[Report 1914] / Medical Officer of Health, Newcastle-upon-Tyne City & County.

wellcome collection

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

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

1914.

Printed by Easey & Best, 146 Pilgrim Street, Newcastle-upon-Tyne.

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

1914.

CONTENTS.

SANITARY COMMITTEE.

Councillor C. T. Stableforth, J.P., Chairman.

„ David Adams, J.P., Vice-Chairman.

The Lord Mayor (Councillor John Fitzgerald).

Alderman Sir Joseph Baxter Ellis, J.P.

„ Adam Wilson., J.P., L.R.C.P.

„ George Harkus, J.P. (died 14th February, 1915).

„ Robert Flowers.

„ G. G. Archibald.

„ W. J. Sanderson, J.P.

Councillor Walter Lee, J.P.

„ Thos. Matthewson.

„ A. M. Sutherland.

„ Wm. Beckett.

„ Alex. Wilkie, M.P., J.P.

„ Jos. Curry.

„ Jas. Smith.

„ John Grantham.

„ J. R. Mason, L.R.C.P.

Councillor J. W. Telford.

„ C. C. Elliott.

„ Edward Lonsdale.

„ Wm. Tiplady, L.R.C.P.

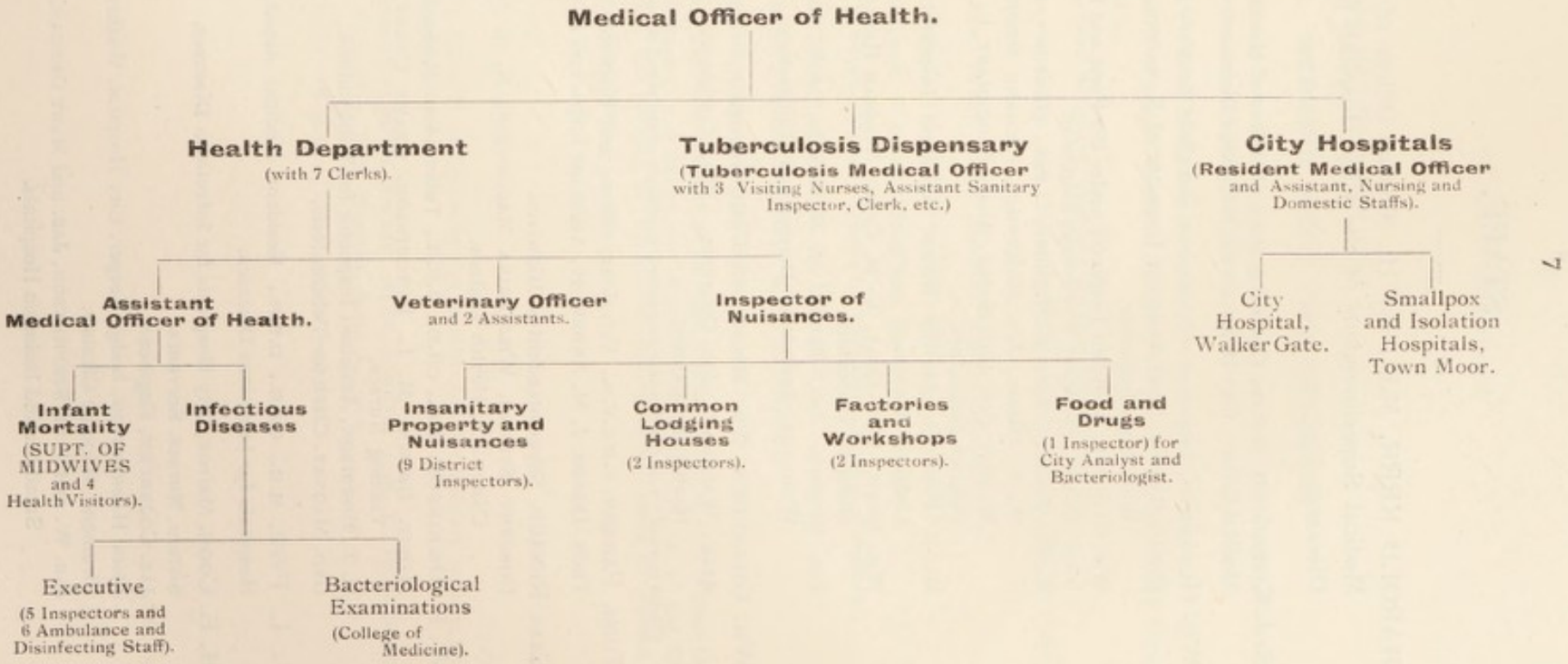
„ W. O. Weddle.

„ Thos. Cruddis.

„ John Chapman.

„ R. P. Dawson, J.P., M.B.

TABLE SHEWING THE VARIOUS SECTIONS OF THE SANITARY COMMITTEE'S WORK WHICH IS UNDER THE DIRECT CHARGE OF THE MEDICAL OFFICER OF HEALTH.



STAFF.

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

S. J. CLEGG, M.D., D.P.H., (Assistant Medical Officer of Health and Resident Medical Officer, City Hospitals for Infectious Diseases).

WM. HUDSPETH, Inspector of Nuisances, and Chief Sanitary Inspector.

CHRIS. RAIMES, Chief Assistant Inspector of Nuisances, and Assistant Workshops Inspector.

WM. CATTLIFF, Assistant Inspector under the Food and Drugs Acts.

ISAAC CLARK, Assistant Workshops Inspector.

E. W. SCOTT, JAS. McNICHOLL, JAS. HUNTER, GEO. HARDIE, W. F. BACON, JAS. McKENDRY, RICHARD REDPATH, BERTRAM MURRAY (left 16th Sept.), ADAM FLOCKHART, L. W. JOHNSON, District Inspectors.

W. E. PERKINS, ARTHUR ROWE, Assistant Inspectors of Common Lodging Houses.

WM. BEAN, WM. GRAY, C. R. CRAIG, THOMAS HESLOP, Infectious Diseases Inspectors.

JAS. ROBSON, JAS. BRUCE, J. R. CRAGIE, J. W. ROBSON, T. W. WHELANS, Ambulance Drivers and Disinfectors.

WM. GILLENDER, WM. MILNE, GEO. CUTHBERTSON,* ALFD. HEDLEY,* ALEC. WALKER,* JOS. GILHESPY, WM. COCKBURN, 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.

THOS. DODDS, J. M. ANDERSON, Assistant Inspectors of Provisions.

ELIA RENAUD, Superintendent of Midwives.

DOROTHY STRONG, WILLIAMINA MACGREGOR, N. S. BAIKIE, H. K. CAMPBELL, Health Visitors.

W. H. DICKINSON, M.B., CH.B., D.P.H., Tuberculosis Medical Officer.

MARGT. BROWN, M. L. HUTCHINSON, HELEN CURRY, Tuberculosis Visiting Nurses.

R. T. MORRISON, Assistant Inspector for Tuberculosis.

GEO. MAGNAY, Clerk for Tuberculosis.

L. L. FYFE, M.B., CH.B., D.P.H., Resident Medical Assistant, City Hospitals for Infectious Diseases.

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

Sisters, Nurses, Servants.

JAS. COCKBURN, Engineer.

JOHN HARRINGTON, Lodge Keeper, City Hospital, Walker Gate.

Firemen; Window Cleaner.

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

STAFF—*Continued.*

Of the foregoing, the following are now

SERVING WITH THE COLOURS.

S. J. CLEGG, Lieutenant R.A.M.C., and Officer Commanding Sanitary Section, 1st Northumbrian Division (Terr.).

L. L. FYFE, Lieutenant R.A.M.C.

R. A. HOOPER (Temporary Resident Medical Assistant City Hospital), Lieut., R.A.M.C.

JAS. HUNTER, Staff Sergeant, Sanitary Section, 1st N.D. (T.)

RICHARD REDPATH, Sergt., 2nd British Red Cross Hospital, St. John Ambulance Brigade.

ADAM FLOCKHART, Sergt.-Major, 2nd N.D. Royal Engineers (T.)

W. E. PERKINS, Corporal, R.A.M.C., San. Sect., 1st N.D. (T.).

WM. GRAY, Corporal, R.A.M.C., 23rd San. Sect.

ARTHUR ROWE, Sergt., Pioneer Company, 18th Batt. Northd. Fusiliers.

ALFRED HEDLEY, Sergt., R.A.M.C., 1st N.D. (T.).

JOSEPH GILHESPY, Private, 18th Batt. North'd. Fusiliers.

FRANK HARRINGTON, Private, Coldstream Guards.

MARY COULSON (Assistant Matron), J. H. MAIN (Home Sister), L. D. GODTSCHAILK (Night Supt.), and MARGARET NELSON (Ward Sister), all of the City Hospital, are serving as Territorial Association Sisters or Nurses in Military Hospitals.

TEMPORARY STAFF, ineligible by age or otherwise for military service, have been engaged :—

Temporary Inspectors.—WM. DOVER, ALEX. KIRTON, J. S. B. HUTCHINSON, R. B. PATERSON, T. S. MAGNAY, JOHN LIDDLE.

Temporary Clerks.—NORMAN DIXON, EDITH LOONEY.

To Councillor CHARLES T. STABLEFORTH, J.P., Chairman of the Sanitary Committee of the Corporation of Newcastle-upon-Tyne.

SIR,

Herewith I beg to submit to you my Report upon the health of the City during the year 1914.

The date of issue is later than is usually desirable owing to dislocation of the ordinary routine of work by grave national events, in connection with which many extra-ordinary duties have fallen upon the Health Department.

A glance at the mortality figures for the year reveals a definite rise in the general death rate; this is accounted for practically entirely under the heads of *respiratory diseases* (bronchitis, pneumonia, etc.) and *measles*, the former being unusually prevalent during the cold wet weather of the last quarter, and the latter appearing almost in epidemic form in certain parts of the City during the last four months of the year; there was somewhat greater prevalence also of *scarlet fever* and *diarrhœa*. *Infantile mortality* was heavier than in the two previous years, partly from measles and partly from diarrhœa.

A concise detailed statement of the general sanitary progress of the City since 1883 is set out in the large table on page 34A.

The estimated **Population** at the middle of the year, as revised by the Registrar General, was 271,523. This figure is probably some thousands below the actual population towards the end of the year, owing to the influx of munition workers. In addition, considerable numbers of troops, probably in excess of those actually recruited in the City, were stationed within the area throughout the autumn and winter.

The mortality rates calculated upon this estimate of population can only therefore be regarded as of doubtful accuracy.

The number of **Marriages** in the City during the year was 2,717.

The **Birth Rate** again shows a slight increase over the previous year, being 27·8 per 1,000 population, as compared with 27·5 in 1913, 26·7 in 1912, and 26·5 in 1911.

The **Death Rate** from all causes was 17·2 per 1,000 population as compared with 15·5 in 1913, and 14·3 (the lowest recorded) in 1912.

The **Infantile Mortality Rate** was equivalent to 137 deaths of infants under one year of age per 1,000 births, as compared with 122 in 1913, and 101 in 1912.

1912 had a cold, inclement summer and autumn, highly unfavourable to the spread of disease such as summer diarrhœa, and there was little or no measles.

1913 was a very fine year, with consequent prevalence of diarrhœa, while in 1914 there was both measles and diarrhœa, the latter during the very fine summer, and the former during the last quarter, which was cold, damp, and severe, while the general overcrowding among the industrial sections of the population could not fail to favour the propagation of the infection.

1911 had a similar extremely fine summer and autumn, and although the general infantile mortality rate for the year was the same as that for 1914 (137), yet the death rate from diarrhœa was only 0·67 per 1000 population, as compared with 0·69 per 1000 population in 1913, and with 1·1 per 1000 population in 1914. Why then this sudden increase? The period from mid-August to the end of September was that of greatest prevalence, and coincided with that of greatest heat. Coincidently, mobilisation of the forces was taking place, Newcastle being a sort of clearing house for the north generally. Large numbers of raw troops were quartered temporarily in and about the City, together with many horses. In these early days the sanitary organisation of the various units was not by any means as perfect as it became later, while the resources of the Health and Cleansing Departments, already weakened by loss of personnel, were taxed to their uttermost, and this combination of unfavourable circumstances doubtless accounted, to some extent at least, for the heavier mortality among the most susceptible part of the population.

Upon no other section do bad *Housing* conditions react than upon the children, and attention is again drawn to the fact that among the infants under the observation of the Health Visitors, the mortality rates during the entire period 1908 to 1914 was 134 deaths per 1,000 births in the single-room dwellings, as against 98 in two-room dwellings, or over a third more in the former.

The *Mothers' and Babies' Welcome Society* with its seven branches, including three maternity centres, is continuing to do a magnificent work, at no cost to the municipality. The Sanitary Committee now receives from the Exchequer a rebate of one half the expenditure upon maternity and child welfare work; this is granted on the implied understanding that the Local Authority will put forth still greater efforts to lessen the wastage of child life, and never has this been more necessary for the future of the nation than now. A voluntary body such as the Mothers' and Babies' Welcome Society, which depends entirely upon private subscriptions for its work, and mainly upon the generosity of the more well-to-do, deserves to be placed in a position of greater financial security, and a regular substantial donation by the Sanitary Committee to its funds would be money wisely invested. It is not right nor fitting for the Corporation to leave work of such vital importance to the public health dependent upon so precarious and increasingly unreliable a source of maintenance.

Greater efforts each succeeding year are made by the Mothers' and Babies' Welcome Society to cater for the well-being of the *children between one year old and school age*, and records of their health are kept and passed on, when the child enters school, to the *School Medical Officer*, so that a small proportion at least are now under continuous medical observation from the cradle until the age of fourteen, when the boy or girl usually begins to work for a living. The timely recognition and treatment of physical and constitutional defects cannot but have an excellent effect upon the after health of the man or woman.

By the judicious use of such *preventoria* as the Children's Sanatorium at Stannington, many a little one can be toned up to a sturdy robustness when fallen into the state of low health which offers so poor a resistance to attack by tuberculosis, and if the Education Committee could but see the way to the establishment of *open-air schools*, a still greater service would be rendered to the children of to-day, to whom we look to carry on the race.

Infectious Diseases were on the whole more prevalent than of recent years. Thus **Measles** caused no less than 212 deaths, the heaviest incidence since 1893. So soon as the country has returned to its normal state it will be necessary to consider seriously the advisability of making the disease compulsorily notifiable. But the Sanitary Committee must understand that unless it is also decided to augment the staff

of Health Visitors sufficiently to permit of the *following up* of all notified cases, to make sure that they are under adequate care and receiving the attention that is so essential, but so commonly lacking, such a step would be useless. It will also be advisable to consider the question of providing hospital treatment for the most needy cases, not so much for the purpose of preventing spread of infection, as of saving the lives of individual children.

On the suggestion of the Sanitary Committee, a valuable clause has been inserted in their *Cinematograph Licences* by the Town Improvement and Streets Committee, to the effect that on the representation of the Medical Officer of Health that school closure has been adopted on account of prevalance of infectious disease, and that it would be advisable to prevent children attending cinematograph shows, the proprietors of such shows may be prohibited by the Committee from admitting children under fourteen years of age to the performances for such period as the Committee may order.

Two cases of **Typhus** occurred, each apparently sporadic, for no original source could be discovered. One death resulted, but there was no further spread of the infection.

Smallpox made no appearance. The number of exemption certificates from *vaccination* steadily increases, these having been obtained in respect of 21·2 per cent. of the infants born during the year.

Scarlet Fever continued prevalent throughout the City, 1,723 cases having been notified, representing an attack rate per 1,000 population of 6·4, the highest since 1902. The case mortality was 2·6 per cent., indicating a generally mild type of the disease. In 1883, the earliest year for which figures are available, the attack rate per 1,000 population was 7·5 and the case mortality 10·8 per cent, and in 1884, the attack rate was 13·7, and the case mortality 7·2. The **Diphtheria** incidence was the lowest since 1908, and the case mortality was also low—7·7 deaths per 100 cases. **Whooping Cough** caused 77 deaths, as against 98 in 1913. **Infantile Diarrhœa** was unusually prevalent, causing 237 deaths in children under two years. An exceptionally fine warm summer, such as that of last year, is invariably a "diarrhœa" season. In Newcastle the disease was made compulsorily notifiable from mid-August to the end of October, and all cases were followed up in their homes by the Health Visitors. The probable causes of the abnormal increase are fully dealt with in Section II of the Report. There were 102 cases of **Enteric Fever** during the year, as compared with 124 in 1913. There was nothing specially noteworthy about the distribution. On the issue of the order for mobilisation of the army grave fears were entertained regarding probable outbreaks of enteric fever, as in the South African and other Wars. So thoroughly, however, was *inoculation* of the troops performed, that up to the end of the year not a single case of the disease occurred among the forces within the City. All members of the medical and nursing staff at the City Hospital are inocu-

lated. There were 9 cases of **Acute Poliomyelitis,** and one **Epidemic Cerebro-Spinal Meningitis,** of which two of the former, and the latter, died, while four of the former were left with various permanent paralyses. Except for an outbreak of diarrhœa in a military billet, the cause of which was not established, there was no occurrence of anything suggestive of **Food Poisoning.**

Hospitals for Infectious Diseases.—1,835 patients, representing 78·9 per cent. of the notified cases admissible, a number of others from military camps and billets outside the City, together with 40 patients in an advanced stage of pulmonary tuberculosis, were isolated at the *City Hospital, Walker Gate.* The general case mortality was 4·5 per cent.

The accommodation for scarlet fever was again inadequate, and the *Smallpox* and *Isolation Hospitals* were in requisition for convalescent cases throughout the year. The shortage of beds was emphasised by the need to provide for military cases, and many civil cases, whose need was less urgent, had to be refused admission during the later months.

By arrangement with the War Office, a start was made in the construction of two additional temporary pavilions for 30 beds each, on a site adjacent to the City Hospital, and these relieved the pressure somewhat after their completion in April, 1915. They are of rather unusual design, each containing a single ward only, with an 8 ft. verandah along the entire south side. The

buildings are of corrugated iron, asbestos lined, and are raised on brick pillars. The wards are very bright, airy and cheerful, are lit by electricity, and warmed by hot water and open fires.

Additional permanent accommodation is urgently needed, and it is suggested that a pavilion of two floors, each with 35 beds, would meet the present requirements. Even with this, recourse would still have to be made to the Hospitals on the Moor at times of prevalence of scarlet fever. Should the Sanitary Committee acquire the two temporary military pavilions after the war however, these, together with the 70 beds suggested above, would meet the full requirements for some years to come, and render unnecessary the present dangerous practice of diverting to other purposes the City's small-pox accommodation, at a time when vaccination is on the rapid decline, and any moment may see a serious epidemic arise.

Difficulties arising from the war include loss of staff, the most serious being that of the Resident Medical Officer, who proved unreplacable, his position being temporarily taken by the Resident Medical Assistant. Similar vacancies among the senior members of the nursing staff were met by temporary promotions, and engagement of new probationers, the only class of nurse obtainable.

The **Disinfecting Stations** at Walker Gate and and on the Moor were kept busy, especially during the

last five months, when they were working at extreme pressure, in order to deal with military as well as civil requirements. Approximately 50,000 articles were steam-sterilized during the year.

The **Tuberculosis** scheme is rapidly approaching complete realisation. The permanent *Dispensary* premises were entered on December 14th, and the *Hospital for Advanced Cases* with 62 beds, is nearly ready for occupation. 60 beds—30 for adults at Barrasford, and 30 for children at Stannington—are now in use for *Sanatorium* treatment.

Excellent work has been done during the year, but owing to the overshadowing of all but the most urgent matters by the national needs in connection with the War, the steady expansion of the Dispensary work that was hoped for towards the end of the year could not take place.

As many of the medical staff of the Health Department as could be spared had to be allowed to join the colours. Largely by the unselfishness of the Tuberculosis Medical Officer, who undertook duty at the City Hospital in addition to his own particular work, it was found possible to release three of his colleagues, one after the other, between the outbreak of hostilities and the middle of 1915. In addition to this considerable undertaking, he also took part in special investigations on behalf of the War Office, and all without official recognition of any description. Had Dr. Dickinson followed his own desires, and taken a commission at the outset, practically the entire work of the tuberculosis section

would have had to be discontinued altogether, without any advantage in regard to the number of medical officers released.

The death rate from pulmonary tuberculosis was 1·38 in 1914, and from other forms was 0·57, as compared with 1·20 and 0·56 respectively in 1913.

A full account of what has been accomplished under the scheme appears in Section III. of the Report.

Bovine Tuberculosis.—180 samples of milk were examined for the presence of tubercle bacilli, and 12 (or 6·7 per cent.) were found to contain the germ.

The usual difficulties in dealing with the herds concerned were experienced. The chief stumbling block to progress is the absence of a reliable means of detecting immediately the presence of tubercle bacilli in the milk. The only sure method yet available, by inoculation into guinea pigs, takes from a month to six weeks, during which interval all sorts of changes take place, or are stated to have taken place, in the constitution of the herd. Another source of trouble is, in some instances, the cessation of a supply to Newcastle, the farmer sending his milk elsewhere.

The tuberculin test was used in four of the defaulting herds, in one of which, out of 44 cows and 2 bulls, 20 cows and both bulls reacted.

The postponement of the Milk and Dairies Act and suspension of the Tuberculosis Orders, as a measure of national emergency, have not lessened the difficulties of dealing with infected supplies.

19 out of the 180 samples were obtained from herds within the City, and it was a comparatively easy matter to deal with the two infected sources which were found among these through the Veterinary Officer, in whose section of the Report there appear full details. Cases in other districts, however, are rarely handled with the thoroughness that one would like to see, nor is there exhibited by most of the rural authorities any desire whatever to discover, on their own initiative, tuberculous animals within their areas.

As stated last year, the arrangements in the City itself are insufficient. There are 43 cowsheds and 106 slaughter houses scattered about the town, and it is utterly impossible to expect these to be looked after adequately by one Veterinary Officer and two Assistant Inspectors, who are also responsible for inspection of food generally, as well as for the administration of the Diseases of Animals Acts—all without clerical assistance. The entire office accommodation for this division of the staff consists of one small badly lighted and ill-ventilated room on the mezzanine floor of the Town Hall.

Food and Provisions.—Inspections under this head are carried out by the Veterinary Officer and his assistants, and by assistants of the Inspector of Nuisances who are specially detailed for the purpose of taking samples for examination by the Public Analyst and the Bacteriologist.

Meat inspection is carried out under considerable difficulty, owing to the absence of a public abattoir, and to the continued use of a multitude of abominable private slaughter houses, many of which are admittedly so bad that their licences are only "temporary," and renewed half-yearly.

The number of samples taken by the Inspector of Nuisances for analysis was 1,152, representing a proportion of 4·2 per 1,000 population. Of the total number 9·7 per cent. proved not to be genuine, as compared with 7·7 per cent. in 1913, and 7·4 per cent. in 1912.

824 milk samples were taken, and after rough-testing in the Health Department, such as appeared to contain only about, or less than, 3 per cent. of fat, were submitted to the City Analyst, who found 84 to be not genuine, or 10·2 per cent. of the whole. This percentage cannot be regarded as an accurate estimate of the real proportion of deficients, owing to the unreliability of the first test. Special reference is made to this matter in Section IV., pages 149-152, of the Report.

Only 3·8 per cent of samples were found to contain boric acid preservative; milk was entirely free, but all the samples of cream contained boric acid, in proportions less than 0·5 per cent.

185 samples of milk were submitted to the Bacteriologist for examination for evidence of excremental pollution; 43 were reported as unsatisfactory, and immediate steps were taken to have the causes remedied.

Special attention is given to the conditions under which food is prepared or sold; bakehouses, restaurant kitchens, fried fish shops, milk shops, and ice cream makers' premises, are all kept under observation with special regard to their cleanliness. It is an unfortunate fact that there are no less than 714 small general shops, none of them suitable, in which milk is sold.

Housing.—Careful attention and serious thought should be given to the facts embodied in Section V. of the Report, with regard to housing. Previously overcrowded as the City was, the condition of things since the war broke out must be almost without parallel in its history.

At the most recent census of empty houses the City Engineer showed that in May, 1915, there was not an empty tenement-house in the whole town, and not a single empty dwelling in St. Nicholas, Armstrong, Westgate, St. Lawrence, and Fenham Wards, only one in Stephenson and Walker, two in Elswick, and three in Arthur's Hill and Benwell, all, with the exception of Fenham, inhabited almost entirely by a working class population. Every evening paper contains advertisements, offering substantial bonuses for news of houses likely to be empty soon.

Overcrowding is rife, but owing to lack of houses, and the nation's need of the workers, has to be ignored. Insanitary property cannot be closed, any shelter, unless altogether impossibly bad, being better than none.

And, with the exception of two small Corporation schemes in City Road and St. Lawrence, for a total of 167 tenants, *houses are not being built.*

How then can we look for a healthy people, with low death rate, free from communicable disease, and producing a rising generation of sufficient stamina to carry on the race?

Disposal of Refuse.—492 dry closets have been converted to the water carriage system, under section 36 of the Public Health Act, 1875. This number is considerably less than in recent years, and most of the work was done in the first seven months of the year.

District Inspection has been carried on, so far as possible, in the usual manner. Half of the permanent staff of district inspectors joined the colours, and were replaced by temporary employés.

Under the working of the Housing and Town Planning Act there has been a considerable increase in the number of notices served for abatement of nuisances, more indeed than it has been possible to follow up, so that it proved necessary early in 1915 to cease issue of these until those already served had been complied with.

Atmospheric Pollution has been receiving special attention since March, when an observation station for measuring the soot fall and other aerial impurities was established on an open site below City Road, regular monthly records being made by the City Analyst. These are connoted with corresponding records in other towns through the agency of the (national)

Committee for the Investigation of Atmospheric Pollution. The report on the first year's working is not yet complete, but it may be stated here that the soot fall at the Newcastle Observation Station is equivalent to *three-quarters of a ton per acre, or 476 tons per square mile, per annum.* This may prove somewhat of a shock to those who value pure fresh air, and is surely argument enough for the better control of factory and furnace chimneys, and the greater use of electric heaters or gas fires in our houses, in substitution for the usual soft tarry coal fire.

Health Week.—The celebration of this annual effort was to have taken place throughout the country in November, but owing to its eclipse by events of infinitely greater urgency, had to be postponed reluctantly until more peaceful times shall have come again.

Collaboration with the Military Authorities.—Immediately upon the order for mobilisation being issued, the Medical Officer of Health put himself into communication with the head-quarters staffs in the North-Eastern District of the Northern Command, and offered the services of the Health Department in all sanitary matters concerning the troops within the City. Later on these services were extended, in regard to disinfection and infectious diseases, to all troops within a wide district round Newcastle.

Coincidently supervision of arrangements for safeguarding the City's water supply was entrusted by the

Lord Mayor's Consultative Committee to the Chairman of the Sanitary Committee, who gave much time and thought to this duty, and in conjunction with Mr. A. L. Forster, Engineer of the Water Company, personally saw to the carrying out of the necessary precautions.

On the appointment of Divisional Sanitary Officers, they and the Medical Officer of Health were in close and constant communication in regard to all matters regarding billets and camps, their site, water supply, scavenging, general arrangement, and cleanliness, and everything bearing upon the maintenance of health of the troops.

By mutual arrangement, all billets and proposed billets were inspected by the Medical Officer of Health or a member of his staff, and in addition to the points referred to above, all rooms were measured up and the maximum accommodation fixed. At first, owing to the great and sudden influx of men, it was only possible to enforce a standard of 25 square feet of floor space per man, but later, as more accommodation was found, 40 square feet was insisted upon.

Suitable facilities for ablution were seen to, also for the preparation of food, and for its consumption under cleanly conditions, including the provision of tables and sitting accommodation.

Wherever available, water closets were made use of, but otherwise, with the very willing and invaluable assistance of the City Engineer's staff, metal buckets for

temporary closets were provided and emptied daily by the Corporation staff without charge. No trench latrines were permitted.

The disposal of urine, and of ablution and cook-house water, was by emptying or discharging into the nearest drain or sewer. In the case of the ablution and cook-house water the intervention of a grease trap was required.

Cook-house and other refuse was similarly removed or destroyed in incinerators constructed by the troops themselves.

All sanitary conveniences and equipment, and billets as a whole, were required to be kept in a cleanly state, and this, after the first rush, was, generally speaking, well done.

Horse manure caused the most trouble, it proving exceptionally difficult to get it removed sufficiently regularly, owing to the contractors' shortage of men and horses, and the frequent lack of facilities for railway transport. No serious nuisance arose anywhere, however.

Food supplies were kept under close observation, and their mode of preparation, storage, and transit, as also the conditions under which army clothing was manufactured and made up.

During the greater part of the winter, troops in the City were quartered in schools, and such large buildings as warehouses, church halls, or untenanted stores, and in all but the first, the contriving of good sanitary con-

ditions was a problem not always easy of solution, but which, on the whole, was effected fairly satisfactory.

Similar services were rendered for hutments, and for temporary hospitals.

There was no individual billeting in private houses, except at first in case of the men of the local Commercial Battalion, who were billeted at their own homes.

All billets were visited frequently and regularly, and almost without exception every assistance was rendered by officers in command, and by the medical officers, who showed themselves most anxious to carry out suggestions made.

The necessity for coping with body vermin was thoroughly realised by officers, and the Department was practically swamped with requests for steam disinfection. A rota was formed, and articles were received daily at the City Hospital, and at the Smallpox Hospital, where they were disinfected and returned to the military on the same day. In all 13,724 articles,—full kits, tents, blankets, and other items,—were so handled. As regards billets themselves, it proved impossible for the staff to disinfect these for vermin, but the necessary apparatus (formalin and sprays) was lent to the pioneer squads, who were instructed how to do the work themselves.

By the courtesy of the Baths and Wash-houses Committee, free bathing facilities were accorded to the troops at all the public baths. The necessary arrangements were made by the Baths Superintendent, and the

privilege was one that was highly appreciated by the men.

77 cases of infectious disease were removed from billets and camps in the City and surrounding area, and isolated in the City Hospital, Walker Gate. In consequence of this being the only fever hospital in the north equipped with resident medical officers, the tendency was to centralise all military cases there. To meet the need for greater accommodation two additional temporary pavilions were in course of erection at the end of the year, under an agreement with the War Office. These are described in Section III. of the Report.

Details of the diseases treated are as follows :—

Scarlet Fever ...	38 (one death).
Diphtheria ...	23.
Suspected Diphtheria	10 (proved to be tonsillitis or pharyngitis)
Suspected Enteric Fever	2 (proved to be influenza).
Measles	1.
Mumps	1.
Erysipelas ...	1.
Suspected Glanders	1 (proved to be ulcerative rhinitis).

There was only the one death. No case of cerebro-spinal meningitis occurred among the troops.

Billet disinfection was carried out after removal of all cases from City billets, and many articles connected with outside cases were steam-sterilised at the City Hospital.

Houses in which occurred civilian cases were marked with a large E (in case of enteric fever),

S (scarlet fever), or D (diphtheria), about 15 inches by 9 inches, in vermilion paint, on the wall at the right-hand-side of the front door, where the case remained at home; the letter was washed off when the patient recovered and disinfection had been carried out. In the case of enteric fever, however, every house in which a case had occured since the beginning of the year was so marked, permanently, whether removed to hospital or not, and it is intended to retain the letter until the war is over. Soldiers were warned that all such houses were out of bounds.

An outbreak of acute diarrhœa occurred in a billet in a Church Hall at Byker, in the autumn, and food poisoning was suspected. Although meat pies and other articles of diet, together with samples of fæces from affected men, were submitted for bacteriological examination, no probable causative organism was discovered. About a score of men were affected, but all recovered rapidly. The premises of the caterers were thoroughly inspected, but proved to be exceptionally clean, as was also the slaughter house of the pork butcher who supplied the meat for the pies. Diarrhœa was prevalent in the City at the time.

In all probability the trouble arose through the method of storing food at this particular billet, uncovered in a big room which was swept out at least once daily without sprinkling, and the eatables could not but become polluted by the filth trodden into the room.

Staff.—As shown on page 9, twelve members of the male staff, almost all of those eligible, have joined the colours. One or two of the others were desirous of joining also, but as they held positions of importance in which it would be impossible to replace them without seriously hampering the local usefulness of the department, under military advice they were retained. The three Sisters, and one Ward Sister, at the City Hospital, are serving in Territorial Hospitals.

Dr. Clegg, Assistant Medical Officer of Health, commands the Special Sanitary Section attached to the 1st Northumbrian Division (Territorial), which has been in France or Flanders for some months. Three of his four Non-commissioned Officers are also from this department, viz.: Jas. Hunter, Alfred Hedley, and W. E. Perkins, and the fourth served here as a student-inspector. Of the others, Drs. Fyfe and Hooper hold commissions in the R.A.M.C., the former at the Dardanelles; Adam Flockhart is a Sergeant-Major in the Royal Engineers (Territorial); Richard Redpath, a Quarter-Master in a British Red Cross Hospital in France; William Gray a Corporal in one of the London Sanitary Companies in France; Arthur Rowe a Sergeant (Pioneer Company) in a local Commercial Battalion; Joseph Gilhespy a Private in the same; and Frank Harrington a Private in the Coldstream Guards.

These officers have been replaced temporarily by others ineligible for military service.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

POPULATION, BIRTH RATE, AND SPECIAL MORTALITY RATES DURING THE PERIOD OF THE NOTIFICATION OF INFECTIOUS DISEASES.

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1914—***(Revised)*** **271,523.**

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

Ward.	Population.	Gross Area in Acres.	Less for Open Spaces, in Acres.	Nett Area in Acres.	Population Per Acre, gross.	Nett
St. Nicholas' ...	3,578	127	1	126	28	29
St. Thomas' ...	14,107	1,636	1,130	506	9	28
St. John's ...	15,350	169	1	168	91	91
Stephenson ...	18,746	215	...	215	87	87
Armstrong ...	15,623	178	31	147	88	106
Elswick	12,650	253	17	236	50	54
Westgate	15,264	90	1	89	170	172
Arthur's Hill ...	11,429	142	6	136	80	84
Benwell	17,581	550	20	530	32	33
Fenham	11,036	1,189	...	1,189	9	9
All Saints' ...	17,698	176	2	174	100	102
St. Andrew's ..	12,484	173	3	170	72	73
Jesmond	11,052	441	35	406	25	27
Dene	12,185	818	37	781	15	16
Heaton	15,501	225	76	149	69	104
Byker	17,477	140	...	140	125	125
St. Lawrence ...	17,905	181	3	178	99	101
St. Anthony's ...	15,781	601	...	601	26	26
Walker	16,076	1,149	37	1,112	14	14
CITY ...	271,523	8,453	1,400	7,053	32	38

***INHABITED HOUSES.—50,943**, shewing (each flat being counted as one house) an average of 5·33 persons per house.

RATEABLE VALUE.—£1,712,229. A penny rate produced £6,449.

SOCIAL CONDITIONS.—The principal **Trades and Occupations** are of a healthy nature, being general 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.

*From City Engineer's Report.

The amount of **Poor Law Relief** granted was £26,930 for out-door relief, and £22,459 for indoor maintenance, making a total of **£49,389.**

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

MARRIAGES.—2,717 Marriages took place during the year.

BIRTHS.—7,538, equivalent to a rate of **27·8** per 1,000 population,

DEATHS (all causes)—5,069, equivalent to an uncorrected rate of 18·7 per 1,000, and, after deduction of the deaths of 546 non-citizens, and addition of 137 Newcastle residents who died elsewhere, to a corrected rate of 17·2 per 1,000 population.

23 deaths were *uncertified.*

Eighteen Orders for Burial (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were given, 7 being in respect of bodies lying in inhabited rooms, and 11 being cases from hospitals.

INFANTILE MORTALITY.—1,029 Infants died before completing the first year of life, representing a rate of **137** deaths per 1,000 births.

ZYMOTIC DEATH RATE.—There were 622 deaths from the "Chief Zymotic Diseases" [Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (Typhus, Simple Continued, and Enteric) and Diarrhœa] which is equivalent to 2·3 deaths per 1,000 population.

TUBERCULOSIS.—529 persons died from various forms of Tuberculosis, 375 being from Pulmonary, and 154 from Other Forms. The equivalent death rates are *All Forms* **1·95**, *Pulmonary* **1·38**, and *Other Forms than Pulmonary* **0·57**, per 1,000 population.

For comparison of death rates with previous years see table page 34A.

For particulars of deaths, as to causes, age, etc., see table page 42B.

CLIMATOLOGY.—The Newcastle district is notable for its grey skies and comparative lack of sunshine. To some extent this is the result of obscuration by smoke and suspended matter, but not by any means entirely so. During the year 1914 there were 875 hours of sunshine. (Record by Messrs. Brady & Martin).

At the Observation Station at the City Hospital, Walker-Gate, the mean barometer reading was 29·62 in.

The mean maximum temperature was 58·5° F. and the mean minimum 42·2° F.

Measureable rain fell on 164 days, amounting in all to 29·53 inches.

The prevailing winds were westerly, frequency of direction being noted as follows:—

W., N.W., or S.W. on 224 days.

E., N.E., or S.E. on 92 days.

S. on 29 days.

N. on 20 days.

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

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

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

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

The Bacteriological reports upon the water samples are given on page 131.

SEWERAGE.—There are 275 miles and 972 yards of sewers discharging at various points along the seven miles of river frontage directly into the Tyne, which is tidal.

CLEANSING AND SCAVENGING.—14¾ miles of streets are cleansed continuously by men and boys during the day, 37¾ miles are cleansed once a day, 110¾ miles three times a week, and 89¾ miles twice a week.

There are 49,957 water closets and 5,999 conservancy system closets in the city. Conversion of the latter was proceeding steadily up to the outbreak of war, at the rate of 600 to 700 per annum. All the schools are served by the water-carriage system.

The scavenging, which includes the removal of dry house refuse, the contents of privy pans, privies, and ashpits is efficiently carried out.

There are 50,399 dry ashtubs and galvanised iron bins in the City.

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.

Notification of Births Act, 1907.

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.

Local Acts.—Newcastle-upon-Tyne Improvement Act, 1837.
Do. do. 1846.
Do. do. 1853.
Do. do. 1865.
Do. do. 1870.
Do. do. 1882.
Do. do. 1892.

Newcastle-upon-Tyne Tramways and Improvement Act ... ... 1899.

Newcastle-upon-Tyne Corporation Act ... 1911.

MORTALITY RATES.

COMPARISON WITH OTHER DISTRICTS.

DISTRICT.	Birth Rate.	General Death Rate.	Infantile Mortality Rate.	Death Rate per 1000 from Enteric Fever, Smallpox, Scarlet Fever, Measles, Whooping Cough, and Diphtheria	Tuberculosis (all causes) Death Rate
England and Wales	23·8	13·7	105	0·73	?
97 Towns	25·0	15·0	114	0·89	?
NEWCASTLE-UPON-TYNE	**27·8**	**17·2**	**137**	**1·40**	**1·95**
Hull	27·6	15·0	121	0·80	1·54
Leeds	23·5	15·0	124	1·04	1·71
Bradford	19·6	15·8	121	0·93	1·57
Sheffield	27·4	16·3	132	1·64	1·60
Manchester	25·8	16·8	129	1·20	2·19
Salford	26·7	17·1	126	1·90	2·10
Liverpool	30·3	19·5	139	1·30	1·90
Nottingham	23·4	15·4	146	0·97	1·63
Leicester	22·0	14·1	119	0·83	1·55
Stoke-on-Trent	31·9	17·4	157	1·09	1·7
Birmingham	27·0	14·8	122	1·19	1·47
Cardiff	25·7	14·0	109	1·08	1·55
Bristol	21·3	13·5	101	0·80	1·36
Portsmouth	23·6	12·4	84	0·81	1·40
London	24·3	14·4	104	0·77	?
Gateshead	31·5	18·2	150	1·17	1·87
South Shields	31·7	17·7	137	1·29	1·89
Tynemouth	28·7	16·3	132	0·68	1·71
Sunderland	32·3	17·0	135	0·87	1·55
Middlesbrough	32·7	19·2	150	1·68	?
County of Northumberland ...	27·1	14·8	119	0·64	?
County of Durham	31·1	15·6	135	1·09	1·37

TABLE I. OF LOCAL GOVERNMENT BOARD.

