance and distribution of milk, churns, etc.

Tuberculosis.

During the year, in the course of meat inspection within the City, 495 animals were found, on slaughter, to be affected with the disease. In 353 of these, some part of the carcass or internal organs of each was condemned and destroyed, whilst in the remaining 142 animals, it was found necessary in every case, owing to the extent and distribution of the disease, to destroy the entire carcass and internal organs. Within the City's registered cowsheds 11 cows were dealt with as suffering from conditions requiring the immediate withdrawal of their milk from the public supply, seven being affected with tuberculosis. Of the total, nine were destroyed, one died, and the remaining one recovered. Of those destroyed, five were slaughtered by the Local Authority, the remaining four being slaughtered by the owners on the advice of the Veterinary Officer. In reference to the five cows slaughtered under the Tuberculosis Order, it may be of interest to note that the entire carcass and organs in each of three were condemned and destroyed on account of advanced disease, whilst of the remaining two, only certain of the internal organs were condemned and destroyed on account of disease limited in extent and confined to these, and the owners were paid, as compensation by the Local Authority, an amount totalling £38 9s. 0d.

The Local Authority, on the other hand, after the deduction of certain expenses, received as salvage by the disposal of carcasses, hides, etc., a sum of £27 12s. 0d. The latter sum added to £25 17s. 6d. recovered from the Ministry of Agriculture (as representing 75% of amount of compensation paid) amounts to a total of £53 9s. 6d. received, thus leaving a balance of £15 0s. 6d. in favour of the Local Authority.

Occurrence of the Disease in Dairy Cows.

Although it has been demonstrated that a very considerable amount of disease and loss of life, especially in childhood, is caused in this country by the bacillus of bovine tuberculosis, it is equally well recognised that the disease is usually contracted through the consumption of milk from a tuberculous cow or from a herd whose milk includes the milk of one or more tuberculous cows. Fortunately, however, all tuberculous cows do not produce tuberculous milk. On the other hand, it has to be recognised that all tuberculous cows are potentially dangerous, for the disease in any one of them may commence at any moment to extend and continue until the mammary gland is involved, or until it is capable of spreading within the cowshed or contaminating the milk by means of certain of the natural discharges. The problem of a wholesome milk supply is one that demands very close supervision at the source ; but in any case, an effective prevention of the production of tuberculous milk cannot be expected in the absence of a regular and frequent official veterinary inspection of all dairy herds. As illustrative of how important and serious is the tuberculosis problem in its relation to Public Health on the one hand and Agriculture on the other, perhaps the following will suffice :—

During recent years, with the view of determining to what extent ordinary dairy cows from various herds may be affected with tuberculosis, an extended examination and search, post mortem, has been made on a number of animals sent into the City for slaughter for food purposes. The total number examined was 167. Ninety-eight of these animals were slaughtered because they had been fattened off after completing their milking period ; the remaining 69 were from four small dairy herds (comprising

76 cows, one bull and one calf) which were completely slaughtered out on account of outbreaks of foot-and-mouth disease. On examining the carcasses and internal organs of the 167 cows, lesions of tuberculosis were found present in 137 or 82·3 per cent.

Stannington Sanatorium for Tuberculous Children and "Philipson" Farm Colony.

For some years the animals at the "Philipson" Farm Colony have been, periodically, subjected to the tuberculin test, and since the completion of the new buildings the isolation of reactors from non-reactors has been possible, as an aid in the building up of a "tuberculosis free" herd. Towards the close of the year under report almost every animal remaining at the farm had successfully passed the test.

Experimental investigations as to the percentage accuracy of various Methods of Testing.

Although it has been frequently demonstrated that with the aid of tuberculin "tuberculosis free" herds can, with undoubted financial advantage to the farmer, be built up, opinion differs as to which method of applying the tuberculin test is the most certain and reliable. For the purpose of determining the most reliable method to be used under ordinary farming conditions in the building up of a "tuberculosis free" herd, experimental investigations have been conducted during the past $3\frac{1}{2}$ years. Already some 65 experiments have been carried out, and it is hoped to complete the series, by doing the remainder during the next 12 or 18 months.

It may be added that a further series of investigations have been commenced concerning the prevention of young cattle contracting tuberculosis under natural con-

ditions by the use of a specially prepared virus-vaccine. The animals vaccinated will be reared with a number of others unvaccinated, all under identical conditions. These experiments, however, will require a period of between five and six years to complete.

DISEASED COWS FOUND IN REGISTERED PREMISES WITHIN THE CITY.

Year.	No. of Cow-keepers.	No. of Registered Cowsheds.	No. of Dairy Premises.	No. of Milch Cows in City.	No. of Diseased Cows.				
					Tuberculosis		Other Diseases		Destroyed. (under the Tuberculosis Order, 1925)*
					Of Udder.	Other than Udder.	Udder.	Other than Udder.	
1909	41	..	..	527	5	2	4	1	5
1910	38	41	..	503	1	1	8	..	1
1911	37	44	38	497	1	..	4	..	1
1912	37	44	37	465	2	..	1	..	..
1913	31	43	33	489	2	2	..	..	..
1914	31	43	32	510	1	1	1	..	..
1915	31	43	33	554	3	..	6	..	..
1916	30	44	32	536	2	2	12	..	1
1917	30	44	32	512	1	..	..	..	..
1918	29	43	31	622	..	..	..	..	..
1919	27	41	29	594	..	..	..	..	..
1920	26	40	28	565	..	..	..	..	..
1921	25	38	26	575	..	..	..	..	..
1922	25	39	26	489	..	..	..	..	..
1923	25	39	26	484	2	..	8	..	1
1924	22	34	23	436	3	2	2	..	4
1925	21	33	23	337	9	..	1	..	3*
1926	20	31	21	410	5	2	1	3	5*

Foot and Mouth Disease.

The Introduction of Disease by Imported Pig Carcasses.

Although for some considerable time close inspections of fresh pig carcasses imported from the Continent

weekly had been made, not only as to their fitness for consumption but as to the possibility of the presence of foot-and-mouth disease, the Veterinary Officer received information leading one to suspect that infected carcasses had been imported into this country. For the latter reason imported pig carcasses within the City were detained on May 27th, but no suspicion of disease was found to exist.

Instructions were given to the Inspectors, regarding further imports at the quay, to hold up the entire consignment in the event of any abnormalities of a suspicious nature being detected. On the 31st May, besides a number of carcasses of veal, mutton and lamb, and a number of bales of bacon, 143 pig carcasses were landed from Rotterdam. Of the total, 16 were intended for wholesale premises within the City, and the remainder for an establishment near Carlisle. Before any inspection of the carcasses at the quay had taken place, a considerable number had already been removed and sent to Carlisle. Those remaining were inspected and found normal. Of the carcasses sent to Carlisle, several were undressed and therefore in those cases the hoof had not been removed from any of the feet. At Carlisle these were, on arrival, inspected by a Veterinary Officer of the Ministry of Agriculture, who discovered amongst the undressed carcasses several which had, apparently, recovered from an attack of foot-and-mouth disease as recently as two or three months prior to slaughter. On receipt of this information arrangements were made with the Shipping Company concerned so that the entire consignment of carcasses, upon arrival the following week, would be held up for the purpose of inspection.

On June 3rd, 73 carcasses of pork arrived. On examination it was found that in the case of 16 all the feet had been removed before leaving the Continent. As the 73 carcasses were completely dressed carcasses, the fact that 16 of them were without the feet gave good grounds for suspecting that these also were probably from animals recently affected with the disease. Although the carcasses found at Carlisle carrying old foot lesions were in otherwise good condition, it is conceivable that the horn covering the feet might have proven infective by reason of the virus having become embedded and remained between the old and new horn while the former was being carried down the outer side of the new hoof during growth. Under normal conditions the complete shedding of the old hoof, after the recovery of the animal from the disease, would occupy several months. As the animals above referred to had only recovered from foot-and-mouth disease two or three months prior to the carcasses being exported to this country, the coming into operation of the Importation of Carcasses (Prohibition) Order of 1925 may be considered as a very necessary means of preventing the export of some of the materials into this country likely to convey infection. In passing, it may be of interest to note that on June 4th, 1924, while representing the Association of Municipal Corporations, the Veterinary Officer, in his evidence before the Departmental Committee on Foot-and-Mouth Disease, under the heading of "Precautions against the introduction and spread of disease," directed the Committee's attention, not only to the regular traffic of uncleansed and undisinfected empty horse flesh carrying crates from the Continent, but also the importation of fresh carcasses (including those of pigs) from Holland.

Anthrax.

During the year no case of suspected disease has been reported as existing amongst the animals within the City. During inspection within the slaughter-houses, however, eight carcasses were detained pending microscopical examination of material from each, but in no case was anthrax found present.

Rabies.

During the year no suspected case has been reported within the City, and no case of the disease has been confirmed as existing anywhere within Great Britain. During the latter part of the year, an imported animal (performing dog) was kept under observation while temporarily detained within the City, under a licence of the Ministry of Agriculture under the Importation of Dogs Orders of 1914 and amending Orders.

The Public Health (Meat) Regulations, 1924.

These regulations, which came into operation in the early part of 1925, have entailed a considerable amount of new work, particularly in connection with the sanitary arrangements of food stores, workshops and other places where meat, etc., is stored, prepared or sold. During the year under report 1,016 visits were made and inquiries made into the conditions obtaining in meat and provision shops, restaurants, stalls, cellars, etc., and, as a result, it has been found necessary to deal with about two dozen contraventions. It has, fortunately, been possible to get the defects remedied without further proceedings, even although in a large number of cases considerable structural alterations of the buildings concerned were necessary.

LIVE STOCK AND MEAT SUPPLIES.

At the beginning of the year under report, cattle and sheep within Great Britain had further increased numerically, as compared with the previous year, by 309,395 and 1,364,267 respectively, whilst pigs had decreased by 628,590, making a total of 7,368,121 cattle, 23,093,614 sheep, and 2,798,576 pigs.

The imports of live cattle from countries other than Ireland were 115,134, or an increase of 33,380 as compared with the previous year. This increase is accounted for by the fact that amongst those imported, 97,920 were from Canada, which was 39,259 in excess of the previous year's exports from that country.

Notwithstanding the further increases of not only home produced live stock, but also the number of those imported, it is interesting to note that the imports of meat, bacon, hams, etc., from over the seas, whilst having increased annually from 23 million cwts. in 1914 to 29 million cwts. in 1925, show a still further increase during the year, making the total imports just over 30 million cwts.

NUMBER OF ANIMALS EXHIBITED WITHIN THE NEWCASTLE CATTLE MARKET.

Year.	Cattle.	Calves.	Sheep.	Swine.	† Dairy Cows.
1887	110,074	8,780	325,473	28,964	—
1897	99,084	7,304	340,382	31,798	—
1908	87,447	8,145	302,608	38,466	—
1909	85,110	6,950	323,780	31,189	—
1910	77,347	6,469	306,703	27,089	—
1911	70,337	5,841	305,418	37,754	—
*1912	48,222	4,646	227,046	32,562	—
1913	63,683	4,455	271,867	27,468	—
1914	55,617	4,376	258,976	26,507	—
1915	53,689	3,677	248,291	25,062	—
1916	52,251	980	248,356	23,796	—
1917	47,906	1,192	216,920	15,474	—
1918	32,948	42	201,071	148	—
1919	33,664	329	145,613	89	—
1920	32,577	2,064	129,606	5,923	—
1921	35,000	1,765	210,000	1,154	
*1922	21,921	1,432	140,389	16,521	278
*1923	28,828	1,665	138,447	5,545	99
*1924	18,555	458	68,654	15,584	—
1925	31,397	1,294	135,468	3,302	512
1926	29,368	755	147,461	893	413

* Market closed for some time during each of these years owing to extensive outbreaks of Foot-and-Mouth Disease in the district.

