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BOROUGH OF NEWCASTLE-UPON-TYNE.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

SANITARY CONDITION

OF

NEWCASTLE-UPON-TYNE,

WITH

TABULAR RETURNS

AND

DIAGRAMS OF MORTALITY

DURING

THE YEAR 1876.



Newcastle-upon-Tyne:
JOHN CHIRSTIE, "CAXTON HOUSE," CROSS STREET.
1877.

REPORT

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NEWCASTLE-UPON-TYNE :

JOHN CHRISTIE, "CAXTON HOUSE," CROSS STREET,

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INDEX

	PAGE
Rates of Birth and Death,	5
Zymotic Diseases,	6
Miasmatic Order of Zymotic Diseases,	6
Local Diseases,	8
Chest Diseases,	8
Infant Mortality,	11
Non-Certified Deaths,	11
Artizans Dwellings,	12
Surveys, &c.,	15
Epidemic Disease and its prevention,	16
Ash-Closet System,	17
Remarks,	18
Recommendations, &c.,	20

TABLES.

I.—Population.—Births and Deaths in the Sub-districts of the Borough,	22
II.—III.—Rates of Death—Quarterly and in Sub-districts, and in different classes of Disease,	22
IV.—Number of Deaths in different classes and orders of Disease, ...	23
V.—Ages at Death	24
VI.—Weekly Mean Number of Deaths at Seven Ætal Periods, ...	24
VII.—Number of Births and Deaths in different Quarters of Three consecutive Years,	24
VIII.—IX.—Deaths of Children,	25
X.—Non-Certified Deaths,	27
XI.—XII.—Deaths from Zymotic Diseases and their locality,	28
XIII.—Admissions to, and Deaths at, the Newcastle Fever Hospital, ...	34
XIV.—XVIII.— { Unwholesome Food, Disinfections done,	35
{ Nuisance Removal, Magisterial Proceedings, &c.,	36
XIX.—Temperature and Rainfall	37

DIAGRAMS.

Fortnightly Chart of Deaths at Seven Ætal Periods.
Fortnightly Chart of Deaths liable to fluctuation with Temperature and Rainfall.
Plan of Newcastle showing prevalent Zymotic Diseases.

INDEX

TO MR. ALDERMAN WILSON,

Chairman of the Sanitary Authority of the
Borough of Newcastle-upon-Tyne.

SIR,

I have the honour to present to you my Report for the year 1876, in which it is my privilege to be able to show a considerable improvement in the health of the Borough as compared with recent years.

The statistical portion of the Report is followed by an inquiry into certain conditions affecting the mortality.

The next section shows the Sanitary action taken by the Authority and its Staff.

The remaining sections contain remarks and recommendations bearing on the experience of the past year.

I am, Sir,

Your obedient servant,

HENRY E. ARMSTRONG, M.R.C.S.,

MEDICAL OFFICER OF HEALTH.

*Town Hall, Newcastle-upon-Tyne,
27th February, 1877.*

BOROUGH OF NEWCASTLE-UPON-TYNE.

REPORT 1876.

DURING the 52 weeks ended 30th December, 1876, 5814 births and 3183 deaths have been registered in the Borough. The births represent an annual rate of 41·6, and the deaths an annual rate of 22·7 per 1000 population at all ages, as estimated by the Registrar-General to the middle of the year.

The birth-rate shows an increase of 1·0, and the death-rate a decrease of 3·4 per 1000 population, as compared with the rates of 1875.

The mortality from all causes during four preceding years is equivalent to a mean annual rate of 27·9 per 1000.

The rates of mortality in the various Registration Sub-districts per 1000 estimated population of each are as follow :—Westgate 21·0, St. Andrews' 18·4, St. Nicholas' 33·0, All Saints 22·2, and Byker 25·5. The rate of mortality of St. Nicholas' Sub-district is increased by 136 deaths in the Infirmary, 66 of which were those of patients admitted from beyond the Borough. Each of these rates is below that of the previous year, when they were respectively 23·7, 20·9, 40·8 25·9, and 28·8, the number of deaths in the Infirmary being 150, of which 85 were non-resident in the Borough.

The rates of death per 1000 per annum, from all causes, in the different quarters of the year, for the Borough, have been as follow :—first quarter 25·5, second quarter 21·8, third quarter 22·6, fourth quarter 21·2.

The deaths from all causes average a weekly number of 61·1, the average weekly number in the preceding year being 69·0. The three weeks in which the highest numbers of deaths have been registered during the year under report, are those ended February 12th, March 25th, and December 23rd, the numbers being respectively 89, 82, and 83. The three weeks in which the lowest numbers of deaths have been registered, are those ended September 23rd, 30th, and October 21st, the numbers being respectively 41, 41, and 43.

Comparison of the weekly mortality of the different quarters of the year yields the following:—

1876.	Number of Weeks with deaths above average.	Number of Weeks with average num- ber of deaths.	Number of Weeks with deaths below average.
1st Quarter.	9	0	4
2nd „	5	1	7
3rd „	6	1	6
4th „	5	0	8
Entire Year.	25	2	25

Zymotic Diseases.—The rate of mortality from the seven chief Zymotic diseases, viz.—Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, “Fever” (including Typhus, Enteric, and Continued Fevers) and Diarrhoea, is 2·4, per 1000 population. This rate was 3·6 in the previous year, 4·7 in 1874, and 6·8 in 1873.

The entire Miasmatic Order, to which the seven above named diseases of the Zymotic Class belong, and of which a detailed list is given in the appendix, has caused 424 deaths, as compared with 577, 863, and 975, respectively during the years 1875, 74, and 73. The 424 Miasmatic deaths of last year represent a rate of 3·0 per 1,000 on the entire population, as against a rate of 4·3 in 1875. With the exception of the Sub-district of Byker, this decrease is general throughout the five Registration divisions of the Borough, being, as compared with the rates of the previous year, in Westgate (which includes the Township of Elswick), 3·1 against 4·5; in St. Andrew’s, 2·2 against 3·9; in St. Nicholas (which includes the Parish of St. John’s), 2·5 against 5·9; in All Saints’ 2·8 against 3·3, and in Byker (which includes the Townships of Heaton and Jesmond), 4·0 against 3·7 per 1000 estimated population of each.

The diseases to the diminution of which this improvement is due are Scarlet Fever, Diarrhoea, Measles, Whooping Cough, Enteric Fever, and Typhus; under these heads the mortality of the Borough for the year 1876 is less than that of 1875 by 22, 52, 23, 19, 33 and 12 deaths respectively. The Registration Sub-district of Westgate shews a decrease of deaths from all of these diseases, most marked under the heads of Whooping Cough, Enteric Fever, and Typhus (17, 17, and 3 against 40, 38, and 10). The Sub-district of St. Andrew’s shews a decrease of deaths from all the above named diseases except Enteric Fever, which caused the same number (5) in each year; improvement in this Sub-district is most marked under the head of Diarrhoea and Measles, (18 and 2 against 30 and 10 deaths respectively). The Sub-district of St. Nicholas’ shews a marked decrease under all the heads. The Sub-district of All Saints’ shews a slight decrease under all the heads except that of Whooping Cough, which has caused 12 deaths, as compared with 9 during the previous year. The Sub-district of Byker shews no considerable decrease except under the head of Diarrhoea, from which 27 deaths are recorded, as against 37

in 1875. The numbers in Byker Sub-district registered as dying from Measles, Whooping Cough, Enteric Fever and Typhus are respectively 6, 12, 8 and 2, as against 3, 4, 6 and 0, in 1875.

Collectively the chief Febrile Diseases (Measles, Scarlet, Typhus, and Enteric Fevers), have during 1876 caused a mortality less than one third that of the average of the three years immediately preceding.

With respect to the relative fatality of the chief Zymotic diseases* of the Borough and Sub-districts during the successive seasons of the year:—

Smallpox caused 1 death only in the Borough, viz.—in St. Nicholas' Sub-district during the first quarter.

Measles, with a total of 27 deaths for the year, caused 3 of these in the first quarter, viz.—2 in Westgate and 1 in St. Andrew's; 9 in the second quarter, viz.—5 in Westgate, 1 in St. Andrew's and 3 in Byker; 4 in the third quarter, viz.—1 in All Saints' and 3 in Byker; 11 in the fourth quarter, viz.—9 in Westgate and 2 in All Saints'.

Scarlet Fever, with a total of 52 deaths for the year, caused 15 of these in the first quarter, viz.—4 in Westgate, 2 in St. Andrew's, 3 in St. Nicholas', 4 in All Saints', and 2 in Byker; 11 in the second quarter, viz.—9 in Westgate, 1 in St. Andrew's, and 1 in All Saints'; 6 in the third quarter, viz.—3 in Westgate, 1 in St. Andrew's, and 2 in Byker; and 20 in the fourth quarter, viz.—6 in Westgate, 4 in St. Andrew's, 2 in St. Nicholas', 3 in All Saints', and 5 in Byker.

Diphtheria, with a total of 13 deaths for the year, caused three of these in the first quarter, viz.—2 in Westgate and 1 in All Saints'; 1 only in the second quarter (in St. Nicholas'); 5 in the third quarter, viz.—2 in St. Andrew's, 2 in All Saints', and 1 in Byker; and 4 in the fourth quarter, viz.—1 in Westgate and 3 in All Saints'.

Croup, with a total of 17 deaths for the year, caused 5 of these in the first quarter, viz.—3 in Westgate and 2 in All Saints'; 3 in the second quarter, viz.—1 in Westgate and 2 in All Saints'; 3 in the third quarter, viz.—2 in Westgate and 1 in All Saints'; 6 in the fourth quarter, viz.—3 in Westgate and 3 in All Saints'. No deaths from Croup have been registered either in St. Andrew's, St. Nicholas', or Byker Sub-districts.

Whooping, Cough with a total of 44 deaths, caused 29 of these in the first quarter, viz.—15 in Westgate, 2 in St. Andrew's, 7 in All Saints', and 5 in Byker; 8 in the second quarter, viz.—1 in Westgate, 3 in All Saints', and 4 in Byker; 4 in the third quarter, viz.—1 in Westgate, 1 in St. Nicholas', and 2 in Byker; and 3 in the fourth quarter, viz.—2 in All Saints' and 1 in Byker.

* Corrected by distribution of deaths in Hospital to district from which each came.

Typhus, with a total of 13 deaths for the year, caused 5 of these in the first quarter, viz.—1 in St. Andrew's, 1 in St. Nicholas', and 3 in Byker; 4 in the second quarter, viz.—2 in St. Andrew's, 1 in St. Nicholas', and 1 in Byker; 2 in Westgate in the third quarter; and 2 in the fourth quarter, viz.—1 each in Westgate and Byker.

