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Contributors

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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

1927.



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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 (Alderman STEPHEN EASTEN, O.B.E., J.P.)

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

„ J. J. FORSTER, J.P.

„ RICHARD MAYNE, J.P.

„ JOHN PROCTOR, J.P.

„ WALTER LEE, J.P.

Councillor W. A. ALLAN, J.P.

Councillor W. R. WALLACE.

„ G. D. NEWTON, L.R.C.P.

„ W. V. LONGFIELD.

„ J. CROSBY.

„ JOHN E. SCANLAN, J.P.

„ R. J. THOMPSON, J.P.

„ JOHN BARKER, J.P.

„ J. C. DOYLE.

„ JAMES SMITH.

„ WALTER THOMPSON.

„ JOHN CHAPMAN, J.P.

„ CATHERINE AULD.

„ H. MOAT, Junr.

„ H. BENSON, J.P.

„ A. LOUVRE.

„ W. C. PERCIVAL.

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. GRANTHAM, J.P.

† „ J. G. NIXON. * „ A. LOUVRE.

* „ W. A. ALLAN, J.P. ‡ „ J. MOORE, J.P.

* „ G. D. NEWTON, L.R.C.P. ‡ „ JEANIE L. GIBBIN, J.P.

* „ R. W. SIMPSON, M.B., Ch.B. †Mrs. H. LOUIS.

* „ J. C. DOYLE. †Dr. R. P. R. LYLE.

‡ „ E. C. DOUGHERTY. †Mrs. J. T. PLATT.

* „ WALTER THOMPSON. †Miss G. ROWELL.

* „ CATHERINE AULD. †Dr. MONA MACNAUGHTON.

‡ „ H. LOWERY. †Mr. GLADSTONE WALKER.

* „ JOHN BARKER, J.P. †Mrs. A. J. SHORT.

* „ DAVID ADAMS, J.P. †Mrs. A. A. McCUTCHEON.

* „ JAMES SMITH. †Mrs. LOCKE.

* Member of the Health Committee.

† Co-opted member.

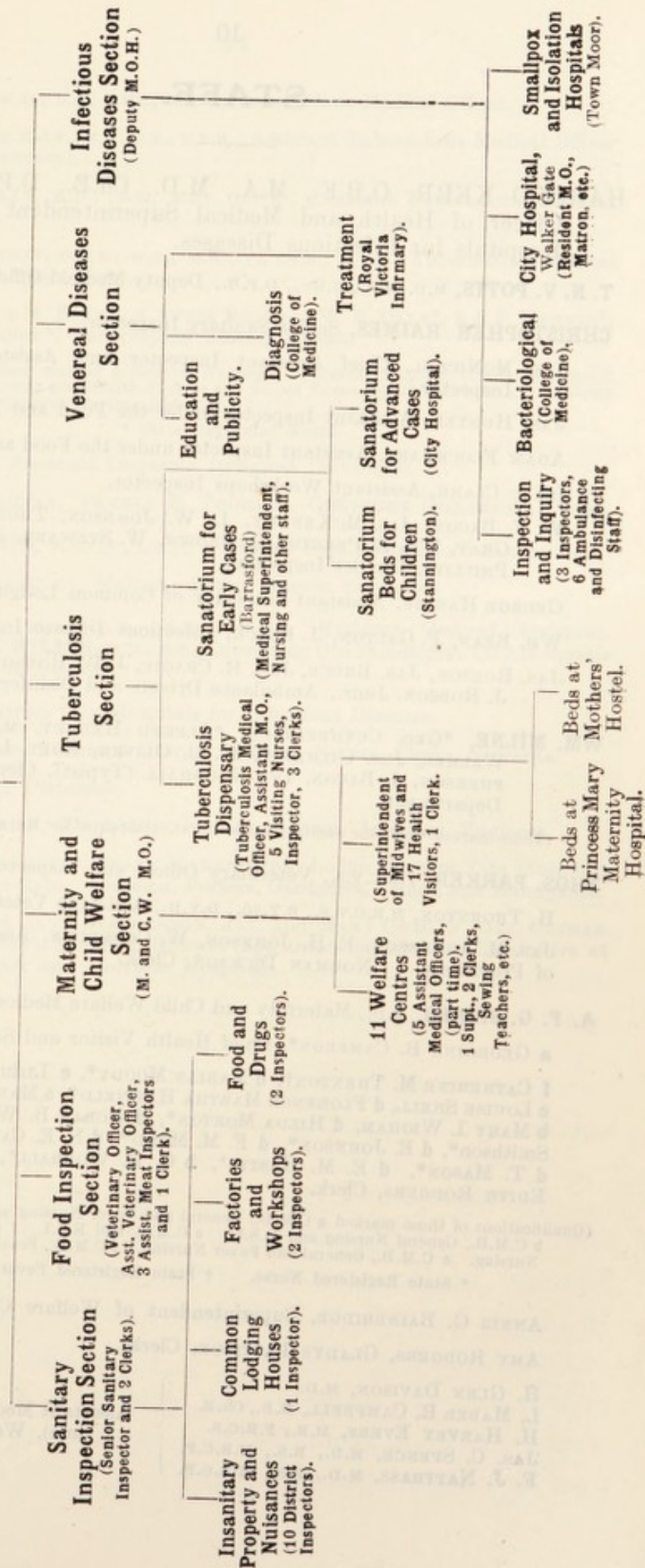
‡ Appointed by City Council.

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

Medical Officer of Health.

Health Department

(Deputy Medical Officer of Health and 8 Clerks.)



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, WM. E. PERKINS, J. BROWN, W. STEWART, A. KIRSOP, GEO. PHILLIPS, District Inspectors.

GEORGE HARDIE, Assistant Inspector of Common Lodging Houses.

WM. BEAN, F. GALTON, J. BLACK, 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, ROBT. LAWSON, D. MACPHERSON, J. BACON, 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, E. H. JOHNSON, W. COCKBURN, 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, 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 E. HISCO*, d T. MASON*, d E. M. HASTIE*, b C. R. WORRALL*, 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., B.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.R.C.P., M.B., B.S., D.P.H., Assistant Tuberculosis Medical Officer (resigned January).

I. M. McLACHLAN, M.D., B.S., B.Hy., 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 (resigned December).

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.

J. W. HUNTER, M.B., Ch.B., B.Hy., D.P.H. Resident Medical Assistant.
W. FRANK WILSON, M.B., B.S., Consulting Oto-rhinologist, City Hospitals
for Infectious Diseases.

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** (**JAS. GREGAN**
died May), **M. and I. ROBSON** (appointed September), 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,

In 1927 was experienced much of the after depression following upon the industrial disturbance of the previous year. Complaints of lack of business were general. The coal trade was extremely flat, and many pits were not working in consequence of non-success in foreign markets. Shipbuilding revived somewhat, and the shipyards were busy, although prices on the whole were not very remunerative. This, nevertheless, eased unemployment to some extent. The claims upon Poor Law relief in Newcastle continued to rise, and amounted to nearly half-a-million sterling for the year ended 31st March, 1927—£486,374, as against £401,024 in the previous twelve months. During the subsequent year—ending 31st March, 1928—there was a decided drop in the amount of relief, which amounted to £347,772 outdoor, and £35,688 indoor relief, £383,460 in all.

The cost of living figure had fallen from 79 to 69 per cent. above the pre-war rate by the end of the year.

Unemployment was somewhat less than in 1926, and, from information courteously supplied by the Manager of the Labour Exchange, had declined from 16,130 in January to 12,656 in June, but rose again to 16,634 at the end of the year. At the end of 1926 it was approximately 21,000. The number of unemployed women declined from 1,528 in January to 968 in July, rose to 1,260 in October and fell to 1,100 in December,

being substantially less than in the preceding year. All sources of relief have been taxed to their utmost capacity, and the result is seen in the numerous campaigns for funds conducted by nearly every charitable institution in the City.

CLIMATE.—1927 was a cold, grey year, with a miserable summer. August, the popular holiday month, was the wettest in the year, with a rainfall of 5.15 inches, nearly three inches of which fell in one continuous deluge, lasting more than 48 hours. Both winters were open and comparatively free from frost and snow.

The **Sunshine Records** were continued at Armstrong College by Professor Heigham, and at Cockle Park by Professor Todd. The amount of sunshine in Newcastle was less than in 1926, namely 899 hours, as compared with 1,085 hours, and that at Cockle Park was also less, 1,250, as compared with 1,449 hours. In 1926 there was noted a much less disparity than usual between the records of town and country, probably due to the lessened smoke produced during the great coal strike. The disparity in 1927, however, is a little more, and as is shown above, there was nearly 40 per cent. more sunshine fifteen miles away as in the City.

As was to be expected, the atmospheric pollution gauge in City Road showed an increased deposit upon the previous year, as did also to a lesser degree the gauges in Westgate Cemetery and in the Smallpox Hospital, the precipitation indicated being respectively 1,049, 464 and 272 tons of total deposit per square mile, as compared with 841, 413 and 263 tons per square mile in 1926. Analysis of the figures is interesting, since it shows that the City Road deposit contains very little tar indeed as compared with ash and other carbonaceous

material, thus indicating a pretty complete combustion of fuel in a mainly industrial area. In the Westgate district, which is almost entirely residential, the proportion of ash and of other carbonaceous material is very much lower indeed, leaving the tar in a relatively high proportion.

On the Town Moor not only is there little tar, but other carbonaceous material and ash are even less in proportion. Of the various constituents the tarry matters are by far and away the most damaging to buildings and to plant life. They indicate incomplete combustion and consequent wastage of fuel and the loss of very much of the volatile constituents of the coal. The progress of manufacture of low temperature carbonised fuel is being watched with anxious interest by all the best municipalities, and as soon as it is possible to purchase that at an economic figure many of them will be prepared to prohibit the present wasteful use of raw coal. Pulverised fuel is also receiving close attention by manufacturers and shipowners, and much is to be hoped from the development of this type of fuel.

Of smoke producers the domestic chimney in Newcastle is by no means the least offender, and indeed the factory chimneys are, as compared with other industrial areas, relatively inoffensive. The chief sinners were undoubtedly those belonging to the Corporation itself, namely, at the Tramways Power Station and the Public Baths. A very substantial improvement indeed has taken place in all of these during the past year, and the reflection of it may be seen in the figures from the City Road gauge, which is adjacent to the Tramways chimney. In fact the latter produces grit now in much greater quantity as the result of the forced draught used to improve combustion, and this itself, while not causing the

atmospheric opacity of the denser black smoke, creates a nuisance that is a considerable problem to engineers, as well as a nuisance to those upon whose premises and goods it falls.

A strong attempt is being made to establish a Regional Smoke Abatement Committee for Tyneside, the intention of which is to deal with all smoke within the area, since every Authority suffers from the atmospheric pollution caused by any one of them, but the business of getting all the different Authorities to agree upon one combined procedure is exceedingly difficult, as the negotiations are necessarily slow. However, a provisional body has been in existence for some time endeavouring to find a common policy. The Regional Committee is not to be entrusted with executive powers. These the component Authorities will not at this stage remit, and agreement has only been reached with regard to advisory functions.

The Registrar General estimated the **POPULATION** during 1927 to be 288,500, as against 284,700 in the previous year, and the Census figure for 1921 of 278,400.

The number of **MARRIAGES** during the year 1927 was 2,248, which is 175 more than in 1926, and about the same as in the previous years.

The **BIRTH RATE** continues to decline, having been only 18·7 births per 1,000 population, considerably the lowest yet recorded, while that for the whole country was only 16·7.

The **GENERAL DEATH RATE** was 12·4 per 1,000, and is again a record for the City, being the lowest yet attained. It was 12·3 for England and Wales and 12·2

for the great towns. As the centre of a great industrial area, therefore, Newcastle can be fairly regarded as a healthy place to live in.

The steady progress in the work of alleviating the gross overcrowding of the population has doubtless contributed its definite quota to this satisfactory state of affairs.

The *Natural Increase* of Population (Births minus Deaths) was 1,807, or practically two thousand less than the Registrar General's estimated increase of population.

In 1926 the Registrar General's estimate was that the population had declined by 1,600 upon the previous year, whereas the natural increase amounted to 2,365; from this it was deduced that we were at that time losing population by emigration, and it would seem that in 1927 immigration had recommenced. The Registrar General's figures are, of course, only estimated, but on the face of it, they do support the evidence of a slight improvement in economic conditions.

A broad analysis of the causes of death shows that diseases of the **Circulatory System** constitute a steadily growing class, which in 1927 accounted for about 21 per cent. of the total deaths, as against 20 per cent. in the previous year. These are caused by rheumatism, by stress and strain, and by late effects of such racial poisonings as syphilis and alcoholism. It is satisfactory to recognise the much greater attention that is being paid to-day to the somewhat vague condition known as rheumatism, which is the cause of such a vast amount of ill-health and of incapacitation from employment. So far it has been found that the term "rheumatism"

covers a variety of symptoms which may result from an even greater assortment of causes, and that like "influenza" the disease is not a specific one which can be cured by a single specific remedy. The infectious fevers, the diseases of childhood, tuberculosis, are all being overcome gradually, but rapidly, and only such conditions as cancer and those that result from "rheumatism" continue to take greater toll each year. It is high time, therefore, that these were being tackled and brought into the same falling category with the rest.

Respiratory Diseases caused 17 per cent. of all deaths in 1927, which is to some extent accounted for by the dampness of the climatic conditions experienced.

Diseases of the Nervous System claim much the same mortality as in 1926, the proportion of the total deaths in each year being 9 per cent.

Diseases of the Digestive System caused 6 per cent. of the total deaths, which is a comparatively low proportion.

Cancer deaths were rather more numerous in 1927 (342) than in 1926 (333), but are fewer than in the two preceding years (374 and 358). Nevertheless, they now amount to one-tenth of the total deaths in the City. In 116 cases the disease affected the stomach or liver, and in 74 the intestines, that is to say, in more than half the part affected was the digestive tract; in 75 cases the female genital organs or breast were involved, other organs in 55, and in 22 some part of the mouth. 168 deaths occurred in males and 174 in females, the latter sex always suffering more from this disease than the former. The average age at death was 59 for either sex.

A large amount of statistical investigation has been carried out during the year by members of the Health Department staff, more particularly in regard to the after-history of breast and uterus cases operated upon in the various Hospitals, the results being used by the Ministry of Health Committee on Cancer (Medical Officers of Health Sub-Committee), of which your Medical Officer of Health is a member. In the compilation of this information much difficulty has been experienced in the "follow up" of patients, as it is so often impossible to find members of the staffs available for this function. Nevertheless 2,000 consecutive cases in eight cities have been fully reported and analysed. One fact which has been definitely established is that the outlook for sufferers whose condition is diagnosed early and who receive surgical treatment without delay is very much more hopeful even than was previously realised.

During the year the University of Durham College of Medicine has set up a Cancer Investigation Committee for the Northern Counties and Newcastle upon Tyne, its purpose being, amongst other things, to raise funds for the provision of one or two whole-time medical investigators whose duties will include the obtaining of such information as the foregoing. Other functions of the Committee will depend largely upon the means at its disposal. By its establishment as a Branch of the British Empire Cancer Campaign, the Committee has ensured that results of its efforts will be correlated with those of all other cancer investigations, and that there will be no overlapping of effort. The British Empire Cancer Campaign is a central body upon which are represented all the various local committees and national associations engaged in fighting this great scourge. It

provides funds for investigators and persons engaged in research. It co-ordinates all efforts and advises upon their direction, and, in fine, serves a purpose of the first importance in the study of the causes and means of cure of cancer.

Diabetes has remained practically stationary in the death returns for the past seven years. Since 1923, when *insulin* was introduced for treatment, there has been only one death of a child under two years of age, two between 5 and 15, and one between 15 and 25, whereas in the four preceding years there were 5 deaths between 5 and 15, and 13 deaths between 15 and 25. It has never been suggested that insulin is a cure for diabetes, but it undoubtedly supplements the defective function of the pancreas so long as it is being administered. Therefore its administration has to be continuous.

EPIDEMIC AND INFECTIOUS DISEASE incidence remained low. Indeed the year under report has been altogether an exceptionally healthy one in regard to transmissible conditions.

With the exception of **Smallpox**, which kept recurring in repeated but fortunately very limited outbreaks, there was no general prevalence of any infectious disease. Smallpox was constantly being introduced into the City from surrounding areas, but each case was very thoroughly dealt with, and vaccination offered, accepted and performed in all the contacts. It is quite exceptional for this method of protection to be declined in Newcastle. The only instance in which point-blank refusal was experienced was in the case of a couple of lodging houses where members of the tramp class were involved, and one has to get up very early in the morning

to obtain consent from a tramp to any procedure for which one has not got legal powers of compulsion. Towards the end of November and the beginning of December 50 cases occurred in the Poor Law Institution, and a few others were found in the lodging houses mentioned above among men who had left the workhouse just before the first cases were discovered there. It is interesting to note that on the first outbreak the medical staff proceeded to vaccinate everybody in the Workhouse and in the Wingrove Hospital with the exception of one ward of aged and infirm persons who had not been, so far as could be ascertained, in contact with a case directly or indirectly. Towards the end of December, however, one or two cases of smallpox occurred amongst these, in one of whom, a patient dying from cancer, death was precipitated. There were no deaths from smallpox during the year. The casual wards were kept open throughout, thus enabling a number of vagrants who had the disease to be detected and isolated. The medical staff at the Wingrove Hospital acted with great promptitude and thoroughness in dealing with smallpox, and rendered invaluable assistance to the Health Department in preventing the spread of the disease.

Infantile vaccinations rose from 59 to 61 per cent. in 1927, but it should be noted that these figures apply to the area of the City within the Newcastle Poor Law Union only, that is, exclusive of Walker, where vaccination is more popular than it is in Benwell, for example. Low as these figures are, Newcastle continues to be one of the best vaccinated towns in England.

Measles was rather prevalent during April, May and June, and there were 32 deaths, which represents a case mortality of considerably below one per cent. of the cases

notified. Nearly all the patients' homes (87 per cent.) were visited by a Health Visitor for the purpose of ensuring that doctors' orders were being properly carried out, and if possible to trace other unnotified or suspected cases to whom a doctor should be called. There is no doubt that this low mortality—in great contrast with the state of affairs before this action was adopted—is partly, at least, the result of these visits.

Whooping Cough, fortunately, was of low incidence, and only 20 deaths (0·07 per thousand of population) occurred. This is one of the chief scourges of infancy which, on occasion, claims very many victims.

Diphtheria was comparatively infrequent, with 225 cases, but a case mortality of 7·1 per cent., indicating the occurrence of a rather more severe type than a few years ago.

The question of wholesale immunisation of the child population of the City against diphtheria has not been lost sight of, but it is felt that at present at least the circumstances scarcely warrant the procedure. In individual instances immunisation of contacts, ascertained by the Schick test to be susceptible to the disease, is performed.

The **Scarlet Fever** curve is at present in the descendant. There were 867 cases, with 6 deaths: a case mortality of 0·7 per cent. This is in strong contrast with the eighties, when more than 10 per cent. of all cases were fatal, and in certain outbreaks the fatality rate was sometimes as high as 50 per cent.

Enteric Fever has almost disappeared of late years. There were only 10 sufferers, of whom one was a nurse at the Royal Victoria Infirmary, who contracted her

infection during attendance on certain cases admitted from beyond the City, the diagnosis of which was obscure. The nurse had not been inoculated against the disease as are those at the City Hospital. Fortunately all the cases recovered.

Diarrhœa, also a rapidly disappearing disease, owing to better sanitation and better education of the people, caused 71 deaths, the lowest number ever recorded in the City. In 1901 this disease carried off 384 persons, mostly young children, and this number was nearly approached in several subsequent years. Maternity and Child Welfare work can fairly be credited with very much of this improvement.

One case of **Food Poisoning** came to notice. The diagnosis of this was difficult, acute appendicitis being first diagnosed, then typhoid fever, and only after bacteriological examination was an organism of the *Aërtrycke* group (mutton bacillus) discovered, which established the nature of the condition. No history of the source of the infection could be obtained, and the patient recovered.

There were three cases of **Acute Poliomyelitis**, or infantile paralysis, one of whom died, one recovered, and one removed from the City and has been lost sight of. There were seven cases of **Cerebro-spinal Fever**, two of whom died, and sixteen of **Encephalitis Lethargica** ("sleepy sickness"), of whom nine died. The last-named disease, which reached its highest prevalence in 1924, now appears to be dwindling out. This is most fortunate, as the disease is perhaps the most terrible, in its immediate and after effects, from which anyone can suffer. The latest information goes to show that 35 per cent. of cases die, 40 per cent. recover with more or

less mental or physical impairment, and 25 per cent. are found to have but slight consequences three years after their original illness. After effects, however, are apt to make their appearance even later than this.

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 1,493 cases of fever, etc., and 301 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.

DR. W. FRANK WILSON, the visiting oto-rhinologist, operated upon 43 cases (34 tonsils and adenoids, 8 mastoids, and one drum incision). One of these, a patient with tuberculous mastoiditis, and another with very extensive infection, died, but all the others made complete recoveries, and were discharged from hospital within three weeks of the operation.

The use of scarlet fever antitoxin for all patients suffering from severe or complicated attacks of the disease has been continued, complications clearing up quickly, and although this class of case was rather more frequent than in the previous year, the fatality rate was exactly one-half. Coincidentally with the increasing use of scarlet fever antitoxin its price has fallen from 25s. in 1925 to 10s. per 10 c.c. at present.

57 members of the nursing staff suffered from various illnesses, including four from scarlet fever, 16 from influenza, 8 from tonsillitis and three from other causes. Of the domestic staff 31 were off duty through sickness, one suffering from scarlet fever, ten from influenza and

eight from tonsillitis. Over 1,900 days' duty were lost by nurses and domestics through ill-health.

No member of the staff suffered from scarlet fever or diphtheria since all became protected by inoculation, and the only cases of scarlet fever amongst them occurred prior to May, when a system of ascertaining susceptibility to the disease, followed by immunisation of every susceptible, was undertaken, and is being continued. These measures will result in a very considerable saving of lost duty time to the Hospital, and of much risk and suffering to members of the staff.

The use of the beds in the City Hospital is not restricted to that for which they were originally provided, namely, scarlet fever, diphtheria and enteric fever, but the needs for isolation of every class of infection are met so far as possible. Thus the patients admitted to the wards included 173 cases of pneumonia, 63 of measles, 55 of erysipelas, 14 of chickenpox, 13 of encephalitis-lethargica, 12 of cerebro-spinal fever, 10 of gastro-intestinal conditions other than typhoid or para-typhoid, 4 of whooping cough, and 2 of ophthalmia neonatorum.

The *Smallpox and Isolation Hospitals*, with 72 and 100 beds respectively, were in use throughout the year for 175 cases of smallpox and 194 contacts with this disease, the stay of the latter being only very temporary, in most cases merely to permit of the thorough disinfection of their homes.

Bacteriological Examinations.—5,402 specimens were submitted to the Department of Bacteriology of the College of Medicine for examination. This is the highest number of examinations yet carried out in any year. Of these 1,875 were in respect of diphtheria, tuberculosis and enteric fever, 2,499 were for venereal disease, 741

were of milk, 187 of water, and the remaining 100 were special investigations.

The **Disinfecting Stations** at Walker Gate, and at the Moor Hospital, dealt with 53,369 articles from the City and the Hospitals. The total amount spent by the Health Department on chemical disinfectants (formalin, izal, etc.), only amounted to £55, of which £15 was for the Hospitals.

The **Venereal Disease** clinic at the Royal Victoria Infirmary, under PROFESSOR SIR ROBERT A. BOLAM, Chief Specialist Medical Officer, is shared with the other County Boroughs and County Councils of Northumberland and Durham, who bear the cost proportionately to the number of patients from their respective areas. The number of cases treated, which declined steadily since 1921, has risen during the last couple of years. In 1926 there were 290 cases of syphilis and 438 of gonorrhœa, while in 1927 there were 362 cases of syphilis and 525 of gonorrhœa. The attendances per case are now 17·5, indicating that treatment is persisted in until there is reasonable probability of cure. Nevertheless 41 per cent. of patients ceased their attendances before the completion of treatment.

Ophthalmia Neonatorum (inflammation of the eyes in the newly-born, and usually due to gonorrhœal infection from the mother) was notified in 58 instances. All recovered. There are 401 registered blind persons in Newcastle to-day, and of these 76 are stated to have been blind from birth, but only two of them are under five years of age, and one of these was not born in Newcastle, while the other is stated to have a congenital malformation of the eye. This is most satisfactory proof of the efficiency with which ophthalmia neonatorum is looked after.

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

The **MATERNITY AND CHILD WELFARE** Section (under DR. A. F. G. SPINKS) has carried out its usual programme. While the birth rate has fallen substantially and now stands at only 18·7 per thousand population, as compared with 21·0 in 1926 and 33·4 in 1900—when it was already declining—the proportion of babies which failed to survive until their first birthday has remained stationary at 88 per thousand births for the last three years. That this is the lowest fatality rate we have as yet experienced is true, but it is not as it should be, and is actually tantamount to a slight retrogression, since the fewer the births the greater should be the survival rate among them.

Diarrhoea was hardly seen at all, and the deaths from it were fewer than in any other year, proof of a much better informed motherhood.

1927, while notable for no extremes of temperature, was a sunless year even for Newcastle, and young children suffered considerably from respiratory diseases, particularly bronchitis and pneumonia, which caused more deaths than in either of the previous two years. The general health of the babies was not quite as good as usual, presumably owing to the absence of sunshine. Whooping cough and measles, the other two worst killers of infants, were extraordinarily rare. Deaths among illegitimate children—the unwanted babies—were at a 50 per cent. higher rate than among those born in wedlock. Two-thirds of the deaths among all infants occurred in the first three months of life, and one-half of these in the first month.

Nearly one-half of all the deaths of children under one were the result of conditions affecting them before birth. During the past quarter of a century, whereas the death rate of babies from post-natal causes has declined to one-third of what it was before, that from ante-natal influences is almost unchanged. These facts, while indicating that we are essentially on the right lines at the Welfare Centres in looking after the babies and *keeping them well*, demonstrate incontrovertibly the crying need for very much greater attention to the pregnant women. This is borne out by the **maternal mortality** statistics, which, in spite of the greatly diminished birth rate, have undergone no decrease in Newcastle during the present century. The same applies to puerperal sepsis, the incidence of which is fortunately low in this city.

At the eleven welfare centres in the City there were 378 ante-natal medical sessions, and these were attended 2,937 times by 1,047 individual mothers. This indicates a growing popularity which is most encouraging, and will be fostered in every way possible. The success of such sessions depends almost entirely upon the personality of the medical officers, and we are very fortunate in Newcastle in that respect.

The chances of survival vary considerably in the different parts of the City. Thus in All Saints' Ward there was an infantile mortality rate of 119 per thousand births, whereas in Heaton it was only 38. Birth rates and infantile death rates do not exactly correspond, but as a rule there is a rough parallelism, the high birth rate being usually accompanied by a high infantile mortality, and the high birth rates occur most commonly among the poorest and most crowded populations.

Confinements were attended, as previously, in about equal proportions by medical practitioners, by midwives, and by the Princess Mary Maternity Hospital. The midwives conduct the great majority of the simple uncomplicated cases, sending for medical help when anything abnormal arises. The Princess Mary Maternity Hospital takes charge of most births in the poorest sections of the community, including very many of the difficult and complicated labours, many of which are also sent in to the Hospital from other districts.

There were 46 practising midwives in the City, five only remaining 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 359 instances. Arising out of these were 239 claims from doctors for fees amounting to £282, and one from a midwife for 17s. 6d., under the Midwives Act, 1918. Each case was closely investigated before payment was approved.

The midwives receive regular supervision and tuition by the Superintendent of Midwives (MISS GEORGINA B. CAMERON).

Attention has been drawn by Her Majesty Queen Mary, and by Parliament, to the continued loss of maternal life during, or in consequence of, the normal physiological process of childbirth, and also to the unrecorded serious consequences, not always fatal, but none the less disabling, that result from it. The Minister of Health, Right Honourable Arthur Neville Chamberlain, M.P., is himself deeply interested, and has set up a Committee, upon which your Medical Officer of Health has the honour to serve, to direct investigations through-

out the country into the causes of, and means for checking, this wastage of lives at their most valuable stage.

Owing to the sunlessness of the year, and the prevalence of respiratory diseases, arrangements were made for the provision for babies of a standardised emulsion of cod liver oil at cost price, and much benefit was noted where this was obtained.

Owing to the unemployment everywhere dried milk was also distributed free and at cost price. Formerly an income limit of 5s. per head of family per week, exclusive of rent, was in use, but this has had to be abandoned owing to the large number who would come within it, and now only the very poorest receive free milk. Even so, this amounted last year to $18\frac{2}{3}$ tons (equivalent to over 26,000 gallons of fresh milk), which was distributed among 2,086 babies, while coupons for about 21 tons of dried milk at cost price were given for 1,241 babies. Only mothers attending the welfare centres with their babies were assisted in this way, 32 per cent. of whom obtained free milk, and 19 per cent. the cost price article.

At the eleven welfare centres were held 1,099 medical sessions for mothers and babies, and these were attended by 6,522 babies more than seven times each, the average attendance at each session being 42.4, which is more than can be satisfactorily dealt with by the medical staff. There is need for provision of more medical sessions.

The thirty or so regular *voluntary workers* are a great asset. They undertake for the most part the non-medical work of the centres, supervising the sewing meetings, giving lessons in simple cooking and housewifery, and so forth, and, of particular importance, conduct nursery schools at St. Peter's and Diana Street Centres.

A third nursery school was run for part of the year at Wharnccliffe Street, but was discontinued owing to the difficulty of obtaining suitable teachers. The efforts of these ladies are very much appreciated both by the Department and by the mothers. Mrs. Brackenbury's report is included in Section II.

The Health Department and the Princess Mary Maternity Hospital continue to work in the closest relationship, both aiming at the same results, and each is complementary to the other. In this Hospital Newcastle possesses one of its greatest assets. There are few, if any, towns where maternity is so well cared for as here, the Hospital being one of the largest and most complete schools in the country for the training of both medical students and midwives.

The *Babies' Hospital and Mothercraft Centre* in West Parade has developed into an institution doing excellent work upon lines that do not in any way overlap with other institutions. The babies treated are for the most part what are known as "wasters," and from their chronic condition are not readily admitted to other Hospitals. With its keen staff, enthusiastically interested in the scientific aspect of conditions which are not too well understood, and in the training of children's nurses, this Hospital, which was originally merely a crèche, meets a real need. Recognising this fact, and the great public service rendered, the Health Committee has wisely increased its annual grant to the Hospital.

The *Newcastle Day Nursery* in New Bridge Street, and the *Hostel for Unmarried Mothers* in Osborne Road have continued their useful functions, also in co-operation with the Department, and a grant is paid each year to them by the Health Committee.

On October 1st there came into force the Midwives and Maternity Homes Act, and under this there have been registered 12 private institutions accommodating women for confinement. Several applications from untrained persons were also received, but were not granted. All those registered were of very satisfactory type.

TUBERCULOSIS.—In spite of the industrial depression the attack rate for tuberculosis of the lungs (consumption) is lower than it has ever been before in Newcastle—1·75 per 1,000 population, while the death rate has dropped from 1·16 to 1·09, also the lowest mortality on record for the City. Other forms of tuberculosis also show a slight decline (attack rate 0·94 per 1,000 population, and death rate 0·29), so the total of both classes is still showing diminution. A more rapid fall may be confidently anticipated when times improve and work is more plentiful.

The special machinery for dealing with this disease has been frequently described. It consists of the Tuberculosis Dispensary, under DR. GEORGE HURRELL, to whom are referred all notifications received by the Medical Officer of Health. The Dispensary serves as a general clearing house for classification and observation of the patients, from which they are passed on to curative sanatoria or advanced case hospital, if appropriate for their needs.

As was brought out with striking emphasis in the *Tyneside Papers*, recently issued by the Bureau of Social Research for Tyneside, this part of the country suffers from a particularly virulent and rapid form of the disease, which largely accounts for the fact that so many patients do not come under medical treatment in a sufficiently early stage to make probable a cure from

sojourn in sanatorium. The tuberculosis death rate for Tyneside as a whole is high ; for Newcastle it is one of the lowest in the district, though still above that of the country as a whole. As a consequence of this fulminating type of pulmonary tuberculosis, as we know it, it is always difficult to keep the beds at Barrasford Sanatorium fully occupied, whereas those at the Advanced Case Hospital, Walker Gate, are maintained at their fullest capacity, and indeed there has been a waiting list of patients. In consequence of this the Health Committee is now building an additional pavilion at Walker Gate for these cases.

The Dispensary keeps in touch with all notified cases whether in Sanatorium, or receiving home treatment by their private doctors, who furnish periodical reports of progress. The other members of patients' households are also brought up to the Dispensary by the tuberculosis visiting nurses for overhaul, so that many incipient cases are discovered before they are aware that they are ill, and are thus given the chance of cure. Tuberculosis is largely an affair of environment, and the gradual improvement of housing conditions in the City is all to the good. As regards consumptives whose home surroundings are of a nature prejudicial to their recovery or to the health of the other members of the family, the Housing Committee gives very great assistance by allowing them precedence for Corporation houses, and assists very materially in finding better accommodation for those who are unable to afford the rent of a new house.

On return from Sanatorium, or in the case of a patient treated at home, the *Voluntary Tuberculosis Care Council*, which includes the Chairmen of the Health Committee and of the Tuberculosis Sub-Committee and

the Medical Officer of Health and Tuberculosis Medical Officer, renders that much-needed help without which the Corporation's unaided scheme would be futile. The Health Committee makes a grant to this body, which undertakes essential work that the Health Committee is not itself permitted to do.

The scheme for the establishment of workshops for occupational therapy at Barrasford Sanatorium was completed during the year in preparation for the next estimates. It has since been approved by the City Council, and also by the Ministry of Health.

The average duration of life after the commencement of illness of the fatal cases of pulmonary tuberculosis was about 3 years 11 months in adult males, 2 years 9 months in adult females, and $11\frac{1}{2}$ months in children. The period between notification of the disease and death was only, on an average, $19\frac{1}{2}$ months. 89 per cent. of the patients who attended the Dispensary and died in 1927 had at one time or another been afforded institutional treatment in Sanatorium or Hospital—a very high proportion.

With bad housing there is increased tuberculosis; thus for the 10 years 1918-1927 the death rate in All Saints' Ward was 2.28 and for St. John's 1.91, whereas in Jesmond and in St. Thomas' Wards the rates were only 0.71 and 0.81. The Tuberculosis Medical Officer reports all insanitary conditions in connection with the homes of patients to the Senior Sanitary Inspector, who effects whatever improvements are possible.

The average stay of patients in the 30 beds leased at *Stannington Sanatorium* for children was 267 days for boys and 237 days for girls. The number of beds available is not nearly sufficient for the needs of the City.

Of the 44 patients, 12 were improved, 2 did not respond to treatment, and in the remainder the disease was rendered quiescent.

At *Barrasford Sanatorium*, the Medical Superintendent (DR. C. G. R. GOODWIN) reports that 43 of the 90 beds have been in constant occupation by Newcastle cases, and 117 of the 216 total admissions were from the City. The stay in the Sanatorium averaged 118 days, which is not nearly sufficient to ensure a cure, or even quiescence. All types of treatment are in use for appropriate cases ; the great majority of the patients improved, but quiescence of the disease was only obtained in those who had no tubercle bacilli in their sputum (pleural effusion and early cases) the stay of the others not being nearly long enough.

Dr. Goodwin draws special attention to the fact that owing to careful diagnosis there are very few admissions to the Sanatorium of patients who have not got tuberculosis. This is, of course, reflected in the results, which do not compare at all favourably with some other sanatoria which produce many so-called "cures."