† Milch Cows sold on Fridays within the Cattle Market lairs.

Inspection of Meat and Other Foods.

The number of animals slaughtered within the City for food purposes was 162,642, this being an increase of 7,178 as compared with the previous year.

ANIMALS SLAUGHTERED ON LICENSED PREMISES WITHIN THE CITY.

YEAR 1926.			1925.	1924.	1923.	1922.
Horses		1,416	2,244	2,710	1,487	888
Cows	716					
Heifers	11,245					
Bulls	409	17,970	18,486	19,788	16,941	16,284
Bullocks	5,600					
Calves		4,764	3,763	4,348	3,945	2,847
Sheep		104,065	94,950	70,788	69,190	88,902
Pigs		34,427	36,021	51,284	31,720	30,281
Total Animals		162,642	155,464	148,918	123,283	139,202

Of the carcasses and internal organs examined, including those dressed outside and sent into the City for disposal, tuberculosis was found present in those of 495 animals.

430¾ animal carcasses, together with 14,711½ lbs. of meat (excluding offal, etc.), were condemned and destroyed as being unfit for human consumption, as compared with 479¼ animal carcasses and 1,329 lbs. of meat condemned and destroyed the previous year.

Of the 430¾ carcasses, 145 (142 carcasses and 12 quarters) were condemned on account of tuberculosis, as compared with 220½ (215 carcasses and 22 quarters) condemned for that disease out of the previous year's total of 479¼ carcasses.

Whilst the number of entire carcasses condemned on account of tuberculosis shows a decrease, the number of parts and organs condemned for the same disease shows an increase as compared with the previous year.

Cattle, Calves and Pigs Slaughtered within the City. (See also Table No. 3.)	Number of Animals found Diseased, Unsound or otherwise unfit for Human Consumption.		*Number of Animals found Tuberculous.	
	Whole Carcasses Condemned.	Parts or Organs Condemned.	Whole Carcasses Condemned.	† Parts or Organs Condemned.
Year 1926.	Year 1926.			
Cows 716	64	77	58	60
Heifers 11,245	38	43	30	41
Bulls 409	5	6	2	2
Bullocks 5,600	19	39	12	35
Totals 17,970	126	165	102	138
Calves 4,764	65	7	2	1
Pigs 34,427	106	330	38	182

† 32 Sex not known.

* The figures representing the numbers of animals found tuberculous on slaughter do not necessarily indicate the total number of animals affected with disease, because under the present slaughter-house system it is impossible to guarantee that all those slaughtered are subjected to inspection.

CARCASSES OF BEEF CONDEMNED WITHIN THE CITY DURING THE PAST SEVENTEEN YEARS.

Total Condemned.		Numbers condemned on account of Tuberculosis.	Percentage Tuberculous.
Year.	Carcasses.	Carcasses.	Per Cent.
1910	116	110	94·82
1911	88	79	89·77
1912	79	73	92·40
1913	92	89	96·73
1914	83	70	84·43
1915	96	88	91·66
1916	109	103	94·49
1917	98	92	93·87
1918	230	182	79·13
1919	306	267	73·0
1920	198	171	86·36
1921	90	78	86·66
1922	85	79	92·94
1923	69	58	84·05
1924	66	61	92·42
1925	157	130	82·80
1926	126	102	80·95

NOTE.—The above refers to whole carcasses and quarters, but does not indicate the total number of animals found tuberculous, and therefore does not include those carcasses in which only the organs or parts were found diseased and condemned. See preceding table.

Imported Foodstuffs.

During the year 1926, some 257 vessels, carrying foodstuffs from Denmark, Holland, Canada, America, Australia, etc., arrived at the Quayside, as compared with 217 vessels during the year 1925. The number of vessels which arrived from America, Canada, and Norway was, in each case, smaller than during the previous year. Whilst the number of vessels from Denmark had slightly increased, the number from Holland and Australia had greatly increased. 478 visits were made to the wharves and vessels alongside, 2,094 packages containing meat, etc., being opened and examined. Regarding these visits, eight were in response to official notices received from the Customs House concerning foodstuffs detained for inspection and certification.

There was a continued increase in the number of fresh pig carcases from the Continent, 7,995, or 36% more than the previous year having been imported. Whilst there was a considerable falling off of the imports in American bacon and hams, sides of Danish bacon, on the other hand, exceeded the previous year's imports by about 31%.

Imported meat arriving within the City by rail is subjected to inspection and supervision within wholesale shops and cold storage depots.

Exported Foodstuffs.

The number of horses slaughtered within the City, for the purpose of the carcasses being exported for consumption on the Continent, was 1,416 as compared with 2,244 slaughtered the previous year.

To meet the requirements of the Commonwealth of Australia concerning the importation of certain prepared foodstuffs into that country, derived from either the meat of animals slaughtered in Great Britain or meat imported into this country, 50 certificates were granted during the year to a wholesale meat preserving firm within the City concerning the wholesomeness and freedom from disease of materials used in the preparation of each of 50 consignments for export.

Slaughterhouses.

During the year there were 101 separate premises licensed for slaughtering purposes. These consist of five groups and a number of separate establishments in various parts of the City. Seven of the licensed premises are used exclusively for the purpose of horse slaughtering. In addition to the above, there are two establishments near the river licensed as knacker's yards. For many years all the slaughterhouses within the City, except two central groups, were licensed for periods fo 12 months. During recent years, however, the whole of the establishments within the City have been authorised, from time to time, by short-term licences (six months) only.

Microscopical Examinations.

During the year, 41 microscopical examinations were made of material comprising specimens of milk, blood, splenic tissue, portions of lungs, kidneys, etc., for diagnosis as to the presence of tuberculosis, anthrax, contagious mastitis, and parasitic conditions, etc.

Of the 24 samples of milk examined three were found to contain tubercle bacilli. Of the 12 specimens of blood, etc., examined, none, fortunately, were found to contain anthrax bacilli.

Foreign Meat, etc., Arriving by Vessel.

Fresh Meat (Carcasses, etc.).

7,995 Pork, 1,859 Veal, and 79 Lamb.

Offal, etc. (Packages).

PIG.—1,676 feet, 1,269 maws, 25 tongues, 1,938 heads, 1 plucks, 1 kidneys, 156 sausage casings, 48 rinds, 207 cheeks.

CALF.—62 plucks.

LAMB.—1 plucks.

Frozen Meat (Carcasses, etc.).

MUTTON.—35,546 carcasses.

MUTTON.—(Packages) 6 legs, 7 loins, and 8 shoulders.

LAMB.—5,943 carcasses.

PORK.—(Chilled) 28 carcasses.

BEEF.—12,498 fore and hind quarters, and 3,000 crops.

BEEF.—(Packages) 60 legs and rumps, 44 fillets, 99 skirts, and 135 callops.

Offal, etc. (Packages).

OX.—2,117 livers, 2,394 tongues, 557 heads, 665 kidneys, 406 cheeks, 364 hearts, and 3,415 tripes.

SHEEP.—106 hearts and 71 kidneys.

PIG.—2 kidneys.

Salted Meat.

11 barrels pig guts, 1 heels and 159 casks Pork.

Other Goods (Cases, etc.).

39,292 American bacon and hams, 719,091 sides Danish bacon, 13,020 Dutch boneless sides bacon, 18,677 tinned meats, 196 sausages, 3 game, and 50 barrels tallow.

NUMBER OF VESSELS AND ORIGIN, ARRIVING WITH FOOD.

Denmark.	Holland.	Norway.	America.	Canada.	Australia.
100	96	5	2	27	11

Sweden.	Argentine.	Belgium.	Madagascar.
11	3	1	1

NUMBER OF VISITS AND INSPECTIONS OF PREMISES DURING THE YEAR 1926.

Slaughter Houses.	Central Markets.			Meat Shops.		Fish Shops.		Provision Shops.		Fruit Shops.		Wharves and Vessels.	Fish Curing Establishments.	Cold Stores.	Goods Stations (Fish Docks).	Food Preparing Factories.	Restaurants.	Stalls, Carts, etc.	Soap Works
	Meat and Provisions.	Fruit and Vegetables.	Fish.	Wholesale.	Retail.	Wholesale.	Retail.	Wholesale.	Retail.	Wholesale.	Retail.								
16,428	414	314	294	3,603	637	126	14	64	20	10	1	478	11	28	20	6	43	316	

Total Weight of Meat and Other Foodstuffs Condemned.

The approximate total weight of meat and other foodstuffs condemned during the year was 70 tons 9 cwts. 2 qrs. 16 lbs., comprising :—

	tons.	cwts.	qrs.	lbs.
Beef, Mutton, Veal, Pork	45	5	2	5
Offal, Provisions, etc.	25	4	—	11
	70	9	2	16

POULTRY, GAME, FISH, FRUIT, PROVISIONS, &c., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1926.

Cause of Unfitness.	Poultry and Game.	Fish.	Fruit and Vegetables.	Provisions, &c.
		lbs.	cwts.	
Unsound and Unwholesome.	Black Game . 7	Cod 1,008	Potatoes 20	Bacon ..... 619 lbs.
	Chickens ... 114	Findon Haddocks 196	Onions..... 53	Eggs 6,081
	Fowls 453	Fish (mixed)..... 2,100		
		Fillets 14	lbs.	
	Fieldfare ... 20	Herring 84	Bilberries 36	TINNED GOODS. tins.
	Hares 10	Halibut 854½	Pears 129	Apricots 153
	Pheasants .. 3	Haddocks 294		Fruit Salad..... 2
		Ling..... 108		Logan Berries .. 4
	Partridge ... 18	Plaice 6,111		Milk 11
	Ptarmigan .. 98	Smoked Fish 126		Pears 1,350
				Pineapples 12
	Rabbits 323	Salmon .....1+289¼		Peaches 53
	Wood Pigeons 1	Trout..... 146		Plums 747
				Raspberries 10
				Strawberries ... 24
				Tomatoes 73
				Chicken and Ham 2
				Salmon 51
				lbs.
				Corned Beef ... 3,707
				Lunch Tongue . 472
				Pressed Pork ... 12
				Liquid Eggs ... 48