Vital Statistics of Whole District during 1914 and previous Years.

Year.	Population estimated to Middle of each Year.	Births.			Total Deaths Registered in the District.		Transferable Deaths		Nett Deaths belonging to the District.			
			Nett.						Under 1 Year of Age.		At all Ages.	
		Uncorrected Number	Number	Rate.	Number	Rate.	of Non-residents registered in the District	of Residents not registered in the District	Number	Rate per 1,000 Nett Births.	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1906	257,113	8,210			4,831	18·8						
1907	259,082	8,093			4,594	17·7						
1908	261,065	8,382			4,801	18·4						
1909	263,064	7,682			4,459	16·9						
1910	265,077	7,543			4,252	16·0						
1911	267,261	7,089	7,082	26·5	4,667	17·5	448	165	973	137	4,384	16·4
1912	269,193	7,219	7,194	26·7	4,221	15·7	529	146	727	101	3,838	14·5
1913	271,295	7,480	7,460	27·5	4,611	17·0	560	141	908	122	4,192	15·5
1914	271,523	7,564	7,538	27·8	5,069	18·7	546	138	1,029	137	4,660	17·2

Area of District in acres (exclusive of area covered by water) 8,452. Total population at all ages at census 1911, 266,603.

Corrected Death Rates in different Wards, 1914.

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.
11·2	* 11·6	21·3	16·0	18·4	18·2	15·9	* 15·7	18·2	10·0	26·6	21·3	9·7	9·5	13·5	23·2	17·6	19·2	* 16·6	17·2

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

TABLE II. OF LOCAL GOVERNMENT BOARD.

(See under **Infectious Diseases,** *page 81.)*

TABLE IV. OF LOCAL GOVERNMENT BOARD.

(See under **Infantile Mortality,** *page 46a.)*

Table showing Distribution of Births and Deaths in the different Quarters of the Year.

Registration Sub-districts and City.		Births Registered in 52 Weeks ended 2nd January, 1915 (uncorrected). BIRTHS.				Total	Deaths Registered in 52 Weeks ended 2nd January, 1915 (uncorrected). DEATHS.				Total
		Male.		Female.			Male.		Female.		
		Legitimate.	Illegitimate.	Legitimate.	Illegitimate.		Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	
Benwell,	1st Qr.	99	3	114	3	219	49	1	56	1	107
	2nd Qr.	112	3	106	4	225	53	2	22	...	77
	3rd Qr.	126	4	118	1	249	35	2	38	1	76
	4th Qr.	95	4	94	2	195	46	...	53	...	99
Total... ...		432	14	432	10	888	183	5	169	2	359
Elswick,	1st Qr.	189	18	173	19	399	170	3	144	1	318
	2nd Qr.	155	19	150	18	342	156	2	110	2	270
	3rd Qr.	192	11	187	10	400	139	4	114	4	261
	4th Qr.	157	13	128	10	308	188	4	136	4	332
Total... ...		693	61	638	57	1,449	653	13	504	11	1,181
St. Nicholas,	1st Qr.	105	7	119	4	235	64	2	58	...	124
	2nd Qr.	134	2	98	2	236	56	...	47	1	104
	3rd Qr.	118	2	108	2	230	64	2	50	...	116
	4th Qr.	100	1	112	4	217	73	1	60	2	136
Total... ...		457	12	437	12	918	257	5	215	3	480
St. Andrew's,	1st Qr.	94	2	85	1	182	203	3	129	2	337
	2nd Qr.	70	3	87	5	165	166	4	124	1	295
	3rd Qr.	106	4	80	3	193	156	2	113	...	271
	4th Qr.	86	3	80	1	170	162	1	142	2	307
Total... ...		356	12	332	10	710	687	10	508	5	1,210
All Saints,	1st Qr.	116	5	91	3	215	50	2	52	2	106
	2nd Qr.	124	3	92	5	224	38	...	42	...	80
	3rd Qr.	111	5	96	5	217	56	5	49	...	110
	4th Qr.	97	8	86	5	196	82	4	76	1	163
Total... ...		448	21	365	18	852	226	11	219	3	459
Byker,	1st Qr.	295	11	272	11	589	119	3	121	3	246
	2nd Qr.	286	10	250	6	552	99	3	100	...	202
	3rd Qr.	290	13	246	10	559	89	4	102	3	198
	4th Qr.	245	7	225	6	483	206	1	185	3	395
Total... ...		1,116	41	993	33	2,183	513	11	508	9	1,041
Walker,	1st Qr.	70	2	87	2	161	48	...	38	...	86
	2nd Qr.	78	5	52	1	136	41	1	35	...	77
	3rd Qr.	69	...	67	1	137	40	1	41	1	83
	4th Qr.	59	...	71	...	130	51	...	42	...	93
Total... ...		276	7	277	4	564	180	2	156	1	339
City,	1st Qr.	968	48	941	43	2,000	703	14	598	9	1,324
	2nd Qr.	959	45	835	41	1,880	609	12	480	4	1,105
	3rd Qr.	1012	39	902	32	1,985	579	20	507	9	1,115
	4th Qr.	839	36	796	28	1,699	808	11	694	12	1,525
Total... ...		3,778	168	3,474	144	7,564	2,699	57	2,279	34	5,069

The Births represent a rate of 27·9, and the Deaths a rate of 18·7 per 1,000 estimated population.
The increase of Births over Deaths is 2,495 this year, as compared with 2,869 in 1913.

Return of deaths from "ALL CAUSES" at age periods in the different Wards (*uncorrected*) together with the *Nett Deaths*.

WARD.	UNDER 1 YEAR.					1 AND UNDER 2 YEARS.					2 AND UNDER 5 YEARS.					5 AND UNDER 15 YEARS.					15 AND UNDER 25 YEARS.					25 AND UNDER 45 YEARS.					45 AND UNDER 65 YEARS.					65 YEARS AND UPWARDS.					TOTAL.					NETT DEATHS.
	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	1st qr.	2nd qr.	3rd qr.	4th qr.	Total	1st qr.	2nd qr.	3rd qr.	4th qr.	Total.	
St. Nicholas' ...	2	...	2	3	7	...	...	...	...	...	...	...	...	...	...	...	1	1	1	3	1	...	2	...	3	2	...	...	2	4	3	5	2	6	16	4	1	3	...	8	12	7	10	12	41	40
St. Thomas'* ...	24	13	28	20	85	9	4	6	13	32	12	14	11	8	45	10	10	10	12	42	14	11	22	14	61	53	37	31	43	164	38	48	31	30	147	26	17	7	26	76	186	154	140	166	632	164
St. John's ...	26	14	23	21	84	3	4	7	19	33	6	2	2	4	14	4	4	...	6	14	8	3	2	1	14	16	10	7	9	42	11	25	24	15	75	11	11	13	10	45	85	73	78	85	321	327
Stephenson ...	13	12	24	24	73	5	3	7	13	28	3	3	4	9	19	4	5	3	5	17	2	2	6	2	12	8	9	10	9	36	20	10	10	16	56	16	15	17	9	57	71	59	81	87	298	300
Armstrong ...	19	10	16	14	59	6	2	5	5	18	2	4	2	6	14	1	4	4	2	11	5	4	3	1	13	9	11	8	13	41	21	19	17	14	71	23	15	5	16	59	86	69	60	71	286	287
Elswick	7	5	11	12	35	...	4	4	5	13	1	3	3	4	11	1	5	2	1	9	...	1	...	1	2	1	3	5	6	15	17	7	7	14	45	26	16	11	35	88	53	44	43	78	218	230
Westgate ...	13	11	10	10	44	3	4	6	8	21	1	3	1	4	9	2	4	6	3	15	3	5	2	2	12	9	10	12	3	34	15	14	12	11	52	17	13	7	14	51	63	64	56	55	238	242
Arthur's Hill† ...	6	4	4	2	16	...	...	2	...	2	2	1	...	3	6	1	1	3	...	5	1	1	2	1	5	7	6	1	3	17	3	9	14	14	40	15	12	10	12	49	35	34	36	39	140	180
Benwell	34	15	20	22	91	8	2	5	5	20	5	8	6	3	22	3	5	5	7	20	4	...	4	2	10	10	7	5	9	31	19	15	7	18	59	17	14	13	19	63	100	66	65	85	316	320
Fenham	7	11	10	6	34	...	1	1	2	4	...	2	...	3	5	...	...	...	2	2	1	3	1	5	10	2	4	5	4	15	3	2	3	1	9	8	6	9	8	31	21	29	29	31	110	111
All Saints' ...	26	15	29	36	106	3	5	17	26	51	1	1	12	26	40	1	9	2	6	18	9	1	3	2	15	14	20	10	22	66	24	26	21	27	98	23	18	11	20	72	101	95	105	105	406	479
St. Andrew's ...	15	4	18	12	49	2	1	4	11	18	1	4	2	7	14	2	1	1	2	6	3	3	1	1	8	9	12	3	12	36	18	18	17	21	74	21	19	15	17	72	71	62	61	83	277	286
Jesmond... ...	2	2	...	1	5	3	...	...	...	3	...	1	...	...	1	3	...	1	2	6	...	...	1	1	2	4	3	2	10	19	13	8	5	12	38	12	11	7	8	38	37	25	16	34	112	107
Dene	3	4	6	2	15	1	...	...	2	3	1	1	1	4	7	1	1	1	2	5	1	...	1	2	4	3	6	5	4	18	12	7	1	7	27	9	8	8	11	36	31	27	23	34	115	116
Heaton	4	5	9	8	26	1	...	1	2	4	1	1	...	2	4	2	2	2	2	8	2	1	2	3	8	8	4	4	11	17	22	12	16	13	63	18	16	13	18	65	58	41	47	39	206	210
Byker	29	18	25	44	116	6	6	9	31	52	4	3	3	20	30	2	1	7	8	18	1	4	3	3	11	10	11	11	7	39	16	18	12	18	64	23	17	15	18	73	91	78	65	149	403	405
St. Lawrence ...	23	15	15	23	76	5	4	11	24	44	4	7	6	24	41	2	8	5	8	23	5	4	2	2	13	8	7	5	5	25	16	14	10	10	50	10	9	7	12	38	74	68	61	108	311	315
St. Anthony's ...	25	17	15	24	81	3	3	9	36	51	3	1	6	19	29	4	5	2	7	18	2	6	3	3	14	10	5	8	6	29	12	10	5	15	42	11	6	6	14	37	70	53	54	124	301	303
Walker‡... ...	21	17	27	15	80	5	8	12	6	31	8	2	1	4	15	10	4	1	4	19	1	1	4	4	10	13	8	2	12	35	10	8	3	10	31	11	9	9	9	38	78	57	59	64	258	267
City	299	192	292	299	1082	63	51	106	208	428	55	61	60	150	326	53	70	56	80	259	63	50	64	50	227	196	173	134	190	693	294	275	217	272	1058	301	233	186	276	996	1324	1105	1115	1525	5069	4660

* All deaths occurring in Public Institutions have been allotted to the wards to which they properly belong. † Includes the Union Infirmary, St. Joseph's Home, etc. ‡ Includes the City Hospital, Walker Gate, etc.

TABLE III. OF THE LOCAL GOVERNMENT BOARD.

Return of Deaths from "All Causes" during the 52 Weeks ended January 2nd, 1915.

Cause of Death.	Age Periods. Gross. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	Totals.	Age Periods. Nett. Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above	Totals.	Wards—Gross Deaths. Bennett.	Fenham.	Stephenson.	Armstrong.	Arthur's Hill.	St. Nicholas'.	Elswick.	Westgate.	St. John's.	St. Thomas'.	St. Andrew's.	Jesmond.	All Saints.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	Totals.	Transferable Deaths. Inward.	Outward.	Nett Deaths.	Deaths in the Institutions of Non-Residents.
I.—General Diseases.																																									
Enteric Fever	...	...	1	1	4	13	...	...	19	...	...	1	1	4	15	...	...	21	2	1	1	1	...	1	1	3	...	2	2	..	...	1	...	2	1	...	1	19	2	...	21	16
Typhus	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	1
Malaria	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	1
Measles	35	94	70	14	...	...	...	...	213	35	94	70	13	...	...	...	...	212	3	1	5	3	...	5	9	6	6	20	...	45	7	3	36	28	33	3	213	...	1	212	9
Scarlet Fever	2	6	19	17	...	...	...	...	44	2	6	19	17	..	..	...	...	44	3	...	1	5	4	...	6	3	3	4	1	...	3	...	...	4	3	2	2	44	...	...	44	39
Whooping Cough	37	22	13	4	...	...	...	...	76	38	22	13	4	...	...	...	...	77	3	2	4	1	...	...	4	2	2	1	2	1	12	...	5	10	5	8	14	76	1	...	77	1
Diphtheria	2	3	14	6	...	1	1	...	27	2	2	16	6	...	1	1	...	28	6	1	2	2	...	...	2	1	2	1	1	...	2	...	2	3	1	1	27	2	1	28	23
Influenza	...	1	...	...	2	3	13	3	22	...	1	...	...	2	3	12	4	22	1	...	3	3	1	1	4	...	...	1	...	1	1	2	...	1	2	...	1	22	1	1	22	1
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	7	...	...	...	...	...	...	...	...	...	1	...	1	2	...	1	2	...	...	...	6	1	...	7	2
Erysipelas	1	...	...	...	...	1	2	2	6	1	...	...	...	...	1	2	...	4	2	...	...	...	...	...	1	...	...	1	...	...	...	...	...	2	...	1	...	6	1	...	7	2
Pyæmia, Septicæmia	2	...	...	2	3	2	2	...	11	1	...	...	2	2	...	2	...	7	2	...	...	...	...	...	...	1	...	4	...	...	...	...	2	...	...	1	11	...	4	7	8
Tetanus	...	...	...	1	2	...	...	...	3	...	...	...	...	1	...	...	...	1	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	1	1	3	...	2	1	1
Pulmonary Tuberculosis (not acute)	2	8	5	26	60	165	93	3	362	1	7	4	26	60	172	97	5	372	22	9	26	28	18	2	9	29	32	17	14	9	49	7	13	18	22	20	18	362	17	7	372	106
Acute Phthisis	...	...	...	1	...	1	1	...	3	...	...	...	1	...	1	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	...	...	3	...	...	3	2
Acute Miliary Tuberculosis	1	...	1	3	...	1	1	...	7	1	...	1	1	...	1	1	...	5	2	1	...	...	...	...	1	...	...	1	...	...	1	...	...	1	...	...	7	...	2	5	1
Tuberculous Meningitis	6	9	17	22	6	4	...	...	64	6	9	13	19	5	3	...	..	55	4	2	4	4	...	...	2	4	5	11	3	1	2	1	1	6	6	4	4	64	...	9	55	23
Tuberculosis of Peritoneum and Intestines	15	7	8	15	4	4	2	...	55	15	7	7	14	2	2	2	...	49	6	...	2	1	...	...	1	4	3	9	3	2	5	1	...	2	7	6	3	55	2	8	49	15
Tuberculosis of Spinal Column	...	...	...	3	1	3	2	...	9	...	...	...	3	1	3	3	...	10	1	...	3	...	...	...	...	...	...	1	...	...	...	1	1	...	1	...	1	9	1	...	10	3
Tuberculosis of Joints	...	...	...	3	2	1	1	1	8	...	...	...	2	2	1	1	1	7	1	...	3	...	...	...	...	...	...	1	...	...	1	1	...	1	...	1	9	1	...	10	3
Tuberculosis of other Organs	5	...	...	...	3	1	1	...	5	...	...	...	...	...	3	...	...	4	...	...	...	1	...	...	...	...	...	1	...	4	...	...	...	...	...	...	5	...	1	4	4
Disseminated Tuberculosis	8	2	3	3	4	1	1	...	22	7	3	3	3	3	3	1	1	24	1	1	2	5	2	...	...	1	3	3	...	1	...	1	1	...	1	...	1	22	3	1	24	5
Total Tuberculosis	32	26	34	76	80	181	102	4	535	30	26	28	69	76	186	107	7	529	37	13	37	41	20	2	13	38	44	44	20	14	60	13	17	26	39	30	27	535	23	29	529	163
Rickets, Softening of Bones	6	11	2	...	...	...	...	...	19	5	11	2	...	...	...	...	...	18	3	..	1	1	...	...	...	3	2	...	...	...	2	...	2	3	1	1	19	...	1	18	1
Syphilis	13	...	...	...	1	1	...	1	16	13	...	...	...	1	1	...	1	16	1	...	1	...	4	...	1	...	...	1	...	...	4	...	...	1	1	...	1	16	...	...	16	8
Cancer of the Buccal Cavity	...	...	...	1	...	1	18	9	29	...	...	...	...	...	...	...	...	22	2	...	1	1	3	...	1	...	4	5	3	1	3	...	1	2	1	...	1	29	...	7	22	14
Cancer of the Stomach, Liver, etc.	...	...	...	..	...	10	48	28	86	...	...	...	...	...	8	39	27	74	2	...	3	7	1	3	4	4	8	15	8	5	4	2	8	3	1	2	6	86	1	13	74	29
Cancer of the Peritoneum, Intestines, and Rectum	...	...	3	1	...	13	32	37	86	...	...	2	1	..	9	28	29	69	7	...	7	2	6	...	4	4	6	16	7	1	5	2	6	6	1	3	3	86	2	19	69	33
Cancer of the Female Genital Organs	...	...	...	...	1	14	13	8	36	...	...	...	...	1	12	12	8	33	2	...	4	2	1	...	1	1	3	2	3	...	6	1	2	3	...	5	...	36	...	3	33	8
Cancer of the Breast	...	...	...	...	...	4	8	9	21	...	...	...	...	...	3	7	9	19	1	...	1	...	2	...	...	1	1	2	4	...	...	1	4	2	...	1	1	21	...	2	19	1
Cancer of the Skin	...	...	...	...	1	2	1	...	4	...	...	...	...	...	1	1	...	3	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	4	...	1	3	2
Cancer of other or unspecified organs	...	...	...	2	2	13	32	10	59	...	...	...	2	1	8	25	9	45	4	4	4	3	5	...	...	2	4	15	2	1	2	2	2	2	4	...	3	59	...	14	45	28
Other Tumours (situation undefined)	...	...	...	...	1	...	1	...	2	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	2	...	1	1	1
Rheumatic Fever	...	...	...	3	3	3	1	1	11	...	...	...	3	3	4	1	1	12	...	...	1	...	...	...	2	2	1	...	...	1	2	...	...	1	1	...	...	11	1	...	12	...
Chronic Rheumatism, Osteo-Arthritis	...	...	1	3	4	4	12	8	32	...	...	1	3	2	4	11	8	29	2	1	2	3	1	...	2	2	3	3	...	1	3	...	2	3	1	1	2	32	...	3	29	8
Diabetes	...	...	2	4	4	8	17	5	40	...	...	...	3	4	7	13	6	33	5	2	3	3	2	1	3	1	1	10	1	3	1	2	1	1	...	...	...	40	3	10	33	23
Exophthalmic Goître	...	...	...	...	...	4	1	...	5	...	...	...	...	...	3	...	...	3	...	...	...	...	...	...	...	...	...	1	2	1	...	1	...	...	...	...	...	8	...	2	3	1
Addison's Disease	...	...	...	1	2	...	...	...	3	...	...	...	...	1	1	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	...	1	2	2
Leucocythæmia, Lymphadenoma	...	...	...	...	1	2	2	...	5	...	...	...	...	...	1	2	3	6	1	...	...	...	1	...	...	...	...	1	2	...	...	...	...	...	...	...	...	5	1	...	6	2
Anæmia, Chlorosis	...	...	...	1	1	12	7	5	26	...	...	...	1	...	10	8	5	24	2	...	2	...	2	1	1	...	...	5	3	1	2	2	1	2	1	...	1	26	1	3	24	9
Other General Diseases	2	...	2	...	2	...	2	...	8	1	...	2	...	1	...	1	...	5	1	...	...	...	...	...	2	...	...	3	...	...	1	...	1	...	...	...	...	8	...	3	5	4
Alcoholism (acute or chronic)	...	...	...	...	...	5	8	1	14	...	...	...	...	...	4	8	1	13	...	...	1	...	...	1	...	1	2	1	1	1	3	...	2	1	...	1	...	15	...	2	13	3
II.—Diseases of Nervous System and Organs of Special Sense.																																									
Encephalitis	...	...	...	2	1	1	...	...	4	...	...	...	1	...	1	...	...	2	...	...	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	4	...	2	2	2
Cerebro-Spinal Fever	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Poliomyelitis	...	1	...	1	...	...	...	...	2	...	1	...	1	...	...	...	...	2	...	..	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	2	...
Meningitis, other forms or undefined	11	10	3	9	1	4	4	..	42	10	10	3	9	1	4	3	...	40	...	2	4	...	1	1	1	4	4	2	2	3	3	4	1	2	2	3	3	42	...	2	40	11
Locomotor Ataxy	...	...	...	...	...	...	2	1	3	...	...	...	...	...	...	2	1	3	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	3	...	...	3	2
Other Diseases of the Spinal Cord	...	...	...	1	2	3	7	3	16	...	...	...	1	1	2	7	2	13	1	1	...	2	2	...	1	1	...	3	1	...	1	...	2	1	1	...	...	16	...	3	13	7
Cerebral Hæmorrhage, Apoplexy	3	...	...	...	1	11	90	101	206	3	...	...	...	2	13	88	101	207	9	3	17	14	8	2	17	11	13	14	15	6	18	6	12	15	9	11	6	206	4	3	207	50
Softening of the Brain	...	...	...	...	...	...	2	5	7	...	...	...	...	...	5	6	...	11	2	...	...	...	...	...	2	...	1	1	...	...	...	...	...	1	...	...	...	7	4	...	11	...
Paralysis without specified cause	...	...	...	1	1	2	11	13	28	...	...	...	...	1	2	10	13	27	2	1	...	1	1	...	2	2	2	4	3	1	3	...	...	4	2	...	...	28	1	2	27	3
General Paralysis of the Insane	...	...	...	...	...	...	1	1	2	...	...	...	...	...	16	7	1	24	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	2	22	...	24	1
Other forms of Mental Alienation	...	...	...	...	...	3	...	...	3	...	...	...	...	...	4	...	...	4	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	4	...	...	4	...
Epilepsy	...	1	...	1	4	4	3	3	16	...	1	...	1	4	4	3	3	16	2	...	...	2	...	...	2	...	...	1	1	...	2	...	2	2	...	2	...	16	...	...	16	3
Convulsions (non-puerperal; 5 years and over)	...	...	...	1	...	2	...	...	3	...	...	...	1	...	2	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	3	1	1	4	...
Infantile Convulsions (under 5 years)	62	11	1	...	...	...	...	...	74	62	11	...	...	...	...	...	...	73	12	2	5	2	1	...	4	4	5	6	3	1	3	1	2	8	8	5	2	74	...	1	73	...
Chorea	...	...	...	...	1	...	1	...	2	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	2	...	1	1	1
Hysteria, Neuralgia, Neuritis	...	...	...	...	...	...	2	1	3	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	3	...	1	2	2
Other Diseases of the Nervous System	1	...	1	5	...	7	3	1	18	...	...	1	3	...	4	2	3	13	...	1	2	...	1	...	1	1	...	9	1	...	...	...	1	...	...	1	18	4	9	13	9
Mastoid Disease	1	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	...	2	...	2
Other Diseases of the Ears	...	...	4	4	2	...	...	...	10	...	...	3	3	...	...	...	...	6	...	...	2	1	...	...	...	...	2	4	...	...	1	...	...	...	...	...	...	10	...	4	6	9
III.—Diseases of Circulatory System.																																									
Pericarditis	...	...	...	1	1	1	...	1	4	...	...	...	...	1	1	...	1	3	...	...	...	...	...	...	...	...	1	1	...	...	1	...	...	...	...	1	...	4	...	1	3	3
Acute Endocarditis	...	...	...	5	3	11	11	3	33	...	...	...	3	1	8	9	3	24	1	...	3	5	1	1	2	...	...	12	2	1	1	...	1	...	1	...	2	33	...	9	24	14
Valvular Disease, Fatty Degeneration of the Heart	...	...	...	9	6	44	105	65	229	...	...	...	8	4	43	105	65	225	9	3	10	14	8	4	19	12	22	18	13	9	23	3	11	16	14	15	6	229	9	13	225	65
Other Organic Disease of the Heart	...	2	...	3	8	13	49	51	126	...	...	...	3	7	12	51	56	129	8	4	3	7	5	1	10	6	5	10	7	4	15	4	10	10	7	4	6	126	10	7	129	23
Angina Pectoris	...	...	...	...	...	2	10	3	15	...	...	...	...	...	1	10	3	14	...	1	...	...	...	2	...	...	1	1	1	1	...	1	3	1	1	1	15	...	1	14	2
Aneurysm	...	...	...	...	...	2	5	1	8	...	...	...	...	...	1	3	1	5	...	2	...	...	...	1	...	...	...	3	1	...	1	...	...	...	...	...	...	8	...	3	5	1
Arterial Sclerosis	...	...	...	...	1	1	18	50	70	...	...	...	...	1	1	17	49	68	9	2	9	8	7	...	5	...	4	2	2	2	4	1	3	6	1	4	1	70	...	2	68	38
Other Diseases of Arteries	...	...	...	...	...	1	1	1	3	...	...	...	...	...	1	1	1	3	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	3	...	...	3	...
Cerebral Embolism and Thrombosis	...	...	...	...	3	9	7	19	...	...	...	...	...	2	9	7	18	...	...	2	2	2	...	2	...	1	2	...	1	1	1	1	1	1	2	19	...	1	18	5
Other Embolism and Thrombosis	...	...	...	1	4	2	...	7	...	...	...	...	...	1	4	2	...	7	1	...	...	...	...	...	2	1	1	...	...	...	1	...	...	...	...	...	1	7	...	...	7	1
Diseases of the Veins (Varices, Hæmorrhoids, Phlebitis, etc.)	...	...	...	...	1	...	3	1	5	...	...	...	...	...	1	...	3	1	5	...	1	1	...	...	...	1	...	1	...	...	...	...	1	...	...	...	5	...	...	5	...
Status Lymphaticus	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	...	1
Hæmorrhage; Other Diseases of the Circulatory System	1	...	...	...	...	1	4	1	7	...	...	...	...	...	3	1	4	1	...	...	...	1	...	...	...	...	1	1	2	...	...	1	...	...	...	...	7	...	3	4	3
IV.—Diseases of Respiratory System.																																									
Diseases of the Larynx	...	2	...	1	...	...	1	...	4	...	2	...	1	...	...	1	...	4	...	...	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	1	4	...	...	4	...
Bronchitis	98	42	17	2	2	9	55	143	368	97	42	16	2	2	8	56	143	366	31	10	34	26	3	3	20	19	32	14	21	3	43	7	18	27	17	26	14	368	2	4	366	46
Broncho-Pneumonia	116	74	49	5	2	5	2	8	261	109	70	48	5	3	3	2	9	249	22	2	19	20	2	1	4	4	13	16	11	2	28	...	4	42	27	28	16	261	12	14	249	27
Lobar Pneumonia	11	3	9	4	6	28	18	5	84	10	3	9	4	4	27	16	7	80	6	2	6	5	...	2	...	4	7	12	5	1	10	6	2	5	6	2	3	84	3	7	80	21
Pneumonia (type not stated)	13	9	10	5	6	16	20	20	99	14	9	10	5	4	14	19	20	95	5	2	10	4	3	...	5	11	11	10	4	3	7	5	1	7	3	4	4	99	1	5	95	9
Pleurisy	1	3	2	...	2	7	5	4	24	...	1	...	...	1	6	5	4	17	2	1	...	1	...	...	1	2	...	8	1	1	2	...	3	...	...	1	1	24	...	7	17	13
Pulmonary Congestion, Pulmonary Apoplexy	...	...	...	...	...	1	3	9	13	...	...	...	...	...	1	3	9	13	...	...	1	2	...	...	1	1	1	2	1	1	1	...	1	1	...	...	...	13	...	...	13	2
Asthma	1	...	1	...	1	8	14	7	32	1	...	1	...	1	8	14	7	32	1	1	1	3	2	...	...	2	4	...	2	2	3	...	...	6	2	...	3	32	...	...	32	4
Pulmonary Emphysema	...	...	...	...	...	...	3	4	7	...	...	...	...	...	...	2	4	6	...	...	...	1	...	...	2	...	...	1	...	...	1	...	...	...	2	...	...	7	...	1	6	4
Fibroid Disease of Lung	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Carried forward	451	322	258	196	166	491	791	647	3,322	434	312	245	177	139	474	753	650	3,184	217	66	216	204	100	27	156	165	227	320	184	77	330	82	132	272	198	204	145	3,322	104	242	3,184	817

Table III. of the Local Government Board.—Continued.

Return of Deaths from "All Causes" during the 52 Weeks ended January 2nd, 1915.

Cause of Death	Gross: Under 1 year	Gross: 1 year and under 2	Gross: 2 years and under 5	Gross: 5 years and under 15	Gross: 15 years and under 25	Gross: 25 years and under 45	Gross: 45 years and under 65	Gross: 65 years and above	Gross: Total	Nett: Under 1 year	Nett: 1 year and under 2	Nett: 2 years and under 5	Nett: 5 years and under 15	Nett: 15 years and under 25	Nett: 25 years and under 45	Nett: 45 years and under 65	Nett: 65 years and above	Nett: Total	Benwell	Fenham	Stephenson	Armstrong	Arthur's Hill	St. Nicholas'	Elswick	Westgate	St. John's	St. Thomas'	St. Andrew's	Jesmond	All Saints	Dene	Heaton	Byker	St. Lawrence	St. Anthony's	Walker	Total	Transferable Deaths: Inward	Transferable Deaths: Outward	Nett Deaths	Deaths in Institutions [illegible]
Brought forward	451	322	258	196	166	491	791	647	3,322	434	312	245	177	139	474	753	650	3,184	217	66	216	204	100	27	156	165	227	320	184	77	330	82	132	272	198	204	145	3,322	104	242	3,184	887
V.—Diseases of Digestive System.																																										
Diseases of the Teeth and Gums	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Other Diseases of the Mouth and Annexa	2	...	1	...	...	...	...	1	4	2	...	1	...	...	...	...	1	4	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	1	...	4	...	...	4	1
Diseases of the Pharynx, Tonsillitis	1	1	2	1	1	1	...	...	7	1	1	2	1	1	...	...	...	6	1	1	1	...	...	...	1	...	...	1	1	...	...	...	...	...	...	1	...	7	...	1	6	2
Perforating Ulcer of Stomach	...	...	...	...	3	12	8	...	23	...	...	...	...	...	6	4	...	10	...	...	...	1	...	...	...	1	2	13	1	1	1	...	1	1	...	...	1	23	...	13	10	11
Inflammation of Stomach	11	3	2	2	...	1	2	5	26	11	3	2	2	...	1	2	5	26	3	...	4	4	1	...	...	1	1	2	1	...	1	...	2	1	2	2	1	26	...	...	26	2
Other Diseases of the Stomach	5	...	1	3	...	2	1	5	17	5	...	1	3	...	1	1	5	16	2	...	1	...	1	...	3	...	...	1	1	1	...	2	1	1	...	2	1	17	...	1	16	2
Zymotic Diarrhœa (under 2 years), *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	169	74	...	...	...	...	...	...	243	167	70	...	...	...	...	...	...	237	15	6	14	13	4	3	4	10	22	12	14	...	32	3	10	24	17	16	24	243	1	7	237	36
Diarrhœa and Enteritis (2 years and over)	...	...	27	4	3	13	12	15	74	...	...	27	4	2	10	7	15	65	2	...	3	4	2	...	2	3	4	14	4	1	14	...	5	4	5	4	3	74	3	12	65	17
Other Intestinal Parasites	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Appendicitis	...	...	...	13	11	10	8	1	43	...	...	...	5	4	4	2	1	16	...	2	2	1	...	...	...	...	1	27	2	...	1	...	1	3	...	...	3	43	1	28	16	29
Hernia, Intestinal Obstruction	12	...	...	1	...	11	14	14	52	8	...	...	...	...	3	7	9	27	4	1	1	...	3	...	3	...	1	23	5	...	4	1	2	1	...	2	1	52	...	25	27	46
Other Diseases of the Intestines	3	...	...	...	...	...	...	...	3	2	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	3	...	1	2	2
Acute Yellow Atrophy of Liver	...	...	...	1	...	...	2	...	3	...	...	...	1	...	...	2	...	3	...	...	...	...	...	...	1	...	...	1	...	...	...	1	...	...	...	...	...	3	...	...	3	...
Cirrhosis of the Liver	...	...	...	...	...	6	19	7	32	...	...	...	...	...	5	17	7	29	...	...	2	4	1	1	2	1	1	5	1	1	3	...	2	2	1	3	2	32	...	3	29	11
Biliary Calculi	...	...	...	...	...	2	10	1	13	...	...	...	...	...	1	2	...	3	...	...	...	...	...	...	...	...	...	9	1	1	1	...	1	...	...	...	...	13	...	10	3	3
Other Diseases of the Liver	...	...	...	1	...	2	6	5	14	...	...	...	1	...	...	4	5	10	1	...	...	...	1	...	1	...	1	5	1	1	...	...	...	1	2	...	...	14	...	4	10	4
Peritonitis (cause unstated)	...	...	2	2	2	4	2	1	13	...	...	...	...	1	3	2	1	7	1	...	...	1	...	...	...	...	...	7	...	...	...	...	1	2	...	...	1	13	1	7	7	8
Other Diseases of the Digestive System	...	...	...	1	...	1	2	1	5	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	1	3	...	1	...	...	...	...	...	...	...	5	...	3	2	3
VI.—Non-Venereal Diseases of Genito-Urinary System and Annexa.																																										
Acute Nephritis	...	1	5	9	3	27	51	22	118	...	...	5	6	1	22	52	21	107	3	2	5	6	5	...	6	7	8	15	9	9	10	4	4	9	7	5	4	118	1	12	107	27
Bright's Disease	...	...	...	4	...	6	23	17	50	...	...	...	3	...	6	24	17	50	3	2	3	5	2	...	4	10	2	7	1	4	1	2	1	1	2	...	...	50	3	3	50	6
Other Diseases of the Kidney and Annexa	1	...	...	...	2	2	3	...	8	1	...	...	...	1	1	1	...	4	...	...	1	...	...	...	...	...	...	5	...	...	1	1	...	...	...	...	...	8	...	4	4	6
Calculi of the Urinary Passages	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	1	1	1
Diseases of the Bladder	...	...	...	...	...	...	5	7	12	...	...	...	...	...	...	3	7	10	1	...	1	...	3	...	...	...	...	2	1	...	1	...	1	1	...	...	1	12	...	2	10	5
Diseases of the Urethra, Urinary Abscess, &c.	...	...	...	...	...	3	6	...	9	...	...	...	...	...	1	3	...	4	1	...	...	...	1	...	...	...	1	4	...	1	1	...	...	...	...	...	...	9	...	5	4	7
Diseases of the Prostate	...	...	...	...	...	...	1	10	11	...	...	...	...	...	...	1	5	6	...	...	1	2	...	...	...	...	...	3	3	1	...	...	...	1	...	...	...	11	...	5	6	2
Non-Venereal Diseases of Male Genital Organs	1	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	1	1	2
Uterine Tumour (non-cancerous)	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	2	...	...	2	2
Other Diseases of the Uterus	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1
Ovarian Cyst, Tumour (non-cancerous)	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	1	1	1
Other Diseases of the Female Genital Organs	...	...	...	...	...	3	1	...	4	...	...	...	...	...	1	1	...	2	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	1	...	4	...	2	2	1
VII.—The Puerperal State.																																										
Accidents of Pregnancy	...	...	...	...	2	4	...	...	6	...	...	...	...	2	3	...	...	5	...	...	...	1	...	...	...	...	1	1	...	...	...	...	1	...	...	1	1	6	...	1	5	2
Puerperal Hæmorrhage	...	...	...	...	...	6	...	...	6	...	...	...	...	...	5	...	...	5	...	1	1	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	6	...	1	5	3
Other Accidents of Childbirth	...	...	...	...	...	5	...	...	5	...	...	...	...	...	5	...	...	5	...	...	...	1	2	...	...	...	...	...	...	...	1	...	...	...	1	...	...	5	...	...	5	...
Puerperal Fever	...	...	...	...	2	4	...	...	6	...	...	...	...	...	2	...	...	2	1	1	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	1	6	...	4	2	5
Puerperal Albuminuria and Convulsions	...	...	...	...	2	3	...	...	5	...	...	...	...	2	3	...	...	5	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...	...	...	2	5	...	...	5	2
VIII.—Diseases of Skin and Cellular Tissue.																																										
Senile Gangrene	...	...	...	...	...	...	...	5	5	...	...	...	...	...	...	...	5	5	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	1	...	...	5	...	...	5	2
Gangrene, other types	...	1	3	...	...	2	1	...	7	...	...	1	...	...	1	1	...	3	1	1	...	...	...	...	1	...	...	3	1	...	...	...	...	...	...	...	...	7	...	4	3	8
Carbuncle, Boil	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2
Phlegmon, Acute Abscess	1	...	...	...	...	1	4	2	8	1	...	...	...	...	...	2	2	5	...	2	...	...	...	...	1	1	...	3	...	...	...	...	...	...	...	1	...	8	...	3	5	3
Diseases of the Integumentary System	5	1	1	...	...	...	...	2	9	4	...	...	...	...	...	...	2	6	...	...	...	1	...	...	1	...	1	4	...	...	...	...	...	...	1	1	...	9	...	3	6	4
IX.—Diseases of Bones, etc.																																										
Diseases of the Bones	...	1	1	3	1	1	2	...	9	...	1	...	...	1	...	1	...	3	...	...	...	1	...	...	...	1	...	6	...	...	...	...	1	...	...	...	...	9	...	6	3	9
Diseases of the Joints	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Other Diseases of Locomotor System	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	1
X.—Malformations.																																										
Congenital Malformations	35	1	4	...	...	...	...	...	40	28	...	...	...	...	...	...	...	28	5	3	3	1	2	...	...	1	...	12	2	...	2	...	3	2	1	2	1	40	...	12	28	18
XI.—Diseases of Early Infancy.																																										
Premature Birth	153	...	...	...	...	...	...	...	153	147	...	...	...	...	...	...	...	147	10	5	10	7	4	...	7	7	12	9	9	1	11	...	4	24	12	15	6	153	...	6	147	13
Infantile Atrophy, Debility, and Marasmus	187	14	...	...	...	...	1	...	202	173	13	...	...	...	...	1	...	187	15	4	10	9	1	2	7	8	18	14	10	2	16	2	5	25	17	13	24	202	1	16	187	21
Icterus Neonatorum, Sclerema and Œdema Neonatorum	5	...	1	...	...	...	...	...	6	5	...	1	...	...	...	...	...	6	...	...	...	...	...	1	...	...	...	...	...	...	1	...	1	...	1	2	...	6	...	...	6	2
Diseases of Umbilicus, &c.	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Atelectasis	6	1	...	...	...	...	...	...	7	6	1	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	1	...	3	...	...	...	1	...	2	7	...	...	7	...
Injuries at Birth	8	...	...	...	...	...	...	...	8	8	...	...	...	...	...	...	...	8	...	...	1	...	...	1	1	...	...	1	...	...	2	...	...	...	1	...	1	8	...	...	8	...
Other Diseases peculiar to early infancy	5	...	...	...	...	...	...	...	5	5	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	1	...	1	...	...	...	2	...	1	...	...	...	5	...	...	5	...
XII.—Old Age.																																										
Old Age	...	...	...	...	...	1	8	195	204	...	...	...	...	...	1	8	194	203	12	10	8	10	3	1	12	11	11	11	10	6	11	14	19	18	15	11	11	204	1	2	203	35
XIII.—Affections produced by External Causes.																																										
Suicide	...	...	...	...	4	12	14	3	33	...	...	...	1	3	9	14	3	30	1	...	3	...	1	1	...	3	2	5	2	1	3	...	2	1	...	1	7	33	4	7	30	7
Other Acute Poisonings	...	...	1	...	1	1	...	...	3	...	...	1	...	...	1	...	...	2	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	3	...	1	2	2
Burns (conflagration excepted)	2	3	9	5	5	2	8	3	37	2	3	8	2	2	...	4	1	22	2	...	...	1	...	...	1	1	2	15	1	...	3	...	...	...	5	4	2	37	...	15	22	33
Accidental Drowning	...	...	...	...	1	2	...	...	3	...	...	...	...	1	3	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	3	3	2	4	...
Injury by Firearms	1	...	...	...	2	...	1	...	4	1	...	...	...	1	1	...	...	3	...	1	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	4	...	1	3	1
Injury by Cutting or Piercing Instruments	...	...	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1	1
Injury by Fall	...	...	...	2	1	8	7	11	29	...	...	...	2	1	7	8	11	29	2	...	3	...	2	...	...	3	3	2	...	...	...	...	3	3	1	1	6	29	4	4	29	16
Injury in Mines and Quarries	...	...	...	1	1	3	4	...	9	...	...	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	1	...	9	...	7	2	9
Injury by other Crushing (vehicles, railways, landslides, &c.)	1	1	2	2	...	4	2	3	15	1	...	1	2	...	2	1	3	10	3	...	...	2	...	1	...	...	1	3	1	...	...	...	1	...	...	1	2	15	...	5	10	3
Electricity (lightning excepted)	...	...	...	...	1	...	...	...	1	...	...	...	1	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	2	1
Homicide by other means	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1
Other Violence	6	3	5	3	12	27	18	5	79	6	1	3	3	3	9	8	4	37	2	...	3	1	...	2	2	1	5	50	1	3	3	1	...	2	3	...	...	79	3	45	37	69
Deaths caused through the War by Wounds	...	...	...	...	...	4	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	4	...	4	...	4
XIV.—Ill-defined Causes.																																										
Dropsy	...	...	...	...	...	...	2	1	3	...	...	...	...	...	...	3	1	4	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	4	...
Syncope (aged 1 year and under 70)	...	...	...	...	...	...	2	1	3	...	...	...	...	...	...	3	1	4	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	3	1	...	4	...
Heart Failure (aged 1 year and under 70)	...	...	...	1	...	2	8	3	14	...	...	...	1	...	2	8	4	15	1	...	...	2	...	...	1	...	...	2	3	...	...	...	1	...	3	1	...	14	1	...	15	...
Atrophy, Debility, Marasmus (aged 1 year and under 70)	...	...	1	...	...	...	...	1	2	...	...	1	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	2	...	...	2	...
Teething	9	1	...	...	...	...	...	...	10	9	1	...	...	...	...	...	...	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	...	...	10	...
Other ill-defined deaths	...	...	...	...	1	...	...	...	1	...	...	...	...	1	...	...	...	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	...	...	1	...
Cause not specified	...	...	...	2	...	2	3	...	7	...	...	...	2	...	2	3	...	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	2	2	7	2
Total	1082	428	326	259	227	693	1058	996	5,069	1029	406	299	220	167	596	958	985	4,660	316	110	298	286	140	41	218	238	321	652	277	112	466	115	206	403	311	301	258	5,069	137	546	4,660	1,328
Nett Deaths																			320	111	300	287	180	40	230	242	327	164	266	107	470	116	210	405	315	303	267	4,660				

II.—THE CHILD.