Admissions from other Authorities have fallen off considerably, as in several instances these have made provision for their own cases.

In *Barrasford Sanatorium* the Health Committee possesses an institution which will compare exceedingly favourably in management, cost, and in true results with any other Sanatorium in the Kingdom. The visit which the Corporation paid to it in August must have proved a revelation to many who participated. Its situation is glorious, and its only deficiency at the present time is in amenities for both patients and staff. The latter particularly suffer from very cramped quarters, and there

is little or nothing for them in the way of recreation, the remoteness of their situation cutting them off from all the amusements open to the town dweller. It is the more essential, therefore, that they should have good accommodation.

The *Advanced Case Hospital* at Walker Gate admitted 301 patients, of whom 186 were males and 115 females. The average length of stay was, as in Barrasford also, under four months. Rather more than half the patients improved considerably, 19 of them to the extent of being passed on to Barrasford Sanatorium for treatment. 63 left without improvement, and 70 died in Hospital. The chief purpose of this Hospital is segregation in the interests of the other members of the family and of the community generally, an invaluable aid to the control of spread of infection. Every effort is made to apply the most suitable treatment to each case, and the Hospital is well equipped for the purpose, being run in conjunction with the Infectious Diseases Hospital. Staffing and administration generally is a good deal simpler than at Barrasford.

No addition to the *Open Air School* accommodation for the City has been undertaken as yet by the Education Committee. That Institution serves a most valuable public health purpose, and could with great advantage be repeated in other parts of the town. The *Dental Clinics* of the Education Committee are doing excellent work in that they heal dangerous gaps in the defences against access of the tubercle bacillus.

FOOD AND PROVISIONS. Bovine Tuberculosis.—

376 samples of milk were examined for the presence of tubercle bacilli, which were found in 14 of them, equivalent to 3·7 per cent. Except for 1924 (3·2 per cent.), this is the lowest percentage of infected, and infective, milk found since 1919.

In the report for 1926 it was stated that more than 10 per cent. of the samples from Cumberland had been found to be tuberculous, but in the present year (1927) only one tuberculous sample was obtained from that county. As Cumberland is the principal source of the City's milk this result is very gratifying. The Tuberculosis Order, 1925, together with the Milk and Dairies (Consolidation) Act, 1915, have already proved their value in that the County Council responsible for the area from which emanates a milk found to be tuberculous now deals promptly with the farm concerned, and any tuberculous animal is speedily removed from the herd and destroyed.

The graded milks, that is, those sold under the Milk (Special Designations) Order, 1923, namely, "Certified" and "Grade A (Tuberculin-Tested)", are both being produced in a quantity that exceeds the demand, which is limited by their higher price. Persistent education cannot make way against deficiency of means to pay the additional charge, but it is gratifying to know that the producing farms compare most favourably with any in the country. Only persistent advocacy of the advantages of this tubercle-free milk will increase its use. A number of institutions dealing with children, notably hospitals and schools, now use graded milk from tuberculin-tested herds.

The Veterinary Officer and Inspector of Provisions (Mr. THOMAS PARKER, F.R.C.V.S.), reports that there are now 18 cow-keepers occupying 29 cow sheds on 19 premises, with 334 milch cows, within the City. This is a still further decrease of our dwindling herds. Within a City's boundaries is no place for the production of milk. There is only one advantage about it, and that is that the animals are kept under close supervision by the more adequate staff of an urban Health Department. Mr. Parker, or the Assistant Veterinary Officer, inspected all the cows at least four times in the year, and 11 were found to be diseased, six of them being tuberculous.

There are 101 separate slaughter-houses in 15 different localities in the City. As Mr. Parker has pointed out, the change of day on which the cattle market is held, and the provision of auction rings, has resulted in a steady growth of business since 1925, until at the present time the market is filled pretty well to its utmost capacity. The bringing of this about has also been aided in no small degree by the great increase of motor transport for the animals. The pressure upon the various slaughter-houses is becoming ever greater, and in spite of the increased requirements they are diminishing in number. The structural state of the Dispensary Lane group, which has been licensed for only six month periods for many years now, is really shockingly bad, and if only there was alternative accommodation these 40 killing shops should have been closed and demolished long ago as utterly unfit for the purpose of preparing food for human consumption. There never was greater need of a public abattoir than exists to-day, and the time was never more opportune for the construction of a new market and abattoir, not necessarily to serve

Newcastle alone. The proper inspection of carcasses is impossible at the present time owing to the scattered position of the killing centres, and their division into multitudinous little private booths. We cannot afford to be dependent upon the goodwill and *bona fides* of the butchers, who are, if willing, at least unskilled in the detection of disease.

New bylaws in respect of slaughter-houses were confirmed by the Ministry of Health on 30th December. These embody the requirement for the use of a mechanically operated instrument in case of animals slaughtered, with the exception of those killed in accordance with Jewish methods. This requirement was strongly resisted by certain sections of the butchers, but as mechanical means of slaughter had already been in use by some of the principal members of the trade within the City, and with complete success, for a considerable period, the opposition was not of a very serious nature. No one who has seen the different methods of slaughter could for a moment hesitate as to which is the most humane means of carrying out what may easily be a repulsive, cruel and savage operation.

432 carcasses with 4,499 lbs. of meat were seized and condemned during the year, 40 per cent. being on account of tuberculosis. 304 food-carrying vessels came to the Quayside during 1927, which is 47 more than in 1926, 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 1,160 samples for analysis, including 805 of milk. Of the latter 536 were rough-tested in the

Health Department and appeared to be genuine. Of the remaining 269 the Public Analyst (Dr. J. T. DUNN) found 33 to be below the minimal limits fixed by the Sale of Milk Regulations, 1901. Of the 355 samples of food and drugs other than milk 13 were found to be "not genuine," and one was "doubtful."

15 milk cases were taken to Court and convictions were obtained in 11 of them with fines aggregating £18. Cautions were issued by the Health Committee in respect of 13, and no proceedings were taken in 5 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.

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

188 samples of milk were examined for evidence of excremental pollution, which was found present to an undesirable degree in 76 (or 40·4 per cent.), as compared with 45·8 per cent. in 1926 and 35·9 per cent. in 1925. A great proportion of dirty milks occurred between June and September, when 73 per cent. were found polluted. This is much the most unsatisfactory feature of the milk trade, and it is only too evident that there is any amount of room for clean milk competitions and similar efforts. Milk coming from a distance (Dumfriesshire, Cumberland and Yorkshire), as one would anticipate, showed the worst bacterial counts. Over 25,000 empty churns were examined on the railway stations in course of return to the farmers, and only 29 of them (0·1 per cent.) were found not to have been rinsed. There were examined in addition to the foregoing 5,779 empty churns passing through Newcastle in course of transit to the

farms from retailers outside the City. Of these 3, or 0·05 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 result of the action taken proved very satisfactory in each instance.

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 233 small shops in which milk is sold, with other articles, as against 277 in 1926. These are kept under close observation and strict control as to licences. In addition to these, there are 250 shops selling sterilised milk in sealed bottles. These shops are also carefully controlled and are fairly satisfactory. Milk hawkers have become much too common in the town and a determined effort is being made to get rid of these irresponsible people, and in fact to cut out many of the smaller traders whose means of handling this readily contaminable but vital food are unsatisfactory. On the other hand there is a growing tendency for dairymen to sell their ordinary milk bottled, which is a decided improvement on their previous practice. A couple of automatic machines, exceedingly well constructed, and selling milk in pennyworths, have been set up in poorer parts of the town, and have been the means of distributing excellent milk in first class condition.

The ice-cream trade has been maintained under supervision, and permits to manufacturers to sell are given by the Health Department. A number of applicants were refused during 1927 for sanitary reasons, and

there are now 115 premises licensed for manufacture, as compared with 122 in 1926, and retailers have been reduced from 202 to 181. Since this practice was adopted in Newcastle many years ago there has been complete freedom from infectious disease conveyed by ice cream in the City. The most objectionable side of the retail trade is the hawking of ice cream from stalls and carts on the street, where the conditions are very far from ideal in many instances. A recent innovation and improvement of this type of trade has been by the sale of the commodity in closed wax paper containers, previously prepared under good conditions, the ice cream in this way not coming in contact with either the hands of the retailer or dust from the street.

11 offences against the Public Health (Preservatives, etc., in Food) Regulations, 1925-1927, were detected. Cautions were administered in seven instances, and prosecutions instituted in four. The latter resulted in fines amounting to £3.

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.

187 samples of water were examined for the presence of bacillus coli as indicative of excremental pollution, animal or human. 94 were characterised by the Bacteriologist as satisfactory, 60 as doubtful, and 33 as unsatisfactory. The proportion of unsatisfactory samples was

far too high and resulted in a further development of chemical filtration (by chlorination), which has since produced an immense improvement in the Bacteriologist's returns.

Bread baking is still carried on in 101 domestic bakeries, where small quantities are made and sold to people living round about. There is nothing to prevent this being done, and on the whole the conditions are pretty good, but it is decidedly inadvisable that bread should be baked for sale in what is practically part of a dwelling house.

THE HOUSE AND THE WORKPLACE.—Nuisance Abatement.—The Senior Sanitary Inspector (MR. C. RAIMES) dealt with 11,287 nuisances, which is 894 more than in 1926. In connection with these 5,928 notices were served, and in all but 16 instances these were effective without legal proceedings.

There is still a vast amount of overcrowding, which shows no signs of lessening. This is not confined to the slum parts of Newcastle, but is also found in better class houses where there is a great deal of sub-letting. In consequence of this it is still well nigh impossible to issue closing orders in connection with insanitary property, there being an almost complete absence of alternative accommodation.

713 dry closets have been removed, with 109 dry ashpits, at the owners' expense. There now remain 1,846 conservancy closets, but progress in conversion is back to the pre-war rate, in spite of the fact that most of the dry closets remaining are in fairly good condition—for privies. Most of these are in the Byker and Walker areas. In the latter the land is leasehold, and many of

the leases have only a short time to run, which rather adds to the difficulty of inducing owners to effect structural improvements.

Atmospheric Pollution.—927 observations were made of 93 industrial chimneys, as compared with less than half that amount of observations in the previous year. Nine chimneys only showed excessive output of smoke, on 13 occasions. 95 informal notices, however, were served upon occupiers of premises whose chimneys were observed to be giving off "black" or excessive "medium" smoke. In October an attempt was commenced to set up a Regional Smoke Abatement Committee for Tyneside. A provisional body has been established as the result in which all the riparian Authorities but Wallsend participate. So far, however, it has only been given advisory powers with regard to legal proceedings, and limited executive powers as regards inspection. Progress in obtaining complete agreement between so many different Authorities is exceedingly slow, and at times exasperatingly so.

The readings of the three atmospheric pollution gauges in Newcastle, and the sunshine records for Newcastle and Cockle Park, 15 or 16 miles out in the country, have already been referred to on page 13.

Housing.—2,244 new houses were erected during the year, 1,779 in Corporation schemes and 465 by private enterprise. At the end of the year there were 479 in course of erection by the Corporation. Of the Corporation houses 243 were "compensatory" for houses demolished under improvement schemes, as also were 83 of those in course of erection, so that the contribution to the housing shortage only represented 1,536, with 396 partially completed.

As already stated, overcrowding does not appear to get any less although the municipality has built 4,067 houses since the war and 2,176 have been erected by independent agencies.

In 1927 the death rates were 16·3 per thousand in St. Andrew's Ward, 16 in St. John's, and 15·6 in St. Lawrence, where congestion is great, as compared with 7·2 in Dene, and 7·4 in Fenham, where the density of the population is less. In St. John's ward the death rate from all forms of tuberculosis was 2·13 per thousand population, while in Dene it was 0·67. Approximately 34 per cent. of the population live in one-room and two-room houses, yet over 46 per cent. of the deaths from consumption were in this class of dwelling. In St. Nicholas' Ward 211 babies under one year of age died to every thousand born, and in All Saints' 119, whereas in Heaton the rate was only 38, and in Dene 40 deaths of infants per thousand births. Over a period of 20 years the deaths of babies in one-room, two-room and three-room houses have been 131, 116 and 97 per thousand births respectively.

The three condemned areas (Lower Pilgrim Street, Prudhoe Street and Liverpool Street) have been completely demolished, and the majority of the tenants are housed in Leazes Dwellings and at Cowgate. A small residue who could not pay for the accommodation offered them (and who as a rule did not pay or paid very irregularly for that they already occupied) refused to budge, and every effort was made to get them other accommodation elsewhere, which they would not accept ; these were ultimately evicted. They comprised the shiftless and entirely unsatisfactory type of individuals who provide the converse to the truism that slums make slummers. With the exception of a very small proportion, who have had to give up their new houses in the Cowgate district,

owing to unemployment or remoteness from their work, most have settled down well, and proved excellent tenants; they have found satisfaction in the cultivation of their gardens, which are a great credit to the locality. To the children especially the transplantation from a slum to one of the healthiest spots in the City's outskirts has proved a veritable revelation, and has provided them with the means of living wholesome, healthy lives. The losses in rents are almost negligible, and arrears are small; the latter are strictly comparable with those in other areas with a superior type of tenants who are suffering equally from unemployment. The most notable defect is that a small proportion of the colonists have not made any attempt to furnish their houses, having been accustomed in their previous slums to spend all the money they acquired upon other things than household plenishment. These no doubt will ultimately drift back to slums, but they are exceedingly few, and to the vast majority their new and so greatly improved surroundings have proved a real stimulus. There is no question that the municipal housing has had a wonderful effect in raising the domestic tone of large numbers of the "submerged tenth."

The Insanitary Property Sub-Committee is at present dealing with Elswick East Terrace with a view to its ultimate declaration as an "insanitary area."

The accommodation in *common lodging houses* continues to be adequate. At the end of the year there were 42 of these houses, five having been demolished in the Pilgrim Street area and three new ones registered. There are two lodging houses for women, but these, although extremely well conducted, are very inadequately filled. There is no doubt that there is need of such, but

the difficulty is to popularise them with the class which needs them and which drifts into undesirable quarters elsewhere.

Factories and Workshops, Offices, Places of Amusement and Schools.—8,537 inspections of *factories and workplaces* were made and 312 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 uses the kata-thermometer to estimate the efficiency of their ventilation. 34 halls were so examined, involving 71 separate tests, and the results show an improvement upon those previously made. Thus of the 33 places tested in 1926, 19 of which came within a few points of the required standard, this year 21 reached it and are termed "first class." As regards "second class," in 1926 only 10 attained the standard, but in 1927 13, so that the "third class," of which there were 4 in 1926, no longer exists, and it is confidently anticipated that all will shortly be gradable as "first class."

Tents, Vans, Sheds, etc.—By the latter half of the year caravans had become very numerous in certain spots about the town, all of which were quite unsuited for squatters. There were 82 caravans altogether, and these involved the staff in 975 visits. Much difficulty was experienced in getting them cleared out, and the problem is only now being satisfactorily solved.

The **Temperance Festival** was held as usual in June, in fairly good weather, and with an enormous concourse of people. From the public health aspect this great fair was well managed, the sanitary accommodation being increased, and the ice-cream, milk and food stuff retailers being under much closer control.

NEW LEGISLATION.—The Nursing Homes Registration Act, 1927, provides for the registration and inspection of nursing homes (including maternity homes) as from the 1st July, 1928.

Among other items of legislation the Bakehouses' Welfare Order, 1927, directed more particularly against so-called "baker's itch," came into force. It stipulates for washing facilities and other suitable safeguards for the workers.

POPULAR EDUCATION.—Numerous lectures and addresses upon public health subjects were given by the medical staff to social bodies of various kinds in the City.

No organised Health Week was held, the pressure of work upon the staff being too great to allow of the diverting of their attention to such an undertaking.

ORGANISATION.—In November a general re-organisation of Committees was effected throughout the Corporation in order to relieve individual Councillors of the immense load of duties which the ever-growing responsibilities of Local Government had brought upon them. This was effected by reducing by one-half the membership of Committees, and by the abolition of a number of Sub-Committees or fusion of their functions. As a consequence the Health Committee now consists of 14 members in place of a previous 25. The Maternity and Child Welfare Committee became a Sub-Committee of

the Health Committee, and the membership of it is reduced from 29 to 11, including three instead of ten co-opted members. The Sub-Committees on Accounts, Hospitals, Human Tuberculosis and Insanitary Property remain much as before, except that they are smaller, and a General Purposes Sub-Committee embraces all remaining Sub-Committee functions. This has undoubtedly made for expedition in business, and while easing the load for Councillors has at the same time simplified the work of the staff. Members of Committees are better able to become thoroughly acquainted with the work of the Department, and thus to take a more intelligent and active interest in the business.

Throughout the year the department has functioned efficiently and smoothly, thanks to the loyalty of all members of the staff, and to the ready support of yourself, Sir, and the Committee.

I have the honour to be, Sir,

Your obedient servant,

H. Ferr.

M.D.,

Medical Officer of Health.

Health Department,

Town Hall,

Newcastle-upon-Tyne,

7th July, 1928.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

Health Report, 1927.

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

† Prior to 1981 figures uncorrected for cases belonging to other Districts.

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1927—**288,500.**

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 Public Open Spaces in acres.	Nett Area in acres.	Population per acre, gross.	Nett.
St. Nicholas'	2,769	127	1	126	22	22
St. Thomas'	13,922	1,636	1,111	525	9	27
St. John's	15,458	169	1	168	91	92
Stephenson	18,872	215	..	215	88	88
Armstrong	15,731	178	31	147	88	107
Elswick	12,843	253	17	236	51	54
Westgate	15,375	90	1	89	171	173
Arthur's Hill	11,532	142	6	136	81	85
Benwell	18,678	550	27	523	34	36
Fenham	17,025	1,189	4	1,185	14	14
All Saints'	17,816	176	2	174	101	102
St. Andrew's	11,920	173	3	170	69	70
Jesmond	11,264	441	33	408	26	28
Dene	16,266	818	88	730	20	22
Heaton	15,609	225	27	198	69	79
Byker	17,609	140	5	135	125	130
St. Lawrence	18,045	181	7	174	100	104
St. Anthony's	15,886	601	..	601	26	26
Walker	21,810	1,149	34	1,115	19	20
CITY	288,500	8,453	1,398	7,055	34	41

INHABITED HOUSES.—**63,115** inhabited houses, which, on the estimated population, shows an average of 4·6 persons per dwelling.

RATEABLE VALUE.—**£2,426,590.** A penny rate produced £9,438.

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, 1927, was £450,505 for outdoor relief, and £35,869 for indoor maintenance, making a total of **£486,374**, as compared with **£401,024** in the previous year.

The number of registered unemployed was 17,658 at the beginning of the year, and 17,734 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.—2,248 marriages took place during the year, as compared with 2,073 in 1926, and 2,299 in 1925.

BIRTHS.—5,395, equivalent to a rate of 18·7 per 1,000 population.

DEATHS.—(All causes)—4,468, equivalent to an uncorrected rate of 15·5 per 1,000 population, and, after deduction of the deaths of 1,058 non-citizens, and addition of 178 Newcastle residents who died elsewhere, to a corrected rate of 12·4 per 1,000 population, the lowest on record. In 1926 the death rate was 12·8.

11 deaths were uncertified (senile decay, 3 ; premature birth, 8.)

17 *Orders for Burial* (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were made, 4 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. Circu- latory.	IV. Respira- tory.	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
1927	328	751	615	204	123

INFANTILE MORTALITY.—474 infants died before completing the first year of life, representing a rate of **88** deaths per 1,000 births.

ZYMOTIC DEATH RATE.—There were 145 deaths from the “Chief Zymotic Diseases”—smallpox, measles, scarlet fever, diphtheria, whooping cough, fever (typhus, simple continued, and enteric) and diarrhoea (all ages)—equivalent to 0·50 deaths per 1,000 population.

TUBERCULOSIS.—400 persons died from various forms of tuberculosis, 316 being from pulmonary, and 84 from non-pulmonary. The equivalent death rates are: *all forms* 1·38, *pulmonary* 1·09, and *non-pulmonary* 0·29 per 1,000 population.

For comparison of death rates with previous years see large table page 50A.

For particulars of deaths, as to site of disease, age, etc., see table, page 60A.

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

CLIMATOLOGY.—The following is supplied by the courtesy of the “North Mail and Newcastle Daily Chronicle” :—

The mean barometer reading was 29·86 inches.

The mean maximum and minimum temperatures were 55·8F. and 44·5F. respectively.

The total precipitation of rain for the year was 29·11 inches, which exceeded the local average of 27·89 inches by over an inch. Rain fell on 143 days only.

The wettest month was August, with a total rainfall of 5·15 inches, showing an abnormal excess of 2·44 inches, as compared with the local average. On the seventh of that month a deluge of nearly 3 inches (it continued for over 48 hours) occurred.

The driest month was February, during which rain fell on only seven days, making a total of 0·55 inches, or 0·85 inches below the local average.

As usual, westerly winds were prevalent, and the following table shows the frequency of the directions :—

W.	on 21 days.
N.W.	on 139 „
N.	on 2 „
N.E.	on 37 „
E.	on 1 „
S.E.	on 78 „
S.	on 4 „
S.W.	on 83 „

Sunshine.

Sunshine records have been available by the courtesy of Professors G. W. Todd and C. Higham, of Armstrong College. The observations are taken at Cockle Park Farm (fifteen miles north of the City, and in a rural area), and at the College itself. During the year 899 hours of sunshine were registered in the City, as compared with 1,250 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 filters at Whittle Dene and Throckley. It was found, however, that filtration did not secure the degree of freedom from bacteria which was desirable, and during the last two years it has been supplemented by chlorination, with marked improvement.

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 134.

SEWERAGE.—There are 303 miles 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 64,716 dry ashtubs and galvanised iron bins, and 60,662 water closets and 1,846 conservancy system closets in the City. Conversion of the latter is proceeding steadily and during 1927, 553 pail-closets, 151 cell privies, and 9 privies with 6 ashpits were removed and water closets substituted. All the schools are served by the water-carriage system.

ADOPTIVE AND LOCAL ACTS IN FORCE.

Adopted Acts.—Infectious Disease (Prevention) Act, 1890. Section 4.

Public Health Acts Amendment Act, 1890.—Part III—Whole of; Part IV.—Whole of.

Public Health Acts Amendment Act, 1907.—Part II.—Sections 20, 22, 23, 26, 27, 28, 29, 30, 31, and 33; Part III.—Sections 34, 35, 36, 37, 38, 43, 45, 48, 49, 50 and 51; Part IV.—Sections 52, 53, 56, 58, 59, 61, 62, 63, 64, 65 and 68; Part X.—Whole of.

Public Health Act, 1925.—Part II., Sections 15, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33 and 35.

Part III.—Whole of.

Part IV.—Whole of.

Part V.—Whole of.

Local Acts.—Newcastle-upon-Tyne Improvement Act,	1837.
„ „	1846.
„ „	1853.
„ „	1865.
„ „	1870.
„ „	1882.
„ „	1892.
Newcastle-upon-Tyne Tramways and Improvement Act	1899.
Newcastle-upon-Tyne Corporation Act ..	1911.
Newcastle-upon-Tyne Corporation Act ..	1926.

VITAL STATISTICS, YEAR 1927.

COMPARISON WITH OTHER DISTRICTS.

DISTRICT	Birth Rate.	General Death Rate.	Infantile Mortality Rate.	Death Rate per 1,000 from Enteric Fever, Smallpox, Scarlet Fever, Measles, Whooping Cough, and Diphtheria	Tuberculosis (all forms) Death Rate.
England and Wales	16.7	12.3	69	0.27	0.97
107 Great Towns (includ. London)	17.1	12.2	71	0.32	1.11
NEWCASTLE-UPON-TYNE	18.7	12.4	88	0.26	1.38
Hull	21.0	13.2	82	2.80	1.20
Leeds.....	16.3	13.0	81	0.41	1.17
Bradford	14.7	14.6	94	0.40	0.98
Sheffield	16.2	12.3	91	0.42	0.89
Manchester	17.1	13.8	86	0.53	1.38
Salford	17.3	13.9	81	0.35	1.66
Liverpool	22.2	13.9	94	0.70	1.40
Nottingham	17.4	14.1	81	0.36	1.10
Leicester	16.2	12.2	75	0.33	1.41
Stoke-on-Trent	21.2	14.3	99	0.51	1.35
Birmingham	17.8	11.6	75	0.28	1.05
Cardiff	18.0	12.6	80	0.25	1.54
Bristol	16.3	12.3	57	0.24	1.21
Portsmouth	17.0	12.6	55	0.46	1.00
London (County).....	16.1	12.1	59	0.27	1.05
Gateshead.....	21.5	13.0	93	0.37	1.55
South Shields	19.8	13.3	92	0.31	1.56
Tynemouth	19.9	12.9	77	0.25	1.40
Sunderland	22.4	13.8	94	0.43	1.36
Middlesbrough	24.1	14.2	87	0.40	1.45
*County of Northumberland	17.9	11.5	77	0.27	1.02
*County of Durham	20.0	12.2	96	0.42	1.10

* Administrative County.

Vital Statistics of Whole District during 1927 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.			
		Uncor-rected Number	Nett.		Number	Rate.	of Non-residents registered in the District.	of Resi-dents not reg-istered in the District.	Under 1 Year of Age.		At all Ages.	
			Number	Rate.					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
1927	288,500	6,215	5,395	18.7 ||	4,468	15.5	1,058	178	474	88	3,588	12.4

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

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

† 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.

|| " " " 289,100.

Corrected Death Rates in different Wards, 1927.

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.
11·9	10·6	16·0	13·8	13·9	14·4	11·5	12·1	11·5	7·4	14·6	16·3	10·3	7·2	10·5	12·8	15·6	12·5	12·9	12·4

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

Corrected Death Rates in Different Wards, 1927.

100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200

All deaths occurring in 1927 are included in the table. The table is arranged in alphabetical order of the wards.

RETURN OF DEATHS FROM "ALL CAUSES" DURING THE 52 WEEKS ENDED 31st DECEMBER, 1927—Continued.

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, 1927.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the Year ..	2,985	2,904	5,889	181	145	326	6,215
Nett „ „ „	2,615	2,555	5,170	120	105	225	5,395
Nett Deaths under 1 year ..	263	182	445	17	12	29	474
Death Rate per 1,000 births	100	71	86	142	114	129	88

BIRTHS (CORRECTED) IN WARDS IN THE DIFFERENT QUARTERS OF THE YEAR 1927.

WARD.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTALS.
St. Nicholas'	9	14	7	8	38
St. Thomas'	44	46	35	23	148
St. John's	87	90	85	93	355
Stephenson	117	119	120	90	446
Armstrong	91	83	74	81	329
Elswick	50	49	59	43	201
Westgate	82	63	60	60	265
Arthur's Hill	25	24	19	16	84
Benwell	108	121	121	103	453
Fenham	52	57	62	74	245
All Saints'	94	91	87	98	370
St. Andrew's	68	66	60	59	253
Jesmond	24	34	23	24	105
Dene	37	40	55	42	174
Heaton	39	48	49	46	182
Byker	87	88	90	84	349
St. Lawrence	119	120	122	110	471
St. Anthony's	101	97	75	83	356
Walker	128	155	139	149	571
CITY	1,362	1,405	1,342	1,286	5,395

DISTRIBUTION OF DEATHS.

WARDS.	Nett Deaths of Children under 1 year of age in 1927.					Children under 1 year of age— Death rate per 1,000 Births.	Birth Rate per 1,000 Popula- tion (cor- rected).
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.		
St. Nicholas' ..	2	2	3	1	8	211	13.7
St. Thomas' ..	3	1	..	3	7	47	10.6
St. John's	11	3	8	9	31	87	22.9
Stephenson ...	8	12	6	14	40	90	23.6
Armstrong ...	11	2	2	12	27	82	20.9
Elswick	10	1	7	5	23	114	15.6
Westgate	9	4	3	7	23	87	17.2
Arthur's Hill .	2	1	..	4	7	83	7.3
Benwell	14	3	8	6	31	68	24.2
Fenham	4	3	2	12	21	86	14.4
All Saints'	17	6	6	15	44	119	20.8
St. Andrew's .	11	5	1	10	27	107	21.2
Jesmond.....	1	3	2	1	7	67	9.3
Dene	2	2	1	2	7	40	10.7
Heaton	2	2	2	1	7	38	11.7
Byker	9	8	1	9	27	77	19.8
St. Lawrence .	13	7	8	12	40	85	26.1
St. Anthony's .	14	8	6	10	38	107	22.4
Walker	16	15	8	20	59	103	26.2
CITY.....	159	88	74	153	474	88	18.7

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

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 31ST DECEMBER, 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.	
GENERAL DISEASES.																					
Measles	..	..	..	..	..	..	3	..	3	..	..	..	..	1	1	..	1	3	..	3	..
Whooping Cough	..	..	..	1	1	..	1	1	4	7	..	..	..	..	..	..	1	1	4	7	2
Diphtheria	..	..	..	..	..	1	2	2	1	6	..	..	..	..	..	1	2	2	1	6	2
Influenza	..	..	..	..	..	1	1	..	..	2	..	..	..	..	..	1	1	..	..	2	2
Erysipelas	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	1	..	1	2
Chickenpox	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	2
Pyæmia, Septicæmia	1	..	..	..	1	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2
Tuberculosis of the Central Nervous System....	..	..	..	..	..	1	3	2	4	10	..	..	..	..	..	1	3	1	4	9	6
Tuberculosis of Peritoneum and Intestines.....	..	..	..	..	..	1	2	1	..	4	..	..	..	..	..	1	2	1	..	4	2
TOTAL TUBERCULOSIS	..	..	..	..	..	2	5	3	4	14	..	..	..	..	..	2	5	2	4	13	8
Syphilis	3	..	..	..	3	3	2	..	1	9	1	..	..	..	1	3	2	..	1	7	6
Ophthalmia Neonatorum.....	1	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
GENERAL DISEASES NOT INCLUDED ABOVE.																					
Rickets, Softening of Bones	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1
DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS.																					
Meningitis	..	..	1	..	1	1	2	3	..	7	..	..	1	..	1	1	1	2	..	5	3
Infantile Convulsions	4	7	1	..	12	2	3	4	1	22	3	5	..	..	8	2	3	4	1	18	8
Other Diseases of the Nervous System.....	..	..	..	..	..	..	1	..	1	2	..	..	..	..	..	..	1	..	..	1	2
DISEASES OF CIRCULATORY SYSTEM.																					
Diseases of the Lymphatic System.....	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1
DISEASES OF RESPIRATORY SYSTEM.																					
Laryngitis.....	..	..	1	..	1	..	..	..	..	1	..	..	1	..	1	..	..	..	..	1	..
Bronchitis	1	4	1	4	10	15	11	11	6	53	1	3	1	4	9	15	11	9	6	50	4
Broncho-pneumonia.....	..	1	1	2	4	21	20	17	23	85	..	1	1	2	4	21	19	16	21	81	21
Lobar Pneumonia	..	..	..	..	..	..	..	2	1	3	..	..	..	..	..	..	..	2	1	3	1
Pneumonia (type not stated).....	..	..	..	1	1	2	3	3	3	12	..	..	..	1	1	2	3	3	2	11	1
Carried forward.....	10	12	5	8	35	49	51	50	49	234	5	9	4	8	26	48	49	45	43	211	65

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	1927
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	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	55.6
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	22.6
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	38.6
Death-rate of Infants under 1 year per 1,000 births, from Diarrhoea 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	9.3
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	6.5
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	0.6
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	1.3
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	27.1
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	2.4

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

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

†"Diarrhoea and all other Digestive Diseases" includes Diarrhoea, 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 60A and 64A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1927, per 1,000 births in the years 1923 to 1926 (inclusive) was 9.5. The corresponding figure for each of the previous five years was as follows:—1926, 11.1; 1925, 15.1; 1924, 13.8; 1923, 14.3; 1922, 13.8.

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	1927
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	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	55.6
Death-rate of Infants from <i>Pre-mature Birth</i> , 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	22.6
Death-rate of Infants under 1 year per 1,000 births, from <i>Premature Birth</i> , plus all <i>Congenital Causes</i> *	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	38.6
Death-rate of Infants under 1 year per 1,000 births, from <i>Diarrhoea and all other Digestive Diseases</i> †	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	9.3
Death-rate of Infants under 1 year per 1,000 births, from <i>Infantile Atrophy, Debility and Marasmus</i>	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	6.5
Death-rate of Infants under 1 year per 1,000 births, from <i>Measles</i>	..	..	..	..	..	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	0.6
Death-rate of Infants under 1 year per 1,000 births, from <i>Whooping Cough</i>	..	..	..	..	..	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	1.3
Death-rate of Infants under 1 year per 1,000 births, from <i>Respiratory Diseases</i>	..	..	..	..	..	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	27.1
Death-rate of Infants under 1 year per 1,000 births, from <i>Tuberculosis (all forms)</i>	..	..	..	..	..	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	2.4

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

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

†"Diarrhoea and all other Digestive Diseases" includes Diarrhoea, 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 60A and 64A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1927, per 1,000 births in the years 1923 to 1926 (inclusive) was 9.5. The corresponding figure for each of the previous five years was as follows:—1926, 11.1; 1925, 15.1; 1924, 13.8; 1923, 14.3; 1922, 13.8.

ANALYSIS OF THE MORTALITY OF INFANTS UNDER FIVE YEARS OF AGE

Year	Infants under 1 year	Infants 1 to 2 years	Infants 2 to 3 years	Infants 3 to 4 years	Infants 4 to 5 years
1900	1,000	1,000	1,000	1,000	1,000
1901	1,000	1,000	1,000	1,000	1,000
1902	1,000	1,000	1,000	1,000	1,000
1903	1,000	1,000	1,000	1,000	1,000
1904	1,000	1,000	1,000	1,000	1,000
1905	1,000	1,000	1,000	1,000	1,000
1906	1,000	1,000	1,000	1,000	1,000
1907	1,000	1,000	1,000	1,000	1,000
1908	1,000	1,000	1,000	1,000	1,000
1909	1,000	1,000	1,000	1,000	1,000
1910	1,000	1,000	1,000	1,000	1,000
1911	1,000	1,000	1,000	1,000	1,000
1912	1,000	1,000	1,000	1,000	1,000
1913	1,000	1,000	1,000	1,000	1,000
1914	1,000	1,000	1,000	1,000	1,000
1915	1,000	1,000	1,000	1,000	1,000
1916	1,000	1,000	1,000	1,000	1,000
1917	1,000	1,000	1,000	1,000	1,000
1918	1,000	1,000	1,000	1,000	1,000
1919	1,000	1,000	1,000	1,000	1,000
1920	1,000	1,000	1,000	1,000	1,000

ANALYSIS OF THE MORTALITY OF INFANTS UNDER FIVE YEARS OF AGE

ANALYSIS OF THE MORTALITY OF INFANTS UNDER FIVE YEARS OF AGE

ANALYSIS OF THE MORTALITY OF INFANTS UNDER FIVE YEARS OF AGE

Report of the Maternity and Child Welfare Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

General.

Viewed from the young child's standpoint 1927 must be regarded as a bad year in that it was comparatively cold, wet, and sunless. It is too soon yet to say what the total effect of that on children will be, but it is already certain that there is an increase of those diseases which we look to a normally warm summer to improve and diminish, such as the respiratory diseases, the anæmias, and rickets; and it is probable, too, that the delicate nervous system of children received a setback from last year's bad weather. Indeed—and in spite of the fact that there were one or two bright spots in it, such as fewer deaths from summer diarrhœa—the year 1927 was an enemy of childhood, and everyone connected with child welfare will hope for better climatic conditions in the present year.