CARCASSES, &c., DESTROYED AS BEING UNFIT FOR

	Carcasses, &c.				Lungs.				Hearts.			Kidneys.		
	Beef.	Veal.	Mutton.	Pork.	Sets Ox.	Sets Sheep.	Sets Pig.	Sets Calf.	Ox.	Sheep.	Pig.	Ox.	Calf.	Pig.
Tuberculosis	102+10 qrs.+60 lbs.	2	..	38+ 1 side	137	..	10	..	14	..	3	..	..	1
Swine Fever	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Swine Erysipelas	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Actinomycosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pyrexia	..	..	1	2	..	..	..	..	..	..	..	..	..	..
Septic Conditions	3	..	2	2	..	..	..	..	..	..	..	..	..	..
Mastitis	1	..	..	1+ 22 lbs.	..	..	..	..	..	..	..	..	..	..
Jaundice	..	..	..	3	..	..	..	..	..	..	..	..	..	..
Fatty Degeneration	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cavernous Angioma	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Melanosis	21 lbs.	..	..	..	..	..	..	..	..	..	..	..	..	..
Lymphadenitis (including caseous)	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	..	..	6	..	4	1	46	..	..	..	..	..	..	..
Pleurisy	..	1+ 8lbs.	..	..	5	..	3	..	..	..	..	..	..	..
Pericarditis (including septic or traumatic conditions)	2	..	..	..	1	..	..	..	1	1	..	..	..	..
Peritonitis	..	..	1	4	..	..	..	..	..	..	..	..	..	..
Nephritis	1 qr.	..	..	..	..	..	..	..	..	..	..	5	2	..
Cirrhosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oédema and Emaciation	1	1	20	2	..	..	..	..	..	..	..	..	..	..
Abscesses	378 lbs.	1	4+12 lbs.	1	13	4	..	..	..	..	..	..	..	..
Parasites (distomatosis, cysts, etc.)	..	..	..	..	13	38	3	..	..	..	..	..	..	..
Imperfectly Bled, Congestion, etc	4	28	46	15	4	..	3	1	..	..	..	..	..	..
Immaturity	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Traumatism	78 lbs.	..	1+2 qrs.	..	..	..	..	..	..	..	..	..	..	..
Unmarketable and unwholesome	..	..	..	8 lbs.	..	..	..	..	..	..	..	..	..	..
Decomposition	12+17 qrs. +12997½ lbs.	30+ 550 lbs.	44+ 2 qrs. +229½ lbs.	35+ 1 qr. +347½ lbs.	9	7	..	..	9	..	..	219 lbs.	..	28

NOTE.—One Pig Head from Rotterdam is included in the

HUMAN CONSUMPTION DURING THE YEAR 1926.

Livers.			Heads.				Plucks.			Udders		Feet.		Ox Tongues.	Ox Tails.	Ox Tripe.	Sheep Sweetbreads.	Pig Cheeks.	Pig Hocks.	Spare Ribs.
Ox.	Sheep.	Pig.	Ox.	Calf.	Sheep.	Pig.	Calf.	Sheep.	Pig.	Cow.	Pig.	Sheep.	Pig.							
65	..	3	43	..	..	116+3 halves	1	..	88	..	..	..	..	4	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
127 + 135 lbs.	..	5	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9+ 16 lbs.	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
72+ 97 lbs.	11	1	..	..	..	..	..	3	6	..	..	..	..	..	..	..	..	..	..	..
1+ 8lbs.		..	..	..	..	..	..	4	5	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	29+ 126 lbs.	..	21	469 lbs.	58	3+50 lbs.	3	21+ 104 lbs.	80	..	..	24	4lbs.	8	3+ 38½ lbs.	583 lbs.	30 lbs.	23	16	46 lbs.

above Table under the heading "Tuberculosis."

Yours faithfully,

Town Hall,
Newcastle-upon-Tyne,
17th June, 1927.

THOMAS PARKER, F.R.C.V.S.,
Veterinary Officer.

FOOD AND DRUGS ADULTERATION, Etc.

Total Samples.—The number of samples of all kinds obtained for analysis during the year was 1,164 (against 1,131 in 1925). For details see table on page 206A.

Of this total, only 614 were submitted for analysis to the Public Analyst, the remainder being milk samples which, on being tested in the Health Department, appeared to be genuine.

Informal Samples (included in the foregoing total). 211 samples were obtained. By this means the character of goods sold in any particular locality is fairly well ascertained at a small cost, and with a minimum of time. In case of any contravention further samples are obtained in accordance with the Sale of Food and Drugs Acts.

Milk Samples.—Milk again takes premier position, the number of samples being 899. 50 of these were certified to be below the minimal limits fixed by the "Sale of Milk Regulations, 1901," whilst 1 was artificially coloured with annatto. Of the former, 19 were deficient in non-fatty solids, 24 in milk fat, and 7 in both. The percentage of fat deficiency varied from 1·6 to 40·0 (the average being 9·54), and of solids not fat from 0·7 to 18·2 (average 7·78).

There is again a healthy decrease in the number of cases of adulteration compared with last year. Though more samples were taken yet there were fewer below the standard.

"Appeal to Cow" Samples.—13 of the samples were taken at farm or byre after seeing the cows milked; 7 of these proved to be genuine and 6 deficient.

Samples not Genuine, etc.—The percentage of all samples not genuine to the total number taken was 4·55 (compared with 6·63 for the previous year), and the percentage of non-genuine milk samples to the total number of milk samples obtained was 5·67 (as against 7·30 in 1925). The total number of samples taken was at the rate of 4·09 per 1,000 of the population (estimated) of the City for the year 1926. This is in excess of the number suggested by the Ministry of Agriculture (viz., 3 per 1,000 of the population).

Margarine Act, 1887.—20 samples of margarine were purchased and analysed. All contained boric acid (as below).

Margarine Warehouses.—18 visits were made to margarine warehouses. The packages were examined as regards the proper marking, and all found to comply with the Act.

Preservatives in Food.

Of the total samples obtained for analysis (1,164), 40 were certified to contain preservative, as follows :—

Margarine (20) contained boric acid (all in quantity below 0·5%).

Bacon (1) contained boric acid (15·4 grains per lb.)

Meat Rolls (12) contained boric acid in very small proportions, (the highest being 18·2 grains per lb.).

Cream (6) contained boric acid in quantity varying from 0·35 to 0·40 per cent. All of these were sold as "Preserved" Cream, and complied with the Regulations both as to composition and labelling. (Further details are set out in Table headed "Public Health (Milk and Cream) Regulations, 1912 and 1917," page 205).

Dried Apricots (1) contained sulphur dioxide, 3·3 grains per lb.

In every case the amount of preservative was within allowable limits, and therefore no action was taken.

ACTION TAKEN WITH RESPECT TO OFFENCES OTHER THAN ADULTERATION.

Offence.	No of Cases.	Action taken, etc.
Dairies, Cowsheds and Milkshops Order, 1885, *Article* 6†		
The Milk and Dairies (Amendment) Act, 1922, *Sec.* 2, *and The Milk and Dairies Order*, 1926, *Sec.* 6 :—		
Selling milk without being registered for the purpose.	15	Offenders cautioned.
The Milk and Dairies (Consolidation) Act, 1915, *Sec.* 6 :—		
Selling milk from cans and/or vehicles not inscribed with the name and address of the vendor.	5	Offenders cautioned in 4 cases, and in 1 summoned and fined 10/-.
Total	20	Amount of Penalties, 10/-.*

* See also * on page 206A.

† (Revoked as from 1st October, 1926).

THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912 AND 1917.

MINISTRY OF HEALTH TABLE.

1.—Milk and Cream not sold as Preserved Cream.

	(*a*) Number of samples examined for the presence of a preservative.	(*b*) Number of samples in which preservative was reported to be present.
Milk	361	None.
Cream	2	None.

2.—Cream sold as Preserved Cream :—

(*a*) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct :—

(1) Correct statements made 6
(2) Statements incorrect 0
6

(3) Percentage of preservative found in each sample :—

Sample No. 1,037, Boric Acid 0·40%
,, 1,039, ,, 0·38%
,, 1,040, ,, 0·38%
,, 1,044, ,, 0·38%
,, 1,138, ,, 0·35%
,, 1,139, ,, 0·37%

Percentage stated on statutory label :—
"Not exceeding 0·4 per cent."

(*b*) Determinations of milk-fat in cream sold as Preserved Cream :—

(1) Above 35 per cent. 6
(2) Below ,, ... 0
6

(*c*) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (i) and the proviso in Article V. (ii) of the Regulations have not been observed .....None.

(*d*) Particulars of each case in which the Regulations have not been complied with, and action taken :—None.

3.—Thickening substances. Any evidence of their addition to Cream or to Preserved Cream ..... None.

4.—Other observations (if any).

All of the samples referred to in this return were also taken under the Sale of Food and Drugs Acts, and are therefore included in the separate return under those Acts.

The Public Health (Condensed Milk) Regulations, 1923.

12 samples of condensed milk were obtained, all being genuine and in compliance with the Regulations with regard to composition and labelling.

BACTERIAL IMPURITY OF MILK AND WATER.

Milk.—376 samples were examined by the Bacteriologist for the presence of tubercle bacilli, which were found in 15, or 4·0 per cent.

Action taken is described on page 181.

190 samples were examined for evidence of excremental pollution, which was found to an undesirable degree in 87, or 45·8 per cent. In every case the Medical Officer of Health of the district from which the milk originated was informed, with the result that steps were taken to secure more cleanly methods of production.

Cleanliness of Milk Churns.—23,604 empty milk churns, awaiting return to the farmer-consignors, were examined at the several railway stations in the City. Of this large number, only 64 (from 23 different dealers) were found in an uncleansed condition, the offender in each case being cautioned by the Medical Officer of Health. There were also examined 3,005 empty churns passing through Newcastle in course of transit to the farms from retailers outside the City. Of these, 47 (from 25 different farmers) were found unrinsed, and in these cases also the persons

Samples taken for Analysis during the Year 1926.