INFANTILE MORTALITY, MATERNITY, AND CHILD WELFARE.

INFANTILE MORTALITY.

SUMMARY OF BIRTHS, 1914.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the Year	3,778	3,474	7,252	168	144	312	7,564
Nett „ „	3,762	3,462	7,224	171	143	314	7,538

DISTRIBUTION OF DEATHS.

WARDS.	Deaths (uncorrected) of Children under 1 year of age in 1914.					Children under 1 year of age—Death rate per 1,000 population.
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.	
St. Nicholas' ...	2	...	2	3	7	2·0
†St. Thomas'	24	13	28	20	85	6·0
St. John's	26	14	23	21	84	5·5
Stephenson	13	12	24	24	73	3·9
Armstrong	19	10	16	14	59	3·8
Elswick	7	5	11	12	35	2·0
Westgate	13	11	10	10	44	2·9
*Arthur's Hill ...	6	4	4	2	16	1·4
Benwell	34	15	20	22	91	5·2
Fenham	7	11	10	6	34	3·0
All Saints'	26	15	29	36	106	6·0
St. Andrew's... ...	15	4	18	12	49	3·9
Jesmond	2	2	...	1	5	0·5
Dene	3	4	6	2	15	1·2
Heaton	4	5	9	8	26	1·7
Byker	29	18	25	44	116	6·5
St. Lawrence ...	23	15	15	23	76	4·2
St. Anthony's ...	25	17	15	24	81	5·1
‡Walker	21	17	27	15	80	5·0
City...	299	192	292	299	1,082	4·0

† Includes Royal Victoria Infirmary and Fleming Memorial Hospital.
* Includes Union Workhouse. ‡ Includes City Hospital for Infectious Diseases.

The ward distribution of Births being as yet unobtainable, it has not been found possible to give the infantile mortality rates for the different wards in the present report.

SUMMARY OF MORTALITY, 1901-1914.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
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
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
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
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
Death-rate of Infants *under 1 year* per 1,000 births, from *Diarrhœa and all other Digestive Diseases*† ...	45·7	12·8	26·9	21·8	22·4	35·2	12·7	24·8	13·5	16·7	25·1	7·8	16·6	25.3

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

* "*All Congenital Causes*" includes Syphilis, Debility at Birth, Injury at Birth, Atelectasis, Malformation of Heart, Spina Bifida, Hydrocephalus, Imperforate Anus, Cleft Palate, Hare-Lip, other Congenital Defects, and other and undefined Accidents of Childbirth.

† "*Diarrhœa and all other Digestive Diseases*" includes Diarrhœa, Dysentery, Epidemic or Zymotic Enteritis, Thrush, Starvation, Want of Breast Milk, Rickets, Sore Throat, Quinsy, Diseases of Stomach, Enteritis, Cirrhosis of Liver, Obstruction of Intestine, Peritonitis, and other Diseases of Digestive System.

For particulars of deaths, as to causes, etc., see page 46A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1914 per 1,000 births in the years 1910 to 1913 (inclusive) was 23·8.

TABLE IV. OF THE LOCAL GOVERNMENT BOARD.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 2ND JANUARY, 1915.

CAUSE OF DEATH.	AGE PERIODS. GROSS. 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.	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.	Deaths in Institutions in the City of "Residents" or "Non-Residents."
I.—General Diseases.																					
Measles	...	...	...	...	...	1	3	13	18	35	...	...	...	...	...	1	3	13	18	35	...
Scarlet Fever	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	2	2	2
Whooping Cough	...	...	...	...	...	6	13	5	13	37	...	...	...	...	...	6	13	5	14	38	...
Diphtheria	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	2	2	2
Erysipelas	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...
Pyæmia, Septicæmia	...	...	...	...	...	2	...	...	...	2	...	...	...	...	...	1	...	...	...	1	1
Pulmonary Tuberculosis (not acute)	...	...	...	...	...	1	...	1	...	2	...	...	...	...	...	1	...	...	...	1	1
Acute Miliary Tuberculosis	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...
Tuberculous Meningitis	...	...	...	...	...	2	1	1	2	6	...	...	...	...	...	2	1	1	2	6	1
Tuberculosis of Peritoneum and Intestines	...	...	...	...	...	2	6	2	5	15	...	...	...	...	...	2	6	2	5	15	1
Disseminated Tuberculosis	...	...	...	...	1	2	3	...	2	8	...	...	...	1	1	2	3	...	1	7	1
TOTAL TUBERCULOSIS	...	...	..	...	1	1	7	10	4	10	32	...	...	...	1	1	7	10	3	9	30	4
Rickets, Softening of Bones	...	...	...	...	...	...	...	1	5	6	...	...	...	...	...	...	...	1	4	5	1
Syphilis	...	2	1	2	...	5	4	4	...	...	13	2	1	2	...	5	4	4	...	...	13	6
Other General Diseases	...	1	...	...	...	1	...	...	1	...	2	1	...	...	...	1	...	...	...	...	1	1
II.—Diseases of Nervous System and Organs of Special Sense.																					
Meningitis, other forms or undefined	...	...	...	...	...	1	5	4	1	11	...	...	...	...	...	1	5	3	1	10	2
Locomotor Ataxy	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Cerebral Hæmorrhage, Apoplexy	...	2	...	...	...	2	...	...	...	1	3	2	...	...	...	2	...	...	...	1	3	...
Infantile Convulsions	...	13	5	9	1	28	14	11	1	8	62	13	5	9	1	28	14	11	1	8	62	...
Other Diseases of the Nervous System	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...
Mastoid Disease	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
III.—Diseases of Circulatory System.																					
Hæmorrhage; Other Diseases of the Circulatory System	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
IV.—Diseases of Respiratory System.																					
Bronchitis	...	2	2	6	5	15	24	22	18	19	98	2	2	6	5	15	23	22	18	19	97	2
Broncho-pneumonia	...	...	2	2	4	8	13	24	22	49	116	...	2	2	3	7	11	20	22	49	109	9
Lobar Pneumonia	...	...	...	...	...	...	2	3	...	6	11	...	...	...	...	...	2	3	...	5	10	1
Pneumonia (type not stated)	...	...	1	...	...	1	2	2	3	5	13	...	1	...	...	1	3	2	3	5	14	1
Pleurisy	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...
Asthma	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	1	...
V.—Diseases of Digestive System.																					
Diseases of the Teeth and Gums	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	1	...	...	1	...
Other Diseases of the Mouth and Annexa	...	...	...	2	...	2	...	...	...	...	2	...	...	2	...	2	...	...	...	...	2	...
Diseases of the Pharynx, Tonsilitis	...	...	...	...	...	...	...	...	1	...	1	...	..	...	...	...	...	...	1	...	1	1
Inflammation of Stomach	...	...	1	2	...	3	3	1	2	2	11	...	1	2	...	3	3	1	2	2	11	...
Other Diseases of the Stomach	...	..	...	...	...	1	1	3	...	...	5	...	...	...	1	1	1	3	...	...	5	...
Carried forward	...	21	12	23	12	68	81	103	75	144	471	20	12	23	11	66	78	99	72	139	454	35

TABLE IV. OF THE LOCAL GOVERNMENT BOARD.—*Continued.*

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 2ND JANUARY, 1915.

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.	
Brought forward ...	21	12	23	12	68	81	103	75	144	471	20	12	23	11	66	78	99	72	139	454	35
V.—Diseases of Digestive System— *(Continued).*																					
Diarrhœa and Enteritis, *including* Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	1	...	4	4	9	42	55	36	27	169	1	...	4	4	9	41	56	36	25	167	13
Hernia, Intestinal Obstruction	1	...	...	...	1	1	6	3	1	12	1	...	...	...	1	1	4	2	...	8	8
Other Diseases of the Intestines	1	1	...	...	2	...	...	...	1	3	...	1	...	...	1	...	...	...	1	2	2
VI.—Non-Venereal Diseases of Genito-Urinary System and Annexa.																					
Other Diseases of the Kidney and Annexa ...	1	...	...	...	1	..	...	...	...	1	1	...	...	...	1	...	...	...	...	1	1
Non-Venereal Diseases of Male Genital Organs	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
VII.—Diseases of Skin and Cellular Tissue.																					
Phlegmon, Acute Abscess	...	...	...	1	1	...	...	...	...	1	...	...	...	1	1	...	...	...	...	1	...
Diseases of the Integumentary System ...	...	...	1	...	1	1	1	...	2	5	...	...	1	...	1	1	1	...	1	4	2
VIII.—Diseases of Bones, &c.																					
Diseases of the Joints	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1
IX.—Malformations.																					
Congenital Malformations	14	3	1	3	21	7	4	1	2	35	12	2	1	3	18	5	2	1	2	28	15
X.—Diseases of Early Infancy.																					
Premature Birth	112	13	9	10	144	6	3	...	...	153	107	13	9	10	139	5	3	..	...	147	15
Infantile Atrophy, Debility, and Marasmus ...	58	11	14	5	88	52	23	10	14	187	57	11	14	5	87	49	17	9	11	173	16
Icterus Neonatorum, Sclerema and Œdema Neonatorum	1	2	1	...	4	1	...	...	...	5	1	2	1	...	4	1	...	...	...	5	1
Diseases of Umbilicus, etc.	...	...	...	1	1	...	...	...	...	1	...	...	...	1	1	...	...	...	...	1	...
Atelectasis	3	1	...	1	5	...	...	...	1	6	3	1	...	1	5	...	...	...	1	6	...
Injuries at Birth	7	1	...	...	8	...	...	...	...	8	7	1	...	...	8	...	...	...	...	8	...
Other Diseases peculiar to early infancy ...	4	...	...	1	5	...	...	...	...	5	4	...	...	1	5	...	...	...	...	5	...
XI.—Affections produced by External Causes.																					
Burns (conflagration excepted)	...	...	...	...	...	1	...	...	1	2	...	...	...	...	...	1	...	1	...	2	2
Injury by Firearms	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...
Injury by other Crushing (vehicles, railways, landslides, etc.)	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...
Other Violence	...	2	...	...	2	2	1	...	1	6	...	2	...	...	2	2	1	...	1	6	1
XII.—Ill-Defined Causes.																					
Teething	...	...	...	...	...	...	5	1	3	9	...	...	...	...	...	...	5	1	3	9	...
TOTAL	224	46	53	38	361	195	201	127	198	1,082	214	45	53	37	349	184	188	124	184	1,029	112

The Report of the Superintendent of Midwives is as follows:—

To the Medical Officer of Health.

Sir,

Herewith I beg to submit my Report for the year 1914.

MIDWIVES ACT, 1902.

Midwives Roll.—42 Midwives notified the Local Supervising Authority of their intention to practise. Of these, 12 work entirely as monthly nurses, and 21 act as midwives and also as maternity nurses. One has died during the year, three do not practise on account of old age, and five have left the city.

A large proportion of the midwifery work in the city is performed by the Maternity Hospital.

The number of midwives is insufficient for the cases they are called upon to attend. Under the Insurance Act their practice is increasing, because it is recognised that it is an advantage to both mother and child to have the services of a trained midwife as maternity nurse, although a medical practitioner may be in charge of the case. Certainly such an arrangement is preferable to dependence for nursing upon an untrained neighbour or relative. The influence of the midwife in the home is of great assistance to the preventive work of the Health Department.

Inspection.—65 visits were paid to the midwives at their homes, to inspect the hygienic condition of their dwellings, to see that their bags of appliances were complete and in compliance with the rules of the Central Midwives' Board, that their chart books were filled in daily, recording the temperature and pulse of each patient, and that their registers were entered up correctly.

Births attended by Midwives.—2,310 live births and 42 still births were attended during the year, being an increase in the former of 846 over last year, and of 12 in the latter.

Lectures to Midwives.—45 weekly meetings for practising midwives were held in the office of the Department. These meetings are well attended, lectures on up-to-date topics are given by the Superintendent of Midwives, and the midwives are kept *au courant* with every subject bearing upon their work.

The midwives are encouraged to regard their work as a valuable corollary to that of the Health Department, and to extend their interest in their cases as much as possible. They receive systematic instruction in home hygiene and in the modern methods for the prevention of infantile mortality, and their influence is seen in the improved habits of their patients.

Owing to the enormous increase in the work of the medical profession generally as the result of the war, it has not been possible to arrange the usual course of evening lectures in connection with the Northumberland and Durham Midwives' Association.

Many mothers engage the midwife some time before the confinement, thus giving an opportunity for the investigation of pre-natal conditions, and for instruction in the care of the patient herself and in the welfare of the infant, special stress being laid upon the importance of breast feeding. Efficient preparations can thus be made, with the greatest advantage to both mother and child.

The midwives are also co-operating with the Mothers' and Babies' Welcome Society by taking their patients to the Society's maternity centres, where conditions likely to prejudice the health of mother or child at or after the coming confinement are recognised and pointed out, and the patient is shown how to counteract them. Thus cases of eclampsia, toxæmia, sepsis, and other grave complications can be guarded against, and the mother put in a fair way to have a normal parturition.

The hygiene of pregnancy holds a foremost place in dealing with unfavourable pre-natal conditions, and the co-operation of the midwives in teaching the essential principles is of the utmost importance.

During the winter valuable assistance was obtained from the Lord Mayor's Relief Fund, both financial, enabling comforts, otherwise unobtainable, to be provided for the wives and infants of men with the colours, and by the co-operation of the District Relief Committee, which sent numerous cases for advice and help to the Health Department, whence they were passed on to the maternity centres. All were subsequently visited in their own homes. These cases totalled 419 by the end of December.

Notices to Local Supervisory Authority from Midwives who had sent for medical help, 211. Details are as follows:—

Prematurity (2 cases of twins)	48	Adherent Placenta	5
Immaturity	28	Eclampsia	2
Infantile Convulsions	9	Syncope (mother)	3
Ophthalmia Neonatorum	21	Abortion	2
Blue Baby	2	Abnormal Presentation	16
Congenital Deformity	4	Complicated Breech	1
Specific Rash	2	Ruptured Perineum	6
Hæmophilia	1	Rigor	1
Icterus Neonatorum	1	Rise of Temperature	10
Bronchitis (new-born)	1	Tenderness of Breast	1
Uterine Inertia	31	Abdominal Pains	4
Contracted Pelvis	1	Septicæmia	1
Ante-partum Hæmorrhage	6		
Post-partum Hæmorrhage	3		211
Placenta Prævia	1		

Puerperal Septicæmia.—One case occurred during the year in the practice of a midwife.

Maternity and Child Welfare Centres.—The Mothers' and Babies' Welcome Society by its arrangements fulfils the requirements of the Local Government Board to qualify for grants towards the running cost of its maternity centres. Of these there were two in 1914, at the Wharncliffe Street and Dalton Street Welcomes; there has since been added a third,

in Barrack Road. The Board also pays a grant of one-half the cost of the infantile mortality section of the Health Department, the Welcome Society applying for and receiving its grant through the Sanitary Committee, which ensures uniformity of action and close harmony of working between the two agencies, and entire avoidance of overlapping of effort.

There are now (1915) seven Welcomes in the City altogether; a medical man holds an infant clinic once fortnightly at each, and a lady doctor attends each of the three maternity centres once a week.

The Superintendent of Midwives and four Health Visitors assist in weighing the babies at all the centres, and give health talks, and most of the home visiting is done by them. Each centres her district work upon the nearest Welcome, which is a most valuable annexe. 936 home visits were paid by voluntary workers. The mothers are induced to seek advice at the Welcomes, where ante-natal and post-natal conditions receive careful attention, and the child is under observation right up to school age, when the records are handed on to the school medical officer.

The educational side is partly undertaken by voluntary workers, and classes are held in sewing, knitting, cooking, home hygiene, and baby care, while the weekly weighing day is a most useful occasion for more personal teaching.

The Superintendent of Midwives is honorary secretary of the Welcome Society, and has all the work under her own supervision; she is responsible for almost the entire organisation from the commencement.

Pamphlets ("Advice to Mothers.")—13,000 of these, together with large numbers of leaflets on "Diarrhœa," "Measles," and "Fly Prevention," were distributed during the year by the Health Department officers, voluntary workers, midwives, and in the schools for mothers, mothers' meetings, and the maternity wards of the Union Infirmary. 10,000 leaflets on the "Best Foods to buy during the War" have also been distributed.

Interviews.—So numerous have been the calls by mothers and midwives at the office of the Superintendent of Midwives for advice that it has been quite impossible to keep a record of them. They have amounted to many hundreds.

Baby Weighing.—1,890 babies have been weighed in the office, at the various Mothers' Meetings, and at the Mothers' Welcomes. Full advantage has been taken of the opportunities these weighings afford for the giving of practical advice to the mothers and nurses in attendance.

Health Talks to Mothers.—142 addresses have been given by the Superintendent of Midwives to Mothers' Meetings, Girls' Clubs, etc., and every effort is made to extend these as far as possible, both in number and scope.

NOTIFICATION OF BIRTHS ACT, 1907.

Notifications Received.—4,481 notifications of births have been received, out of a total of 7,697 registered. Particulars of those not notified were obtained from the registrars of the sub-districts at a later date, and consisted almost entirely of better-class cases under the care of private medical practitioners.

The following table shows from whom the notifications have been received :—

Notified by	Living Births.	Still Births.
Medical Practitioners	1,464	70
Maternity Hospital	635	50
Union Infirmary	58	—
Midwives...	2,310	42
Parents	14	—
	———	—
Totals	4,481	162

Of the total notifications received under the Act, **still births** have been in the following proportions :—1909, 4·1 per cent. ; 1910, 3·9 per cent. ; 1911, 4·1 per cent. ; 1912, 3·2 per cent. ; 1913, 3·4 per cent. ; and 1914, 3·6 per cent.

Work of Health Visitors.—Three Health Visitors were appointed, and commenced work in July, making four of these officers altogether. The 19 wards of the City are divided up among them according to population, and each visits systematically as many as possible of the births in her district, and takes a prominent part in the working of the maternity and infant welfare centres in it, careful records, by card system, being kept at the Health Department.

Each Visitor has an average of 100 new cases a month, and makes about 350 to 400 visits and re-visits, besides presiding at the Welcomes on weighing days, and giving health talks to the mothers. In the homes the mothers are engaged in friendly conversation, their sanitary circumstances inquired into, and the advice in the pamphlet supplemented and amplified. The Health Visitor requires to be more tactful perhaps than any other municipal officer, for she is constantly on delicate ground, and success is very largely indeed dependent upon her own personality. On no account is her visit to be regarded as an "inspection," nor is she permitted to call herself "inspector," nor perform any duty likely to prejudice the feeling of friendly confidence which it is her object to create between the mothers and herself.

Of the 7,697 births registered, 5,778 were visited, and 3,102 were re-visited periodically to the end of their first year of life. 340 visits were paid to children over one and under five years of age, 420 visits were paid to expectant mothers; 260 reports of insanitary conditions were made, these being dealt with by the Inspector of Nuisances.

All cases of neglect, cruelty, privation or sickness were referred to the appropriate organisation, and insanitary conditions in the homes, and cases of non-notifiable infectious disease, brought to the notice of the Medical Officer of Health.

760 infants born in 1913, and on the visiting list of the Department, were due to attain the age of twelve months in 1914. The small number is due to the fact that until July, 1914, there was only one Health Visitor. Of these 25 were

lost sight of, through change of address, and could not be traced. Of the remaining 735, 81 died, which is equivalent to an infantile mortality rate of *110* per 1,000 births, as compared with a rate of *137* for the City generally.

The influence of even such partial supervision as can be attained with only one visit each three months, is well brought out by the above figures, especially when it is remembered that the cases are drawn from the poorest and most ignorant class, and from houses, the surroundings and general circumstances of which render the chances of survival extremely precarious. 654 of the 735 were in excellent condition at the end of their first year.

Influence of Housing Accommodation.—Of 735 births under observation by the Health Department, 245 occurred in single-room holdings, and of these 36 died, a mortality rate of 147 per 1,000 births; of 375 births in two-room holdings 31 died, a mortality rate of 83; of 90 births in three-room holdings 11 died; and of 25 births in holdings of more than three rooms, 3 died. The last-quoted numbers refer only, however, to a small proportion of exceptionally insanitary or unhealthy households, and are not at all typical of such cases in general.

These figures are in general accord with previous experience, and indicate in striking fashion how great a factor in the production of a high infant death rate is the single-room tenement, with its devitalising conditions, and this in spite of the fact that the only houses of three or more rooms included in the visiting lists are those whose domestic and sanitary circumstances are known to be specially unfavourable to the infants.

During the seven years 1908-1914 there have been 52,913 births, and 6,674 deaths of infants under one year, giving an average annual infantile mortality rate of 126 deaths per 1,000 births. Of these, 7,765 infants were under the observation of the Health Visitors throughout their first year of life. Although these included the very poorest and most un-

favourably circumstanced of all, only 857 died, which is equivalent to a rate of 110 deaths per 1,000 births.

Of the births notified, only a relatively small proportion of those lodged in more than two rooms were included in the visiting lists, and as these were the worst circumstanced of their class, the figures in the subjoined table cannot be regarded as representative, in so far as they refer to houses of three or more than three rooms.

The following is an analysis of the housing of the above 7,765 children, with the death rate for each class :—

Year.	Living in							
	1 Room.		2 Rooms.		3 Rooms.		More than 3 Rooms.	
	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
7 Years ...	2,535	339	4,195	409	899	94	136	15
Death rate per 1,000 births vis ted. (7 Years).	134		98		105		110	

Parental Employment.—Only a small proportion of mothers are at work during pregnancy or nursing; the figures available do not point to the maternal employment exercising any particular influence upon the health of the infant.

The occupation of the 35 mothers so found was as follows :—Fur-pulling 8, pottery 7, charing 7, rag-sorting 4, ropery 2, laundry 2, hawking 2, canvassing 2, weaving 1.

Feeding.—82 per cent. of the babies under observation were entirely breast fed (as compared with 87 per cent. in 1913), while 18 per cent. were artificially fed. The death

rate among those entirely breast fed reached the low figure of 83 per 1,000 births; that for the artificially fed being no less than 240.

The type of bottle in use was the boat-shaped in 96, and the long-tubed in 22, of the 118 cases observed. It should be stated that the long-tubed bottle is practically extinct, and hardly obtainable in the City, so that those found must be old relics, or brought by immigrants from elsewhere.

Of the 81 deaths, 27 were under three months old.

The foods found to be in use were as follows:—Cow's milk 49, condensed milk 70, dried milk 4, proprietary foods or rusks 6.

SUMMER DIARRHŒA.—The summer of 1914 having been exceptionally warm and dry, cases of diarrhœa began to make their appearance comparatively early, the weekly deaths from the beginning of June varying from 2 to 4. In the middle two weeks of August they were 6 and 8 respectively, and in view of the likelihood of a still greater increase, the Sanitary Committee decided to make the disease in children under two years of age compulsorily notifiable from 25th August until the end of October.

1,163 notifications were received, of which 142 proved to be duplicates or in respect of children of over two years, and the remaining 1,021 were all visited by members of the female staff of the Department. The premises in each case were carefully inspected with a view to having any sanitary defects promptly dealt with, and the general conditions of life of the child inquired into. Any obvious dietetic errors, unknown to the doctor in attendance, were brought to his notice. The chief object of the visit was to inculcate domestic and personal cleanliness.

The distribution of the cases was as shown in the table on the following page:—

INFANTILE DIARRHŒA.—DISTRIBUTION OF CASES NOTIFIED.
25TH AUGUST TO 30TH OCTOBER, 1914.

WARD.	Under 5 months. (Age of greatest care.)	From 6 months to 11 months. (Period during which there is a tendency to give unsuitable food.)	From 12 months to 17 months. (Age of sudden changes in diet.)	From 18 months to 24 months. (Age of increased power of resistance to adverse conditions.)	TOTAL.
St. Nicholas'	1	5	6	1	13
St. Thomas'	7	8	16	4	35
St. John's	16	13	26	19	74
Stephenson	12	17	32	27	88
Armstrong	12	16	18	20	66
Elswick	5	2	13	6	26
Westgate	8	19	18	10	55
Arthur's Hill...	1	2	6	2	11
Benwell	3	16	20	13	52
Fenham	2	5	4	4	15
All Saints'	8	19	23	28	78
St. Andrew's	9	18	15	10	52
Jesmond	2	2	1	0	5
Dene	3	2	3	1	9
Heaton	8	14	9	6	37
Byker	26	33	23	11	93
St Lawrence...	25	27	29	35	116
St. Anthony's	3	25	36	15	79
Walker	22	39	41	15	117
CITY	173	282	339	227	1,021

During the same period there were 82 deaths, which gives a death to notification ratio of 8·03 per cent. This cannot, however, be regarded as in any way representing the case mortality of the disease, since many more cases than those notified probably occurred.

After the end of September the number of deaths again fell to 4, 3, 1, 2, or none per week, and there was no subsequent recrudescence.

During the whole year the deaths from diarrhœa were :—

(1) UNDER 12 MONTHS.

AGE.	Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	1—3 Months.	3—6 Months.	6—9 Months.	9—12 Months.	TOTAL.
	1 ...	— ...	4 ...	4 ...	41 ...	56 ...	36 ...	25 ...	167

(2) AGED 12 MONTHS TO 2 YEARS ... 70.

As was to be expected, the streets most affected were those in the poorer and more populous parts of the City. The subjoined is a list of those in which most cases were notified :—

Scotswood Road ...	...	...	9
Beaumont Street...	...	...	4
Alexander Street ...	...	...	5
Cannon Street ...	...	...	5
Glue Terrace ...	...	...	5
Noble Street ...	...	...	7
Panmure Street ...	...	...	9
Rendel Street ...	...	...	8
Weatherly Street	...	...	6
Tyneside Terrace...	...	...	6
Violet Street ...	...	...	5
Sycamore Street ...	...	...	12
Mitford Street ...	...	...	8
Blenheim Street ...	...	...	3
Blandford Street...	...	...	6
George Street ...	...	}	13
Back George Street	...	}	
Elswick East Terrace	...	...	11
Elswick Street ...	...	...	7
Buckingham Street	...	...	10
Bailey Street ...	...	...	6
Centre Street ...	...	...	5
Pitt Street ...	...	...	8
Diana Street ...	...	...	4
Derby Street ...	...	...	8
Wellington Street	...	...	5
Barrack Road ...	...	...	6
Morpeth Street ...	...	...	9
Stowell Street Courts	...	...	7
Percy Street Courts	...	...	15
Prudhoe Street Courts	...	...	18
Melbourne Street	...	...	6
Blagdon Street ...	...	...	2
Richmond Street...	...	...	4
Gibson Street ...	...	...	5
Albion Row ...	...	...	7
Howard Street ...	...	...	6
Lime Street ...	...	...	5
Stepney Lane ...	...	...	6
Rosedale Street ...	...	...	6
Bryson Terrace ...	...	...	5
Camden Street ...	...	...	7
Carlton Street ...	...	...	5
Wesley Street ...	...	...	6
Byker Bank ...	...	...	13
Quality Row ...	...	...	5
Parker Street ...	...	...	9
Ayton Street ...	...	...	5
Brinkburn Street...	...	...	4
Brough Street ...	...	...	4
Bolam Street ...	...	...	4
Raby Street ...	...	...	10
Conyers Road ...	...	...	10
Clifford Street ...	...	...	8
Grace Street ...	...	...	5
Harvey Street ...	...	...	7
Harbottle Street ...	...	...	7
Janet Street ...	...	...	7
Kirk Street ...	...	...	15
Norfolk Road ...	...	...	5
Salisbury Street ...	...	...	7
Shipley Street ...	...	...	12
Scarborough Road	...	...	5
Shields Road ...	...	...	6
Union Road ...	...	...	3
Benson Road ...	...	...	7
Welbeck Road ...	...	...	7
Middle Street ...	...	...	9
Lamb Street ...	...	...	6
White Street ...	...	...	6
Bath Street ...	...	...	5
Church Street ...	...	...	22
Rochester Street...	...	...	6
Byker Street ...	...	...	6
Walker Road ...	...	...	40
Athol Street ...	...	...	5
Fell Street ...	...	...	6
River Street ...	...	...	8

The following were the sanitary defects found and reported for remedy :—

SANITARY DEFECTS.

WARD.	General Domestic Uncleanliness, etc.	Foul Closet.	Flies.		Dummy Teat Used.
			Very Numerous.	Numerous.	
St. Nicholas' ...	4	5	3	2	1
St. Thomas'	2	6	—	—	8
St. John's	4	8	—	16	23
Stephenson	32	27	21	46	18
Armstrong	32	9	10	52	8
Elswick	10	1	3	11	3
Westgate	3	2	2	—	15
Arthur's Hill... ...	—	—	—	—	2
Benwell	20	5	5	41	10
Fenham	8	1	7	9	5
All Saints'	13	6	41	30	17
St. Andrew's ...	18	6	12	18	12
Jesmond	—	—	—	—	—
Dene	—	—	3	—	1
Heaton	6	6	6	18	10
Byker	25	47	6	84	30
St. Lawrence ...	8	52	18	91	32
St. Anthony's ...	21	27	7	71	12
Walker	3	55	63	51	46
CITY	209	263	207	540	253

The feeding of 455 of the affected infants was analysed and recorded, and found to be as shown below :—

UNDER 12 MONTHS.

	Breast.	Artificial.					Mixed.				
							Breast and				
		Cows' Milk, or Cows' Milk and Barley Water.	Condensed Milk.	Dried Milk.	Proprietary Food.	"Boiley."	Cows' Milk.	Condensed Milk.	Dried Milk.	Proprietary Food.	"Boiley."
St. Nicholas' ...	4	—	1	—	—	—	—	1	—	—	—
St. Thomas' ...	4	5	4	—	—	—	—	2	—	—	—
St. John's ...	21	—	1	—	—	—	4	3	—	—	—
Stephenson ...	10	1	2	—	—	—	10	6	—	—	—
Armstrong ...	16	3	1	1	—	—	4	3	—	1	—
Elswick	—	2	—	—	—	—	5	4	—	—	—
Westgate... ...	13	1	2	—	—	—	6	3	1	1	—
Arthur's Hill ...	1	—	—	—	—	—	1	—	—	—	—
Benwell	8	4	4	—	3	—	—	—	—	—	—
Fenham	3	2	—	—	—	—	2	—	—	—	—
All Saints' ...	15	—	1	1	—	—	2	4	3	1	—
St. Andrew's ...	10	—	4	1	—	—	11	1	—	—	—
Jesmond	—	2	—	—	—	—	1	—	1	—	—
Dene	1	—	—	—	1	—	2	—	—	1	—
Heaton	7	5	3	—	—	—	4	3	—	—	—
Byker	30	1	5	—	1	—	9	9	1	—	—
St. Lawrence ...	24	4	2	—	2	—	7	9	—	4	—
St. Anthony's ...	17	1	—	—	—	—	5	2	1	2	—
Walker	31	3	5	1	1	—	5	—	—	13	2
City... ...	215	34	35	4	8	—	78	50	7	23	2
	215	81					160				

Illegitimacy.—The infantile mortality rate for legitimate children was 103 per 1,000, whereas that of the illegitimate babies was 286 per 1,000 births.

Sex.—The mortality rate among male infants was 108, and that among females 112 per 1,000 births.

It is to be noted that all the particulars given above are only in respect of infants visited by the officers of the Health Department, and do not refer to any others than those entered in their books for supervision.

I am, Sir,

Your obedient Servant,

ELIA RENAUD,

Superintendent of Midwives.

Health Department,
Town Hall,
June, 1914.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

MATERNITY AND CHILD WELFARE:
WORK OF THE HEALTH DEPARTMENT.

Statement by Medical Officer of Health.

Measures for Combating Infantile Mortality.—The mortality among infants during their first year of life steadily increased in the latter part of last century, and in 1899 reached the high figure in Newcastle of 193 deaths per 1,000 births; that is to say, *practically one baby died out of every five born.*

It was felt that something must be done to deal with the causes of this enormous wastage of life, and in the belief that much of it was due to lack of knowledge of even the most elementary laws which govern the health of the child, and to bad home conditions, there were appointed in 1901 two Health Visitors, who were in reality female sanitary inspectors; their duty was to visit, systematically, the tenements, see to the cleanliness of the interiors, and advise the housewives upon home hygiene and domestic management. Two more women were appointed in 1904, for similar duty, making four in all, and these worked directly under the Inspector of Nuisances.

The Midwives Act, 1902, was a most valuable measure for controlling the dirty, ignorant, and irresponsible persons upon whom only too often the poor had to rely for assistance in child-birth. The Act came into force in 1905, and in the following spring the Sanitary Committee appointed a Superintendent of Midwives, herself a trained, certificated, and experienced midwife, to act under the Medical Officer of Health, but independently of the female Sanitary Inspectors, although she was also herself to act as a Health Visitor.

It was soon realised that special attention ought to be given to baby care, and in 1906 two more women were appointed in order that the additional duty of advising and assisting poor mothers in the feeding, clothing, and general upbringing of their children might be carried out.

There were now, therefore, six women (in addition to the Superintendent of Midwives) whose duties were the house-to-house visitation of tenements, and the visiting of infants in such houses. As regards the first they were directly responsible to the Inspector of Nuisances, and for the latter to the Assistant Medical Officer of Health. The dual control proved unsatisfactory, and towards the end of 1908, the entire direct charge of the female staff was assigned to the Assistant Medical Officer of Health. A few months later, however, it was decided by the Sanitary Committee to dispense with the services of four of the female officers for reasons, it was stated, of economy.

This left only the Superintendent of Midwives and two Health Visitors, and in order that the best possible use might be made of them, their respective duties were co-ordinated, the Superintendent of Midwives carrying out as many of the primary visits to infants as she was able, and assigning to the Health Visitors the subsequent periodical visits; routine house-to-house tenement visitation by the female staff was discontinued.

The adoption of the Notification of Births Act, in 1908, enabled infants to be visited much earlier after birth than previously, although an incomplete system of birth notification was in force in the City from 1906.

Very great improvement resulted from the supervision and instruction of the midwives in child care and in general domestic hygiene, and it was soon found possible to encourage them to regard themselves as unofficial assistants of the Health Department in teaching the mothers with whom they came in contact in their practice, and most useful they have proved, their influence among the working classes being very wide.

The Sanitary Committee had already (1906) recognised the potential value for educational purposes of various voluntary organisations. and had then by a definite resolution instructed the female officers to attend "mothers' meetings" when possible for the purpose of giving advice and instruction. This connection has been sedulously cultivated, and no effort has been spared to enlist the interest of other agencies as well, and in 1907 there was founded, chiefly by the efforts of the Superintendent of Midwives, who is Honorary Secretary, the now flourishing and successful Newcastle Mothers' and Babies' Welcome Society.

The executive of this Society consists of a body of ladies, themselves practical and experienced voluntary workers, who have established centres, known as "Welcomes," in various poor districts of the City. The Society further employs two paid nurses, to supplement the voluntary efforts.

The Welcomes have done much to assist in the work of teaching and home visiting which the Health Department is unable to carry out. At the various centres (of which there are now five:—20, Wharncliffe Street; Dalton Street, Byker; Buddle Road, Benwell; Dunn's Terrace, Spital Tongues; City Road, All Saints; and another to be opened almost immediately at 12, Barrack Road), a strong feature is the weekly weighing days for babies, which afford excellent opportunities for advising the mothers in the care of the children, as well as exciting their friendly rivalry; systematic classes in sewing, knitting, cooking, home hygiene, and baby care are held, while frequent "health talks" are given. Special efforts are made to get into touch with expectant mothers to help them to make the best possible preparation for the birth of a healthy, well-formed child. Attendances were small to begin with, but latterly are often greater than the accommodation will admit. There is now also a medical officer under whose supervision the "consultations" are held.

Meanwhile, the official work of the Superintendent of Midwives has become more and more centralised, so many persons calling at her office—mothers, midwives, nurses, visitors, and social workers—that she is obliged to remain in attendance to a greater extent than previously; classes and weighings are also held in the office. This is now so well known that it is the recognised centre for all non-medical work on behalf of babies in the City, and there is not a charitable or helping institution or society in Newcastle which has not been interested for practical good, and there are numerous voluntary workers all proceeding upon the general lines suggested by the Health Department.