Enteric or Typhoid Fever, with a total of 37 deaths for the year, caused 6 of these in the first quarter, viz.—2 in Westgate, 2 in All Saints' and 2 in Byker; 5 in the second quarter, viz.—3 in Westgate and 2 in Byker; 8 in the third quarter, viz.—4 in Westgate, 3 in All Saints', and 1 in Byker; and 18 in the fourth quarter, viz.—8 in Westgate, 2 in St. Andrew's, 2 in St. Nicholas', 3 in All Saints', and 3 in Byker.

Diarrhoea with a total of 150 deaths for the year, caused 6 of these in the first quarter, viz.—3 in Westgate, and 1 each in St. Nicholas', All Saints', and Byker; 9 in the second quarter, viz.—5 in Westgate, 2 in St. Andrew's, and 1 each in All Saints' and Byker; 114 in the third quarter, viz.—51 in Westgate, 8 each in St. Andrew's and St. Nicholas', 25 in All Saints', and 22 in Byker; and 21 in the fourth quarter, viz.—4 in Westgate, 8 in St. Andrew's, 1 in St. Nicholas', 5 in All Saints', and 3 in Byker.

Local Diseases.—The general rate of mortality is favourably affected by a large reduction of deaths below the number of the previous year in the extensive class of Local Diseases. Under this head 1397 fatal cases have been registered, as compared with 1567 in the year 1875. The reduction has been general throughout the Borough, and is to a great extent accounted for by a large diminution in the number of deaths from Diseases of the Nervous, Circulatory, Respiratory, and Digestive Systems. Of these the order most liable to fluctuation or influence of season is that of Diseases of the Respiratory Organs, from which 508 deaths have occurred—a decrease of 40 below those of the previous year. This decrease is confined to the Sub-districts of Westgate, St. Andrew's and St. Nicholas; All Saints' shewing a slight increase (149 against 136 deaths) and Byker a considerable increase (102 against 79 deaths) over the return of the year before. Two factors in this order, Bronchitis and Pneumonia have alone caused 427 deaths in the Borough.

Bronchitis, with a total of 319 deaths for the year, caused 135 of these in the first quarter, viz.—33 in Westgate †, 14 in St. Andrew's, 9 in St. Nicholas', * 43 in All Saints', and 36 in Byker; 73 in the second quarter, viz.—17 in Westgate, 9 in St. Andrew's, 4 in St. Nicholas', 24 in All Saints', and 19 in Byker; 40 in the third quarter, viz.—8 in Westgate, 5 in St. Andrew's, 2 in St. Nicholas', 14 in All Saints', and 11 in Byker; and 71 in the fourth quarter, viz.—25 in Westgate, 9 in St. Andrew's, 6 in St. Nicholas', 22 in All Saints', and 9 in Byker.

† Workhouse.

* Infirmary.

Pneumonia, with a total of 108 deaths for the year, caused 29 of these in the first quarter, viz.—11 in Westgate, 13 in All Saints', and 5 in Byker; 28 in the second quarter, viz.—13 in Westgate, 2 in St. Andrew's, 1 in St. Nicholas', 8 in All Saints', and 4 in Byker; 22 in the third quarter, viz.—11 in Westgate, 3 in St. Nicholas', 6 in All Saints', and 2 in Byker; and 29 in the fourth quarter, viz.—13 in Westgate, 2 in St. Andrew's, 3 in St. Nicholas', 7 in All Saints', and 4 in Byker.

The subjoined table shows the relative fatality of the two diseases combined, in the different districts and in the successive seasons of the year.

BOROUGH OF NEWCASTLE-UPON-TYNE.						
Rates of Mortality per 10,000 estimated population, per annum, from Bronchitis and Pneumonia :—						
A. D. 1876.	REGISTRATION SUB-DISTRICTS.					
	Westgate (Workhouse)	St. Andrew's	St. Nicholas' (Infirmary.)	All Saints'	Byker.	Borough
1st Quarter ...	28·4	28·8	32·4	76·0	84·8	46·8
2nd „ ...	19·6	22·4	18·0	44·8	47·6	28·8
3rd „ ...	12·4	10·4	18·0	28·0	26·8	17·6
4th „ ...	24·8	22·4	32·4	42·0	26·8	28·4
Year.	21·2	21·0	25·0	48·0	46·6	32·0

As may be observed the fatality of the two diseases has been proportionately by far the greatest during the first quarter; and of the five Sub-districts, that which has suffered by far the most severely is Byker, the rate of that district being almost treble those of Westgate and St. Andrew's; in the second quarter, the rate in Byker is again the highest, All Saints' being the second highest in each of these periods; during the third quarter, in which the rates of all the districts are also lightest, All Saints' has the highest relative mortality from these causes, Byker coming next, and more than doubling the rates of Westgate and St. Andrew's; during the fourth quarter, All Saints' Sub-district has again the highest rate—that of St. Nicholas' being the second, and that of Byker third.

The prevalence of Respiratory Diseases in Byker and All Saints' would be shown to be much greater than appears in the above table were it corrected by addition of the deaths of patients removed from them to the Workhouse and Infirmary.

The mortality of the Entire Borough from chest affections is partly explained by general and partly by local causes. The greater fatality of these diseases during the first as compared with the fourth quarter is doubtless to a considerable extent due to temperature—which at mean of 37·7 °F for the thirteen weeks, fluctuated

between a mean of 30.4° for the week ended January 15th, and one of 43.4° for the week ended March 4th; the means of alternate fortnights exhibiting a marked difference, as is shewn by the chart. The weekly ranges between maxima and minima temperatures were also great, being 20° and upwards in six of the thirteen weeks;—whilst in the fourth quarter, at a mean of 44.6° the temperature fluctuated between a mean of 37.8° for the week ended 11th November, and one of 53.6° for the week ended 14th October, the mean ranges varying also less than during the first quarter, three weeks only presenting a mean range of 20° or upwards.

Temperature does not, however, explain the excessive fatality of chest affections in the eastern portion of the town. As is well known, the largest proportion of the poorly housed, poorly clad, and poorly fed, are to be found in the Sub-district of All Saints, and it is amongst this class that the greatest prevalence of such diseases may be looked for.

In Byker, where there is a relatively larger number of dwellings of a better class than in All Saints, with inhabitants in better social circumstances, and more able to resist disease, a comparative preponderance of ailments of this nature must be the effect of other and probably local causes.

The foregoing statistics as to Respiratory Diseases have been checked by comparison with the rate of Infant mortality from the same causes, calculated on the more reliable basis of births registered during the same period, and with results still more unfavourable for the district in question. During 1876 the deaths of Infants under one year of age from Bronchitis and Pneumonia are, in Westgate at the rate of 12, in St. Andrew's 24, in St. Nicholas' 19, in All Saints' 28, and in Byker 32, per 1000 births registered in each district, the rate for the Borough being 24.

In connexion with this excessive mortality in Byker, three circumstances offer themselves for consideration. The first, that of elevation and general exposure may be disregarded, since Byker Hill, the most elevated part of the district, is about 50 feet below the level of the central portion of Westgate Sub-district, where the mortality from Chest affections has been comparatively light. The second circumstance is that of comparatively more direct exposure to noxious vapours, which has been regarded as a cause of sickness; but that the special action of emanations from chemical factories on the river should be the chief cause of increase of pulmonary diseases in any particular locality, is difficult of proof. Pneumonia and the acute form of Bronchitis being diseases of comparatively short duration, afford a tolerably accurate means of tracing any connexion that may exist between these affections and their tangible causes. If, therefore, fumes from chemical works caused the excess of Chest Diseases in Byker during last year, it is natural to expect that that district would have suffered most severely in proportion to the prevalence of winds

blowing from such works towards the district, viz.—those from the the East, South-East, and South. But winds from these points were comparatively rare in the Spring quarter (on 9 days only,) at which time chest affections were most prevalent in Byker, whilst in the fourth quarter, whilst these winds were more frequent, viz.—on 28 days the mortality from these causes was much lower. The third circumstance is strictly local, and is that of undue wetness of the ground from want of paving and flagging which leads to moisture of atmosphere and reduction of temperature, two known factors of chest disease which have been actively in operation in Byker during the past year.

Infant Mortality.—The number of children dying under one year of age from all causes is 971, as compared with 1050 during the previous year. The rates per cent. of deaths under one year to births registered in the different Sub-districts are as follow:—Westgate 15·5 against 17·5 in the previous year; St. Andrew's 16·7 against 18·1; St. Nicholas' 18·0 against 20·6; All Saints' 20·8 against 20·2; and Byker 15·5 against 19·8; that of the entire Borough being 17·0 against 18·8 in the year 1875. The improvement is chiefly due to decreased mortality under the following heads, viz:—Whooping Cough from which 18, Diarrhœa from which 109, Convulsions from which 170, and "Atrophy and Debility" from which 168 deaths are recorded, as against 33 from Whooping Cough, 134 from Diarrhœa, 197 from Convulsions, and 233 from "Atrophy, &c.," in the year 1875. The infant mortality is increased by 37 deaths attributed to suffocation. During 1875 the number was 13, and in 1874, 6 deaths from this cause were returned. Of the 37 deaths during the present year, 8 occurred in Westgate, 5 in St. Andrew's, 6 in St. Nicholas', 7 in All Saints', and 6 in Byker.

Non-Certified Deaths—i.e., Deaths unattested by any medical attendant whatever, and on which no inquest was held—have as usual assisted considerably in the general, and largely in the infantile mortality of the year. 110, or upwards of one-ninth of the fatal cases under one year of age, are those of children who have been buried without medical certificate being given, or legal inquiry held. Of those 28 have occurred in Westgate, 13 in St. Andrew's, 8 in St. Nicholas', 53 in All Saints', and 17 in Byker. In addition to the foregoing, 13 uncertified deaths of children aged 1 year and under 2 years, and 47 of persons above 2 years of age are recorded. 53, or almost one-half of the uncertified deaths under one year of age, are ascribed to Convulsions; of these no less than 31 are returned from All Saints' Sub-district; the number in Westgate is 7, in St. Andrew's 5, in St. Nicholas' 4, and in Byker 6.

The term "Convulsions" is one of common use, but at the same time is very much misapplied. It may be a symptom but nothing more. It means visible involuntary muscular movement of any kind, whether the result of disease, poison, strangulation, or

otherwise, and should no more be received as a cause of natural, than of unnatural death. With the uneducated it is not unfrequently applied to conditions in which there are no convulsions at all.