Article	No. of Samples obtained.			Result of Analysis.			Action taken.				Remarks.
	Formal.	Informal.	Total.	Genuine.	Not Genuine.	Doubtful.	Prosecutions.	Convictions.	Cases Dismissed.	Cases Withdrawn.	
New Milk	898	1	899	848	51	..	23	20	3	..	In 7 cases (" appeal to cow " samples, etc.) no proceedings were taken, and in the remaining 21 (of the 51 samples not genuine) the vendors were cautioned by order of the Health Committee.
Condensed Milk	..	12	12	12	..	..	..	..	..	..	All complied with the Regulations as to composition and labelling.
Cream	..	8	8	8	..	..	..	..	..	..	6 of these contained boric acid in quantity varying from 0·35 to 0·40%. All were sold as " Preserved " Cream, and complied with the Regulations as to composition and labelling. (See also " Public Health (Milk and Cream) Regulations," separate table.
Butter	..	16	16	16	..	..	..	..	..	..	
Margarine	..	20	20	..	..	20	..	..	..	..	All contained undeclared preservative (viz., boric acid—under 0·5%).
Coffee	..	7	7	7	..	..	..	..	..	..	3 of the samples contained chicory, but were sold as " mixtures."
Cocoa	..	1	1	1	..	..	..	..	..	..	
Tea	..	7	7	7	..	..	..	..	..	..	
Flour	..	1	1	1	..	..	..	..	..	..	
Farola	..	1	1	1	..	..	..	..	..	..	
Vermicelli	..	1	1	1	..	..	..	..	..	..	
Rice	..	1	1	1	..	..	..	..	..	..	
Ground Rice	..	1	1	1	..	..	..	..	..	..	
Custard Powder	..	5	5	5	..	..	..	..	..	..	
Baking Powder	..	1	1	1	..	..	..	..	..	..	
Curry Powder	..	1	1	1	..	..	..	..	..	..	
Egg Powder	..	1	1	1	..	..	..	..	..	..	
Pepper	..	4	4	4	..	..	..	..	..	..	
Mustard	..	1	1	1	..	..	..	..	..	..	
Vinegar	..	5	5	4	1	..	..	..	..	..	The sample " not genuine " (taken informally) was deficient in acetic acid 34·5%. Efforts to obtain a formal sample unsuccessful, the vendors (small shopkeepers) stating that it was a " home-made " vinegar, which they had ceased to make and sell. The case was met by a letter of caution.
Ground Ginger	..	3	3	3	..	..	..	..	..	..	
Ground Almonds	1	3	4	3	1	..	..	..	..	..	The sample " not genuine " (taken informally) consisted entirely of ground pea nut, a subsequent (or formal) sample being genuine. The vendor was cautioned.
Sago	..	1	1	1	..	..	..	..	..	..	
Arrowroot	..	1	1	1	..	..	..	..	..	..	
Lard	..	6	6	6	..	..	..	..	..	..	
Bacon	..	1	1	..	..	1	..	..	..	..	Contained boric acid, 15·4 grains per lb.
Meat " Rolls," Etc.	..	15	15	3	..	12	..	..	..	..	The samples returned as " doubtful " contained boric acid, mostly in very small proportions (the highest being 18·2 grains per lb.).
Split Peas	..	1	1	1	..	..	..	..	..	..	
Jams and Jellies	..	12	12	12	..	..	..	..	..	..	3 samples of table jelly contained minute traces (quite harmless) of copper compounds.
Marmalade	..	1	1	1	..	..	..	..	..	..	
Golden Syrup	..	1	1	1	..	..	..	..	..	..	
Tinned Peas	..	2	2	2	..	..	..	..	..	..	Contained 1·10 and 1·38 grains per lb. crystallised copper sulphate, the labels on the containers stating " under 2 grains sulphate copper."
Tinned Salmon	..	1	1	1	..	..	..	..	..	..	
Tinned Fruits	..	2	2	2	..	..	..	..	..	..	1 sample (pine apple chunks) contained traces of tin and copper compounds (harmless).
Dried Apricots	..	1	1	1	..	..	..	..	..	..	Contained sulphur dioxide 3·3 grains per lb.
Apples	36	..	36	14	..	22	..	..	..	..	Of the samples returned as " doubtful " 19 were certified to contain compounds of arsenic varying in quantity from 1/1,000th to 25/1,000th grain per lb., and 6 (3 of which also contained arsenic and are included in the foregoing total of 19) to contain lead from 1/1,000th to 60/1,000th grain per lb. The dealers were cautioned, a general notice given to the trade by the Town Clerk, attention drawn to the matter in the local Press, and the results of the analyses communicated to the American Consul in Newcastle.
Honey	..	2	2	2	..	..	..	..	..	..	
Toffee	..	1	1	1	..	..	..	..	..	..	
Lemonade Powders, Etc.	6	8	14	14	..	..	..	..	..	..	
Temperance Drinks	..	4	4	4	..	..	..	..	..	..	
" Red " Wine	6	..	6	6	..	..	..	..	..	..	
Whiskey	3	2	5	5	..	..	..	..	..	..	
Rum	3	..	3	3	..	..	..	..	..	..	
Tincture of Iodine	..	6	6	6	..	..	..	..	..	..	
Tincture of Rhubarb	..	5	5	5	..	..	..	..	..	..	
Syrup of Rhubarb	..	5	5	5	..	..	..	..	..	..	
Gregory Powder	..	8	8	8	..	..	..	..	..	..	
Paregoric (" Elixir ")	..	2	2	2	..	..	..	..	..	..	
Cream of Tartar	..	7	7	7	..	..	..	..	..	..	
Tartaric Acid	..	7	7	7	..	..	..	..	..	..	
Glycerine	..	2	2	2	..	..	..	..	..	..	
Olive Oil	..	2	2	2	..	..	..	..	..	..	
Camphorated Oil	..	2	2	2	..	..	..	..	..	..	
White Precipitate Ointment	..	2	2	2	..	..	..	..	..	..	
Totals	953	211	†1,164	1,056	53	55	23	20	3	..	Amount of Penalties obtained—£44.*

† Includes 88 samples taken " in course of delivery " (at railway stations, hospitals, etc.)

* Total penalties, including those in respect of " offences other than Adulteration," etc. (10s., see separate table, page 234), £44 10s. 0d.

concerned were communicated with by the Medical Officer of Health. Although the number examined is large, it is somewhat below that for 1925. This is accounted for by the coal strike, when railway transport was very considerably curtailed. Motor or road transport having to be resorted to, the churns could not be examined.

Water.—189 samples were collected from all parts of the City and at the water works, and examined for the presence of *bacillus coli*.

The results are described on page 129.

PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are in the City 263 bakehouses, of which 33 are factories and 230 are workshops.

The number of " domestic " bakehouses, or private dwelling houses in which the occupier makes bread for sale amongst the neighbours, is 105. Domestic bakehouses are under the same supervision as when the business is carried on in an ordinary bakehouse.

Restaurant Kitchens, in which are included hotels, cafés, and dining rooms, on the Register at the close of the year, numbered 111. So far as can be ascertained this is believed to be a complete list of all such places in the City. They were all regularly inspected, and as a rule were found to be in good order, except in one case, which was only discovered when the occupier applied for permission to sell ice-cream. The kitchen, in which three girls were employed, was entirely beneath the street pavement, with no natural light whatever, and when the electric lights were switched off was in black darkness. The ventilation was entirely inadequate,

and on testing with the Kata thermometer the worst reading out of a very great number was recorded. On this being brought to the notice of the occupier, he at once instructed an architect to have additional ventilation provided. Since this was done the conditions have been greatly improved.

It is a curious anomaly in the law that if this had been a bakehouse newly established, it would have been closed, as such are prohibited by the Factory and Workshop Act, 1910; but being a café kitchen, in which food other than bread was prepared and cooked, no such action could be taken.

Fried Fish Shops.—The number of these increased from 139 to 150 during the year. For comments see "Offensive Trades" (page 228).

Ice Cream Manufactories and Retail Shops.—As in the case of restaurant kitchens an endeavour has been made to have a complete list compiled. Without compulsory registration, however, it is a somewhat difficult task.

Although the premises are regularly inspected and found to be well kept, it would be all to the good if the trade could be confined to firms and people who have some knowledge of the hygienic principles to be observed in the preparation of foodstuffs, or if, seeing that milk enters so largely into the composition of this article, the conditions attaching to the production, storage and sale of milk contained in the Milk and Dairies Order, 1926, could be applied to ice cream.

During the year 65 applications were received for permission to make or sell ice cream. Of that number 17 were refused on account of general insanitary conditions, or because it was intended to make or sell the commodity in dwelling houses.

Although there is a large number of dealers, contraventions of the Regulations are infrequent. One of the worst cases was that of a dirty, ragged, and somewhat dissolute character who was found presiding over a barrow in the Bigg Market. Needless to say, he was promptly stopped from doing so.

The number of manufacturers on the register is 122, and of those who sell but do not make, 202.

Dairies, Cowsheds, and Milk Shops' Order, 1885, *Article* 6*; *the Milk and Dairies (Amendment) Act*, 1922, *Sec.* 2; and *The Milk and Dairies Order*, 1926, *Sec.* 6.—During the year 83 applications were received for permission to retail milk, 59 being granted, and 24 refused on sanitary grounds. At the close of the year there were 612 retail milk-shops in the City, including 34 belonging to 9 large dairy companies. Of the total, 82 were shops in which only dairy products and like commodities were retailed, 277 were shops selling other articles, and 33 were hawkers, whilst the remaining 220 sold a sterilised milk in stoppered bottles.

A number of applications for registration as milk purveyors were received from occupiers of dwelling-houses. These were all refused, as it is felt that such an important foodstuff should be stored only under special conditions, which cannot be secured in the average residence.

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* Revoked as from 1st October, 1926.

Contamination of Apples with Arsenic.

In December, 1925, a circular letter was received from the Ministry of Health drawing the attention of Local Authorities to the presence of considerable quantities of arsenic on the surface of certain American apples. The letter stated that two cases of arsenical poisoning had been traced to this cause, and that samples of Jonathan apples had shown various amounts of arsenic up to one-tenth grain per pound. The Ministry urged Local Authorities to put into force their powers under the Sale of Food and Drugs Acts, the Public Health and Public Health (Imported Food) Regulations, to protect the public by the examination of samples likely to be affected, and by arranging for the withdrawal from sale of any found to be dangerously contaminated.

Previous to the receipt of this letter, however, four samples of Jonathan apples had been obtained and submitted to the Public Analyst, who reported that they were all free from arsenic, there being none either in the pulp or on the skin. After the receipt of the letter two more samples of this brand and six of Newton Oregon were taken, and analyses showed that three contained arsenic compounds equal to ·5, 1·2, and ·4 parts respectively per million parts of the whole apple, all being on the skin and none in the pulp. Two samples each contained on the skin a trace of arsenic so small as to be practically unmeasureable, and hence negligible. The remainder were absolutely free from arsenic. Six further samples of Jonathans and six of Newton Oregons were obtained, but no trace of arsenic was found in either the pulp or skin in three cases, and in the others the quantity did not reach the minimal limit of one-hundredth of a grain.

Arsenic is generally used in the form of arsenate of lead, and is sprayed on the apple trees in order to kill the larvæ of the codlin moth. In England one spraying in a year is usually sufficient to accomplish this, but in America, especially in the dry Western States, it has to be carried out from four to six times during the same period. The fruit is nearly ready for pulling, and is hanging down when the last spraying is carried out, and the arsenic solution consequently runs into the depression around the stalk. The liquid evaporates, leaving the dry arsenic behind. As several varieties of apples, especially the Jonathan, have a very deep depression around the stalk, they retain more of the poison.

In England and in other countries having a similar rainfall, the fruit is almost invariably free from arsenic, as the one spraying is done when the fruit is just set, and the small amount of arsenic is washed off by the rain.

Red Wine.

In view of the publicity given in the local press at the beginning of January to the death of a woman at Gateshead, alleged to be due to the drinking of Red Wine, and the evidence given at the inquest that this was a favourite beverage in the north, six samples were obtained in different parts of the City and submitted to the Public Analyst, who reported that "the same are samples of genuine wine, containing nothing harmful beyond their alcohol."

C. Raimes,

Inspector under the Sale of Food and Drugs Acts, etc.

Health Department,
Town Hall,
20th June, 1927.

REPORT OF THE
CHIEF SANITARY INSPECTOR.

VI.—THE HOME AND THE WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND
WORKSHOPS, Etc.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, ETC.

The following is the

Report of the Chief Sanitary Inspector.

To the Medical Officer of Health.

Sir,

I have the honour to submit the following report on the work carried out in my section of the Department during the year ended December 31st, 1926.

NUISANCES.

Under this heading is comprised the bulk, and perhaps the most important part, of the work of the Sanitary Inspector.