It is gratifying to report that we have now at our disposal contrivances which, while not displacing natural sunshine—nothing can do that—offer, nevertheless, a substitute, and for the first time the annual estimates of the City allow us a small sum to spend on obtaining artificial sunlight for those children attending the Centres who would be benefited by exposure to the rays of an ultra-violet lamp. In addition, it is our intention to utilise for the same purpose voluntary agencies offering similar facilities.

In the early part of the year—February to March—there was a widespread epidemic of Influenza in the City, which, though of an apparently mild type, nevertheless brought about a comparatively high mortality among young children in the first quarter of the year. This was contributed to by deaths from respiratory diseases which for the whole year showed an increase of 34 per cent. over the preceding year. In an endeavour to minimise the effects of these two diseases, arrangements were made to supply through the centres a coupon enabling parents to obtain an excellent standardised emulsion of cod liver oil at cost price, and great benefit has already accrued from this procedure.

It is interesting to note that infantile summer diarrhoea prevailed throughout the summer, in spite of the cool, wet weather, but the deaths from this particular cause only numbered 42, compared with 66 in 1926.

Towards the end of the year (October) there was an epidemic of infectious conjunctivitis which prevailed among children of all ages and—in some cases—among the parents. It was especially prevalent in the Buckingham Street area. A Health Visitor was specially detached to deal with it, and experience proved that simple remedies sufficed to stamp the disease out. Swabs from children's affected eyes were taken and submitted to the City Bacteriologist, who reported the presence in all of the Koch-Weeks Bacillus, which is the specific cause of the disease. The visit of this rather uncommon condition may possibly be one of the indirect results of a sunless summer.

New Legislation.

The following Acts and Ministry Orders applying to Maternity and Child Welfare took effect during the year :—

1. Nursing Homes Registration Act, 1927.
2. Births and Deaths Registration Act, 1926.
3. Ministry of Health Circulars :—

No. 790 (9/5/27) Conditions under which the new Certificate may be granted to Health Visitors.

No. 802 and 802 (a) (20/6/27) Registration of Still-births.

No. 802b (15/8/27) Cremation of bodies of still born children.

(A) Public Health (Condensed Milk) Amendment Regulations, 1927.

(B) Public Health (Dried Milk) Amendment Regulations, 1927.

No. 1 provides for the compulsory registration of nursing homes (including maternity homes) and supervision by the Local Authority, whom it empowers to make bye-laws ; to refuse or cancel registration ; and to grant exemptions in respect of hospitals or institutions not carried on for profit. It repealed the Midwives and Maternity Homes Act of 1926 as from July 1st, 1928.

No. 2 and Circulars 802 and 802a apply mainly to what has hitherto been an unsatisfactory part of Public Health returns, viz., still-births. The Act gives lucid definitions of the terms " still-birth " and " still born," and requires the registration of all such births by the Registrar of Births and Deaths as from July 1st, 1927.

Circular 802 (a) requests Maternity and Child Welfare authorities through enquiries made by their Health Visitors to assist the Registrar in forming an opinion that any particular still-birth is free from all suspicious circumstances.

Circular 802 (b) forbids the cremation of the body of a still born child anywhere except in a recognised and approved crematorium.

A and B are "primarily designed to secure that in the labelling of condensed and dried skimmed milks greater prominence shall be given to the words 'unfit for babies,' and that those words shall also be printed on the outside of any paper or other wrapper in which tins of such milks may be enclosed."

Staff Changes.

The following members of the Health Visiting Staff resigned during the year: Misses M. L. Hopper and M. Raine.

These were replaced by Misses C. R. Worrall and E. M. Hastie.

Ante-Natal Centres.

It is gratifying to be able to report substantial progress in this important phase of Maternity and Child Welfare work. Each year witnesses a wider and more enlightened outlook on the part of expectant mothers regarding the necessity for skilled guidance during pre-maternity months, and less and less difficulty in getting mothers under supervision is now experienced. At one time it was necessary to plead with women to take a step which was so obviously in their own interest, but that attitude is rapidly disappearing, and in many cases requests to be referred to an ante-natal session are coming from the mothers themselves. Two additional

sessions were added to the Corporation Centres during the year, and 1,047 women—nearly a quarter of the City's expectant mothers—attended the clinics. In addition, it must be noted that there were the numerous instances of residents in the City Road area who—attending the Centre for the District—were referred to the Ante-Natal Sessions held twice weekly in the Princess Mary Maternity Hospital.

The importance of the ante-natal period will be constantly kept in view and further facilities offered as opportunity occurs.

Attendances at the Ante-Natal Centres :—

YEAR.	SESSIONS.	INDIVIDUALS.	ATTENDANCES.
1923.....	95	281	618
1924.....	170	414	1072
1925.....	319	679	2135
1926.....	376	1015	2628
1927.....	378	1047	2937

Toddlers.

The policy of giving the pre-school child a Centre day to itself once a month has been successful, and again there is an increase in the number of such children attending (see table). A noticeable feature of the toddlers is the large number who have decayed teeth. Enquiries in many such cases reveal the consumption of excessive quantities of sweets—usually of a poor quality. Mothers are warned against this and the children are recommended for dental treatment. Where rickets is the contributing cause, dietetic and other measures are taken. In all cases simple dental hygiene is advised.

TODDLERS ATTENDING THE NEWCASTLE CENTRES.

YEAR.	NUMBER OF CHILDREN.
1923	1,627
1924	1,726
1925	1,992
1926	2,268
1927	2,542

Nursery Schools.

The success of the two nursery schools—one at St. Peter's and one at Diana Street—is well maintained, and the numbers attending are satisfactory. A third school was started in Wharncliffe Street Centre during the year, but was discontinued owing to difficulty in getting suitable teachers. These schools are carried on by volunteers, and demand not only a good deal of time, but also a good deal of skill, which may not be easy to find, being something of the nature of specialisation. It is pleasant once more to pay tribute to those ladies who so kindly give their services and abilities to this good cause, and to express the gratitude felt by all interested.

Births.

The birth rate in the City gets smaller each year, and in 1927 there were 612 fewer births than in the preceding year. I have nothing to add to the comments on this subject made in previous reports. It is possible that when prosperity returns to Tyneside the matter will right itself.

YEAR.	BIRTHS.
1923	6,367
1924	6,335
1925	6,215
1926	6,007
1927	5,395

Deaths.

474 of the City's children died before they had reached the completion of their first year of life, as compared with 530 in the previous year, and of this number, 222—or 47%—died before they were one month old. Of the children who died during the first month of life, 154 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 222. “Debility” and “marasmus” are also prominent stated causes of early death. The high mortality among multiple births was noted in a previous report, and of two sets of triplets born during 1927, all died. Thus two households alone contributed six deaths to the mortality figures. The deaths among twin children numbered 41, compared with 55 in 1926.

The number of deaths attributed to bronchitis and pneumonia was 145, as compared with 106 for 1926. The following table shows graphically what is set out above :—

	1924.	1925.	1926	1927.
Deaths of children during first week of life	202	167	169	154
Deaths of children during first month ..	285	248	226	222
Deaths from Prematurity	169	118	124	122
Deaths of Twins and Triplets	73	50	55	41
Deaths from Pneumonia and Bronchitis	176	141	106	145

Sex Infant Mortality.—Of the 5,395 children who were born in the City during the year, 2,735 were boys and 2,660 were girls: that is there were 75 more boys than girls. 280 boys (or 102 per thousand of those born) died during their first year, compared with 194 girls (or 73 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. :—

Deaths from Pneumonia and Bronchitis	Deaths of Twins and Triplets	Deaths from Prematurity	Deaths of children during first month	Deaths of children during first week of life
145	41	122	222	134
141	30	118	218	127
108	53	124	224	169
116	73	169	285	201
141	60	118	218	127
141	60	118	218	127

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 Johnson ..	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	Dr. Spinks	Miss Smithson ..	Wednesday, 10 a.m. Mr. Harvey Evers.
Portland Street, Elswick ..	Salvation Army Rooms, Portland Street	Friday, 2 p.m. 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 Wharnccliffe Street (see below).
St. Peter's	Corner of Glasshouse Street ...	Friday	Dr. Glen Davison ...	Miss Hisco	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.
Wharnccliffe Street, Scotswood Road	18, Wharnccliffe Street	Wednesday....	Dr. Mabel Campbell	Miss Shell	Tuesday, 10 a.m. Dr. Mabel Campbell.

* Changed to Thursday on 1st December, 1927.

In 1927 the attendances numbered 46,672, a decrease of 4,025, but an increase of 1,196 on the figures for 1925. In 1927 3,131 children made their first attendance at the Centres, as compared with 3,725 in 1926.

It will be noted from the following table that the number of individuals attending the Centres continues to increase yearly.

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
1927 ...	46,672	6,522	7.1	42.4

Sewing and Knitting Classes.

The attendances at these are well maintained, and the facilities offered and instruction given are much appreciated.

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 to 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 them.

Dried Milk.

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

MONTH.	FREE. lbs. 1927.	AT COST PRICE. lbs. 1927.
January	3,760	3,938
February	3,430	3,844
March	3,944	5,141
April	2,626	4,340
May	2,458	4,375
June	2,847	3,731
July	2,985	4,494
August	2,844	3,638
September	4,272	4,279
October	3,608	3,309
November	3,855	3,075
December	5,222	2,943
	41,851	47,107

Number of children attending Centres :—6,522.

Number of children who were given free milk :—
2,086, or 31·9 per cent. of those who attended the Centres.

Number of children who received orders for milk at cost price only :—1,241, or 19 per cent.

Of the total amount given free :—

40,404 lbs. were given to children.

1,447 lbs. were given to 166 expectant mothers.

MATERNITY AND CHILD WELFARE CENTRES, 1927.

MONTH.	Ante-Natal Sessions.	Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.			Medical Sessions	
		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.
January	32	276	207	25	23	243	22	265	1282	1115	2397	2357	1613	3970	92	43.1
February	32	286	207	16	14	233	33	266	1258	1157	2415	2310	1719	4029	92	43.7
March	40	303	217	28	22	272	40	312	1347	1154	2501	2843	1899	4742	115	41.2
April	25	193	150	11	10	204	27	231	1165	957	2122	2074	1329	3403	77	44.1
May	32	232	170	20	16	221	41	262	1264	981	2245	2517	1493	4010	92	43.5
June	19	171	142	5	5	141	17	158	1068	823	1891	1615	1092	2707	60	45.1
July	32	270	194	13	13	317	31	348	1328	865	2193	2645	1344	3989	92	43.3
August	30	215	166	11	11	234	29	263	1273	939	2212	2399	1414	3813	88	43.3
September	40	287	204	22	18	275	46	321	1340	1084	2424	3141	1965	5106	115	44.4
October	32	251	191	11	11	203	57	260	1254	1039	2293	2386	1568	3954	92	42.9
November	32	221	171	14	14	196	47	243	1122	984	2106	2079	1525	3604	92	39.1
December	32	232	162	13	9	167	35	202	1005	942	1947	1856	1489	3345	92	36.3
Total	378	2937	*1047	189	*105	2706	425	3131	*3980	*2542	*6522	28222	18450	46672	1099	42.4

* Number of actual individuals during year. The same persons attend during different months, so that these figures do not represent total of column.

MATERNITY AND CHILD WELFARE CENTRES, 1927.

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.	Number.	Average Attendance.	Boys.	Girls.				
Benwell	48	399	146	25	25	296	40	336	443	336	779	2830	1733	4563	92	49.5	20	405	374
Byker.....	48	484	178	57	25	388	62	450	543	312	855	3587	2186	5773	140	41.2	21	412	443
City Road.....	..	..	..	..	..	202	32	234	288	209	497	2007	1858	3865	98	39.4	17	249	248
Diana Street	49	435	160	34	34	354	60	414	499	341	840	3761	2976	6737	142	47.4	19	423	417
Portland Street	47	308	127	28	3	263	39	302	406	271	677	2874	1614	4488	98	45.7	18	361	316
Scotswood	..	..	..	..	..	108	12	120	154	114	268	1531	1170	2701	94	28.7	11	136	132
Shieldfield	..	..	..	..	..	242	48	290	367	234	601	2605	2051	4656	98	47.5	21	294	307
Spital Tongues	..	..	..	..	..	69	13	82	112	63	175	1007	360	1367	47	29.0	1	97	78
St. Peter's.....	47	185	60	7	6	285	40	325	426	273	699	3033	1427	4460	96	46.4	18	384	315
Walker	92	603	246	14	3	273	36	309	421	209	630	2617	1568	4185	96	43.5	22	325	305
Wharnccliffe St.	47	523	130	24	9	226	43	269	321	180	501	2370	1507	3877	98	39.5	12	249	252
Total ..	378	2937	1047	189	105	2706	425	3131	3980	2542	6522	28222	18450	46672	1099	42.4	180	3335	3187

SUMMARY OF CENTRE REPORT, 1927.

<i>Total Sessions, all Medical</i>	1,099	Average attendance at each....	42.4
<i>Total Individuals</i>	6,522	Average visits per individual....	7.1
<i>Total Ante-Natal Sessions</i>	378	Average attendance at each	8.2
<i>Total Ante-Natal and Post-Natal Individuals</i>	1,152	Average visits per individual....	2.7
<i>Benwell Ante-Natal Sessions</i>	48	Average attendance, 8.8; average visits per individual	2.4
<i>Byker Ante-Natal Sessions</i>	48	Average attendance, 11.2; average visits per individual	2.6
<i>Diana St. Ante-Natal Sessions</i> ..	49	Average attendance, 9.5; average visits per individual.....	2.4
<i>Portland St. Ante-Natal Sessions</i>	47	Average attendance, 7.1; average visits per individual.....	2.5
<i>St. Peter's Ante-Natal Sessions</i> ...	47	Average attendance, 4.0; average visits per individual.....	2.9
<i>Walker Ante-Natal Sessions</i>	92	Average attendance, 6.7; average visits per individual	2.4
<i>Wharnccliffe St. Ante-Natal Sessions</i>	47	Average attendance, 11.6; average visits per individual	3.9
<i>Illegitimate Children Attending</i> ..	180		

Total Deaths (children attending centres) 119 (all ages).

Death Rate „ „ „ 18.2 per 1,000 (all ages).

Death Rate among all the Infants in the
City under 1 year..... 88 per 1,000 births.

SEWING AND KNITTING CLASSES, 1927.

CENTRE.	SUBJECT.	TEACHER.	DAY.	Attend- ance.	Sessions.	Average
Benwell	Sewing and Knitting	Miss Crawford	Thursday	459	49	9.4
Byker	Sewing and Knitting	Miss Whipp	Friday	587	55	10.7
Do.	Do.	Do.	Wednesday			
City	Knitting	Miss Whipp	Wednesday	1395	96	14.5
City	Sewing	Miss Stokoe	Thursday			
Diana Street	Sewing	Miss Stokoe	Wednesday	1297	97	13.3
Diana Street	Knitting	Miss Whipp	Thursday			
Portland Street ...	Sewing and Knitting	Miss Robson	Tuesday	698	47	14.8
Scotswood	Sewing and Knitting	Miss Whipp	Tuesday	513	46	11.1
Shieldfield	Sewing	*Mrs. A. Holmes	Tuesday	480	47	10.2
Spital Tongues	Sewing	Miss Stokoe	Monday	633	46	13.8
St. Peter's	Sewing	Miss Robson	Wednesday	679	49	13.8
St. Peter's	Knitting	Miss Crawford	Wednesday			
Walker	Knitting	Miss Crawford	Friday	440	47	9.4
Wharnccliffe Street .	Sewing and Knitting	Miss Crawford	Tuesday	488	48	10.2

* Voluntary Worker.

Voluntary Workers.

One or more 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 1927.

The year's work does not differ much from that reported last year. There have been 627 sewing and knitting classes, with an attendance of 7,669. The voluntary workers number about 30, and help on sewing and doctor's days. There are two well attended Play Centres, held at St. Peter's and Diana Street, where the mothers gladly send their children, between two and five years, one morning a week. It was gratifying that Dr. Turnbull, of the Ministry of Health, wrote with warm approval of what she saw at the Play Centres. Another was started at Wharnccliffe Street, but owing to the workers being unable to continue, after running it successfully for some months, it is for the moment in abeyance.

Many young and expectant mothers have made outfits at very moderate cost, and with good materials and patterns. At one Centre a mother is attending the sewing with her 16th baby, and receiving help in all the needlework needed by her family. The penny cup of tea, sometimes supplemented by gifts of cake, is much enjoyed. Toys, including a rocking horse at Portland Street, have been provided for the children's enjoyment at the Centres, and Christmas and garden parties have been given by the voluntary workers. Mothers have been sent with their babies for rest and change to the

Rose Joicey Home ; others have been helped to pay for dental attention.

The Centres have been made more attractive with the co-operation of the Maternity and Child Welfare Committee, better rooms, tables, and cots having been provided.

The writer would like to report that she recently had the advantage of seeing the Maternity and Child Welfare work in Vienna, where there is at present an Exhibition under the auspices of such distinguished authorities as Professors Pirquet and Durig and Dr. Hamel. There were many things of great interest, especially in the treatment of children of school age.

The sewing teachers and caretakers merit great praise for the way they carry out their duties. I should like to refer with regret to the loss of Miss Stokoe, one of the most capable sewing teachers, whose health has obliged her to retire in June, 1928, after many years of useful work under the voluntary Society and the present authorities. Also to the death of Mrs. Alexander, caretaker at St. Peter's Centre since its inception, who was loved by all the mothers for her kindness and interest in all that concerned them. Her influence there is greatly missed.

WINIFRED BRACKENBURY,
Chairman of the Voluntary Workers' Committee.

Notification of Births Acts.

Of the 6,215 births (gross) which were registered in the City in 1927, 4,692, or 75·5 per cent. were notified as follows :—

Notified by.	Living Births.	Still-Births.
Medical Practitioners	767	26
Midwives	1865	40
Maternity Hospital	1730	100
Wingrove Hospital	127	7
Gables Maternity Home	189	9
Parents	14	..
	4,692	182

Still-Births.

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

Year.	Percentage.	Year	Percentage.
1922.....	3.0	1925.....	2.9
1923.....	3.0	1926.....	3.2
1924.....	2.7	1927.....	3.8

On 1st July, 1927, the registration of still-births came into force, and from that date to the end of the year 136 still-births were registered. The total number of still-births notified during the year was 182.

Details of 153 of the above still-births which were visited by members of the staff :—

Duration of Pregnancy.—At or under 7 months, 34, or 22.2% ; at or under 8 months, 21, or 13.8% ; at full time, 98, or 64%.

Suggested causes of the still-births :—

	Cases.
(a) Ill-health of the mother	34
(b) Foetal deformities and malpresentations	54
(c) Premature delivery	39
(d) Other causes	26

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

	Cases.		Cases.
1st child	40	4th child	20
2nd child	20	5th child	15
3rd child	13	6th child	45

In 122 cases it was the first still-birth, in 12 the second, in 8 the third, and in 11 cases there were more than three previously still-born.

Syphilis was returned as a cause of death in 7 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 1927.

4,892 births were visited, and 25,302 re-visits were paid, an average of 6 visits per child. These give a total of 30,194 visits to children under 1 year.

WORK OF HEALTH VISITORS.

SUMMARY OF VISITS.

	Primary.	Subsequent.	Total.
Births	4,892	25,302	30,194
Measles	2,710	3,371	6,081
Pneumonia	1,365	1,949	3,314
Diarrhoea	40	45	85
Children over One Year .....	....	....	20,242
Hospital Cases .....	....	....	253
Expectant Mothers .....	....	....	1,706
*Special Visits.....	....	....	423
Unsuccessful Visits (Outs and Removals) .....	....	....	3,283
	....	....	65,581

* Includes 13 to crippled children and 9 to mentally deficient children.

The addresses of 158 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 5,415 children born in the City in 1926, 4,385 completed their first year in 1927, and of the remainder:

430 died,

283 left the City,

289 disappeared and could not be traced,

28 were visited only once.

The following figures are therefore based on the 4,385 who completed the first year, *plus* the 430 who died, making in all a total of 4,815, and of that total 2,544 or 52 per cent., attended the Welfare Centres. Of these 112 died, a rate of 44 per 1,000, compared to 88 per 1,000 for the whole City.

Influence of Housing Conditions.

During the 20 years, 1908—1927, 75,311 births have been under the supervision of the Health Visitors, and of these 8,500 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
1927.....	1,334	132	1,772	168	988	62	721	68
20 years ..	16,105	2,108	31,368	3,649	17,761	1,733	10,077	1,010
Death rate per 1,000 births		130.9		116.3		97.6		100.2

Walking and Talking.—Of the 4,385 children who completed their first year, 81 per cent. were walking at the end of the year, and 88 per cent. were talking at the end of the year.

Illnesses.—Among the children visited 204, or 4 per cent., developed measles; 103, or 2 per cent., developed whooping cough; 80, or 1·8 per cent., developed diarrhoea; 449, or 10 per cent., developed bronchitis or pneumonia.

The mortality per 1,000 births in 1927 was as follows :—

1 roomed dwellings	99
2 roomed dwellings	95
3 roomed dwellings	63
Dwellings over 3 rooms	94

Details as to the **Feeding** of the 4,815 children under supervision during the year are given in the following table :—

	FEEDING.					
	BREAST.		MIXED.		ARTIFICIAL.	
	No.	Per-centage.	No.	Per-centage.	No.	Per-centage.
At First Visit	4,374	90·8	170	3·5	271	5·6
Deaths in First Year of above Children	367	8·3	17	10·0	46	17·0
At time of Death	304	6·9	20	11·8	106	39·1
Surviving Children (4,385) at 9 months	2,035	46·4	910	20·8	1,440	32·8

Illegitimacy.—225 illegitimate children were born; of these 29 died, a death-rate of 129 per 1,000, as compared with 86 among legitimate children.

MIDWIVES ACTS, 1902 and 1918.

During the year 46 midwives notified the Local Supervising Authority of their intention to practise in the City, and of these 41 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. Five additional midwives notified their intention to practise, but they were only doing temporary midwifery work in the City.

Inspections—246 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, 180 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 eight midwives were disinfected after being in contact with puerperal septicæmia or pyrexia.

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

Births attended by Midwives.—1,865 living births and 40 still-births were attended by midwives during the year; these figures show a decrease of 217 in the former and a decrease of 5 in the latter. Midwives attended 34·5 per cent. of the net births in the City, the same percentage as in 1926.

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 exists 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. At the end of 1927 each midwife was supplied with an ante natal record book, where particulars of her booked cases have to be entered, also with a urine testing outfit and a set of calipers.

The post graduate course of six lectures with practical demonstrations was given this year by different doctors on subjects of special interest to the 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.		<i>During Puerperium—</i>	
<i>During Pregnancy—</i>		Rise of Temperature.....	17
Ante Partum Hæmorrhage ...	8	Fits	4
Abortions	4	Undefined Illness of Mother ..	16
Illness	3	Varicose Veins	6
	15		43
		Total calls for mother	228
		FOR CHILD.	
<i>During Labour—</i>		Prematurity	35
Uterine Inertia	59	Discharging Eyes	27
Malpresentations	25	Cyanosis	1
Contracted Pelvis	4	Congenital Defects	13
Retained Placenta	8	Convulsions, etc.	5
Placenta Prævia	2	Illness of Baby	20
Post Partum Hæmorrhage ...	13	Still-births	30
Ruptured Perineum	59		131
	170	Total calls for mother and child	359

In 19 per cent. of the midwives' cases the services of a doctor were requisitioned.

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

	Cases
For forceps delivery.....	76
For post partum hæmorrhage	12
For illness of mother	35
For illness of child	34
For premature birth	16
For discharging eyes	27
Other	39
	—
Total cases	239
	—

One claim for *payment of midwife's fee* was received.

Ophthalmia Neonatorum.—The number of cases notified was 67, of which 55 were visited, the remainder being cases occurring in Hospital, or admitted to Hospital from outside areas. This number is an increase of 3 on that for 1926. The confinements were attended by :—

Doctors	34
Midwives.....	18
Maternity Hospital.....	3
Wingrove Hospital	3
Cases resident outside of the City sent into Hospital for treat- ment	9
	—
	67
	—

In nine 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.

341 visits were paid to the 55 cases in the City, and the ultimate results were :—

Recovered completely	50
One eye slightly defective	2
Died	3
	55

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

1921	13·0
1922	9·9
1923	11·0
1924	8·0
1925	8·0
1926	9·5
1927	10·7

Puerperal Septicæmia and Puerperal Pyrexia.—52 cases were notified during the year—30 puerperal fever, and 22 pyrexia—22 of which were from outside the City area, and were admitted to Hospitals in the City. Of the remaining 30 the following table shows the attendance at birth :—

	Puerperal Septicæmia.	Puerperal Pyrexia.
Doctors	3	10
Doctors and Midwives .....	....	2
Midwives	3	5
Princess Mary Maternity Hos- pital Staff	4	2
Private Nursing Home.....	....	1
	10	20

CASES TREATED IN HOSPITALS.

	No.	Deaths.
Puerperal Septicæmia	10	4
Puerperal Pyrexia.....	12	2

Deaths during the Puerperal Period.—During the year 20 deaths occurred in the City during the puerperal period, and the following table gives the causes and a comparison with the four previous years:—

CAUSES.	1927	1926	1925	1924	1923
Abortions	..	4	1	1	3
Accidents of Pregnancy	3	1	1	..	..
Puerperal Hæmorrhage.....	2	3	1	..	5
Other Accidents of Child-birth	5	1	2	6	1
Puerperal Fever	4	5	4	6	10
Puerperal Albuminuria and Convulsions	4	4	8	2	5
Puerperal Phlegmasia	2	1	1	..	2
	20	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,

8th June, 1928.

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

III.—INFECTIOUS DISEASE.

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

REPORT OF THE RESIDENT MEDICAL OFFICER OF THE

INFECTION DISEASES HOSPITAL
AND THE BACTERIOLOGIST

Deaths during the Postnatal Period. — During the year 1928, 50 deaths occurred in the City during the postnatal period, and the following table gives the causes and a comparison with the previous year:

Cause	1928	1927
Scarlet fever	1	2
Diphtheria	1	1
Whooping cough	1	1
Measles	1	1
Parvovirus	1	1
Unidentified	1	1
Total	6	7

III.—INFECTION DISEASE.

I am, Sir,

Very respectfully,

A. P. C. SMITH, M.D.,
Maternity and Child Welfare Medical Officer.

Health Department,
Town Hall,
Newcastle-upon-Tyne,
5th June, 1928.

FEVER, FOOD POISONING,
CITY HOSPITALS FOR INFECTION DISEASES,
DISINFECTION, BACTERIOLOGY.

INFECTIOUS DISEASES.

NUMBER OF CASES PER 1,000 POPULATION IN 1927.

DISTRICT.	ATTACK-RATE PER 1,000 POPULATION.						
	Small-pox.	Typhus	Scarlet Fever.	Diphtheria.	Enteric Fever and Continued Fever.	Puerperal Fever.	Erysipelas.
England and Wales	0.38	..	2.16	1.33	0.09	0.05	0.38
NEWCASTLE-UPON-TYNE	0.38	..	3.00	0.78	0.03	0.03	0.73
Hull	0.00	..	1.84	2.53	0.01	0.06	0.37
Leeds	0.12	..	1.62	0.92	0.03	0.08	0.67
Bradford	0.17	..	1.80	1.16	0.05	0.10	0.53
Sheffield.....	1.27	..	5.91	1.64	0.08	0.18	0.60
Manchester	0.05	..	2.58	1.75	0.03	0.14	0.49
Salford	0.00	..	2.55	2.05	0.04	0.03	?
Liverpool.....	..	..	1.90	1.90	0.08	0.06	0.70
Nottingham	0.05	..	1.75	3.62	0.02	0.05	0.55
Leicester	0.02	..	2.51	1.27	0.01	0.04	0.54
Stoke-on-Trent	0.02	..	1.61	0.89	0.08	0.11	0.39
Birmingham	0.00	..	1.56	1.60	0.04	0.10	0.44
Cardiff	0.03	..	1.00	1.53	0.03	0.09	0.34
Bristol	0.05	0.003	3.72	1.69	0.07	0.06	0.30
Portsmouth.....	..	..	2.55	3.10	0.06	0.03	0.26
†London	0.00	..	2.91	2.69	0.07	3.57 ‡	0.43
Gateshead	1.55	..	1.94	1.62	0.01	0.31	0.67
South Shields	7.78	..	1.75	0.59	0.05	0.08	0.25
Tynemouth	0.87	..	4.33	1.35	0.10	0.06	0.35
Sunderland	0.38	0.00	0.84	0.71	0.06	0.06	0.06
Middlesbrough	0.82	..	0.84	0.55	0.03	0.10	0.72
†Northumberland	1.11	..	2.50	0.29	0.14	0.02	0.46
†Durham	5.12	..	1.83	0.95	0.05	0.04	0.45

† Administrative County. ‡ Per 1,000 births.

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

WARD.	Diph- theria.	Ery- sipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Cere- bro- spinal Fever.	Enceph- alitis Lethar- gica.	Polio- myelitis	Measles and Rubella.	Puer- peral Fever.	Small- pox.	Whoop- ing Cough.	Zy- motic Diarr- hoea (under 2 years of age).	Chicken Pox.
St. Nicholas'	..	1	..	..	..	..	..	..	..	..	..	..	3	..
St. Thomas'	2	2	..	..	..	1	1	..	..	..	..	1	1	..
St. John's	..	..	1	..	..	1	..	..	5	1	..	5	3	..
Stephenson	3	2	..	..	..	..	..	..	3	..	..	3	5	..
Armstrong	1	1	..	..	..	..	1	..	2	..	..	2	3	..
Elswick	..	..	..	..	..	..	..	1	1	..	..	2	2	..
Westgate	..	1	2	..	..	..	..	..	5	1	..	1	..	..
Arthur's Hill	..	2	..	..	..	..	..	..	1	..	..	..	..	..
Benwell	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Fenham	..	..	..	..	..	..	..	..	..	..	..	2	3	..
All Saints'	1	..	..	..	..	..	1	..	..	..	..	1	2	1
St. Andrew's	1	1	..	..	..	..	1	..	3	..	..	..	5	..
Jesmond	..	..	..	..	..	..	1	..	..	..	..	..	2	..
Dene	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Heaton	..	1	..	..	..	..	..	..	1	..	..	..	1	..
Byker	1	..	1	..	..	..	1	..	..	1	..	..	4	..
St. Lawrence	1	..	..	..	..	..	1	..	2	..	..	..	5	1
St. Anthony's	3	..	1	..	..	..	2	..	4	..	..	1	5	..
Walker	2	..	..	..	..	..	..	..	4	1	..	1	7	..
CITY	16	12	6	..	..	2	9	1	32	4	..	20	51	2

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 AND DEATHS (GROSS).

EXCLUSIVE OF TUBERCULOSIS.

AGES OF CASES OF INFECTIOUS DISEASE NOTIFIED AND DEATHS REGISTERED DURING THE YEAR 1927.

NOTIFIABLE DISEASE.		At Ages—YEARS.												GROSS TOTAL		*NET TOTAL.		Cases admitted to Hospital.						
		Under 1.		1 to 5		5 to 15.		15 to 25.		25 to 45.		45 to 65.		65 and upwards.		Ages not known.			1927.		1926.		1927.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
Diphtheria (including Membranous Croup)	5	2	62	11	126	6	24	2	10	..	1	6	..	2	228	20	210	20	225	16	200			
Erysipelas.....	7	2	10	2	17	..	22	..	65	..	78	..	2	223	12	179	7	212	12	51				
Scarlet Fever	11	..	254	5	504	1	71	..	28	..	4	..	..	876	6	998	14	867	6	750				
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Enteric Fever	..	..	1	..	3	..	5	..	7	..	3	2	..	19	2	22	2	10	..	17				
Cerebro-Spinal Fever	3	..	..	..	2	1	2	1	..	..	1	1	..	8	3	4	3	7	2	3				
Acute Poliomyelitis	..	..	4	1	..	..	..	..	..	..	..	..	..	4	1	11	..	3	1	..				
Acute Polio-Encephalitis ..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	1	2	..	1	1	..				
Encephalitis Lethargica ..	..	..	1	1	3	2	6	3	7	2	4	3	..	21	11	42	16	16	9	6				
Puerperal Fever	..	..	..	..	..	..	7	4	23	19	..	..	..	30	23	31	19	10	4	7				
Puerperal Pyrexia	..	..	..	..	..	..	5	1	17	1	..	..	..	22	2	5	..	20	..	..				
Ophthalmia Neonatorum ..	67	1	..	..	..	..	..	..	..	..	..	..	..	67	1	64	..	58	..	2				
Pneumonia	221	100	569	94	287	24	145	20	160	42	144	56	48	1,582	375	1,099	333	1,502	339	149				
Malaria	..	..	1	..	..	..	1	..	2	..	..	..	..	4	..	1	..	4	..	..				
Smallpox	1	..	5	..	16	..	14	..	25	..	46	..	9	116	..	59	1	111	..	116				
†Measles and Rubella	221	3	1,621	28	1,227	2	18	..	13	..	..	..	..	3,106	33	4,255	43	3,077	32	72				
‡Chickenpox	61	1	442	1	963	..	24	..	7	..	3	..	..	1,505	2	1,255	1	1,505	2	16				
	597	109	2,971	144	3,148	36	344	29	364	64	284	69	85	7,812	492	8,237	459	7,628	424	1,389				

* Cases from outside the City excluded for the purpose of calculating Net Death Rates.

† Ministry of Health Regulations, 1920.

WARD DISTRIBUTION OF INFECTIOUS DISEASES (NET).

WARD.	Diphtheria.	Erysipelas.	Enteric Fever.	Scarlet Fever.	Cerebro-Spinal Fever.	Pollomyelitis.	Acute Polio-Encephalitis.	Encephalitis Lethargica.	Measles.	Rubella.	Puerperal Fever.	Puerperal Pyrexia.	Ophthalmia Neonatorum.	Acute Primary Pneumonia.	Acute Influenzal Pneumonia.	Smallpox.	Chickenpox.	Malaria.	Total.
St. Nicholas'	2	..	..	3	..	..	..	..	16	1	..	..	..	11	1	..	18	..	52
*St. Thomas'	11	12	2	34	1	..	..	3	69	3	..	..	..	44	1	..	54	2	238
St. John's	8	12	1	34	1	..	..	..	190	14	..	..	..	165	4	..	102	..	538
Stephenson	24	20	..	115	..	..	..	..	230	11	1	1	6	125	3	1	60	..	597
Armstrong	13	14	1	30	..	..	..	1	173	1	1	2	6	59	18	2	73	..	394
Elswick	7	1	..	31	..	..	..	..	141	10	..	..	4	30	2	..	64	..	291
Westgate	7	9	..	31	..	..	..	..	266	20	1	4	2	71	4	3	65	1	484
†Arthur's Hill	12	28	..	23	..	..	1	..	89	9	..	1	1	40	4	52	73	..	333
Benwell	13	23	..	67	..	1	..	..	204	4	1	4	9	121	26	8	176	..	657
Fenham	7	6	3	53	..	..	..	1	132	10	..	..	3	48	11	2	92	..	368
All Saints'	4	14	..	26	2	..	..	1	129	4	..	2	3	126	7	8	61	..	387
St. Andrew's	8	13	..	23	1	..	..	1	120	4	..	..	..	61	3	5	61	..	300
Jesmond	8	8	2	34	..	..	..	1	78	2	..	1	..	18	..	..	39	..	191
Dene	10	2	..	80	..	..	..	..	83	7	..	1	1	28	3	..	66	..	281
Heaton	6	7	1	37	..	..	..	..	67	1	1	1	3	21	4	8	29	..	186
Byker	34	10	..	31	1	..	..	3	123	5	3	1	1	61	2	9	75	1	360
St. Lawrence	21	9	..	37	1	..	..	2	165	3	1	..	2	71	1	4	100	..	417
St. Anthony's	9	5	..	26	..	..	..	2	181	..	..	2	5	64	2	2	82	..	380
†Walker	21	19	..	142	..	..	..	1	518	4	1	..	4	231	11	7	215	..	1174
CITY	225	212	10	867	7	3	1	16	2974	103	10	20	58	1395	107	111	1505	4	7628

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children.