Another symptom registered as a cause of uncertified death is Debility, from which 10 out of a total of 21 cases are assigned to All Saints'. 19 are returned as due to Premature Birth. The remaining uncertified infantile deaths are ascribed to various causes, a list of which is given in the appendix. Amongst those is included one from Suffocation.

WORK OF THE HEALTH DEPARTMENT.

Artizan's Dwellings.—In pursuance of the Artizan's and Labourer's Dwellings Improvement Act, 1875, and with the approval of the Sanitary Committee, the Medical Officer of Health made to the Local Authority of the Borough an official representation, which was endorsed by the Committee, and presented by Mr. Alderman Wilson to the Council on August 2nd. The following is a copy:—

BOROUGH OF NEWCASTLE-UPON-TYNE.

ARTIZANS AND LABOURERS DWELLINGS IMPROVEMENT ACT, 1875.

REPORT OF THE SANITARY COMMITTEE.

2nd August, 1876.—Presented to the Council and ordered to be printed.—
W. H. STEPHENSON, Esq., Mayor.

THE Sanitary Committee have to report to the Council that, under the provisions of the "Artizans and Labourers Dwellings Improvement Act, 1875," the Medical Officer of Health for the Borough presents the following official representation declaring that certain portions of the Borough are unhealthy, and that this unhealthiness may reasonably be attributed to the bad arrangements and other sanitary defects of streets and dwellings which cannot be effectually remedied otherwise than by an improvement scheme.

Having inspected the portion of the Borough referred to in the official representation, which comprises Pandon, Wall Knoll, Mount Pleasant, Craig Alley, Factory Lane, Sallyport, and Pandon Bank, termed collectively in the official representation the Old Pandon Group, and New Pandon Street, with the yards and entries adjoining, termed collectively the New Pandon Group, your Committee endorse the representation of the Medical Officer of Health as to the unwholesome condition of the above described properties.

In accordance with the provisions of the Artizans Dwellings Act, your Committee recommend the Council to pass a resolution to the effect that these areas are unhealthy as, and that an improvement scheme ought to be made in respect of such areas.

Should it be decided to pass such resolution, a scheme for the improvement of these areas will be forthwith proceeded with and submitted to the Council by your Committee.

THOS. WILSON, CHAIRMAN.

Town Hall, Newcastle-upon-Tyne, 1st August, 1876.

BOROUGH OF NEWCASTLE-UPON-TYNE.

ARTIZANS AND LABOURERS DWELLINGS IMPROVEMENT ACT, 1875.

OFFICIAL REPRESENTATION OF THE MEDICAL OFFICER OF HEALTH TO THE LOCAL AUTHORITY OF THE BOROUGH OF NEWCASTLE-UPON-TYNE.

I, HENRY E. ARMSTRONG, being the Medical Officer of Health for the Borough of Newcastle-upon-Tyne, do hereby certify and represent to the Council of the Borough, as the Local Authority of the Borough, that diseases indicating a generally low condition of health among the population have been from time to time prevalent in the houses, buildings, courts, or alleys, within the district of Pandon, Wall Knoll, Mount Pleasant, Craig Alley, Factory Lane, Sallyport, Pandon Bank, and New Pandon Street, with the yards and entries adjoining the same, laid down and described on the plan hereunto annexed * and coloured round with blue and green, within the jurisdiction of the said Local Authority; and that such prevalence may reasonably be attributed to the closeness, narrowness, and bad arrangement, or the bad condition, of the streets and houses or groups of houses within such district, or to the want of light, air, ventilation, or proper conveniences, or to other sanitary defects, or to one or more of such causes; and that the evils connected with such houses, courts, or alleys, and the sanitary defects in such district, cannot be effectually remedied otherwise than by an improvement scheme for the re-arrangement and re-construction of the streets and houses within such district, or of some of such streets and houses.

The dwellings within the area covered by the streets and courts above-named consist of two groups, which for the purpose of this representation may be termed respectively the New Pandon and Old Pandon Groups.

New Pandon Group.

The New Pandon Group comprises the houses included within the blue margin on the accompanying plan, viz., New Pandon Street, Mowbray's Buildings, Pandon Bank north of St. James' Lane, with the courts and entries adjoining. The population enumerated at the time of my inspection (November, 1875) was 958 persons.

Health of the New Pandon Group

Calculated on this population, the rate of mortality from all causes was, in 1873, 57.6 per 1000, that of the entire Borough being 30.1; in 1874, 49.0, that of the entire Borough being 29.2; in 1875, 36.5, that of the Borough being 26.1. The mean rate for the three years is, for the New Pandon Group, 47.7 per 1000, that of the entire Borough being 28.5.

General
Death-Rate

* Plan submitted with official representation.

**Zymotic
Death-Rate.**

Calculated as above, the rates of mortality from the seven principal Zymotic diseases (viz., Smallpox, Measles, Diphtheria, Whooping cough, Diarrhoea, Scarlet Fever, and "Fever") have been as follow :—In 1873, for the New Pandon Group, 14·6 per 1000 population, that of the Borough being 6·8 ; in 1874, 20·9, that of the Borough being 4·7 ; in 1875, 5·2, that of the Borough being 3·6.

The foregoing zymotic rates represent a mean of 13·5 for the group, that of the Borough being 5·0 per 1000 population.

Old Pandon Group.

**Old Pandon
Group.**

The Old Pandon Group comprises the houses in the space included within the green margin on the plan, and contained, in December, 1875, a population of 943 persons.

For convenience, the group is divided into portions marked on the plan A, B, C, and D, respectively. Of these divisions, A refers to *Pandon*, with a population of 202 persons ; B to *Wall Knoll*, with a population of 349 persons ; C to *Coburg Stairs, Mount Pleasant, Factory Lane, Sallyport, &c.*, with a population of 238 persons ; and D to the lower part of *St. James' Lane* (below High Yard) and *Pandon Bank* south of *St. James' Lane*, containing a population of 154 persons.

Health of the Old Pandon Group.

**Health of the
Old Pandon
Group.**

During 1873, 1874, and 1875, the mortality of the Old Pandon Group has been as follows :—

**General
Death-Rate,
1873.**

Calculated on population enumerated at the inspection, the death-rate of the group from all causes during 1873 was 46·6 per 1000, ranging from 21·0 in Section C (Craig Alley, &c.) to 84·4 in Section D,—Pandon being 44·5, and Wall Knoll 48·7, as compared with a rate of 30·1 for the entire Borough.

1874.

In 1874, the rate of mortality from all causes in the group was 26·5 per 1000, Pandon being 14·8, Wall Knoll 28·6, the Craig Alley Section (C) 37·0, and the St. James' Lane Section (D) 26·0, as compared with a rate of 29·2 for the entire Borough.

1875.

In 1875, the rate of death from all causes in the group was 40·4 per 1000, Pandon being 34·6, Wall Knoll 54·4, Craig Alley Section (C) 42·0, and St. James' Lane Section (D) 13·6, as compared with a rate for the entire Borough of 26·1 per 1000.

**Mean General
Death-Rate
for 3 Years.**

The mean of these rates of mortality for the three years is, for the Old Pandon Group 37·3, including mean rates of 31·3 for Section A, 43·9 for Section B, 33·3 for Section C, and 41·1 for Section D, as compared with a rate for the entire Borough of 28·5

**Zymotic
Death-Rate**

Calculated on the same population, the rates of mortality from the seven principal zymotic diseases have been as follow :—

1873.

During 1873, 13·8 per 1000 for the Old Pandon Group, including rates of 0·0 in Section C (Craig Alley, &c.), 9·9 in Pandon, 20·0 in Wall Knoll, and 26·6 in Section D (St. James' Lane, &c.), that of the Borough being 6·8 per 1000.

1874.

During 1874, the zymotic death-rate for the group was 5·3 per 1000, including rates of 0·0 in Pandon, 5·7 in Wall Knoll, 8·4 in Craig Alley Section (C), and 6·5 in St. James' Lane Section (D), that of the Borough being 4·7 per 1000.

1875.

In 1875, the zymotic death-rate of the group was 6·4 per 1000 population. No deaths under this head were registered in Section D. The rates of death in the other sections were as follows :—Section A (Pandon), 4·9 ; B (Wall Knoll), 5·7 ; C (Craig Alley, &c.), 12·6, as compared with a rate for the entire Borough of 3·6.

The means of the foregoing zymotic rates for 1873, 1874, and 1875 are as follow :—

Mean of foregoing Zymotic Rates.

For the group, 8.5 per 1000 population, including mean rates of 4.5 for Section B, 4.9 for Section A, 7.0 for Section C, and 10.6 for Section D, as compared with a corresponding rate for the entire Borough of 5.0 per 1000 population.

HENRY E. ARMSTRONG, M.R.C.S.,
MEDICAL OFFICER OF HEALTH.

*Town Hall, Newcastle-upon-Tyne,
1st August, 1876.*

The areas alluded to in the official representation were decided on as the most unhealthy, and in other respects the worst habitations in the Borough, after a careful survey by order of the Sanitary Committee, extending over a period of almost three months, and including large groups of dwellings at Dent's Hole, St. Peter's, St. Ann's Street, St. Mary's Street, Sandgate, the New and Old Pandon Groups alluded to in the representation, Stockbridge, Silver Street, Cowgate, Dog Bank, Back Row, The Close, Blandford Street, Back George Street, Elswick East Terrace, Mitford Street, Tyneside Terrace, Tyne Street West, &c., &c., in all, habitations occupied by about eight thousand persons. The survey, in addition to the purposes of the Artizan's Dwellings Act, has been useful as a means of acquiring full and accurate information of a very large proportion of the tenement property of the Borough. The Old Pandon Group, as is well-known, consists of some of the oldest and most dilapidated buildings in Newcastle. The New Pandon Group comprises houses placed either on the sides or at the bottom of a deep hollow, formerly known as Pandon Dene. The chief sanitary defect of this group, want of ventilation, is due partly to natural formation of the ground, and partly to walls and artificial embankments external to the group itself. The ventilation of the lowest parts of the group is also interfered with by the houses on the higher ground (Pandon Bank), which for this and other reasons are included in the area, but are not necessarily on that account intended to be indicated as requiring total demolition.

Surveys, &c.—The Sanitary Committee has, during the year, personally inspected a considerable number of places—including all those above named in connexion with the Artizan's Dwellings Act, and several others reported by the Medical Officer of Health, and has authorized the taking of such proceedings as was requisite in each case.