The number of nuisances found and reported upon by the District Inspectors, in addition to complaints left at the office, reached a total of 10,393, which is a slight decrease on last year. A great number of these might never have occurred had ordinary care and common sense been exercised by the complainants.

The careless and dirty tenant is ever with us, as he is in every town and city, and it is rather a disheartening task to endeavour to overcome the carelessness and ignorance which year after year confronts

us. This class of tenant is not confined to slumdom, however, as the following, out of several cases, will show. An able-bodied man occupied a downstairs flat of two rooms in rather a decent street in the east end of the City. He sub-let the front room to a very clean, respectable couple with one child. Shortly afterwards the sub-tenants complained of an offensive smell, and on inspection it was found that strips of paper had been pasted around the door leading into the back room from which the smell proceeded. When access was gained to this room the stench and filth were found unparalleled in the 35 years experience of the writer. When it is said, however, that a corner of the room was being used as a privy, the conditions may be imagined. This resulted in Police Court proceedings, when a fine of £1 was imposed. The man shortly afterwards left the house, and the sub-tenants took both rooms, which after thorough cleansing they now occupy.

Overcrowding.

The scarcity of suitable houses is still the most serious problem with which we have to deal, and many families are living under most overcrowded conditions. The sub-letting of rooms and keeping of lodgers continue, and are most difficult to deal with. Frequently a house, in which there is barely sufficient room for one family, is sub-let, or lodgers taken in, very often at an exorbitant rent for a room, or high charges for board and lodgings. Having a house just sufficient for one's own family is bad enough without sub-letting or taking in lodgers being resorted to, but no steps can be taken to obviate the practice so long as the shortage of houses obtains.

The following are the numbers of notices and letters issued during the year :—

Total number of notices served :—		
Informal	6,342	
Statutory	247	
		6,589
Number of letters sent		2,581
Number of circular letters sent		1,595
Total		10,765

The Rent and Mortgage Interest (Restrictions) Acts, 1920-1925.

During the year only one application was received from a tenant for a certificate that her house was not " in all respects reasonably fit for human habitation " or otherwise not in a reasonable state of repair. The certificate was granted.

Magisterial Proceedings.—Considering the total number of letters sent out and notices served (10,765), it is worthy of note that it was only necessary to take legal proceedings in 33 cases. In the remaining instances in which proceedings were ordered by the Health Committee, the necessary work was carried out without the issue of summonses. For details see page 231.

Conversion of Dry Closets to Water Closets.

Again it is most satisfactory to report that the steady increase in the number of conversions from pail closets, cell privies, and ashpits continues, there being over 100 more of these improvements than last year.

This is more remarkable when we consider that during the year the great coal dispute lasted for nearly 8 months. The results arising from this were many and varied. Railway transport was very considerably curtailed. Coal, when obtainable, was of very poor quality and costly. The prices of sanitary appliances were in some cases raised 25 per cent. Money was scarce, tenants were considerably in arrears with their rents, and many owners proved to the writer that they were absolutely unable to carry out alterations.

During the year, however, 696 (as against 591 last year) privies were removed and water closets provided instead. Of this number 446 were pail closets, 4 were privies (with 3 ashpits), and 246 were cell privies. In addition 114 dry ashpits were removed and regulation galvanised iron dust bins provided instead. In connection with these removals 802 dust bins were supplied by the Corporation, and delivered at the houses free of charge.

This part of the work requires the exercise of very great patience, tact and discretion on the part of your officers, and to this is due the fact that in only 4 cases (one owner) was it necessary to resort to actual proceedings, the work in this instance being ultimately carried out and the summonses withdrawn on payment of costs.

RETURN OF "DRY" CLOSETS IN THE VARIOUS WARDS OF THE CITY

WARDS.	Total No. Privies.	Pail Closets.	Cell Privies.	Privies and Ashpits.	
				Privies.	Ashpits.
St. Nicholas'	7	7	..	..	..
St. Thomas'	22	22	..	..	..
St. John's	19	19	..	..	..
Stephenson	7	7	..	..	..
Armstrong	..	..	..	..	..
Elswick	40	40	..	..	..
Westgate	1	1	..	..	..
Arthur's Hill	..	..	..	..	..
Benwell	6	..	4	2	1
Fenham	48	11	11	26	17
All Saints'	86	86	..	..	..
St. Andrew's	22	22	..	..	..
Jesmond	5	..	..	5	5
Dene	1	..	..	1	1
Heaton	29	22	..	7	7
Byker	476	476	..	..	..
St. Lawrence	1067	1065	..	2	2
St. Anthony's	386	369	..	17	16
Walker	337	..	291	46	31
Total in City	2,559	2,147	306	106	80

Smoke Nuisances. Atmospheric Pollution.

The work of endeavouring to suppress the excessive emission of black smoke from factory and other chimneys has again received very careful and systematic attention, and on the whole a little improvement is to be recorded.

Under present conditions the total abolition of smoke where steam is raised by coal cannot be accomplished. What is aimed at, however, is to keep the nuisance within reasonable limits. As pointed out in previous reports, too much blame must not be put upon the factory chimney, for that of the private dwelling-house contributes very largely to the nuisance. This is borne out by a statement made by the Minister of Health in June, when during the discussion on the Smoke Abatement Bill he admitted that $2\frac{1}{2}$ million tons of soot escaped into the air every year from domestic fireplaces, and 500,000 tons from factory chimneys;

and further, that his reason for excluding domestic fires from the Bill was that he did not want to make house building more expensive, since many people still preferred open fires to gas fires. The effect of the house chimney is most marked when standing on the higher parts of the City, say near Byker Parish Church, on a Sunday morning. At this time factory chimneys are not sending forth any smoke whatever, yet a pall of smoke can be seen covering the low-lying parts. It was also very noticeable during the coal strike, when neither factories or householders could obtain coal, or only very small quantities of it, for then parts of the surrounding country which were obscured in normal or busy times, were clearly visible.

During the year 436 observations of one hour's duration were made at different periods of the day, and it is satisfactory to note that in no case was it necessary to take legal proceedings. As in other branches of our work a policy of persuasion and advice is followed. In one case, that of a large brewery, which was an old offender and the source of many complaints, the manager was advised to use screened coke. At first he demurred, owing, as he stated, to its low calorific value. He was pressed to give it a trial, however, which he did, and after the stoker had become accustomed to the proper method of using it, freely admitted that better results were obtained at a less cost, than with coal. But what was much more satisfactory, the smoke nuisance was effectually abated.

The Public Health (Smoke Abatement) Act, 1926, comes into operation on 1st July, 1927.

The following table gives details as to smoke inspection :—

No. of chimneys watched.	No. of observations made.	No. of chimneys from which black smoke issued in such quantity as to be a nuisance for periods of over 5 minutes in the aggregate during one hour.	No. of times when smoke issued so as to be a nuisance.	No. of notices served for the abatement of smoke nuisances.		No. of Prosecutions.
				Informal.	Statutory	
98	436	11	12	27*	..	..

* Includes communications sent in respect of excessive "medium" smoke.

Atmospheric Pollution Records.—Three observation stations, under the immediate control of the City Analyst, are placed—one on an open site in Keelman's Hospital, City Road, one in Westgate Cemetery, and one in the grounds of the Moor Hospital, in connection with similar stations in other towns, the monthly results from all of which are compared and published by the Advisory Committee for the Investigation of Atmospheric Pollution.

The monthly readings from the Newcastle stations are appended :—

ATMOSPHERIC POLLUTION.—NEWCASTLE RECORDS, 1926.

TOWN MOOR.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.								
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_3.	Chlorine as Cl.	Ammonia as NH_3.
January	85·2	0·20	0·28	1·15	2·21	4·60	8·44	1·82	0·72	0·17
February ...	92·3	0·14	0·23	1·65	3·51	5·17	12·70	2·44	0·92	0·18
March	24·1	0·07	0·98	1·68	1·97	1·31	6·01	0·88	0·41	0·01
April	42·6	0·11	0·74	2·12	2·22	3·32	8·51	1·99	0·43	0·17
May	100·8	0·23	2·57	2·24	2·61	3·64	11·29	2·22	0·43	0·10
June	105·1	0·14	1·38	1·16	1·89	2·53	7·10	1·03	0·30	0·10
July	134·9	0·10	0·88	1·21	2·97	2·70	7·86	1·49	0·48	0·14
August	85·2	0·07	1·51	1·62	1·70	2·22	7·12	1·02	0·18	0·09
September ..	85·2	0·47	2·70	2·46	2·04	2·73	10·40	0·99	0·24	0·04
October	76·7	0·30	1·07	1·42	2·44	3·38	8·61	1·21	0·84	0·01
November...	113 6	0·16	1·19	1·60	2·95	3·41	9·31	2·00	0·48	0·03
December ..	25·6	0·11	0·44	1·76	1·38	1·53	5·22	0·84	0·43	0·06
Total, 12 months ...	971·3	2·10	15·97	20·07	27·89	36·54	102·57	17·98	5·86	1·10
Average per month ...	81·0	0·18	1·33	1·67	2·32	3·05	8·55	1·50	0·49	0·10

An average of 8·55 metric tons per square kilometre per month = 8·2 cwts. per acre per annum, or 263 tons per square mile per annum, as compared with 7·8 cwts per acre, or 251 tons per square mile in 1925.

WESTGATE CEMETERY.

Month.	Rain (Millimetres).	Metric Tons of Deposit per Square Kilometre per Month.								
		Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_3.	Chlorine as Cl.	Ammonia as NH_3.
January	83·4	0·53	2·89	3·58	3·00	6·01	16·01	2·63	0·60	0·25
February ...	86·9	0·25	3·52	2·72	2·43	6·09	15·01	2·77	0·81	0·26
March	38·9	0·26	2·70	4·34	3·04	3·66	14·00	2·35	0·50	0·04
April	34·7	0·29	2·14	4·10	2·64	4·03	13·20	2·67	0·38	0·14
May	100·1	0·15	2·84	5·56	3·60	4·41	16·56	2·54	0·36	0·13
June	76·5	0·10	1·94	3·59	1·38	1·68	8·69	0·89	0·17	0·07
July	132·0	0·21	1·40	4·96	2·64	2·64	11·85	1·81	0·47	0·14
August	79·2	0·17	2·62	5·52	1·43	2·85	12·59	1·54	0·17	0·15
September ..	80·6	0·24	1·90	3·75	2·27	2·74	10·90	1·43	0·22	0·04
October	93·8	0·15	1·78	3·23	2·81	3·57	11·54	1·84	0·90	0·03
November...	123·7	0·29	4·42	6·05	3·96	5·93	20·65	3·56	0·53	0·10
December ..	27·8	0·22	1·92	2 61	2·61	2·84	10·20	2·03	0·44	0·08
Total, 12 months ...	957·6	2·86	30·07	50·01	31·81	46·45	161·20	26·06	5·55	1·43
Average per month ...	79·8	0·24	2·50	4·17	2·65	3·87	13·43	2·17	0·46	0·12

An average of 13·43 metric tons per square kilometre per month = 12·9 cwts. per acre per annum, or 413 tons per square mile per annum, as compared with 13·6 cwts. per acre, or 435 tons per square mile in 1925.

CITY ROAD.