† Poor Law Institution and Wingrove Hospital.

‡ City Hospital for Infectious Diseases, Walker Gate.

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

WARD INCIDENCE OF INFECTIOUS DISEASES (Net).

EXCLUSIVE OF TUBERCULOSIS.

NOTIFIABLE DISEASES—Cases per 1,000 Population.																	DEATHS per 1,000 Pop.		
WARD.	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.	Malaria.	Measles, (including Rubella).	Whooping Cough.	Zymotic Diarrhoea (under 2 years of age).
St. Nicholas' ..	0.72	..	1.10	..	..	..	..	..	6.1	..	..	..	6.50	..	4.33	..	..	..	1.10
*St. Thomas' ..	0.79	0.86	2.43	0.14	0.07	..	..	0.21	5.1	..	..	..	3.80	0.14	3.21	0.14	0.07	0.07	0.07
St. John's	0.52	0.78	2.20	0.06	0.06	0.06	..	..	13.2	..	..	..	6.60	0.39	10.93	..	0.32	0.32	0.19
Stephenson ..	1.27	1.06	6.10	..	..	..	..	..	12.8	0.05	0.05	0.05	3.18	0.32	6.78	..	0.16	0.16	0.27
Armstrong	0.83	0.89	1.91	0.06	..	..	..	0.06	11.1	0.06	0.13	0.13	4.64	0.38	4.89	..	0.13	0.13	0.19
Elswick	0.54	0.08	2.41	..	..	..	..	..	11.8	..	..	..	4.98	0.31	2.49	..	0.08	0.16	0.15
Westgate	0.45	0.59	2.02	..	..	..	..	..	18.6	0.06	0.26	0.20	4.23	0.13	4.88	0.16	0.33	0.06	..
†Arthur's Hill ..	1.04	2.43	2.00	..	..	..	0.09	..	7.8	..	0.09	4.51	6.33	0.09	3.81	..	0.09	..	..
Benwell	0.70	1.23	3.58	..	..	0.05	..	..	11.1	0.05	0.21	0.43	9.42	0.48	7.87	..	..	0.11	0.16
Fenham	0.41	0.35	3.11	0.17	..	..	..	0.06	8.3	..	..	0.12	5.40	0.17	3.46	..	..	0.06	0.12
All Saints'	0.22	0.79	1.46	..	0.11	..	..	0.06	7.5	..	0.11	0.45	3.42	0.17	7.46	..	..	0.08	0.28
St. Andrew's ..	0.67	1.09	1.92	..	0.08	..	..	0.08	10.4	..	..	0.42	5.12	..	5.37	..	0.25	..	..
Jesmond	0.71	0.71	3.02	0.18	..	..	..	0.09	7.0	..	0.09	..	3.46	..	1.60	..	..	..	0.18
Dene	0.61	0.12	4.92	..	..	..	..	..	5.5	..	0.06	..	4.06	0.06	1.91	..	..	..	..
Heaton	0.38	0.45	2.37	0.06	..	..	..	..	4.3	0.06	..	0.51	1.86	0.19	1.60	0.06	0.06	..	0.06
Byker	1.93	0.57	1.76	..	0.06	..	..	0.17	8.1	0.02	..	0.51	4.26	0.06	3.58	..	..	..	0.23
St. Lawrence ..	1.16	0.50	2.05	..	0.06	..	..	0.11	9.3	0.06	..	0.22	5.54	0.11	3.99	..	0.11	..	0.28
St. Anthony's ..	0.57	0.31	1.64	..	..	..	..	0.13	11.4	..	0.13	0.12	5.17	0.31	4.15	..	0.25	0.06	0.31
†Walker	0.96	0.87	6.51	..	..	..	..	0.05	24.0	0.05	..	0.32	9.86	0.18	11.10	..	0.18	0.05	0.32
CITY	0.78	0.73	3.00	0.03	0.02	0.01	0.00	0.06	10.7	0.03	0.07	0.38	5.22	0.20	5.20	0.01	0.11	0.07	0.18

* 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.

For Particulars of TUBERCULOSIS, see Section IV.

**HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES,
EXCLUSIVE OF TUBERCULOSIS, MEASLES AND CHICKENPOX.**

DISEASES.	HOUSEHOLDS WITH						Milli- tary or Naval Cases	Insti- tutions *	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 Mem- branous Croup)	169	18	4	..	..	..	..	11	228	3	225
Erysipelas	170	4	..	..	..	..	..	45	223	11	212
Scarlet Fever	617	81	13	3	1	1(6)	..	33	876	9	867
Enteric (or Typhoid Fever) ..	8	..	..	..	..	..	..	11	19	9	10
Cerebro-Spinal Fever	5	..	..	..	..	..	..	3	8	1	7
Poliomyelitis	3	..	..	..	..	..	..	1	4	1	3
Polio-Encephalitis	1	..	..	..	..	..	..	..	1	..	1
Encephalitis Lethargica	14	..	..	..	..	..	..	7	21	5	16
Puerperal Fever	10	..	..	..	..	..	..	20	30	20	10
Puerperal Pyrexia	20	..	..	..	..	..	..	2	22	2	20
Ophthalmia Neonatorum	57	..	..	..	..	..	..	10	67	9	58
Pneumonia	1382	37	6	..	..	..	..	108	1582	80	1502
Smallpox	39	1	2	1	1	..	..	60	116	5	111
Malaria	2	..	..	..	..	..	1	1	4	..	4
TOTAL	2,497	141	25	4	2	1(6)	3	312	3201	155	3046

* See next page.

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.	Puerperal Pyrexia.	Pneumonia.	Chilkekenpox.	Ophthalmia Neonatorum.	Enteric Fever.	Poliomyelitis.	Polio- Encephalitis.	Cerebro-Spinal Fever.	Smallpox.	Malaria.	TOTAL.*
Royal Victoria Infirmary.....	5	10	3	3	4	3	..	73	..	6	10	1	..	3	5	..	126
Fleming Memorial Hospital..	3	3	8	..	23	..	..	6	2	..	..	..	..	..	..	..	45
Wingrove Hospital.....	..	25	7	..	18	1	..	20	28	2	..	..	..	..	50	..	151
City Hospital for Infectious Diseases (Staff).....	1	1	4	1	..	..	..	..	..	..	..	..	..	..	..	..	7
Deaf and Dumb Institution..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	3
St. Ann's Convent.....	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	3
Maternity Hospital.....	..	..	1	..	2	16	2	..	..	..	..	..	..	..	..	..	21
Throat and Ear Hospital...	1	1	..	..	..	..	..	..	9	..	..	..	..	..	..	1	2
Military Barracks.....	..	..	1	..	..	..	..	3	..	..	..	..	..	..	..	..	14
Northern Counties Orphanage	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	4
Fenham Convent.....	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2
War Pensions Hospital.....	..	..	..	..	1	..	..	1	..	2	..	..	..	..	..	..	5
Eye Infirmary.....	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3
Poor Children's Home, P'rey St	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Nursing Homes.....	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	4
Nazareth House.....	..	..	3	..	..	..	..	..	..	..	1	..	..	..	5	..	3
Common Lodging Houses...	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Royal Victoria School for the Blind.....	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	3
National Children's Orphanage.....	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	2
TOTAL.....	11	45	33	7	50	20	2	108	48	10	11	1	..	3	60	1	410

* 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.

22 cases of scarlet fever and 16 cases of diphtheria occurred at premises of various kinds, in connection with which business was carried on.

SCARLET FEVER.

Notifications of 867 cases were received during the year, and there were 6 deaths, equivalent to a mortality of 0·7 per cent. This figure is the second lowest recorded in the City.

DIPHTHERIA.

225 cases were notified during the year, and 16 died, a case mortality of 7·1 per cent., as compared with 8·4 in 1926.

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

Number of medical practitioners who made application for antitoxin	25
Number of phials of antitoxin supplied	122
Number of cases of diphtheria notified	225
Number of notified cases removed to Hospital	215
Number of Hospital cases in which antitoxin was injected prior to admission	20

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
1927	225	7.1

* 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.

3,077 cases (including 103 of rubella) were notified, and there were 32 deaths (corrected) in 1927, representing a death rate of 0.11 per 1,000 population, as compared with 0.15 in 1926, and a case mortality of 1.04 per cent. of notified cases (net).

DEATHS, 1927 (CORRECTED).

MONTH.	YEARS OF AGE.							Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	Over 10.	
January	..	..	..	..	..	..	..	..
February ...	..	1	..	..	1	..	..	2
March	1	3	1	..	..	..	..	5
April	..	3	3	1	..	..	..	7
May	1	2	2	1	..	1	..	7
June	1	1	..	1	..	1	..	4
July	..	..	1	..	..	..	..	1
August	..	1	..	..	..	..	..	1
September ..	..	1	1	..	..	..	..	2
October	..	1	..	..	..	..	..	1
November...	..	..	..	1	..	..	..	1
December ..	..	1	..	..	..	..	..	1
TOTAL ...	3	14	8	4	1	2	..	32

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
St. John's.....	..	..	1	..	1	2	1	..	..	..	5
Stephenson	..	..	..	..	2	..	1	..	..	..	3
Armstrong	..	..	..	..	2	..	..	..	..	..	2
Elswick.....	..	..	..	..	1	..	..	..	..	..	1
Westgate	..	..	..	..	2	..	..	..	..	..	5
Arthur's Hill	..	..	..	..	..	1	..	..	..	..	1
Benwell	..	..	..	..	..	..	..	..	..	..	..
Fenham	..	..	..	..	..	..	..	..	..	..	..
All Saints'	..	..	..	..	..	..	..	..	..	..	..
St Andrew's	..	..	..	..	1	2	..	..	..	..	3
Jesmond	..	..	..	..	..	..	..	..	..	..	..
Dene	..	..	..	..	..	..	..	..	..	..	..
Heaton	..	..	..	..	..	..	..	1	..	..	1
Byker	..	..	..	..	..	..	..	..	..	..	..
St. Lawrence	..	..	..	..	1	..	..	..	1	..	2
St. Anthony's	..	..	1	..	3	..	..	..	..	..	4
Walker	..	..	1	..	1	..	2	..	..	..	4
TOTAL	..	..	3	..	14	8	4	1	2	..	32

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 1927.

Cases notified by Medical Practitioners	2,507
Cases found by Health Visitors	573
Cases notified by Parents	17
Cases found from Returns of Deaths	9
	3,106 gross.
	3,077 net.

Of the total number of measles cases notified, 2,710, in 2,103 households (or 87·2 per cent.) were visited by the Health Visitors, and 3,371 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	338	684	526	385	170	2,103
Children	836	2,060	1,377	949	443	5,665
Cases	448	901	665	484	*212	2,710
Percentage of Cases to						
Children	53·5	43·6	48·2	51·0	47·8	47·8
Cases developing Pneumonia	17	26	13	5	3	64
Percentage of cases develop-						
ing Pneumonia	3·7	2·8	1·9	1·0	1·4	2·3
Deaths from Measles	4	9	7	1	1	22
Cases notified as Measles,						
Death certified as due to						
Pneumonia, Bronchitis or						
Diarrhoea	..	5	1	..	1	7
Case Mortality per cent. ...	0·8	1·5	1·2	0·2	0·9	1·0

* In addition to the 212 cases, 346 cases were reported in better-class houses and were not visited. Amongst these 1 death occurred, so that the actual mortality rate in houses of over 4 rooms was 0·5 per cent.

Medical Attendance.—In 95·6 per cent. of the cases visited a doctor was in attendance.

Condition of Patient.—In 86·4 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.—915, or 33·7 per cent. of the affected children visited had previously attended school, and 1,795, or 66·2 per cent. had never attended school. In 1,097 of these latter cases, however, or 40·4 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	211
1-2 years	386
2-3 years	395
3-4 years	360
4-5 years	381
5-6 years	502
Over 6 years	475
	2,710

WHOOPIING COUGH.

20 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	..	2	..	..	..	..	2
February	3	1	..	1	..	..	5
March	2	3	1	1	..	..	7
April	..	..	1	..	..	..	1
May	..	1	..	..	..	..	1
June	..	1	..	..	..	..	1
July	..	..	..	..	..	..	..
August	..	..	..	..	..	..	..
September	..	..	..	..	..	..	..
October	1	..	..	..	..	..	1
November	..	1	..	..	..	..	1
December	1	..	..	..	..	..	1
Total	7	9	2	2	..	..	20

The death rate in 1927 was equivalent to 0·07 per 1,000 population, as compared with 0·17 in 1926.

ENTERIC FEVER.

19 cases of enteric fever were discovered in the City during the year. Of these 10 were Newcastle cases, all of whom recovered. The remaining 9 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. Two of them died.

Of the 10 City cases one was a member of the nursing staff of the Royal Infirmary. The infection in this patient had probably been contracted while attending on the "imported" cases mentioned above. In the 9 other cases no definite source of infection could be ascertained; they resided in different parts of the town.

FOOD POISONING.

During the year there was only one case of food poisoning. The patient was admitted to the Royal Victoria Infirmary as an acute appendicitis, and from there was transferred to the City Hospital for Infectious Diseases as enteritis (? typhoid fever). Bacteriological examination of the stool and blood serum showed that the patient was suffering from food poisoning, due to an organism of the *Aërtrycke* group (mutton bacillus). Inquiry into the previous history of the case failed to elicit any information regarding the source of the infection.

The patient made an uninterrupted recovery and was discharged after a stay of 18 days in hospital.

DIARRHŒA.

There were in all 71 deaths from the disease, equal to a death rate of 0·25 per 1,000 population, and this number included 51 deaths of children under two years of age.

TYPHUS.

No case of this disease occurred during the year.

SMALLPOX.

116 cases of smallpox occurred in the City during the year (see also page 130) 5 of which were from outside areas. In 27, the source of infection was definitely traced to areas outside the City boundary, where patients had either been visiting or were actually resident.

50 of the cases were admitted to the Moor Hospital from the Wingrove Institution. This outbreak was discovered on the 25th November, when 23 men living in the same room on the "house" side were found to be then in the early stage of the disease. It was obvious that the infection had been contracted from some person who had spent the night in the same ward about 14 days previously.

After removal of the cases, together with all immediate unvaccinated contacts, an all round vaccination of staff, patients, and inmates was carried out by the Medical Superintendent and his assistants. During the following 14 days (the incubation period of smallpox) there were 22 further cases notified from the house and hospital sections. These patients must have been infected before vaccination was performed and were too late to receive protection from the latter.

The aged and infirm and 6 other patients seriously ill were the only persons upon whom vaccination was not performed. The risk of infection to wards occupied by these people was less likely than to other parts of the Institution, and bearing in mind their age and feeble condition, the omission was considered justifiable. Unfortunately, however, infection must have been introduced, for on 27th and 28th December, 5 cases were notified in this ward, and vaccination of the aged people had to be undertaken. No further cases occurred.

No deaths occurred among the 116 cases, and the type of disease in the majority was "mild" in comparison with the old virulent form. Several patients however, suffered from a really severe attack of the semi-confluent type, and were dangerously ill for several days. Such cases serve as a reminder that the present mild form is merely a phase in the periodic cycle of the disease, and that the older classical variety may come into our midst with unpleasant rapidity.

From the table on page 131 it will be seen that, with one exception, no person who had been successfully vaccinated during the previous 15 years contracted the disease. The exception refers to a man who stated that he had been vaccinated ten years ago when in the Army. On admission to hospital he was already suffering from a skin complaint but was considered to have had smallpox superadded. He was not seen by a medical man until late in the disease, when the rash had almost disappeared, and it was largely on account of a certain number of marks closely resembling "pock" marks that a diagnosis of smallpox was accepted.

1,295 direct contacts were kept under supervision by the Sanitary Inspectors until the incubation period

of the disease for each individual contact had expired ; and 150 unvaccinated school children were also visited in connection with smallpox cases. In addition 194 contacts were detained in the smallpox 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
1927	5,715	3,479	10	1,111	19·4

* 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, 162, New Bridge Street.

Deputy—DR. J. B. SINSON, 105, New Bridge Street.**Wingrove Hospital :—**

DR. G. P. HARLAN.

Vaccination Officers :—

Western—W. J. WHITE, 21, Wentworth Place.

Eastern—WM. GARRETT, 34, Harbottle Street.

CHICKENPOX

1,505 cases were notified. Two of the patients died.

ERYSIPELAS.

212 cases of this disease were notified and there were 12 deaths.

PUERPERAL SEPTICÆMIA AND PUERPERAL PYREXIA.

30 cases were notified, with 4 deaths. Inquiries were made concerning all of these. 13 of the cases were attended by doctors.

INFLUENZA AND PNEUMONIA.

These diseases accounted for 442 deaths as against 340 last year.

Total deaths at age periods.

Under 5 years.	5-15.	15-25.	25-45.	45-65.	65 and over.	Total.
190	22	25	51	77	77	442

As will be seen from the above figures, 190, 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 1927 and the previous 15 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
1927	103	339

1,502 cases of pneumonia, including influenzal-pneumonia, were notified. For the ages and ward distribution, see pages 95 and 97.

Of that number 1,365, or 90 per cent., were visited by Health Visitors.

It was found that of these 1,365 visited cases, 968, or 70 per cent., were primary pneumonia, 179, or 13 per cent., were cases of influenzal-pneumonia, and 218, or 16 per cent., were cases of pneumonia following other diseases.

Sex.—60 per cent. of the cases were males.

Ages.—The ages of the 1,365 cases visited were as follows :—

Under 1 year.....	213
1-5 years	540
5-15 years	249
15-25 years	106
25-45 years	120
45-65 years	105
and over 65 years	32
	<u>1,365</u>

Of these, 163 were school children.

2,614 doses of salvarsan substitutes were administered to out-patients, and 6 to in-patients.

2,382 Wasserman reactions were carried out at the College of Medicine, and 117 microscopical examinations of pathological material were made at the College and 1,112 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.

40 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 1,157 doses were given.

Newcastle Residents Notified as Attending other Centres.

Cases.—Syphilis, 16 ; gonorrhœa, 13 ; soft chancre, 2 ; conditions other than venereal, 3.

Attendances.—235.

Doses of salvarsan substitute given, 21.

In-Patients.—In-patient days, 65. Doses of salvarsan substitutes administered, 8.

Information as to ophthalmia neonatorum will be found in Section II. (The Child).

ENCEPHALITIS LETHARGICA.

21 cases of encephalitis lethargica, including 16 Newcastle residents, and 5 extra-mural patients, were notified during the year. 13 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 52 per cent.; but there was a continuance of the decline in the incidence of the disease, the number of City cases being only 16 in 1927, compared with 24 in 1926.

The following table, taken from the 1926 report, has been brought up to date by the addition of the 1927 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
1927.....	21	1	11	8	1
TOTAL	269	71	95	85	18

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 21 cases only 1 recovered, while 11 died and 8 were left with mental or nervous impairment, the latter rendering them quite incapable of following any form of employment.

ACUTE POLIOMYELITIS.

3 cases occurred in the City. There was one death. One of the patients made a complete recovery, and one removed from the City and cannot be traced.

CEREBRO-SPINAL FEVER.

7 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
1927	288,500	*232	1,493	89·7

* 30 of these beds are at present occupied by Tuberculosis patients.

**CITY HOSPITAL FOR INFECTIOUS DISEASES,
WALKER GATE.**

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Diseases Admitted—1927.

		AFTER OBSERVATION PROVED TO BE:—																											
SENT IN AS	Number.	Scarlet Fever.	Diphtheria.	Diphtheria Carriers.	Enteric Fever.	Food Poisoning (Bacillus Aertrycke).	Measles.	Ophthalmia Neonatorum.	Rubella.	Varicella.	Varicella.	Pertussis.	Erysipelas.	Encephalitis Lethargica.	Epidemic Cerebro- Spinal Meningitis.	Tuberculous Meningitis.	Other forms of Meningitis.	Puerperal Fever.	Pneumonia.	Influenza.	Mumps.	Other Respiratory Diseases.	Tonsillitis.	Acute Rheumatism.	Skin and Septic Diseases.	Gastro-intestinal Diseases.	No appreciable Disease.	Unclassified.	
Scarlet Fever	790	742	1	..	..	..	9	..	5	3	..	2	..	..	..	..	..	..	..	..	..	3	3	1	7	2	12	..	
Diphtheria	235	7	198	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	24	..	1	..	..	1	
Diphtheria Carriers	9	..	1	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Enteric Fever	38	..	..	..	16	1	..	..	..	..	1	..	..	..	..	4	..	..	3	..	..	1	..	..	1	10	..	1	
Measles	63	..	..	..	..	..	62	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Ophthalmia Neonatorum.	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Varicella	14	..	..	..	..	..	..	..	..	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
Pertussis	4	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
Erysipelas.....	55	..	..	..	..	..	..	..	..	..	..	..	51	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	
Encephalitis Lethargica .	13	..	..	..	1	..	..	..	..	..	..	..	..	6	..	1	..	..	..	..	..	..	..	..	..	..	2	3	
Epidemic Cerebro-Spinal Meningitis.....	12	..	..	..	..	..	..	..	..	..	..	..	..	..	3	5	..	..	1	1	..	..	..	..	..	1	..	1	
Tuberculous Meningitis ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
Other forms of Meningitis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	
Puerperal Fever	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	1	..	..	
Pneumonia	173	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	145	..	..	24	..	..	..	1	1	1	
Influenza	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	
Mumps	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	
Other Respiratory Diseases	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	
Tonsillitis	15	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..	..	..	..	
Acute Rheumatism	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	
Skin and Septic Diseases	8	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	
Gastro-intestinal Diseases	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	..	..	
Unclassified	26	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	
TOTALS	1493	750	200	8	17	1	72	2	6	16	2	6	51	6	3	10	1	7	149	5	6	32	41	6	23	25	15	33	

CITY HOSPITAL, WALKER GATE.

(Fever Pavilions).

Admissions during the year—1,493.

The average daily number of patients in the hospital was 111, exclusive of 87 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	1927
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	88.6
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	95.2
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	78.9
All cases of the above, together with Con- tinued 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	89.7

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES NOT
REMOVED DURING 1927.

DISEASE.	HOSPITAL.			NOT REMOVED.		
	Total Cases. (Verified)	Deaths.	Case Mortality per cent.	Total Cases.	Deaths.	Case Mortality per cent.
Scarlet Fever	750	6	0·8	100	..	..
Diphtheria ...	200	17	8·5	13	2	15·4
Enteric Fever	17	2	11·8	4	..	..

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

	CASES.
To the Newcastle Sanitary Authority	1,451
To private guarantors	10
Tyne Port Sanitary Authority	1
Military	1
Other Local Authorities	30
TOTAL.....	1,493

Admissions and Deaths, 1927.

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	78	52	46	39	59	65	56	54	80	90	82	49	750	..	2	2	..	1	..	..	..	..	..	..	1	6
Diphtheria	16	8	27	12	18	11	6	11	14	16	24	37	200	..	1	2	..	..	..	..	..	..	..	..	2	17
Diphtheria Carriers	..	..	..	..	..	..	..	4	2	1	1	..	8	..	..	..	..	..	..	..	1	..	..	..	..	..
Enteric Fever	1	1	..	..	1	1	..	3	1	..	8	..	17	..	..	..	..	..	..	..	1	..	..	..	..	2
Food Poisoning (Aërtrycke) ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	1	..	..	..	..	..	..	..
Measles	1	10	5	13	11	16	3	3	2	..	4	4	72	..	..	..	1	1	1	..	..	..	..	..	..	4
Rubella	3	..	1	..	..	..	1	..	..	1	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum ..	1	..	..	..	..	..	..	1	1	..	..	2	16	..	..	..	..	..	..	..	..	..	..	..	..	1
Varicella	4	1	5	..	..	..	1	2	1	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Variola	1	1	1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Pertussis	1	2	1	..	..	..	..	5	6	6	5	7	6	..	1	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	6	1	2	5	1	3	4	5	6	6	..	..	51	..	..	..	..	..	..	..	..	..	..	1	2	2
Encephalitis Lethargica ..	1	..	..	..	1	..	2	1	..	1	..	..	6	..	..	..	..	1	..	1	..	..	..	..	..	..
Epidemic Cerebro-Spinal Meningitis	..	..	..	..	..	..	1	1	..	..	1	..	3	..	..	..	..	..	5	1	..	..	..	..	..	1
Tuberculous Meningitis ..	1	..	..	..	1	5	..	..	1	..	2	..	10	..	1	..	..	..	..	..	..	..	..	..	..	8
Other forms of Meningitis ..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	1	..	..	1	..	..	2	..	1	..	..	7	..	..	..	..	..	..	..	1	..	..	..	..	..
Pneumonia	19	15	32	8	4	11	11	6	6	13	6	18	149	..	5	8	2	2	3	2	..	..	3	1	3	33
Influenza	..	..	1	..	..	1	..	..	..	..	1	2	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Mumps	3	1	1	..	..	..	1	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Respiratory Diseases ..	..	1	4	2	..	1	..	..	4	12	3	5	32	..	..	..	..	..	..	..	..	..	..	1	1	1
Tonsillitis	3	5	3	4	1	1	4	2	5	3	7	3	41	..	..	..	1	..	..	..	..	..	..	..	..	2
Acute Rheumatism	..	..	..	..	1	..	..	1	2	1	1	..	6	..	..	1	..	..	..	..	..	..	..	..	..	..
Skin and Septic Diseases ..	1	3	6	..	3	1	1	..	1	4	2	1	23	..	..	1	..	..	..	..	..	..	..	..	..	..
Gastro-Intestinal Disease ..	2	1	1	1	1	5	1	5	2	3	1	2	25	..	..	..	..	..	..	..	1	..	..	..	..	1
Unclassified	3	2	4	2	3	6	3	2	..	3	2	3	33	..	..	..	1	..	1	..	..	..	..	..	..	2
No appreciable Disease	1	..	1	1	2	3	2	1	1	3	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS	146	105	141	87	108	130	99	103	130	158	150	136	1493	9	9	13	6	5	15	4	2	5	4	5	8	85

Length of Stay in Hospital of Fatal Cases.—Of the foregoing, the following *died within 24 hours of admission*—diphtheria, 5; pneumonia, 6; cerebro-spinal fever, 1; cerebral tumour, 1; tuberculous spine with retro-pharyngeal abscess, 1; ulcerative laryngitis, 1; acute gastro-enteritis, 1; while 1 case of diphtheria, 3 cases of tuberculous meningitis, 2 cases of pneumonia, and 1 case of septic tonsillitis with septic pharyngitis 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
1925-1927.									
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
1927.....	750	200	17	6	17	2	0.8	8.5	11.8
	2,617	504	60	37	41	7	1.4	8.1	11.7

Diphtheria.—Of the 200 patients in hospital 148 were faucial or pharyngeal cases, of whom 10 died, a case mortality per cent. of 6·7 ; 51 were laryngeal or tracheal cases, of whom 8, or 15·7 per cent. died ; 10 of the faucio-pharyngeal cases had also involvement of the nasal passages and 7, included above, or 70 per cent., died. In 9 of the laryngeal and tracheal cases the obstruction was so considerable as to require operation immediately upon admission to hospital. Intubation and subsequently tracheotomy was performed upon one of these patients, but the child died ; and tracheotomy alone was performed upon the remaining 8, of whom 3 died.

Ignorance and failure of parents to recognise the serious significance of the early laryngitic and bronchitic signs of laryngeal diphtheria account very largely for the high death rate with this type of the disease. When diagnosed early, the disease can be arrested almost immediately by injection of antitoxin. On the other hand, delay permits the diphtheria germ to produce the innumerable complications which so often lead to a fatal issue.

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

Mixed Infections.—6 patients sent into hospital, or 0·4 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 Varicella	2
Scarlet Fever with Mumps	1
Diphtheria with Varicella	1
Measles with Varicella.....	1
	—
	6
	—

Cross Infection.—During the year 6 scarlet fever patients contracted a second infection (chicken pox) in the wards, or 0·4 per cent. of the total admissions to hospital. The origin of the secondary infections was the same for each of the six cases, namely, a scarlet fever patient in the same ward who had been incubating chicken-pox on admission to hospital. 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.
	No.	Per-centage.	No.	Per-centage.	Average Day of Disease when Discharged.
750	25	3·3	26	3·5	38

SEASONAL OCCURRENCE.

QUARTER.	Total Scarlet Fever Admissions.	“ Infecting ” Cases.		“ Return ” Cases.	
		No.	Percentage	No.	Percentage.
January to March	176	4	2·3	7	4·0
April to June	163	7	4·3	8	4·9
July to September	190	6	3·2	4	2·1
October to December ..	221	8	3·6	7	3·2

Of the 25 “ infecting ” cases: (a) 9 had no complications or discharges whilst in hospital, and remained “ clean ” after reaching home; (b) 10 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.

Hospital and Home "Isolation" compared.

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Year	1913		1914		1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		15 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	Hospital	Home
Cases of Scarlet Fever treated	853	90	1404	311	1305	111	677	51	409	36	381	3	630	86	1105	184	1115	249	560	101	434	40	705	78	1036	179	831	134	750	100	12195	1753
"Susceptibles" in the homes of each case 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	102	911	67	831	35	14233	1011
"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	41	5	773	90
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	9.8	3.5	4.5	4.9	14.3	5.4	8.9
"Return" Infections	29	..	84	..	55	2	21	1	20	..	14	..	22	..	49	3	30	7	7	1	17	1	29	..	23	..	34	1	26	..	460	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	3.1	..	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	67	5	1233	106
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	9.8	7.2	6.0	8.1	14.3	8.6	10.5
Average number of rooms in the home per "susceptible"	2.1	6.9	2.2	4.1	1.9	4.8	2.0	18.5	2.1	5.2	2.2	6.2	2.5	4.8	2.2	7.5	2.1	6.0	2.1	6.9	2.1	9.9	2.3	8.8	2.3	5.8	2.3	7.6	2.3	10.5	2.2	6.1

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.

hospital and Home "Isolation" compared

Year	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	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Of these 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" cases, were as follows :—

Class (a)—32 and 10 days.

Class (b)—40 „ 16 „

Class (c)—51 „ 6 „

“ RETURN ” CASES FOR YEARS 1906–1927.

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
1927.....	750	25	3.3	26	3.5

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 fifteen 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 121A shows the results obtained.

OTORRHŒA AND RHINORRHŒA.

A very satisfactory decrease in the incidence of these complications was again noticeable this year. The number of patients who developed rhinorrhœa or otorrhœa was 89, or 11·9 per cent. of the total scarlet fever admissions (750). Although the case mortality was very low (0·8 per cent.), and the average duration of stay in hospital for all scarlet fever cases was reduced to the record figure of 31·5 days, it must not be assumed that the type of the disease was any less mild than that of recent years. In fact a considerable number of severe septic and toxic cases were admitted. There can be no doubt that this continued reduction in number of complications and death rate has been due to the increased number of cases treated with the new scarlatinal antitoxin.

The following table, which divides the antitoxin from the non-antitoxin patients, sets out the number of cases of otorrhœa and rhinorrhœa, together with the corresponding average stay in hospital. It will be seen by reference to the subsequent tables under the heading of scarlet fever antitoxin that this serum was only administered to

severe cases and those who were likely to develop complications. Of the 26 antitoxin cases referred to, all except two patients with otorrhœa and six with rhinorrhœa had received the serum later than the third day of disease.

		Number of Cases.	Average stay in Hospital (days).
Non-Antitoxin Cases	Rhinorrhœa	32	40.0
	Otorrhœa	31	46.0
Antitoxin Cases	Rhinorrhœa	16	31.0
	Otorrhœa	10	52.7
Total.....		89	42.4

Subsequent Progress.—Of 83 cases of otorrhœa and rhinorrhœa visited from six to twelve months after leaving hospital, 67, or 80 per cent. were found to have remained free from discharges. 16 cases (6 otorrhœa and 10 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 6 "mastoid" cases, and 1 case of meringotomy. All except 1 "tonsils and adenoids" patient had remained free from recurrence of complications. This was an old standing case of otorrhœa in whom a slight discharge still persisted.

Operations.—The specialist examinations and surgical treatment of throat, nose, and ear complications in scarlet fever were continued by Mr. Frank Wilson.

34 operations for the removal of tonsils and adenoids, 8 radical mastoid operations, and 1 drum incision were performed. All the mastoid cases except two became

healed, and were discharged from hospital within three weeks after the operation. The two cases referred to were a patient with tuberculous mastoiditis, and another with extensive disease of both mastoid bones and lateral sinus infection. Both cases died.

Scarlet Fever Antitoxin.

Antitoxin treatment has been carried out at the City Hospital since November, 1925, but, chiefly for reasons of economy, it has been restricted to the severe and complicated cases.

The following review sets out the results obtained in the treatment of 831 cases of scarlet fever in 1926 and 748 cases in 1927 (total 1,579), of whom 78 (9 per cent.) and 152 (20 per cent.) respectively were injected with scarlet fever antitoxin.

TABLE I.
NON-ANTITOXIN CASES, 1926-1927.

Uncomplicated Cases.		Complicated Cases.		
Number of Cases.	Stay in Hospital.	Number of Cases.	Nature of Complication.	Average Stay in Hospital.
946	Days. 28	90	Rhinorrhœa	44
		98	Otorrhœa	54
		44	Adenitis*†	44
		17	Nephritis †.....	54
		53	Albumen	36
		18	Rheumatism	34
		7	Relapses	46
		58	Heart†	35
		3	Pneumonia†	15
		1	Vaginitis	35
		1	Pleurisy	37
		2	Parotitis	43
		6	Acute Mastoiditis	60
		1	Bronchitis.....	36
		3	Abscesses	34
		1	Meningism	27
		403		39.6

* 10 required incision.

† 6 Deaths occurred :—3 Pneumonia. 1 Sloughing Cellulitis of Neck,
1 Heart (Pyopericardium).

TABLE II.
ANTITOXIN CASES, 1926-1927.

Day of Administration of Anti-toxin.	Total Number of Cases receiving Antitoxin.	Number of Cases who developed Complications in Hospital.	Number of complications.	Nature of Complication.
1	13	1	1	Rhinorrhœa
2	72	10	4 1 3 2	Rhinorrhœa Otorrhœa Albuminuria Adenitis
3	43	8	3 2 1 1 1	Rhinorrhœa Albuminuria Otorrhœa Adenitis Rheumatism
4	49	9	3 2 4	Rhinorrhœa Otorrhœa Albuminuria
5	53	35	12 9 1 3 1 1 1 1 7	Rhinorrhœa Otorrhœa Albuminuria Nephritis Relapse Rheumatism Cardiac irregularity Deaths
	230	63		

TABLE III. AVERAGE LENGTH OF STAY IN HOSPITAL—SCARLET FEVER (IN DAYS).

1926.				
All Cases.	Antitoxin Cases.		Non-antitoxin Cases.	
	Uncomplicated.	Complicated.	Uncomplicated.	Complicated.
37.1	31	37	36	44
1927.				
All Cases.	Antitoxin Cases.		Non-antitoxin Cases.	
	Uncomplicated.	Complicated.	Uncomplicated.	Complicated.
31.5	31	31	27	35

Comparison of Tables I. and II. brings out one point of outstanding importance, that of all cases who were given the serum on or before the 4th day of disease, not one developed any complications which proved to be serious, and there were no deaths. Bearing in mind that only the severe toxic and septic types of case received antitoxin, this absence of fatality and complications at once becomes the supreme criterion as to the efficacy of serum therapy in scarlet fever.