The Committee has ordered Sanitary action to be taken in reference to the following localities reported by the Medical Officer of Health :—Dowey's Court, Hogg's Court, The Side; the refuse deposits at Rosedale Street, Shieldfield, and in the Old Quarries at Bell and Campbell Streets, Arthur's Hill; Bank Side; Back Monk Street, Monk Square, No. 1 Court Stowell Street, Concord Court,

Hindhaugh Street ; Lime Street ; Dark Entry, Cottage and Chapel Yards, Tuthill Stairs ; Fleece Court, and Dalrymples Court, Gallowgate ; Oakes Place ; Dyers' Court, Alderson's Entry, Sweeps' Entry, Groves Entry, The Close ; Percy Court ; Stamfordham Place ; Factory Lane, Gallowgate, No. 2 Court, Prudhoe Street ; Dunn's Terrace, Spital Tongues ; St. Thomas' Terrace and Crescent ; Leazes Lane ; Pitman's Row, Forth Banks ; Back Forth Terrace ; Wilfred Street, Byker.

In addition to these, which comprise more or less extensive structural alterations required on account of dampness, darkness, defective ventilation, deficiency of water closet or ash-pan accommodation, water supply of houses or yards, defective sewerage, paving, drainage of yards or streets, the insanitary state of stables, cowbyres or other buildings, the unhealthy material of "made-ground" &c., a number of other matters has been also reported on and dealt with. In many of the places above named the requisite sanitary work has been done.

Reports on Epidemic Disease.—Short reports have been made on Zymotic diseases prevailing during the year—as *e.g.*—outbreaks of Measles at St. Peter's and in Westgate district, one of Scarlet Fever in Shieldfield in connexion with a Private School, &c.

The prevention of Zymotic Disease.—340 cases, including 137 of Scarlet Fever, 64 of Enteric (or Typhoid) Fever, 38 of Typhus, 91 of Measles, 2 of Smallpox, and 8 of Diphtheria, have been disinfected and otherwise dealt with, as compared with a total of 459 during the previous year. A list of bedding and other infected articles destroyed, and afterwards replaced at the cost of the Sanitary Authority is given in the appendix.

As in former years, the department has received important aid from the return of infectious cases which continues to be furnished regularly by the Dispensary. The Medical Officer of Health takes this opportunity to acknowledge the readiness with which the Committee of that Institution has responded to the recommendation of the Sanitary Committee, through him, to extend the visiting boundaries of the charity, by which the sick poor can now be attended at their own homes in almost every part of the Borough.

Common Lodging Houses.—The Medical Officer of Health is indebted to the Chief Constable for information [that three Common Lodging Houses only have required disinfection by the Inspectors on account of three cases of infectious Fever during the year. The last cases of Fever under the notice of the Lodging House Inspectors were one in May in the Eastern, and one in December in the Western District.

The early removal of cases of Fever to the Fever Hospital has been secured wherever practicable. The total number admitted is 58, of which 8 have died ; a list of these is given in the appendix. Where the patients were in poor circumstances and unable to pay for maintenance in Hospital, they have been as usual admitted by

the Sanitary Authority. 19 of such patients have been received, of whom seven were destitute and chargeable to the Poor Law Authority; the expenses of 12 were defrayed by the Sanitary Authority.

A suitable vehicle, designed for the purpose, has been provided for the conveyance of patients to the Fever Hospital.

A disinfecting apparatus as invented by Dr. Ransome, Nottingham, has been ordered by the Sanitary Committee, and is now in course of erection within the grounds of the Fever Hospital, in which it is proposed to purify articles of infected bedding, &c., by the action of dry heat alone. As the apparatus is calculated to be of great use in purifying articles such as are now often destroyed on account of contagion, it is hoped that members of the medical profession will recommend the beds, bedding, hangings, carpets, and the like, from infected houses, to be sent to the Stove, where they may be disinfected and again rendered fit for service.

Notice will be given when the apparatus is in working order.

Ash-Closet System.—The superintendent of the Cleansing Department reports that the number of Ash-pans now in use in the Borough is 1245.

The number in each of the four Cleansing Districts into which the town is divided, is as follows:—

No. 1	District	389	Pans.
" 2	"	254	"
" 3	"	360	"
" 4	"	<u>242</u>	"
Total,		<u>1245</u>	

Ash-pans necessarily require more frequent cleansing, and are altogether more expensive to work than ordinary ash-pits and privies. They are, however, more healthy, and their introduction has probably contributed not a little to the improved sanitary condition of the Borough during the past year. In the recent "Report of a committee appointed by the Local Government Board, to inquire into the several modes of treating Town Sewage," (1876), among other conclusions arrived at is the following:—"That the retention, for any lengthened period, of refuse and excreta in privy cesspits, &c., in the midst of towns, must be entirely condemned." Although reporting generally in favour of the disposal and purification of sewage by land-irrigation where local conditions are favourable to its application, the committee approves of the Ash-closet and similar systems under certain circumstances. There is good reason for advocating this form of closet as a means of replacing both the old fashioned privy midden and the equally, or perhaps more, dangerous in-door water closet. But the ash-closet system fails to be of any real service unless carried out under thorough organization. The number of pans must be proportioned to the wants of the tenants. The visits of the night-cartmen must be regular and sufficiently frequent to prevent the nuisance of overflowing pans.

REMARKS.

The marked improvement in the public health since the appointment of the Sanitary Committee as a separate department of the Corporation, cannot fail to be a matter of general satisfaction, and is to a considerable extent a proof of the benefit of sanitary action. But although the general and zymotic death-rates have fallen to a degree lower than even the sanguine would have predicted a few years ago, it is impossible to say how much of this improvement is due to other causes beyond control, or how long the present favourable state of things may continue. Sanitation which has been, so to speak, on its trial throughout the country during the past three or four years, has perhaps nowhere been followed by greater success than in Newcastle; and should the death rate again become high, whether from preventable or unpreventable disease, the change for the worse will be conspicuous. Whilst perhaps none can fully comprehend the many and varied conditions by which the public health is influenced, the action of those to whose care it is entrusted is, beyond that of other departments of public duty, liable to criticism. It therefore behoves each concerned in the advising, authorizing, or carrying out of sanitary measures, to act accordingly, and to put forth every effort to make the mortality even lower in the future than it has been during the past year.

But though the Sanitary Committee and its staff, actuated as they are, by an appreciation of the responsibility of their office—a responsibility which can scarcely be overrated—shew every desire to fulfil the duties of that office, they are met by difficulties on every side; and there is no greater difficulty than that of inducing the public to avail itself individually of the benefits to be derived from sanitary action, legal or otherwise.

With the view of meeting some of these difficulties, it may be observed that the relation of the officers of the Sanitary Authority to the public is simply protective; and that early information of disease and insanitary conditions is as necessary to them for the efficient performance of their duties as information of crime and what induces it is necessary to the Police for the more direct preservation of human life; and it is in the highest degree desirable that private persons in respect of such ailments as infectious fevers in their families would learn to communicate as readily with the Medical Officer of Health as in respect of loss of their property they would do with the Chief-Constable. On receiving notice in this way, from relatives, of sickness or conditions connected therewith, the Medical Officer of Health is called in as, and acts in the position of, the friend and confidential adviser of the informant and the sick person. When he gains his information through another channel, it is also his duty to visit and inquire into the circumstances, but the offer of his services, may then be liable to misapprehension. Medical men are invited, not

only in case of sickness, but with a view to its prevention, to recommend the former course to the relatives of their patients, even in preference to themselves giving the information, as is frequently done at considerable personal inconvenience, and sometimes perhaps in the erroneous idea that the act is a sort of betrayal of the client. In all such cases it will be the chief desire of the Medical Officer of Health to work in concert with the medical attendant in the interest of the family for which his intervention may be required.

Much of the difficulty in the way of sanitary progress depends unmistakably on want of knowledge of the absolute requirements of health, and more particularly as regards dwellings. In the hope that the attention of householders may be aroused to the importance of the subject, the following list is given of some of the conditions without which no home can be considered healthy, and which it is to the interest of every one to seek to obtain for himself:—

Requirements of a Healthy House.—The house should be dry, *i.e.*, thoroughly water-tight, in roof, walls, and floors. Air should circulate beneath the boards of rooms on the ground floor. The house should be well lighted, warm without closeness, and airy without draught in every occupied part. These remarks also apply to churches, chapels, theatres, lecture rooms, and other places of public assembly, where want of proper and easily obtainable ventilation often lays the foundation of disease. Bed-rooms need ventilation fully as much as, if not more than, other rooms; for the doors of the former are usually closed during the night, whilst the occupants neither leave the room, nor are sensible of the increasing impurity of the air they breathe, as is the case in the day time. Even under circumstances of good ventilation, bed-rooms should never be overcrowded. Children require as much breathing space as adults. In a bed-room of 10ft. in height, there should be floor space of at least 8ft. square to each individual.

If there be a water-closet in connexion with the house, this should not be within the walls of the main building, but at a distance, or in an offshoot, allowing free cross ventilation between the closet and the house. The system of water-closet and bath in one room of the main building is thoroughly bad.

There should be no unpleasant smell in any part of the house, either from drains, or otherwise. Every part should be clean and sweet.

The drains should not be of brick or stone, but of glazed earthenware piping, securely jointed and trapped by large earthen gullies, and are most safe when excluded entirely from the interior. Kitchen sinks, baths, lavatories, &c., should, without exception, discharge in the open air, at some distance from, and above, these gullies in the yard.

There should be a plentiful supply of potable water. Water from pumps, springs, or wells in towns, no matter how exceptionally clear and bright, or that from the cisterns of water-closets, is usually unwholesome, and should never, without authority after competent analysis, be used for drinking or cooking purposes, and not even then if other can be had.

House refuse ought not to be thrown into the ash-pit, which should receive dry ashes only, but should be destroyed or removed early, and before it becomes offensive; much of the vegetable and other waste is best burnt on the kitchen fire.

Water-closets should be freely flushed with water after each time of using.

The above limited list, representing as it does, sanitary requisites possessed by a small proportion only of the houses in this and other towns, is commended to the notice of householders. Those having cause of complaint as to any of the conditions therein named, will do well to attend to them without delay. In the majority of cases the tenant has the remedy in his own hands; but when requisite, the advice or assistance of the Medical Officer of Health on these and other sanitary matters may be had on application.

Recommendations, &c.—The public importance of early removal to Hospital of cases of infectious Fever is fully recognised by the Sanitary Authority, and, as appears, has been of great service in limiting the spread of disease in the Borough. But since the Authority is not required by law to maintain in Hospital patients for whose expenses a sufficient guarantee is not given, it follows that many cases which might, and should be removed, are left at home at great risk to others, and often with serious results. As the interest of the community requires prompt action in the removal of such cases, it would be well to consider whether steps cannot be taken to give greater facility to the admission of patients to the general wards. Although an institution by which the public benefits largely, the Fever Hospital has never yet participated in the Hospital Sunday Fund, a share of which would help to secure this desirable object.