By the addition of two Health Visitors to the staff of the Department in April last, making four in all, and by the decision of the Committee to authorize them to take a prominent part in the work and management of the Welcomes, much has been done to secure uniformity of method and close co-ordination between the various agencies, official and voluntary, in the war against wastage of child life.

Synopsis of Infant Welfare Work.—Superintendence, inspection, and instruction of midwives, who in turn instruct and advise their patients.

Visitation, within the first fortnight, of as many as possible of the births in tenements and poorer class houses, for the purpose of advising mothers.

Periodic re-visitation of the infants throughout their first year of life. Many of the families are kept under observation until the children reach school age.

In addition to the other duties connected with her infant work, each Health Visitor ordinarily makes 450 to 500 domiciliary visits a month, and during periods of epidemic, such as diarrhœa and measles, much useful work is done in the homes.

Regular weighing of babies at the Health Department and at the Welcomes. This ceremony is of great value in demonstrating to mothers the progress or otherwise of their children.

Close participation in the educational work at the Welcomes, including the preparation of expectant mothers for the birth of their children, and the home visiting of such as require it, in order to ensure satisfactory ante-natal conditions.

Assistance to women in obtaining attendance for their confinements.

Reference of mothers to their doctors, or to appropriate institutions, when children are found to be in need of medical treatment. The Health Department and the Welcomes do not themselves treat or advise the sick, as it is considered that this would be attended by a double disadvantage—overlapping with existing agencies (which include the Children's Hospital, Royal Infirmary, Newcastle Dispensary, Union Infirmary, Maternity Hospital, Women's Hospital, Eye Infirmary, Ear and Throat Hospital, Skin Hospital, etc.), and the crowding out, by the sick, of those who are only in need of common-sense advice, at the infant consultations, in the ordinary difficulties attending the rearing of normal children.

Results.—The infantile mortality of the City has steadily fallen from *193 deaths per 1,000 births in 1899, to 117 in 1913* (a particularly unfavourable year for babies), while *in 1912*, a more favourable year, the rate was only *101*.

The most convincing proof of the direct value of the efforts of the Health Department lies in the fact that although it is only possible to keep under supervision the worst circumstanced of the infants born each year, and those whose chances of survival are least, the mortality rate amongst these is always considerably less than that for all infants in the City. Thus, *during the period 1907 to 1913, while the general infantile mortality was at the rate of 125 deaths per 1,000 births, that for the babies under the direct supervision of the Health Department was only 102.*

Cost.—The Mothers' and Babies' Welcome Society bears all the expenses of its own operations, including the maintenance of the Welcomes, salaries and wages of its paid workers, and incidental expenditure.

The annual cost to the Sanitary Committee, of the special measures for prevention of infantile mortality, is as follows:—

	£
Salaries (Superintendent of Midwives and Four Health Visitors)	485
Uniforms do. do.	32
Travelling Expenses	13
Rent, Rates, Lighting, Heating, Cleaning	45
Stationery and Printing	40
Other expenses	75
	£690

Government Assistance.—Both the Local Government Board and the Board of Education are now anxious to assist by subsidy the child welfare work of Local Authorities and of local voluntary organisations, and each has issued a circular offering to make grants to the amount of 50 per cent. of expenditure upon lines approved by them.

The desirability of direct grants from Government to independent local voluntary associations is open to very serious question, especially in respect of work which should ordinarily fall within the scope of the local authority.

There appears to be some rivalry between the two Boards in the matter, and a very fine distinction is drawn between their respective spheres of influence; under certain circumstances it is quite conceivable that there will be considerable overlapping, and that the Board of Education might be affording financial support to, and claiming consequent supervision of, work that has hitherto been regarded as essentially the function of the Local Sanitary Authority.

As it is, the Newcastle Mothers' and Babies' Welcome Society has applied for subsidy, towards the work done in the year ending March 31st, 1914, to the Board of Education,

whose offer to them seems better financially than that of the Local Government Board, although the latter is the one to whom alone the Sanitary Committee can apply for a grant towards any municipal expenditure.

It would appear, however, that the legal power of the Board of Education to supervise certain of the work of the Welcomes is open to question; accordingly the Society is likely to find itself obliged to apply to the Local Government Board for grant in respect of these particular items, and so become liable to inspection and supervision by both Boards. As it has since transpired that the entire programme of work of the Society would almost certainly be approved by the Local Government Board, it is now likely that application will be made to that Board for grant in respect of the current and future years' work. Further, the Society has been advised to prefer its claim through the Local Authority, a step which would lead to closer co-ordination of their mutual efforts in one entire scheme, without compromising the individuality of the Society, and this course the Society has now decided to adopt.

The Education Committee has considered the question of Schools for Mothers, and has decided to take no direct part in the movement, and it thus lies entirely with the Sanitary Committee to organise and co-ordinate the various existing factors.

A condition of grant is that the work subsidised should form part of a single co-ordinated scheme, which need not be complete in every item, but the completion of which is aimed at. This condition is fulfilled by the circumstances in Newcastle.

HAROLD KERR,

Medical Officer of Health.

Resolution of the Sub-Committee.

The foregoing statement has been considered by the undersigned, who approve entirely of the principles outlined.

They recommend that the Local Government Board be asked by the Sanitary Committee for a grant equal to one-half the expenditure of the Committee upon measures for Maternity and Child Welfare, in accordance with the terms of the Memorandum of 30th July, 1914.

They also approve of the suggestions for the close co-ordination of the work of the Sanitary Committee with that of the Newcastle Mothers' and Babies' Welcome Society, and the decision of that Society to prefer its claim for grant through the Local Authority, and recommend that the Local Government Board be notified that the Committee sees grave objection to the direct recognition by the Board of independent voluntary agencies engaged in work ordinarily falling within the scope of Local Authorities.

(Signed) C. T. STABLEFORTH,
DAVID ADAMS,
WM. TIPLADY.

Town Hall,
Newcastle-upon-Tyne,
20th October, 1914.

The above report was approved, and the resolution confirmed, by a meeting of the Sanitary Committee held on the 2nd November, 1914.

PAMPHLET DISTRIBUTED BY HEALTH VISITORS.

The "Advice to Mothers and Women about to become Mothers" is in three parts, I.—The Mother, II.—The Child, III.—Weaning, as follows:—

PART I.—THE MOTHER.

The health of the woman during the time of child-bearing and nursing is of very great importance to the nation. A woman who is to become a mother should look well after her own health and do all in her power to give health and strength to her child.

Birth is not the beginning of life.

Every child born living has been alive for some months before birth, therefore it is necessary to consider the well-being of a child before it is actually born. It is the *beginning* of life that is most important. The period of nine months before birth and the first year after it are most important for the health and strength of the human being during the whole of its life.

The first thing to be considered is

Occupation during the time of pregnancy.

A woman should then work with moderation, avoiding over-work and such hard work as paperhanging, whitewashing, lifting and carrying heavy weights, and climbing stairs. She should avoid the poss-tub and laundry, factory, and brickyard work, and keep away from crowds, theatres, and funeral gatherings. She must not stand for longer at a time than she can help, and should always sit down and rest whenever she has the opportunity.

Great attention must be paid to *cleanliness* as regards the food, habits, person, and clothing; and to the purity and freshness of the air breathed.

In improving the woman's own health she improves the conditions for her unborn baby. Wholesome, plain, nourishing food must be eaten. A vegetable and fruit diet is more beneficial during pregnancy than a meat diet, and some variety is necessary. All stimulants and spices should be avoided, and very little tea drunk. Powerful opening medicines are harmful; costiveness can be prevented by a suitable diet such as brown bread, porridge and new milk, stewed vegetables and fruit,—prunes, figs, &c.—and fat food, together with sufficient exercise. Above all a regular habit should be cultivated. She should go early to bed; and keep the windows open day and

night, for she has to supply *a double amount of fresh air* to her lungs.

A short walk in the open air should be taken every day. Comfortable shoes with low heels should be worn. Tight garments must be avoided; neither stays nor garters should be worn. A shaped abdominal belt made of flannel or drill, according to the season, is a great comfort; it acts as a support to the abdomen and keeps the back warm. The stays cause harmful pressure on the heart, on the stomach, and on the breast and nipples; they are often the cause of flat nipples, fainting fits after meals, shortness of breath when walking and going upstairs, varicose veins and constipation. The skirt and petticoats should be made to button on to a bodice so as to hang from the shoulders; this arrangement is very comfortable, for with it there is no weight or pressure round the waist.

An expectant mother requires more rest during the last two months of pregnancy than before. This is a most important time in the development of the infant, for during that period it should increase in weight from 3½ to 7½ lbs.

During the whole time of pregnancy, at the ordinary monthly period the woman should rest, and be careful not to take any strong opening medicine. By so doing she will often prevent a miscarriage or a premature birth.

From the seventh month to the end of pregnancy, the nipples should be hardened, in preparation for suckling, by washing them daily with spirit and water, or with strong warm tea, which has been well stewed. If the nipples are short, some olive oil should be applied as well, and they should be gently drawn with the fingers every day.

A woman who has taken care of her health ought to be able to feed the baby entirely on the breast for the period of 9 months.

The child should be put to the breast as soon as possible after birth. Regular suckling of the baby causes the flow of milk to increase more and more. No woman can say that she has no milk unless she has persevered with this for three months.

If the breast is not regularly emptied, the flow of milk decreases; the child should be put to both breasts for equal periods at each meal. Care of the breasts must not be neglected throughout the period of suckling.

After confinement, rest is an important consideration. During the first three months after confinement, the woman should never over-work nor tire herself, as this lowers her health and has an injurious effect on her milk, and then the baby suffers. Stays must not be worn, as they press on the breasts, and also cause indigestion and shortness of breath. The mother must take her food regularly; drink as much milk as possible, and use chiefly such plain and easily digested articles as oatmeal and barley water, porridge, soup, stewed vegetables, and fruit. Moderate exercise and fresh air are very necessary.

EXCESSIVE TEA DRINKING.

Nursing-mothers and women who are expecting to be confined should drink tea in as small a quantity and as seldom as possible.

Not more than two cups should be taken in any one day, and even then as weak as possible, and freshly infused. Tea, when taken strong, or in any considerable amount, has a specially harmful effect upon women with babies at the breast. It upsets the digestion, causes costiveness, poorness of the blood and nervous weakness, and lessens and weakens the mother's milk. Tea drinking is a frequent cause of mothers being unable to nurse their babies, through "failure of their milk." Its effects are as harmful as those of alcohol, which should not be taken at all during the pregnant and nursing periods, even in the form of beer, stout, or wine.

ASSISTANCE IN THE CONFINEMENT.

Expectant mothers are warned against calling in any but medical assistance or that of a registered midwife in their confinements, as a very grave risk is incurred if dependence be placed upon the unskilled services of a neighbour or untrained and ignorant handywoman. The doctor or midwife should be engaged three months before the confinement is expected to take place.

NOTIFICATION OF BIRTHS.

Parents are reminded that notice of every birth, whether of a living or of a dead child, must be sent to the Medical Officer of Health, at the Town Hall, within thirty-six hours of its occurrence. This is in addition to the usual registration with the Registrar of Births and Deaths.

PART II.—THE CHILD.

Clothing.—The baby should be kept warm, but not overloaded with clothes. The garments must be of flannel, preferably white, warm and light, and loose-fitting. The sleeves must be long. The binder should be of flannel, ¾-yard long and 5 to 6 inches wide, and neither hemmed nor bound. In putting it on, it should be firm below, and loose in its upper part, so that it does not press on the chest and interfere with the child's breathing, or with its digestion. If drawn tightly over the breasts it is liable to cause abscess. The binder should be fastened by stitches. A binder should be worn throughout the winter. A knitted belt will do instead of a binder after the third week, and is exceedingly comfortable. Stays are unnecessary for an infant; a woollen vest, with sleeves, is all that is required.

Rest.—The baby must never be put to sleep in its mother's bed, but be laid in a separate little cot or cradle of its own. During the lying-in period a basket can be used, placed on the bed. This is both more comfortable for mother and child, and very much safer for the baby on account of the very serious risk it runs in the mother's bed of being suffocated by overlying, or by the weight of the heavier bedclothes. In the separate cot the baby has more room to itself, more air, and lighter bedclothes. The bedclothes being small are easily washed and changed. Heavy coverings weaken the child. The cot can be easily warmed by means of a bottle of hot water placed in it, but so that it will not touch the child. With this, a small square of blanket or a baby's shawl is sufficient covering. The baby's head and face should never be covered indoors. The cot should not be made to rock, as rocking is injurious.

Bathing—The baby's bath should be given every day at a regular hour. The baby ought not to be fed for at least an hour before the bath, or its digestion will be interfered with, but should be put to the breast immediately after. The baby should be washed quickly in warm—not hot—water, and in front of the fire in winter time. The mother should have a square of flannel

or blanket on her knee, for the baby's comfort while being dried. The baby's mouth and nose should be cleaned every morning with clean water and a piece of clean soft linen. Borax and honey is unnecessary. Strict attention must be paid to baby's eyes, and if any gummy-looking material appears on the lids, the doctor should be got to see them. Neglect of the eyes very frequently results in blindness. The baby should be dressed as soon as dry, and not left when partly clothed. When dressed it should be put to the breast, and then laid to sleep.

Feeding.—It is of the very greatest importance that the baby should receive the best possible food, that which will nourish it most, which will suit its digestion, and which runs least risk of contamination and adulteration. There is no food for a young infant to compare with that specially prepared by nature, the mother's milk. Provided the mother is reasonably healthy, looks after herself properly, and feeds the child *at regular intervals*, there is no reason why, in most cases, the mother's milk should not amply suffice for the nourishment of her baby. It is wrong to feed a child whenever it cries, as overfeeding and indigestion often result. Never under any circumstances whatever should a baby be given a dummy teat to suck. This is most harmful, and one of the commonest causes of indigestion, wind, and diarrhœa. The baby should be put to the breast as soon as possible after it is born. It should be fed every three hours during the day up to six months, and once every four hours during the day after six months. The baby should not be fed at all between 10 p.m. and 5 or 6 a.m. The baby should be made to feed slowly, taking 15 to 20 minutes for each meal. The stomach requires rest at night. The weight of the child and the appearance of its motions are an indication of its progress.

The baby should be weaned when it is about nine months old but not in July, August, or September, on account of the great risk of diarrhœa during this period. *(See* Weaning *page 75.)* *Weaning* means the change from mother's milk to cow's milk entirely, and this change should be effected gradually. If the child for some reason does not thrive, or loses weight when fed entirely on the breast, mixed feeding should be tried, *i.e.*, alternately on the breast and on cow's milk. The cow's milk must be good and fresh, and none should be used that has been kept overnight. If the child

is weakly during its first month, equal parts of boiled milk and boiled water should be given; in the third month three parts of milk to one of water, and after that the pure boiled milk alone. The milk is only to be watered during the first three months if the child is weak. A baby's stomach is very small, and it must not be overloaded with food. A child born before its full time requires its food in smaller quantities at a time, but more frequently than a healthy child; and the same applies to a weak child. A baby not fed on the breast should have at each feed not more than

2 to 4	tablespoonfuls	during the	first month
5 „ 7	„	„	second „
7 „ 9	„	„	third „
9 „ 12	„	„	up to six months
12 „ 18	„	„	„ twelve „

at four hours' interval. With artificial feeding there should be a larger interval between the feeds. A small child has a smaller capacity than a well-grown one. A small amount of food of good quality is preferable to a larger quantity of poor nourishing value. But no artificial food is nearly so good as the mother's milk.

Bottle.—The kind of bottle which has a long tube should never be used. It is impossible to keep it clean, as, like the dummy teat, it collects dirt and germs, and is the cause of the death of hundreds of babies every year.

Much better is the ordinary boat-shaped bottle, or even an ordinary medicine bottle with a wide teat slipped over its mouth. These can be kept clean, and should only be used until the baby can drink out of a cup or tumbler.

If possible two bottles should be kept to be used alternately. After each time of use the bottle should be well cleaned with soda and water, and rinsed out frequently with cold water. The teat should be turned inside out and thoroughly cleaned also. In warm weather it is necessary to boil both bottle and teat after each time they are used. The bottle should be stood in a cool place, protected from dust, to drain, till next required.

Milk.—Only the best cow's milk, which is supplied in bottles, should be obtained and used fresh; it should be immediately boiled, then placed in a covered jug, which has been well scalded

out before use. The milk vessel should be stood in a dish of cold water, to keep it cool; and well away from the sink, or closet, or any drain.

When required for the baby, the milk should be warmed by standing the jug for a few minutes in a dish of hot water. Any milk left over after a feed should be thrown away, and not kept for the next. Some orange juice is an excellent thing to give a baby which is being artificially fed, but milk should be the staple food of children until they are two years old.

On no account should tea be given to any young child, much less to a baby, because the stomach of a young child is too delicate to digest it, and may be permanently injured by it; nor should an infant be given any kind of solid food until it has teeth to eat with. Babies and young children are not able to digest the same food as grown-up people, and to feed them on "the same as we get ourselves" is extremely bad for them. Especially to be avoided are tea, coffee, all intoxicants, meat, tinned foods, dried fish, shellfish, pickles, raw vegetables (such as radish and celery), new bread, pastry, doughy puddings, dried fruit, or nuts. Until it is almost a year old a baby should not even have egg, or gravy, or potato; and it should not have any meat at all until it is at least two years old.

Fresh Air.—This is very necessary for the health of infants as well as for older folk. It is important that the room the baby lives in should be well ventilated, and never stuffy. After the child is a fortnight old it should be taken out every day, except in bad weather.

Cleanliness.—The baby must be kept constantly clean and dry, and changed as often as necessary. The dusting powder should be used frequently when required.

Growth of baby.—This can be judged best by weighing the child. The average weight of a healthy baby at different ages during its first year is as follows:—

At birth	7 to 8 lbs.
At 3 months	12 to 13 lbs.
At 6 months	15 to 16 lbs.
At 9 months	17 to 18 lbs.
At 12 months	about 20 lbs.

Low weight in a child usually indicates that its health is unsatisfactory. Regular weighing is both interesting and useful. The baby can be weighed, without charge, at the following addresses :—

Office of the Superintendent of Midwives, Health Department, Town Hall, every Friday between 3·30 and 5 p.m.

Maternity Centre and Baby Clinic :—

20, Wharncliffe Street, every Tuesday and Wednesday, at 2 p.m.

Dalton Street and Shipley Street, every Monday and Friday, at 2 p.m.

12, Barrack Road, every Tuesday and Thursday, at 2 p.m.

Mothers' and Babies' Welcome Society :—

Dunn's Terrace, Spital Tongues, every Tuesday, at 2 p.m.

Elswick Station Approach, Scotswood Road, Benwell, every Monday, at 2 p.m.

47, City Road (Girls' Club premises), every Wednesday, at 2 p.m.

Wesley Street, Shieldfield, every Tuesday at 2 p.m.

PART III.—WEANING.

WEANING means the change from mother's milk to cow's milk entirely; therefore, the word "weaning" only refers to breast-fed infants.

The change should be effected gradually.

Weaning generally takes place between the ninth and twelfth month. On no account should it be done during the hot summer months of July, August, and September, as during those months milk, which should be baby's chief food, quickly turns bad, and also runs more risk of being infected by flies, either of which conditions may cause severe diarrhœa.

A baby nine months old should be given pure boiled milk to which a little sugar has been added. The milk should be given in small quantity to begin with, one table-spoonful (no bottle need be used at that age) every three or four hours after each breast feed, this quantity being increased gradually until rather less than a gill of cow's milk can be given morning and evening without any breast feed. The breast feeds are gradually replaced by feeds of cow's milk until baby is taking a quart of milk daily from the age of twelve months till two years.

Add to this diet fine oatmeal, sago, hard crusts of bread with butter, dripping, marrow, or fried bacon fat, gravy, and bread crumbs; soft boiled egg (fresh), if stale, boil hard and give the yolk alone with a little salt; fresh fish, beef tea, mutton broth (not bovril, because it is spicy and preserved), minced mutton or chicken.

Boiled mashed carrots with milk and a little fat or butter.

Seedless raisins, dried figs and prunes.

Teach baby to chew well.

Oranges and grapes are the only fruit which should be given uncooked. All other fruit should be stewed.

Give a large quantity of water to drink, but no tea or coffee.

Cocoa should be given boiled with milk.

Rice and potatoes are not advisable before the child is 18 months old, because of the quantity of starch they contain.

The condition of the child's stools shows whether the food is properly digested or not.

The health of the child largely depends upon the way you feed it.

Give no medicine except by doctor's orders.

Do not use any Patent Foods.

H. KERR, M.D., D.P.H.,
Medical Officer of Health.

Health Department,
Town Hall.
Newcastle-on-Tyne.

III. INFECTIOUS DISEASE.

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

INFECTIOUS DISEASES.

NUMBER OF CASES PER 1,000 POPULATION IN 1914.

DISTRICT.	Attack-Rate per 1,000 Population.						
	Small-pox.	Typhus.	Scarlet Fever.	Diph-theria.	Enteric Fever and Con-tinued Fever.	Puer-peral Fever.	Ery-sipelas.
England and Wales ...	0·00	0·00	4·47	1·61	0·24	0·06	0·73
80 County Boroughs ...	0·00	0·00	4·79	1·56	0·24	0·08	0·83
NEWCASTLE-UPON-TYNE ...	...	**0·01**	**6·35**	**1·33**	**0·38**	**0·06**	**0·92**
Hull	...	...	2·19	1·54	0·79	0·11	0·75
Leeds	0·01	...	2·96	1·53	0·18	0·11	1·12
Bradford	...	...	1·60	1·08	0·27	0·07	0·83
Sheffield	...	...	6·54	1·80	0·23	0·10	1·04
Manchester	...	0·00	7·08	1·20	0·22	0·16	0·80
Salford	0·00	...	9·69	1·51	0·27	0·09	1·06
Liverpool	0·00	...	4·81	1·64	0·16	0·07	1·18
Nottingham	...	...	3·58	1·43	0·14	0·07	0·83
Leicester	...	...	2·48	0·56	0·08	0·04	1·14
Stoke-on-Trent	...	...	0·93	2·20	0·36	0·11	0·64
Birmingham	...	...	8·04	2·24	0·09	0·16	1·04
Cardiff	0·02	...	5·81	3·33	0·15	0·06	0·67
Bristol	...	...	6·08	1·70	0·23	0·06	0·84
Portsmouth	...	...	2·89	3·16	0·77	0·06	0·46
London	0·00	0·00	5·54	2·02	0·17	0·09	1·10
Gateshead	...	...	5·11	0·56	0·47	0·02	0·79
South Shields	...	...	9·23	0·65	0·58	0·04	0·62
Tynemouth	...	...	6·18	1·52	0·94	0·03	0·97
Sunderland	...	...	5·47	1·34	0·24	0·08	0·91
Middlesbrough	...	...	6·07	2·51	0·21	0·05	0·66
County of Northumberland	...	...	7·53	1·88	0·52	0·03	0·81
County of Durham ...	...	...	7·94	1·70	0·59	0·05	0·79

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

WARD.	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis	Cerebro-Spinal Fever.	Puerperal Fever.	Scarlet Fever.	Diphtheria.	Erysipelas.	Measles.	Whooping Cough.	Zymotic Diarrhœa (under 2 years of age).
St. Nicholas'	...	...	1	...	...	...	...	...	...	...	...	3
*St. Thomas'	...	...	2	...	1	2	4	1	1	6	1	12
St. John's	...	...	...	...	...	...	3	2	...	6	2	22
Stephenson	...	...	1	1	...	...	1	2	...	5	4	14
Armstrong	...	...	1	...	...	...	5	2	1	3	1	13
Elswick	...	...	1	...	...	...	6	2	1	5	4	4
Westgate	...	...	3	...	...	...	3	1	...	9	2	10
†Arthur's Hill	...	...	...	...	...	...	4	...	...	...	...	4
Benwell	...	...	2	...	...	1	3	6	...	3	3	15
Fenham	...	...	1	...	...	1	...	1	...	1	2	6
All Saints'	...	...	...	...	...	...	3	...	...	45	12	32
St. Andrew's	...	...	2	...	...	1	1	1	...	20	2	14
Jesmond...	...	...	...	...	...	...	...	...	...	...	1	...
Dene	...	...	1	...	...	...	...	2	...	7	...	3
Heaton	...	...	...	...	...	...	...	...	...	3	5	10
Byker	...	...	2	...	...	...	4	2	2	36	10	24
St. Lawrence	...	1	1	...	...	...	3	3	...	28	5	17
St. Anthony's	...	...	...	...	...	...	2	1	1	33	8	16
‡Walker	...	...	1	1	...	1	2	1	...	3	14	24
City	...	1	19	2	1	6	44	27	6	213	76	243

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

‡ Includes City Hospital for Infectious Diseases.

For particulars of deaths from **Tuberculosis** see Tables on pages 113 and 117.

NOTIFIED CASES OF INFECTIOUS DISEASE,

EXCLUSIVE OF TUBERCULOSIS.

AGES OF CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1914. (TABLE II. OF LOCAL GOVERNMENT BOARD RETURNS).

NOTIFIABLE DISEASE.	AT AGES—YEARS.								TOTAL (ALL AGES).	
	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards	Ages not known	1914.	1913.
Diphtheria (including Membranous Croup).	7	96	174	46	23	3	...	13	362	368
Erysipelas	4	6	18	30	92	77	19	4	250	175
Scarlet Fever	11	400	1117	141	43	4	...	7	1723	955
Typhus Fever	...	...	...	...	2	...	...	...	2	...
Enteric Fever	...	3	27	28	39	5	...	...	102	124
Puerperal Septicæmia	...	...	...	3	13	...	...	...	16	11
Epidemic Cerebro-Spinal Meningitis ...	...	...	...	1	...	...	...	...	1	2
Acute Poliomyelitis ...	...	8	1	...	...	...	...	...	9	12
TOTALS	22	513	1337	249	212	89	19	24	2,465*	1,647

* Not including Diarrhœa notifiable from 26th August to 31st October, 1914.

WARD DISTRIBUTION OF INFECTIOUS DISEASES.

(TABLE II. OF LOCAL GOVERNMENT BOARD RETURNS).

WARD.	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis	Cerebro-Spinal Fever.	Puer-peral Fever.	Scarlet Fever.	Diph-theria.	Ery-sipelas.	*Diarr-hœa under 2 years.	TOTAL.
St. Nicholas'...	...	...	1	...	...	...	16	6	4	13	40
St. Thomas' ...	...	...	17	...	1	5	100	47	15	35	220
St. John's ...	...	...	2	...	...	1	121	21	11	74	230
Stephenson ...	...	...	6	3	...	...	113	18	21	88	249
Armstrong ...	...	...	5	1	...	...	132	29	21	66	254
Elswick ...	...	...	...	...	...	1	99	26	12	26	164
Westgate ...	...	...	8	...	...	...	140	19	8	55	230
Arthur's Hill..	...	...	2	...	...	3	50	16	27	11	109
Benwell ...	...	1	21	...	...	2	153	39	19	52	287
Fenham ...	...	...	3	...	...	...	58	19	4	15	99
All Saints' ...	...	...	6	...	...	...	70	13	9	78	176
St. Andrew's...	...	...	2	...	...	1	49	6	9	52	119
Jesmond ...	...	...	2	1	...	...	41	19	3	5	71
Dene	...	...	5	..	...	1	63	18	10	9	106
Heaton ..	...	...	1	...	...	...	49	9	14	37	110
Byker	...	...	6	1	...	...	119	15	19	93	253
St. Lawrence	...	1	2	1	...	1	129	18	17	116	285
St. Anthony's	...	...	3	1	...	...	122	6	12	79	223
Walker ..	...	...	10	1	...	1	99	18	15	117	261
City	...	2	102	9	1	16	1,723	362	250	1,021	3,486

* Notifiable from 26th August to 31st October, 1914.

For particulars of cases of **Tuberculosis,** see special section, pages 111 and 117.

WARD INCIDENCE OF INFECTIOUS DISEASES.

EXCLUSIVE OF TUBERCULOSIS.

WARD.	NOTIFIABLE DISEASES. Cases per 1,000 Population.									Non-notifiable Diseases. Deaths per 1,000 Population.		
	Small-pox.	Typhus Fever.	Enteric Fever.	Polio-myelitis.	Cerebro-Spinal Fever.	Puerperal Fever.	Scarlet Fever.	Diph-theria.	Ery-sipelas.	Measles.	Whoop'g Cough.	Zymotic Diarrhœa (under 2 years of age).
St. Nicholas'	...	...	0·28	..	..	...	4·5	1·7	1·1	...	...	0·84
*St. Thomas	...	...	1·20	...	0·07	0·35	7·1	3·3	1·1	0·43	0·07	0·85
St. John's	...	...	0·13	...	...	0·06	7·9	1·4	0·7	0·39	0·13	1·43
Stephenson	...	...	0·32	0·16	...	...	6·0	0·9	1·1	0·27	0·21	0·75
Armstrong	...	..	0·32	0·06	...	...	8·4	1·9	1·3	0·19	0·06	0·83
Elswick	...	...	...	...	...	0·08	7·8	2·3	0·9	0·40	0·32	0·32
Westgate	...	...	0·52	...	...	...	9·2	1·2	0·5	0·59	0·13	0·66
†Arthur's Hill	...	...	0·17	...	...	0·26	4·4	1·4	2·4	...	...	0·35
Benwell	...	0·05	1·20	...	...	0·11	8·7	2·2	1·1	0·17	0·17	0·85
Fenham	...	...	0·27	...	...	...	5·3	1·8	0·4	0·09	0·18	0·54
All Saints'	...	...	0·34	...	...	...	3·9	0·7	0·5	2·54	0·68	1·90
St. Andrew's	...	...	0·16	...	...	0·08	3·9	0·5	0·7	1·60	0·16	1·12
Jesmond	...	...	0·18	0·09	...	...	3·8	1·7	0·3	...	0·09	...
Dene	...	...	0·41	...	...	0·08	5·2	1·5	0·8	0·57	...	0·25
Heaton	...	...	0·06	...	...	...	3·2	0·6	0·9	0·19	0·32	0·64
Byker	...	...	0·32	0·06	...	...	6·8	0·9	1·1	2·06	0·57	1·37
St. Lawrence	...	0·06	0·11	0·06	...	0·06	7·2	1·0	0·9	1·56	0·28	0·95
St. Anthony's	...	...	0·19	0·06	...	...	7·7	0·4	0·8	2·09	0·50	1·01
‡Walker	...	...	0·62	0·06	...	0·06	6·1	1·1	0·9	0·18	0·87	1·49
City	...	0·007	0·37	0·03	0·003	0·06	6·3	1·3	0·9	0·78	0·27	0·90

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children. † Includes Union Workouse.
‡ Includes City Hospital for Infectious Diseases, Walker Gate.

For particulars of **Tuberculosis** see table on page 117.

HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES, EXCLUSIVE OF TUBERCULOSIS.

DISEASES.	Households with						Military Cases.	Public Institutions.	Total Cases.
	Single Cases.	2 Cases each.	3 Cases each.	4 Cases each.	5 Cases each.	6 Cases each.			
Typhus	2	...	...	...	...	...	...	...	2
Smallpox	...	...	...	...	...	...	...	...	...
Scarlet Fever ..	993	189	58	24	1	1	29	7	1,723
Diphtheria (including Membranous Croup	281	14	2	1	...	...	14	6	362
Enteric (or Typhoid) Fever	62	6	1	1	...	1	2	4	102
Puerperal Fever ...	7	...	...	...	...	...	...	3	16
Erysipelas	217	1	...	...	...	...	...	4	250
Epidemic Cerebro-Spinal Meningitis...	1	...	...	...	...	...	...	...	1
Poliomyelitis... ...	9	...	...	...	...	...	...	...	9
Total	1,572	210	61	26	1	2	45	24	2,465‡

* See page 85.

‡ Not including Diarrhœa notifiable from 26th August to 31st October, 1914.

SCHOOLS AND INFECTIOUS DISEASES.—Through the courtesy of the Director of Education and of the Principal Medical Officer to the Education Committee, it has been possible to prepare the following statement, shewing the number of households affected with Scarlet Fever and Diphtheria per hundred scholars (calculated upon the average attendances).

Scarlet Fever and Diphtheria in Schools.

School.	Per cent. of Households infected with Scarlet Fever.	Diphtheria.
Atkinson Road	1·8	0·6
Bath Lane	3·8	0·2
Bentinck	3·7	0·6
Blenheim Street	3·7	0·9
Bolam Street	2·4	0·5
Chillingham Road	2·2	0·6
Canning Street	1·4	1·1
Clarence Street	2·5	0·2
Diana Street	6·1	1·4
Denton Road	5·7	1·1
Delaval	2·7	1·1
Elswick Road	5·6	1·6
Elswick Works	2·3	0·6
Heaton Park Road	1·7	0·6
Mitford Street	2·6	0·1
North Heaton	2·3	0·4
North View	2·3	0·3

SCARLET FEVER AND DIPHTHERIA IN SCHOOLS—(*continued*).

School.	Per cent. of Households infected with Scarlet Fever	Diphtheria.
Ouseburn	2·2	0·5
Raby Street	3·0	0·2
Royal Jubilee	2·1	0·6
Shieldfield	1·1	0·5
Snow Street	3·6	0·6
South Benwell	1·6	0·5
Spital Tongues	2·0	0·4
Saint Peter's	2·4	0·2
Sandyford Road	1·7	0·4
Todd's Nook	2·5	0·5
Victoria Jubilee	1·6	0·1
Walker East	2·2	1·0
Walker West	2·4	...
Walker Gate	1·1	0·5
Welbeck Road	3·3	0·3
Westmorland Road	3·2	0·6
Westgate Hill	4·1	0·9
West Jesmond	2·3	0.7
Wingrove	3·1	0·6

The Medical Officer of Health continues to inform principals of schools of the presence of infectious diseases in the homes of their pupils, as also of the cessation of infection. A daily return of cases in the homes of scholars is also forwarded to the Principal Medical Officer of the Education Committee.

Of the households infected with Scarlet Fever, 1,178 contained scholars of one or other of 73 different schools in the City. Scholars of 43 of the largest elementary schools resided in upwards of 10 of such households during the year, the largest number of such households from which children attended any one school being 64.

In four schools there was infection in the households of the scholars throughout the year, in seven schools during eleven months, in eight schools during ten months, and in twelve schools during nine months of the year.

School Closure.—No school nor department has been closed during the year on account of infectious disease. Mild scarlet fever has been very prevalent in the City, but no one school has suffered to any marked extent.

INFECTIOUS DISEASE AND PICTURE HALLS.—During the autumn and winter prevalence of measles there was good

reason to suspect that picture halls played a part in the spread of infection, and on the recommendation and request of the Sanitary Committee, the Town Improvement and Streets Committee agreed, at their meeting on 16th December, to insert the following clause in all future cinematograph licences :—

> "In the event of any department of a Public Elementary School within the City being closed by reason of the prevalence of infectious disease, the Town Improvement and Streets Committee of the Council, on the recommendation of the Medical Officer of Health, may, for such period as they think fit, direct the licencee or licencees of any premises licensed for cinematograph exhibitions within such area as the Committee may specify, to exclude from the premises all children apparently under fourteen years of age, and after such direction has been notified to the licencee or licencees, no child under fourteen years of age shall be permitted to enter into or remain on the premises at any time during such period."

PUBLIC INSTITUTIONS AND INFECTIOUS DISEASE.

The following notifications were received during the year :—

INSTITUTIONS, &c.	Scarlet Fever.	Enteric Fever.	Diphtheria.	Erysipelas.	Acute Poliomyelitis.	Puerperal Fever.	Total.
Royal Victoria Infirmary ...	20	6	14	9	..	6	55
Fleming Memorial Hospital, North Road...	4	5	8	...	...	...	17
Maternity Hospital	...	...	...	...	...	1	1
Children's Hospital, City Road	...	...	1	...	...	...	1
School for the Blind	6	...	...	...	...	...	6
Workhouse	...	1	2	20	...	2	25
City Hospital for Infectious Diseases..(Staff)	8	1	...	...	...	...	9
Throat and Ear Hospital ...	2	...	1	1	...	...	4
Military Barracks (Previous to War)	1	...	3	1	...	...	5
Isolation Hospital, Town Moor	1	...	...	...	...	...	1
Total	42	13	29	31	...	9	124*

* 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 case was there reason to suspect that the milk was responsible for the conveyance of infection.

One case of scarlet fever occurred at a farm, the stock of milk being seized, and the owner compensated.

Nineteen cases of scarlet fever occurred at other shops of various kinds, including ten public houses, and eight general shops, and five cases of diphtheria occurred—at one public-house, three general shops, and one other.

There are in the City 714 small general shops in which milk is retailed, none of them being a fit place for the purpose, but there is no means of interfering with them at present.

SCARLET FEVER.

Notifications of 1,723 cases were received during the year, and there were 44 deaths, which is equivalent to a mortality of 2·6 per cent. The type of disease was mild on the whole.

DIPHTHERIA.

362 cases were notified during the year, and 28 died, a case mortality of 7·7 per cent.

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

Number of medical practitioners who made application for Antitoxin	58
Number of phials of Antitoxin supplied	227
Number of cases of Diphtheria notified	362
Number of cases of Diphtheria removed to Hospital ...	310
Number of Hospital cases in which Antitoxin was injected prior to admission	86

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

Year.	Diphtheria Cases. (All Forms).	
	Number.	Case Mortality.
1909	546	12·7%
*1910	443	9·0%
1911	507	7·5%
1912	501	6·6%
1913	368	7·6%
1914	362	7·7%

* 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.

There were 212 deaths from measles in 1914, representing a death rate in 1914 of 0·78 per 1,000 population, as compared with 0·24 in 1913.

Deaths from Measles, 1914.

Month.	Years of Age.							Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	Over 10.	
January ...	—	—	—	—	—	—	—	—
February ...	—	—	—	—	—	—	—	—
March ...	—	—	—	—	—	—	—	—
April	1	—	—	—	—	1	—	2
May	—	—	—	—	—	—	—	—
June	—	—	—	1	—	—	—	1
July... ...	—	—	—	—	—	—	—	—
August ...	1	2	2	—	—	—	—	5
September ...	—	3	1	—	—	1	—	5
October ...	—	10	5	3	1	1	—	20
November ...	23	46	16	7	4	8	—	104
December ...	10	31	15	10	4	5	—	75
Total ...	35	92	39	21	9	16	—	212

The epidemic in 1912-13 was somewhat more severely felt in the western side of the City, but that of last winter was more marked in the eastern side.

WHOOPING COUGH.

77 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	—	1	1	—	—	—	2
February	—	1	—	—	—	—	1
March	1	1	—	2	—	1	5
April	5	—	—	1	—	—	6
May	6	1	—	—	—	1	8
June	—	1	—	—	—	—	1
July	2	2	—	—	—	—	4
August	4	1	1	1	—	—	7
September	4	3	1	—	—	1	9
October	4	1	—	—	—	—	5
November	7	4	1	—	1	—	13
December	3	8	2	1	2	—	16
Whole Year	36	24	6	5	3	3	77

The death rate in 1914 was equivalent to 0·28 per 1,000 population, as compared with 0·36 in 1913.

ENTERIC FEVER.

102 cases were notified during the year, and there were 21 deaths, giving a death rate of 0·08 per 1,000 population, and a case mortality of 20·6 per cent.

The 102 cases occurred as follows :—four were in institutions, 87 occurred in 71 households, of which 62 (77 cases) had water-closets, and nine (10 cases) had dry-closets. The attack rate was 1·26 cases per 1000 water-closet houses, and 1·50 cases per 1000 dry-closet houses. Ordinarily, as shown in previous years, the risk of acquiring enteric fever is at least three times as great for people living in dry-closet houses as for those with water-closets.