With regard to the incidence of complications, it will be seen that of the 230 antitoxin cases, 63, (27 per cent.) were complicated, of whom 44 did not receive antitoxin until the 4th day of disease. Also, the actual complications arising among those who received the treatment on or before this day proved not to be of a serious or lasting nature. Of the 1,349 remaining "non-antitoxin" patients, the large majority of whom suffered only from mild attacks, 403 (30 per cent.) developed complications of varying severity. This close approximation (27 per cent, and 30 per cent.) of percentage complications among antitoxin and non-antitoxin cases respectively is what would be expected if serum be therapeutically beneficial, for in the former case it is to be inferred that the severe type will be ameliorated and have fewer complications, while in the latter, the mild type, serious complications are usually few in number.

The average duration of stay in hospital in table III. also provides interesting information. In 1926, 9 per cent. of the total scarlet fever admissions were injected with serum compared with 20 per cent. in 1927, and the average length of stay in hospital for these two years was 37.1 and 31.5 days respectively. The latter figure is, with one exception (1921, 1,115 scarlet fever admissions,

average stay 31.1 days), the lowest average duration of stay in hospital on record for Newcastle.

Of the late effects and subsequent health of the patient after leaving hospital very little information has been made available. It has been contended that until it can be shown that the occasional complications occurring during convalescence or later are merely the sequelæ of a serious or fatal attack cut short by antitoxin, and not the result of some deleterious quality of the serum itself, then a true bill for the antitoxin has not been established.

Table IV. makes reference to complications arising *de novo* after discharge of the patient from hospital.

TABLE IV. ANTITOXIN CASES, 1926-1927.
COMPLICATIONS ARISING *de novo* AT HOME.

Day of Disease of adminis- tration of anti- toxin.	Total Number of Cases with com- plications when vis- ited after Discharge	Nature of Complication.				No. of Cases free from Com- plications when vis- ited after Discharge from Hospital.
		Occurring primarily at Home.		Present in Hospital and recurring at Home.		
		No. of Cases.		No. of Cases.		
1	1	1	Rhinorrhœa	..		12
2	5	3	1 Rhinorrhœa 2 Debility	2	Rheumatism	67
3	5	3	1 Rhinorrhœa 1 Otorrhœa 1 Debility	2	1 Rhinorrhœa 1 Adenitis	38
4	3	2	1 Rhinorrhœa 1 Debility	1	Rheumatism	46
5	23	12	2 Rhinorrhœa 1 Otorrhœa 1 Rheuma- tism 8 Debility	11	4 Rhinorrhœa 4 Otorrhœa 1 Adenitis 1 Nephritis 1 Albumen	30
	37	21		16		193

Visits have been made by sanitary inspectors to all patients who had received antitoxin when in hospital. The replies enumerated above made by parents to a set list of questions cannot be considered to indicate any extraordinary tendency to post-hospital complications. It will be noted that no history of relapse was obtainable, that in 12 of the 21 complaints nothing more than the customary debility after scarlet fever was present, and that in no case had it been deemed necessary to call in the services of a medical man.

A very pertinent suggestion concerning these late complications was advanced by the consulting otorhinologist to the City Hospital. He had observed that the usual systemic disturbance associated with scarlatinal mastoiditis became considerably diminished after the administration of antitoxin. Accordingly he desired that the giving of serum be withheld temporarily in doubtful cases where a masking of underlying disease might lead to delay in diagnosis and loss of valuable time before operation. Such an action of the serum in reducing toxæmia would also explain the occurrence of complications in the late weeks of convalescence: septic foci in throat, nose and ear, which have lain dormant so long as antitoxin has remained in the blood stream are later excited into activity possibly by the simple agency of a chill or common cold. If this theory be true it is to be assumed that had antitoxin not been administered, the complications would have occurred very much earlier, when the toxæmia was at its height, and would have been considerably more serious in their effects.

Ultra Violet Therapy.—The Ultra Violet Lamp at the City Hospital has continued to be useful in the treat-

ment of various diseases, and the following is a summary of the treatment given :—

(a) Debility, Boils, Acne, etc. (among staff) 10

(b) Tuberculosis :—

Knee	1
Ankle	3
Cervical Glands	2
Peritoneum	3
Lupus of Face	2
Abscess of Jaw	1
Abscess of Sternum	1

(c) Debility following :—

Influenza	1
Diphtheria	1
Pneumonia	2
Sprained Foot	1
Septic Leg	1
Acne on Face	1
Chronic Bronchitis	1

The majority of these cases were benefitted by the treatment, especially where the condition was a local one and of a septic nature.

Average stay in Hospital during the last Twenty 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
1927	1,493	27.0	750	31.5	208	41.9	17	43.6	518	15.0

Staff Sickness.

Nursing Staff.—57 of the Nursing Staff were off duty owing to sickness for a total of 1,272 days. 4 suffered from scarlet fever, 16 influenza, 8 tonsillitis, 1 rubella, 1 mumps, and 1 pulmonary tuberculosis.

Domestic Staff.—31 were off duty through sickness for a total of 633 days. 1 contracted scarlet fever, 8 tonsillitis, and 10 influenza.

The 5 cases of scarlet fever all relate to the period before May, when routine Dick testing and immunisation, where necessary, was commenced.

Bacteriological Laboratory, City Hospital.

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

Swabs for Diphtheria Bacilli	762
Other Examinations	53
TOTAL	815

SMALLPOX AND ISOLATION HOSPITALS, TOWN MOOR.

177 patients were admitted to the Smallpox Hospital during the year. Of these, 111 were Newcastle cases of smallpox, 5 were cases from districts outside of Newcastle, who came to Institutions in the City, and 2 were cases which proved not to be smallpox admitted for observation from local institutions.

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:—

Chester-le-Street R.D.C.	37
Morpeth „	1
Castle Ward „	1
Bellingham „	1
Willington U.D.C.	17
Newbiggin „	1
Territorial Association (R.F.A.)	1
	59

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	21	All unvaccinated.
15-25	15	9 unvaccinated, 6 vaccinated in infancy.
25-35	6	3 " 3 " "
35 and over	74	14 " 59 " " 10 yrs. ago.

EXTRA MURAL CASES.

Age.	No. of Cases.	Vaccinal Condition.
0-15	19	All unvaccinated.
15-25	20	18 unvaccinated, 2 vaccinated in infancy.
25-35	6	4 " 2 " "
35 and over	14	4 " 10 " "

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

DISINFECTION, Etc.

7,199 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 disinfecting by spraying with formalin. In connection with cases of tuberculosis, 666 houses, including 792 rooms, were similarly disinfected. 276 visits were made, and disinfection was also carried out in 178 special cases.

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

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

Inquiries were also made in connection with 1,445 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.	
1927	1926	1927	1926
23,079	22,806	20,210	18,255

10,080 articles of clothing, etc., were also disinfected at the Smallpox Hospital.

The staff have thus dealt with 53,369 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—1927.

FROM	FOR INFECTIOUS DISEASES.	FOR PHTHISIS.
	FLUID ($\frac{1}{2}$ pint tins.)	FLUID ($\frac{1}{2}$ pints.)
Health Department	260	....
Tuberculosis Dispensary .....	....	640
Corporation Yard, Benwell	48	....
TOTAL	308	640

BACTERIOLOGICAL INVESTIGATIONS, 1927.

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.

5,402 specimens were submitted for examination. The nature of the investigations and the results obtained were as follows :—

	DIPHTHERIA.			PTHRISIS.			ENTERIC.		
	Total.	Posi- tive.	Nega- tive.	Total.	Posi- tive.	Nega- tive.	Total.	* Posi- tive.	Nega- tive.
No. of Ex- aminations	1186	101	1085	629	104	525	60	11	49

* Of these positive cases of Enteric Fever :—

3 cases were *B. typhosus*, and
8 „ „ *B. paratyphosus* B.

MILK EXAMINATIONS :—

	Found.	Not Found.	Total.
1. For the tubercle bacillus	14	362	376
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			21
Colon bacilli found in 1 cc., but not in less			35
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			23
Colon bacilli found in 0·0001 cc., but not in less			14
Colon bacilli found in 0·00001 cc., but not in less..			39
			188

177 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	35	11
“ Grade A ” Milk (Tuber- culin tested).....	80	28
“ Grade A ” Milk	12	11
	127	50

WATER EXAMINATIONS :—

Class I. (Colon bacilli not found in 100 cc. or less).....	94
Class II. (Colon bacilli found in 100 cc. but not in less)	60
Class III. (Colon bacilli found in 10 cc. but not in less)	28
Class IV. (Colon bacilli found in 1 cc. but not in less) ..	5
	187

There is a notable improvement in the results of the bacteriological examination of the water samples compared with previous years, and the results for 1926 are, therefore, appended for comparison :—

1926.	Class I.	62
	Class II.	70
	Class III.	50
	Class IV.	7
		189

VENEREAL DISEASES :—

	Total.	Serological reactions.	Microscopical examinations.
From Treatment Centres	1,367	1,367	..
From Private Practitioners ...	1,132	1,015	117
TOTAL	2,499	2,382	117

OTHER EXAMINATIONS :—

(a) **Enteric Fevers.**—1 specimen of urine and 63 specimens of fæces were received from the City Infectious Diseases Hospital and examined for organisms of the enteric group.

The first-named was negative.

From the fæces :—

B. typhosus was isolated in 4 examinations,

B. paratyphosus B. was isolated in 9 examinations, and in one case the organism appeared to agglutinate with B. Aërtrycke (Mutton) serum.

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

B. Morgan No. 1 was isolated in 5 examinations,

B. pyocyaneus was isolated in 5 examinations, and

B. proteus was isolated in 1 examination.

B. typhosus was also isolated from the spleen of one fatal case though the fæces were entirely negative.

8 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 :—

A cultural examination of a specimen of blood for organisms which showed the presence of streptococci.

The preparation of an autogenous vaccine.

The examination of a specimen of fæces for tubercle bacilli with a positive result.

(c) **Diphtheria** :—Virulence tests of the diphtheria bacilli isolated from throat cultures were carried out in 9 cases.

4 cases proved non-virulent.

In 4 cases no diphtheria bacilli were isolated and one examination was cancelled.

(d) An outbreak of conjunctivitis occurred in certain districts of the City during October, and from three swabs examined from infected persons the Koch-Weeks bacillus was isolated in one case.

(e) **Food Poisoning.**—A sample of lettuce supposed to have been the vehicle for food-poisoning, was examined and proved entirely negative.

6 post-mortem specimens from a fatal case and 4 specimens of fæces from relatives were received for examination for organisms of the food-poisoning group, but all proved to be negative.

(f) **Bacillary Dysentery.**—The examination of two specimens from suspected "carriers" proved negative.

F. H. A. CLAYTON, M.D.,

Bacteriologist.

*University of Durham College of Medicine,
Newcastle-upon-Tyne.*

29th May, 1928.

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

IV.—TUBERCULOSIS.

TUBERCULOSIS DISPENSARY.

INSTITUTIONAL TREATMENT.

REPORT OF THE
TUBERCULOSIS MEDICAL OFFICER
AND THE
MEDICAL SUPERINTENDENT OF BARRACKPORT SANATORIUM.

During the year ending 31st March 1925, the following cases of Tuberculosis were admitted to the Barrackport Sanatorium:

1. A female patient, aged 45, was admitted on 1st April 1925, with a diagnosis of Tuberculosis of the Lungs. She had been ill for some months and had lost considerable weight. On admission, the chest was found to be normal, but the sputum was found to contain many acid-fast bacilli. She was treated with the standard regimen and made a good recovery.

2. A male patient, aged 35, was admitted on 15th April 1925, with a diagnosis of Tuberculosis of the Lungs. He had been ill for some months and had lost considerable weight. On admission, the chest was found to be normal, but the sputum was found to contain many acid-fast bacilli. He was treated with the standard regimen and made a good recovery.

IV.—TUBERCULOSIS.

University of London College of Medicine,
Newcastle-upon-Tyne.
22nd May 1925.

TUBERCULOSIS DISPENSARY.
INSTITUTIONAL TREATMENT.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I beg to submit herewith my report on the work of the Tuberculosis Section for the year 1927.

The general plan of the report is similar to that of last year, and includes most of the information required in Memo. 37/T of the Ministry of Health (Table I. modified so that comparisons can be made from year to year, is included as an appendix).

There has been a decrease in notifications, and the death rates of both pulmonary and non-pulmonary tuberculosis are the lowest that have been recorded in Newcastle-upon-Tyne.

Encouragement with regard to the complexity of the housing problems of the City has been given by the action of the Housing Committee, who, by arrangement with individual cases, has given preference to a number of ex-sanatorium and other tuberculous patients. These persons are thus enabled to get a house in a healthy area of the town. The matter largely depends upon the income of the patient and his family, however, and there is as yet no real solution to the problems of the poverty stricken tuberculous patient living under bad home conditions.

During the year 70 home visits were made by the Tuberculosis Medical Officer, and of these 18 were to overcrowded and insanitary houses.

With regard to the "after care," the Voluntary Tuberculosis Care Council has continued its very valuable

work. It has helped needy cases with extra nourishment, clothing and bedding, and has also sent delicate children, contacts of infectious cases, for a few weeks for convalescent home treatment. These children have thus been removed from the danger of infection for a short period, and their own health improved at the same time. Probably the most valuable part of the Voluntary Tuberculosis Care Council's work, however, is the lending of extra beds to infectious cases of tuberculosis, so that they may sleep alone.

Calmette, in his study upon "Tubercle Bacillus Infection and Tuberculosis in Man and Animals," 1923, lays great stress upon the removal of the source of infection and little upon the so-called "tuberculous diathesis." He says: "Tuberculous infection is brought about only by the bacillus. Poverty, defective food supply, unsanitary housing, do not render a man tuberculous where the bacillus does not exist; they are only factors which paralyze or impede the action of the natural weapons of defence after infection has been able to establish itself." And later in the same chapter: "A child is never seen to contract tuberculosis even though condemned to live in the most unhealthy tenement, and in the most frightful conditions of poverty, nor a calf in the most unhealthy stable, unless virulent germs are introduced intermittently or continuously by sick people or sick animals."

"Before all then, and above all, our efforts at combating tuberculosis should be concentrated against introductions of infection and principally against frequent and abundant ones."

In view of these statements and their authoritative nature, and the possibility in ordinary dwellings of massive infection, it would seem that more time should

be spent upon the preventive aspect of the problem, the seeing and examining of contacts, and the education of the public about the disease.

There have been no cases of tuberculous persons employed in the milk trade, and consequently no action under the Public Health (Prevention of Tuberculosis) Regulations, 1925.

In one case when admission to Hospital was advised and resented by the patient, the fact that legal powers existed under the Public Health Act of 1925, was sufficient to obtain his removal.

During the year the crowded state of the Sanatorium beds at the Sanatorium Pavilions at the City Hospital for Infectious Diseases, Walker Gate, and the frequency of a waiting list of bed cases, should be noted. Difficulty has also been frequently experienced by the small number of "Surgical and Medical" beds for children, and the fact that the 30 beds rented by the Corporation at Stannington are wholly inadequate for the needs of the City.

Yours faithfully,

GEORGE HURRELL, M.D.,

Tuberculosis Medical Officer.

7th May, 1928.

REPORT.

Notifications.—858 notifications were received during the year but some were duplicates, so that the total number of new cases was 774, of whom 504 were certified to be suffering from "pulmonary" and 270 from "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, 1927.

AGE PERIODS.	Number of Notifications on Form "B."													Number of Notifications on Form "C."		Number of Notifications on Form "D."		
	Primary Notifications.													Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.	
	Total Notifications (including Cases previously notified by other doctors).													Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.	
	Under 5.	5 to 10.	10 to 15.	TOTAL.	65 and upwards.	55 to 65.	45 to 55.	35 to 45.	25 to 35.	20 to 25.	15 to 20.	10 to 15.	5 to 10.	1 to 5.	0 to 1.	Total Notifications (including Cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.
Pulmonary—	During the year the School Medical Officers referred all suspicious cases to the Tuberculosis Medical Officer.																	
Males	22	282	21	223	295	268	3	15	36	54	43	28	41	17	23	8	22	282
Females	24	159	34	139	263	236	2	13	26	39	50	34	24	16	25	6	24	159
Non-Pulmonary—	7	9	16	9	165	148	1	1	6	6	8	6	17	25	40	30	7	9
Males	11	11	10	8	135	122	..	3	1	3	10	11	12	19	24	31	11	11
Females	64	461	81	379	858	774	6	32	69	102	111	79	94	77	112	75	64	461
TOTAL																		

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.

"Primary Notifications" are all new cases coming to the knowledge of the Medical Officer of Health during the year, whether on Form "A" or from other sources.

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 774 cases notified, 475 attended the Dispensary and 156 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 59 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 84 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 1928.

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 1927. While 230 of the 504 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 17 out of a total of 270 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 27.7 per cent. of all the new cases died in the same year as they were notified.

NOTIFICATIONS OF TUBERCULOSIS DURING 1927.

Part Affected.	Notifi- cations.	Attended Dispensary.	Visited by Nurse but not attended Dispensary.	Received Institutional Treatment.				Died during the Year.
				Barras- ford Sana- torium.	Sanat. Pav. Walker Gate.	Stann- ington Sana- torium.	Total.	
Pulmonary (Male) ..	268	203	29	60	72	7	139	73
„ (Female).	236	150	48	24	61	6	91	74
Non-Pulmonary— (Male)	148	70	46	..	..	7	7	42
(Female)	122	52	33	..	3	7	10	36
TOTAL	774	475	156	84	136	27	247	225

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 144 cases (over 18 per cent. of the total) were notified by the Dispensary Medical Staff.

Non-notified deaths were 29, equal to 9.1 per cent. of deaths from pulmonary tuberculosis.

Non-notified deaths were 29, equal to 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.—448 deaths were registered as due to some form of tuberculosis, and of these 308 were certified as due to pulmonary tuberculosis and 140 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	308	1·07
Non-Pulmonary Tuberculosis	140	0·48
Total Tuberculosis Death Rate (uncorrected) ...	448	1·55

It must be noted, however, that 18 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (17 pulmonary ; 1 non-pulmonary), while 66 of the deaths (9 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	316	1·09
Non-Pulmonary	84	0·29
All forms of Tuberculosis (corrected)	400	1·38

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 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.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Respiratory System	..	..	1	3	5	1	2	6	22	19	18	20	29	38	38	26	41	21	13	9	..	4	169	147
Central Nervous System	4	4	3	5	7	3	1	2	1	2	..	1	1	..	2	..	..	..	..	..	..	..	19	17
Intestines and Peritonium	3	1	1	4	..	1	..	..	2	..	2	..	..	2	..	1	..	..	2	..	..	..	10	9
Vertebral Column	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2
Joints	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..
Other Organs	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Disseminated	..	..	2	3	2	1	2	..	2	4	1	..	..	1	1	1	3	..	..	..	..	..	13	10
Totals	7	5	7	16	14	6	5	9	28	25	21	21	31	41	41	28	44	21	15	10	1	4	214	186

79 per cent. of the "lung" cases were known to the dispensary staff, 204 having visited the dispensary and an additional 46 having been attended in their homes by the visiting nurses.

Only 30 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 316 deaths from pulmonary tuberculosis the diagnosis was verified bacteriologically in 205 instances, *i.e.*, 65 per cent.

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

3 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 lobar pneumonia, general tuberculosis, and acute miliary tuberculosis respectively.

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 40 months. As in previous years, important differences were discovered when age and sex were considered, the figures being 47 months for adult males, 33 months for adult females, and 11.5 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 19·5 months for all cases.

As the duration of illness for all cases was 40 months, each patient who died during the year must, on the average, have been ill over 20 months before notification.

37·2 per cent. of the patients had either not been notified prior to death (9·1 per cent.), or died within 3 months of notification (28·1 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.	1927.			
							M.	F.	C.	Total.
Persons not notified	43	51	42	37	26	33	13	12	4	29
„ notified under 1 mth.	35	47	51	53	62	48	15	17	5	37
„ between 1 and 3 „	94	48	42	43	43	42	24	23	5	52
„ between 3 and 6 „	53	30	44	27	43	44	22	11	1	34
Total under 6 months	226	183	179	160	174	167	74	63	15	152
Persons notified between										
6 and 12 months	47	46	37	39	46	37	10	29	2	41
„ 12 and 18 „ ..	28	21	23	29	21	19	21	14	..	35
„ 18 and 24 „ ..	15	15	14	17	20	20	10	3	..	13
„ 2 and 3 years ...	20	18	19	25	22	25	14	8	..	22
„ over 3 years ...	21	47	39	52	60	63	32	20	1	53
TOTAL	357	331	311	322	343	331	161	137	18	316

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 24 of the 29 fatal unnotified cases of pulmonary tuberculosis, and 26 of the 29 fatal unnotified cases of non-pulmonary tuberculosis, died in hospitals; included in the 26 “other forms” were 17 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.

156 “insured persons” (124 males and 32 females) are included in the 316 deaths.

Family History.—In 106 instances amongst the 258 cases known to the Dispensary who died of pulmonary tuberculosis, *i.e.*, in 41 per cent., there was a history that some near relation was suffering from, or had died of pulmonary tuberculosis. The figures were 36·5 for men, and 46·3 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 the above 258 persons were as follows:—

Rooms in Dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Total.
Deaths	39	81	69	43	23	3	258

As regards the type of house occupied 147 were flats, 72 tenements, 36 self-contained, and 3 were common lodging houses.

Treatment in Institutions.—It is noteworthy that of the 210 patients suffering from pulmonary tuberculosis who attended the Dispensary and died in 1927

188, or 89 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 1927. 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 1927 was 1·38, the average for the ten years 1918-27 for All Saints' Ward was 2·28, and for St. John's 1·91, whereas the corresponding figures for St. Thomas' and Jesmond Wards were 0·81 and 0·71 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	58	136	2.3
2 Rooms	160	738	2.3
3 Rooms	162	786	1.6
4 Rooms	152	761	1.2
More than 4 Rooms	94	514	1.1
TOTAL	626	2,935	1.5

In 19 instances there were 2 cases in one house.

In 1 instance there were 3 cases in one house.

WARD DISTRIBUTION OF TUBERCULOSIS, 1927.

WARD.	Population 1927.	NOTIFICATIONS.						DEATHS.						New Patients Discharged 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'	2,769	3	1.08	3	1.08	6	2.16	1	0.36	1	0.36	2	0.72	5
St. Thomas'	13,992	13	0.93	4	0.28	17	1.21	6	0.43	2	0.14	8	0.57	19
St. John's	15,458	41	2.65	20	1.29	61	3.94	24	1.55	9	0.58	33	2.13	63
Stephenson	18,872	43	2.28	17	0.90	60	3.18	23	1.22	6	0.32	29	1.54	71
Armstrong	15,731	42	2.67	18	1.14	60	3.81	22	1.40	5	0.32	27	1.72	87
Elswick	12,843	18	1.40	8	0.62	26	2.02	10	0.78	2	0.15	12	0.93	26
Westgate	15,375	22	1.43	15	0.97	37	2.40	17	1.10	8	0.52	25	1.62	36
Arthur's Hill	11,532	5	0.43	1	0.09	6	0.52	9	0.78	2	0.18	11	0.96	7
Benwell	18,678	38	2.03	22	1.18	60	3.21	22	1.18	4	0.21	26	1.39	80
Fenham	17,025	25	1.47	11	0.64	36	2.11	13	0.76	3	0.18	16	0.94	47
All Saints'	17,816	33	1.85	24	1.35	57	3.20	25	1.40	6	0.34	31	1.74	64
St. Andrew's	11,920	24	2.01	21	1.76	45	3.77	14	1.17	6	0.50	20	1.67	40
Jesmond	11,264	17	1.51	2	0.17	19	1.68	6	0.53	2	0.18	8	0.71	11
Dene	16,266	14	0.86	5	0.31	19	1.17	10	0.61	1	0.06	11	0.67	22
Heaton	15,609	22	1.41	5	0.32	27	1.73	14	0.89	3	0.20	17	1.09	35
Byker	17,609	25	1.42	19	1.08	44	2.50	19	1.08	7	0.40	26	1.48	80
St. Lawrence	18,045	35	1.94	28	1.55	63	3.49	28	1.55	8	0.44	36	1.99	88
St. Anthony's	15,886	41	2.58	18	1.13	59	3.71	23	1.44	4	0.25	27	1.69	73
Walker	21,810	43	1.97	29	1.33	72	3.30	30	1.37	5	0.23	35	1.60	82
City	288,500	504	1.75	270	0.93	774	2.68	316	1.09	84	0.29	400	1.38	936

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 922. In addition there were 14 cases who had been discontinued previous to the year 1927, and are counted as new cases in accordance with instructions in Memo. 37/T, making a total of 936 cases.

468 of them were sent direct by general practitioners, 304 were referred to the dispensary by the visiting nurses, 43 by the School Medical Officers, and the remainder came from various sources, *e.g.*, Royal Victoria Infirmery 33, Citizens' Service Society, etc.

347 had been notified previously, and the balance, 589, of whom 144 were notified by the Dispensary Medical Staff, were suspects, or contacts of known cases. Of the last mentioned category 148 had lived with patients known to have bacilliferous sputum, and 63 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 1927.
(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	140	12	85	8	245
Non-Pulmonary Tuberculosis .	15	29	16	20	80
*Diagnosis not completed after one month's observation ...	84	63	82	68	297
Non-Tuberculous	75	92	78	69	314
	314	196	261	165	936

* 33 of these were subsequently diagnosed as tuberculosis.

In respect of these new patients, after observation it was found that 62 per cent. were not suffering from active tuberculosis.

362 were "insured persons," and 487 were dependents of "insured persons," leaving only 87 of the uninsured classes.

2,521 patients visited the dispensary during the course of the year, and registered 7,630 attendances, an average of over 3 per patient.

The total number of complete physical examinations made was 2,045, including 764 males, out of 2,654 attendances; 586 females, out of 2,063 attendances; and 695 children out of 2,913 attendances; giving an average of 1 every 3 visits for adults, and every 4 for children.

31 per cent. of the cases had been verified bacteriologically—51 per cent. of the males, 40 per cent. of the females, and only 1·5 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 1927.			
	Total.	Males.	Females.	Under 15 years of age.
Bacilli found	779	479	287	13
Bacilli <i>not</i> found	1,742	453	432	857
TOTAL	2,521	932	719	870

Sputum Positive Cases.—The number of living sputum positive cases on the Dispensary Register on January 1st, 1927, was 619; during the year 124 of these died, and also 55 patients in whose sputa tubercle bacilli were found in the course of the year. In addition 19 cases were written off the Dispensary Register (1 cured, 18 left the district.)

205 cases were added to the register, making a total at the end of the year of 626, consisting of 395 males, 220 females and 11 children.

517 of these patients visited the Dispensary during the year. Of the 109 who failed to attend 71 were reported by the nurses to be working or fit for work; 22 were moderately well, while 9 had relapsed, and were mostly confined to bed; in respect of the remaining 7 no information could be obtained.

In 2 instances sanatorium treatment had been refused, but 89 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.		1920.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
8	4	7	10	11	9	10	7	11	7	14	6	13	6	26	5

1921.		1922.		1923.		1924.		1925.		1926.		1927.		Total.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
20	7	27	10	34	15	33	29	55	24	55	40	77	46	401	225

“ 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 1,742 patients in this category attended during the year. This number included 924 males and 818 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 49 per cent. of the total as opposed to 1.7 per cent. of the bacteriologically verified cases. The majority of these "negative" cases were "suspects" or "contacts."

1,118 "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 1927.

(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	2	..	3	..	5
Non-Pulm. Tuberculosis, Cured	..	3	2	5	10
Non-Tuberculous.....	239	257	219	218	933
Left district, lost sight of, or will not attend Dispensary ..	51	33	59	27	170
	292	293	283	250	1,118

The numbers 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 1927.

(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	100	25	82	15	222
Non-Pulmonary Tuberculosis ..	65	100	68	72	305
Diagnosis Not Completed	74	126	90	117	407
	239	251	240	204	934

Relations with other Departments, etc.—The majority of new cases entered on the Dispensary Register were referred either directly by the local doctors (50 per cent.) or else by the visiting nurses after notification (32·5 per cent.).

In many cases it was considered that more appropriate treatment or advice could be given elsewhere, and 308 letters of recommendation were given to other departments, hospitals, or charitable agencies. 111 cases were referred to the Voluntary Tuberculosis Care Council, 43 to the Citizens' Service Society, 21 to the United Services Fund, 30 to the Principal School Medical Officer, 26 to the Board of Guardians, 39 to the Royal Victoria Infirmary, 19 to the Housing Committee, and smaller numbers to various organisations.

Every effort is made to verify each notified case by bacteriological means, and during the year 1,067 specimens of sputum were examined at the Dispensary. Of this number 235 were found to contain tubercle bacilli, while 832 gave negative results. In addition 629 samples of sputum were sent, for examination, to the College of Medicine by the medical practitioners of the City. Of these 104 proved positive, and 526 negative.

Work of the Nurses.—1,048 new patients were seen as against 1,173 in 1926, and 10,437 subsequent visits were made, giving a grand total of 11,485 for the year.

The number of patients on the Nurses' lists on December 31st, 1927, was 1,729, comprising 638 males 519 females, and 572 children.

In 578 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 1,401 patients were removed from the nurses' lists; this total includes 310 deaths (190 sputum positive and 120 negative).

Visits to 1,091 patients were discontinued on the instruction of the Tuberculosis Medical Officer; of these only 34 were sputum positive cases, 18 of whom had left the district, while 1,057 were negatives. 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	773
Houses disinfected (total)	666
For patients going to Sanatoria	110
For patients changing their address	71

For patients going to Hospital.....	320
After death	165
Rooms disinfected in above houses	792
Total number of visits	1373

The types of houses disinfected were as follows:—
one roomed, 37 ; two-roomed, 202 ; three-roomed, 171 ;
four-roomed, 155 ; more than four rooms, 101.

Houses found to have sanitary defects (including overcrowding) and re- ferred to the Senior Sanitary In- specter	120
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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 (a private institution) 30 beds were maintained for the treatment of tuberculous children.

Barrasford Sanatorium.—117 patients (85 men and 32 women) were admitted in the course of the year, composed of 7 “suspects” sent for observation purposes, 22 suffering from pleurisy with effusion and 1 from tuberculosis of the peritoneum, while of the remainder 7 were classified at the Dispensary as being in Stage I., 61 in Stage II., and 19 in Stage III. of pulmonary tuberculosis.

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 161 :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM
DURING THE YEAR 1927.

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

	Sex.	In Barrasford Sanat'm on 1st January, 1927.	Admitted during the Year.	Dis- charged during the Year.	In Barrasford Sanat'm on 31st December, 1927.
Patients	M.	23	81	75	29
Do.	F.	12	29	32	9
Observation Cases	M.	..	4	4	..
Do.	F.	..	3	3	..
TOTAL		35	117	114	38

1 Patient was re-admitted, and is counted as 2 admissions.

Of the 7 patients who had been under observation, 4 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.....	27	22	49
Improved	31	8	39
Without Improvement	20	5	25
Died	1	..	1
TOTAL	79	35	114

Discharged patients are visited at frequent intervals by the Dispensary staff and are encouraged to report periodically so that they can be examined and records kept.

In the next table a summary is given of the condition on December 31st, 1927, 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.	Num of Patients discharged from Barrasford Sanatorium.	MALES.	FEMALES.	Condition at end of Year 1927.					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	4	3	1	39	16	6,471	101
1911	72	46	26	9	2	1	49	11	6,868	97
1912	67	47	20	5	1	..	40	21	5,396	81
1913	85	58	27	10	1	..	48	26	9,567	112
1914	78	59	19	15	2	..	43	18	9,723	124
1915	74	54	20	8	6	1	39	20	10,803	146
1916	64	45	19	8	1	..	40	15	10,005	156
1917	68	45	23	14	1	2	34	17	10,603	156
1918	89	81	8	23	1	2	48	15	11,926	134
1919	107	85	22	23	6	1	61	16	14,207	133
1920	131	105	26	40	6	..	60	25	17,127	129
1921	112	88	24	25	5	2	66	14	13,544	122
1922	77	58	19	20	5	2	40	10	10,515	136
1923	100	76	24	29	7	5	49	10	14,062	140
1924	94	66	28	32	8	7	38	9	13,254	141
1925	109	70	39	50	11	4	37	7	15,716	144
1926	143	104	39	77	18	8	36	4	19,518	136
1927	114	79	35	68	30	9	7	..	15,147	133
TOTAL ..	1,702	1,240	462	462	116	45	813	266	220,712	129
Received treatment in previous years ..	127	94	33	40	20	12	48	7	..	..
Nett Cases	1,575	1,146	429	422	96	33	765	259	220,712	140

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.				Persons deceased at the end of the year.				
	TOTAL Nett Cases.	Number who had Tubercle Bacilli found in the Sputum.	Number who had <i>not</i> Tubercle Bacilli found in the Sputum.	Number who had Tubercle Bacilli found in the Sputum after discharge.	TOTAL.	Tubercle Bacilli found in the Sputum before or during treatment.	Tubercle Bacilli found in the Sputum after dis- charge.	No record of Tubercle Bacilli ever found in Sputum.	Cases who had Tubercle Bacilli in the Sputum and could not be traced at end of Year.
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	45	37	4	4	6
1912	63	36	27	10	37	26	6	5	11
1913	81	52	29	3	47	38	3	6	10
1914	74	53	21	2	41	37	2	2	8
1915	73	51	22	3	38	33	3	2	6
1916	63	47	16	3	40	35	3	2	7
1917	64	42	22	5	31	25	4	2	8
1918	83	55	28	4	46	41	2	3	10
1919	102	82	20	4	58	55	2	1	10
1920	127	89	38	3	59	56	1	2	9
1921	106	84	22	4	61	55	3	3	9
1922	64	49	15	2	36	32	1	3	4
1923	95	77	18	1	46	44	1	1	7
1924	84	70	14	..	32	32	..	..	4
1925	89	71	18	2	31	30	1	..	7
1926	124	104	20	..	33	30	..	3	4
1927	98	71	27	..	7	7	..	..	..
TOTAL	1,575	1,158	417	57	766	676	41	49	131

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 44 patients completed treatment.

The details appear below :—

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM
DURING YEAR 1927.

	In Sana- torium on 1st Jan., 1927.	Ad- mitted during the Year.	Persons who completed Treatment during the year.			In Sana- torium on 31st Dec. 1927.
			Number	Total Number of Days	Average length of stay in Days.	
Males	19	19	25	6,679	267	13
Females	11	25	19	4,516	237	17
TOTAL	30	44	44	11,195	254	30

1 patient was re-admitted and is counted as 2 admissions.

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

	Males.	Females.	Total.
Disease quiescent	18	12	30
Improved	6	6	12
Without Improvement	1	1	2
TOTAL	25	19	44

SANATORIUM PAVILIONS, WALKER GATE.

The 92 beds were kept fully occupied, and at times there were patients awaiting admission. 301 patients were admitted, (186 males and 115 females).

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 1927.

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

		Sex.	In Institu- tion on 1st January 1927.	Ad- mitted during the Year.	Dis- charged during the Year.	Died in Institu- tion during the Year.	In Institu- tion on 31st Dec., 1927.
Number of Patients.	Adults ..	M.	36	145	93	43	45
	Do.	F.	35	87	71	24	27
	Children .	M.	4	14	14	..	4
	Do.	F.	2	9	6	1	4
Observation Cases.	Adults ..	M.	1	18	15	2	2
	Do.	F.	..	9	9	..	..
	Children .	M.	3	9	11	..	1
	Do.	F.	1	10	9	..	2
TOTAL ..	..	..	82	301	228	70	85

N.B.—12 patients were re-admitted and are counted as 24 admissions.

1 patient was re-admitted twice, and is counted as 3 admissions.

Of the 46 patients who had been under observation 16 were found to be suffering from tuberculosis.