In connexion with sanitary defects mentioned in this report, and in the event of new Bye Laws being made, it is desirable that the fitness of the ground on which houses are intended to be built should be certified to before the plans for such houses are passed; that water closets in bath-rooms or other parts of the mainbuildings of houses should be prohibited; that damp-proof courses should be required for new houses; that the drainage should be cut-off from the interior of houses as before indicated; and that all plans of houses before being passed should be examined and certified to as regards general sanitary requirements. It would be a great advantage to health if what are termed "house-drains" were laid by the Corporation and charged to owners.

As a means of turning to account what is now treated as useless, it is recommended that the waste paper of shops and offices be collected, sorted, and sold, for which a considerable sum may be obtained by the Corporation; that the broken earthenware, bricks, &c., be ground and made into mortar, and sold; and that old metal, rags, wool, hair, bones, broken glass, and other scraps be picked from the refuse and disposed of to the best advantage. In addition to the direct profit that may be made by the sale of the above, the general refuse of the town, freed from such substances, would be of greater agricultural value and should therefore command a higher price.

HENRY E. ARMSTRONG, M.R.C.S.,

MEDICAL OFFICER OF HEALTH.

*Town Hall, Newcastle-upon-Tyne,
27th February, 1877.*

BOROUGH OF NEWCASTLE-UPON-TYNE, 1876.

A P P E N D I X .

TABLE I.

POPULATION (ESTIMATED BY THE REGISTRAR-GENERAL TO THE MIDDLE OF THE YEAR), 139,929.

Registration Sub-districts.	BIRTHS. Registered in 52 weeks ending 30th December, 1876.				Total.	DEATHS. Registered in 52 Weeks ending 30th December, 1876.		
	Male.		Female.			Male.	Female.	Total.
	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.				
Westgate	1200	57	1177	51	2485	648	661	1309
St. Andrew's	317	18	282	18	635	194	166	360
St. Nicholas	166	15	178	12	371	227	149	376
All Saints	541	23	534	29	1127	324	319	643
Byker	564	23	595	14	1196	253	242	495
Borough total	2788	136	2766	124	5814	1646	1537	3183

The Births represent a rate of 41·6 per 1000 Estimated Population.

The Deaths represent a rate of 22·7 per 1000 Estimated Population.

Increase of Births over Deaths, 2631.

TABLE II.—ANNUAL DEATH RATE PER 1,000 LIVING IN NEWCASTLE FOR THE PAST FIVE YEARS, COMPARED WITH THE AVERAGE RATE IN 21 TOWNS OF THE UNITED KINGDOM.

	1872.		1873.		1874.		1875.		1876.	
	Annual Average in 21 Towns.	Annual Rate in Newcastle.	Annual Average in 21 Towns.	Annual Rate in Newcastle.	Annual Average in 21 Towns.	Annual Rate in Newcastle.	Annual Average in 21 Towns.	Annual Rate in Newcastle.	Annual Average in 21 Towns.	Annual Rate in Newcastle.
1st Quarter	26·8	28·0	25·6	29·4	25·6	29·1	29·6	27·4	26·8	25·5
2nd „	23·6	24·1	22·7	27·0	22·9	24·9	23·5	22·7	23·0	21·8
3rd „	24·1	27·1	23·8	29·9	24·5	31·6	23·7	28·9	22·7	22·6
4th „	23·0	26·2	25·4	33·4	28·9	31·7	25·3	25·4	22·4	21·2
Annual rate	24·3	26·3	24·3	30·1	25·5	29·2	25·4	26·1	23·7	22·7

TABLE III.—RATES OF DEATH IN THE DIFFERENT CLASSES OF DISEASE PER 1,000 OF POPULATION IN EACH REGISTRATION SUB-DISTRICT.

Registration Sub-Districts.	Westgate (V. W.)* excluding Benwell and Fenham.	St. Andrew's	St. Nicholas. (H.)*	All Saints.	Byker.
Population (estimated to middle of 1876.)	61,508	19,498	11,105	28,517	19,301
CLASS.	Rate pr 1000	Rate pr 1000	Rate pr 1000	Rate pr 1000	Rate pr 1000
I.—Zymotic† ...	3·5	2·5	3·0	3·1	4·5
II.—Constitutional ...	4·3	2·9	6·8	2·9	3·8
III.—Local ...	8·5	8·6	14·8	11·2	11·2
IV.—Developmental ...	3·9	2·9	2·4	3·0	4·3
V.—Violent Deaths ...	0·4	0·8	5·1	1·2	0·9
VI.—Violent Deaths not classed	0·0	0·0	0·0	0·0	0·05
Sudden Deaths, cause unascertained	0·4	0·7	0·9	0·8	0·7
Causes not specified ...					
Total ...	21·0	18·4	33·0	22·2	25·45

*H (Hospital). *V (Vagrant Ward). *W (Workhouse).

† The deaths in the Zymotic class are corrected by the distribution of those occurring at the Fever Hospital to the sub-districts from which each came.

TABLE IV.

DEATHS FROM ALL CAUSES IN EACH SUB-DISTRICT ACCORDING TO ORDER OF CLASSIFICATION OF THE REGISTRAR GENERAL.

ORDER.	Westgate.	St. Andrew's	*St. Nicholas.	All Saints'.	Byker.	TOTALS.	
	Number of Deaths	Number of Deaths	Number of Deaths.	Number of Deaths	Number of Deaths.	Deaths from all causes.	Per centage of Total Deaths in each of the different orders to total deaths from all causes.
CLASS I.							
ZYMOTIC DISEASES.							
1. Miasmatic	193	42	35	79	75	424	13·3
2. Enthetic	10	4	3	6	1	24	0·7
3. Dietic	11	1	3	2	6	23	0·7
4. Parasitic	5	1	...	2	2	10	0·3
	219	48	41	89	84	481	15·0
CLASS II.							
CONSTITUTIONAL DISEASES.							
1. Diathetic	30	13	6	11	7	67	2·1
2. Tubercular	235	45	70	74	68	492	15·4
	265	58	76	85	75	559	17·5
CLASS III.							
LOCAL DISEASES.							
Diseases of—							
1. Nervous System... ..	206	64	50	104	76	500	15·6
2. Organs of Circulation ...	74	25	39	34	22	194	6·1
3. Respiratory Organs ...	170	51	36	149	102	508	15·9
4. Digestive Organs ...	57	21	14	25	9	126	3·9
5. Urinary Organs ...	13	4	17	5	1	40	1·2
6. Organs of Generation ...	2	2	3	2	3	12	0·4
7. Organs of Locomotion ...	2	...	6	1	1	10	0·3
8. Integumentary System ...	1	1	...	1	4	7	0·2
	525	168	165	321	218	1397	43·8
CLASS IV.							
DEVELOPMENTAL DISEASES.							
Diseases of—							
1. Children	73	16	4	21	23	137	4·3
2. Adults	11	3	...	5	10	29	0·9
3. Old People	73	16	9	15	13	126	3·9
4. Nutrition	89	22	14	47	38	210	6·6
	246	57	27	88	84	502	15·7
CLASS V.							
VIOLENT DEATHS.							
1. Accidents and Negligence	26	12	55	31	17	141	4·4
2. Homicide... ..	...	1	1	3	1	6	0·1
3. Suicide	1	2	1	2	1	7	0·2
4. Executions ... ..	...	...	...	...	...	...	...
	27	15	57	36	19	154	4·7
Violent Deaths not classed	...	...	...	...	1	1	0·03
Sudden Deaths (causes unascertained)	2	2	1	10	2	17	0·5
Causes not specified } or ill defined }	25	12	9	14	12	72	2·2
	25	12	9	14	12	72	2·2
Total	1309	360	376	643	495	3183	...

* The number in St. Nicholas' sub-district is increased by 136 deaths in the Infirmary, and 8 in the Fever Hospital. 66 of the former came from beyond the Borough.

TABLE V.—AGES AT DEATH.

PERIODS.	West-gate.	St. Andrews.	St. Nicholas.	All Saints.	Byker.	TOTAL IN BOROUGH.
Under 1 year	385	106	67	235	178	971
1 year and under 5 years	170	32	37	103	112	454
5 years „ 20 „	96	28	31	34	33	222
20 „ „ 40 „	179	54	98	76	51	458
40 „ „ 60 „	195	65	93	101	60	514
60 „ „ 80 „	241	61	46	84	51	483
80 „ and above	43	14	4	10	10	81
Total (all ages) dying during the 52 weeks ended Dec. 30th, 1876 ...	1309	369	376	643	495	3,183

TABLE VI.

WEEKLY MEAN NUMBERS OF DEATHS AT SEVEN ÆTAL PERIODS.

Under 1 year	7.4	2.0	1.3	4.5	3.4	18.3
1 year and under 5 years	3.2	0.6	0.7	2.0	2.1	8.7
5 years „ 20 „	1.8	0.5	0.6	0.6	0.6	4.2
20 „ „ 40 „	3.4	1.0	1.9	1.4	1.0	8.8
40 „ „ 60 „	3.7	1.2	1.8	1.9	1.1	9.8
60 „ „ 80 „	4.6	1.1	0.9	1.6	1.0	9.3
80 „ and upwards	0.8	0.3	0.8	0.2	0.2	1.5
Totals	24.9	6.7	7.28	12.2	9.4	60.6
Percentage of deaths under 1 year to total deaths in sub-district &c. ...	29.4	29.4	17.9	36.5	35.9	30.5

TABLE VII.

BIRTHS AND DEATHS IN THE DIFFERENT QUARTERS OF THE YEARS

1874, 1875, 1876.

	BIRTHS.			DEATHS.		
	1874.	1875.	1876.	1874.	1875.	1876.
First Quarter	1,425	1,447	1,553	982	942	890
Second Quarter	1,366	1,346	1,392	838	778	761
Third Quarter	1,355	1,386	1,396	1,069	992	792
Fourth Quarter	1,388	1,407	1,473	1,068	876	740
Total	5,534	5,586	5,814	3,957	3,588	3,183

TABLE VIII.

DEATHS OF CHILDREN UNDER 1 YEAR AND PERSONS OVER 60 YEARS,
IN 1874, 1875, AND 1876.

	NUMBER OF DEATHS.					
	Under 1 Year of Age.			Over 60 Years.		
	1874.	1875.	1876.	1874.	1875.	1876.
First Quarter	229	220	235	173	212	188
Second „	236	192	216	141	157	127
Third „	382	383	301	172	140	114
Fourth „	249	255	219	187	156	135
Total	1,096	1,050	971	673	665	564

TABLE IX.