In 14 cases there was a history of the consumption of mussels at about the time when it was judged that infection was contracted. The shell-fish, usually eaten raw, was mostly purchased at stalls in the Bigg Market, and in one instance from a shop in Percy Street. The retailers received their supplies from dealers at Dalbeattie and Morecambe. The Medical Officer of Health of each of these districts was

communicated with, but stated that the mussel beds were well removed from possible sewage contamination, and that there appeared to be no local reason to suspect the safety of the shell-fish.

In no instance did infection appear to have been conveyed by water, milk, or watercress.

More notable outbreaks.—There were four instances in which several cases occurred in one house or neighbourhood and appeared to be connected with one another.

(1) On 11th February, Richard W., of 4, Back Edward Street, died from enteric fever in the Union Infirmary, after a somewhat prolonged illness, of unrecognized nature, at home.

On 3rd March, E.W., his wife, and four children, aged 3, 7, 9, and 11 years, were removed to the City Hospital, all suffering from enteric fever. The mother died.

(2) Violet H., aged 26, 56, Spencer Street, was notified on 17th April, as suffering from enteric fever, having been ill since 5th April. She was removed to hospital, and died on 30th April.

Eliza H., aged 50, first ill 3rd May, notified 9th May, and removed to hospital, was discharged cured on 29th June. She suffered a second quite typical attack, and was re-admitted to hospital on 21st July, being finally discharged on 11th August.

May H., aged 21, was notified and sent to hospital on 26th August, and discharged on 10th October.

(3) Annie E., aged 35, 16, New Mills, was notified and sent to hospital on 3rd August. Seven other members of the household were examined, and four reacted positively to the Widal test. They were sent to hospital and kept under observation for some time.

(4) Between March and July six cases occurred in separate houses, in St. Margaret's Road, and four close by, in or about Delaval Terrace, now fortunately demolished, and the site occupied by shops of the Elswick Works.

In all the above cases infection appeared to be due to close contact and intercommunication with sufferers.

Inoculation against Enteric Fever.—All members of the Medical and Nursing Staff at the City Hospital are inoculated against the Bacillus Typhosus, and the vaccine has been used to a limited extent in the treatment of special cases.

On the mobilisation of troops it was feared that what has hitherto been regarded as the inevitable occurrence of considerable numbers of cases of enteric fever would have to be coped with, but so thoroughly was the work of inoculation carried out that not a single case was admitted to the City Hospital, from in or around Newcastle, although very large forces were in the district. Two cases were sent in on suspicion, but both proved, on observation, to be influenza.

DIARRHŒA.

The exceptionally fine summer and autumn of 1914 brought with it the usual increased prevalence of diarrhœa.

There were in all 302 deaths from the disease, equal to a death rate of 1·1 per 1,000 population, and this number included 237 deaths of children under two years of age.

Until Mid-August there was no unusual prevalence noticeable, but during the two middle weeks of that month, the number of deaths rose suddenly from about two or three, to six and eight respectively. Accordingly, it was decided to make the disease compulsorily notifiable until the end of the autumn, and this was done at once. 1,021 cases in all were notified, and every effort was made to prevent spread.

Special attention was given to the sanitation of closets, yards and streets, and to places where manure and other organic matter was deposited, the district inspectors being instructed to give this work precedence over all routine duties. The co-operation of the City Engineer's Cleansing Department staff was also obtained, and the leaflet, reprinted on next page, was distributed broadcast in the houses, and to the children attending the Council schools.

The retail milk shops were visited frequently, with regard to their general cleanliness.

Full particulars of the epidemic will be found under Section II. on pages 55-58.

City and County of Newcastle-upon-Tyne.

DIARRHŒA.

Every warm summer hundreds of infants die from Diarrhœa.

It is **caused** by a disease germ which lives and thrives in dust, dirt, decaying vegetables and household refuse generally, from which it gets into the food.

It can be prevented by attention to the following precautions :—

Do not allow dust and dirt to accumulate. Scrub the floors frequently. Use a damp cloth for dusting, so that the dust may not fly about. For the same reason never sweep up dry dust on floors, yards or pavements, but sprinkle first with water or damp tea leaves. Swill down back yards and scrub out closets twice a week. Closets should be lime-washed twice a year.

Burn all vegetable and animal refuse, such as potato peelings, cabbage leaves, scraps of fish and meat. **Do not throw them into the ash pit or on the street,** and do not leave them lying about the kitchen, as they immediately attract germs and flies. Avoid throwing waste liquid or slops into the ash pit or on the street. Put them down the yard gully and flush well with water afterwards.

Keep your children healthy by given them **plain simple food at regular hours.** Do not allow them to eat between meals nor to eat any food which has begun to go bad. As they may have picked up disease germs on their hands when playing, see that they wash before taking a meal.

Flies are known to carry thousands of disease germs about with them on their bodies and legs. The fly you see feeding on a scrap of decayed vegetable or bad meat may alight on your food and leave there germs and particles of filth; therefore **protect your food,** and especially **milk,** from flies and dust, and destroy all dirt and refuse where the flies and germs may breed.

Milk is the babies' food. If possible, every infant should be **breast fed.** If that is not possible, **use fresh cow's milk,** but see that it is **clean** when you get it, and **keep it clean** by storing in a clean vessel and by **protecting it from flies and dust.** Milk is supplied in **bottles** by various dairies, and this is more economical, cleaner and much more easily preserved than that bought in the ordinary way. **Boiling destroys germs,** therefore **boil the milk** before using it.

If a feeding bottle is necessary, use the kind that can be kept clean easily, such as the **boat shaped** one. Those with long rubber tubes cannot be cleaned properly, and the inside of the tube becomes **foul** with decomposing milk. Rinse out the bottle in cold water **immediately after use,** and keep in dish of clean cold water until again required. **Feed the child at regular intervals** of 2½ to 4 hours, according to age, and do not give it too much at a time.

Do not give the child a "comforter." It makes the mouth dirty, prevents the teeth from coming through properly and spoils them when they are through. The constant sucking by the child gives the digestion no rest and leads to wind, indigestion and diarrhœa.

As the germs of diarrhœa are contained in the motions of the child, do not allow soiled napkins to lie about, but wash them immediately, but **not** at the kitchen sink, which should be kept as clean as possible.

Teach your children cleanly habits.

Mothers, give your children a chance!

H. KERR,

Medical Officer of Health.

HEALTH DEPARTMENT,
TOWN HALL,
NEWCASTLE-UPON-TYNE.

FOOD POISONING.

No definite cases of bacterial food poisoning, or "ptomaine" poisoning, came under notice during the year 1914, among the civil population. An outbreak of diarrhœa occurred among troops billeted in a church hall in Byker, in December. Investigations failed to find the bacterial cause of the attacks, which were in all likelihood due to pollution of exposed foods, by dry sweeping the foul floor of the mess-room, where the uncovered stores were kept. There were no deaths.

TYPHUS.

Two isolated cases of this disease occurred during the year, and one died. This was the first fatal case in Newcastle, since 1902, out of a total of 29 cases.

The details were as follows :—

A sporadic case was reported at 33, Ayton Street, Byker, on 14th January, by one of the medical officers of the Newcastle Dispensary; considering the rarity of the disease, this gentleman is to be congratulated upon his acumen in diagnosing the case. Neither the patient nor any member of the family had been out of Newcastle for a considerable period, nor was any history of contact with strangers or suspicious persons obtainable. The patient was removed to the City Hospital, where she died. The house, bedding, etc., was disinfected; and the rest of the family, consisting of the husband and four children, quarantined in the Isolation Hospital for fourteen days. Special attention was given to the destruction of vermin. The husband was a packer at a pottery works, and he received compensation for loss of wages during his quarantine. Other contacts were kept under observation in their homes, being visited daily; they included one or two neighbour women who had been looking after the patient before her removal. There was no spread of the disease.

The second case was reported by a private practitioner, at 54, Benwell Dene Terrace, on 25th August. The house was a self-contained flat in a better working-class neighbourhood, fairly clean, healthily situated, and with unlimited access of fresh air. The patient was removed to hospital and the

premises disinfected. The husband being extremely anxious to do everything to prevent spread of infection, it was considered sufficient to keep him and his children under observation at home, where all instructions and restrictions laid upon him were faithfully observed. A strict watch was also kept upon other known contacts with the patient.

There was no further spread of the disease, and the patient made an excellent recovery.

The patient had returned within the last few days from a visit to friends at Enfield, Middlesex, and endeavours were made to trace the source of her infection there, as the date of onset indicated that the disease could not have been contracted in Newcastle. The Medical Officer of Health for Enfield stated that there had been no case of typhus there, nor any suspicious illness. As the patient returned to Newcastle by sea, however, and was obliged to wait about the wharf at Stepney (London), for two days, owing to the sailing being delayed on account of the war, he suggested that infection might have been contracted there. Further inquiries were therefore made of the Medical Officer of Health of that district, but he stated that he was unable to discover any source of infection.

SMALLPOX.

Smallpox was entirely absent. 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

* Vaccination Act, 1907, came into force.

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

North Eastern district ... Dr. Frank Russell, 41, Heaton Road.
South Eastern district ... Dr. Richard Dagger, 1, Rothbury Terrace.
East Central District ... Dr. Frank Hawthorn, 10, Ellison Place.
Western district (including Benwell)—
Dr. G. D. Newton, 2, Ellison Place.
West Central District ... Dr. James Don, 1, Grove Street.
Walker district (Tynemouth Union)—
Dr. J. R. Mitchell, Welbeck Road.

ERYSIPELAS.

250 cases of this disease were notified, and there were 7 deaths.

PUERPERAL SEPTICÆMIA.

Inquiries were made concerning 16 cases, one of which occurred in the practice of a midwife.

VENEREAL DISEASES.

Syphilis was stated as the cause of death in 16 cases, equivalent to a death-rate of 0·06 per 1,000 population. No deaths were assigned to "other venereal diseases."

Statistics as to this group of diseases are most difficult to obtain, and at the present time so great is the strain upon the staffs of hospitals and other medical institutions that time does not permit of the analysis of records of patients being made, as was done for the previous Report.

Subsequent to mobilisation many wild rumours were current as to moral laxity among soldiers and women in the neighbourhood of troops. The "war-baby" scandal has proved to be a myth and a libel, and it is probable that similar statements as to disease may be relegated to the same category. At the present time there is no means of either confirming or refuting them.

The Police took early steps to aid the military by helping to discourage women from hanging about the neighbourhood of camps and billets. Adequate arrangements have been provided for the treatment of military cases of venereal disease.

The municipality has made no arrangement for diagnosis or treatment of venereal disease. Wasserman tests are made, and salvarsan treatment administered, at the Royal Victoria Infirmary.

ACUTE POLIOMYELITIS AND EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Total No. of Cases.	NUMBER OF CASES.																								
	1-5 Years.						5-10 Years.						10-15 Years.						15 Years and Over.						
	Male.			Female.			Male.			Female.			Male.			Female.			Male.			Female.			
	Cases.	Deaths.	*Permanent Paralysis.	Cases.	Deaths.	*Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths	Permanent Paralysis.	Cases.	Deaths	Permanent Paralysis.	
9	4	1	3	†3	...	1	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	Acute Poliomyelitis.
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	Cerebro-Spinal Fever.
Cases Removed to Isolation Hospital.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Acute Poliomyelitis
	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Cerebro-Spinal Fever

* *i.e.*, Recovered with Permanent Paralysis of one or more groups of muscles.

† Result in one case unknown, owing to removal of family.

CITY HOSPITALS FOR INFECTIOUS DISEASES.

Accommodation.

Name and Situation of Hospital.	Total Available Beds.
City Hospital for Infectious Diseases, Walker Gate...	172
Smallpox and Isolation Hospitals, Town Moor ...	172

Owing to the heavy pressure on the wards at the City Hospital, for years past it has been necessary to use the Moor Hospitals continuously to accommodate a varying number of cases of scarlet fever. In view of the danger of thus monopolising the accommodation for smallpox, in event of an outbreak of that disease, a special report was prepared, advocating a further extension at Walker Gate.

Accommodation at the City Hospital for Infectious Diseases, Walker Gate.

The number of patients admitted to the City Hospital each year has represented a steadily increasing proportion of the cases of infectious disease occurring in the City. All severe cases are isolated, and, probably largely in consequence of this, the general type of all the fevers has become distinctly milder.

Enteric Fever, while only one-fourth as prevalent as thirty years ago, is also little more than half as fatal.

Many more cases of diphtheria are now notified, partly because bacteriology has made it easier to diagnose those whose symptoms are less pronounced, and partly because the disease is really more prevalent, owing to greater aggregation of population. But the fatality has fallen to one-fifth of what

it was. Under modern institutional treatment, and the use of antitoxin, the great majority of patients now recover, the case mortality being as low as six or seven per cent.

Scarlet fever, which accounts for considerably more than half the total notifications, has diminished in prevalence by more than fifty per cent., and, thanks to the stricter precautions of more enlightened times, the terrible outbreaks of twenty or thirty years ago, when whole families were wiped out in a few days, are unknown. The case mortality rate now is only about two per cent., at least five times less than before the days of fever hospitals. The cases with which we have to deal are mostly of mild type, and frequently difficult to recognize; and if it were not for those which are missed altogether, and not isolated, the disease would soon be stamped out entirely.

Confidence in the hospital is general, and the ratepayers now recognize the advantage, in regard to safety, economy, and general convenience, of the prompt removal of their infectious patients to hospital, and in consequence it would be most difficult, even if considered desirable, to exclude cases other than perhaps the very ones for whom isolation is most urgently necessary.

Practically ninety per cent. of all notified cases now go to hospital, and the accommodation for scarlet fever has been long inadequate, in spite of the great shortening of the period of treatment by adoption of improved methods. The extensions in 1908, which included one pavilion for scarlet fever, were only sufficient for the needs of the day. Since 1910 the wards of the Isolation Hospital, on the Town Moor, have been in almost uninterrupted occupation by mild convalescent cases, overflow from Walker Gate, there being 107 such at the date of this report.

Should a case of smallpox arise, not only would all these patients have to be sent home instantly, but it would not be possible to admit any more scarlet fever to the City Hospital, Walker Gate, for a month afterwards.

There is urgent need of further accommodation at Walker Gate, and two pavilions of thirty beds each are necessary to meet the ordinary requirements of the City to-day. Even with these recourse would still have to be made to the Isolation Hospital at times of temporarily increased prevalence, such as the present.

That the accommodation supplied has not kept pace with the demand is well shown in the subjoined table.

YEAR.	Population of the City.	Number of Beds at City Hospital.	Total Admissions (Scarlet Fever, Diphtheria, Enteric Fever, Typhus, and Continued Fever).	Percentage of Notified Cases Admitted.
1890	182,866	104	219	21·3
1900	213,039	104	290	33·3
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

Up to a month after the outbreak of war, there were over 1,200 admissions, representing 91·7 per cent. of the cases notified, but owing to the necessity of providing isolation for military cases of infectious disease, the figures for the whole year were :—

YEAR.	Population.	No. of Beds at City Hospital.	Total Admissions.	Percentage of Notified Cases Admitted.
1914	271,523	172	1,835	78.9

Military Pavilions.—In fulfilment of the desire of the Sanitary Committee to assist the military authorities to the utmost of their ability, a considerable number of military cases from billets and camps in the City, and in the counties of Northumberland and Durham, were admitted during the winter. By agreement with the War Office, two temporary pavilions, each of 30 beds, were erected on a site on the opposite side of the Little Benton Road to the City Hospital. These, however, were not ready for occupation until April 7th, 1915.

Each consists of a single, large, airy, well lighted ward, 148 ft. by 25 ft., giving 123⅓ sq. ft. per bed. At one end are the kitchen, linen room, etc., and at the other the patients' two bathrooms, three w.c's, and slop sink room. The pavilions run east and west, and an 8 ft. covered verandah runs the full length of the south side.

The buildings are of corrugated iron, asbestos lined, with wood frame and floors, and are raised on brick piles. Heating is by hot-water circulation, for which steam is led from the central boiler house, and a double-grate open iron stove in the middle of the ward. The lighting is by electricity.

One pavilion is equipped with a 150 gallon excreta steriliser, in case of use for enteric fever, and in view of the inadequacy of the main sewer in times of heavy rainfall, when overflow is usual.

The two pavilions are enclosed by a 6 ft. 6 in. close-board fence, surmounted by barbed wire.

CITY HOSPITAL, WALKER GATE.

Admissions during the year—1,835.

The *average daily number* of patients in the hospitals was 209.

RATE PER CENT. OF CASES REMOVED TO HOSPITAL TO CASES NOTIFIED IN 1890, AND DURING EACH OF THE YEARS 1895, 1900, 1905, 1910 TO 1914.

	1890	1895	1900	1905	1910	1911	1912	1913	1914
Scarlet Fever	18·4	33·0	35·0	50·1	84·5	83·8	88·0	90·6	81·4
Diphtheria	8·3	28·7	40·0	36·8	80·1	80·5	81·8	81·5	84·8
Enteric Fever	38·9	48·0	54·5	52·0	90·5	92·0	91·2	91·1	94·1
All cases of the above together with Continued and Typhus Fever	21·3	34·6	38·6	47·8	83·0	83·1	86·4	88·3	82·6

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES NOT REMOVED DURING 1914.

DISEASE.	HOSPITAL.			NOT REMOVED		
	Total Cases (Verified).	Deaths.	Case Mortality per cent.	Total Cases (Notified).	Deaths.	Case Mortality per cent.
Scarlet Fever ...	1,404	43	3·0	311	5	1·6
Diphtheria	251	21	8·4	52	6	11·5
Enteric Fever ...	86	13	15·1	6	3	50·0

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

	Cases.
To the Newcastle Sanitary Authority	1,820
To private guarantors	2
To the War Office	13
TOTAL	1,835

1914.

Diseases Admitted.

Sent in as:—	No. of Cases.	After observation proved to be:—																												
		Scarlet Fever.	Diphtheria.	Enteric Fever.	Erythema.	Tonsilitis.	Varicella.	Rubella.	Vincent's Angina.	Measles.	Ozæna.	Simple Laryngitis.	Retro-pharyngeal Abscess.	Chronic Constipation.	Pulmonary Tuberculosis.	Pyorrhœa Alveolaris.	Croupous Pneumonia.	Post-basal Meningitis.	Influenza.	Diarrhœa.	Mucous Colitis.	Gastro-enteritis.	Puerperal Sepsis.	Typhus.	Erysipelas.	Mumps.	Polio-myelitis.	Ulcerative Rhinitis.	Enteric Contacts.	Indefinite.
Scarlet Fever ...	1412	1384	1	2	11	7	1	1	...	1	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Diphtheria... ...	310	19	250	...	...	33	...	...	3	1	1	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	96	...	...	84	...	1	...	...	...	...	...	...	...	1	1	1	1	1	2	1	1	1	1	...	...	...	...	...	...	...
Enteric Contacts ...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...
Measles	3	1	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
Erysipelas	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	2	...	...	...	...	...
Mumps	1	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Polio-Myelitis ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Glanders	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Totals ...	1835	1404	251	86	11	41	1	1	3	4	1	2	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	7	4

1914.

Monthly Admissions and Deaths.

DISEASES.	Admissions.													Deaths of Cases Admitted in											
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Scarlet Fever	79	89	101	88	111	118		127	170	159	120	117	1404*	1	3	3	6	4	1	2	4	4	3	5	7	43
Diphtheria	28	32	22	23	23	11	13	12	4	25	32	26	251	1	1	3	1	1	3	1	2	1	2	4	1	21
Enteric Fever	4	4	10	12	7	6	8	9	4	9	6	7	86†	1	1	3	1	...	1	...	1	...	1	2	2	13
Tonsillitis	5	...	1	...	2	3	3	3	...	1	10	13	41	...	...	...	...	...	...	...	...	...	...	...	...	...
Erythema	5	2	2	2	...	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	2	...	...	...	...	...	...	...	...	1	1	...	4‡	...	...	...	...	...	...	...	...	...	1	...	...	1
Vincent's Angina	1	...	...	...	...	...	...	1	...	...	...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus	1	...	...	...	...	...	...	1	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1
Ozaena	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Chronic Constipation	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1
Polio-Myelitis	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Laryngitis	1	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	..
Varicella	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyorrhoea Alveolaris	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Retro-pharyngeal Abscess	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1
Croupous Pneumonia	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Post-basal Meningitis	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Rubella	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Contacts	...	...	...	...	...	...	...	7	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Facial Erysipelas	...	...	...	...	...	...	...	1	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	...	...	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Mumps	...	...	..	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Sepsis	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	..	...	...	...	...	...	...
Mucous Colitis	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1
Gastro-Enteritis	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulcerative Rhinitis	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Indefinite	...	...	1	3	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	1	...	...	1
Totals	130	130	139	130	143	138	149	162	184	195	170	165	1,835	5	6	9	8	5	5	3	7	6	8	11	10	83

* Includes 7 Nurses and 2 Maids. † Includes 1 Nurse. ‡ Includes 1 Nurse.

Note.—The Deaths given above for each month refer to patients admitted during that month only, and have no reference to the actual

Length of stay in Hospital of fatal cases.—Of the foregoing, the following *died within 24 hours of admission*—Scarlet Fever 2, and Diphtheria 8, Total 10.

The average time in hospital of the fatal cases was—Scarlet Fever 22 days, Diphtheria 13 days, and Enteric Fever 17 days.

Present Death Rates compared with those of previous years—

RETURN SHEWING THE NUMBER OF CASES OF SCARLET FEVER, DIPHTHERIA, AND ENTERIC FEVER ADMITTED TO HOSPITAL, AND MORTALITY RATES PER CENT.

1890-1895.

YEAR.	NUMBER OF CASES ADMITTED TO HOSPITAL.			NUMBER OF DEATHS.			CASE MORTALITY, PER CENT.		
	Scarlet Fever.	Diph-theria.	Enteric Fever.	Scarlet Fever.	Diph-theria.	Enteric Fever.	Scarlet Fever.	Diph-theria.	Enteric Fever.
1890	114	15	80	2	1	14	1·8	6·7	17·5
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
	1,219	107	357	36	27	65	3·0	25·2	18·2

1909-1914.

1909	623	334	56	26	31	12	4·2	9·3	21·4
1910	465	317	47	11	29	5	2·4	9·1	10·6
1911	605	375	68	14	33	11	2·3	8·8	16·2
1912	1,018	383	82	34	27	13	3·3	7·0	15·8
1913	853	254	109	21	22	12	2·5	8·7	11·0
1914	1,404	251	86	43	21	13	3·1	8·4	15·1
	4,968	1,914	448	149	163	66	3·0	8·5	14·7

Diphtheria.—*Cases in Hospital.*—Of the 251 patients in Hospital, 210 were faucial, pharyngeal, or nasal cases, and of these 13, or 6·2 per cent., died. 41 were also laryngeal or tracheal, and of these 8, or 19·5 per cent., died. Tracheotomy was performed on 14 patients, of whom 7, or 50 per cent., died. It is of interest to note that of 43 cases in which the nasal passages were involved 10 died, a case mortality of 23·3 per cent.

Of the 21 deaths, 8 were of patients practically moribund on admission, who died within 24 hours.

As hitherto, the patients sent to Hospital, generally speaking, came from much less favourable surroundings than those treated at home, and suffered from a severer type of the disease.

Antitoxin is administered to all cases of Diphtheria admitted to Hospital which have not received the remedy at home. Owing to the free supply of Antitoxin to private medical practitioners, patients receive the treatment earlier than previously.

Bacteriological diagnosis is made in the great majority of cases before admission.

Mixed Infection.—77 patients sent into Hospital, or 4·2 per cent., were found on admission to be suffering from two or more distinct infectious diseases, as follows:—

Scarlet Fever and Diphtheria	5
Scarlet Fever and Measles	3
Scarlet Fever and Rubella	3
Scarlet Fever and Enteric Fever	1
Scarlet Fever and Varicella	4
Scarlet Fever and Pertussis	1
Scarlet Fever and Poliomyelitis	1
Scarlet Fever and Pulmonary Tuberculosis	3
Scarlet Fever and Tuberculous Meningitis	1
Scarlet Fever and Tuberculosis of Bones	4
Scarlet Fever and Vaginitis	3
Scarlet Fever and Ringworm	10
Scarlet Fever and Impetigo	2
Scarlet Fever and Scabies	1
Scarlet Fever and Conjunctivitis	5
Scarlet Fever and Septic Sores	7
Scarlet Fever and Cellulitis	1

Diphtheria and Scarlet Fever	16
Diphtheria and Measles	3
Diphtheria and Varicella	1
Diphtheria and Pulmonary Tuberculosis	2

Thus, 3·9 per cent. of the cases of scarlet fever, on admission, suffered from another infectious condition as well, and 8·8 per cent. of the cases of diphtheria.

Deaths from Concurrent Affections.—Out of the total number of deaths from all causes in hospital (81), 16, or 19·8 per cent., were of patients suffering from a concurrent affection directly or partially causative of the fatal termination. These were as follows:—

Deaths with Concurrent Affections.

Scarlet Fever with Measles	1
Scarlet Fever with Pulmonary Tuberculosis	1
Scarlet Fever with Abdominal Tuberculosis	1
Scarlet Fever with Tuberculous Meningitis	1
Scarlet Fever with Tuberculous Abscesses	1
Scarlet Fever with Lobar Pneumonia	1
Diphtheria with Scarlet Fever	4
Diphtheria with Pertussis	1
Diphtheria with Pulmonary Tuberculosis	1
Diphtheria with Abdominal Tuberculosis	1
Enteric Fever with Tuberculous Meningitis	2
Enteric Fever with Pneumonia	1

Cross Infection.—It is always noted that when the wards are kept uniformly full, as in years of high admissions, the proportion of cross infections is also higher than ordinary. This has happened during the year under report, when 53 patients developed a second infection in the wards; of these 9 were incubating the second disease on admission, the remaining 44, or 2·4 per cent. of all cases admitted, acquiring the second infection in hospital, many of them from the incubating cases admitted.

Strong efforts were made to deal with all such cases by means of the "barrier" system of "bed isolation," a method, however, which depends for success entirely upon the personal element, and requires the most rigorous and laborious observances of minutiæ of regime.

Particulars of cases are shown in the following table :—

CROSS INFECTIONS.

Sent in as	Developed.	Number of Cases.	Number Infected in Hospital.
Scarlet Fever	Scarlet Fever	9	9
Scarlet Fever	Scarlet Fever and Ringworm	1	1
Scarlet Fever	Diphtheria	1	1
Scarlet Fever	Measles	9	9
Scarlet Fever	Rubella	8	6
Scarlet Fever	Varicella	6	5
Scarlet Fever	Pertussis	1	1
Scarlet Fever	Tuberculous Meningitis ...	1	...
Scarlet Fever	Infective Tonsillitis	1	1
Diphtheria	Scarlet Fever	10	9
Diphtheria	Measles	1	1
Diphtheria	Varicella	1	...
Diphtheria	Pertussis	1	1
Diphtheria	Pulmonary Tuberculosis ...	1	...
Enteric Fever	Tuberculous Meningitis ...	2	...
	TOTAL	53	42

Of 1,412 cases sent in as scarlet fever, 4, or 0·28 per cent., were incubating a second disease, and 37, or 2·6 per cent., were infected in hospital. Of these 37, 10 (or 0·7 per cent. of all cases sent in as scarlet fever) were diagnosed by the private practitioner as mild cases of that disease on the strength of symptoms stated to have disappeared before removal of the patient. When so large a proportion of notified cases exhibit only slight and transitory symptoms, it is extremely difficult to avoid error in a certain number.

Of 310 cases sent in as diphtheria, 5, or 1·6 per cent., were incubating a second disease, and 11, or 3·5 per cent., were infected in hospital.

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

"RETURN" CASES OF SCARLET FEVER, 1914.

SCARLET FEVER.	"Infecting" Cases		"Return" Cases.		"Infecting" Cases
Total Admissions.	No.	Per-centage.	No.	Per-centage.	Average Day of Disease when Discharged.
1,404	78	5·6	96	6·8	47·5

SEASONAL OCCURRENCE.

Quarter.	Total Scarlet Fever Admissions.	"Infecting" Cases		"Return" Cases.	
		No.	Percentage.	No.	Percentage.
January to March ...	269	12	4·5	15	5·6
April to June	317	18	5·7	22	6·9
July to September ...	422	26	6·2	29	6·9
October to December ...	396	22	5·6	30	7·6

Of the 78 "infecting" cases 40 remained "clean," *i.e.* free from any apparent infective condition such as sores or discharges. 31 developed nasal discharge after reaching home, 5 otorrhœa, 1 mastoiditis, and 1 a cracked ear. In the 40 "clean" cases, the period before onset of illness of the second or "return" case after discharge from Hospital of the supposed "infecting" case averaged 12 days, and in the "dirty" cases 16 days.

The "clean" cases had been discharged from hospital on the (average) 47th day of disease, and the "dirty" cases on the (average) 49th day.

"RETURN" CASES FOR YEARS 1906-1914.

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

Average stay in Hospital during the last seven years.

Year.	All Cases.		Scarlet Fever.		Diphtheria.		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.
1907	647	52·4	390	59·7	177	42·4	35	39·9	46	39·2
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

Bacteriological Laboratory, City Hospital.

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

Swabs for Diphtheria germs	815
Blood for Widal reaction (Enteric Fever) ...	29
Cerebro-Spinal Fluid, for Meningococcus and Cells	2
Sputum, for Tubercle Bacilli...	12
Pus (various sources), for organisms	3
Swab, for Vincent's Angina	1
TOTAL	862

SMALLPOX AND ISOLATION HOSPITALS.

Owing to the insufficiency of the accommodation for scarlet fever at Walker Gate, recourse was had, as usual, to the hospitals on the Town Moor.

The total number of beds in the scarlet fever pavilions at the City Hospital is 73, including an observation block, and the average daily number of scarlet fever patients in hospital during 1914 was 171. Accordingly "clean" convalescent cases were sent to the Moor throughout the year, 909 patients in all being thus transferred, as compared with 416 in 1913, and 528 in 1912.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

To the Medical Officer of Health.

Sir,

Herewith I beg to submit my Report for the year 1914.

The work of this special section of the Health Department has proceeded upon the lines established in the previous year. It has expanded considerably, but further expansion would have occurred had it not been for the outbreak of war, when other duties have had to be undertaken to relieve pressure in other sections.

Practically all the work dealt with was done in the inadequate temporary accommodation in the Town Hall buildings, but, on December 14th, a transfer was made to the permanent address at the Tuberculosis Dispensary, New Bridge Street.

The new premises consist of the first pair of semi-detached houses known as Ridley Villas, situated at the corner of New Bridge Street and Falconar Street—a very central position.

By carefully planned alterations the two houses have been transformed into one, providing a convenient and commodious institution.

The accommodation comprises office, large waiting room, consulting room with two dressing rooms, laboratory, dispensary, and lavatories and w.c's on the ground floor.

On the first floor the rooms are at present arranged for the purposes of the Medical Officer and Nurses, with two good rooms for a resident female caretaker.

If and when required, an additional consulting room could be easily arranged on this floor.

There is ample muniment and storage accommodation in the attics and cellars.

A large plot of garden ground intervenes between the front of the building and New Bridge Street, and this is to be maintained by the Parks Committee.

The patients' entrance is at the side from Falconar Street.

Since the removal, it is satisfactory to report an immediate and continued improvement in the health of the staff.

I would like to thank the staff for their continued support, and congratulate them on the fact that they are now working under more wholesome conditions than in the past.

Finally, Sir, let me express my appreciation of your constant interest in the work of this section and the welfare of the personnel.

Your obedient servant,

WILLIAM H. DICKINSON, M.B., D.P.H.,
Tuberculosis Medical Officer.

REPORT.

Notifications.—1,060 notifications of tuberculosis were received by the Medical Officer of Health, but some of the patients had already been notified, so that the total number of new cases was 958, of whom 665 were certified to be suffering from pulmonary, and 293 from other forms of tuberculosis.

The details are set forth in the accompanying tables:—

Summary of Notifications during the Period, 1st January to 31st December, 1914.

Age Periods.	Number of Notifications on Form "A."												
	Primary Notifications.												Total Notifications (including Cases previously notified by other doctors).
	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	Total.	
Pulmonary—													
Males	1	8	32	22	37	31	81	97	64	21	4	398	457
Females ..	1	9	19	33	33	35	66	38	27	5	1	267	302
Non-Pulmonary—													
Males	15	34	30	16	9	12	10	4	3	1	1	135	139
Females ...	20	37	33	37	9	10	6	2	3	1	—	158	162
Total	37	88	114	108	88	88	163	141	97	28	6	958	1,060

Number of Notifications on Form "B."					Number of Notifications on Form "C."		Number of Notifications on Form "D."	
Primary Notifications.				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.					
During the year the School Medical Officer referred all suspicious cases to the Tuberculosis Medical Officer.					83	84	67	80
					23	57	15	47
					14	7	5	2
					10	4	6	3
					130	152	93	132

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

NOTIFICATIONS—ORIGINAL AND REPEATED.

TOTAL.	Nett New Notifications.	Notified twice.	Notified three times.	Notified four times.	Notified five times.
1,060	958	88	13	—	1

SOURCE OF NOTIFICATIONS OF NETT CASES.

Total Number of Nett Cases Notified.	Notified by Medical Practitioners.	Notified by the Tuberculosis Medical Officer.	From Other Sources than Medical Practitioners, Death Returns, etc.
958	624	180	154

Deaths.—During the year 535 deaths (uncorrected) were registered as due to some form of tuberculosis. Of this number, 88 were insured persons.

Of these, 365 were certified as due to pulmonary tuberculosis (including 3 cases of acute phthisis) and 170 to other forms of the disease.

The death rates per 1,000 population were as under:—

Pulmonary Tuberculosis	1·34
Other Forms of Tuberculosis	0·63
Total Tuberculosis Death Rate (uncorrected) ...	1·97

The details as to the parts affected and the age periods are given on the following page.

DEATHS (UNCORRECTED)—CLASSIFICATION ACCORDING TO AGE AND TYPE.

	Under 1 year.	1 to 2 years.	2 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 45 years.	45 to 65 years.	65 years and upwards.	TOTAL.
Pulmonary Tuberculosis (not acute)	2	8	5	26	60	165	93	3	362
Acute Phthisis	...	...	...	1	...	1	1	...	3
Acute Miliary Tuberculosis	1	...	1	3	...	1	1	...	7
Tuberculous Meningitis	6	9	17	22	6	4	...	...	64
Tuberculosis of Peritoneum and Intestines ...	15	7	8	15	4	4	2	...	55
Tuberculosis of Spinal Column	...	...	...	3	1	3	2	...	9
Tuberculosis of Joints	...	...	...	3	2	1	1	1	8
Tuberculosis of other Organs	...	...	...	...	3	1	1	...	5
Disseminated Tuberculosis	8	2	3	3	4	1	1	...	22
									535
SUMMARY.									
Pulmonary	2	8	5	27	60	166	94	3	365
Non-Pulmonary	30	18	29	49	20	15	8	1	170
									535

It must be noted, however, that 23 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (17 pulmonary; 6 other forms), while 29 of the deaths (7 pulmonary; 22 other forms) 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	375	1·40
Other Forms	154	0.57
All forms of Tuberculosis (corrected)	529	1·95

It will be noticed that the uncorrected and corrected totals are practically identical.

The reason for the differences between the uncorrected and corrected figures for the two sub-divisions is that patients with pulmonary tuberculosis leave the city for the fresh air of the country, while persons from the surrounding districts, suffering from surgical tuberculosis, flock to the Royal Victoria Infirmary and other hospitals for active treatment.

Occupations.—The occupations of 313 persons who died during the year were ascertained to be as follows:—

OCCUPATION OF PERSONS WHO DIED FROM PULMONARY TUBERCULOSIS DURING THE YEAR 1914.

Trade or Occupation.	No.	Trade or Occupation.	No.	Trade or Occupation.	No.
Housewives ...	65	Brought forward..	242	Brought forward...	268
Labourers ...	35	Bricklayer ...	1	Min. Traffic F'man.	1
Scholars	31	Beltmaker ...	1	Optician	1
Children under 5 ys.	16	Bricksetter ...	1	Plumber	1
Clerks	9	Barmaid	1	Policeman ...	1
Engineers ...	9	Butcher	1	Painter	1
Miners	8	Convent Sister ...	1	Photographer ...	1
Commercial Trav's.	7	Corn Crusher ..	1	Plater	1
Machinists ...	6	Carriage Cleaner ...	1	Polisher	1
Barmen	5	Coach Builder ...	1	Rolley Checker ...	1
Cartmen	5	Commission Agent	1	Rope Winder ...	1
Domestic Servants	5	Cooper	1	Scavenger ...	1
Shop Assistants ...	5	Chef	1	Soldier	1
Charwomen ...	4	Cattle Drover ...	1	Stonemason ...	1
Laundress ...	4	Draper	1	Secretary ...	1
Turners... ...	4	Dressmaker ...	1	Slinger	1
Packers	3	Errand Boy ...	1	Tailor	1
Agents	2	Electrician ...	1	Typist	1
Boilermakers ...	2	Bookfolder ...	1	Watchman ...	1
Hairdressers ...	2	Boot Repairer ...	1	Woodcarver ...	1
Hawkers... ...	2	Bioscope Operator	1	Upholstress ...	1
Insurance Agents ...	2	Gardener... ...	1	Waitress... ...	1
Moulders... ...	2	Joiner	1	Wireman... ...	1
Porters	2	Milliner	1	Waterman ...	1
Shipwrights ...	2	Millwright ..	1	Watchmaker ...	1
Ship Captains ...	2	Metal Cleaner ...	1	No Occupation ...	14
Housekeepers ...	2	Music Teacher ...	1	Occupation not k'n.	7
Brassmoulder ...	1				
Carried forward...	242	Carried forward...	268	Total cases visited	313

Sex and Age.—It is interesting to note that while there were 50 per cent. more deaths from pulmonary tuberculosis at all ages amongst males than females, below the age of 25 there were over 50 per cent. more deaths amongst females than males (59 to 38).

The deaths from "other forms" of tuberculosis were fairly evenly divided between the two sexes, but 50 per cent. occurred before the age of 5 years.

The details appear in the following Table:—

DEATHS FROM TUBERCULOSIS IN AGE PERIODS (1914).

	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and over	TOTAL.
Pulmonary—												
Male ...	...	3	4	3	14	14	47	59	47	15	4	210
Females .	1	6	7	13	15	17	32	25	19	6	0	141
Non-Pulmonary—												
Males ...	13	25	14	7	5	7	4	3	2	1	1	82
Females .	17	22	13	9	2	3	3	0	3	2	0	74
TOTAL ...	31	56	38	32	36	41	86	87	71	24	5	507

N.B.—The above only includes those persons who were residents of and died in Newcastle-upon-Tyne.

Duration of Illness.—After every death from pulmonary tuberculosis, enquiry was directed, when possible, to the length of time the deceased had been ill. The average duration of illness in such cases during 1914 was 23 months, while in 1913 it was approximately 26 months, and in 1912, 28 months.

Family History.—In 132 instances amongst the 313 cases investigated after death, *i.e.*, in 42·17% there was a history that some near relation was suffering from or had died of pulmonary tuberculosis. Where one or both parents were phthisical, the average age at death was 25½ years, as compared with 32 years attained by those of non-phthisical parentage.

Notification-Death Ratio.—As there were 665 (nett) notifications of pulmonary tuberculosis, and 365 deaths, the ratio of notifications to deaths was as 1·82 to 1.

During the year there were 293 (nett) notifications of other forms of tuberculosis, and 170 deaths, the notification-death ratio was as 1·7 to 1.

Deaths in Institutions.—78 patients died of phthisis in the Union Infirmary, and 14 in the phthisis pavilions at Walker Gate.