The total number of days of those who received treatment was 30,997, giving an average length of stay of 104 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 5 initial inductions of artificial Pneumothorax and 163 refills performed at Walker Gate Sanatorium during the year.

Since the year 1922, 140 patients have received this form of treatment at Walker Gate Sanatorium, and 82 at Barrasford Sanatorium.

70 patients died in the institution ; the condition of the other patients on discharge is given in the table below :—

	Males.	Females.	Total.
Improved	95	70	165
Without Improvement	38	25	63
Died in Hospital	45	25	70
TOTAL	178	120	298

Many of those discharged “ improved ” were fit for light work, while 19 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, 132 patients admitted to the Poor Law Institution (Wingrove Hospital) were notified as suffering from tuberculosis ; 97 of these (45 males and 52 females) being lung cases and 35 (19 males and 16 females) suffering from non-pulmonary tuberculosis.

Deaths in Institutions.—201 of the deaths from tuberculosis (150 “ lungs ” and 51 “ other forms ”) occurred in institutions. As previously mentioned 70 patients died in the Sanatorium Pavilions, Walker Gate, from pulmonary tuberculosis. In addition 3 pulmonary and 8 non-pulmonary cases died in the City Hospital for Infectious Diseases. 75 patients (55 “ lungs ” and 20 “ other forms ”) died in Wingrove Hospital, 20 patients (4 “ lungs ” and 16 “ other forms ”) in the Royal Victoria Infirmary, 7 patients (1 “ lungs ” and 6 “ 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 166, together with the corresponding figures for previous years.

TUBERCULOSIS SECTION.

SUMMARY OF WORK DONE.

	Average for 5 years.		1923	1924	1925	1926	1927
	1913-17	1918-22					
<i>Notifications ... Total.</i>	1013	786	833	812	849	872	774
Pulmonary	661	538	544	540	546	580	504
Non-Pulmonary	352	248	289	272	303	292	270
Notified by Disp. Med. Staff	174	184	170	163	146	133	144
<i>Deaths (Corrected) Total.</i>	536	469	414	421	444	415	400
Pulmonary	382	354	311	322	343	331	316
Non-Pulmonary	154	115	103	99	101	84	84
<i>Attendances at Dispensary</i>	6777	10588	8758	8476	8043	8508	7630
New Patients	899	919	925	954	937	1017	936
<i>Barrasford Sanatorium</i>							
Admitted	74	105	93	99	121	131	117
Discharged	74	103	100	94	109	143	114
<i>Stannington Sanatorium.</i>							
Admitted	58	44	37	41	45	48	44
Discharged	52	44	37	41	46	47	44
<i>Sanatorium Pavilions, Walker Gate.</i>							
Admitted	92	187	211	304	336	254	301
Discharged	62	134	153	222	250	185	228
Died	23	48	46	63	89	69	70
<i>Bacteriological Exams.</i>							
<i>College of Med. Total.</i>	690	604	602	639	595	630	629
Sputum—Positive ..	177	138	107	114	113	114	104
Negative ..	513	466	495	525	482	516	525
<i>Dispensary ... Total.</i>	678	1546	1713	1454	1375	1175	1067
Sputum—Positive ..	151	343	387	298	267	286	235
Negative ..	527	1203	1326	1156	1108	889	832
Urine Examinations ..	586	921	944	936	929	1024	901
<i>Evening Consultations.</i>							
Attendances	1023	1378	961	888	807	765	724
New Patients	99	63	32	47	46	47	41
<i>Work of Nurses.</i>							
New Patients	800	632	934	1023	996	1173	1048
Subsequent Visits ...	5362	11295	11969	11885	11309	10339	10437
Total Visits ..	6162	11927	12903	12908	12305	11512	11485
<i>Special Inspector's Visits</i>	1560	1016	1145	1300	1406	1430	1373
Houses Disinfected ..	533	513	687	721	753	702	666
Rooms Disinfected ..	853	578	740	846	856	798	792
Sanitary Defects— Houses	38	68	109	177	210	124	120

GEORGE HURRELL, M.D.,

Tuberculosis Medical Officer.

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TABLE I.

[illegible]

BARRASFORD SANATORIUM.

Report of the Medical Superintendent.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

Herewith is submitted a report on the work at Barrasford Sanatorium during the year 1927.

The weather during the whole year was most inclement, and heavy rain occurred constantly throughout the summer and autumn. This curtailed the outdoor activities of the patients, though it has not impaired the result of treatment.

The Council visited the Institution on August 10th, and was favoured in that fine weather was available for an inspection of all the departments of the sanatorium. It was gratifying to see at Barrasford members of the Council who, through having other duties than serving on the Health Committee, rarely have time to create an opportunity of seeing the sanatorium. It is a pleasure to acknowledge the continued interest and help of members of the Health Sub-Committee, both as a Committee and individually.

The gift by Councillor W. A. Allan of a sterling silver communion set for use in the sanatorium is gratefully acknowledged, as is that of a clock by Alderman J. J. Forster. The sanatorium is also indebted to the British Red Cross Society and to Dr. Kerr for gifts of books to the library.

The provision during the year of a cold storage chamber of 300 cubic feet capacity has made the storage of milk and perishable foodstuffs a much simpler matter than previously.

The X-ray plant has been used extensively. A film of the chest is taken of every patient admitted, as part of the routine examination. During the year 251 films were completed, and the interpretations written up in the patients' records, and a large number of radiosopic examinations were made in connection with the artificial pneumothorax work.

A paragraph from the "Lancet" of July 30th, 1927, reads as follows :—

"A sanatorium report should serve two purposes. In the first place, it should provide the governing body of an institution with an account of the work done during the period under review, pointing out deficiencies and indicating the directions in which improvements should be made. In the second place it should be of service to other workers in the same field"

and amongst other points following the second part, it suggests the giving of short histories in the cases of patients in whose sputum tubercle bacilli have never been demonstrated. The last point is of the greatest importance, and it is good to see attention drawn to it publicly. One of the reasons that Barrasford is not kept continuously full is the maintenance of a high standard of diagnosis throughout the Tuberculosis Department of the Corporation. The beds at Barrasford are not filled with cases who have never had bacilli demonstrated in

the sputum, and in this class of case a diagnosis of pulmonary tubercle is not made unless certain definite criteria are established.

With regard to the first part of the paragraph, one is encouraged to draw attention in a report to a deficiency which hitherto has been overshadowed by the more urgent improvements which the Corporation has felt should be introduced in the interests of the patients. The housing of the nursing and domestic staffs leaves much to be desired, and the building of a nurses' home must be considered sooner or later. Conditions at the Sanatorium have altered very materially since the Institution was built, and at that time provision was apparently made only for a matron, 4 nurses, and for fewer maids than are now required when the number of beds is increased very considerably over those at the time of the foundation of the Sanatorium. As it is, the staff is housed in rooms scattered through the building wherever it has been possible to make one available, many of them close to the patients' rooms, and remote from the very limited lavatory accommodation which has been provided for the staff. There is the further grave fact that it is often impossible for the night staff to get the essential change of surroundings and atmosphere when off duty, when housed and having all their indoor activities in the midst of a busy Sanatorium. The fact that there are comparatively so few changes in the nursing and domestic staffs is a tribute to the Matron's administration. It is hoped that a small influential sub-committee will, in the near future, visit the institution and investigate the housing conditions of the staff and the amenities provided for them, and compare them with those which can be seen at other sanatoria of similar size.

Admissions.—The number of incoming cases was 12 less than in 1926—all authorities sending fewer cases. Newcastle itself had 14 fewer admissions than in the year previously.

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

Newcastle Corporation	17 out of 117
Gateshead Corporation	8 out of 35
Northumberland County Council	1 out of 1
West Hartlepool Corporation	2 out of 22
Tynemouth Corporation	1 out of 7

ADMISSIONS TO THE SANATORIUM DURING 1927.

Authority.	Male.	Female.	Total.
*Newcastle Corporation	85	32	117
Northumberland County Council.....	1	..	1
Gateshead Corporation	35	..	35
Tynemouth Corporation	3	4	7
West Hartlepool Corporation	15	7	22
Tynemouth Union	1	2	3
Private Cases	6	3	9
Durham County Council	..	15	15
Post Office Sanatorium Society.....	5	2	7
	151	65	216
During 1926	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 1 case admitted twice during the year, and counted as 2 admissions.

Discharges.—There were 11 fewer discharges than in 1926. On the whole, the Medical Superintendent's recommendations as to length of treatment were accepted

willingly. One case of pulmonary tubercle died in the Sanatorium during the year. 4 cases were discharged soon after admission at periods varying from 10 to 27 days, as they appeared to be too ill to justify their being retained in the Sanatorium.

DISCHARGES FROM THE SANATORIUM DURING 1927.

Authority.	Male.	Female.	Total.
Newcastle Corporation	79	35	114
Northumberland County Council.....	2	..	2
Gateshead Corporation	35	..	35
Tynemouth Corporation	3	5	8
West Hartlepool Corporation	19	9	28
Durham County Council	..	15	15
Tynemouth Union	1	1	2
Private Cases	6	4	10
Post Office Sanatorium Society.....	6	2	8
	151	71	222
During 1926	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

SUMMARY OF MOVEMENTS OF PATIENTS DURING 1927.

Authority.	In residence night of Dec. 31st, 1926.	Admitted during 1927.	Discharged during 1927.	In residence night of Dec. 31st, 1927.
Newcastle Corporation	35	117	114	38
Northumberland County Council..	1	1	2	..
Gateshead Corporation.....	10	35	35	10
Tynemouth Corporation	3	7	8	2
West Hartlepool Corporation	9	22	28	3
Durham County Council	4	15	15	4
Tynemouth Union	..	3	2	1
Private Cases	2	9	10	1
Post Office Sanatorium Society	1	7	8	..
	65	216	222	59

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

Of the 222 discharged cases, 21 exhibited no definite signs or symptoms of clinical tuberculosis, and were discharged as not suffering from that disease, and these are excluded from the particulars and results of treatment which follow later. Only 5 cases sent from the Newcastle Tuberculosis Dispensary were judged to be not suffering from active pulmonary tuberculosis. Of the remaining 201 tuberculous cases 5 were non-pulmonary cases.

Some details of the 196 definite pleural or pulmonary cases discharged during the year are set out.

SOCIAL STATUS.

	Male.	Female.	Total.
Single	65	35	100
Married	67	24	91
Widowers	2	..	2
Widows	..	3	3
TOTAL	133	62	196

AGE.

Years.	Male.	Female.	Total.
16—20.....	12	11	23
20—25.....	27	19	46
25—30.....	24	15	39
30—35.....	18	8	26
35—40.....	20	3	23
40—45.....	15	3	18
45—50.....	12	2	14
50—55.....	3	1	4
55—60.....	3	..	3
	134	62	196

OCCUPATIONS OF 134 MALE PATIENTS :—

Engineering and Metal Workers.....	23
Labourers	19
Clerks	12
Railway Workers (Outside).....	6
Railway Workers (Inside)	3
Miners	4
Post Office Employees	4
Machinists	4
Seamen	3
Electricians and Wiremen	3
Shop Assistants	3
Insurance Agents	2
Cabinet Makers	2
Barmen.....	2
Commercial Travellers	2
Tram Drivers.....	2

and one each of the following :—

Joiner, furnace man, flour miller, rolleyman, shoemaker, electrical fitter, tobacco spinner, driver in mine, ex-soldier, dental mechanic, painter, schoolmaster, policeman, gardener, R.A.C. guide, motor salesman, screener, chef, draughtsman, message boy, stoker, rivet heater, bread salesman, craneman, student, motor driver, boiler coverer, hairdresser, coal hawker, drayman, slinger, in factory, musical instrument maker, colliery salesman, oil merchant, manager, civil engineer, janitor, fish merchant, plumber, and one had no occupation.

OCCUPATIONS OF 62 FEMALE CASES :—

Housewives	26
Domestic Workers at Home	6
Clerks	5
Shop Assistants	4

Nurses.....	3
Domestic Servants	2
Tailoresses	2
Packers	2
Post Office Employees	2

and one each of the following :—

Milliner, dressmaker, fusemaker, office cleaner, book sewer, sweet factory hand, tracer, laundry maid, cellar hand, and dyer's finisher.

The average duration of treatment of all cases was 111·12 days. The average period of residence of the tuberculous cases only was 118·29 days, and that for the 109 Newcastle tuberculous cases alone was 129·41. The longest stay made by any completed case was 559 days, and the shortest 6 days. The average number of beds occupied daily during the year was 71·06, the average for males being 48·72, and that for females 22·33. The total number of patient days was 25,938, divided into male 17,785 and females 8,153.

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	43·008	15,698
Northumberland County Council	·276	101
Gateshead Corporation.....	10·469	3,820
Tynemouth Corporation	2·517	919
West Hartlepool Corporation	6·235	2,276
Durham County Council	3·906	1,426
Tynemouth Union	·564	206
Private Cases	1·852	676
Post Office Sanatorium Society	1·972	716

Diagnosis.—The diagnosis of pulmonary tuberculosis was confirmed bacteriologically either before admission or during residence in 163 cases ; 114 males and 49 females.

25 patients—16 males and 9 females—were apparently without tubercle bacilli in the sputum, and 4 males and 4 females said they had no expectoration, making 33 cases of tuberculosis in whose sputa tubercle bacilli had never been demonstrated.

The clinical examination findings in all sputum negative cases can be divided as follows :—

Not suffering from clinical tuberculosis	21
Non-pulmonary tuberculosis	5
Definite pleural tuberculosis without evidence of lung tuberculosis	24
Definite physical signs and X-ray evidence of lung tuberculosis without demonstrable bacilli	9

793 sputum examinations were made at the sanatorium during the year, and of these 193 were positive as regards the presence of tubercle bacilli, 600 were negative. As in the past, great pains have been taken to scrutinise the diagnosis in every case. All cases in which tubercle bacilli cannot be found in the sputum on careful and repeated search, are regarded as doubtful cases, and the diagnosis is not confirmed until and unless there are clear grounds for doing so.

Intra-tracheal Lipiodol injections are made when necessary, and in several cases clear evidence was obtained establishing a diagnosis other than tuberculosis of the lungs. Lipiodol injections were made in 6 cases.

A diagnosis in a doubtful case is only established after a residence of 3 weeks, during which time 3 or more examinations of the chest are made, with careful rectal temperature observation, numerous sputum examinations and the study of X-ray films of the lung fields, together with examination of other systems and special investigation when necessary.

During the year, 21 cases were discharged as not suffering from pulmonary tuberculosis, and the diagnoses in these cases were as follows:—

Chronic Bronchitis	4
Chronic Bronchitis with Emphysema	2
Bronchiectasis	5
Pulmonary Abscess	1
Pulmonary Fibrosis without evidence of Tuberculosis	3
Old Empyema without evidence of Tuber- culosis	2
No definite pathological condition detected	4

The 5 cases of non-pulmonary tuberculosis were as follows:—

Glandular Tuberculosis	1
Abdominal Tuberculosis.....	3
Genito-urinary Tuberculosis	1

Treatment.—Routine treatment has been continued on the lines that experience has shown to be the best for controlling the symptoms of active disease. The range of the bodily temperature is first accurately ascertained, and if this is found to be normal, the patient passes on to the stage of graduated exercise during mornings and afternoons, together with several periods of complete rest, and associated with a plain, wholesome varied dietary. On the other hand, if the bodily temperature is found to be raised, then rest in bed is insisted on until a normal range of temperature is secured. A continued raised temperature is an insuperable bar to progress, and can only be controlled by rest, either general—that is by recumbency in bed—or local, by artificial pneumothorax. Recently, the use of Sanocrysin seems to have had an effect in reducing the temperature in cases which

have been in bed for extended periods on account of prolonged pyrexia, which has defied rest and artificial pneumothoraces, and this drug should now perhaps be included amongst the agents which may control the activity of pulmonary tuberculosis.

106 of the 201 definite cases of tuberculosis were found to have normal temperatures during the whole course of their residence. 95 patients were feverish at some or other time of their treatment in the sanatorium, spending amongst them 3,814 days in bed.

Afebrile throughout Treatment.	Febrile on Admission, Afebrile on Discharge.	Febrile Intermittently	Febrile throughout Treatment.	Afebrile on Admission, Febrile on Discharge.
106	45	27	20	3

Treatment by artificial pneumothorax has been continued with very satisfactory results, similar to those recorded in the past. This treatment is most suited to cases having disease present in one lung only, though frequently the collapse of the most extensively diseased lung in cases of bilateral disease is followed by nothing but good. One case of simultaneous bilateral artificial pneumothorax, induced in 1923, when the patient was gravely ill, was re-admitted in 1927. The partial collapse of both lungs undoubtedly saved life in this case, and on re-admission the patient's general condition was comparatively good, and the local condition mainly one of fibrosis. A good response was made to a short period of routine treatment. In one case, a consecutive bilateral artificial pneumothorax was induced during the year with a good result.

Two cases discharged during the year were the subjects of gross fibrosis of one pleura and lung, resulting from effusions developing in the course of previous

(1922 and 1925) artificial pneumothorax treatment. Both cases were in good general health, and had very little cough or spit. There is reason to think that a large effusion occurring in the course of treatment by artificial pneumothorax, may be, through the general fibrosis which follows, one of the most favourable results of the treatment.

Of the discharged cases, 42 were judged to be suitable for the induction of an artificial pneumothorax, but in 7 the pleural space could not be found. Of the 35 cases in whom the treatment was employed, 22 were left-sided cases and 13 right, and in connection with them 315 inductions of sterile air were performed. Each case was definitely one of pulmonary tuberculosis (sputum T.B. positive). In 14 of these cases the procedure failed to control symptoms, and it was abandoned. The average number of inductions in these cases was 5, and effusions occurred in 5 cases. The most important cause of failure to control symptoms was the presence of adhesions which prevented the full collapse of the lung. In the remaining 21 cases the pneumothorax was effective and troublesome conditions relieved—cough and sputum were abolished or reduced to a minimum, and in 8 of these cases who had a persistently raised temperature, it was controlled to a normal range. 5 of these cases developed effusion, and the average number of inductions per case was 12. In the Newcastle cases the inductions were continued by the Tuberculosis Medical Officer when the patient returned home.

Ultra-Violet Radiation.—Ultra-violet radiation was employed more extensively during 1927 than previously. The cases treated were largely those of non-pulmonary tuberculosis, including, however, those cases of pleural tuberculosis in which there were no physical signs or

X-ray evidence of disease in either lung. In 2 cases of active pulmonary tuberculosis it seemed desirable to try to improve the general condition by the use of ultra-violet radiation, but in both cases there was a febrile reaction with constitutional disturbance which occurred with careful dosage, and subsided within a week of terminating radiation. 11 cases of pleural tuberculosis, with definite physical signs and X-ray evidence of this condition, but with nothing to suggest the presence of a lung lesion, were treated. They all made very considerable progress in general health, but not, it is thought, to a greater degree than similar cases treated before ultra-violet ray-producing lamps became fashionable. In none of these cases, without a definite lung focus of disease, was any constitutional disturbance detected, as occurred in the 2 pulmonary cases quoted. One case of old standing tuberculous adenitis of neck, with many sinuses and much superficial ulceration, completed treatment during the year. Radiation was combined with painstaking local treatment (strict cleanliness, aspiration, and "Bipp") and the whole condition healed completely with every appearance of permanence. Three cases of abdominal tuberculosis, without evidence of pulmonary disease, were admitted and discharged during the year. All 3 patients made considerable progress, but they were receiving routine sanatorium treatment concurrently, and there is little reason to suppose that this improvement was more than would have resulted from routine treatment alone.

The above cases received altogether 476 exposures during the year.

So far as can be ascertained from experience with ultra-violet radiation since lamps were first installed at Barrasford, it seems that there is risk of constitutional

disturbance in its use in the treatment of active pulmonary tuberculosis, and it is contra-indicated in that condition. Ultra-violet radiation, as seen in the work at Barrasford Sanatorium, has no specific effect in the treatment of the types of tuberculosis generally seen there. It seems to have some value in the treatment of tuberculosis of glands with sinuses, and of tuberculous ulceration of the skin when used over a long period, but only when combined with the appropriate local treatment. In all types of cases, however, ultra-violet radiation may have a considerable psychological effect, and when this is shared by both patient and operator, extraordinarily good results may be reported.

Sanocrysin was employed in 4 cases during 1927, but as none of them were discharged during the year their consideration does not rightly come within the scope of this report, but it can be said that in each case a persistently raised temperature had defied prolonged rest in bed, and in 3 cases had not responded to artificial pneumothorax treatment (one consecutive bilateral pneumothorax). All were sputum positive cases, febrile, and had albumen-free urine. In 3 of them the lesion was exudative. The other had old standing disease with fibrosis in one lung, and more recent disease in the other. Two cases have since been discharged. In one, the injections of Sanocrysin were discontinued on account of the development of a very acute pleurisy with effusion after a total of 3.5 grams in 8 injections. The temperature ranged to a high level for 27 weeks subsequently, and then the patient returned home. The other case was discharged in excellent health, with a normal temperature, no pulmonary sputum (and such as was present was T.B. minus on 6 consecutive examinations before discharge), able to work with the joiner morning and afternoon for

months before he left. He showed definite X-ray evidence of improvement in the local condition. The remaining 2 cases are still under treatment. In no case was albuminuria observed, nor was any rash produced. Febrile reactions lasting 3-5 days occurred after the majority of the larger doses, and nausea immediately followed all but the smallest doses.

Results of Treatment.—The immediate results of treatment were, as usual, excellent; 140 of the 196 definitely tuberculous cases improved 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 196 definite cases of tuberculosis of the lungs or pleuræ, with those of the 5 non-pulmonary cases and the 21 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.
196 definite cases.	Gained weight..	61	71	46	..	..	..	..	178
	Lost weight....	..	..	..	..	10	4	..	14
	Stationary	..	..	..	3	..	..	..	3
	Not weighed on discharge....	..	..	..	..	..	..	1	1
	Total.....	61	71	46	3	10	4	1	196
5 cases of non- pulmon- ary tuber- culosis.	Gained weight..	3	1	1	..	..	..	..	5
	Lost weight. ..	..	..	..	..	..	..	..	..
	Stationary	..	..	..	..	..	..	..	..
	Not weighed on discharge	..	..	..	..	..	..	..	..
	Total.....	3	1	1	..	..	..	..	5
21 non tuber- culous cases.	Gained weight..	12	5	1	..	..	..	..	18
	Lost weight ..	..	..	..	..	3	..	..	3
	Stationary	..	..	..	..	..	..	..	..
	Not weighed on discharge ...	..	..	..	..	..	..	..	..
	Total.....	12	5	1	..	3	..	..	21

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 196 cases of lung or pleural tuberculosis can be set out as follows :—

		T.B. Minus.		
		M.	F.	Total.
Quiescent		12	5	17
Improved.....		5	6	11
No material improvement ..		3	2	5
		T.B. Plus.		
		M.	F.	Total.
G.1	Quiescent	..	..	..
	Improved	2	..	2
	No material improvement ..	1	..	1
G.2	Quiescent	1	..	1
	Improved	75	35	110
	No material improvement ..	19	13	32
G.3	Quiescent	..	..	..
	Improved	..	..	..
	No material improvement ..	15	1	16
	Died in the Institution	1	..	1

The comparatively large number of T.B. minus cases which improved to the degree of quiescence, is made up of the cases of pleural tuberculosis which had no evidence of disease in the lungs themselves, and on discharge had no symptoms, no sputum, and no signs of anything but pleural thickening. It will be seen that a large proportion of the cases sent for treatment have extensive disease on admission, and that the results of treatment are best in the sputum negative class, and the 2 higher groups of the sputum positive cases.

Tuberculin (B.E.) was employed by the writer in treatment in this sanatorium to a great extent in 1917, 1918, and 1919. It was felt that no real benefit was resulting that could not be obtained by routine treatment, whilst there were definite risks to be faced in using tuberculin, and this agent has not been used since in treatment. B.E. was employed in gradually increasing doses, commencing in the neighbourhood of one-thirty-thousandth of a milligram of tubercle bacillary substance, and working up to 1 milligram where possible.

It was sought to gauge the increases so that no general reaction occurred, and in the cases to be quoted only one general reaction of any importance was produced, though local ones were observed frequently in all cases. The increases in the dosage were kept within the tolerance of the patient. The type of case chosen was one with, at most, only moderately extensive disease whose general condition was good and whose (rectal) temperature was normal.

It may be of interest to survey the results of some of these cases treated by tuberculin in 1917, 1918 and 1919. It is unfortunate that all the cases cannot be included, but many of them were supported by Authorities whose records are not available, and many private cases cannot now be traced. However, there follows the end results of 31 Newcastle Corporation cases treated with B.E. during the years mentioned. They were all definite cases of pulmonary tubercle with tubercle bacilli in the sputum :—

Working in November, 1927	4
Alive, but unable to work in Nov., 1927	3
Lost sight of, and condition unknown.....	3
Dead	21
	—
	31
	—

X-ray photographs were taken in November, 1927, of 3 of the 4 cases who were working towards the end of that year, and the appearances in each case were those of fibrosis. The 4th case was screened and the radioscopic appearances suggested fibrosis. Two of those who are unable to work are in poor health, and the third is in a debilitated state, and had a kidney excised for tuberculosis in January, 1926. Of those who are dead,

the average duration of life after discharge from the sanatorium at the completion of the course of tuberculin, was 3 years 7 months. The number of cases considered is insufficient to allow any positive conclusions to be drawn, but it is difficult to believe that there can be any virtue in a form of treatment which, when employed in 31 chosen cases, shows 21 deaths at least within 11 years.

For the sake of a rough comparison, the end results of treatment have been ascertained as far as possible in 31 consecutive Newcastle cases, all with tubercle bacilli in the sputum, admitted to the sanatorium in 1917. It is important to remember that these were not chosen cases, but were those considered unsuitable for treatment with tuberculin—many of them were febrile and cases of advanced disease. It will be seen that, without tuberculin, and amongst these cases with extensive lesions, a small number has survived, the figures being as follows :—

Working in November, 1927	2
Alive but unable to work in Nov., 1927	1
Lost sight of and condition unknown.....	2
Dead	26

An X-ray photograph of one of the above survivors shows definite evidence of fibrosis. Of those who are dead, the average duration of life after discharge from the sanatorium was 2 years 6 months.

For the post sanatorium records, I am indebted to the Tuberculosis Medical Officer's staff, and for the X-ray work to Drs. Dickinson and Hurrell, to whom my thanks are due.

Similarly, 12 chosen cases, all with tubercle bacilli in their sputum, were treated with Raw's Tubercle Vaccine (bovine) in 1924, but it is proposed to wait several years longer before publishing the results.

The satisfactory running and general tone of the sanatorium owe much to the Matron (Miss F. Baguley), to whom I am indebted for her continued co-operation.

Yours faithfully,

CECIL G. R. GOODWIN,

Medical Superintendent.

*Barrasford Sanatorium,
Northumberland,
5th March, 1928.*

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.

REPORTS OF THE VETERINARY OFFICER

AND INSPECTOR OF PROVISIONS

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DRUGS ACTS (SENIOR SANITARY INSPECTOR)

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V. FOOD.

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

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

TUBERCULOUS MILK.

14 samples of milk were reported by the Bacteriologist to be tuberculous. Three were samples from one supply, so that 12 farms were implicated, of which eight were situated in Northumberland, two in Durham, one in Cumberland, and one in Dumfriesshire. In eight instances clinical examination of the herds revealed affected animals, and in seven of these check samples taken after the removal of the diseased cows were reported negative. In the other case a check sample could not be obtained as the farmer ceased to sell milk in the City.

In three instances, no cows could be found on the farms to account for the tubercle bacilli in the samples. In one of these the Bacteriologist reported that the lesions in the guinea pig were very slight, and a subsequent sample from the mixed milk of the farm proved negative. In a second case the farmer admitted having sold an old cow, whose milk was included in the original supply, after the sample was taken, and from his account there could be no doubt that this animal was the source of the infection. The third case was that of a farmer who stated to the examining Veterinary Officer that milk from his brother's farm was being mixed with his.

On visiting the latter a cow affected with tuberculosis was found, but it was demonstrated that this cow's milk could not have been included in the original sample. Further inquiry revealed that a badly diseased cow had been removed from the first herd to an off-farm, though again it was obvious, on comparison of dates, that this cow could not have caused the mischief. This farmer ceased to send milk to the City, so that it was not possible to obtain a check sample.

One sample was from a farm supplying Grade A. (Tuberculin Tested) Milk. A week before the receipt of the Bacteriologist's report that tubercle bacilli had been found in the sample, however, the routine tuberculin test was applied to the herd, with the result that three cows re-acted and were excluded.

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 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
1927	3.7

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 1927, under the Public Health Acts.

Diseases of Animals.

Diseases of Animals Acts, 1894-1927.

During the year six outbreaks of scheduled diseases occurred amongst the animals within the City, as compared with seven during the previous year. In each case the outbreak was due to disease communicable from animal to man.

Foot and Mouth Disease.

It is with satisfaction that one is able to report that no outbreak of this disease has occurred within the City since the year 1924. In other parts of the country, during the year 1927, 144 outbreaks were confirmed by the Ministry of Agriculture, necessitating the slaughter of a total of 9,610 cattle, sheep and swine as diseased or exposed to infection, this being the smallest number of outbreaks and of animals slaughtered, respectively, for any one year during recent years.

Towards the end of the year under report, however, there was some anxiety locally, accompanied by a sudden temporary increase of duties, including specially close supervision of all live stock within the district, necessitated as precautionary measures against the

possible extension of the disease from the Midlands. For example : on the 30th December, 1927, in view of the possible spread of disease from animals exposed at Skipton and Lancaster Markets, an Order known as the Midlands (Foot and Mouth Disease) Order of 1927 (No. 6), was issued by the Ministry of Agriculture.

By this Order the Counties of Northumberland (including the City of Newcastle-upon-Tyne), the North Riding of Yorkshire, and Durham, with certain exceptions, were added to the area already under restrictions described in the Midlands (Foot and Mouth Disease) Order of 1927. Thus the restrictions imposed on the City by the above Orders were :—

(1) That no animals could be moved from within the area ; and

(2) That no market or sale of animals was permissible except by a Licence of the Local Authority, and subject to the animals being moved therefrom, after examination by the Veterinary Inspector, direct to a slaughterhouse ;

Further, the movement of the animals from the market was subject to their being accompanied in each case by a licence granted by the Local Authority of the place of destination, and where the latter was outside the City, the licence, before removal of the animals commenced, had to be endorsed by an Inspector of the City Veterinary Department.

The above restrictions were in operation until 5th January, 1928, when the Orders were revoked by the Midlands and North of England (Foot and Mouth Disease) (Controlled Area) Order, 1927, which, with certain modifications, imposed similar restrictions. Owing to the precautionary measures imposed by the

Ministry having proved successful, the restrictions concerning this district were removed as from the 19th January, 1928, by an Order of the Ministry, dated the 13th January, 1928, the administration under the Diseases of Animals Acts within the City thus resuming under normal conditions.

Tuberculosis.

During the year, while regularly inspecting dairy herds within the City, six animals were found affected with one of the forms of the disease which require them to be dealt with under the Tuberculosis Order of 1925. The milk was, in the first instance, in each case immediately excluded from the public supply. The animals were then valued and slaughtered and in every case it was found necessary to destroy the entire carcass and internal organs as being totally unfit for sale for human consumption. The owner in each case was paid compensation according to the value of the animal before slaughter, as valued by the Veterinary Officer on behalf of the Corporation, and agreed to by the owner. On subtracting the total amount paid as compensation and as costs of slaughter, etc., from the total amount recovered from the Ministry of Agriculture, and also through the disposal of hides, etc., there remains a balance of 1½d. in favour of the Corporation on the administration of the Tuberculosis Order during the year.

In the course of meat inspection within the City during the year, 469 animals were found, on slaughter, to be affected with the disease. In 312 of these, some part of the carcass or internal organs of each was condemned and destroyed, whilst in the case of each of the remaining 157 animals it was found necessary, owing to the extent and distribution of the disease, to destroy the entire carcass and internal organs.

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*
1927	18	29	19	334	2	4	2	3	6*

Anthrax.

Whilst no cases suspected of anthrax were notified during the year, illness in one animal, accompanied by blood stained discharges and sudden death from obscure causes in the case of each of two others, were reported. In addition, two carcasses of beef from animals slaughtered under unusual circumstances were sent into the City for sale. Besides examining the carcasses for conditions other than anthrax, blood smears from these and the animals (dead and alive) referred to were all examined for the presence of anthrax. Fortunately, in none of the cases was the disease found present.

Within Great Britain 438 outbreaks of the disease were confirmed, in which 511 animals were attacked, as compared with 706 outbreaks during the previous year, in which 848 animals were attacked.

Rabies.

During the year one case of suspected rabies was notified. The animal (mongrel fox terrier dog about three years old) was found in an enclosure where building operations were going on, and besides acting strangely, attempted to bite certain of the workmen. The animal was destroyed by the police, the carcass being removed to the Central Police Station, where a post mortem examination was made. No evidence of rabies was found. No case of the disease has occurred within the country since the year 1922.

Live Stock and Meat Supplies.

During the year under report, according to Official Agricultural Statistics, cattle, sheep and pigs within Great Britain had further increased numerically, as compared with the previous year, by 34,777, 545,933 and

542,696 respectively, making a total of 7,485,690 cattle, 24,607,752 sheep and 2,888,127 pigs. The number of cattle in England and Wales alone showed an increase of 22,155, the total being 6,275,240, as compared with 6,253,085 in 1926, the greatest number hitherto recorded. The great bulk of this increase occurred in the Northern counties, and particularly in Northumberland, where the increase was 14,178.

Whilst the number of dairy cattle, *i.e.*, cows and heifers in-milk or in-calf, reached the highest figure yet recorded, the total being 2,790,703, an advance of 41,417 on the previous year, there was a substantial fall in the number of calves in 1927, when the number declined from 1,229,485 in 1926 to 1,198,164, a loss of 31,321.

There was an increase of 213,590, or 1.3 per cent., in the number of sheep in England and Wales, the total in 1927 being 17,072,275, against 16,858,685 in the preceding year. The greatest increases occurred in the Northern counties, including Northumberland, which alone contributed 31,552.

There was an increase of pigs in almost every county, the total number being 2,691,514, which is an increase of 491,502, as compared with the total in 1926.

The imports of live cattle from countries other than Ireland during the 12 months ending at the beginning of the year under report, amounted to 81,745. During the same period approximately 30,029,000 cwts. of beef, mutton, pork, bacon, hams, etc., were imported into Great Britain. These figures therefore indicate a slight fall in the number of cattle and the weight of meat, respectively, imported as compared with the previous year.

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	271,887	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	28,823	1,665	138,447	5,545	99
*1924	18,555	458	68,654	15,684	—
1925	31,397	1,394	135,468	3,302	512
1926	29,368	755	147,461	893	413
1927	32,697	1,318	182,409	1,045	500

The Market Day was changed from the Tuesday to the Monday of each week as from 31st July, 1922.

* 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 206,204, this being an increase of 43,562 as compared with the previous year.

ANIMALS SLAUGHTERED ON LICENSED PREMISES WITHIN THE CITY.

YEAR 1927.		1926.	1925.	1924.	1923.
Horses	1,740	1,416	2,244	2,710	1,487
Cows	1,309	17,970	18,486	19,788	16,941
Heifers ...	10,758				
Bulls	559				
Bullocks ..	6,620				
Calves	5,249	4,764	3,763	4,348	3,945
Sheep	137,120	104,065	94,950	70,788	69,190
Pigs	42,849	34,427	36,021	51,284	31,720
Total Animals	206,204	162,642	155,464	148,918	123,283

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 469 animals.