DISEASES OF CHILDREN DYING UNDER ONE YEAR OF AGE.

CLASS.	CAUSE OF DEATH.	REGISTRATION SUB-DISTRICTS.				
		Westgate.	St. Andrews.	St. Nicolas.	All Saints.	Byker.
I.—ZYMOTIC DISEASES.	ORDER 1.					
	Measles	4	1	...	1	1
	Scarlet Fever (Scarlatina)	5	1	...	...	...
	Quinsy	1	...	...	...	...
	Croup ... ..	...	...	...	1	...
	Whooping-cough	7	2	...	6	3
	Typhus ... ..	...	...	1	...	...
	Enteric (or Typhoid) Fever	1	...	...	...	...
	Simple continued Fever	3	...	...	...	...
	Erysipelas	1	...	...	...	2
	Influenza	3	...	...	...	...
	Diarrhoea	45	11	9	27	17
	Simple Cholera	1	...	...	...	4
	Remittent Fever	1	...	...	...	...
	Other Zymotic Diseases	2	...	...	...	...
II.—CONSTITUTIONAL DISEASES.	ORDER 2.					
	Syphilis	7	3	...	6	1
	ORDER 3.					
	Want of Breast-milk	4	...	...	...	...
	ORDER 4.					
	Thrush	5	1	...	1	2
	ORDER 2.					
	Scrofula	4	...	...	...	...
	Tabes Mesenterica	18	9	2	10	13
	Phthisis	1	...	...	...	...
	Hydrocephalus	4	1	1	2	2
	Carried forward	117	29	13	54	45
						258

TABLE IX.—CONTINUED.

CLASS.	CAUSE OF DEATH.	REGISTRATION SUB-DISTRICTS.					TOTAL.
		Westgate.	St. Andrews.	St. Nicholas.	All Saints.	Byker.	
III.—LOCAL DISEASES.	Forward ...	117	29	13	54	45	258
	ORDER 1.						
	Apoplexy ...	...	1	1	...	...	2
	Epilepsy ...	1	...	...	...	...	1
	Convulsions ...	57	14	17	55	27	170
	Brain Disease, etc. ...	9	4	4	8	7	32
	ORDER 2.						
	Heart Disease, etc. ...	...	...	1	...	...	1
	ORDER 3.						
	Laryngitis ...	1	...	...	...	...	1
	Bronchitis ...	24	14	6	27	32	103
	Pleurisy ...	...	...	...	7	...	7
	Pneumonia ...	7	1	1	5	6	20
	Lung Disease, etc. ...	6	1	...	...	...	7
	ORDER 4.						
	Enteritis ...	6	2	...	...	...	8
	Peritonitis ...	1	...	...	...	...	1
	Intussusception ...	...	...	...	1	...	1
	Jaundice ...	...	1	1	...	...	2
	Liver Disease, etc. ...	...	1	...	...	...	1
IV.—DEVELOPMENTAL DISEASES.	ORDER 5.						
	Nephritis ...	...	...	1	...	...	1
	ORDER 8.						
	Skin Disease, etc. ...	...	...	...	1	...	1
	ORDER 1.						
	Premature Birth ...	41	12	1	13	11	78
	Cyanosis ...	1	...	...	1	...	2
	Spina Bifida ...	2	1	...	...	...	3
	Other Malformations ...	3	...	1	1	...	5
	Teething ...	13	3	...	3	7	26
V.—VIOLENT DEATHS, &c.	ORDER 2.						
	Childbirth ...	6	...	...	3	5	14
	ORDER 4.						
	Atrophy and Debility ...	72	16	12	38	27	165
	ORDER 1.—(ACCIDENT OR NEGLIGENCE).						
	Drowning ...	2	...	...	...	...	2
	Suffocation ...	8	5	6	7	6	32
	Otherwise ...	...	...	...	2	...	2
	ORDER 2.—(HOMICIDE).						
	Murder and Manslaughter ...	...	...	1	1	...	2
	ORDER 4.						
	Violent Deaths not classed ...	...	...	...	1	1	2
	Sudden Deaths (Cause unascertained) ...	...	...	...	2	...	2
	Causes not specified or ill-defined ...	8	1	1	5	4	19
TOTAL. ...		385	106	67	235	178	971
Annual Rate of DEATHS under 1 year per 1,000 } Population in each Sub-district, &c. ... }		6.2	5.4	6.0	8.1	9.2	6.9

TABLE X.

NON-CERTIFIED* DEATHS IN EACH SUB-DISTRICT DURING THE 52 WEEKS ENDED 30TH DECEMBER, 1876.

ALLEGED CAUSE OF DEATH.	WESTGATE.			ST. ANDREWS.			ST. NICHOLAS.			ALL SAINTS.			BYKER.			TOTAL.		
	Under 1 Year.	1 Year and under 2.	2 Years and above.	Under 1 Year.	1 Year and under 2.	2 Years and above.	Under 1 Year.	1 Year and under 2.	2 Years and above.	Under 1 Year.	1 Year and under 2.	2 Years and above.	Under 1 Year.	1 Year and under 2.	2 Years and above.	Under 1 Year.	1 Year and under 2.	2 Years and above.
Heart Disease	...	...	5	1	...	...	...	...	...	...	...	1	...	...	...	1	...	13
Apoplexy	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Debility, &c.	6	...	...	1	...	...	...	...	...	10	...	...	2	...	...	21	...	1
Burns	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Convulsions	7	1	1	4	...	...	...	...	...	31	1	...	...	...	...	...	4	1
Premature Birth	6	...	...	...	...	...	...	...	...	4	...	...	6	...	...	...	...	...
Phthisis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	...	...
Difficult Labor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Unascertained &c.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Bronchitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Exhaustion	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Natural Causes	2	...	7	...	...	...	...	...	...	2	...	...	2	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sudden Death	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Privation	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brain Disease, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paralysis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Difficult Vitality	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diabetes Mellitus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Child-Birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Quinsy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Supposed burst of an	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Aneurism	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teething	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inflammation of Bowels	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fall of a House	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of attention at Birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	28	3	21	13	3	7	8	2	3	53	1	11	17	4	5	119	13	47

* The term "non-certified" does not include inquest cases, or deaths certified by unqualified practitioners, but is applied only to the deaths of persons unattested by any medical attendant whatever, and on which no inquest has been held.

TABLE XI.

RETURN OF DEATHS FROM Miasmatic Diseases for the 52 Weeks ended
DECEMBER 30, 1876, CORRECTED BY DISTRIBUTION OF THOSE OCCURRING IN
THE FEVER HOSPITAL TO THE REGISTRATION SUB-DISTRICT FROM WHICH
EACH CAME.

	Number in entire Borough.	REGISTRATION SUB-DISTRICTS.				
		Westgate *	St. Andrew's.	St. Nicholas.	All Saints'.	Byker.
Total Miasmatic deaths	424	194	43	28	80	79
INCLUDING—						
Scarlet Fever	52	22	8	5	8	9
Diarrhœa	150	63	18	10	32	27
Measles	27	16	2	...	3	6
Whooping Cough	44	17	2	1	12	12
Enteric Fever	37	17	5	3	4	8
Typhus	13	3	1	7	...	2
Other Miasmatic deases	101	56	7	2	21	15
Total Miasmatic deaths per 1,000 population of each sub-district	3.0	3.1	2.2	2.5	2.8	4.0
Deaths from Scarlet Fever per 1,000 do.	0.4	0.3	0.4	0.4	0.2	0.4
Deaths from Diarrhœa per 1,000 do.	1.0	1.0	0.9	0.9	1.1	1.4
Deaths from Enteric Fever per 1,000 do.	0.2	0.2	0.2	0.2	0.1	0.4

* Excluding Benwell and Fenham.

TABLE XII.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN WESTGATE SUB-DISTRICT.																
LOCALITY.	SCARLET FEVER.				WHOOPIING COUGHL.				ENTERIC (OR TYPHOID) FEVER.				AUTUMNAL DIARRHŒA.			
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	During 13 Weeks ended Sept. 30, 1876.			
														Under 1 year.	1 year and under 7 years.	All ages.
25 Portland street	1	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
42 Grove street ..	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Herbert street ..	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Bentinck street ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Crown street	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Worley street	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Mansfield street ...	...	...	...	...	1	...	...	...	...	...	1	...	1	...	1	...
Pitt street ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Stone street ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
High Villa place ...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Carried forward ...	4	1	1	0	9	0	0	0	0	0	1	0	1	0	2	

TABLE XII.—CONTINUED.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN WESTGATE SUB-DISTRICT.—Continued.															
LOCALITY.	SCARLET FEVER.				WHOOPING COUGH.				ENTERIC OR TYPHOID FEVER.				AUTUMNAL DIARRHŒA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	During 13 Weeks ended Sep. 30, 1876.		
													Under 1 year.	1 year and under 2 years.	All ages.
Brought forward ...	4	1	1	0	9	0	0	0	0	0	1	0	1	0	2
Mill lane ...					1							1			
Buckingham street ...					1								2	1	3
Harle street ...					1										
Diana street ...					1								3		3
Hull street ...					1										
Centre street ...					1										
Railway terrace ...		1													
Maple street ...		1											1		1
Boundary street ...		1													
Ashfield East ter ...		1													
Snow street ...		1													
Ramshaw's bldgs ...		1												1	1
175 Scotswood road ...		1									1				1
Gloucester street ...		1													
Elswick street ...						1									
Douglas terrace ...			1												
Elswick House lodge ...			1												
Back Hinde street...							1								
Blenheim street ...				1									1		1
Low Elswick ...													1		1
Mather street...													1	1	2
Belsay place ...													1		1
Tulloch street ...													1		1
Elswick East terrace ...													1	1	2
Byron street ...														1	1
Noble street ...													1		2
Marlbro' street ...													1		1
Tweddell's court ...													1		1
Mill street ...													1		1
West Blandford st...													1		1
Westgate Hill terr...													1		1
Tyne street ...													3		3
Back George street...											1		1		1
Villa place ...													1		1
Bowman terrace ...														1	1
Brunel terrace ...													1		1
Handyside street ...													1		1
Westmorland road ...													1		1
Rye Hill...													1		1
Hawes street ...										1			1		1
Lancaster street ...													1		1
Back Hull street ...													1	1	2
Oyster Shell lane ...													1		1
Hedley street...													1		1
Alexander street ...														1	1
Carried forward ...	4	9	3	1	15	1	1	0	0	1	3	1	33	8	44