Month.	Rain (Millimetres).	Metric Tons of Deposit per Square Kilometre per Month.								
		Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_3.	Chlorine as Cl.	Ammonia as NH_3.
January	64·9	0·38	9·54	12·51	1·56	5·58	29·57	2·40	0·60	0·32
February ...	67·5	0·33	5·90	6·08	1·89	3·78	17·98	2·01	0·91	0·27
March	26·0	0·79	14·40	24·34	2·86	5·87	48·26	3·15	0·44	0·04
April	23·4	0·17	6·93	13·11	1·26	3·27	24·74	1·86	0·33	0·14
May	58·9	0·30	9·11	12·39	1·88	5·30	28·98	2·92	0·50	0·24
June	92·7	0·26	7·31	7·79	2·41	4·45	22·22	2·03	0·46	0·18
July	86·9	0·30	3·63	6·63	1·91	3·83	16·30	1·79	0·49	0·22
August	51·4	0·24	8·94	13·00	2·78	4·01	28·97	2·01	0·37	0·18
September ..	55·0	0·51	9·88	14·98	1·43	3·52	30·32	1·85	0·31	0·14
October	68·8	0·13	0·11	0·55	2·34	4·68	7·81	2·24	0·83	0·05
November...	88·2	0·45	20·61	23·92	2·47	4·24	51·69	2·54	0·63	0·11
December ..	18·4	0·08	6·81	10·81	1·00	3·17	21·87	1·77	0·35	0·09
Total, 12 months ...	702·1	3·94	103·17	146·11	23·79	51·70	328·71	26·57	6·22	1·98
Average per month ...	58·5	0·33	8·60	12·17	1·98	4·31	27·39	2·21	0·52	0·16

An average of 27·39 metric tons per square kilometre per month = 1 ton 6 cwts. per acre per annum, or 841* tons per square mile per annum, as compared with 1 ton 11 cwts. per acre, or 996 tons per square mile in 1925.

* This is the second highest deposit recorded on this gauge since observations were commenced in 1914.

TOTAL IN THREE GAUGES IN THE CITY.

Month.	Rain (Millimetres).	Metric Tons of Deposit per Square Kilometre per Month.								
		Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_3.	Chlorine as Cl.	Ammonia as NH_3.
Total, 12 months ...	2631·0	8·90	149·21	216·19	83·49	134·69	592·48	70·61	17·63	4·51
Total Average per month	219·3	0·74	12·43	18·02	6·96	11·22	49·37	5·88	1·47	0·38
Average per gauge 12 months	877·0	2·97	49·74	72·06	27·83	44·89	197·49	23·54	5·88	1·50
Average per gauge per month	73·1	0·25	4·14	6·01	2·32	3·74	16·46	1·96	0·49	0·13

An average of 16·46 metric tons per square kilometre per month = 15·8 cwts. per acre per annum, or 506 tons per square mile, as compared with 17½ cwts. per acre or 561 tons per square mile in 1925.

The highest deposit in one gauge was at City Road in 1925—1 ton 11 cwts. per acre per annum, or 996 tons per square mile per annum.

For comparison with the foregoing, the following returns of sunshine recorded at the Armstrong College, Newcastle, and at Cockle Park, near Morpeth (about 14 miles from the City), are given :—

Month.	Armstrong College. Sunshine (hours).	Cockle Park. Sunshine (hours).
January	26·1	39·9
February	40·7	56·5
March	81·8	105·8
April	73·0	125·0
May	137·4	191·3
June	132·0	160·0
July	136·9	161·7
August	156·4	177·4
September	126·6	164·1
October	99·4	130·4
November	41·3	66·4
December	33·1	70·3
Total for year	1084·7	1448·8
Average per month	90·4	120·7

CINEMAS, THEATRES, AND OTHER PLACES OF PUBLIC ENTERTAINMENT.

One new cinema has been opened during the year, making a total of 28, in addition to 2 theatres, 3 music halls, and 85 miscellaneous places, such as dance and concert halls, billiard rooms, etc., for which licences are required.

Seven applications for certificates of sanitation, which are required by the Licensing Justices before a licence is granted or renewed, were considered, and after a careful inspection of the premises, all but one were granted. Such places are regularly visited during the day, when the sanitary conveniences and dressing rooms are inspected, and only in two or three cases has it been found necessary to draw the attention of the management to any contraventions that were found.

The ventilation and heating of such places has again been carefully tested by means of the Kata thermometer (a brief description of which was given in last year's report).

It is satisfactory to note that the results this year show a larger number of cinemas which may be regarded as first class halls.

Last year of the 33 tested, 16 either reached or came within a few points of the required standard. This year's results show that 19 may be so classed. Last year 10 halls which did not reach the standard were termed second class. This year 11 come within that category, leaving now only 4 third class, as compared with 7 in 1925.

This result is largely due to advice given to the management and others responsible as to keeping mechanical appliances constantly working while the hall is occupied, and in halls not mechanically ventilated to opening doors and windows to their fullest extent, both through the day and between the evening houses, in order to thoroughly flush out with fresh air every portion of the hall. From careful observations, it is suggested that much of the closeness or stuffiness in our cinemas is due to smoking. This, however, is one of the attractions of such places, and it is most unlikely that it will ever be abolished. It is therefore incumbent on the management to have the smoke removed as quickly and effectually as possible, not only for the health and comfort of the patrons, but also to give a clearer view of the pictures.

It is also satisfactory to note from enquiries made in various parts of the country, that Newcastle is one of the very few Local Authorities which is systematically carrying out this often neglected, but most important factor, in public health work.

OFFENSIVE TRADES.

Fried Fish Shops still constitute the largest number of offensive trades in the City. There is an increase of 11, the number now on the register being 150, as against 139 last year. They are all kept under supervision, visits being made at night while the business is in progress, as well as during the day, and in only one case was it found necessary to serve a notice to cleanse the premises, and this was complied with.

Attention is again drawn to the need for Bye-laws dealing with the trades that have been declared to be offensive. When such are made, and in operation, the standard will be considerably raised, although having regard to the large number of premises in the City, the contraventions are few, and of a minor nature.

Other Trades.—The following offensive trades were carried on within the City :—

Specified in Section 112, Public Health Act, 1875. Bone Boilers (5), Soap Boiler (1), Tripe Boilers (6).

Declared by Local Authority, confirmed by Local Government Board (in accordance with Section 51 Public Health Acts Amendment Act, 1907). Rag and Bone Dealers (17), Dealers in Hides and Skins (4), Dealer in blood or other putrescible animal products (1), Fat Melters or Fat Extractors (4), Glue and Size Makers (2), Gut Scrapers (2), Fish Friers (150).

The total number of all offensive trades in the City is now 192.

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES WERE SERVED DURING 1926.

Foul privies and ashpits (to replace with water-closets)	5
Defective "cell" privies in Walker and Benwell (to replace with water-closets)	295
Foul pail-closets (to replace with water-closets)	783
Defective waste water closets (to replace with fresh water closets with flushing cisterns, etc.)	16
Foul or defective ashpits not connected with privies (to remove and provide dust bins)	119
Insufficient water-closet or privy accommodation (additional water-closets ordered)	50
Defective or insufficient dust bins	1,173
Defective water-closets	787
Defective pail-closets (to repair, provide new pails, etc.)	34
Water-closets without water supply	128
Choked water-closets (mostly served on tenants)	62
Dirty water-closets (all served on tenants)	65
Dirty privies (all served on tenants)	3
Defective drains (to repair, or construct new drains)	191
Insufficient means of drainage	4
Choked drains, etc.	525
Defective or choked sinks, waste pipes, etc.	283
Defective or choked soil-pipes, vent shafts, etc.	41
Sink waste-pipes not trapped	39
Want of or defective pavement in yards and passages	197
Dirty rooms	76
Dirty bedding	4
Damp rooms	114
Overcrowding	21
Dirty yards, passages, stairs, etc.	204
Animals, pigeons, and fowls improperly kept	57
Offensive accumulations	127
Accumulations of manure	32
Want of or defective manure pits	21
Broken roofs and want of or defective or choked spouting	1,517
Want of water	291
Smoke nuisances	12
Want of proper ventilation to rooms (including to floor space), broken window cords in tenements, etc.	398
Structural defects—internal and external—(broken plaster, floors, stairs, walls, etc.)	2,104
Cisterns supplying water to sinks, etc., dirty or defective	15
Filth thrown on yards, streets, etc.	5
Staircases, recesses, etc., insufficiently lighted	6
Stables (unsuitable, defective, dirty, etc.)	11
Food manufactured or stored for sale under improper conditions	27
Bakehouses—Dirty, etc.	73
Council (and other) Schools—W.C.'s defective	3
Foul privy and ashpit	1
Drain defective	1
Yard pavement defective	1
No drinking vessels provided for the use of the children	2
Condemned rooms (cellar dwellings) illegally occupied	4
Fried fish shops—(Want of cleansing)	1
Tenements—Limewashing not done	45
No adequate accommodation for washing of clothes	53
,, ,, storage of food	73
,, ,, preparation and cooking of food	37
Water supply and sinks not adequate, conveniently accessible, etc.	61
Carried forward	10,197

SUMMARY OF NUISANCES, ETC.—*Continued*

Brought forward	10,197
Tents, Vans, Sheds, and Similar Structures—	
Ventilation (insufficient means of)	9
Structural defects	2
Insufficient sanitary accommodation	4
Water supply not adequate, conveniently accessible, etc.	3
Want of drainage	2
Sites unpaved	2
Want of or defective dustbins	3
Other defects and contraventions of the Byelaws	2
Unclassified minor nuisances	169
TOTAL	10,393

DETAILS RELATING TO CERTAIN WORKS CARRIED OUT IN THE ABATEMENT OF NUISANCES AND TO INSPECTIONS MADE DURING 1926.

Length (in yards) of old drains removed	1,516
Length (in yards) of new drains constructed	3,046
New trapped gullies provided to drains	390
Combined privies and ash-pits removed: privies	4
Combined privies and ash-pits removed: ash-pits	3
"Cell" privies removed (in Walker and Benwell)	246
Pail-closets removed	446
Defective water-closets removed	73
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 30 cases where the accommodation was previously insufficient)	783
Dry ash-pits removed and replaced by galvanised iron dust bins	114
Dust bins substituted for dry ash-pits where water-closets existed, and provided in cases where privies have been replaced by water-closets	‡802
No. of drains tested	1,009
No. of tests of above drains made by smoke and water	1,151
No. of inspections from complaints made at office (verbally or by letter)	2,622
No. of tenement inspections made	16,802
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	1,205
Inspections of houses made from complaints received outdoors or nuisances discovered in the districts, including a large number of minor nuisances, such as choked drains and dirty yards, the abatement of which was accomplished at the time of visit, and without legal notice	4,760
Inspections to learn if works ordered were in progress	11,796
Supervisions of work in progress	5,164
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing	22,980
Inspections after infectious disease	1,133
Inspections of milk shops and ice creameries (including retail shops)	1,421
,, bakehouses	†1,149
,, offensive trades	744
,, wholesale margarine warehouses	18
,, as to limewashing of tenements	2,023
,, of schools	99
,, under Housing Act	1,512
Inspection of Cinemas, etc. (day visits, 108 ; night visits, 52)	160
Tents, Vans, Sheds and similar Structures	499
Miscellaneous Visits	2,101

‡ Dust bins supplied free by Corporation.