432½ animal carcasses, together with 4,499 lbs. of meat (excluding offal, etc.), were condemned and destroyed as being unfit for human consumption, as compared with 430¾ animal carcasses and 14,711½ lbs. of meat condemned and destroyed during the previous year.

Of the 432½ carcasses, 163 (156 carcasses and 28 quarters) were condemned on account of tuberculosis, as compared with 145 (142 carcasses and 12 quarters) condemned for that disease, out of the previous year's total of 430¾ carcasses.

Whilst the total number of cattle slaughtered was 19,246, or an increase of 1,276, as compared with the previous year, it should be noted that the total included 1,309 cows, which was an increase of 593 as compared with the number of cows included in the previous year's total. As it is usual to find the percentage affected with tuberculosis greater amongst cows than in animals of any other class, it may be interesting to observe that although the total number of carcasses condemned for all causes during the year was only slightly in excess of that for the previous year, the total number condemned on account of tuberculosis alone was considerably in excess of that of the previous year's total.

Cattle, Calves and Pigs Slaughtered within the City. (See also Table No. 5.)	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 1927.	Year 1927.			
Cows..... 1,309	58	70	51	61
Heifers.....10,740	40	55	36	45
Bulls..... 559	1	2	1	2
Bullocks 6,593	24	33	19	23
Totals.... 19,206	123	160	107	131
Calves 5,249	46	8	2	—
Pigs 39,959	87	691	43	153

† 28 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 EIGHTEEN 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	93	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
1927	123	107	86.99

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.

For the purposes of the Public Health (Meat) Regulations 1924, 1,793 visits were made to meat and provision shops, restaurants, stalls, vehicles, etc., and, as a result, 13 contraventions were discovered and dealt with. In four of these cases the contraventions concerned the opening of a W.C. directly into, or situated within, rooms where food was being prepared or stored. In eight cases it was necessary to enforce measures for the prevention of food being exposed to the risk of contamination. For example, it has been the custom for generations for butchers to display their goods by hanging quarters of beef and carcasses of mutton and veal on the outside of their shops, and therefore exposed to the blowing or splashing thereon of dust or liquid filth from the paths and roadways, the extent of which is determined, more or less, by the state of the winds, weather or density of traffic. In the latter 12 cases, and also in one where gutscraping was found taking place within a slaughterhouse, the occupiers were cautioned, and the contraventions removed.

Imported Foodstuffs.

During the year some 304 vessels, carrying foodstuffs from Denmark, Holland, Canada, America, Australia, etc., arrived at the Quayside, as compared with 257 vessels during the previous year. Owing to the discovery, during 1926, of Foot and Mouth Disease lesions in freshly killed and unscaled pig carcasses, consigned from Holland and passing through the City and other Ports to inland bacon factories, the Ministry of Agriculture and Fisheries, with the view of preventing the introduction of Foot and Mouth Disease from so probable a source, promptly made an Order prohibiting the importation of fresh carcasses from the Continent.

As occurred during the previous year, there was again a considerable falling off in the imports of American bacon and hams. The imports of sides of Danish bacon, on the other hand, more than made up the deficiency in quantity, for the year's total from this source exceeded the previous year's imports by nearly 30 per cent.

454 visits were made to the wharves and vessels alongside, 1,333 packages, containing meat, etc., being opened and examined. Regarding these visits, one was in response to an official notice received from the Customs House concerning foodstuffs detained by the Customs Officials for our inspection and certification.

The imported meat arriving within the City by rail is subjected to inspection and supervision within the 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 1,740, as compared with 1,416 slaughtered the previous year.

To meet the requirements of regulations enforced by the Commonwealth of Australia concerning the importation of various kinds of cooked foodstuffs into that country, derived either from the meat of animals slaughtered within or slaughtered outside and imported into Great Britain, 52 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 consignments for export.

Slaughterhouses.

During the year 101 separate premises were licensed for slaughtering purposes. These comprise five groups and a number of separate establishments in various parts of the City. Six of the licensed premises are used by four occupiers exclusively for the purpose of horse slaughtering. In addition there are two establishments near the river in the St. Lawrence district licensed as knacker's yards.

For some years the question of the provision of central abattoirs, new live stock markets, auction rings, lairages, etc., as a combined scheme, has been under consideration, and although certain sites have been surveyed as to their suitability, it has not yet been possible to come to a decision. As the numbers of animals slaughtered within the City and the numbers of animals brought to the market for sale weekly have shown a considerable increase within recent years, the question of the provision of adequate slaughtering and marketing accommodation is one that appears likely to become an urgent problem in the near future.

Bye-Laws.

The new bye-laws with respect to slaughterhouses within the City were confirmed by the Minister of Health on the 30th December, 1927. The outstanding feature of these is embodied in Section 12, which reads as follows :—

“ A person shall not in a slaughterhouse proceed to slaughter any animal until the same shall have been effectually stunned, and such stunning shall, except as hereinafter provided, be effected with a mechanically operated instrument suitable and sufficient for the purpose. Provided that except for the purpose of stunning horses, mares, asses, and mules,

a mechanically operated instrument which shall discharge a free bullet or other free projectile shall not be used.

Provided also that this bye-law so far as it would require the stunning of sheep and the use of a mechanically operated instrument shall not apply until the expiration of three months from and after the date of the confirmation of these bye-laws.

Provided further that this bye-law shall not be deemed to apply to any member of the Jewish faith, duly licensed by the Chief Rabbi as a slaughterer, when engaged in the slaughtering of cattle intended for the food of Jews according to the Jewish method of slaughtering, if no unnecessary suffering is inflicted."

Microscopical Examinations.

During the year microscopical examinations were made, as an aid or confirmation of diagnosis, in connection with twenty-six separate cases under investigation. The material comprised specimens of blood, milk, pus, glandular tissues, intestinal scrapings, and swabs taken from the throats of cows. Of 14 samples of milk examined, three were found tuberculous and one disclosed the presence of streptococcal mastitis in the animal concerned. In none of the specimens of blood examined for anthrax was that disease found present. In two of three throat swabs taken, acid fast bacilli were found present, whilst a specimen of intestine, sent by an Inspector of a Local Authority within one of the neighbouring counties for our diagnosis, disclosed the presence of Johne's disease.

Rats and Mice (Destruction) Act, 1919.

During the year 98 visits were made to premises in respect of complaints received, and to other premises

involved. Of the 146 separate premises dealt with, rats were found infesting 74, the remaining 72 being found free from the pests. In many cases poisons and traps were used with successful results; in others, on the advice of the Inspector, structural defects, where necessary, were remedied. As has been pointed out on previous occasions, the rat problem is one that largely, if not totally, involves the question of building construction and repair, and in this connection it may be added that in certain large open buildings, such as market premises, the storage, with infrequent disturbance of certain kinds of articles, favours the harbouring and breeding operations of the pests.

Legal Proceedings.

For sending into the City a diseased carcass of beef for the purpose of sale, a shepherd was fined £5.

Foreign Meat, etc., Arriving by Vessel.

Fresh Offal, etc. (Packages).

PIG.—2,276 feet, 1,673 maws, 5 tongues, 2,234 heads, 238 sausage casings, 136 rinds and 11 cheeks.

Frozen Meat.

BEEF.—2,492 fore and hind quarters and 1 package of boneless beef.

Offal (Packages).

Ox.—1,589 livers, 1,668 tongues, 539 kidneys, 420 hearts and 472 tails.

Salted Meat.

PORK.—295 barrels and 1 barrel pig guts

Other Goods (Cases, etc.).

22,676 American bacon and hams, 1,003,319 sides Danish bacon, 14,563 Dutch boneless sides bacon, 36,531 tinned meats and 168 sausages.

NUMBER OF VESSELS AND ORIGIN, ARRIVING WITH FOOD.

Denmark.	Holland.	Norway.	America.	Canada.
102	104	8	6	47

Sweden.	Argentine.	Belgium.	Mada- gascar.
33	1	2	1

NUMBER OF VISITS AND INSPECTIONS OF PREMISES DURING THE YEAR 1927.

Slaughter Houses.	Central Markets.			Meat Shops.		Fish Shops.		Provision Shops.		Fruit Shops.		Wharves and Vessels.	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.							
16,920	372	260	248	3,313	664	141	15	51	17	10	3	454	40	17	3	23	1089	2

Total Weight of Meat and Other Foodstuffs Condemned.

The approximate total weight of meat and other foodstuffs condemned during the year was 79 tons 11 cwt. 15 lbs., comprising :—

	tons.	cwts.	qrs.	lbs.
Beef, Mutton, Veal, Pork	44	8	1	8
Offal, Provisions, etc.	35	2	3	7
	79	11	0	15

POULTRY, GAME, FISH, FRUIT, PROVISIONS, &c., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1927.

Cause of Unfitness.	Poultry and Game.	Fish.	Fruit and Vegetables.	Provisions, &c.
Unsound and unwholesome.	Fowls 112	Black Jack lbs. 42	Apples..... 66 cases + 80 lbs.	Bacon Cwts. 284 lbs. 74½
	Geese 20	Bloaters 10	Black Currants..... 108 sieves	Brawn 72
	Pigeons ... 24	Cod 483	Plums 3 'boats'	Ham 6
	Ptarmigan . 108	Cod Fillets 433	Tomatoes 28 boxes + 30 lbs.	Yeast..... 3
	Rabbits ... 126	Dab 112		No.
	Hares 4	Fish (Mixed) 112		Eggs 34,462
		Findon Haddock .. 20		TINNED GOODS. Tins.
		Halibut 2,938		Fish Roes 14
		Haddocks 622		Ham and Paste . 1
		Mackerel 28		Herrings in
		Plaice 5,245½		Tomatoes 2,110
		Salmon..... 1 + 36		Logan Berries .. 36
		Skate 218		Milk 77
		SHELL		Pineapples 22
		Lobster 32		Pears 33
				Peaches 70
				Plums 4
				Pork 96
				Pork Brawn..... 126
				Prawns 49
				Raspberries 116
				Tomatoes 7
				lbs.
				Corned Beef ... 16,580
				Tongue 423½

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.	Ox.	Calf.	Sheep.
Tuberculosis	106+23 qrs.	2	..	48+3 qrs.+ 1 side	135	..	3	..	11	..	2	..	..
Swine Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Swine Erysipelas	..	..	..	1	..	..	..	..	..	..	..	..	..
Pyrexia	2+4 qrs.	..	2	2	1	..	..	..	1	..	..	..	..
Septic Conditions	2	..	6	1	..	..	..	..	..	..	..	..	..
Mastitis	1	..	..	26 lbs.	..	..	..	..	..	..	..	..	..
Fatty Degeneration	..	..	..	..	..	..	..	..	..	..	..	..	..
Cavernous Angioma	..	..	..	..	..	..	..	..	..	..	..	..	..
Lymphadenoma	1	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	..	..	1	..	1	..	48	1	..	..	..	..	..
Pleurisy	..	1	..	..	7	..	2	..	..	..	..	..	..
Pericarditis	4	..	..	..	..	..	..	..	2	..	..	..	..
Peritonitis	1	..	2	7	..	..	..	..	..	..	..	..	..
Nephritis	..	..	1	..	..	..	..	..	..	..	3	..	..
Cirrhosis	..	..	..	..	..	..	..	..	..	..	..	..	..
Œdema and Emaciation ..	3+3 qrs.	..	47	3	..	..	..	..	..	..	..	..	..
Abscesses	60 lbs.	..	2 qrs.	1+22 lbs.	8	5	..	..	..	..	..	..	..
Parasites (distomatosis, cysts, etc.)	..	..	..	..	6	16	1	..	..	..	..	..	..
Imperfectly Bled, Conges- tion, etc	1	29	58	22	3	..	1	..	..	..	2	..	..
Traumatism	1 qr.	..	7+5 qrs. +112 lbs.	..	..	..	..	..	..	..	..	..	2
Unmarketable and un- wholesome	..	..	1	..	..	..	..	..	..	..	..	..	..
Decomposition	6 qrs. + 4259 lbs.	14	38+ 9 qrs.	2+4 qrs. +20 lbs.	29	40	3	..	20	3	5+ 300 lbs.	2864 + 12 lbs.	..

HUMAN CONSUMPTION DURING THE YEAR 1927.

Livers.			Heads.				Plucks.			Feet.		Cow's Udders.	Ox Tongues.	Ox Tails.	Ox Tripe.	Pig Maws.	Caul Fat.		Pig Stomachs and Intestine.
Ox.	Sheep.	Pig.	Ox.	Calf.	Sheep.	Pig.	Calf.	Sheep.	Pig.	Calf.	Sheep.						Ox.	Pig.	
57	..	2 27	..	..	87+10 halves	..	..	70	..	..	4	..	..	..	..	68 19	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70
1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
16	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	21	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..
155	24	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
+45 lbs.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26	1	..	..	..	1	..	3	1	..	..	..	..	..	..	..	..	..	..	..
69+	122	21	..	..	..	..	20	15	..	..	..	..	..	..	..	..	..	..	..
579 lbs.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
47	12	2 19	2	40	1+	5	149	344	..	1	8	3 57	17	17	17	..	..	..	..
+59 lbs.	..	..	..	..	1484 lbs.	..	..	..	..	..	..	..	..	..	..	Casks	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Yours faithfully,

Town Hall,
Newcastle-upon-Tyne,

12th June, 1928.

THOMAS PARKER, F.R.C.V.S.,
Veterinary Officer.

FOOD AND DRUGS ADULTERATION, Etc.

Total Samples.—The number of samples of foods and drugs obtained for analysis during the year was 1,160, as compared with 1,164 in 1926. They were of a most varied nature, and included most articles in common use in the household. Of this number 624 were submitted to the Public Analyst, the remainder being samples of milk which were tested in the office and found to be genuine.

Informal Samples.—339 informal samples were taken as against 211 last year. Although legal proceedings cannot be taken in the event of such a sample not being genuine, this method is a guide to the general quality of food stuffs sold in any particular district. Any adulterated samples are followed up by taking “formal” or “official” samples, so that legal proceedings may be taken if necessary.

Milk Samples.—As usual, the greatest number of samples obtained has been of milk, one of the most important articles of food, and one which unfortunately lends itself to fraudulent practices. 805 samples were taken, and of these 33 were certified to be below the minimal limits fixed by the “Sale of Milk Regulations, 1901.” Of this number 12 were deficient in non-fatty solids, 20 in milk fat, and 1 in both. The percentage of deficiency in fat varied from 1.6 to 20 (the average being 9.3), and of solids not fat from 1.0 to 8.2 (average, 3.4). This shows an improvement, which it is hoped will be maintained.

"Appeal to Cow" Samples.—12 of the samples were taken at farm or byre after seeing the cows milked; 9 of these proved to be genuine and 3 deficient.

Samples not Genuine, etc.—The percentage of all samples not genuine to the total number taken was 3.96 (compared with 4.55 for the previous year), and the percentage of non-genuine milk samples to the total number of milk samples obtained was 4.10 (as against 5.67 in 1926). The total number of samples taken was at the rate of 4.02 per 1,000 of the population (estimated) of the City for the year 1927. This is in excess of the number suggested by the Ministry of Agriculture (viz., 3 per 1,000 of the population).

Margarine Act, 1887.—17 samples of margarine were purchased and analysed. All were genuine and free from preservatives.

Margarine Warehouses.—31 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 (1,160), only 48 contained preservative, the quantity being in most cases well within the limit allowed. This, however, was exceeded in the case of 6 samples of sausage (for details see "Offences other than Adulteration"), and 1 of lemon peel. The latter (obtained informally) contained sulphur dioxide only slightly above the amount allowed by the Regulations, and, as a subsequent (formal) sample proved to be genuine no further action was taken.

OFFENCES OTHER THAN ADULTERATION.

OFFENCE.	NO. OF CASES.	ACTION TAKEN, ETC.
<i>Milk and Dairies (Amendment) Act, 1922, Sec. 2: Milk and Dairies Order, 1926, Sec. 6; and Milk and Dairies (Consolidation) Act, 1915, Secs. 6 and 7:—</i> Unregistered person selling skimmed milk from a can not inscribed with his name and address, and not labelled "skimmed milk."	1	Offender cautioned.
<i>Milk and Dairies (Consolidation) Act, 1915, Sec. 6:—</i> Selling milk from vehicles and/or cans not inscribed with the name and address of the vendors.	5	In 4 cases cautioned, and in 1 summoned and fined 10s.
<i>Milk and Dairies Order, 1926, Sec. 32:—</i> All practicable precautions not used to prevent milk being contaminated by dirt, dust, etc.	5	Offenders cautioned.
<i>Public Health (Preservatives etc., in Food) Regulations, 1925-1927:—</i> Samples of Sausage containing sulphur dioxide (110, 140, and 170 parts per million, respectively), not labelled as containing preservative.	3	Offenders cautioned.
1 sample of sausage (informal) and 1 (formal) containing respectively 1,390 parts and 2,355 parts per million of sulphur dioxide; not labelled in accordance with the Regulations.	2	Vendor summoned and fined £1 on each of 2 summonses (in respect of the formal sample), £2 in all.
1 sample of Sausage (informal) and 1 (formal) containing respectively 500 parts and 420 parts per million of sulphur dioxide, the samples not being labelled as containing preservative.	2	Vendor summoned and fined £1 (in respect of the formal sample).
1 sample of sausage (informal) and 1 (formal) containing respectively 770 parts and 760 parts per million of sulphur dioxide.—(Labelled as required).	2	Vendor cautioned.
Carried forward ...	20	Amount of Penalties : £3 10s.

OFFENCES OTHER THAN ADULTERATION—*continued.*

OFFENCE.	NO. OF CASES.	ACTION TAKEN, ETC.
Brought forward ..	20	Amount of Penalties : £3 10s.
1 sample of sausage (informal) and 1 (formal) containing respectively 560 parts and 200 parts per million of sulphur dioxide; not labelled in accordance with the Regulations.	2	Vendor cautioned.
<i>Milk (Special Designations) Orders, 1922-1923 :—</i> Contraventions of conditions of licence to sell.	2	Offenders cautioned.
<i>Milk and Dairies (Amendment) Act, 1922, Sec. 3, 1 (b).—</i> <i>(Special Designations) :—</i> Advertising for sale milk from cows which had passed the tuberculin test whilst not being licensed for the sale of "Graded" milk.	1	Offender cautioned.
<i>Milk and Dairies (Amendment) Act, 1922, Sec. 2, and Milk and Dairies Order, 1926, Sec. 6 :—</i> Selling milk from premises not registered for the purpose.	1	Offender cautioned.
Total	26	Amount of Penalties—£3 10s. 0d.

THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS,
1912 AND 1917.1.—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	281	None.
Cream	3	1 contained boric acid 0.30%, and was not labelled in accordance with the Regulations. Vendor's explanation accepted by Health Committee.

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	5
(2) Statements incorrect	0
	5

(3) Percentage of preservative found in each sample :—

Sample No. 690,	Boric Acid	0.40%
„ 691,	„	0.24%
„ 692,	„	0.22%
„ 693,	„	0.17%
„ 694,	„	0.40%

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.	4
(2) 35 per cent.	1
(3) Below 35 per cent.	0
	5

(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 3.

(d) Particulars of each case in which the Regulations have not been complied with, and action taken :—

In the three instances under (c) preserved cream was found to have been consigned to dairymen in Newcastle by firms in Ireland (in two cases) and Scotland (in one case), the receptacles containing the preserved cream not being labelled in accordance with Article V. (ii.) of the above Regulations. The firms were communicated with, and each furnished “an explanation in writing” (Article VI.), which was accepted by the Health Committee.

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.

ARTICLE.	No. of Samples obtained.			Result of Analysis.			Action taken.					REMARKS.
	Formal.	Informal.	Total.	Genuine.	Not Genuine.	Doubtful.	Prosecution.	Caution.	Dismissed.	Cases Withdrawn.		
New Milk	801	4	805	772	33	..	15	11	3	1	In 5 cases ("appeal to eye" samples, etc.), no proceedings were taken, and in 13 the vendors were cautioned by order of the Health Committee.	
Condensed Milk	..	5	5	5	..	..	..	..	..	..	All complied with the Regulations as to composition and labelling.	
Dried Milk	..	5	5	5	..	..	..	..	..	..	The sample "not genuine" contained lactic acid (0.5%) and was not labelled as "Preserved Cream." Vendor's explanation accepted by Health Committee. (See also separate return under "P.H. (Milk and Cream) Regulations.")	
Cream (including 5 sold as "Preserved Cream") ..	..	8	8	7	1	..	..	..	..	..	All free from preservatives.	
Butter	..	18	18	18	..	..	..	..	..	..	7 of the samples contained chloxy, but were declared as "mixtures."	
Margarine	..	17	17	17	..	..	..	..	..	..		
Coffee	..	12	12	12	..	..	..	..	..	..		
Cocoa	..	1	1	1	..	..	..	..	..	..		
Tea	..	1	1	1	..	..	..	..	..	..		
Flour	..	1	1	1	..	..	..	..	..	..		
Wheatmeal	..	1	1	1	..	..	..	..	..	..		
Pastry	..	1	1	1	..	..	..	..	..	..		
Sugar	..	1	1	1	..	..	..	..	..	..		
Rice	..	1	1	1	..	..	..	..	..	..		
Ground Rice	..	1	1	1	..	..	..	..	..	..		
Ground Corn	..	1	1	1	..	..	..	..	..	..		
Corn Flour	..	1	1	1	..	..	..	..	..	..		
Baking Powder	..	1	1	1	..	..	..	..	..	..		
Egg Powder	..	1	1	1	..	..	..	..	..	..		
Salt	..	1	1	1	..	..	..	..	..	..		
Taproot	..	1	1	1	..	..	..	..	..	..		
Articroot	..	1	1	1	..	..	..	..	..	..		
Beans (and Sallanas) ..	..	1	1	1	..	..	..	..	..	..		
Chick Peas	..	1	1	1	..	..	..	..	..	..		
Lemon Peel	..	1	1	1	..	..	..	..	..	..		
Glacé Cherries	..	1	1	1	..	..	..	..	..	..		
Gelatine	..	1	1	1	..	..	..	..	..	..		
Preserved Fruit	..	1	1	1	..	..	..	..	..	..		
Dried Fruits	..	1	1	1	..	..	..	..	..	..		
Curry Powder	..	1	1	1	..	..	..	..	..	..		
Pepper	..	1	1	1	..	..	..	..	..	..		
Mustard	..	1	1	1	..	..	..	..	..	..	2 of the samples contained starch, but were declared as "mixtures."	
Vinegar	..	1	1	1	..	..	..	..	..	..		
Sauces	..	1	1	1	..	..	..	..	..	..		
Pickles	..	1	1	1	..	..	..	..	..	..		
Sponge Cake	..	1	1	1	..	..	..	..	..	..		
Syrup	..	1	1	1	..	..	..	..	..	..		
Ground Almonds	..	1	1	1	..	..	..	..	..	..		
Lard	..	1	1	1	..	..	..	..	..	..		
Bacon	..	1	1	1	..	..	..	..	..	..		
Cheese (Cheshire)	2	4	6	4	2	..	..	..	..	..	The 2 (informal) samples "not genuine" contained only 31.2% and 29.2% of fat respectively (instead of 45% and 50% respectively). Subsequent samples (taken formally), proved to be genuine, and no further action was taken.	
Sausage	10	33	43	37	6	..	1	1	..	..	The samples "not genuine" contained preservative (sulphur dioxide) in excess of the limit allowed, and in 4 instances were not labelled in accordance with the Regulations. (For further details see "Offences other than Adulteration," p. 212.)	
Potted and Tinned Meats, Meat Pastes, Fish Pastes, etc.	..	8	8	8	..	..	..	..	..	..	The samples "doubtful" and "not genuine" were informal and formal respectively (from one vendor) of a cheap grade of chocolate, which contained a large proportion of maize starch. No proceedings were taken (in view of the difficulty in obtaining convictions in cases of this character).	
Pasta (Split and Packed), Sweets, Chocolate, Chewing Gum, etc.	4	2	2	2	1	1	..	..	..	..		
Jams, Jellies, and Marmalade ..	..	15	15	15	..	..	..	..	..	..		
Fruit Jellies	..	1	1	1	..	..	..	..	..	..		
Golden Syrup	..	1	1	1	..	..	..	..	..	..		
Tincture of Rhubarb	..	5	5	5	..	..	..	..	..	..		
Syrup of Rhubarb	..	5	5	5	..	..	..	..	..	..		
Gregory Powder	..	5	5	5	..	..	..	..	..	..		
Gregory's Food	..	5	5	5	..	..	..	..	..	..		
Cream of Tartar	..	5	5	5	..	..	..	..	..	..		
Tartaric Acid	..	5	5	5	..	..	..	..	..	..		
Sweet Spirits of Nitro	..	2	2	2	1	1	..	..	..	..	The sample (informal) "not genuine" was deficient in ethyl nitrite 38.8%. The formal sample (which proved to be similarly deficient) was not taken until 1928, and will therefore appear in the Table for that year.	
Glycerine	..	4	4	4	..	..	..	..	..	..		
Olive Oil	..	4	4	4	..	..	..	..	..	..		
Camphorated Oil	..	5	5	5	..	..	..	..	..	..		
White Precipitate Ointment ..	..	3	3	3	2	..	..	..	..	..	Both samples were deficient in wool fat (8.5% and 10% respectively), the first being taken informally and the second formally. The vendor was cautioned.	
Laundine	1	1	2	..	..	..	..	..	..	..	2 of the samples contained only 10% of cod liver oil (instead of 15% as required by the R.P. Code). The vendors were communicated with by the Medical Officer of Health.	
Extract of Malt and Cod Liver Oil ..	2	5	7	7	..	..	..	..	..	..	All free from arsenic.	
Glanter's Salts	..	6	6	6	..	..	..	..	..	..		
Beer	..	6	6	6	..	..	..	..	..	..		
Rum	..	4	4	4	..	..	..	..	..	..		
Whisky	..	5	5	5	..	..	..	..	..	..		
TOTALS	821	339	1160	1113	46	1	16	12	3	1	Amount of Penalties obtained—£18.*	

* Includes 76 samples taken "in course of delivery" (at railway stations, hospitals, etc.)

* Total penalties £21 10s. 0d., including those in respect of "offences other than Adulteration," etc. (£3 10s. 0d., see separate table, page 212).

The Public Health (Condensed Milk) Regulations, 1923-1927, and the Public Health (Dried Milk) Regulations, 1923-1927.

9 samples of condensed milk and 5 of dried 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 14, or 3·7 per cent.

Action taken is described on page 189.

188 samples were examined for evidence of excremental pollution, which was found to an undesirable degree in 76, or 40·4 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.

Approximate amount of Certified and Grade A. (Tuberculin Tested) Milk received in the City daily.—

Certified—72 gallons.

Grade A. (Tuberculin Tested)—630 gallons.

Cleanliness of Milk Churns.—Whilst this requirement of the Milk and Dairies Order was not obligatory until October 21st, 1927, inspection has been systematically carried out, and during the year 25,288 churns awaiting return to the farmers were examined at the various railway stations in the City. Of this large number, only 29 (as compared with 64 in 1926), were found in an uncleansed condition. The offender in each case was cautioned by the Medical Officer of Health.

In addition, 5,779 churns in course of transit through the City were also examined, and only 3 (as against 47 last year) were found in a dirty condition. The Medical Officers of Health of the districts from which the churns were consigned were informed.

Water.—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 134.

PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are in the City 259 bakehouses, of which 29 are factories (*i.e.*, places in which mechanical power is used), 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 101. Domestic bakehouses are under the same supervision as when the business is carried on in an ordinary bakehouse. While these places are clean and well kept, it would be better if the baking of bread could be confined to premises not connected with a dwelling.

Restaurant Kitchens, in which are included hotels, cafés, and dining rooms, on the Register at the close of the year, numbered 113. They were all regularly inspected, and as a rule were found to be in good order.

Fried Fish Shops.—The number of these increased from 150 to 151 during the year. For comments see “Offensive Trades” (section VI).

Ice Cream Manufactories and Retail Shops.—45 applications were received during the year for permission to make and/or sell this commodity. 14 were refused, the general sanitary conditions of the premises not being up to the standard.

The number of manufactories has been reduced from 122 in 1926 to 115 in 1927, and the number of retailers from 202 to 181.

The sale of ice cream "bricks," prepared and packed in specially adapted premises, is on the increase. Early in 1928 application for registration of a building for storage and distribution was received from a large London firm, and it has since been registered and has commenced business. This is certainly a step in the right direction, and will ultimately go far to eliminate the undesirable vendor, whose methods of storing and retailing in the public streets are open to grave objection.

The premises of both manufacturers and retailers are regularly inspected. In the case of manufacturers, they are advised that the persons actually engaged in making the ice cream be supplied with white washable overalls. Unfortunately, however, under the existing law, this cannot be insisted upon.

The Milk and Dairies (Amendment) Act, 1922, Sec. 2; and The Milk and Dairies Order, 1926, Sec. 6.—During the year 51 applications were received for permission to retail milk, 33 being granted, 17 refused on sanitary grounds, and one withdrawn. At the close of the year there were 609 retail milk-shops in the City, including 35 belonging to 9 large dairy companies. Of the total, 85 were shops in which only dairy products and like commodities were retailed, 233 were shops

selling other articles, and 41 were hawkers, whilst the remaining 250 sold a sterilised milk in stoppered bottles. "Hawkers" are becoming much too common, and steps are being taken to curtail their activities. They are a class of sellers which is a continual source of trouble to the Department.

There seems to be a greater tendency on the part of dairymen to bottle ordinary milk on their premises, and send it out to the consumer in that form.

During the year plans were approved for the erection and equipment of a large dairy at the west end of the City, in which it is ultimately proposed to deal with 50,000 gallons of bottled milk per week. At the time of writing (May, 1928), the building has just been opened, and is in full operation. This, again is a step in the right direction, as it will certainly minimise one form of contamination, that is, in the home of a certain type of consumer, who receives loose milk in a rusty tin vessel, or in a jug, perhaps chipped or cracked, which is seldom, if ever, scalded or thoroughly cleansed, and may be kept in a cupboard near the fireplace, in which is also stored coal or other unsuitable articles.

Automatic Milk Machines.—Towards the end of the year, two of these were fixed, one in Westgate Road and the other in Scotswood Road.

The machine consists of a wood box, about four feet square, supported on legs, and containing two compartments. An ordinary milk churn is placed in one of the compartments, and a pipe leads from it into the adjoining chamber, where, by placing a penny into a slot and moving a handle, a certain amount of milk is delivered into the receptacle held under the nozzle or outlet pipe.

The movement of the handle also causes a "plunger" to work in the churn every time it is used, so that the milk and cream are well mixed. The machines, however, have not been sufficiently long in use to enable an opinion to be formed as to their utility.

C. RAIMES,

*Inspector under the Sale of
Food and Drugs Acts, etc.*

*Health Department,
Town Hall,*

20th June, 1928.

VL THE HOME AND THE
WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND
WORKSHOPS, ETC.

REPORT OF THE
CHIEF SANITARY INSPECTOR.

FACTORIES AND WORKSHOPS,

ETC.

Report of the Chief Sanitary Inspector.

VI.—THE HOME AND THE WORKSHOP.

NUISANCES.

NUISANCES, HOUSING, FACTORIES AND
WORKSHOPS, Etc.

REPORT OF THE
CHIEF SANITARY INSPECTOR.

VI.—THE HOME AND THE WORKSHOP.

WORKSHOPS, ETC.
HOUSING, FACTORIES AND

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 pleasure in submitting the following report on the work carried out in my Section of the Department during the year ended December 31st, 1927.

NUISANCES.

During the year 11,287 nuisances have been reported upon and dealt with. This is an increase of 894 upon last year.

It is somewhat difficult to account for the fluctuation in the number dealt with every year. Lately, however, many could be traced to the prevailing abnormal housing conditions. Others are due to carelessness, dirty tenants, and in some cases, what can only be termed wilful damage. Quite a number of frivolous complaints are made. For instance, a request for the Inspector to call was received. The house was a considerable distance from the office, and when the Inspector arrived there, he was shown a small heap of

earth, which the Gas Company's workmen, in laying a new service pipe across the pavement for the adjoining house, had placed on one side of the trench, the complainant remarking that she was entertaining company during the afternoon and was afraid they might tread the soil into the house. In another case complaint was made that a neighbour kept a bantam cock and a hen. The complainant was afraid that the cock might attack her children while playing in the yard. It was found that these conditions had obtained for three years, but that during the last few weeks relations between the two families had become strained.

Such things as these take up time, yet they must be investigated, and the only redeeming feature is the implicit faith which some people have in the powers of the Sanitary Inspector.

As in previous years, it is found that insanitary conditions and nuisances are not confined to slum areas. At the end of the year a complaint was received as to a dirty house in a terrace of good residential property. In this case the owner-occupier lived alone in one room of an eight-roomed house, the remainder being empty. The floor was thickly coated with dirt, the ceiling and walls were black, and a large quantity of ashes and other refuse was lying in one corner; in addition, there were no less than seven dogs. The smell was so offensive that the writer could not stay in the room.

In another case an old man, who twenty years ago was a leading merchant on the Quayside, was found to be occupying one single room in a ten-roomed terrace house. While the conditions were not quite so bad as in the previous case, they were certainly most squalid

and insanitary. He was ultimately prevailed upon to enter Wingrove Hospital, in which he has since died. The owner carried out thorough cleaning and repairs to the house, which has since been re-let.

Overcrowding.

Overcrowding still continues to a very serious extent, and unfortunately shows no signs of abating. This again is not confined to the slum quarters of the City, but is also found in better class houses, and is due in a great number of cases to sub-letting. Parents and from three to seven children, whose ages range from two to twenty years, are found to be living in one or two rooms. Apart from the hygienic aspect of the problem, there is also the question of morality and decency. With these, however, the Sanitary Inspector has no concern so far as regards dwelling houses. In common lodging houses it is an offence to suffer any person of the male sex above the age of 10 years to use or occupy any room which may be used or occupied as a sleeping apartment by persons of the female sex. In canal boats, a sleeping place used by a husband and wife shall not be used for that purpose by a female above 12 years or a male above 14 years.

The following are the numbers of notices and letters issued during the year :—

Total number of notices served :—

Informal	5,397
Statutory	531
	———— 5,928

Number of letters sent 2,618

Number of circular letters sent 1,935

Total 10,481

Magisterial Proceedings.

Considering the total number of letters sent out and notices served (10,481), it is worthy of note that it was only necessary to take legal proceedings in 16 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 238.

The Rent and Mortgage Interest (Restrictions) Acts, 1920-25.

Only four applications were received this year from tenants for certificates that their houses were not "in all respects reasonably fit for human habitation" or otherwise "not in a reasonable state of repair." After inspection of the premises certificates were granted in three cases, and in the remaining case a certificate was refused as the defects were of a minor nature, and were eventually remedied by the agent.

Conversion of Dry Closets to Water Closets.

This important part of the work still goes on, and it is a source of great satisfaction that so much is accomplished without having recourse to legal proceedings. The property now being dealt with is of comparatively recent erection, consequently the pail closets and "cell" privies are in the majority of cases in fairly good condition, and conversions can only be obtained by the exercise of the greatest care and tact. The great majority of the closets of this type are situated in the Byker and Walker districts. In the latter area the ground is leasehold, and in many cases the leases have only a short time to run. In the City proper there are very few dry closets remaining.

It may now be safely stated that we are within measurable distance of having the entire City on the

water closet system. The number converted this year is 713 (against 696 last year), and of this number 553 were pail closets, 9 privies (with 6 ashpits), and 151 "cell" privies. 109 "dry" ashpits were also removed and replaced by portable dustbins. In connection with these conversions, 810 dust-bins were supplied by the Corporation, and delivered at the houses free of cost.