TABLE XII.—CONTINUED.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN WESTGATE SUB-DISTRICT.—Continued.															
LOCALITY.	SCARLET FEVER.				WHOOPIING COUGHL.				ENTERIC OR TYPHOID FEVER.				AUTUMNAL DIARRHOEA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	During 13 Weeks ended Sept. 30, 1876.		
													Under 1 year.	1 year and under 2 years.	All ages.
Brought forward...	4	9	3	1	15	1	1	0	0	1	3	1	33	8	44
Sunderland street...	1	...	1
Edward street...	1	...	1
Hindhaugh street...	1	...	1
John street...	1	...	1
Workhouse...	1	...	1
Elswick street...	1	...	1
Hamilton street...	1
Bayley street...	1	...	...	...	...	...	...	...	...	...	...	...
George street...	2	...	...	...	...	...	...	...	...	...	...	...
Blandford street...	2	...	...	...	...	...	1	...	...	...	...	...
Bell street...	1	...	...	...	...	...	...
Duke street...	1	...	...	...	...	...	...
Stanhope street...	1	...	...	...	...	...
Suffolk street...	1	...	...	...	...
St. Paul's terrace...	1	...	...	...
Wellington street...	1	...	...	...
Chapel lane...	2	...	...	...
St. Joseph's house...	1	...	...	...
Ramshaw street...	1	...	...	...
Glue Terrace...	1	...	...	...
Total...	4	9	3	6	15	1	1	0	2	3	4	8	39	8	51
DEATHS IN ST. ANDREW'S SUB-DISTRICT.															
Albion place...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Elswick court...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Terrace place...	1	...	...	...	...	...	...	...	...	...	...
Day street...	1	...	...	...	...	...	...	...	...	...	...
Northumberland st...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1
Park place...	1	...	...	...	...	...	...	...	...	...	...	...	...
Percy court...	1	...	1
Fleece court...	1	...	1
Snowden street...	1	...	1
High bridge...	1	...	1
Erick street...	1	...	1
Porter's ct Prudhoe st	1	...	1
Simpson street...	1	...	1
Percy street...	1	...	...	...	...	...	...	1	...	...	...	...
Strawberry place...	1	...	...	...	...	...	...	...	...	...	...	...
Sandyford lane...	1	...	...	...	...	...	...	...	...	...	...	...
Alexandra terrace...	1	...	...	...	...	...	...	...	...	...	...	...
Prudhoe street...	1	...	...	...	...
Carried forward...	2	1	1	4	2	0	0	0	0	0	2	0	8	0	8

TABLE XII.—CONTINUED.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN ST. ANDREW'S SUB-DISTRICT.—Continued.															
LOCALITY.	SCARLET FEVER.				WHOOPING COUGH.				ENTERIC OR TYPHOID FEVER.				AUTUMNAL DIARRHŒA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	For 13 Weeks ended Sep. 30, 1876.		
													Under 1 year.	1 year and under 2 years.	All ages.
Brought forward...	2	1	1	4	2	0	0	0	0	0	2	0	8	0	8
Gladstone street ..	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
St. Thomas' crescent	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Nelson street ...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total ...	2	1	1	4	2	0	0	0	0	0	3	2	8	0	8

DEATHS IN ST. NICHOLAS' SUB-DISTRICT.															
Pearson ct Westgate	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Queen's lane ...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Stowell Street	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Friars ..	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Well entry, Close...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
New buildings,,	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Nun street	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Forth street ..	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Monk square...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Tuthill stairs...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Forth banks ...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Orchard street	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
High bridge ...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Fever Hospital	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Tanners court, Friars	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Total ...	3	0	0	2	0	0	1	0	0	0	0	3	8	0	8

TABLE XII.—CONTINUED.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN ALL SAINTS' SUB-DISTRICT.															
LOCALITY.	SCARLET FEVER.				WHOOPIING COUGH				ENTERIC FEVER.				AUTUMNAL DIARRHŒA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	For 13 Weeks ended Sept. 30, 1876		
													Under 1 year	1 year and under 2 years	All ages.
Gibson street...	1				2				1				3		4
Cut bank ...	1					1									
Albert street ...	1														
Shield street ...	1														
Keelman's hospital		1													
New road ...					1									1	1
Blagdon street ...					1								1		1
Wesley street...					2								1		1
Grenville terrace					1										
Erick street ...						1									
Soap house lane						1									
Canada street				1											1
Copland terrace													1		1
Back Picton terrace													1		1
Pandon dene ...													2		2
Howard street													2		2
Concord court													1		1
Napier street...												1	1		1
St. Ann's terrace													1		1
Graham's yard															1
Turner street...													1		1
Little Blagdon street													1		1
Stockbridge ..													1		1
Victoria place ..													1		1
Sarah street													1		1
New Pandon street													1		1
Childs Home, Manors													1		1
Back Trafalgar street				1											
Gosforth street				1											
Ouse street...								1							
Argyle street								1							
Stepney lane									1						
Newton street												1			
Total ...	4	1	0	3	7	3	0	2	2	0	0	2	21	1	25

TABLE XII.—CONTINUED.

LOCALITY OF DEATHS FROM PREVALENT ZYMOTIC DISEASES.

DEATHS IN THE BYKER SUB-DISTRICT.															
LOCALITY.	SCARLET FEVER.				WHOOPIING COUGH.				ENTERIC FEVER.				AUTUMNAL DIARRHŒA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	During 15 Weeks ended Sept. 30, 1876.		
													Under 1 year.	1 year and under 2 years.	All ages.
Langhorn street ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stanley street ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stepney road...	2	...	...	...	...	...	...	...	...	...	...
St. Peter's	2	...	...	1	...	...	...	...	...	1	1
St. Anthony's	1	1	...	...	...	...	1	...	...	...	...
Addison road...	1	...	...	...	...	...	...	1	...	1
Clifford street	1	...	...	...	...	...	...	...	...	...
Rippondon street	1	...	...	...	...	...	...	...	...	...
Byker hill	2	...	...	...	...	...	...	...	...	...	...	...	...
Woodbine street	1	...	...	...	...	...	...	...	...
Byker bank	1	...	...	...	...	...	2	...	2
Portland road...	1	1
Bryson terrace	2	...	2
Rosedale street	1	...	1
Appletons buildings	2	2
Rutherford terrace	1	...	1
Hannington place...	1	...	1
Quality row	1	...	...	...	...	...	...	...	...	...	...	1
Cook street	1	...	1
Grace terrace	1	...	1
Day's buildings	1	1
Brandling village	1	1
Moleyneux street	1	...	1
Parker street...	1
Grafton street...	1	1	...	1
Wilfred street	1	...	...	...	...	...	...	...	...	1	...	1
Corbridge street	1	1
Thompson street	3	...	...	...	...	...	...	...	...	...	...	...
Stepney	1	...	...	...	...	...	...
Low fold	1	...	...	...	...	...	...
Heaton gardens	1	...	...	...	...	...
Byker Buildings	1	...	...	...	...	...
Fairless street	1	...	...	...
Conyers road...	1	...	...	...
Total ...	2	0	2	5	5	4	2	1	2	2	1	3	13	7	22

SUMMARY OF TABLE XII.

REGISTRATION SUB-DISTRICTS.	SCARLET FEVER.					WHOOPIING COUGH.					ENTERIC FEVER.					AUTUMNAL DIARRHŒA.		
	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total	1st Quar.	2nd Quar.	3rd Quar.	4th Quar.	Total	For 15 Weeks ended Sept. 30, 1876.		
																Under 1 year.	1 year and under 2 years.	All ages.
Westgate ...	4	9	3	6	22	15	1	1	...	17	2	3	4	8	17	39	8	51
St. Andrew's	2	1	1	4	8	2	...	...	...	2	...	...	3	2	5	8	...	8
St. Nicholas'	3	...	...	2	5	...	...	1	..	1	...	...	...	3	3	8	...	8
All Saints'...	4	1	...	3	8	7	3	...	2	12	2	...	...	2	4	21	1	25
Byker ...	2	...	2	5	9	5	4	2	1	12	2	2	1	3	8	13	7	22
Grand Total of Deaths.	15	11	6	20	52	29	8	4	3	44	6	5	8	18	37	89	16	114

TABLE XIII.

ADMISSIONS TO AND DEATHS AT THE NEWCASTLE FEVER HOSPITAL FROM 1ST JANUARY TO 31ST DECEMBER,
INCLUSIVE 1876,

DISEASES.	Total	ADMISSIONS.												DEATHS.					Total.
		Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	Nov.	
Typhus ...	22	3	8	2	5	...	2	1	1	...	2	...	...	2	2	...	2	...	6
Enteric Fever ...	20	3	...	...	1	...	2	...	1	1	5	7	...	...	...	...	...	1	1
Simple Continued Fever	3	...	1	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	1
Scarlet Fever ...	9	...	2	1	...	1	1	1	1	...	2	2	...	...	...	...	...	...	...
Smallpox ...	2	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Febricula ...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Inflammatory Sore Throat	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ...	58	6	11	4	7	2	3	2	3	1	9	9	1	2	3	0	2	1	8

TABLE XIV.

RETURN OF INSPECTIONS OF SUSPECTED & UNWHOLESOME PROVISIONS DURING 1876.

PROVISIONS INSPECTED.	AMOUNT.	CONDITION.		BAD. HOW DISPOSED OF.	
		Fit for Food.	Unfit for Food.	Destroyed by Magistrate's Order.	Destroyed with owner's consent.
Carcases of Beef ..	23	15	8	3	5
Stones ..	...	...	20	20	...
Carcases of Mutton ...	27	16	11	2	9
" " Pork ...	131	114	17	...	17
Baskets of Pears ...	...	...	20	...	20
" " Plums ..	...	...	5	5	...
" " Cherries ...	...	...	17	...	17
Boxes of Oranges ...	...	...	32	..	32

Parts of 4 Carcases of Beef, returned as good, were bruised; the bruised portions were cut off and destroyed.
January, 1877.

(Signed) WM. HEDLEY, Inspector.

Inspector Isaac Adamson reports that during the year 88 Packages of Fish in the Fish Market, have been seized and destroyed as unfit for Human Food.

TABLE XV.

INFECTED ARTICLES DESTROYED AND REPLACED BY THE HEALTH DEPARTMENT DURING THE YEAR 1876.

16 Flock Beds	12 Flock Bolsters
6 Feather Beds	5 Feather "
2 Rabbit down Beds	11 Flock Pillows
25 Straw Mattresses	18 Feather "
13 Bed Ticks	2 Rabbit down Pillows
1 Set of Flock Cushions	6 Sheets
4 Rugs	2 Blankets

One Straw Mattress and One Rabbit Down Bed were also destroyed and replaced on account of infection by the Inspectors of Common Lodging Houses.