† Including 829 inspections made under the Factory and Workshop Acts by the Assistant Inspectors of Workshops.

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1926.

NATURE OF COMPLAINT.	No of Cases.	Summonses issued.		
		Work done and Nuisances abated without the Summonses being applied for.	Work done and Summonses withdrawn.	Other Results.
Public Health Acts :—				
Drains defective	3	3	..	
Vent shafts defective	1	1	..	
Broken roofs and defective and/or choked spouting	24	17	7	
Yard pavement defective	3	2	1	
Window sash-cords defective (preventing efficient ventilation)	2	1	1	
Sink waste-pipes defective	2	1	1	
Structural defects (including floors, plaster, woodwork of sinks, pointing, etc.)	12	9	3	
House in filthy condition	1	..	..	1 Occupier summoned. Magistrates' Order made to comply forthwith with the requirements of the notice; also fined £1. Defendant did not appear at Court, it being ascertained that he had entered the Poor Law Institution the same day. Room thoroughly cleansed by sub-tenant of front room, who took over the occupation of the whole flat.
Public Health Act, 1925, *Section* 72 :—				
Foodstuffs sold from room also used as a sleeping apartment ...	1	..	..	1 Occupier Summoned, and fined 10s. Offence continued, and proceedings again instituted, after which the room ceased to be used for sleeping purposes. This case was dismissed on payment of costs.
Carried forward	49	34	13	2

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1926.—*continued.*

NATURE OF COMPLAINT.	No. of Cases.	Summonses Issued.		
		Work done and Nuisances abated without the Summonses being applied for.	Work done and Summonses withdrawn.	Other Results.
Brought forward	49	34	13	2
Public Health Act, 1875, *Section* 36, *and Newcastle upon Tyne Improvement Act*, 1892, *Sec.* 53 :—				
Houses without sufficient waterclosets (defective w.c.'s. to be repaired, furnished with adequate water supply, etc.)	3	2	1	
Foul privies (pail-closets to be replaced by water-closets)	4	..	4	
Foul ashpits (to be removed and replaced by galvanised iron dust-bins).....	2	2	..	
Newcastle-upon-Tyne Corporation Act, 1911, *Sec.* 55 :—				
Want of or defective dust-bins for house refuse..	17	11	6	
Bye-laws with respect to Tenemented Houses :—				
Insufficient w.c. accommodation (No. 8).....	1	..	..	1 Owner summoned and fined £2. Work subsequently done.
Carried forward.....	76	49	24	3

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1926.—*continued.*

NATURE OF COMPLAINT.	No. of Cases.	Work done and Nuisances abated without the Summonses being applied for.	Summonses Issued.	
			Work done and Summonses withdrawn.	Other Results.
Brought forward	76	49	24	3
W.C. structure and apparatus not maintained in good order (No. 11) ...	2	2	..	
Inadequate lighting of common staircases (No. 18, b.)	1	..	1	
Inadequate accommodation for washing clothes (No. 28, f.i.)	6	5	1	
Inadequate accommodation for the storage of food (No. 28, f.ii.).....	11	10	1	
Inadequate accommodation for the preparation and cooking of food (No. 28, f.iii.)	3	2	1	
Limewashing of yards, passages, staircases, etc. (No. 28, a)	1	..	1	
Water supplies and sinks inadequate, not conventiently accessible, etc. (No. 28.d.)	7	7	..	
Houses not throughout of adequate stability (No. 28. g.)	2	1	1	
Total	109	76	30	3

Amount of Penalties—£3 10s. 0d.

HOUSING.

That the problem of finding houses is little less acute than in previous years is shown by the following return :—

CITY ENGINEER'S CENSUS OF UNOCCUPIED HOUSES.

Class of House.	Nov., 1912	Aug., 1914	Nov., 1918	Nov., 1922	Nov., 1925	Nov., 1926
Self-contained	306	137	29	93	105	179
Flats (each Flat counted as a separate dwelling).	903	75	..	35	15	41
House and Shop combined.....	68	29	2	9	6	27
Tenemented Houses	28	3	..	..	..	1
Total	1,305	244	31	137	126	248

Effect of Bad Housing.—Reference has already been made to the effect of bad housing and overcrowding upon the public health. It is of interest to summarise some of the points. Speaking generally, the wards with the highest populations per acre have also the highest death rates. The converse does not always hold, as some wards, such as Walker, may have small densely-packed areas scattered about among wide stretches of open space or farm land. The rates in these will be relatively high. But where the dwellings are evenly distributed and in good sanitary condition, and the population on area is low, the death rate is also low.

Thus the death rates from all causes are high in Elswick Ward (17·6), All Saints' Ward (16·0), St. Andrew's Ward (15·5), St. John's Ward (15·0), and low in Jesmond Ward (9·1), Dene Ward (9·6), and St. Thomas' Ward (9·9), which occupy respectively also

opposite ends of the scale in regard to quality of housing, and density of population (see tables on pages 45 and 53).

Similarly infantile mortality generally follows the same rule, and the wards with the highest wastage of child life are again among the most crowded ones. Thus Byker Ward had an infantile mortality rate of 130 deaths per 1,000 births, St. Nicholas' 128, and St. John's 115, as compared with rates of 40 and 44 in Jesmond and St. Thomas' Wards respectively.

Over a period of nineteen years, the deaths per 1,000 births in one room, two room, and three room houses have been respectively 134, 118 and 100, and in the year under report were 104, 91 and 85.

In the case of tuberculosis one sees again the influence of congestion and bad houses in the fact that the highest mortalities for the year were in All Saints' (2·64), St. Nicholas' (2·18), St. John's (1·90), while the lowest occurred in Dene (0·68), Jesmond (0·7), and Heaton (0·94). The tuberculosis death rate for the whole City in 1926 was 1.46 per 1,000 population. Again, about 34 per cent. of the population live in one and two room houses, yet over 45 per cent. of the deaths from consumption were among these.

Housing and Town Planning Acts.

During the year 1,512 inspections under these Acts were made, and many repairs and improvements have been carried out. Perhaps a greater amount would have resulted but for the permissive power given to Local Authorities by Section 3 of the 1925 Act, which provides

that if a notice is not complied with they " may " themselves do the work required, and recover the cost from the owner. It is, however, not the policy of the Health Committee to do the work in default, so that all that can be done when it comes to a statutory notice is to proceed under the nuisance sections of the Public Health Act, 1875, which provide for legal proceedings being taken if a notice is not complied with. The result of this is that quite a number of defects which do not make the house insanitary, but are certainly not conducive to the comfort of the tenants, cannot be dealt with, amongst which may be mentioned :—

Defective wall and ceiling plaster ; defective ovens and fireplaces ; defective hand-rails, balusters, treads and risers of stairs ; wash-house set pots cracked and brickwork displaced ; room floors defective and out of level ; yard walls broken down ; window frames loose ; broken hinges, locks, and fastenings of doors and windows; dilapidated coal-houses ; badly lighted pantries or sculleries ; back yard and house doors broken and displaced.

It must, however, be stated that even under the difficulties which confront us, quite a number of these defects are made good.

Housing.

MINISTRY OF HEALTH TABLE.

YEARS ENDED 31ST DECEMBER, 1925 & 1926.

	1925	1926
Number of new houses erected during the year:—		
(*a*) Total (including numbers given separately under (*b*))	1177	1101
(*b*) With State assistance under the Housing Acts:		
(i.) By the Local Authority	554	359
(ii.) By other bodies or persons	196	556
1.—UNFIT DWELLING-HOUSES. Inspection:—		
(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	3673	4112
(2) Number of dwelling-houses which were inspected and recorded under the Housing Consolidated Regulations, 1925	593	965
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	3	29
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	2233	2988
2.—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	389	835
3.—Action under Statutory Powers:—		
(*a*) *Proceedings under Section* 3 *of the Housing Act*, 1925:—		
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	628	601
(2) Number of dwelling-houses which were rendered fit after service of formal notices:—		
(*a*) By owners	625	580
(*b*) By Local Authority in default of owners	..	..
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	..	..
(*b*) *Proceedings under Public Health Acts*:—		
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	1216	1552
(2) Number of dwelling-houses in which defects were remedied after service of formal notices:—		
(*a*) By owners	1213	1546
(*b*) By Local Authority in default of owners	..	..
(*c*) *Proceedings under Sections* 11, 14 *and* 15 *of the Housing Act*, 1925:—		
(1) Number of representations made with a view to the making of Closing Orders	..	..
(2) Number of dwelling-houses in respect of which Closing Orders were made	..	..
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	..	..
(4) Number of dwelling-houses in respect of which Demolition Orders were made	..	..
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	..	..

Unhealthy Areas and Improvement Schemes.

Since approval of the Lower Pilgrim Street, Liverpool Street, and Prudhoe Street Improvement Schemes by the Ministry of Health in 1925, compensatory houses have been in course of erection in Barrack Road and at Cow Hill, which are now about completed and occupied. Progress is now being made with the closure and demolition of houses in the condemned areas.

Steps have also been taken towards the scheduling of another bad area—Elswick East Terrace, containing 219 dwellings. The intention is to create an open space where this now stands. The property is now being appraised by the District Valuer.

It was decided during the year by the Insanitary Properties Sub-Committee to allow the remaining parts of the Central (Quayside) area, including Manor Chare, Wall Knoll, Pandon, and Cox Chare, with part of City Road, to stand over.

The Newcastle-upon-Tyne Improvement Act, 1882, Section 32.

No houses were dealt with under this Section during 1926.

Houses Demolished, etc.—1 tenemented house (of 2 holdings), 3 self-contained houses, 2 flats, and 2 common lodging houses (accommodating 59 lodgers), have been demolished, or otherwise have ceased to be used as dwellings, owing to dilapidations, or for conversion to business premises, etc.

Houses built during the Year 1926.—The City Engineer reports that there were 660 self-contained houses built privately during the year under report. In addition, 441 dwellings were provided under housing schemes.

Tents, Vans, Sheds and Similar Structures.—During the year two new colonies have been formed—one in Benwell, with 8 vans, containing a population of 23; and the other at Walker, with 10 vans, and a population of 32. In neither case were sanitary accommodation, water supply, drainage, or refuse storage provided on the grounds.

When the provisions of the Bye-laws were brought to the notice of the responsible persons, these requirements were provided without the necessity of having to resort to legal proceedings. 499 visits were made to 86 vans, which is the number at present in the City. As a rule they are found to be kept in a fairly clean state. Overcrowding, however, as in the case of dwelling houses, is very often found.

A little difficulty sometimes arises as regards vans, etc., being kept in good structural condition. This obligation falls upon the occupier, but as the majority do not belong to the persons occupying them, it is held, and rightly so, that the owner should carry out any repairs or improvements which may be required, and usually this is done.

Tenemented Houses.—The number of tenemented houses in the City is 3,465, containing 9,812 holdings, as follows :—

1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	Total.
3,243	5,432	1,034	100	3	9,812

Tenement Bye-laws.