In consequence of complaints from owners that the water closets were frequently choked by the carelessness of tenants, a circular letter is now left with each occupier giving an abstract of Sec. 21 of the Public Health (Amendment) Act, 1890, which provides that if any person injures or improperly fouls any sanitary convenience or anything used in connection therewith, he shall be liable to a penalty not exceeding 10s. The circular also contains instructions as to the proper use of the closets. This has had a most salutary effect, and is greatly appreciated by owners and agents.

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'	..	..	..	..	..
St. Thomas'	20	20	..	..	..
St. John's	18	18	..	..	..
Stephenson	3	3	..	..	..
Armstrong	..	..	..	..	..
Elswick	32	32	..	..	..
Westgate	..	..	..	..	..
Arthur's Hill	..	..	..	..	..
Benwell	5	..	4	1	1
Fenham	44	11	9	24	15
All Saints'	35	35	..	..	..
St. Andrew's	19	19	..	..	..
Jesmond	4	..	..	4	4
Dene	1	..	..	1	1
Heaton	24	21	..	3	5
Byker	281	281	..	..	..
St. Lawrence	877	875	..	2	2
St. Anthony's	296	279	..	17	16
Walker	187	..	142	45	30
Total in City	1,846	1,594	155	97	74

Smoke Nuisances.

The Public Health (Smoke Abatement) Act, 1926, came into operation on July 1st. During the year 927 observations, compared with 436 last year, were made. 95 informal notices were served upon occupiers of premises, the chimneys of which were observed to be giving off "black" or excessive "medium" smoke. One firm has already fixed a smoke preventing apparatus, and another is negotiating with the makers to have one fixed.

On October 27th a Conference of representatives of Local Authorities on Tyneside was held in the City, and as a result it is hoped that a Regional Smoke Committee for Tyneside will be formed.

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	
93	927	9	13	95*	..	..

* 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, 1927.

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 S_2O_3 .	Chlorine as Cl.	Ammonia as NH_3 .
January	42.6	0.46	1.01	1.60	1.87	2.47	7.41	1.46	0.53	0.06
February ...	42.2	0.06	1.21	1.49	1.45	2.75	6.96	1.42	0.21	0.07
March	65.3	0.28	0.81	1.58	1.31	3.39	7.37	2.03	0.37	0.07
April	56.8	0.14	0.23	0.68	1.02	1.59	3.66	0.47	0.44	0.06
May	60.4	0.17	1.65	2.02	2.17	2.06	07	0.99	0.30	0.03
June	136.3	0.13	2.40	1.92	3.28	3.27	11.00	1.41	0.58	0.06
July	133.5	0.65	1.55	1.50	2.67	2.67	9.04	1.36	0.38	0.07
August	183.2	0.27	2.17	1.60	2.57	4.76	11.37	2.26	0.65	0.14
September ..	136.3	0.56	1.49	1.22	1.63	3.82	8.72	1.31	0.58	0.06
October	45.4	0.47	1.51	1.05	1.73	1.90	6.66	0.94	0.36	0.04
November...	88.0	0.28	0.97	1.41	3.35	6.33	12.34	1.63	2.44	0.10
December ..	153.3	0.26	1.60	2.61	3.99	5.21	13.67	1.99	1.85	0.13
Total, 12 months ...	1125.3	3.73	16.60	18.68	27.04	40.22	106.27	17.27	8.69	0.89
Average per month ...	93.8	0.31	1.38	1.56	2.25	3.35	8.85	1.44	0.72	0.07

An average of 8.85 metric tons per square kilometre per month = $8\frac{1}{2}$ cwts. per acre per annum, or 272 tons per square mile per annum, as compared with 8.2 cwts per acre, or 263 tons per square mile in 1926.

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 S.O_3 .	Chlorine as Cl.	Ammonia as N.H_3 .
January	54.2	0.56	2.21	4.57	4.34	5.31	16.99	3.35	0.47	0.41
February ...	25.0	0.39	3.03	3.43	2.29	5.16	14.30	2.88	0.19	0.10
March	61.2	0.65	3.73	4.64	2.21	4.77	16.00	2.68	0.35	0.10
April	55.6	0.47	3.20	4.23	1.22	2.56	11.68	0.92	0.39	0.08
May	59.1	0.19	2.84	3.79	2.84	3.90	13.56	2.27	0.32	0.04
June	118.1	0.57	3.67	4.84	3.31	3.54	15.93	1.86	0.50	0.06
July	112.6	0.97	2.84	3.56	2.25	3.38	13.00	1.85	0.32	0.06
August	184.9	0.42	2.85	3.76	4.81	6.28	18.12	3.17	0.65	0.15
September ..	152.9	0.15	2.74	2.99	6.42	3.98	16.28	3.14	0.65	0.11
October	54.2	0.68	1.38	2.22	2.06	5.10	11.44	2.67	0.36	0.06
November...	79.2	0.42	2.11	3.25	5.23	5.23	16.24	2.99	1.46	0.13
December ..	120.9	0.42	3.17	3.70	4.35	6.05	17.69	2.66	1.29	0.14
Total, 12 months ...	1077.9	5.89	33.77	44.98	41.33	55.26	181.23	30.44	6.95	1.44
Average per month ...	89.8	0.49	2.81	3.75	3.44	4.61	15.10	2.54	0.58	0.12

An average of 15.10 metric tons per square kilometre per month = $14\frac{1}{2}$ cwts. per acre per annum, or 464 tons per square mile per annum, as compared with 12.9 cwts. per acre, or 413 tons per square mile in 1926.

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 Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S_2O_3 .	Chlorine as Cl.	Ammonia as NH_3 .
January	40.9	0.28	5.93	37.58	3.60	8.74	56.13	4.65	0.46	0.14
February ...	17.4	0.67	7.12	9.56	0.94	3.16	21.45	1.59	0.20	0.10
March	40.8	0.58	10.98	13.99	1.14	5.30	31.99	2.96	0.42	0.24
April	36.3	1.04	22.74	26.88	1.96	6.32	58.94	3.19	0.46	0.18
May	40.5	0.32	11.24	13.18	1.21	3.56	29.51	1.97	0.32	0.08
June	85.7	0.49	13.42	16.35	3.08	4.63	37.97	2.11	0.61	0.21
July	83.1	0.38	7.66	7.06	2.66	2.66	20.42	1.71	0.50	0.12
August	135.0	1.19	5.90	7.39	4.05	6.48	25.01	2.41	1.44	0.28
September ..	98.6	0.47	9.47	13.04	2.17	5.13	30.28	2.57	0.70	0.16
October	38.7	0.71	6.76	8.88	1.09	3.63	21.07	1.96	0.36	0.08
November...	65.7	0.98	13.99	18.44	4.07	9.46	46.94	4.60	2.33	0.49
December ..	114.8	0.78	10.88	9.71	1.84	6.88	30.09	2.44	1.75	0.26
Total, 12 months ...	797.5	7.89	126.09	182.06	27.81	65.95	409.80	33.16	9.55	2.34
Average per month ...	66.5	0.66	10.51	15.17	2.32	5.49	34.15	2.76	0.80	0.19

An average of 34.15 metric tons per square kilometre per month = 32.8 cwts. per acre per annum, or 1049* tons per square mile per annum, as compared with 26 cwts. per acre, or 841 tons per square mile in 1926.

* This is the 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 Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as $S.O_3$.	Chlorine as Cl.	Ammonia as $N.H_3$.
Total, 12 months ...	3000.7	17.51	176.46	245.72	96.18	161.43	697.30	80.87	25.19	4.67
Total Average per month	250.0	1.46	14.70	20.48	8.02	13.45	58.11	6.74	2.10	0.39
Average per gauge 12 months	1000.2	5.84	58.82	81.91	32.06	53.81	232.44	26.96	8.40	1.56
Average per gauge per month	83.4	0.49	4.90	6.83	2.67	4.48	19.37	2.25	0.70	0.13

An average of 19.37 metric tons per square kilometre per month = 18.6 cwts. per acre per annum, or *595 tons per square mile, as compared with 15.8 cwts. per acre or 506 tons per square mile in 1926.

*This is the highest average recorded in the City during the past 3 years.

For comparison with the foregoing, the following returns of sunshine recorded at the Armstrong College, Newcastle, and at Cockle Park, near Morpeth (about 15 miles from the City), are given :—

Month.	Armstrong College. Sunshine (hours).	Cockle Park. Sunshine (hours).
January	16.3	40.2
February	47.3	68.5
March	73.4	108.0
April	110.6	147.6
May	91.2	131.5
June	176.6	194.6
July	87.1	123.8
August	74.2	139.8
September	77.0	108.8
October	81.1	99.7
November	55.1	70.1
December	8.6	17.0
Total for year	898.5	1249.6
Average per month	74.9	104.1

CINEMAS, THEATRES, AND OTHER PLACES OF PUBLIC ENTERTAINMENT.

One new theatre has been opened during the year, making a total of 6 theatres and music halls and 28 cinemas, in addition to 88 other 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. All but two were granted, these being refused on sanitary grounds. One cinema, after being closed for some time in order to carry out extensive alterations and additions, was re-opened at the end of the year, and a new certificate granted.

The testing of the ventilation and heating of all such places has again been systematically carried out, in addition to regular visits to inspect the sanitary arrangements and dressing rooms. In no case was it found necessary to draw the attention of the management to any contravention.

As regards the testing by the "Kata" thermometer, 34 places, involving 71 separate tests, were visited, and the results show an improvement upon those previously made, for whilst last year of the 33 tested, 19 came within a few points of the required standard, this year 21 reached it, and are termed "first class." As regards "second class," last year only 10 reached the standard; this year there are 13, so that now the "third class" (of which there were four last year), is eliminated. It is not too much to hope that shortly even the "second class" may be promoted to "first class." These results may be deemed very satisfactory, for only in three cases was it found necessary to communicate with managements in regard to the high temperature in their cinemas.

OFFENSIVE TRADES.

Fried Fish Shops still predominate in the register of offensive trades, as they do in all large towns. At present there are 151, as against 150 in 1926. They were regularly visited, both by day and by night, and only in two cases was it found necessary to serve notices to cleanse the premises, and these were promptly complied with.

Other Trades.—The total number of offensive trades now carried on in the City is 190, compared with 192 last year.

One rag and bone dealer ceased business, and one fat melter's premises having been burnt down, the occupier has re-established it in an adjoining town. The number now on the register is :—

Rag and Bone Dealers.....	16
Dealers in Hides and Skins.....	4
Dealers in Blood or other putrescible animal products	1
Fat Melters or Extractors.....	3
Glue and Size Makers.....	2
Gut Scrapers	1
Fish Fryers	151
Bone Boilers	5
Soap Boilers	1
Tripe Boilers	6

Foul privies and ashpits (to replace with water-closets).....	12
Defective "cell" privies in Walker and Benwell (to replace with water-closets).....	173
Foul pail-closets (to replace with water-closets).....	664
Defective waste water closets (to replace with fresh water closets with flushing cisterns, etc.)	25
Foul or defective ashpits not connected with privies (to remove and provide dust bins)	217
Insufficient water-closet or privy accommodation (additional water-closets ordered)	83
Defective or insufficient dust bins	1,164
Defective water-closets	620
Defective pail-closets (to repair, provide new pails, etc.).....	19
Water-closets without water supply	104
Choked water-closets (mostly served on tenants).....	65
Dirty water-closets (all served on tenants)	49
Defective drains (to repair, or construct new drains).....	155
Insufficient means of drainage.....	4
Choked drains, etc.	507
Defective, want of, or choked sinks, waste pipes, etc.....	240
Defective or choked soil-pipes, vent shafts, etc.....	22
Sink waste-pipes not trapped	34
Want of or defective pavement in yards and passages	165
Dirty rooms	38
Dirty bedding.....	1
Damp rooms	110
Overcrowding	26
Dirty yards, passages, stairs, etc.	120
Animals, pigeons, and fowls improperly kept	29
Offensive accumulations	74
Accumulations of manure	29
Want of or defective manure pits	10
Broken roofs and want of or defective or choked spouting	1,432
Want of water	158
Smoke nuisances	13
Want of proper ventilation to rooms (including to floor space), broken window cords in tenements, etc.	325
Rooms inadequately lighted	3
Structural defects—internal and external—(broken plaster, floors, stairs, walls, etc.).....	1,366
Cisterns supplying water to sinks, etc., dirty or defective.....	9
Filth thrown on yards, streets, etc.	5
Stables (unsuitable, defective, dirty, etc.).....	2
Food manufactured or stored for sale under improper conditions.....	8
Bakehouses—Dirty, etc.	66
Council (and other) Schools—W.C.'s defective	4
Dustbins required	14
Condemned rooms (cellar dwellings) illegally occupied.....	2
Fried fish shops—(Want of cleansing)	2
Tenements—Limewashing not done	51
No adequate accommodation for washing of clothes.....	295
" " storage of food.....	1,207
" " preparation and cooking of food	117
Water supply and sinks not adequate, conveniently accessible, etc.	814
Inadequate lighting of common staircases	331
Staircases without proper handrails, etc.	72
Tents, Vans, Sheds, and similar structures—	
Light or ventilation (insufficient means of).....	1
Structural defects	15
Insufficient sanitary accommodation	22

Tents, Vans, Sheds, and similar structures— <i>Continued.</i>	
Water supply not adequate, conveniently accessible, etc.....	19
Want of drainage	16
Sites unpaved	12
Want of or defective dustbins	17
Other defects and contraventions of the Byelaws	1
Cinemas—Temperature excessive	3
Conveniences dirty, etc.	1
Quarries not properly fenced	1
Chemical refuse, steam, etc., turned into sewers	1
Unclassified minor nuisances	123
TOTAL	11,287

DETAILS RELATING TO CERTAIN WORKS CARRIED OUT IN THE ABATEMENT OF
NUISANCES AND TO INSPECTIONS MADE DURING 1927.

Length (in yards) of old drains removed	1,413
Length (in yards) of new drains constructed	2,990
New trapped gullies provided to drains	251
Combined privies and ash-pits removed	
{ privies	9
{ ash-pits	6
" Cell " privies removed (in Walker and Benwell)	151
Pail-closets removed	553
Defective water-closets removed	84
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 24 cases where the accommodation was previously insufficient)	787
Dry ash-pits removed and replaced by galvanised iron dust bins.	109
Dust bins substituted for dry ash-pits where water-closets existed, and provided in cases where privies have been replaced by water-closets	†810
No. of drains tested	868
No. of tests of above drains made by smoke and water	940
No. of inspections from complaints made at office (verbally or by letter)	2,482
No. of tenement inspections made	18,338
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	3,820
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	4,535
Inspections to learn if works ordered were in progress	11,651
Supervisions of work in progress	5,501
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing	24,808
Inspections after infectious disease	1,109
Inspections of milk shops and ice creameries (including retail shops)	1,410
,, bakehouses	†1,176
,, offensive trades	911
,, wholesale margarine warehouses	31
,, as to limewashing of tenements	1,930
,, of schools	152
,, under Housing Act	879
Inspection of Cinemas, etc. (day visits, 95 ; night visits, 49)	144
Tents, Vans, Sheds and similar structures	975
Miscellaneous Visits	2,963

‡ Dust bins supplied free by Corporation.

† Including 880 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 1927.

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.
<i>Public Health Acts :—</i>				
Drains defective	3	3	..	
Yard pavement defective	3	2	1	
Window-cords defective (preventing efficient ventilation)	1	1	..	
Broken roofs and defective and/or choked spouting	13	12	1	
Sink waste-pipe defective.	1	1	..	
Offensive accumulations .	2	2	..	
Other nuisances	3	3	..	
<i>Public Health Act, 1875, Sec. 36, and Newcastle upon Tyne Improvement Act, 1892, Sec. 53.</i>				
Houses without sufficient water closets (defective w.c.'s to be repaired, furnished with adequate water supply, etc.)	7	6	1	
Foul privies (to be replaced by water closets)	12	12	..	
<i>Newcastle-upon-Tyne Corporation Act, 1911, Sec. 55 :—</i>				
Want of or defective dustbins for house refuse...	7	7	..	

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1927.—*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.
<i>Public Health Act, 1875, Sec. 77 :—</i>				
Keeping common lodging houses (2) without being registered	1	..	..	Control of the houses given up and case adjourned <i>sine die</i> .
<i>Bye Laws with respect to Tenemented Houses :—</i>				
W.C. accommodation (insufficient, not conveniently accessible, etc.) (No. 8.)	2	1	..	1 owner summoned. Number of persons reduced, and case adjourned <i>sine die</i> .
W.C. structure and apparatus not maintained in good order (No. 11.) .	1	1	..	
Inadequate accommodation for washing clothes. (No. 28, f.i.)	5	3	2	
Inadequate accommodation for the storage of food. (No. 28, f.ii.) ..	6	3	1	2 owners summoned and fined 10s. each.
Inadequate accommodation for the preparation and cooking of food. (No. 28, f.iii.)...	4	1	1	2 owners summoned and fined 10s. each.
Water supplies and sinks inadequate, not conveniently accessible, etc. (No. 28, d.)	4	1	..	1 owner summoned and fined 10s., the cases against the remaining 2 being withdrawn on payment of costs.
Limewashing of yards, passages, staircases, etc. (No. 28 a.)	10	10	..	
Total	85	69	7	9

Amount of Penalties.—£2 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	Nov., 1927
Self-contained	306	137	29	93	105	179	215
Flats (each Flat counted as a separate dwelling).	903	75	..	35	15	41	55
House and Shop combined.....	68	29	2	9	6	27	18
Tenemented Houses	28	3	..	..	..	1	..
Total	1,305	244	31	137	126	248	288

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 St. Andrew's Ward (16·3), St. John's Ward (16·0), St. Lawrence Ward (15·6), Elswick Ward (14·4), and low in Dene Ward (7·2), Jesmond Ward (10·3), Heaton Ward (10·5), and St. Thomas' Ward (10·6), which occupy

respectively also opposite ends of the scale in regard to quality of housing, and density of population (see tables on pages 51 and 59).

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 St. Nicholas' Ward has an infantile rate of 211 deaths per 1,000 births, All Saints, 119, and Elswick 114, as compared with rates of 38 and 40 in Heaton and Dene Wards respectively. Over a period of twenty years, the deaths per 1,000 births in one room, two room, and three room houses have been respectively 131, 116 and 98, and in the year under report were 99, 95 and 63.

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 St. John's (2.13), St. Lawrence (1.99), All Saints' (1.74), while the lowest occurred in Dene (0.67), Jesmond (0.71), and Fenham (0.94). The tuberculosis death rate for the whole City in 1927 was 1.38 per 1,000 population. Again, about 34 per cent. of the population live in one and two room houses, yet over 46 per cent. of the deaths from consumption were among these.

The Housing Act, 1925.

During the year 879 inspections were made under this Act. Great difficulty is experienced in securing compliance with notices under the Act. Owners complain of the large amount of arrears of rent outstanding, of high rates and taxation, and of the excessive cost of repairs. On the other hand, it must be admitted that there is a class of owner who thinks of nothing but getting the rents, quite ignoring the old proverb, which

is never more true in anything than house property, that "a stitch in time saves nine." Small repairs, which if attended to at once, might only cost shillings, are neglected, with the result that they eventually cost pounds. Another point which is lost sight of by the owner is that the Sanitary Inspector is practically an unpaid clerk of works, who examines his houses and reports any defects to him. Unfortunately these reports are not always accepted by the owner in the spirit in which they are made.

A case recently came under notice where a block of flat property had not been painted for forty-seven years, and, judging by the condition of the houses, there had apparently been no structural repairs carried out during the same period.

However, notwithstanding the difficulties met with in working Sec. 3 of the Housing Act, 1925, a large amount of good work has been accomplished, though much remains to be done.

Housing.

MINISTRY OF HEALTH TABLE.

YEARS ENDED 31ST DECEMBER, 1926 & 1927.

	1926	1927
Number of new houses erected during the year :—		
(a) Total (including numbers given separately under (b))..	1101	2244
(b) With State assistance under the Housing Acts :		
(i.) By the Local Authority	359	1779
(ii.) By other bodies or persons.....	556	465
1.—INSPECTION OF DWELLING-HOUSES DURING THE YEAR.		
(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).....	4112	4023
(2) Number of dwelling-houses (included under sub-head (1) as above, which were inspected and recorded under the Housing Consolidated Regulations, 1925	965	658
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation.....	29	20
(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.....	2988	2731
2.—Remedy of Defects during the year without service of Formal Notices :—		
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	835	484
3.—Action under Statutory Powers during the year :—		
(a) <i>Proceedings under Section 3 of the Housing Act, 1925 :—</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring repairs.....	601	578
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—		
(a) By owners	580	557
(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) <i>Proceedings under Public Health Acts :—</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied.....	1552	1669
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—		
(a) By owners	1546	1627
(b) By Local Authority in default of owners.....	..	..
(c) <i>Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—</i>		
(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.

The demolition of **Liverpool Street** insanitary area was practically completed at the end of the year. While the demolition was in progress allegations were made that among other things the contractor was pulling down houses, taking out windows and doors, and removing sanitary conveniences whilst the tenants were still in occupation, and in other ways causing the occupants serious inconvenience. A special sub-committee was appointed by Council and another by the Health Committee, to investigate the complaints. After strict inquiry, however, it was found that the statements, generally speaking, could not be substantiated, except in a few minor details.

Prudhoe Street Area.—Half of this area was demolished at the end of the year. The delay in this case is due to many of the tenants refusing to remove into the houses provided for them owing to their inability to pay the higher rent. In many cases they were paying 4s. to 5s. per week, yet the lowest rent for a house at Cowgate is 11s. per week. One case out of many may be quoted. An old man, whose total income is 10s. per week, was offered a house at Cowgate, the rent of which is 11s. 5d., his present rent being 4s. 3d. Attempts are made to effect exchanges. For instance, a family not in an insanitary area may be able and willing to pay the rent for a Cowgate house, and if the owner of their house will accept a displaced tenant, a transfer may be arranged. In many cases, however, the owner is not anxious to accept a tenant who is perhaps out of employment and consequently in arrears with his rent. Such cases can be multiplied, and their needs can be met only by erecting houses which can be let at rents which they have been accustomed to and are able to pay.

Pilgrim Street Area.—The clearance of this area is now completed.

**The Newcastle-upon-Tyne Improvement Act, 1882,
Section 32.**

No houses were dealt with under this Section during 1927.

Houses Demolished, etc.—Apart from action by the Health Committee, 20 tenemented houses (of 90 holdings), 12 self-contained houses, 2 flats, and 5 common lodging houses (accommodating 192 lodgers), have been demolished, or have ceased to be used as dwellings, for various reasons, (dilapidations, conversion to business premises, in connection with the new Tyne Bridge, etc.)

Houses built during the Year 1927.—The City Engineer reports that there were 465 self-contained houses built privately during the year under report. In addition, 1,779 dwellings were provided under housing schemes.

Tents, Vans, Sheds, and Similar Structures.—In October a sub-committee surveyed the three principal colonies of these, which are situated at Grey's Brickyard, Bunton's Yard, and Thomas' Yard, all at the east end of the City. It was then decided that steps be taken to secure the removal of the vans etc. The owners and occupiers were therefore communicated with, drawing attention to Sec. 33 of the Newcastle Corporation Act, 1926, which requires that before any van, etc., is placed on any ground in the City, the approval of the Corporation, must be obtained. As a result, thirty persons applied for the necessary permission. The Health Committee decided that permission be refused to all vans in the above yards, and that the Town Clerk be

instructed to secure their removal, and accordingly notice was served on the owners and occupiers. At the close of the year there were 82 vans in the City, to which 975 visits were made, and although several were found to be in a bad state of repair, only five were in a dirty condition.

Overcrowding in these structures, as in dwelling houses, continues, and cannot be avoided. Some difficulty still arises in obtaining repairs, for the obligation to keep the vans in good and water-tight condition rests upon the occupier, but as the majority of them are only rented, the owner usually does what repairs are necessary.

Tenemented Houses.—The number of tenemented houses in the City is 3,471, containing 9,863 holdings, as follows :—

1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	Total.
3,110	5,579	1,067	105	2	9,863

Tenement Bye-laws.

During the year 18,338 inspections of tenemented holdings were made. This part of the work takes up a considerable amount of time, not only in the actual inspection of the houses, but in following up notices, and in meeting owners or builders. With a view to facilitating the work of compliance with the new bye-laws, two additional inspectors have been appointed (June, 1928).

A deputation from the Northumberland and Durham Branch of the Auctioneers' and Estate Agents Institute appeared before the Health Committee in December

and made certain suggestions as to modifications and concessions in the bye-laws. The Committee, however, after due consideration of the suggestions, were of opinion that the requirements of the bye-laws were no more than were necessary to maintain the standards of convenience and sanitation in this class of dwelling.

New Buildings and Sanitary Alterations.—297 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 408 during the previous year.

Common Lodging Houses.

At the end of the year there were 42 common lodging houses on the Register, as compared with 44 last year. Five houses in Pilgrim Street area were closed for demolition in connection with the New Tyne Bridge. Registration of three new houses was granted. The five which were demolished were very old structures, and could not be kept up to present day requirements. At least three of them were remarkably well kept in every way, and furnished evidence that a keeper who realises his responsibilities can, under adverse circumstances, keep a house in a condition which compares very favourably with many ordinary dwelling houses.

In one case only was it found necessary to resort to legal proceedings. The keeper of two houses died, and it was found that she had left both the property and the good will of the business to her married daughter, who

applied to be registered as the keeper and was approved of. In the meantime, a son took possession, and declined to allow the registered keeper to enter the houses. Ultimately proceedings were instituted against him for keeping a common lodging house without being registered as the keeper, and this action had the required effect.

As will be seen from the summary, lodging houses for men only are in the majority. There is need of a good house for women, for there are only two of this class in the City.

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.
Single women and single men	1	43	..	..	15	28	43
Single men, single women and married couples ..	1	21	11	11	14	7	43
Women only	2	67	..	..	67	..	67
Men only	38	1321	..	..	..	1321	1321
TOTAL.....	42	1452	11	11 22 persons	96	1356	1474

The total number of lodgers for which the houses are registered is 1,474, as compared with 1,479 at the end of 1926, showing a decrease of 5 in the total accommodation, due to the removal of 5 houses and the addition of the three new ones.

The average number of lodgers per night was 1,320, the highest number being 1,472, and the lowest 1,178.

REGISTERED COMMON LODGING HOUSES.

SUMMARY OF WORK DONE AND VISITS MADE DURING THE YEAR 1927.

Number of Houses on the register at the end of the year.....	42
Applications for registration (Newcastle Corporation Act, 1911, Sec. 63) ; all granted.....	47
Houses ceased to be occupied as common lodging houses	5
Inspections made in the day-time	5,199
Inspections made in the night-time	240
Notices served { <i>re</i> washing of bed clothes, 172 }	258
{ <i>re</i> limewashing of houses 86 }	
Contraventions of Bye-laws, etc. :—	
Beds not properly “ aired ” during prescribed hours.....	11
Structural defects in houses	2
Defective water-closets	31
Defective roofs and defective or choked spouting.....	9
Choked W.C.'s and drains	40
Dust bins defective or insufficient	17
W.C.'s without a supply of water	2
Lack of efficient ventilation (broken sash-cords, etc.)	8
Unclassified minor nuisances	5
Number of prosecutions (keeping common lodging houses (2) without being registered)	1
Deaths reported	None
Cases of infectious disease reported (measles 2, erysipelas 1, tuber- culosis 10, smallpox 1, enteric fever 1)	15

Factories and Workshops.

The inspection of these was well maintained during the year, 8,537 visits having been made. These included workshops, “ domestic ” workshops, workplaces, laundries, bakehouses, and factories, on receipt of complaint from H.M. Inspector. Generally speaking, their condition as regards sanitary accommodation, ventilation, cleanliness, water supply, and other matters of a hygienic nature is satisfactory.

During the year 62 lists of “ outworkers ” were received, 19 employers having sent in their lists twice, as required by the Factory and Workshop Act, 1901, and 24 employers only once. Included in the lists were 14 names and addresses of outworkers residing in other

towns, and these, in accordance with the requirements of the Act, were forwarded to the Local Authority of the district concerned.

29 notices as to insanitary conditions in factories and workshops were received from H.M. Inspector of Factories, 10 of which related to factories (which are not visited by the Inspectors of the Health Department except on receipt of a complaint from H.M. Inspector), and 19 to workshops. Many of the latter, however, had been found and dealt with by the District Inspectors before the complaint was received. The others were 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 1927.

Home Office Tables.

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

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS.

PREMISES. (1)	NUMBER OF		
	Inspec- tions. (2)	Written Notices. (3)	Occupiers Prosecuted (4)
Factories (Including Factory Laundries.)	255	312	None
Workshops..... (Including Workshop Laundries.)	6,896		
Workplaces (Other than Outworkers' premises.) ..	1,386		
Total.....	8,537	312	..

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)	Re-medied. (3)	Referred to H.M. In-spector. (4)	
<i>*Nuisances under the Public Health Acts:—</i>				
Want of cleanliness.....	143	143	..	..
Want of ventilation	13	13	..	..
Overcrowding	..	..	..	..
Want of drainage of floors.....	1	1	..	..
Other nuisances	45	45	..	..
†Sanitary accommodation {insufficient	21	21	..	..
{unsuitable or defective	83	83	..	..
{not separate for sexes... ..	10	10	..	..
<i>Offences under the Factory and Workshop Acts—</i>				
Illegal occupation of underground bake-house (s. 101)	..	1†	..	..
Other offences	..	..	1	..
Excluding offences relating to out-work and offences under the Sections mentioned in the Schedule to the Ministry of Health Factories and Workshops (Transfer of Powers) Order, 1921.				
Total	316	317	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.

‡ The underground bakehouse referred to in the previous return was duly vacated, the proprietors removing to new premises, which included 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

TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City:

TRADES.	Work-shops.	Domestic Work-shops.	Work-places.
Athletic Outfitters, etc.	11	..	..
Bacon Curing, Pickles, etc.	52	1	2
Bags, Waterproofs, etc. (making and repairing)	19	2	2
*Bakehouses	259	..	..
Blacksmiths, Plumbers, etc.	115	..	3
Bouquets and Wreaths (making, etc.).....	11	..	..
Boots, etc. (making and repairing)	122	27	..
Dressmaking, Underclothing, etc.	269	65	..
Drysalters, Cleaning & Packing Fruit, Tea, etc.	33	1	57
Furniture Making, Joiners, etc.....	202	7	..
Harness, etc. (making and repairing)	22	..	..
Jewellery, Watches, etc. (making and repairing)	70	2	..
Laundries.....	25	..	..
Machines and Tools (making and repairing) ..	140	3	3
Painters, Engravers, Photographers, etc.....	83	2	11
Restaurant Kitchens, etc.	..	..	113
Tailoring, Shirts, etc.	235	33	..
Miscellaneous	104	..	79
Totals	1,772	143	270

* Includes 29 " Factory " and 101 " Domestic " Bakehouses.

Inspection of Council and Other Schools.

152 inspections (against 99 in 1926) of these schools were made, and in 4 cases minor defects only were found. These, on being brought to the notice of the school authorities were promptly remedied.

There are still a number of the objectionable "trough" water closets in many of the schools. In two schools they were removed, and independent water-closets provided instead.

Conversions were made at Raby Street Council Schools, where

10	W.C.'s were provided for Infants;
10	Boys;
17	Girls;

and at St. Peter's Council Schools :

- 10 W.C.'s and 8 white glazed urinals for boys ;
- 17 W.C.'s for girls and infants ;
- 6 lavatory basins for boys ; and
- 6 lavatory basins for girls.

This is a step in the right direction, and it is hoped that the conversions will continue until all the trough closets are removed. Apart from the hygienic aspect, this is of a high educational value, as children get accustomed to the proper use and care of these conveniences, which cannot be so when the obsolete "trough" closets are in their schools.

Rag Flock Act, 1911.

Six samples of rag flock were taken under this Act. All conformed to the standard of purity required by the Regulations made under the Act (not more than 30 parts of chlorine in 100,000 parts of flock).

Exhumations.

During the year three exhumations and re-interments under Home Office Orders were supervised by the District Inspectors.

The operations were all carried out during the early morning, and were conducted in a sanitary and reverent manner.

NEW LEGISLATION.

Merchandise Marks Act, 1926.

This Act, which came into force on the 15th June, 1927, was originally delegated by the City Council to the Trade and Commerce Committee ; they, however, were of opinion that, having regard to the provisions of the Act,

it should be delegated to the Health Committee, which has been done. The most important section so far as this Department is concerned is Sec. 5, which briefly provides that every Local Authority authorised to appoint an analyst for the purposes of the Sale of Food and Drugs Acts, 1875 to 1907, may, as regards foodstuffs to which an order in Council under the Act applies, execute any of the provisions of the Act other than provisions relating to the importation of goods, the expenses incurred to be defrayed in the same manner as expenses incurred in the execution of the Sale of Food and Drugs Acts.

Fertilisers and Feeding Stuffs Act, 1926.

The powers and duties under this Act have been delegated to the Health Committee, and it is anticipated that it will be brought into force on July 1st, 1928. The two earlier Acts were merely permissive as regards action by the Corporation by way of appointing an analyst and official samplers. The present Act, however, gives the Corporation no option, but requires them to appoint an official agricultural analyst, and such inspectors and official samplers as may be necessary. In connection with the appointment of inspectors, it has been considered to be of advantage to make appointments in conjunction with the Northumberland County Council in order to facilitate the working of the Act.

Factories and Workshops.

The Bakehouses Welfare Order, 1927, made under Sec. 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act, 1916, for securing the Welfare of Workers in Bakehouses, was issued during February, and came

into force on May 1st. Although worked by H.M. Inspector, it contains several requirements of a purely sanitary nature, amongst which may be briefly mentioned :—

- (1) Washing facilities conveniently accessible, together with hot water, soap and clean towels.
- (2) Suitable accommodation for clothing put off during working hours, with adequate arrangements for drying it if wet.
- (3) The official cautionary notice relating to dermatitis to be kept prominently displayed in the bakehouse.
- (4) An adequate supply of wholesome drinking water.

I am, Sir,

Your obedient servant,

C. RAIMES,

Chief Sanitary Inspector,

Inspector of Common Lodging Houses, etc.

Health Department,

Town Hall,

16th June, 1928.

1928.

into force on May 1st. Although worked by 11 M.
 Inspector it contains several requirements of a purely
 sanitary nature, amongst which may be fairly men-
 tioned: (1) Washing facilities conveniently accessible
 together with hot water, soap and clean towels.
 (2) Suitable accommodation for clothing put off
 during working hours, with adequate arrange-
 ments for drying it if wet, or for its storage.
 (3) The official sanitary notice relating to
 dormitories to be kept prominently displayed in
 the dormitory.

(4) An adequate supply of wholesome drinking
 water.
 (5) A system of drainage, which is of the highest
 importance, and which is to be maintained in the
 most efficient manner.
 (6) A system of ventilation, which is to be maintained
 in the most efficient manner.
 (7) A system of lighting, which is to be maintained
 in the most efficient manner.
 (8) A system of heating, which is to be maintained
 in the most efficient manner.
 (9) A system of fire protection, which is to be maintained
 in the most efficient manner.
 (10) A system of pest control, which is to be maintained
 in the most efficient manner.
 (11) A system of waste disposal, which is to be maintained
 in the most efficient manner.
 (12) A system of record keeping, which is to be maintained
 in the most efficient manner.
 (13) A system of inspection, which is to be maintained
 in the most efficient manner.
 (14) A system of enforcement, which is to be maintained
 in the most efficient manner.
 (15) A system of appeal, which is to be maintained
 in the most efficient manner.

Facilities for Washing

The Bureau of Health Order, 1927, under
 the Public Health Act, 1927, requires that
 every person who is engaged in any work
 which is likely to be injurious to health
 shall be provided with facilities for washing
 and for drying his clothing.