TABLE XVI.

SUMMARY OF CASES DISINFECTED BY THE INSPECTORS OF NUISANCES, DURING THE YEAR ENDED DECEMBER 31st, 1876.

PARISH OR TOWNSHIP.	NATURE OF DISEASE.						Totals.
	Scarlet Fever.	Enteric Fever.	Typhus Fever.	Measles.	Small Pox.	Diphtheria.	
Elswick ...	19	5	2	3	...	1	30
Westgate ...	14	5	6	19	1	1	46
St. Andrew's ...	39	28	7	8	...	2	84
St. John's ...	9	8	1	2	.	...	20
St. Nicholas' ...	15	6	3	3	...	...	27
All Saints' ...	19	9	8	11	1	4	52
Jesmond ...	1	...	...	...	...	...	1
Byker ...	21	3	11	45	...	...	80
Totals ...	137	64	38	91	2	8	340

TABLE XVII.—NUISANCE REMOVAL.
BOROUGH OF NEWCASTLE-UPON-TYNE.
SUMMARY OF NUISANCE CASES FOR THE YEAR ENDED 31st DECEMBER, 1876.

Parishes or Townships.	Rooms Closed, unfit for Human Habitation	Rooms Whitewashed, Purified, and Repaired.	Yards, Passages, and Staircases Cleansed and Repaired.	Dilapidated Privies and Ash-pits Repaired.	Defective Drains and Gutters Cleansed and Repaired.	Swine and other Animals Removed.	Water-closets Cleansed and Repaired.	Overcrowding.	Defective Water-spouts Repaired.	Water supply.	Branch Drains.	New Water Closets, Privies and Ash-pits.	Stagnant Pools and Accumulations.	TOTAL.
Elswick ...	4	7	90	181	132	3	237	3	28	27	3	16	19	750
Westgate ...	10	21	142	286	168	7	101	2	69	19	3	71	31	930
St. Andrew's	10	13	141	154	178	7	69	3	62	6	7	31	48	729
St. John's ...	4	9	84	46	54	...	34	...	34	8	7	8	18	306
St. Nicholas'	5	9	20	10	34	...	43	...	4	11	3	4	47	190
All Saints' ...	92	26	59	226	172	11	140	5	92	47	16	40	49	975
Jesmond ...	...	...	1	11	7	...	1	...	5	3	14	4	2	48
Byker ...	11	11	4	102	47	3	20	...	11	18	13	4	5	249
Total for Borough	136	96	541	1016	792	31	645	13	305	139	66	178	219	4177
Notices for Consumption of Smoke ...														64
TOTAL ...														4241

TABLE XVIII.
BOROUGH OF NEWCASTLE-UPON-TYNE.
SUMMARY OF PROCEEDINGS TAKEN BEFORE THE MAGISTRATES OF THE BOROUGH BY THE SANITARY DEPARTMENT DURING THE YEAR ENDED 31st DECEMBER, 1876.

NATURE OF COMPLAINT.	No. of Cases.	HOW DISPOSED OF.	Amount of Penalties Imposed.
Dilapidated Yards, Water-closets, Privies, and Ash-pits repaired...	40	{ Thirty-six did work and paid costs; four ordered to be done by Magistrates ... }	£ s. d.
Rooms closed, unfit for human habitation ...	2	Room closed and costs paid ...	.....
Defective Drains ...	16	{ Fifteen did work and paid costs, and one ordered to be done by magistrates }	.....
Manufactories emitting Offensive Vapours, &c. ...	3	Three fined 40s. and costs ...	6 0 0
Water Supply ...	2	Two did work and paid costs ...	.....
Water Spouts ...	14	Fourteen did work and paid costs	.....
Sanitary By-Laws ...	102	{ Ninety-two did work and paid costs, two fined 2s. 6d. and costs, one fined 1s. and costs, four fined 5s. and costs, two fined 40s. and costs, and one dismissed ... }	5 6 0
Whitewashing ...	71	71 did work and paid costs ...	.....
Branch Drains ...	2	{ One did work and paid costs, and one ordered to be done by magistrates ... }	.....
Total ...	253		11 6 0

TABLE XIX.

1876.

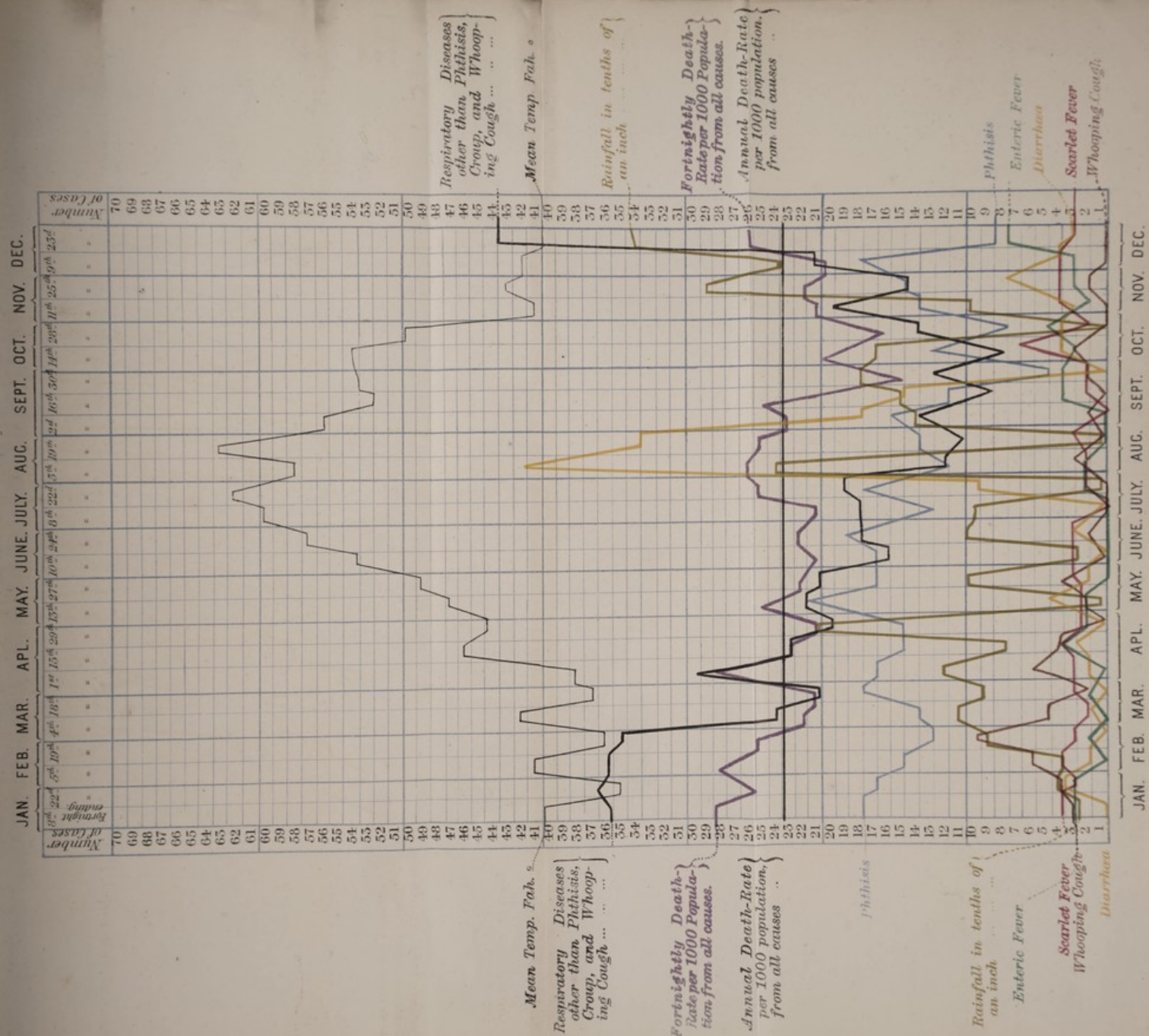
RAINFALL, MEAN TEMPERATURE, &c.

1st QUARTER.			2nd QUARTER.			3rd QUARTER.			4th QUARTER.		
WEEK ENDED	Rainfall Inches.	Mean Temperature ° Fah.	W K ENDED.	Rainfall Inches.	Mean Temperature ° Fah.	WEEK ENDED.	Rainfall Inches.	Mean Temperature ° Fah.	WEEK ENDED	Rainfall Inches.	Mean Temperature ° Fah.
1876.			1876.			1876.			1876.		
Jan. 8	0.11	36.4	April 8	0.02	52.5	July 8	0.68	60.7	Oct. 7	0.42	53.2
" 15	0.33	30.4	" 15	0.71	38.8	" 15	0.00	60.5	" 14	1.18	53.6
" 22	0.04	38.9	" 22	0.55	43.8	" 22	0.00	63.3	" 21	0.00	52.7
" 29	0.00	40.9	" 29	1.47	44.0	" 29	1.24	58.5	" 28	0.00	47.0
Feb. 5	0.30	40.7	May 6	0.04	46.1	Aug. 5	1.10	56.2	Nov. 4	0.02	43.2
" 12	0.49	32.9	" 13	0.00	46.1	" 12	0.00	61.8	" 11	0.95	37.8
" 19	0.34	38.6	" 20	0.05	47.6	" 19	0.00	63.8	" 18	1.28	44.6
" 26	0.58	39.6	" 27	0.93	49.9	" 26	0.14	56.3	" 25	1.55	41.0
March 4	0.48	43.4	June 3	0.00	54.3	Sept. 2	1.18	54.1	Dec. 2	1.31	39.0
" 11	0.47	39.2	" 10	0.18	51.7	" 9	0.95	54.3	" 9	0.97	44.1
" 18	0.37	33.4	" 17	0.15	55.1	" 16	0.49	49.7	" 16	0.28	41.0
" 25	0.19	35.4	" 24	0.85	58.2	" 23	0.40	54.8	" 23	3.06	38.7
April 1	0.94	40.2	July 1	0.27	58.6	" 30	1.36	51.5	" 30	1.52	38.9
		Mean			Mean			Mean			Mean
Totals...	4.65	37.7		5.22	49.7		7.54	57.4		12.61	44.2

Total Rainfall during the year 1876—30.02 inches.

Mean Temperature ,, ,, —47.25 °Fah.

Fortnightly Diagram of Deaths from principal Zymotic Diseases & Diseases of the Respiratory Organs.



Fortnightly Diagram of Deaths from all causes at Seven Ethal periods, with Temperatures.