There can be no doubt that the increased use of such hospitals, by patients in the later stages of consumption, is likely to have a good effect on the phthisis death rate, for while the sufferer is well looked after, the dependants are freed from further risk of infection and are better able to earn sufficient money to provide the necessaries of life.

Ward Distribution of Tuberculosis.—Considerable interest attaches to the prevalence of tuberculosis in the various wards of the city, and a table has been prepared showing, for each ward, the estimated populations, the number of notifications and deaths, together with the rates per thousand, and also the number of insured persons who have applied for sanatorium benefit, the number on the Dispensary register, and the number of persons whose sputum has been examined and found to contain tubercle bacilli.

WARD DISTRIBUTION OF TUBERCULOSIS.

WARD.	Population estimated on Registrar General's figures for 1914.	NOTIFICATIONS.						DEATHS (Uncorrected).						Application for Sanatorium Benefit.	Persons on Dispensary Register.	Sputa examined with positive result.
		Pulmonary.	Attack rate per 1,000 of population.	Non-Pulmonary.	Attack rate per 1,000 of population.	Total.	Attack rate per 1,000 of population.	Pulmonary.	Death rate per 1,000 of population.	Non-Pulmonary.	Death rate per 1,000 of population.	Total.	Death rate per 1,000 of population.			
St. Nicholas	3,578	17	4·75	1	0·28	18	5·03	2	0·56	...	...	2	0·56	4	11	7
*St. Thomas	14,107	18	1·28	4	0·28	22	1·56	17	1·20	27	1·91	44	3·11	5	28	12
St. John's	15,350	54	3·52	14	0·91	68	4·43	32	2·08	12	0·78	44	2·86	13	54	29
Stephenson	18,746	41	2·19	23	1·23	64	3·42	26	1·39	11	0·59	37	1·98	13	72	33
Armstrong...	15,623	38	2·43	26	1·66	64	4·09	28	1·79	8	0·51	36	2·30	22	73	26
Elswick	12,650	21	1·66	10	0·79	31	2·45	9	0·71	9	0·71	18	1·42	12	34	23
Westgate	15,264	42	2·75	13	0·85	55	3·60	29	1·90	9	0·59	38	2·49	12	59	23
†Arthur's Hill	11,429	35	3·06	8	0·70	43	3·76	18	1·57	2	0·17	20	1·74	8	14	11
Benwell	17,581	63	3·58	26	1·48	89	5·06	22	1·25	15	0·85	37	2·10	23	77	28
Fenham	11,036	27	2·45	6	0·54	33	2·99	9	0·82	4	0·36	13	1·18	9	37	20
All Saints	17,698	60	3·39	18	1·02	78	4·41	49	2·77	11	0·62	60	3·39	11	70	20
St. Andrew's	12,484	39	3·12	11	0·88	50	4·00	14	1·12	6	0·48	20	1·60	12	56	22
Jesmond	11,052	11	0·99	8	0·72	19	1·71	9	0·81	5	0·45	14	1·26	5	10	4
Dene	12,185	17	1·39	11	0·90	28	2·29	9	0·74	4	0·33	13	1·07	6	22	12
Heaton	15,501	31	2·00	14	0·90	45	2·90	13	0·84	4	0·26	17	1·10	14	59	29
Byker	17,477	35	2·00	23	1·32	58	3·32	18	1·03	8	0·46	26	1·49	15	85	21
St. Lawrence	17,905	52	2·90	32	1·78	84	4·68	23	1·30	16	0·89	39	2·19	21	105	28
St. Anthonys	15,781	33	2·09	23	1·46	56	3·54	20	1·27	10	0·63	30	1·90	12	90	16
‡Walker	16,076	31	1·93	22	1·40	53	3·33	18	1·12	9	0·56	27	1·68	12	90	20
City	271,523	665	2·45	293	1·08	958	3·53	365	1·34	170	0·63	535	1·97	229	1046	384

* Include deaths in Royal Victoria Infirmary and Fleming Memorial Hospital.

† Include deaths in Union Hospital.

‡ Include deaths in City Hospital, Walker Gate.

Note.—Deaths occurring in Public Institutions, have been allocated when possible to the Wards in which they resided.

It must be borne in mind that the Union Hospital is situated in Arthur's Hill Ward, the Royal Victoria Infirmary and Fleming Memorial Hospital in St. Thomas' Ward, while the Phthisis Pavilions at the City Hospital, Walker Gate, are in the Walker Ward.

Overlooking these wards with their abnormal conditions it is at once apparent that the death-rate per thousand population (which in the case of tuberculosis is of far more practical value than the notified incidence per thousand) is much higher in the poorer and more congested wards than in those enjoying more favourable conditions.

Housing Accommodation.—The numbers of rooms in the dwellings occupied by 313 persons who died from pulmonary tuberculosis were as follows :—

Rooms in dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Military Barracks	Total.
Deaths.	28	89	79	67	47	2	1	313

As regards the type of house occupied 172 were flats, 97 tenements, 41 self-contained, 2 common lodging houses, and 1 institution.

THE "COMBINED SCHEME."

The Work of the Tuberculosis Dispensary.—The number of new patients entered on the Dispensary Register during the year was 1046, and of these 388 were 'insured' persons, 499 dependents of 'insured' persons while 159 were 'uninsured'.

Many of these were contacts and of them 180 (equal to 17 per cent.) were first discovered to be suffering from consumption by the Tuberculosis Medical Officer, a considerable proportion being fairly advanced cases and active

sources of infection, expectorating tubercle bacilli in their sputum.

The number of the attendances at the Dispensary was 6,475 and 237 patients were visited in their homes, making a total of 6,712 consultations with the Tuberculosis Medical Officer.

The cases on the Dispensary Register were derived from many sources, the majority being notified cases and their contacts reported by the Dispensary Nurses, who visit practically every person notified as suffering from tuberculosis of the lungs.

Many, however, were referred to the Tuberculosis Medical Officer, with a view to Sanatorium or other treatment, by the Insurance Committee, the School Medical Officers, private practitioners, out-patient departments of the Royal Infirmary and Sick Children's Hospital, etc., while a considerable number were secured through the agency of the Charity Organization Society, and the Guild of Help.

As in 1913, comparatively few patients received medical treatment at the Dispensary, but in special cases prescriptions for medicine were given, or cod liver oil (either pure or in some more palatable form) and tonics were supplied.

Tuberculin injections were administered to 29 new patients.

The Work of the Nurses.—In all, 1,306 new patients were visited and 6,444 subsequent visits were made, making a total of 7,750 visits for the year.

The main object of these visits is to see that the patient is carrying out, in every detail, the instructions of the doctor in attendance, more especially with regard to the prevention of the spread of infection to other members of the household.

The nurse can often give good advice on home nursing, the improvisation of a separate bed for the sufferer, the preparation of simple and inexpensive articles of diet, and kindred subjects.

Enquiry is also directed to the health of contacts, and any who are ailing are urged to see their own doctor, if they have one, or to come to the Dispensary for examination.

In this way a large number of unrecognised cases of tuberculosis has been discovered, especially amongst children.

The nurses report to the Tuberculosis Medical Officer every morning upon the previous day's work, special mention being made, in the case of new patients, of the number and relation of the inmates of the house occupied, the number of rooms in the house, the sleeping arrangements of the patient, and any obvious sanitary defects, *e.g.*, improper ventilation or bad drainage.

The Work of the Special Inspector.—This officer disinfects houses after deaths or changes of address of consumptives, arranges for the removal and disinfection of phthisical 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	1,647
Houses disinfected	549
Rooms disinfected in above houses	1,077
Disinfection for patients going to Sanatoria ...	90
,, ,, ,, changing their address	67
,, ,, ,, changing their rooms	9
,, ,, ,, going to Hospital ...	121
Houses disinfected after death (included in above)	262
Disinfection of Dispensary	50
Total number of visits	2,385
Houses found to have Sanitary defects (including overcrowding)	46

These defects were referred to the Inspector of Nuisances.

Pamphlets Distributed from the Tuberculosis Dispensary.

(1) HANDBILL:—

City and County of Newcastle-upon-Tyne.

What a

Tuberculosis Dispensary

is.

A Tuberculosis Dispensary is that branch of the Health Department of a local authority which deals exclusively with CONSUMPTION.

All forms of the disease, whether affecting the lungs, glands, joints, bones or other parts are included, and **the main objects of the Dispensary are to control the disease, where it is already established, and to prevent the infection of healthy persons.**

The Dispensary is under the supervision of the Medical Officer of Health, and is staffed by doctors, nurses, inspectors, etc.

The doctors examine patients at the Dispensary, or at their homes, if they are confined to the house.

In consultation with the patient's own private medical attendant, if he has one, the line of treatment suitable for each case is decided on, some of the patients being drafted to Sanatoria or Hospitals, while others are treated at home by their own family doctor.

A very important feature is the examination of relatives and contacts of known consumptives. In this way many cases are caught in the earliest stages, when they are most amenable to treatment.

The nurses assist at the Dispensary and visit bedridden patients in their own homes to see that the doctor's instructions are being carried out.

The inspectors also visit the houses of consumptives and report on any insanitary conditions about the premises, *e.g.*, dampness, overcrowding, defective drains and so forth.

As **TUBERCULOSIS IS AN INFECTIOUS DISEASE** the inspectors disinfect the rooms, clothing and bedding of consumptives.

All information relating to patients is strictly confidential as between patient and doctor, and nothing will be done or divulged which would have the effect of interfering in any way with the patient's means of making a livelihood.

HEALTH DEPARTMENT,
TOWN HALL,
April, 1913.

(2) SMALL FOUR-PAGE CARD—

City and County
of Newcastle-upon-Tyne.

HEALTH DEPT.

RULES

FOR CONSUMPTIVE PATIENTS AND THOSE LOOKING AFTER THEM.

(Adapted from the Rules of the Royal Victoria Hospital for Consumption, Edinburgh).

Town Hall,
April, 1913.

"If preventable, why not prevented?"
KING EDWARD VII.

Rules for Consumptive Patients and those looking after them.

Consumption is a communicable disease. It may pass from person to person. It may pass from one lung to the other or from one organ to another.

The chief source of infection is the expectoration of the consumptive. The great danger lies in the drying of the expectoration and the blowing about of the dried infectious material.

The spread of consumption can be largely prevented.

If the following directions be observed there is no need for fear in ordinary intercourse with patients.

The breath of the consumptive is not directly infectious.

When at home the patient should expectorate into a jar or cup containing a tablespoonful of carbolic acid (1 in 20) or other disinfectant. The vessel should be changed once in twelve hours, or oftener. It should be cleansed by being

filled up with *boiling* water. The combined contents should be poured down the w.c. The vessel should then be washed with *boiling* water.

When the patient is out of doors he should carry a pocket spitting flask. The flask should be used and cleansed like the jar. The patient should never spit on the streets.

The patient should not use handkerchiefs for expectoration. If this ever has to be done the handkerchief should be of an inexpensive material, *which should be burned after use.* Squares of rag or paper which may be used for convenience should be similarly treated.

The expectoration should on no account be swallowed, for thereby the disease may pass to other organs (bowels).

Consumptive patients should avoid kissing.

Consumptive mothers should not suckle.

Patients with pronounced disease should have separate table utensils.

If expectoration has been accidentally deposited on the floor or elsewhere it

should be wiped up and burned and the contaminated surface cleansed with strong disinfectant.

Rooms which have been long occupied by a consumptive patient should, before occupation by someone else, be carefully disinfected as after other infectious disease. This will be done free of charge on application to the Health Department.

The furnishings of the bedroom should be as simple as possible, all unnecessary hangings, furniture and mats being avoided.

Fresh Air is the food of the lungs. Therefore see that the lungs are not starved.

A.—*By Day.*—The patient should occupy as airy and as dry a room as possible. *The windows should be kept freely open.* When able, the patient should be out of doors once or several times during the day, but should *avoid over-exertion* and chill.

B.—*By Night.*—He should sleep alone. The bedroom should be large and airy. *The window should be kept freely open* in all weathers.

(3) ILLUSTRATED HANDBILL, published by "The Medical Officer." A copy of this on cardboard, for hanging up, is given to every known case of consumption.

Bacteriological Examination of Sputum.—714 specimens of sputum were examined for presence of tubercle bacilli at the College of Medicine, 202 being positive, and 512 negative.

764 specimens were examined at the Dispensary, and of these 182 were positive, and 582 negative.

The following table shows the division into age periods of the persons whose sputa were found to contain tubercle bacilli:—

AGE PERIODS OF PERSONS WHOSE SPUTA, ON EXAMINATION, PROVED TO CONTAIN TUBERCLE BACILLI.

	5 years to 10 years.	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.
College of Medicine—Males ...	...	1	14	15	44	30	23	2	...	129
College of Medicine—Females ...	...	4	9	11	20	15	13	1	...	73
Tuberculosis Dispensary—Males ...	4	5	14	13	31	36	10	3	...	116
Tuberculosis Dispensary—Females	...	13	13	10	15	11	4	...	...	66
Total...	4	23	50	49	110	92	50	6	...	384

Institutional Treatment.—Under the 'Combined Scheme' 30 beds were maintained at Barrasford Sanatorium, whilst 15 beds were available at the City Hospital, Walker Gate, for more advanced cases. On April 16th, the agreement was completed with the Poor Children's Holiday Association, whereby 30 beds were secured at Stannington Sanatorium for the treatment of tuberculous children.

Prior to April 16th the Newcastle-upon-Tyne Insurance Committee had maintained six beds at this institution for dependants of insured persons.

The following tables show the number of patients admitted to *Barrasford Sanatorium*, *Stannington Sanatorium*, and the *City Hospital*, Walker Gate, under the auspices of the City Council or the Insurance Committee, together with the results of treatment where it had been completed :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM DURING YEAR 1914.

	In Barrasford Sanatorium on 1st January, 1914.	Admitted during year.	Persons who completed treatment during year.			In Barrasford on 31st Dec., 1914.
			Number.	Total Number of days.	Average Length of Stay in days.	
Uninsured Males ...	3	7	6	634	106	4
Uninsured Females...	3	8	8	843	105	3
Insured Males ...	22	48	53	6,987	132	17
Insured Females ...	2	15	11	1,259	114	6
Total	30	78	78	9,723	124	30

Results of treatment of patients discharged from Barrasford Sanatorium during year 1914 :—

RESULTS.	Men.	Women.	Total.
(*a*) Fit to work	53	18	71
(*b*) Improved	3	0	3
(*c*) Without improvement	3	1	4
(*d*) Worse	0	0	0
Total	59	19	78

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM DURING YEAR 1914.

	In Sanatorium on 1st Jan., 1914.	Admitted during the year.	Persons who completed treatment during the year.			In Sanatorium on 31st Dec., 1914.
			Number.	Total number of days.	Average length of stay in days.	
Males	2	37	23	2657	116	16
Females	4	41	32	4241	133	13
Total	6	78	55	6898	125	29

Results of treatment of patients discharged from Stannington Sanatorium during year 1914 :—

	Males.	Females.	Total.
(*a*) Much Improved	7	10	17
(*b*) Improved	15	17	32
(*c*) Without Improvement ...	1	4	5
(*d*) Worse	...	1	1
Total	23	32	55

One patient died in the Institution, and is included under "worse."

PATIENTS WHO RECEIVED TREATMENT IN PHTHISIS PAVILION, AT THE CITY HOSPITAL, WALKER GATE, DURING YEAR 1914.

	Patients in Hospital on 1st Jan., 1914.	Patients admitted.	Patients who have completed treatment.			In Hospital 31st Dec., 1914.
			Number.	Total number of days.	Average length of stay in days.	
Uninsured, Male ...	3	3	6	669	111	...
,, Female	3	12	13	888	68	2
Insured, Male ...	7	20	17	2098	123	10
,, Female ...	1	5	5	413	83	1
Total	14	40	41	4068	99	13

Result of treatment of patients who completed treatment in Phthisis Pavilions, at the City Hospital, Walker Gate :—

	Males.	Females.	Total.
(*a*) Fit to Work	6	3	9
(*b*) Improved	4	5	9
(*c*) Without Improvement ...	4	5	9
(*d*) Died in Hospital	9	5	14
Total	23	18	41

N.B.—14 patients died in the Institution, and 9 have died since being discharged.

After Care.—Every effort is made to keep in touch with patients after they leave the Sanatoria and Hospitals, in order to encourage them in their battle against the disease, and to see that they continue to observe the rules for the preservation of health and prevention of infection of others which they learned whilst undergoing institutional treatment.

A very pressing need is some means of providing suitable employment for phthisical patients, and probably an "After Care Committee" could best deal with this matter.

Close communication is maintained between the Tuberculosis Dispensary and the various charitable agencies, through which much material assistance is obtained for individual patients, for some of whom work has been found. Much more remains to be done in this direction, however, and a special body, such as suggested above, would probably be best able to cope with the necessities of the situation.

It is far too common to see cases return from Sanatorium or Hospital much improved in health and able to undertake a certain amount of work, and then relapse, owing to insufficient nourishment whilst looking for an "open-air" job.

Doubtless the establishment of farm colonies would overcome this difficulty to some extent, but the average town-dweller is unable to keep a wife and family on the wages paid to a farm servant.

It is to be hoped that one of the effects of this unhappy war will not be to postpone further the satisfactory solution of the problem.

TUBERCULOSIS SECTION, 1914.

Monthly Summary of Work Accomplished.

	January	February	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Total.
Notifications	107	91	118	87	93	72	73	37	85	74	59	62	958
Lungs	78	64	79	63	63	51	48	30	54	49	41	45	665
Others Forms	29	27	39	24	30	21	25	7	31	25	18	17	293
By Tuberculosis Med. Officer	26	24	17	11	24	12	12	4	11	16	12	11	180
Deaths	50	31	50	49	49	43	33	35	39	36	44	48	507
Lungs	39	26	29	32	33	30	26	23	22	20	35	36	351
Other Forms	11	5	21	17	16	13	7	12	17	16	9	12	156
Attendance at Dispensary ...	519	568	656	644	668	507	722	402	573	528	537	388	6712
Dispensary	500	545	641	629	644	490	702	388	559	511	501	365	6475
Residence	19	23	15	15	24	17	20	14	14	17	36	23	237
New Patients...	120	110	105	90	110	72	90	54	86	80	70	59	1046
Tuberculin Cases	5	5	4	5	1	1	3	...	2	...	3	...	29
Barrasford Sanatorium.													
Admitted	5	7	10	5	6	7	9	6	5	5	5	8	78
Discharged	4	11	8	7	4	9	6	8	4	6	7	4	78
Walker Gate Hospital.													
Admitted	1	4	4	3	4	4	4	1	5	6	2	2	40
Discharged	1	4	2	1	1	3	4	1	3	5	1	1	27
Died	...	1	1	2	3	...	...	1	2	1	1	2	14
Stannington Sanatorium.													
Admitted	2	...	...	10	13	...	10	6	11	8	11	7	78
Discharged	2	...	...	...	2	...	7	6	12	7	11	8	55
Bacteriological Examination.													
College of Medicine	90	72	66	57	90	58	70	47	42	51	31	40	714
Positive	19	21	13	17	18	18	26	16	11	24	10	9	202
Negative	71	51	53	40	72	40	44	31	31	27	21	31	512
Dispensary	60	79	75	81	103	66	59	38	41	68	64	30	764
Positive	12	16	20	19	18	13	13	13	12	20	20	6	182
Negative	48	63	55	62	85	53	46	25	29	48	44	24	582
Evening Consultations.													
Attendances	78	93	107	134	101	59	96	34	112	72	58	56	1000
New Patients	13	9	14	5	13	8	10	4	21	10	10	13	130
Work of Nurses.													
New Patients	138	125	107	89	136	88	80	34	157	112	133	107	1306
Subsequent Visits	316	365	445	549	767	676	594	295	711	751	535	440	6444
Total	454	490	552	638	903	764	674	329	868	863	668	547	7750
East District	158	139	143	179	425	365	449	267	451	452	290	290	3608
West District...	296	351	409	356	417	357	225	62	372	392	335	249	3821
Central District	...	...	...	103	61	42	...	...	45	19	43	8	321
Special Inspector's Visits ...	244	177	209	191	231	175	179	162	196	223	206	192	2385
Houses Disinfected	42	56	45	56	52	48	51	43	33	44	38	41	549
Rooms Disinfected	106	114	84	114	101	96	96	85	60	80	78	63	1077
House Sanitary Defects ...	8	5	2	6	4	4	1	2	3	4	4	5	48

Note.—The figures relating to deaths only include those persons who were residents of and died in Newcastle-upon-Tyne.

William H. Dickinson., M.B., D.P.H.,
Tuberculosis Medical Officer.

Tuberculosis Dispensary,
August, 1915.

DISINFECTION.

2,465 cases of notifiable and 253 of non-notifiable infectious disease have been inquired into by the infectious disease inspectors, and the houses or rooms connected therewith disinfected by spraying with formalin. In connection with cases of tuberculosis, 549 houses, including 1,077 rooms, were similarly disinfected.

In every instance the bedding and other infected articles were removed to the Disinfecting Station at the City Hospital, Walker Gate, and after sterilisation by steam, returned to the owners.

Inquiries were also made in connection with 16 typhus and 5 smallpox contacts, most of whom had been notified as having landed at one or other of the ports from abroad. These persons were kept under observation until the possible incubation period was over.

519 extra visits of supervision were entailed upon the Infectious Diseases Inspectors to the larger number of cases left at home owing to the pressure upon the accommodation at the City Hospitals.

INFECTED ARTICLES PURIFIED IN THE DISINFECTING APPARATUS AT THE CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE, AND THE ISOLATION HOSPITAL, TOWN MOOR.

ARTICLES FROM CITY.		ARTICLES—HOSPITAL PROPERTY.	
1914.	1913.	1914.	1913.
32,850	23,956	3,148.	4,234.

The above list includes only civilian work. In addition, the following articles from military billets and camps were disinfected :—

ARTICLES DISINFECTED FOR MILITARY AUTHORITIES.

DESCRIPTION.		TREATED AT.		
		City Hospital.	Moor Hospital.	TOTAL.
Complete Kits	For Infectious Cases.	2	—	2
Other Articles ...	For Infectious Cases.	334	—	334
Blankets	For Vermin.	5,952	6,805	12,757
Other Articles—Sheets, Tents, Cushions, Covering Apparel, etc.	For Vermin.	601	30	631
TOTAL		6,889	6,835	13,724

The staff have thus dealt with approximately 50,000 articles at the two disinfectors during the year.

INFECTED ARTICLES DESTROYED AND REPLACED BY THE HEALTH DEPARTMENT.

	1914.	1913.
Half Straw Mattresses	28	40

Orders for goods to the value of £7 8s. 5d. were also given in replacement of similar articles destroyed by order of the Medical Officer of Health.

Fluid disinfectant, in pint tins, and disinfectant soap, in pound bars, were 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 material so dispensed was properly and economically used.

DISINFECTANTS DISTRIBUTED.

FROM	FOR INFECTIOUS DISEASES.		FOR PHTHISIS.	
	FLUID (1 pint tins.)	SOAP (1 lb. bars.)	FLUID (1 pint tins)	SOAP (1 lb. bars.)
Health Department	1,372	622	—	—
Tuberculosis Dispensary ...	...	...	*501	—
Corporation Yard, Benwell ...	268	250	12	12
Corporation Yard, Walker ...	148	58	18	21
TOTAL, 1914	1,788	930	280½	33
The Total in 1913 was ...	949	872	348	149

* Half-pints.

BACTERIOLOGICAL INVESTIGATIONS, 1914.

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

REPORT.

2,249 specimens were submitted for examination. The nature of the investigations, and the results obtained were as follows:—

	Diphtheria.			Tuberculous Phthisis.			Enteric Fever.		
	Total.	Positive.	Negative.	Total.	Positive.	Negative.	Total.	Positive.	Negative.
No. of Examinations ...	810	258	552	714	202	512	168	58	110

Milk Examinations:—

	Total	Found	Not Found
1. For tubercle bacilli	180	12	168

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

Colon bacilli not found in 1 cc. or less ...	16
Colon bacilli found in 1 cc. but not in less	45
Colon bacilli found in 0·1 cc. but not in less	52
Colon bacilli found in 0·01 cc. but not in less	26
Colon bacilli found in 0·001 cc. or less ...	42
	181

Water examinations:—

Class I. (Colon bacilli not found in 100 cc. or less)	51
Class II. (Colon bacilli found in 100 cc. but not in less)	78
Class III. (Colon bacilli found in 10 cc. but not in less)	47
Class IV. (Colon bacilli found in 1 cc. but not in less)	11
	187

Other Examinations :—

1. Persons convalescent from enteric fever or suspected to be carriers of the bacillus ...	5
2. Food (meat and milk) for food poisoning bacilli, and material from persons suffering from the suspected infection.	3
3. Isolation and examination of a diphtheria bacillus.	1
	9

H. J. HUTCHENS,
Bacteriologist.

University of Durham College of Medicine,
Newcastle-upon-Tyne,
3rd February, 1915.

Water and the presence of Bacillus Coli.—In reporting his findings the Bacteriologist describes Class I (above) as "good," Class II "doubtful," Class III "unsatisfactory," and Class IV as "bad." In view of the large proportion of samples regularly stated to be "doubtful" or "unsatisfactory," the Medical Officer of Health invited the Engineer of the Water Company to explain the reason for this, and his reply, prefaced by a note by the Medical Officer of Health, was presented to the Sanitary Committee in July.

The Joint statement is appended :—

BACTERIOLOGICAL EXAMINATION OF WATER.

Although a water supply may be of high chemical purity, as is that of Newcastle, it may yet contain germs capable of causing widespread disease among the consumers. The most dangerous are intestinal bacteria, of which *bacillus typhosus*, the organism causative of enteric fever, is by far the most important in this country. It is practically impossible to detect the typhoid bacillus itself in water, but *bacillus coli*, which is normally present in all bowel discharges, can be readily found; neither *bacillus coli* nor *bacillus typhosus* practically ever originates from any other source than animal (or human) excretions.

All surface waters acquire a certain amount of animal contamination, as by birds or cattle, and this accounts for the presence, in all but uncontaminated deep well waters, of *bacillus coli*, itself a harmless organism. It cannot be entirely eliminated, but may, by proper precautions, be strictly limited. Under no circumstances should any possibility of contamination by human excrement be permitted, and a system which allowed this would probably also be found lax in regard to animal pollution generally.

Consequently, the typhoid bacillus being practically undetectable, experts have adopted a standard, based upon the frequency of occurrence in the water of *bacillus coli*. The standard is purely arbitrary, but forms a safeguard such as is quite unobtainable by chemical analysis.

In presenting the special statement by the Water Company's Engineer (Mr. A. L. Forster), upon the general question, it should be stated that the Company takes parallel samples with the Health Department, the circumstances attending each being carefully noted. The Company is not responsible for impurities due to defects in private fittings, but, nevertheless, has done very much, since the initiation of the bacteriological check, to investigate the conditions and indicate improvements. Practically all samples taken from reservoirs, filters, and mains have been found to be of a high standard of purity.

For the information of the Committee, it should be stated that about 200 samples of water (or 7 per cent. of all samples) are submitted to the Bacteriologist annually, and in approximately only 3 per cent. of these is the *bacillus coli* detectable in one cubic centimetre of water, in 27 per cent. in 10 cubic centimetres, while in 50 per cent. the bacillus can only be recovered from as large a quantity as 100 cubic centimetres, and in 20 per cent. it cannot be found at all.

HAROLD KERR,

Medical Officer of Health.

31st July, 1914.

NEWCASTLE AND GATESHEAD WATER COMPANY,
ENGINEER'S OFFICE,
NEWCASTLE-UPON-TYNE,
28th July, 1914.

MY DEAR SIR,

For some considerable time experiments have been made with a view to ascertain the reason of the presence of *bacillus coli* in the water supplied by this Company to their consumers. As explained to you, samples taken on the same date shew considerable variation, although the water passed into the consumers' pipes is in all cases identical. The samples taken from the filter outlets and large main have in every case proved bacteriologically perfect, that from Whittle Dene and also Throckley coming under Class I., and containing no *bacillus coli* in 100 cc. of water. The water, therefore, being perfectly pure when entering the pipes at these points for distribution, the *bacillus coli* must be introduced by some local agency. Tallow contains a considerable amount of *bacillus coli*, and if the leather washers have been dressed with that or similar containers of *bacillus coli*, then I suggest that the contamination (if it may be so called) must be at the consumer's tap. The taps are sterilized by means of a blow lamp before the samples are taken, but even this is a danger in itself, as the very fact of heating the tap will cause the tallow or grease in the leather washer to flow, and thus discharge the *bacillus coli* into the water drawn off. Of course the Company cannot be responsible for this, but in order to minimise the quantity of *bacillus coli*, I am testing several samples of leather and composition washers for drawn-off taps so as to arrive at some satisfactory solution of the difficulty. I would add, that as this class of *bacillus coli* is perfectly harmless, that while the samples taken from the taps may be useful, those taken at our filter beds would be a safer indication of the presence or otherwise of the *bacillus coli* or typhoid germ.

I do not know of any other town that analyses samples of water drawn from taps in the town, London taking theirs from the point of distribution, namely, at their filters and direct from the mains.

Yours faithfully,
ALFRED L. FORSTER,
Engineer.

DR. KERR,
Medical Officer of Health,
Town Hall,
Newcastle-upon-Tyne.

IV. FOOD.

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

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

TUBERCULOUS MILK.

180 samples of milk, collected by the *Assistant Inspectors of Nuisances* were examined by the Bacteriologist for the presence of tubercle bacilli, and in 12 instances the milk was found to be infected, as shown in the report of the latter, (see page 131); 2 of the farms concerned were in the City itself, and the others were variously situated in the Counties of Northumberland (4), Durham (1), Cumberland (1), Westmorland (1), Dumfriesshire (2), and Kirkcudbrightshire (1).

In 8 of the cases, examination of the cows (in 3 instances by means of the tuberculin test) showed diseased or suspicious animals, which were at once excluded from the herds. At seven of the farms samples of the mixed milk of the remaining cows proved not to contain bacilli. In the eighth instance a check sample, taken by the Medical Officer of Health of the district in which the farm was situated, was also reported to contain tubercle bacilli, and for some time no further information was obtained, except that the farmer was said to have ceased to send milk to Newcastle. Some months later, however, a sample of the milk was obtained at one of the large dairies in the City and was reported not to contain tubercle bacilli.

In 3 cases, no evidence of disease could be found in the cows. Two of the farmers stated that cows had been disposed of subsequent to the affected sample being taken, and these animals would appear to have been the cause of the mischief, as further samples of the mixed milk were reported as not containing tubercle bacilli. The third farmer ceased to send milk to the City, so that no check sample could be obtained.

The following case illustrates the difficulty which may be experienced in dealing with tuberculous milk :—

The sample was collected on 28th January, at a dairy in the City. On inquiry it was found that the milk was supplied through a dealer at Tynemouth, and that a second dairyman in Newcastle also received some of it. The supply was at once stopped, and the Medical Officers of Health of Tynemouth and Westmorland informed. The herd was tuberculin tested by the Veterinary Inspector of the Westmorland County Council. In all 44 cows and 2 bulls were tested, and of these 20 cows and both bulls reacted. Thirteen of the cows which reacted were in milk at the time, and special samples from these were taken and examined microscopically, but only one was found to contain bacilli. Each of these samples was therefore examined by inoculation into guinea-pigs, but in every case the result was negative. At that time the reacters were isolated from the rest of the herd for further examination, and a check sample taken in Newcastle from the milk of the remainder was found not to contain bacilli. It was not finally ascertained what steps were taken with regard to the reacters, as the farmer ceased to send milk to Newcastle.

INSPECTION OF MEAT AND PROVISIONS.

Report of the

Veterinary Officer, Inspector of Meat, etc.

To the Medical Officer of Health.

Sir,

I have the pleasure to present this, my Eighth Annual Report, to the Sanitary Authority for the City and County of Newcastle-upon-Tyne, concerning the duties performed in my section of the Health Department during the year ending 31st December, 1914.

THE DAIRIES, COWSHEDS, AND MILKSHOPS ORDERS, 1885-1899.

THE MILK SUPPLY.

There are 31 dairymen registered within the city, who occupy 43 cowsheds on 33 premises, and possess a total of 510 milch cows.

During the year 299 visits have been made to the cowsheds and dairies, for the purpose of inspecting the buildings, utensils, etc., as to structural repair, sanitation, general cleanliness, etc. Frequent visits have also been made for the purpose of examining the herds. Of the cows examined, it was found necessary in ten cases to make special visits and take samples of milk from cows showing abnormal conditions affecting their udders. On examining the samples microscopically, two were found to be diseased, the remaining eight being normal. Of the two diseased samples, one was found to be tuberculous, whilst the other showed that the udder from which it was drawn was affected with actinomycosis.

TUBERCULOSIS.

In the first of the above cases, the milk was from a good-looking cow, which was valued at £27 as a sound animal. The animal was removed by the Local Authority from the farm to a slaughter-house within the city and slaughtered. After slaughter the carcass and organs were examined, the animal being found to have been suffering from tuberculosis —not advanced. The owner received compensation (¾ value of carcass, valued as a diseased animal) in accordance with the Tuberculosis Order of 1913.

Actinomycosis Case:—In this case the animal was a well bred Alderney cow. The owner reported that in his opinion the udder was suspicious of tuberculosis. On making a clinical examination no evidence of tuberculosis could be detected; but on microscopically examining a sample of milk from her enlarged udder, clubbed filaments of the Actinomyces or Ray fungus were found. It is believed that there are only one or two cases on record where Actinomycosis of the udder has been detected by examining the milk. The animal was sent into the City and slaughtered, and on making a *post mortem* examination one-quarter of the udder was found to be enlarged.

The udder was destroyed. The whole of the remainder of the carcass, being perfectly normal, was passed as fit for human consumption.

Other Cases of Tuberculosis:—During the year under report, 19 separate samples of mixed milk produced by the *city* herds and collected by the Health Department Inspectors from dairymen within the city, were sent by the Medical Officer of Health to the City Bacteriologist for examination by inoculation into guinea pigs. Of the 19 samples tested in this way two were found to be tuberculous. The two premises, where each sample found diseased was collected, were then visited by the Veterinary officer.

Premises No. 1.—On examining the herd one cow was found to be showing clinical evidence of tuberculosis, whilst another one was suspicious of being affected with the disease.

The former was sent by the owner to the knackers and slaughtered. From the latter samples of milk were taken and examined microscopically but no evidence of disease was detected.

Premises No. 2.—On visiting these premises the herd was examined, but no clinical evidence of disease could be detected. A sample of milk from one cow with a slightly indurated udder was microscopically examined and found normal. It was found, however, that during the interval between the collection of the sample by the Health Department Inspector and the visit made by the Veterinary Officer a cow with an enlarged udder had been removed from the premises and sold.

After these two herds had been dealt with by the Veterinary Officer, check samples of mixed milk were taken from each and sent by the Medical Officer to the City Bacteriologist for submission to the biological test. In each case the milk was found to be free from any evidence of disease.

MEAT, PROVISIONS, FISH, FRUIT, Etc.

During the year 1914, besides foreign meat and other foodstuffs, some 201¼ animal carcasses have been condemned and destroyed within the city, as being unfit for human consumption, as compared with 202¾ carcasses in 1913, and 168 carcasses in the year 1912. Of the 201¼ carcasses, 89¼ were condemned on account of tuberculosis (see tables). During the year 1914, the number of cattle insured by the members of the Newcastle, Gateshead and District Butchers' Association was 18,288, being an increase of 2,576 over the previous year.

During the year the Association paid to its members the sum of £937 1s. 2d., as compensation in respect of carcasses, etc, condemned and destroyed on account of disease, etc.

NUMBER OF VISITS AND INSPECTIONS OF PREMISES DURING THE YEAR 1914.

Slaughter Houses and Knackers' Yards.	Central Meat Market.	Fish Markets.	Wholesale and Retail Shops.	Food Preparing Premises.	Cold Stores.	Wharves	Vessels.
11,774	736	258	2,330	15	50	514	41

IMPORTED MEAT.

During the year 1914 some 307 vessels carrying meat and other foodstuffs from South America, Denmark, Holland, Australia, and other countries, arrived at the Quayside, being about 100 vessels fewer than the year previous. Of the total, 8 were from South America as compared with 17 the year before. During the year 41 vessels were boarded and 514 visits to the wharves made, and of the 2,830 casks and other packages containing meat, etc., opened, minute examinations were made in each case. Regarding the visits made, 48 were in response to detention notices having been served by the Customs' Officials detaining meat, etc., at the Quayside for the purpose of inspection. 14 samples—liquid—were taken during the year from packages containing meat, and submitted to the Public Analyst for chemical analysis. All were found free from any harmful preservative.

Large quantities of imported meat arrive by rail, having been subjected to inspection at other ports. Such meat, however, is subjected to supervision at the wholesale shops within the city.

Foreign Meat arriving by Vessels.—During the year 1914 no carcasses of fresh beef have arrived. Regarding pork, some 7,594 carcasses arrived as compared with 1,050 the previous year. The consignments of frozen beef totalled some 32,238 quarters fewer than the previous year; the mutton totalled 31,172 carcasses fewer than the previous year; whilst the imports of carcasses of lamb showed an increase of 7,437 over those of the previous year.

Colonial Imports Direct.—During the past two years large vessels have arrived at the Tyne direct from Australia with beef, mutton and lamb; and during the year under report the first consignment—direct by vessel to the Tyne—of thousands of carcasses of mutton and lamb, besides hundreds of quarters of beef, arrived from New Zealand.

It is quite probable that, providing necessary accommodation regarding berths for large vessels at the quayside and facilities for storing huge amounts of frozen and chilled meat be established, there will be a great future for developing this district as a distributing centre.

The following Table states the quantities of fresh, chilled and frozen meat, etc., landed at the quayside during the year 1914 :—

FOREIGN MEAT ARRIVING BY VESSEL AND LANDED AT THE NEWCASTLE-UPON-TYNE QUAYSIDE.

FRESH.			
BEEF.	VEAL.	MUTTON.	PORK.
Casks. Maws ...124 Meat ... 3 Intestines 3 Kidneys 38 Packages. Sausages 86	Carcasses 212 Packages. Plucks 3	Carcasses 40 Casks. Mutton 3 Feet ... 13	Carcasses ... 7,594 Sides ...359,699 (Green Bacon) Casks. Feet ... 4,307 Maws ... 2,949 Tongues ... 216 Pork ... 35 Heads ... 3,387 Plucks ... 105 Trimmings ... 3 Uteri ... 30 Tails ... 4 Bones ... 6 Hams ... 49

CHILLED.			
BEEF.		MUTTON.	
Fore quarters ...	280	Carcasses ...	386
Hind quarters ...	50	Quarters ...	387

FROZEN.		
BEEF.	MUTTON.	LAMB.
Fore quarters 30,222	Carcasses ...49,914	Carcasses ... 11,434
Hind quarters 23,890	Packages.	Sides ... 55
Flitches ... 144	Hearts ... 397	
Crops ... 4.000	Kidneys ... 121	
Packages.	Shoulders ... 9	
Hearts ... 968	Legs ... 76	
Tails ... 622	Loins ... 84	
Skirts ... 610	Fore quarters 84	
Livers ... 492	Hind do. ... 18	
Cheeks ... 525		
Suet ... 2,329		
Tongues ... 157		
Kidneys ... 275		
Tripe ... 1,050		
Boneless ... 1,159		
Shin ... 187		

The following packages of *Foreign Meat and other food stuffs* were *seized, destroyed, or otherwise dealt with* in accordance with the Foreign Meat and Unsound Food Regulations :—

Description.	Quantity.	Condition.	How dealt with.
Pigs Uteri	Casks 7	Not labelled Class I.	Re-exported at the sender's expense.
Bones with Meat	Casks 2	Scrap Class I.	Re-exported at the sender's expense.
Beef	Hind-quarters, 46 Fore-quarters, 42 lbs. 221 Bags. Hearts 37 Tails 16 Skirts 30 Cheeks 27 Cases. Livers 4 Liver, 1 single	Decomposition	Destroyed
Pork	Carcasses 83		
Veal	Carcasses 16		

CARCASSES, ETC., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1914.