The whole of these are now in force, and during the year much good work has been carried out in the provision of ventilated food stores, accommodation for

washing clothes and for the cooking of food, water supplies and sinks. It is questionable, however, if this is not an unmixed blessing, for we are perpetuating conditions which all health officials and housing reformers wish to avoid, and that is the one-room holding. For a childless couple or a single person it may be tolerated, but when we have the father, mother, and anything from three to five children living in a single room, it cannot be said to be conducive to either health or morality.

That it is a paying proposition to turn a self-contained house into one- or two-room tenements will be seen from the following cases, which were found in the west end of the City. A house originally built for one family and in pre-war times let at £40 per annum, is now occupied by 11 families (each with a single room), the total population being 38 persons. The gross rent is now £168 per annum. The owner spent over £70 in complying with the requirements of the Bye-laws. In another case an eight-roomed self-contained house was let to 8 families, with a total population of 30 persons. The pre-war rent was £35, and it is now bringing in £120. This is the only case in which legal proceedings had to be taken to enforce compliance with the Bye-laws, the case being adjourned three times before the necessary work was completed.

New Buildings and Sanitary Alterations.—408 plans were examined by the Medical Officer of Health before their submission to the Town Improvement and Streets Committee and, where necessary, suggestions forwarded to the City Engineer for his consideration, as compared with 413 during the previous year.

Common Lodging Houses.

There are at present on the Register 44 Common Lodging Houses, as at the end of last year. Two houses were closed (for conversion into business premises) and two houses were newly registered.

As will be seen from the table which follows lodging houses for men constitute by far the greatest number. There is still a lack of accommodation of this type for single women and married couples.

Most of the houses are very old buildings, formerly private dwellings, which have since been converted to common lodging houses, and it is a somewhat difficult task to bring such houses up to the standard aimed at at the present time.

The requirements of the Bye-laws are strictly enforced in order to maintain as high a standard of comfort and cleanliness as possible. In the majority of cases this is attained. Men have lodged in some of the houses for about 20 years, and the conditions compare very favourably with many houses of a more pretentious nature. In these cases there appears to be some co-operation between the lodgers and the keepers, the former being as a rule a decent, steady class of men, and cleanly in their habits. In other houses, however, in which the lowest and poorest, the idle and dissolute, find accommodation, the tidy and clean conditions are not always found, and it is sometimes difficult for the keepers and deputies to keep the houses up to the standard.

The following summary shows in detail the accommodation as at the end of the year :—

Description of Lodgers.	No. of			Accommodation.			
	Houses.	Single Beds	Double Beds	Married Couples	Single Women	Single Men	Total.
Married couples and single women ...	2	26	15	15	26	..	56
Single women and single men	1	43	..	..	15	28	43
Single men, single women and married couples .	2	107	13	13	46	61	133
Women only	2	35	..	..	35	..	35
Men only	37	1212	..	..	..	1212	1212
TOTAL.....	44	1423	28	28 (56 persons)	122	1301	1479

The total number of lodgers for which the houses were registered was thus 1,479, as against 1,452 at the close of 1925 (an increase of 27 in the total accommodation), due to the removal of two houses, and the addition of two new ones. The average number of lodgers per night was 1,386, the highest and lowest numbers on any one night being 1,398 and 1,372 respectively.

REGISTERED COMMON LODGING HOUSES.

SUMMARY OF WORK DONE AND VISITS MADE DURING THE YEAR 1926.

Number of Houses on the register at the end of the year.....	44
Applications for re-registration (Newcastle Corporation Act, 1911, Sec. 63) ; 46 granted ; 1 refused	47
Houses ceased to be occupied as common lodging houses	2
Inspections made in the day-time	5,071
Inspections made in the night-time	225
Notices served { re washing of bed clothes, 176 } re limewashing of houses 88 }	264
Contraventions of Bye-laws, etc. :—	
Beds not properly " aired " during prescribed hours.....	18
Slops not emptied before 10 a.m.	1
Structural defects in houses	7
Defective water-closets	27
Defective roofs and defective or choked spouting.....	20
Sinkwaste pipes defective	2
Choked W.C.'s and drains	33
Dust bins defective or insufficient	15
W.C.'s without a supply of water	3
W.C.'s in dirty condition	1
Lack of efficient ventilation (broken sash-cords, etc.)	4
Lack of water supply (for domestic use)	1
Unclassified minor nuisances	4
Number of prosecutions	None
Deaths reported	None
Cases of infectious disease reported (measles 1, erysipelas 1, tuberculosis 10)	12

Factories and Workshops.

At the end of the year there were on the Register 1,470 workshops, 144 " domestic " workshops, 263 workplaces, 25 laundries, and 263 bakehouses (33 of the latter being factories).

Particulars as to the nature of the various trades, number of inspections, defects found and dealt with, etc., are given in the following tables. During the year 61 lists of outworkers were received, 17 employers having sent in their lists twice and 27 employers once.

Included in the lists were 25 names and addresses of outworkers employed in other towns, and these, by Section 107 of the Factory and Workshop Act, 1901, must be forwarded to the Local Authority of the district in which the outworker is employed. The outworkers appear as a rule anxious to keep their rooms clean and tidy, and to carry out any recommendations which may be made by the district inspectors, but at the same time it must be admitted that in one- or two-roomed dwellings, containing many children, it is somewhat difficult to conform to a very high ideal.

The number of outworkers has decreased considerably during the last few years. This is said to be due to the National Health Insurance and Trades Board Acts coming into force.

45 notices as to insanitary conditions in factories and workshops were received from H.M. Inspector of Factories, 21 of which related to factories (which are not visited by our Inspectors, except on receipt of a complaint from H.M. Inspector), and 24 to workshops. Many of the latter, however, had been dealt with before receipt of the complaint ; the others were duly investigated, dealt with, and the necessary works carried out without having to resort to legal proceedings.

ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN CONNECTION WITH FACTORIES, WORKSHOPS AND WORKPLACES, DURING THE YEAR 1926.

Home Office Tables.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS.

PREMISES. (1)	NUMBER OF		
	Inspections. (2)	Written Notices. (3)	Occupiers Prosecuted (4)
Factories (Including Factory Laundries.)	281	372	None
Workshops (Including Workshop Laundries.)	7,355		
Workplaces (Other than Outworkers' premises.)	1,053		
Total	8,689	372	..

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

PARTICULARS. (1)	NUMBER OF DEFECTS.			Number of Offences in respect to which Prosecutions were instituted. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
*Nuisances under the Public Health Acts:—				
Want of cleanliness	195	195	..	..
Want of ventilation	15	15	..	..
Overcrowding	1	1	..	..
Want of drainage of floors	1	1	..	..
Other nuisances	50	49	..	..
†Sanitary accommodation—insufficient	21	19	..	..
†Sanitary accommodation—unsuitable or defective	87	85	..	..
†Sanitary accommodation—not separate for sexes	19	17	..	..
Offences under the Factory and Workshop Acts—				
Illegal occupation of underground bakehouse (s. 101)	1‡	..	..	..
Other offences	..	..	1	..
Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health Factories and Workshops (Transfer of Powers) Order, 1921.				
Total	390	382	1	..

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force. The standard fixed by the Sanitary Accommodation Order (No. 89) of 4th February, 1903, is followed as a model.

‡ Time extended to allow proprietors to complete extension of other premises, which will include a bakehouse above-ground.

OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.

NATURE OF WORK. (1)	Instances. (2)	Notices served. (3)	Prosecutions. (4)
As per Home Office List.....	None	None	None
TOTAL	..	..	..

TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City:

TRADES.	Workshops.	Domestic Workshops.	Workplaces.
Athletic Outfitters, etc.	10	..	..
Bacon Curing, Pickles, etc.	50	1	2
Bags, Waterproofs, etc. (making and repairing)	19	2	2
*Bakehouses	263	..	..
Blacksmiths, Plumbers, etc.	112	..	3
Bouquets and Wreaths (making, etc.).....	11	..	..
Boots, etc. (making and repairing)	122	28	..
Dressmaking, Underclothing, etc.	266	66	..
Drysalters, Cleaning & Packing Fruit, Tea, etc.	33	1	55
Furniture Making, Joiners, etc.....	199	7	..
Harness, etc. (making and repairing)	22	..	..
Jewellery, Watches, etc. (making and repairing)	69	2	..
Laundries.....	25	..	..
Machines and Tools (making and repairing)..	137	3	3
Painters, Engravers, Photographers, etc.....	82	2	11
Restaurant Kitchens, etc.	..	..	111
Tailoring, Shirts, etc.	240	32	..
Miscellaneous.....	98	..	76
Totals	1,758	144	263

* Includes 33 " Factory " and 105 " Domestic " Bakehouses.

Inspection of Council and Other Schools.

During the year 99 inspections of these schools were made and only in 6 cases were insanitary conditions found. These, on being brought to the notice of the School Authorities, were all remedied. At two non-provided schools it was found that there were no drinking cups to the fountains, and that they had been missing some little time. It seems strange that no one in authority had been aware of this, and taken steps to have them provided.

Many of our Council Schools are still provided with the now obsolete "trough" water closets, and these, with the best supervision and maintenance, cannot be said to be suitable for school children. It is proposed at an early date to make a complete report on this type of sanitary convenience for submission to the Health Committee.

Rag Flock Act, 1911.

Eight samples of rag flock were taken under this Act and submitted for analysis to the Public Analyst. Six of them conformed to the standard of purity laid down by the Regulations under the Act, which require that a sample of rag flock must not contain more than 30 parts of chlorine in 100,000 parts of flock. In the six the amounts varied from 16 to 25 parts per 100,000. In the remaining two the amounts were 58 and 59 parts respectively. The vendor in each case was cautioned by the Health Committee.

Exhumations.

During the year five exhumations and three re-interments under Home Office orders were supervised by the District Inspectors. The operations were all carried out during the early hours of the morning or late at night, and were conducted in a sanitary and reverent manner.

Anthrax in Shaving Brushes.

In April a communication was received from the Medical Officer of Health at Glasgow, stating that a firm in Newcastle had purchased 60 dozen of Czecho-Slovakian shaving brushes from a wholesale firm in Glasgow, and that the articles were part of a consignment which had been proved to be infected with anthrax. On visiting the Newcastle firm it was found that they had only 53

dozen left, the remainder having been disposed of by retail. The purchasers were unknown. The brushes were placed in a box and sealed up, with the exception of half-a-dozen, one of which on bacteriological examination was found to be infected with anthrax. The whole of the brushes were therefore conveyed to the Byker Destructor and destroyed under the personal supervision of the Chief Inspector.

In May another communication was received from the Sunderland Health Department stating that a firm in that town had received a consignment, part of which had been sent on to their branch in Newcastle. 98½ dozen were found and sealed up and samples submitted for bacteriological examination, the result of which showed that they were free from anthrax.

NEW LOCAL LEGISLATION.

During the year the Newcastle-upon-Tyne Corporation Act, 1926, was passed and came into operation on August 4th, 1926. It contains some useful provisions. Those relating to the Health Department deal with food stores for dwelling-houses; water supply to dwelling houses; sanitary conveniences for factories and workshops; dirty houses; dust bins for warehouses, etc.; prevention of smoke and grit; prohibition of tents, vans, etc.

I am, Sir,

Your obedient servant,

C. RAIMES,

Senior Sanitary Inspector,

Inspector of Common Lodging Houses, etc.

Health Department,

Town Hall,

20th June, 1927.