	Carcasses.				Plucks.		Heads.		Ox Tongues.	Ox Hearts.	Ox Livers.	Ox Kidneys.	Ox Tripe.	Ox Tails.	Cow Udder.	Lungs.			Sweetbread.	Suet.
	Beef.	Veal.	Mutton.	Pork.	Sheep.	Pig.	Ox.	Sheep.								Ox	Sheep.	Pig.		
Tuberculosis ...	66+17qrs	1	...	18	...	...	5	...	1	3	10	2	...	1	1	Sets 16	...	1	...	...
Actinomycosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	..	...	...	...	...
Pyrexia	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abscesses ...	...	...	...	...	1	1	1	...	...	...	7	...	...	...	...	5	...	...	...	7 lbs.
Pleurisy	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	7	1	...	...	...
Pneumonia ...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peritonitis ...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Asphyxia	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Emaciation ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Immaturity ...	...	1	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Traumatism ...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Putrefaction ...	1+34 qrs. + 535 lbs	24	6½	50	13	5	...	12	2	4	3	19 lbs	503 lbs.	66	...	3	...	...	4½ lbs	...
TOTAL ...	70+51 qrs + 535 lbs.	28	19½	71	14	6	6	12	3	7	22	2 + 19 lbs	503 lbs.	67	2	31	1	1	4½ lbs	7 lbs.

POULTRY, GAME, FISH, ETC., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1914.

	Poultry and Game.	FISH.		Fruit and Vegetables.	Provisions.
		Shell Fish.	Other than Shell Fish.		
Decomposition	No. Chickens ... 101 Rabbits ... 258 Hares ... 4 Ducks ... 82 Geese ... 10 Ptarmigan ... 480	Lbs. Mussels ... 812 Prawns ... 3,531	Lbs. Black Jack ... ... 42 Salted Cod ... ... 112 Mackerel ... ... 70 Ling ... ... 1,372 Kippered— Herrings ... ... 1,512 Haddocks ... ... 56 Sprats ... ... 1,120 Halibut 80	Tons. Cabbages ... ... 3 Lbs. Gooseberries ... 336 Bilberries ... ... 2,345 Plums ... ... 320 Pears ... ... 28 Black Currants ... 896 Strawberries ... 1,368 Peas... 280	Bacon... 1,874 lbs. Meat Pies ... 180
American Gooseberry Mildew (Sphærotheods Morsuvæ)				Gooseberries ... 4,137 lbs.	

SLAUGHTER HOUSES.

During the year 1914, there were one hundred and six slaughter houses (including one horse slaughtering premises and one knacker's yard proper) licensed within the City, as compared with one hundred and eleven the year previous, the licences to a group of five in Oaks Place not being renewed on account of their constituting a nuisance.

The premises licensed within the City are made up of five groups, situate Dispensary Lane, Cattle Market, Benwell, Stepney, and Byker Hill, together with several separate premises in various parts of the City.

The Dispensary Lane group has for some time been under six months' licences, which have been renewed from time to time.

It has been found necessary time after time to warn occupiers as to insufficient cleansing of premises. On many occasions, owing to the structure and arrangement of the premises, it is almost necessary to perform acrobatic movements in order to get between the carcasses for the purpose of inspection, and owing to these congested conditions it is almost impossible for slaughtermen to do otherwise than "paddle in filth."

SHOPS AND CELLARS.

Premises wherein meat, etc. (including sausages), is prepared for food have been regularly visited, and the conditions under which foodstuffs are prepared were inspected. Further than draw the occupiers' attention to certain details in the process of cleansing, etc., there were no grounds for other proceedings.

PROSECUTIONS DURING YEAR 1914.

For sending a diseased carcass of beef into the City to be sold a farmer residing in the County of Northumberland was fined £5 and costs. For aiding and abetting his brother, a butcher was fined £2 and costs. In the above case the

animal was slaughtered upon the farm; the diseased organs were buried in a manure pit on the same premises, whilst the beef was carted into the City by the owner.

MILITARY DEPÔTS AND BILLETS.

Regular visits have been paid to the many billets within the City, since the outbreak of war, for the purpose of inspecting the various foodstuffs. Moreover, on several occasions visits have been paid by special request of military officers commanding the various depôts, and large quantities of meat, etc., inspected, and where necessary, condemned, removed, and destroyed.

I wish here to acknowledge the valuable assistance rendered by the Customs officials in facilitating the administration of the Foreign Meat and Unsound Food Regulations at the Quayside.

It is now $7\frac{1}{2}$ years since those Regulations were issued by the Local Government Board. At that time their Chief Food Inspector (Dr. Buchanan) visited the City, and whilst accompanying me for the purpose of informing himself as to our methods of inspection, kindly made valuable suggestions regarding the administration of the new Regulations with a view to securing uniformity of action. From time to time improvements and amendments were carried out, and it will be generally admitted that the Regulations made by the Local Government Board have been the direct cause of considerable improvement, not only in the condition of the imports, but also as to the facilities for inspection.

I have the honour to be, Sir,

Your obedient Servant,

THOMAS PARKER, F.R.C.V.S.,
Veterinary Officer,
Inspector of Meat, &c.

Health Department,
Town Hall,
Newcastle-on-Tyne,
May 21st, 1915.

FOOD AND DRUGS ADULTERATION.

The total number of **samples** (of all kinds) obtained by the ***Inspector of Nuisances*** for analysis during the year was 1,152, against 1,045, in 1913, being an increase over any previous year. For details see pages 153-167. Of this total, only 668 were submitted for analysis to the Public Analyst, the remainder being milk samples, which, on being tested in the offices of the Health Department, were found to be genuine. The number of *milk samples* taken was 824; 84 of these were certified to be below the minimal limits fixed by the "Sale of Milk Regulations, 1901."

Of the total number of samples taken (1,152), 237 were collected "informally," chiefly through the agency of hired persons, viz.:—

Butter	13	Vinegar	9
Cream	8	Blackcurrant Jelly...	1
Margarine	21	Raspberry Jam with Apple Jelly ...	1
Condensed Milk ...	14	Rice	1
New Milk...	1	Cocoa	1
Pepper	7	Tea	1
Semolina	7	Ham and Chicken Paste	1
Mustard	6	Cream of Tartar ...	8
Baking Powder ...	9	Tartaric Acid	8
Ground Rice	8	Gregory Powder ...	6
Lard	36	Swt. Spirits of Nitre	7
Golden Syrup... ...	1	Syrup of Rhubarb...	3
Marmalade	1	Tincture of Rhubarb	6
Farola	1	Paregoric	5
Flour	1	White Precipitate Ointment	4
Tapioca	1	Glycerine...	3
Ground Almonds ...	4	Olive Oil	3
Coffee	13	Camphorated Oil ...	3
Ground Ginger ...	5	Bread	1
Corn Flour	2		
Sago...	4		
Sugar	2		

The percentage of *samples not genuine* to the total number taken is 9·72 (compared with 7·66 for the previous year), and the percentage of deficient milk samples to the total number of milk samples obtained is 10·2 (as against 9·3 in 1913).

The total number of samples taken is at the rate of 4·24 per 1000 of the population (estimated) of the city for the year 1914.

MILK.

The following statement was prepared and presented to the Sanitary Committee on 26th July, 1915, and explains to some extent why Newcastle comes to be quoted as having so high a percentage of " milks, not genuine," in the Local Government Board's returns of analysts' reports under the Food and Drugs Acts:—

ANALYSES OF MILK SAMPLES.

With reference to an instruction by the Sanitary Committee that there should be presented regularly to Committee a statement showing the number of samples taken, and the number containing 3 per cent. of fat or more, as well as the number containing less than that amount, the *Medical Officer of Health* begs to point out that the preliminary test which is carried out in the Health Department is only an extremely rough one, and cannot be regarded as giving at all an accurate idea of the proportion of satisfactory and unsatisfactory samples. Any such statement based upon the present system would therefore be highly misleading.

The practice of testing Milk samples in the Health Department was first commenced in 1895, was discontinued in March, 1905, and resumed in January, 1911, and is intended purely as a measure of economy. The following figures show the samples dealt with since 1911.

Year.	Total No. of Milk samples taken for analysis.	No. tested at Health Department.	No. sent to Analyst as being "suspicious."	RESULT.	
				No. Genuine.	No. Not Genuine.
1911	550	423	107	69	38
1912	636	439	105	79	26
1913	708	585	147	105	42
1914	824	706	211	163	48

The *City Analyst* adds to this the following, which will allow of a fairly accurate opinion being formed of the quality of the milk retailed in the district.

From 1906 to 1910 all samples taken were submitted for analysis, and the following were the average figures for fat and for non-fatty solids of the whole of the samples (genuine and non-genuine) examined during that period.

Year.	Total No. Tested.	Average Fat.	Average Non-fatty Solids.	Number Non-Genuine.
1906	305	3·64	8·78	43
1907	419	3·55	8·82	56
1908	408	3·57	8·75	57
1909	700	3·56	8·91	79
1910	386	3·51	8·95	36
Whole Period	2218	3·57	8·86	271

Since that time, as you know, the samples sent to me have been selected, being those which after a rough test in the Health Office, are suspected to be non-genuine. To give you statistics of the results of analyses of these would be not only useless but misleading. It would be of little use if the discriminating test were an accurate and certain one, and definitely separated all milks above or below a certain line; but it is not certain, and just as it sometimes gives me milks here which are very rich, so sometimes it may prevent milks from coming to me which are very poor—hence any statistics from my selected samples would be misleading.

But I give you below the figures from a neighbouring Authority, for the 5 years, 1906 to 1910, and for each year since. These, as you will see, show no sensible variations in the average quality of the milk during the past four years, and it is therefore a reasonable inference that the average quality of the Newcastle milk is also not altered sensibly, and that the figures you already possess may be taken as applying at the present time, with very little risk of error.

	1906-10	1911	1912	1913	1914
Average Fat	3·52	3·59	3·66	3·58	3·54
Average Non-fatty Solids	8·75	8·75	8·78	8·76	8·77

These include all samples, and some of the non-genuine were undoubtedly tampered with, so that the figures for natural milks will in all cases be slightly higher than these.

Preservatives in Food.—Of the total number of samples taken for analysis (1152), only 44 (or 3·8 per cent.) were certified to contain preservative, the articles in question being—Margarine (27), Butter (6), and Cream (11). All the samples of Cream contained boric acid, in amounts varying from 0·15 per cent. to 0·49 per cent. In four instances the samples were not labelled in accordance with the Public Health (Milk and Cream) Regulations, 1912, and the consequent action taken is shewn on pages 170-171.

In the case of the Margarine and Butter, the preservative in each case consisted of boric acid within the limit allowed.

Margarine Act, 1887.—30 samples of Margarine (included in the foregoing total) have been purchased and analysed. All were found to be genuine, except that 27 contained small quantities of boric acid (as above). In three instances samples were delivered to the purchaser in paper not properly marked "Margarine," while in one case, Margarine exposed for sale was not labelled in accordance with the Act. See pages 167-168.

Margarine Warehouses.—79 visits have been made to the margarine warehouses. In two instances packages were found not properly marked. A letter of caution was sent to the proprietors, and this resulted in compliance with the law.

FOOD AND DRUGS ADULTERATION ACTS.

Samples taken for Analysis during the year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
New milk ...	824	740 genuine.		
		1 deficient in milk-fat 10%	52	From one vendor, who was summoned. Cases dismissed on the ground that the milk had not been tampered with. *Appeal to Cow* —At the request of the vendor, a sample was taken at his cow-byre, after seeing the cows milked. This sample (No. 79) was genuine.
		1 deficient in milk-fat 8·3%	57	
		1 deficient in milk-fat 6·6%	65	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 20·0%	66	Nos. 66 & 78 were retail samples, respecting which the vendor was summoned, and fined 5/- and costs with regard to the former, the case in respect of the latter being dismissed on payment of costs. The vendor was a dairyman in poor circumstances, who kept only one cow. *Appeal to Cow.*—Samples Nos. 92 and 98 were taken at the byre after seeing the cow milked, the former being of the morning's milking, and the latter of the evening's. The times of milking were very irregular, the intervals being 6¾ hours and 17¼ hours respectively.
		1 deficient in milk-fat 23·3%	78	
		1 deficient in milk-fat 30·0% and in non-fatty solids 3·7%	92	
		1 deficient in non-fatty solids 3·7%	98	
		1 deficient in milk-fat 6·6%	69	From one vendor who was cautioned.
		1 deficient in milk-fat 6·6%	88	
Carried forward	824	Amount of penalties carried forward ..	...	£0 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...		£0 5 0
New Milk ... (*Contd.*)		1 deficient in milk-fat 6·6% and in non-fatty solids 1·6%	81	From one vendor, who was cautioned. (Milk stated to be obtained from vendor of samples Nos. 173 and 186.)
		1 deficient in non-fatty solids 1·2%	99	
		1 deficient in non-fatty solids 2·8%	104	Subsequent sample genuine. No further action taken.
		1 deficient in milk fat 1·6%	109	*Appeal to Cow.*—In connection with deficient milk sample, No. 1,007 (taken in 1913), respecting which the vendor was cautioned, a visit was subsequently made to his dairy farm, and the milking of the whole herd of 76 cows witnessed. As no vessel large enough to contain the total yield was available, the taking of six separate samples was necessitated. These were duly submitted to the Public Analyst, who certified that five were genuine, the remaining sample being the one now in question (No. 109), which was deficient in milk-fat 1·6%, as stated. If, however, the total yield of the cows had been mixed in one vessel the milk would have reached the required standard of milk-fat (3·0%). The farmer was recommended to procure a vessel of sufficient capacity for this purpose.
Carried forward	824	Amount of Penalties carried forward		£0 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...		£0 5 0
New Milk ... *(Contd.)*		1 deficient in non-fatty solids 4·6%	120	Subsequent samples genuine. Vendor cautioned. (Milk stated to be obtained from vendor of samples Nos. 173 and 186.)
		1 deficient in milk-fat 3·3% and in non-fatty solids 5·4%	140	No action taken, the vendor having been discharged from prosecution on proof of warranty in respect of samples Nos. 969, 986, 987 (taken in November, 1913), which proceedings ultimately resulted in conviction of the farmer.
		1 deficient in milk-fat 3·3%	147	From one vendor. No action taken.
		1 deficient in milk-fat 8·3%	180	
		1 deficient in non-fatty solids 4·6%	173	From one vendor. No action taken.
		1 deficient in non-fatty solids 2·4%	186	
		1 deficient in milk-fat 11·6%	174	Subsequent sample genuine. Vendor cautioned.
		1 deficient in non-fatty solids 4·9%	314	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 10%	325	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	331	Subsequent sample genuine. Vendor cautioned.
		1 deficient in non-fatty solids 8·3%	346	Subsequent sample genuine. Vendor cautioned.
Carried forward	824	Amount of Penalties carried forward ...		£0 5 0

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...		£0 5 0
New Milk ... (*Contd*).		1 deficient in milk-fat 5%	348	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	349	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	361	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 13·3%	420	Vendor summoned. Fined 40/- and costs.
		1 deficient in milk-fat 3·3%	423	From one vendor, who was cautioned.
		1 deficient in milk-fat 3·3%	434	
		1 deficient in milk-fat 6·6%	451	From one vendor, who was cautioned.
		1 deficient in milk-fat 3.3%	463	
		1 deficient in milk-fat 6·6%	470	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 11·6%	473	From one vendor. Summoned only with respect to No. 493 (the legal limit of 28 days having expired in the case of No. 473). Case dismissed on payment of costs.
		1 deficient in milk-fat 13·3%	493	
		1 deficient in milk-fat 6·6%	475	From one vendor, who was cautioned.
		1 deficient in milk-fat 6·6%	495	
		1 deficient in milk-fat 18·3%	541	Vendor summoned. Case dismissed on payment of costs and on defendant promising to provide a suitable vessel in which to properly mix the whole of the milk.
Carried forward ...	824	Amount of Penalties carried forward ...	...	£2 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...		£2 5 0
New Milk ... (*Contd*).		1 deficient in non-fatty solids 2·7%	546	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 13·3%	548	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 28·3%	551	Vendor summoned. Case dismissed on payment of costs and on defendant promising to provide a suitable vessel in which to properly mix the whole of the milk.
		1 deficient in milk-fat 16·6% and in non-fatty solids 3·4%	556	From one vendor, who was summoned. Fined 10/- and costs in each case.
		1 deficient in milk-fat 28·3% and in non-fatty solids 0·2%	599	
		1 deficient in milk-fat 5%	560	No action taken.
		1 deficient in milk-fat 3·3%	561	No action taken. (These samples were taken in course of delivery from the farmer who was said to be supplying the milk of which No. 548 was a sample). On two successive days, 9 samples in all were taken on arrival of the milk at the Railway Station (the remaining 6 being genuine).
		1 deficient in milk-fat 10·0%	564	
		1 deficient in milk-fat 6·6%	567	
		1 deficient in milk-fat 6·6%	589	Informal sample. Two formal samples obtained one being genuine (No. 621), and the other deficient (See No. 622).
Carried forward ...	824	Amount of Penalties carried forward ...	...	£3 5 0

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...		£3 5 0
New Milk ... (*Contd*).		1 deficient in milk-fat 5·0%	622	(Formal sample taken in consequence of the foregoing). Vendor cautioned.
		1 deficient in milk-fat 16·6%	611	Vendor summoned. Fined 20/- and costs.
		1 deficient in milk-fat 5·0%	647	From one vendor, who was cautioned.
		1 deficient in milk-fat 3·3%	674	
		1 deficient in non-fatty solids 2·0%	654	Subsequent sample genuine. No further action taken.
		1 deficient in milk-fat 15·0%	675	Vendor summoned. Fined 10/- and costs.
		1 deficient in milk-fat 6·6%	676	From one vendor, who was cautioned.
		1 deficient in non-fatty solids 0·9%	687	
		1 deficient in milk-fat 6·6%	679	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 6·6%	684	Subsequent sample genuine. Vendor cautioned.
		1 deficient in milk-fat 3·3%	688	Subsequent sample genuine. No further action taken.
		1 deficient in milk-fat 1·6%	750	Vendor furnished an explanation, by order of Sanitary Committee.
		1 deficient in milk-fat 8·3%	763	From one vendor, who was summoned. Fined 10/- and costs in each case.
		1 deficient in milk-fat 5·0%	787	
		1 deficient in non-fatty solids 3·3%	781	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	824	Amount of Penalties carried forward ...	...	£5 15 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...	...	£5 15 0
New Milk ... (*Contd.*)		1 deficient in non-fatty solids 11·3%	784	Vendor summoned. Case dismissed on proof of warranty from the farmer supplying him. (See Nos. 853, 859, 866 and 867).
		1 deficient in milk-fat 3·3%	786	From one vendor, who was cautioned.
		1 deficient in milk-fat 10·0%	817	
		1 deficient in non-fatty solids 5·0%	853	These samples were taken in course of delivery from the farmer supplying the vendor No. 784. Vendor summoned with respect to samples 853 and 859; case dismissed on payment of costs, defendant proving that there had been a defect in the "cooler," of which she was unaware, and which had permitted a leakage of water into the milk. Under these circumstances, no further action was taken with regard to the warranty proved in the preceding case (sample No. 784). The samples Nos. 866 and 867 were taken for further information in connection with the proceedings, which were then pending, in respect of Nos. 853 and 859.
		1 deficient in non-fatty solids 7·1%	859	
		1 deficient in non-fatty solids 5·3%	866	
		1 deficient in non-fatty solids 1·2%	867	
		1 deficient in milk-fat 10%	903	From one vendor, who was cautioned.
		1 deficient in milk-fat 6·6%	928	
Carried forward ...	824	Amount of Penalties carried forward ...	...	£5 15 0

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ..	...	£5 15 0
New Milk ... (*Contd*).		1 deficient in milk-fat 10% and in non-fatty solids 13·9%	932	Vendor summoned. Fined 40/- and costs.
		1 deficient in milk-fat 26·6%	993	From one vendor, who was summoned. Fined 10/- and costs re sample No. 993, the other cases being dismissed on payment of costs. (See also No. 1023).
		1 deficient in milk-fat 20·0%	1005	
		1 deficient in milk-fat 21·6%	1006	
		1 deficient in non-fatty solids 5·3%	1020	Subsequent samples genuine. Vendor cautioned.
		1 deficient in milk-fat 3·3%	1023	*Appeal to Cow.* — This was one of two samples taken at defendant's farm (after witnessing the milking of the herd) in connection with proceedings which were then pending against the vendor of samples Nos. 993, 1005 and 1006. The farmer not having a vessel large enough to contain the total yield, this necessitated the taking of two separate samples (the second of which was genuine). Had the two milks been mixed together and one sample taken from the total yield, it would have been just over the minimal limit of milk-fat (or actually 3·1%).
		1 deficient in milk-fat 3·3% and in non-fatty solids 5·7%	1037	Subsequent sample genuine. Vendor cautioned.
Carried forward ...	824	Amount of Penalties carried forward ...		£8 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	824	Amount of Penalties brought forward ...	...	£8 5 0
New Milk ... *(Contd.)*		1 deficient in milk-fat 3·3%	1041	Subsequent sample genuine. Vendor cautioned
		1 deficient in non-fatty solids 12·1%	1132	Vendor summoned. Fined 20/- and costs.
		1 deficient in milk-fat 10%	1139	From one vendor, who was summoned. Fined 20/- in each case. *Appeal to Cow.*—In connection with these cases, two samples were taken (in 1915) at defendant's farm (after witnessing the milking of the herd). These proved to be genuine.
		1 deficient in milk-fat 11·6%	1151	
		1 deficient in milk-fat 3·3%	1141	Subsequent sample genuine. Vendor cautioned.
Butter ...	57	54 genuine (except that 6 contained small quantities of boric acid).		
		1 contained 100% Margarine	33	Informal sample. Formal sample obtained (see No. 43)
		1 contained 100% Margarine	43	Vendors summoned. Fined 20/- and costs (see also "Offences other than Adulteration").
		1 contained 0·8% excess of water	1047	Vendor cautioned.
Coffee ...	15	12 genuine.		
		1 contained chicory 43·5% (not "declared")	393	Informal sample. Formal sample taken, which was genuine (No 418).
Carried forward ...	896	Amount of Penalties carried forward ...	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	896	Amount of Penalties brought forward ...	...	£12 5 0
Coffee ... (*Contd*)		1 contained chicory 41·5% (not "declared")	399	Informal sample. Formal sample taken (see No. 417).
		1 contained chicory 63% (not "declared")	417	Vendor summoned. Case dismissed on payment of costs. (Defendant pleaded that he knew very little about the trade, having only recently taken it up after being compelled to relinquish his previous employment through illness. The Magistrates therefore took this into consideration, together with the low price charged for the Coffee (viz., 1/- per lb.)
Raspberry Jam with Apple Jelly	2	1 contained a large amount of apple pulp (not "declared")	571	Informal sample. Formal sample obtained (see No. 620).
		1 contained at least 5% of apple pulp (not "declared")	620	Vendor cautioned.
Raspberry Jam ...	6	5 genuine.		
		1 contained at least 5% of apple pulp (not "declared")	986	Vendor cautioned.
Carried forward ...	904	Amount of Penalties carried forward ...	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	904	Amount of Penalties brought forward ...	...	£12 5 0
Blackcurrant Jam ...	7	6 genuine.		
		1 contained at least 10% of apple pulp, and less than 50% of blackcurrant (not "declared").	1115	Vendor summoned. Case dismissed on proof of warranty from wholesale dealers. The Deputy Town Clerk advised that proceedings could not be taken against the warrantors, owing to the fact that more than six months had elapsed between the date of the warranty and the purchase of the sample in question. The Town Clerk was thereupon instructed by the Sanitary Committee to send a statement of the facts to the proper authorities, with a representation as to the inability of the Sanitary Authority to take proceedings against the wholesale dealers under the circumstances referred to.
Gregory Powder ..	9	5 genuine.		
		1 contained carbonate instead of calcined magnesia	164	Informal sample. No further action taken.
		1 contained carbonate instead of calcined magnesia (informal sample).	833	Formal sample obtained. This proved to be genuine, and no further action was taken.
		1 contained carbonate instead of calcined magnesia (informal sample)	841	Formal sample obtained (see No. 901).
Carried forward ...	920	Amount of Penalties carried forward ...	...	£12 5 0

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	920	Amount of Penalties brought forward ...	...	£12 5 0
Gregory Powder ... *(Contd).*		1 contained carbonate instead of calcined magnesia.	901	Vendor cautioned.
Cream ...	11	7 genuine (but contained boric acid, 6 "declared").		
		1 contained boric acid 0·17% (not "declared" in accordance with the Public Health [Milk and Cream] Regulations).	190	Informal sample. Formal sample obtained (No. 273). In this case all the requirements of the Regulations were complied with except that the bowl from which the cream was served was not labelled. The Sanitary Committee accepted the vendor's explanation and undertaking, and no further action was taken.
		1 contained boric acid 0·32% (not "declared")	191	Informal sample. Formal sample obtained (No. 274). This sample fulfilled all the requirements of the Regulations.
		1 contained boric acid 0·46% (not "declared")	193	Informal sample. Formal sample taken (see No. 272).
		1 contained boric acid 0·48% (not "declared")	272	Vendor cautioned.
Sago ...	5	2 genuine.		
		1 consisted entirely of Tapioca. (Informal sample).	717	Efforts to obtain a formal sample have been unsuccessful (the shopman stating that they did not sell Sago)
Carried forward ...	936	Amount of Penalties carried forward ...	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	936	Amount of Penalties brought forward ...	...	£12 5 0
Sago *(Contd.)*		1 consisted entirely of Tapioca (Informal sample)	720	Formal sample obtained (see No. 824).
		1 consisted entirely of Tapioca.	824	No further action taken.
Sweet Spirits of Nitre ...	9	6 genuine.		
		1 just under the limiting minimal content of ethyl nitrite (Informal sample)	831	Formal sample obtained (see No. 898).
		1 just under the limiting minimal content of ethyl nitrite. (Informal sample)	832	Formal sample obtained. This proved to be genuine, and no further action was taken.
		1 deficient in ethyl nitrite 30%	898	Vendor cautioned.
Tartaric Acid	10	6 genuine.		
		1 contained mineral matter 0·22%	916	Informal sample. Formal sample obtained (see No. 959)
		1 contained mineral matter 0·28%	922	Informal sample. Formal sample obtained (see No. 960).
		1 contained mineral matter 0·22%	959	The Town Clerk was instructed to draw the attention of the vendor to the offence.
Carried forward ...	955	Amount of Penalties carried forward ...	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	955	Amount of Penalties brought forward ...	...	£12 5 0
Tartaric Acid (*Contd*).		1 contained mineral matter 0·28%	960	The Town Clerk was instructed to draw the attention of the vendor to the offence.
Tincture of Rhubarb ...	6			
Syrup of Rhubarb ...	3			
Camphorated Oil ...	3			
Olive Oil ...	3			
Glycerine ...	3			
Cream of Tartar ...	8			
Paregoric ...	5			
White Precipitate Ointment ...	4	All genuine.		
Vinegar ...	9			
Ground Ginger	5			
Marmalade ...	1			
Blackcurrant Jelly ...	1			
Golden Syrup	1			
Sugar ...	2			
Cocoa ...	1			
Mustard ...	6			
Pepper ...	7			
Carried forward ...	1023	Amount of Penalties carried forward ...	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Samples taken for Analysis during the Year 1914.

Articles taken for Analysis.	Total No. of samples taken.	Result of Analysis.	Rotationary No. of Sample.	Proceedings taken and result.
Brought forward ...	1023	Amount of Penalties brought forward ...	...	£12 5 0
Bread ...	1	All genuine.		
Flour ...	1			
Ham and Chicken Paste	1			
Ground Rice...	8			
Semolina ...	7			
Corn Flour ...	2			
Baking Powder	9			
Ground Almonds ...	4			
Tapioca ...	1			
Farola ...	1			
Rice ...	1			
Tea ...	1			
Lard ...	36			
Condensed Milk ...	14			
Rum ...	3			
Whisky ...	3			
Bitter Beer ...	3			
Burton Beer ...	3			
Margarine ...	30	All genuine (except that 27 contained small quantities of boric acid below 0·5%)		
Total ...	1,152	Total Amount of Penalties	...	£12 5 0

FOOD AND DRUGS ADULTERATION ACTS—*Continued.*

Action taken with respect to Offences other than Adulteration.

Offence.	No. of Cases.	Proceedings taken, etc.
Margarine Act, 1887. Sec. 6		
Margarine delivered to purchaser in paper not properly marked "Margarine."	3	In two intances, samples 33 (informal) and 43 (formal), from one vendor, the margarine was delivered in paper marked "Margarine" but enclosed in a plain brown paper wrapper and tied with string. A summons was issued, but afterwards withdrawn on a conviction being obtained on another summons for selling the sample in question as butter (see previous Table). In the third instance, (sample No. 965), the article was delivered to the purchaser in plain paper, with "Magrin" written upon it in pencil (evidently an attempt at the word "Margarine"), and the vendor was cau-cautioned.
Margarine Act, 1887. Sec. 6.		
Margarine exposed for sale not labelled in accord-with the Act	1	In this case (sample 982), the vendor was summoned, the case being dismissed on payment of costs.
Sale of Food and Drugs Act, 1899, Sec. 9.		
Names and addresses of vendors not properly inscribed upon their milk-cans or vehicles.	8	Summonses issued in three cases; in one of these, the case was dismissed on payment of costs, and in the other two (against one person) the offender was fined 5/- and costs with regard to the cart, a case in respect of the hand-can being dismissed. In the remaining five instances, the vendors were cautioned.
Total ...	12	Amount of Penalties, 5/-

FOOD AND DRUGS ADULTERATION ACTS.—*Continued.*

Summary of Legal Proceedings taken during the Year 1914.

Total samples reported as not genuine ... 112.

	No. of Non-genuine samples represented.	No. of Persons summoned.
Convictions and penalties obtained	14	11
Cases dismissed	13	10

No. of samples respecting which the vendors were cautioned (by order of Sanitary Committee) 49

No. of deficient samples in respect of which the vendors were neither summoned nor cautioned—some of these being informal samples, in others deficiency slight, subsequent samples being genuine, etc., etc. (see Tables) 36

Total amount of penalties ... ... £12 5s. 0d.

Offences other than Adulteration.

No. of offences	12
No. of prosecutions	5
No. of convictions and penalties obtained	1
No. of cases dismissed	3
No. of cases withdrawn	1
No. of offenders cautioned	6
Others (informal sample)	1

Total amount of penalties ... ... £0 5s. 0d.

The Public Health (Milk and Cream) Regulations, 1912.

LOCAL GOVERNMENT BOARD TABLE.

1.—Milk and Cream not sold as Preserved Cream.

	(a) Number of samples examined for the presence of a preservative.	(b) Number in which a preservative was reported to be present.
Milk	354	Nil.
Cream ...	4	4.
		(1) Sample No. 190 (informal) contained boric acid 0·17%. A formal sample (No. 273) was therefore obtained, and this was certified to contain 0·15% of boric acid. This sample complied with all the requirements of the Regulations, except that the bowl from which it was served was not labelled. On the notice required by the Regulations being sent to the vendor, the latter furnished an explanation, and an undertaking as to future compliance, having regard to which, and to the technical nature of the offence, the Sanitary Committee decided to take no further action in the matter. (2) Sample No. 191 (informal) contained boric acid 0·32%. A formal sample (No. 274) subsequently obtained, containing 0·49% of that preservative. In the case of this latter sample, all the requirements of the Regulations were complied with. (3) Sample No. 193 (informal) contained boric acid 0·46%. A formal sample (No. 272), was therefore obtained, and this contained 0·48% of boric acid. This latter sample was supplied in two jars, neither of which was labelled as containing preserved cream, no label was attached to the bottle from which the cream was served, and no notice was posted in the shop. In response to the notice sent in accordance with the Regulations, the vendor furnished an explanation, and was ordered by the Sanitary Committee to be cautioned.

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.

(i.) Correct statements made	7
(ii.) Statement incorrect	—

(*b*) Determinations of milk-fat in cream sold as preserved cream.

(i.) Above 35 per cent.	7
(ii.) Below 35 per cent.	—

(*c*) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the provision in Article V. (2) of the Regulations have not been observed 1

(*d*) Particulars of each case in which the Regulations have not been complied with, and action taken. (See previous page)*.

3.—Thickening substances.—Any evidence of their addition to cream or to preserved cream. Action taken where found ... 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 Quarterly Reports under those Acts.

Percentage of Preservative in samples of Cream.

The percentage of boric acid found in the 11 samples of Cream under report was as under :—

No. of Sample.	Cream not sold as Preserved Cream.	Cream sold as Preserved Cream.	REMARKS.
187		0·21	The percentage indicated on the Statutory label was, in each case, "Not exceeding 0·5 per cent."
188		0·46	
189		0·49	
190	0·17		
191	0·32		
192		0·38	
193	0·46		
194		0·20	
272	0·48		
273		0·15	
274		0·49	

BACTERIAL IMPURITY OF MILK AND WATER.

Milk.—180 samples were obtained and examined by the Bacteriologist for presence of tubercle bacilli, which were found in 12.

Action taken is described on pages 137 and 138.

181 samples were obtained and submitted for examination for presence of evidence of excremental pollution, which was found to an undesirable degree in 42. The vendors and producers were communicated with and warned, further samples being taken in each case.

Water.—187 samples were collected from all parts of the City, and examined for the presence of *bacillus coli*.

The results are described fully on pages 131-134.

CONDITION OF PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are 296 bakehouses in the City, 19 of which are factories, 69 workshops, and 208 domestic bakehouses.

Factory bakehouses are under the jurisdiction of H.M. Inspector of Factories, and no record as to their sanitary condition is therefore available. The sanitary condition of the workshop bakehouses, which are under the supervision of the Health Department, continues to be fairly satisfactory. These are systematically inspected, and the statutory lime-washing twice a year enforced.

The domestic bakehouses, where home-made bread is baked by the occupiers, have been kept under close observation, general cleanliness insisted upon, and other sanitary conditions maintained as well as possible under the circumstances. The conditions generally obtaining in this class of bakehouse, however, are necessarily not of the highest order, owing to the fact of the baking being carried out in the ordinary dwelling-house. Under powers contained in the Newcastle-upon-Tyne Corporation Act, 1911, the preparation or exposure for sale of any article of food is prohibited in any room which is used as a sleeping apartment.

Restaurant Kitchens.—The number of kitchens of restaurants, cafés, and dining-rooms in the City is the same as for the previous year, viz: 88. These are regularly inspected as to their general sanitary condition and enforcement of the periodical cleansing and lime-washing of the premises. Only in very few instances have these premises been found in such a condition as to warrant interference, and in these cases the proprietors readily complied with the requirements.

Fried Fish Shops.—127 of these are registered. Since they came definitely under control, there has been a distinct improvement in the way in which they have been conducted.

Ice Creameries.—There are 233 of these. All have been visited frequently, and speaking generally, are well kept and clean. Some of the lower class and Italian places, however, require constant looking after.

General Shops from which Milk is Sold.—There were 714 such shops on the Register at the end of 1914 (being a slight increase over the previous year). In the inspection of these premises, which are regularly visited, special attention is paid to the covering of the milk vessels and the taking of other precautions for the protection of the milk from possible contamination. The need for improvement in the conditions under which milk is stored in these shops, however, still leaves a good deal to be desired, having regard to the nature of the other businesses carried on, in many instances, in conjunction with the sale of milk. This will continue to demand attention until such time as the sale of this most important article of food is restricted to premises whereon only dairy produce is dealt with. In one case the sale of milk was stopped from a shop from which coals were also sold, and where the conditions generally were such that proper precautions could not well be taken for the due protection of the milk.

(Signed) WM. HUDSPETH,
Inspector under the
Food and Drugs Acts.

V. THE HOME AND THE WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, &c.

NUISANCES, HOUSING, FACTORIES AND WORKSHOPS, ETC.

The following is the

Report of the Inspector of Nuisances.

To the Medical Officer of Health.

Sir,

I beg to submit to you my seventh report of the work done in my section of the Health Department, viz., that for the year ended 31st December, 1914, which, together with the section on Food and Drugs Adulteration, is as follows:—

NUISANCE ABATEMENT.

The total number of notices served during the year was 9,082, of which 8,848 were informal and 234 statutory. This shews a considerable increase over the number for the previous year, and is principally due to the working of the Housing, Town Planning, &c., Act, which has been in active operation since April of the year under report.

In addition, 2,736 written letters and 1,600 circular letters were sent out.

Magisterial Proceedings.—In 25 instances only has it been necessary to resort to legal proceedings in order to obtain the abatement of nuisances. In the remaining cases, where the official notices served were not at once complied with, the requirements were eventually carried out after letters of reminder had been sent or the parties responsible personally interviewed.

Military.—Under instructions from the Medical Officer of Health the Inspectors have been working since the outbreak of the War in close co-operation with the military authorities, and their ordinary work has consequently to some extent been interfered with. Four members of the district staff joined H.M. Forces (their places being temporarily filled by the appointment of other men) during the year, whilst another Inspector was taken from his ordinary duties to work in conjunction

with the military authorities in the inspection of billeting stations. In addition to this, the District Inspectors have also rendered assistance in the systematic inspection of these places. The 158 inspections referred to on page 183 included the measuring up of billets as to their cubic capacity and the apportionment of sleeping accommodation for the troops, the provision and arrangement of the necessary closet accommodation, drainage, ventilation, and general suitability of the various premises. Another matter which has engaged special attention in connection with the troops has been the abnormal quantity of horse manure which has had to be disposed of. The military authorities, however, have done exceedingly well under the exceptional circumstances and often under considerable difficulty (owing to the interruption of the usual means of transit, etc.) in having such manure removed as frequently as possible. Although the collection and disposal of this manure has been a difficult problem, the City Engineer's Department has been ever ready to assist, and the co-operation of all parties concerned has tended to minimise the nuisance as far as practicable.

CONVERSIONS OF DRY CLOSETS.

492 privies have been removed and replaced by water closets, against 708 in the previous year. Of this total (492) 332 were pail-closets, 23 midden privies (chiefly in Benwell and Walker), and 137 "cell" privies (all in the two districts mentioned). In all but 23 instances this work was accomplished without having to resort to legal proceedings. In addition to the numbers previously mentioned, 134 dry ashpits have been removed, and replaced by portable galvanized iron dustbins.

The practice of supplying the first dustbins free of charge as an inducement towards the abolition of ashpits and privies has been continued, 709 such dustbins having been given during the year.

The following table, prepared by the *Medical Officer of Health*, shows the incidence of Enteric Fever in relation to the proportion of dry and water closets in the City, over a number of years :—

Enteric Fever in relation to the Elimination of the Conservancy System of Disposal of Excreta during the last 24 Years

Year.	City Engineer's Census of		Enteric Fever.	
	Number of Dry Closets in the City.	Number of Water Closets in the City.	No. of Cases.	Attack Rate per 1000 population.
1891	8,244	21,966	134	0·72
1892	8,640	24,749	97	0·51
1893	8,566	25,822	141	0·73
1894	8,515	26,997	164	0·84
1895	8,661	27,848	213	1·07
1896	8,867	28,977	176	0·87
1897	8,982	29,931	138	0·68
1898	9,317	31,158	307	1·48
1899	7,689	33,030	133	0·63
1900	7,966	33,708	79	0·37
1901	7,956	34,408	76	0·35
1902	7,863	35,323	57	0·26
1903	7,613	36,661	75	0·35
1904	7,313	37,985	30	0·14
1905	9,741*	42,175	50	0·20
1906	9,501	43,348	70	0·27
1907	9,237	43,460	66	0·25
1908	9,109	44,803	111	0·42
1909	8,781	45,468	74	0·28
1910	8,428	46,458	63	0·24
1911	7,959	47,681	87	0·33
1912	7,166	48,788	91	0·34
1913	6,332	49,397	124	0·46
1914	5,999	49,957	102	0·38

* The large increase in the number of dry closets in 1905 is due to the incorporation of Walker and Benwell in November, 1904, these districts having a privy-box system.

The proportion of Dry Closets to Water Closets has thus fallen from 1 to 2·66 in 1891 to 1 to 8·3 in 1914.

ATMOSPHERIC POLLUTION.

Smoke Inspections.—The following are particulars as to Smoke observations made :—

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	
152	185	22	39	20	2	—

Atmospheric Pollution Records.—An observation station, under the immediate control of the City Analyst, was established on an open site between City Road and Wall Knoll, in connection with similar stations in other towns, the monthly results from all of which are compared and published by the (National) Committee for the Investigation of Atmospheric Pollution.

The monthly readings from the Newcastle station are appended :—

ATMOSPHERIC POLLUTION.—NEWCASTLE RECORDS, 1914.

Month.	Rainfall. (Millimeters.)	Metric Tons of Deposit per Square Kilometer per Month.								
		Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other Carbonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as SO_4	Chlorine Cl.	Ammonia NH_3
April	15·31	0·17	4·05	10·55	0·98	2·17	17·92	1·27	0·24	0·04
May	29·19	0·12	3·18	5·56	0·93	1·93	11·72	1·37	0·25	0·04
June	96·01	0·20	3·83	6·55	2·30	3·07	15·95	1·70	0·47	0·19
July	69·	0·14	3·42	5·19	0·96	2·75	12·46	1·84	0·31	0·20
August	32·	0·12	3·87	6·52	0·78	2·14	13·44	1·30	0·22	0·08
September ...	47·	0·07	2·97	5·03	0·76	1·51	10·33	1·30	0·22	0·07
October	42·	0·18	3·74	5·78	1·91	4·15	16·47	2·34	0·60	0·13
November ...	82·	0·19	4·22	6·81	2·46	5·08	18·77	3·00	0·67	0·21
December ...	88·	0·12	4·71	8·35	1·75	7·53	22·46	3·12	1·38	0·42
Total, 9 months	500	1·31	33·99	60·34	12·83	30·33	139·52	17·24	4·36	1·38
Average per month	55·5	0·15	3·78	6·70	1·43	3·37	15·50	1·92	0·48	0·15

An average of 15·5 metric tons of total solids per square kilometer per month is equivalent to $\frac{3}{4}$-*ton per acre per annum, or 476 tons per square mile.*

OFFENSIVE TRADES.

The following are the numbers and classes of offensive trades carried on within the City :—

Specified in Section 112, Public Health Act, 1875

Blood Boiler (0), Bone Boilers (4), Fellmonger (0), Soap Boilers (2), Tallow Melter (0), Tripe Boilers, (8).

Declared by Local Authority, confirmed by Local Government Board (in accordance with Section 51, Public Health Acts Amendment Act, 1907).

Rag and Bone Dealers (25), Dealers in Hides and Skins (4), Dealer in blood or other putrescible animal products (1), Blood Dryer (0), Fat Melter or Fat Extractor (3), Glue and Size Makers (3), Gut Scrapers (3), Fish Friers (127).

The premises in question are systematically inspected, and any nuisance found immediately dealt with.

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES WERE SERVED DURING 1914.

Foul privies and ashpits (to replace with water-closets)...	Privies	4
	Ashpits	3
Defective "cell" privies in Benwell and Walker (to replace with water-closets)		87
Foul or defective ashpits not connected with privies (to remove and provide dust bins, or to provide doors and coverings)		208
Insufficient water-closet or privy accommodation (additional water-closets ordered)		20
Defective or insufficient dust bins (to provide new or additional) ..		1,128
Defective water-closets (to repair)		713
Water-closets without water supply (to provide water)		66
Choked water-closets (to cleanse—mostly served on tenants) ...		279
Dirty water-closets (to cleanse—all served on tenants)		346
Defective pail-closets (to repair, provide new pails, etc.)		161
Foul pail-closets (to replace with water-closets)		533
Dirty privies (to cleanse—all served on tenants)		52
Defective drains (to repair, or construct new drains)		327
Choked drains, etc. (to cleanse)		949
Defective or choked sinks, waste pipes, etc. (to repair or cleanse) ...		318
Want of scullery sinks		3
Defective or choked soil-pipes, vent shafts, etc. (to repair or cleanse)		48
Sink waste-pipes not trapped, etc.		96
Want of or defective pavement in yards and passages (to provide or repair)		229
Carried forward		5,570

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES WERE SERVED DURING 1914,—*Continued.*

Brought forward		5,570
Dirty rooms (to be cleansed)		135
Damp rooms		14
Overcrowding (to abate)		98
Dirty yards, passages, etc. (to cleanse)		445
Animals, pigeons, and fowls improperly kept (to remove)		87
Offensive accumulations (to remove)		240
Accumulations of manure (to periodically remove)		55
Want of or defective manure pits (to provide or repair)		8
Broken roofs and want of or defective or choked spouting (to repair, provide, or cleanse)		284
Want of water (to provide supply)		133
Smoke nuisances (to abate)		22
Want of proper ventilation to rooms (including broken window cords in tenements)		46
Want of sufficient light to rooms (to provide additional means of)		5
Defective waste water-closets (to remove, and provide w.c's with flushing cisterns, etc.)		34
Defects in Council Schools	Choked w.c's or latrines	2
	Choked gullies or drains	9
	Defective w.c's	2
	Urinals or latrines dirty	7
	No grates to gullies	3
	No drinking vessels to fountains	2
	No water to fountains	2
	Accumulation of refuse	1
	Lavatory waste-pipe choked	1
	Lavatory basin dirty	1
	No caps to access eyes over traps between w.c's and access-chambers	2
Structural defects in houses (broken plaster, floors, stairs, etc.)		138
Water supply to sinks, etc., derived from feed cisterns		10
Food manufactured or stored for sale under improper conditions		3
Bedding in dirty condition (to cleanse)		3
Slop water or excreta thrown into privy pails or ash-tubs		5
Filth thrown on yards, streets, etc.		6
Sale of Ice-Cream	Premises in dirty condition	2
	Premises unsuitable	3
Stables—Unsuitable or defective		5
Piggeries—Unsuitable or defective		2
Want of (or defective) under floor ventilation		4
Milk Shops	Premises in dirty condition	1
	Vessels uncovered	2
Offensive trade established without consent		1
Bakehouses—Dirty condition of		40
Unclassified minor nuisances (to abate)		48
Total		7,481

This does not include defects found in the course of house-to-house inspection under The Housing, Town Planning, etc., Act, 1909. (See page 189.)

Details Relating to certain works carried out in the Abatement of Nuisances and to Inspections made during 1914.

Length in yards of old drains removed	3,211
„ „ new „ constructed	4,547
New trapped gullies provided to drains	535
Combined privies and ashpits removed (privies	*23
(ashpits	*13
Cell-privies removed (in Benwell and Walker Districts)	137
Pail-closets removed	332
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 31 cases where the accommodation was previously insufficient)	633
Defective water-closets removed (including waste-water closets, etc.)	100
Dry ashpits removed and replaced by galvanized iron dustbins ...	134
Dustbins substituted for dry ash-pits where water-closets existed, and provided in cases where pail-closets, &c., have been replaced by water-closets	‡709
No. of drains tested	998
No. of tests of above drains made by smoke and water	1,470
No. of inspections from complaints made at office (verbally or by letter)	1,071
No. of tenement inspections made	17,498
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	§1,842
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	7,253
Inspections to learn if works ordered were in progress	8,763
Supervisions of work in progress	3,870
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing of same	29,459
Inspections after infectious disease	1,919
Inspections of milk shops and ice creameries	1,121
„ bakehouses	†997
„ offensive trades	675
„ wholesale margarine warehouses	79
„ as to limewashing of tenements	3,906
„ of schools	106
Inspections under the Housing, Town Planning, etc. Act, 1909 (see also page 189)	5,075
Inspections of Military Billeting Stations	158

* Some ashpits have more than one privy attached.

† Including 503 inspections made under the Factory and Workshop Acts by the Assistant Inspectors of Workshops.

‡ Free dust bins given by Corporation in each case.

§ In addition to this number, the District Inspectors have daily had premises cleansed on verbal order.

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1914.

Nature of Complaint.	No. of Cases.	How disposed of.
Public Health Acts:—		
Defective Drains	2	Drains relaid without the summonses being applied for.
Defective Spouting, causing dampness	1	New spouting provided without the summons being applied for.
Accumulation of refuse	1	Refuse removed without the summons being applied for.
Workroom walls and ceilings dirty	2	Premises cleansed and limewashed without the summonses being applied for.
Public Health Act, 1875, Sec. 36, and Newcastle-upon-Tyne Improvement Act, 1892, Sec. 53:—		
Houses without sufficient water closets, etc. (foul privies, to replace by water closets)	91	In 68 cases the work was done without the summonses being applied for. In 11 (3 separate owners) the summonses issued were afterwards withdrawn on the work being done and costs being paid by defendants, in 8 (one owner) the cases were heard before the Magistrates, who imposed a penalty of 5s. in the first and adjourned the others, the whole of the work being subsequently carried out and the remaining summonses withdrawn, (costs paid by defendant). In 4 instances (one owner) the Magistrates dismissed the cases on defendant proving he was not the "owner" (notwithstanding that his name was upon the tenants' rent books and Corporation rate books). It transpired that his wife was the actual owner, and on the notices being re-served accordingly, the work was duly carried out.
Defective waste-water closets (to replace by fresh-water closets)	1	Work done without the summons being applied for.
Newcastle-upon-Tyne Corporation Act, 1911, Sec. 55:—		
Want of proper dustbins for house refuse	4	In 2 cases, summonses were issued and afterwards withdrawn on the bins being supplied (costs paid by defendant). In the remaining cases bins were provided without the summonses being applied for.
Carried forward ...	102	

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC., DURING THE YEAR 1914.

Nature of Complaint.	No. of Cases.	How disposed of.
Brought forward ...	102	
Tenement Bye-laws:—		
Contravention of Bye-laws 3-6 (overcrowding)	3	In each case the overcrowding was abated without the summonses being applied for.
Contravention of Bye-law 12 (insufficient w.c. accommodation)	3	In 2 cases additional w.c's were provided, and in the other the number of persons and holdings was reduced so as to comply with the Bye-law, the service of summons being rendered unnecessary in each instance.
Contravention of Bye-law 15 (cleansing of yards)	2	In both cases the necessary cleansing was carried out without the summonses being applied for.
Contravention of Bye-law 16 (w.c. structure and apparatus)	4	Work done without the summonses being applied for.
Contravention of Bye-law 18 (cleansing of water closets)	1	Closet cleansed without the summons being applied for.
Contravention of Bye-law 19 (cleansing of privies)	2	Necessary cleansing carried out without the summonses being applied for.
Contravention of Bye-law 27 (cleansing of passages and staircases)	2	Necessary cleansing carried out without the summonses being carried out.
Contravention of Bye-law 34 (want of water supply for domestic purposes)	2	Water supplied without the summonses being applied for.
Total ...	121	

HOUSING.

According to the census returns of 1911, there were in Newcastle 32,920 houses inhabited by 55,570 separate occupiers, with the high average of 8·13 persons per house.

Newcastle dwellings consist largely of "flats," an upstairs and a downstairs, with three to five rooms in each. The flats generally have separate entrances from the front street, and may either have separate yards, or one yard common to two flats, each having a distinct entrance to the yard.

32 per cent. of the housing accommodation in the City consists of one and two room holdings, in which live 28 per cent. of the population.

In the more ancient parts of the town, notably along the riverside, there is still a considerable amount of old property, mostly let in tenements. There are few "houses let in lodgings," dealings being practically always between landlord and occupier, without the intervention of any "tenant" as defined in the model bye-laws. The tenements in these houses are relatively low rented, single rooms ordinarily being let at an average of 2/- per week, two rooms at about 3/6, and three rooms at 4/3.

The City Engineer makes a quarterly return of empty houses in the City, and a perusal of these reports is instructive, as showing the growing scarcity of accommodation.

CENSUS OF EMPTY HOUSES, 1912-1915.

Date of Census ...	Nov., 1912.	Feb., 1913.	May, 1913.	Aug., 1913.	Nov., 1913.	Feb., 1914.	May, 1914.	Aug., 1914.	Nov., 1914.	Feb., 1915.	May, 1915.
Self-Contained ...	306	311	270	253	172	170	141	137	108	99	100
Flats (each counted as a separate house)	903	775	609	291	185	121	64	75	74	21	16
House and Shop combined ...	68	79	53	58	64	32	38	29	29	32	15
Tenemented Houses	28	41	48	20	24	13	3	3	1	—	—
Doubtful if fit for occupation ...	58	61	48	43	49	51	68	63	66	66	67
TOTAL EMPTIES...	1,363	1,267	1,028	665	494	387	314	307	278	218	198

The details of the last of these, the census taken on the 11th, 12th and 13th May, 1915, show the ward distribution of the empty premises.

EMPTY HOUSES, MAY, 1915.

Ward.	Self-contained Houses	Flats.	Houses and Shops combined.	Tenemented Houses.	Doubtful if fit for habitation.	Total.
St. Nicholas' ...	...	...	...	...	...	...
All Saint's ...	1	1	4	...	...	6
St. Andrew's ...	8	...	2	...	...	10
St. Thomas' ...	30	2	...	...	...	32
Jesmond ...	34	3	...	...	...	37
St. John's ...	11	...	1	...	...	12
Stephenson ...	1	...	...	...	...	1
Armstrong ...	...	...	...	...	...	...
Elswick ...	2	...	...	...	...	2
Westgate ..	...	...	...	...	...	...
Arthur's Hill ...	1	1	1	...	...	3
Dene ...	4	...	1	...	...	5
Heaton ...	3	1	...	...	67	71
Byker ...	4	3	...	...	...	7
St. Lawrence ...	...	...	...	...	...	...
St. Anthony's ...	...	2	6	...	...	8
Benwell ..	...	3	...	...	...	3
Fenham ...	...	...	...	...	...	...
Walker ...	1	...	...	...	...	1
	100	16	15	...	67	198

Thus, there is not a single empty house in St. Nicholas' Armstrong, Westgate, St. Lawrence and Fenham, only one in Stephenson and Walker, two in Elswick, and three in Arthur's Hill and Benwell, all, with the exception of Fenham, almost entirely working-class wards. And it is in these very wards that there is most insanitary property, which, under present conditions, it is practically impossible to close, as existing tenants cannot get houses elsewhere.

To illustrate further this condition of house famine, one or two sample advertisements are selected at random from many scores of similar ones appearing daily in the local evening papers :—

Flat, 3 or 4 rooms, required by married couple, no children, in good locality, Newcastle, easy reach of Central; bonus, 10s.—Write Box 87, Chronicle Office, Jarrow.

Flat wanted; 15s. reward; Newcastle or district; 3 rooms preferred; respectable locality; as near "Central" as possible.—Apply at once, Lovaine Place, Newcastle

House, small, or Flat, wanted; 30s. reward; any district; young married couple; no family.—Write Box C 52, Chronicle Office.

Bonus offered for Flat or Self-contained in Newcastle; West End preferred; August.—Write Box F 44, Chronicle Office.

Good Bonus given to anyone procuring in Newcastle, Gateshead, Gosforth, Wallsend, or thereabouts, a 3-roomed Flat.—Write Box P 11, Chronicle Office.

Flat (upstairs) wanted in Heaton: bonus, £1. Write Box C 43, Chronicle Office.

One Pound given to finder of Flat, 3 or 4 rooms.—Particulars to Advertiser, Sefton Avenue, Heaton.

Twenty-five Shillings Reward to finder of House, 4 to 5 rooms, Flat, up-stairs, Westgate Hill district; good reference. — Apply Cambridge Street.

As much as £5 is occasionally offered.

This appalling scarcity is greatly aggravated, though by no means entirely caused, by a large influx of workers at the munition factories. In the occupied houses overcrowding is rife, but the inspectors are obliged to ignore this, unless particularly gross instances come under their notice. Many complaints of overcrowding, mostly anonymous, were received at the Health Department, but in only about half were the allegations substantiated. A difficulty of course always arises, in that there is no defined standard of healthy living conditions, so that for general purposes the extremely low minima of the Model Byelaws as to houses let in lodgings are adopted. Nor does the question of decency and separation of the sexes figure under the Public Health Acts, and this is a further difficulty.

Prior to the outbreak of war, there was a fair number of empty houses in Benwell, and rents were reduced. When the demand exceeded the supply, the rents were raised to their original figure. Speaking generally, however, the rents of flat property and self-contained houses have been raised. In tenement houses as much as a shilling a week has been added to the rent of the holdings. Sometimes, but not always, this has only taken place on a change of tenancy.

Again, subletting of rooms is frequently discovered. In a recent case of overcrowding at Byker, it was found that a woman paying 3s. 6d. for two rooms had sublet one of them to another family for 3s.

As will have been noticed previously (page 178), closet conversion has fallen off considerably, as has also, since war broke out, the number of nuisances dealt with by notice and otherwise, due, not to any lessening of the need for this work, but to lack of men, both in the Department and elsewhere, and also to the high price of building materials.

Statements of houses closed, demolished, or otherwise converted, and of new houses built during the year 1914, follow.

The Housing, Town Planning, &c., Act, 1909.

Systematic inspection has been carried on under the above Act, and the various works executed in the remedy of defects found have resulted in considerable improvement on the conditions which previously obtained.

HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

Number of dwelling-houses inspected under and for the purposes of Section 17 of the Act of 1909	3,932‡
Number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	1,489
Number of representations made to the Local Authority with a view to the making of closing orders	—
Number of closing orders made	—
Number of dwelling-houses the defects in which were remedied without the making of closing orders	391
Number of dwelling-houses which, after the making of closing orders, where put into a fit state for human habitation	—
Under consideration, or in course of repair	1,098

‡ NOTE.—In this return each *holding* is counted as a separate house.

The general character of defects found consisted of insufficient light and ventilation, dampness, external and internal disrepair (defective roofs, spouting, broken plaster, and defective floors, walls, windows, fireplaces, etc., insufficient closet accommodation, conveniences out of order, yards not properly paved, want of or defective receptacles for storage of house refuse, etc.

Insanitary Dwellings dealt with under the Newcastle-upon-Tyne Improvement Act, 1882.

The following dwellings, reported to Committee by the Medical Officer of Health, were dealt with as shown :—

Closed— TENEMENTS.	No. of Houses.	No. of Holdings.	Tenants Displaced.
8, Stockbridge	1	10	10
3, Blyth Nook	1	6	6
10, 11, Manor Chare	2	2	2
6, Manors Yard	1	1	1
1, 2, 3, 4, Brewery Bank	1	4	4
8, 10, Ouse Street (back ground floor rooms)	2	2	2
30, Back Ouse Street (ground floor room)	1	1	1
107, Gallowgate	1	4	4
3, Brunel Street	1	1	1
19, 21, Back Ropery Walk	2	2	2
8, Swirle	1	1	1
2, Robin Hood Yard (ground floor)	1	2	2
14, Tyne Street	1	1	1
2, Glasshouse Street	1	1	1
Alterations or repairs carried out—			
12, Manor Chare and 2 Manors Yard	2	2	1
21, Pandon	1	2	1
4, 6, 12, 20, Ouse Street (back ground floor rooms)	4	4	1
22, 24, Ouse Street	2	2*	8*
10, Barrack Road	1	1	—
17, Ropery Walk	1	1	—
76, Gallowgate	1	3	—
4, Percy Court	1	2	—
27, 29, Liverpool Square	2	4	2
Closure agreed to, but not yet carried out—			
The Cottage, Ellison Place	1	1	1
Alterations or repairs promised, but not yet carried out—			
Crozier's Buildings	6	8	2
43, 43A, St. Ann Street	2	3	—
1, 2, 3, 4, 5, 6, Mordue's Yard	6	6	3
Nothing done—			
6, Ropery Walk, and 1, Pottery Bank	2	2	—
Bank Top House	1	2	—
Boat Landing House	1	1	—
Riverside House	1	1	—
Old Farm, Union Road	1	2	—
2, Percy Court	1	2	—
3, 8, Factory Yard	2	2	—
Condercum Cottages	8	8	—
Total	64	97	57

* Only the ground floor rooms (2 holdings) were dealt with, but the owners closed the whole of the houses.

CELLARS.

Closed as dwellings—			
7, 9½, Prince Albert Terrace	2 ...	2 ...	1
1, 11, 15, 19, 21, 31, 33, 35, 37, 26, 28, 32, Wesley Street	12 ...	12 ...	12
14, Camden Street	1 ...	1 ...	1
3, Russell Terrace	1 ...	1 ...	1
42, 44, Richmond Street	2 ...	2 ...	2
40, 40A, Rosedale Street	2 ...	2 ...	2
Let with whole or part of house and use for sleeping apartments, discontinued—			
13, Camden Street	1 ...	1 ...	1
73, 75, Copland Terrace...	2 ...	2 ...	2
45, Clarence Street	1 ...	1 ...	1
8, 10, 12, 14, Russell Terrace	4 ...	4 ...	4
2 Argyle Terrace...	1 ...	1 ...	1
Alterations promised but not yet carried out—			
31, Copland Terrace	1 ...	1 ...	1
Total Cellars	30	30	29
Total Tenements	64	97	57
GRAND TOTAL ...	94	127	86

In addition, the following tenants have been displaced owing to the closure or alteration of their houses by Sir W. C. Armstrong, Whitworth & Co., who had acquired them in connection with the new shipyard at Walker. Many of the houses were back-to-back, and all were provided with privies, which were very insanitary. The firm, in view of the uncertainty as to when they might require the sites, were unwilling to incur any considerable expense in alterations, and, therefore, closed the majority of the houses.

	No. of Houses.	No. of Tenants Displaced.
Altered from flats to self-contained—		
Mitchell Street	16	8
Mitchell's Buildings	14	7
Stag Row	12	6
Closed—		
Losh Street	7	7
Wilson Street	13	13
Lowthian Street	18	23
Welsh Row	7	7
Total . .	87	71

Houses Demolished or otherwise Converted.—31 tenemented houses (113 holdings) and 1 self-contained house have been converted into business premises, demolished for Elswick Works extension, or otherwise ceased to be used as dwellings. These are in addition to the number closed as unfit for habitation.

In all, 266 families have been displaced.

Houses built during the Year 1914.—The following return of houses built during the year under report is supplied through the courtesy of the City Engineer:—

Ward.	Houses Self-contained.	Houses of Two Flats each.
St. Nicholas	—	—
St. Thomas	—	—
St. John's	1	—
Stephenson	1	—
Armstrong	—	—
Elswick	1	—
Westgate	4	—
Arthur's Hill	—	—
Benwell	—	—
Fenham	18	—
All Saints'	—	—
St. Andrew's	—	—
Jesmond	15	2
Dene	33	6
Heaton	—	—
Byker	—	—
St. Lawrence	—	—
St. Anthony's	—	1
Walker	16	1
Total	89	10

New accommodation has thus been provided for 109 families, or at the rate of 5 persons to a family, 545 persons, as compared with accommodation estimated for 555 persons provided during 1913, and 725 during 1912, *while 266 families*, or 1,330 persons, *have been unhoused.*

Tenement Bye-laws.—The number of tenemented houses in the City is 3,539, containing 10,019 holdings, as follows:—

1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	Total.
3,374	5,462	1,065	115	3	10,019

The systematic inspection of tenement dwellings has been continued, the Bye-laws found to be fairly well complied with, and the improvement previously referred to generally maintained. Special attention has again been given to the question of overcrowding, and cases found to exist have been dealt with so far as existing legal power would permit.

The Bye-law which requires the lime-washing of tenement yards, passages, etc., twice a year continues to involve a considerable amount of labour on the part of the Health Department officers.

During the year 3,906 visits were made in connection with the enforcement of this Bye-law alone. Circular letters of reminder have again been issued to all landlords of tenemented property, and this, together with personal interviews, etc., resulted, in every case, in the work required being ultimately carried out without recourse to legal proceedings.

Customs and Inland Revenue Act, 1890, Sec. 26 (2).—Applications, respecting 2 houses, for certificates entitling the owners to exemption from inhabited house duty were made to the Medical Officer of Health during the year. The certificate was granted in each case.

New Buildings and Sanitary Alterations.—53 plans were examined by the Medical Officer of Health before their submission to the Town Improvement and Streets Committee. 2 plans for minor sanitary works have been examined and approved or otherwise by the Medical Officer of Health, and forwarded to the City Engineer for his consideration, as compared with 13 during the previous year.

COMMON LODGING HOUSES.

The number of common lodging houses on the Register at the end of the year was 61 as against 62 for 1913.

In accordance with the requirements of the Newcastle-upon-Tyne Corporation Act, 1911, applications were received

at the beginning of 1914 for the re-registration of 61 of these houses (the remaining one having been discontinued as a common lodging house and therefore removed from the Register). 57 of these houses were registered as desired, up to the end of the current year. In the remaining instances, however, owing to the houses not having been satisfactorily conducted, the Committee renewed the registration for shorter periods, viz: in two instances for three months, and in the other two for six months. In one case, the house was taken over by another person, who was duly registered, in two instances registration was subsequently granted up to the end of the year, whilst, in the fourth, the keeper was allowed a further probationary period of three months. His conduct did not, however, improve, but culminated in a personal attack upon the Assistant Inspector in the course of his duty. In view of this, the Committee declined to renew his registration, and ordered him to be cautioned. With this exception, the houses have been well conducted during the year.

Two applications were received in respect of houses not previously registered, both of these being granted, whilst one of the older houses was closed as a common lodging house and converted into tenements. The total number of lodgers for which the houses were registered was, at the close of the year, 2,164, as against 2,189 at the end of 1913. The average number of lodgers per night was 1,681, the highest and lowest numbers on any one night being 1,845 and 1,502 respectively.

For further particulars see Tables on following page.

The Assistant Inspectors of Common Lodging Houses also obtain samples of water and milk for bacteriological examination, and collected 187 of the former and 365 of the latter during the year. These officers also take smoke observations, and assist the Food and Drugs and District Inspectors when required.

REGISTERED COMMON LODGING HOUSES.

Summary of Work Done and Visits Made during the Year 1914.

Number of Houses on the register at the end of the year ...	61
Applications for registration (63 granted, 2 refused) ...	65
Existing houses re-registered (Newcastle Coporation Act, 1911, Sec. 63)	61
New houses registered	2
Houses removed from register (discontinued as common lodging houses)	2*
Inspections made in the day-time	9,875
,, ,, night-time	690
Notices served { re washing of bed clothes 245 ; ,, limewashing of houses 121 } ...	366
Contravention of Bye-laws, &c. :—	
Cleaning and ventilation of houses	19
Bedclothes not properly "aired" during prescribed hours	12
Beds and bedding dirty or defective	28
Cleansing of yards, passages, &c.	3
Dirty water-closets	6
Structural defects in houses	53
Defective water-closets and drains	65
Choked drains, water-closets, &c.	18
Defective roofs and choked or defective spouting ...	36
Defective or choked sinks, waste pipes, &c.... ...	3
Want of or defective dustbins	11
Accumulations of refuse	1
Wash-troughs broken	2
Dampness	4
Insufficient ventilation to rooms (broken window cords, &c.)	22
Unclassified	4
Deaths reported (non-infectious disease)	2
Cases of infectious disease reported (including 19 of tuberculosis)	21

*One of these was the house referred to on previous page, which, owing to the unsatisfactory conduct of the Keeper, the Committee declined to re-register, after allowing two successive probationary periods of three months each.

Lodgers Occupying Common Lodging Houses in the City during the Year 1914.

	Year 1914.	Corresponding Nos. for Year 1913.
Average number of Lodgers per night	1,681	1,636
Highest number on any one night	1,845	1,735
Lowest ,, ,, ,, ...	1,502	1,506
Number of Lodgers for whom accommodation was provided in the Common Lodging Houses of the City at the end of the year	2,164	2,189

FACTORIES AND WORKSHOPS.

FACTORY AND WORKSHOP ACTS.—There are on the Register 1,274 workshops, besides a large number of domestic workshops, workplaces, laundries, and bakehouses.

Particulars as to the number and nature of the various trades carried on, the number of inspections made, defects found, out-workers, &c., are given in the following Tables.

During the year, 96 lists of outworkers have been received, 27 employers having sent in lists twice, and 42 employers once.

Included in the lists so received, were 18 names and addresses of out-workers employed in districts outside the City. These were duly forwarded to the respective districts, as required by law. In four cases outworkers, working in Newcastle, but employed by firms outside the City, were notified by the Sanitary Authority of the district in question.

53 notices as to insanitary conditions in factories and workshops have been received from H.M. Inspectors of Factories. 15 of these related to factories, and 38 to workshops. The matters referred to were duly investigated and dealt with by service of notice, &c., the results being reported to the Inspectors of Factories as required by the Act.

ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN CONNECTION WITH FACTORIES, WORKSHOPS, WORKPLACES AND HOMEWORK, DURING THE YEAR 1914.

Home Office Tables.

1.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

PREMISES. (1)	NUMBER OF		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories ... ... (Including Factory Laundries.)	126	459	—
Workshops ... ... (Including Workshop Laundries.)	6,721		
Workplaces ... ... (Other than Outworkers' premises included in Part 3 of this Report.)	633		
Total	7,480	459	—

2.—DEFECTS FOUND.

PARTICULARS. (1)	NUMBER OF DEFECTS.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
*Nuisances under the Public Health Acts:—**				
Want of cleanliness	237	237	—	—
Want of ventilation	11	11	—	—
Overcrowding	4	4	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	181	183	1	—
†Sanitary accommodation (insufficient	21	21	—	—
†Sanitary accommodation (unsuitable or defective	72	73	—	—
†Sanitary accommodation (not separate for sexes	13	13	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	58	63	—	—
Other offences ... ... (Excluding offences relating to outwork which are included in Part 3 of this Report.)	—	—	—	—
Total	597	605	1‡	—

* Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act 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.

‡ Relating to a Factory.

NOTE.—When the number of "Defects Remedied," Column (3), exceeds the number of Defects "Found," Column (2), this is accounted for by certain defects included in the previous report having since been remedied.

FACTORY AND WORKSHOP ACTS.—*Continued.*

3.—HOME WORK.

Nature of Work.	Outworkers' Lists, Section 107.									Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending Lists.	Prosecutions.							
	Twice in the Year.			Once in the Year.											
	Lists.†	Outworkers.†		Lists.	Outworkers.			Failing to keep, or permit inspection of Lists.	Failing to send Lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (Section 110.)	Prosecutions (Sections 109, 110.)
		Contractors	Workmen.		Contractors	Workmen.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel (1) Making, &c.	52	15	136	42	6	94	§43	§Nil.	§Nil.	9	*9	Nil.	‖1	Nil.	Nil.
Wearing Apparel (2) Cleaning and Washing	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Household Linen	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...
Furniture and Upholstery	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...
Cart Gear	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Tents, Sacks, etc.	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Paper Bags, etc.	2	...	8	...	...	...	...	...	...	...	...	...	...	...	...
Brush Making	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Basket Making	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Total	54	15	144	42	6	114	43	...	...	9	9	...	1	...	...

Notes.—† The figures in columns (2), (3), and (4) are the *total* number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists. They are, therefore, double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name is often repeated.

Columns (3), (4), (6), and (7)—Employers seldom state whether their Outworkers are "Contractors" or "Workmen," hence the numbers given above may not be properly divided.

§ In 32 of these cases the lists of outworkers were not received in the month of February or August as required by the Act, but in every such case they were subsequently received on the employers being reminded of their default by written notice. In the remaining 11 instances (of failing to keep or permit inspection of lists of outworkers) verbal notice was given the employers likewise complying therewith.

* In each case the Notice was served upon the *Outworker*, and was duly complied with.

‖ This was a case of Phthisis, and was under the observation of the Medical Officer of Health.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Workshops	1,274
Domestic Workshops	155
Workplaces	230
Laundries	41
Bakehouses	277
Total ...	1,977

5.—OTHER MATTERS.

Class. (1)		Number. (2)
Matters notified to H.M. Inspector of Factories:—		
Failure to affix Abstract of the Factory and Workshop Act (sec. 133)		22
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5).	Notified by H.M. Inspectors ...	53
	Reports (of action taken) sent to H.M. Inspectors	53
Other:—		
Underground Bakehouses (s. 101):—		
Certificates granted during the year		—
In use at the end of the year		12

6.—TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City.

Trades.	Workshops.	Domestic workshops (including domestic bakehouses and laundries).	Workplaces.
Ærated Water Manufacturers, Beer bottling, etc.	7	...	24
Artificial Stone, Asphalte, Bitumen Solution, Enamel and Cement making	8	...	4
Athletic Outfitters...	4	...	...
Bacon Washing	6	...	...
Bags, Baskets, Trunks, Brushes (making and repairing)	14	1	...
Bakehouses	69	208	...
Bouquets and Wreath making	13	...	...
Bedsteads, Bedding and Mattress making ...	4	1	2
Bicycle making and repairing	18	1	...
Blacksmiths and Locksmiths	53	...	...
Boat Building	3	...	...
Carried forward ...	199	211	30

6.—TRADES.—*continued.*

Trades.	Work-shops.	Domestic workshops (including domestic bake-houses and laundries).	Work-places.
Brought forward ...	199	211	30
Boots, Shoes, Slippers (making and repairing)	127	20	—
Carts, Carriages, Coaches, Barrows (making and repairing)...	21	—	2
Carpets, Canvas, Water Proof Cover making...	8	—	—
Chemical Works	3	—	—
Confectionery making	9	—	—
Coopers	6	—	—
Cork Cutters	2	—	—
Currants and other Fruit packing and cleaning	4	—	—
Cigarette making and Pipe making and repairing	3	—	—
Dressmaking, Milliners, and Mantle Makers ...	206	67	—
Drysalters	4	—	2
Engravers	6	1	2
Engineers, Electric Heating and Cooking, etc.	36	1	1
Firewood Cutting and Firelighter Makers ...	4	—	—
Fish Curers	3	—	—
Furniture, Automatic Seats, French Polishing and Upholstery	59	10	9
Grain, Ice, Meat, Onions, Oil, packing and storage	23	3	22
Harness making and repairing	12	—	—
Hide and Skin Dealers	—	—	4
Instruments—Mathematical, Musical, etc. (making and repairing)...	5	—	—
Jewellery, Watches, Clocks, (making and repairing)	46	6	—
Joiners, Handrailers, Ladder Makers, and Wood Carvers and Turners	72	—	—
Lamp Making and repairing	3	—	—
Laundries	27	14	—
Marble Masons and Monumental Sculptors ...	9	—	—
Marine Stores	—	—	22
Miscellaneous Warehouses and Workshops, (which include repairing umbrellas and guns, preparing cattle food and medicine, dressing leather, packing eggs, lard rendering and gut scraping)	8	1	22
Painters' Workshops, and making and bottling Paint and Varnish	37	—	—
Photographers	26	1	—
Pickle and Sauce making	8	—	—
Picture Framers and Gilders	11	—	—
Plasterers, Lath rendering	3	—	—
Plumbers, Gas Fitters and making and repairing Sanitary Pipes and Fittings... ...	27	—	—
Restaurant kitchens	—	—	88
Rubber Stamps and Tyres (making and repairing)	3	—	—
Carried forward ...	1,020	335	204

6.—TRADES—*Continued.*

Trades.	Workshops.	Domestic workshops (including domestic bakehouses and laundries).	Workplaces.
Brought forward ...	1,020	335	204
Scales, Weighing Machines and Sewing Machines (making and repairing) ...	7	...	...
Sign Boards, Sun and Venetian Blind (making and repairing)...	8	...	...
Stained Glass making	3	...	...
Stables (Livery, etc.)	...	...	30
Tailors	195	37	...
Taxidermists, Fur pulling and cleaning ...	7	...	...
Tea Blending and Packing	4	...	...
Ticket Writers	9	1	...
Timber Yards	...	...	7
Tin, Iron Plate and Wire Workers	16	1	...
Tripe Dressers	6	...	...
Typewriting Machines (repairing)	4	...	...
Underclothing (making)	59	24	...
Totals	1,338	398	241

COUNCIL SCHOOLS.

Sanitary Inspection of Council Schools.—106 inspections of these schools have been made during the year. At 9 schools, insanitary conditions were found. (For particulars see page 182). The matters in question were reported to the School Authorities, or in some instances when of a minor character, were attended to by the caretakers on their attention being called to them.

THE RAG FLOCK ACT, 1911.

In pursuance of this Act, 12 samples of rag flock have been purchased and submitted for analysis to the Public Analyst. Two of these did not conform to the standard of cleanliness laid down by the Local Government Board in their Regulations under the Act, and the consequent action taken is shown in the following table.

Total number of samples taken.	Result of Analysis.	Rotationary number of sample.	Action taken.
12	10 conformed to the standard of cleanliness prescribed by the Regulations (containing only from 10 to 30 parts of chlorine per 100,000 of flock).		
	1 contained soluble chlorine, as chlorides, to the extent of 295 parts per 100,000.	8	Vendor cautioned, by order of Sanitary Committee. (These flocks were obtained at an upholsterer's workshop. The Proprietor stated that they were not intended to be used, but had been taken out of an old spring bed which was being repaired. This statement was afterwards confirmed by the Inspector. A further sample (of *new* flock) taken at this workshop at the same time, conformed to the Regulations) containing only 12 parts of chlorine per 100,000).
	1 Do. 36 ,, ,,	9	Vendor cautioned, by order of Sanitary Committee.

For particulars of work done under the *Food and Drugs Acts*, see pages 153-169.

I am, Sir,

Your obedient Servant,

W. HUDSPETH,

Health Department,
Town Hall.

Inspector of Nuisances,
Common Lodging Houses, &c.

SUMMARY OF SPECIAL REPORTS MADE BY THE MEDICAL OFFICER OF HEALTH DURING 1914.

The following, in addition to routine matters, have been brought before the Sanitary Committee by the Medical Officer of Health during the year:—

(The figures denote the folio numbers in the Fortnightly Report Book.)

Epidemic and Infectious Disease.

Typhus—Byker and Benwell . . . Jan., 312, 320, Aug., 33

Tuberculosis in Town Hall Staff . . . . . Feb., 324-5

Epidemic Summer Diarrhœa . . . . Aug., 31, 34 and 5

Glanders . . . . . Oct., 48

Measles . . . . . Nov., 60-61

Localities.

Heaton Station—Milk Traffic . . . . . Jan., 310

Houses unfit for human habitation—Jan., 321, Feb., 327, 331 and 32, Mar., 340, May, 2 and 3, June, 8 and 9, Aug., 30.

Delaval Terrace, Scotswood—Water supply, &c. . . Nov., 61 and 2

Blyth Nook—Slaughter House Licence . . . . Nov., 62

General.

Housing and Town Planning Act . . . . . Jan., 313-14

Ouseburn Tip . . . . . Jan., 314

Insanitary Tenements—Statement at Meeting of Board of Guardians, Jan., 314-16

Tuberculous Milk—Jan., 320-21, Feb., 324, 330-31, Mar., 334-5, Apl., 342, 346 and 7, June, 7 and 8, 11 and 12, July, 15, Aug., 22, Oct., 46, 51 and 2, Nov., 55, 60, Dec., 65 and 6, 70 and 71.

Notification of Ophthalmia Neonatorum . . . Feb., 325 and 6

Fabrics (Misdescription) Act, 1913 . . . . . Feb., 326 and 7

Health Week . . . . . Feb., 327

Bacteriological Examinations . . . . . Monthly

SUMMARY OF SPECIAL REPORTS—*continued.*

The War.