[Report 1898] / Medical Officer of Health, Bilston U.D.C.

REPORT

ON THE

HEALTH OF BILSTON

FOR THE YEAR 1898,

BY

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PRINTED BY ORDER OF THE SANITARY AUTHORITY.

BILSTON:

PRINTED BY WILLIAM PHILLIPS, OXFORD STREET.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL OF BILSTON.

Gentlemen,

I beg to present to you the following report on the health of the town for the year ending December 31st, 1898, being my fourteenth Annual Report.

PREVENTION OF DISEASE.

Enteric Fever.—During the year 92 Notifications of Enteric or Typhoid Fever, referring to 91 cases in 73 houses, were received, as compared with nine in the previous year, 31 in the year 1896, 30 in the year 1895, 14 in 1894, 18 in 1893, 36 in 1892, and 13 in the year 1891. Of the 92 cases 22 died, two being children under 5 years of age, and 20 above that age.

As this epidemic constitutes the most serious feature in the year's report, it is necessary to deal with it at length, and in order to make the record as complete as possible, the description of its onset is taken from my report for the month of August last and repeated here :—

"From January 21st to July 29th, in this year, 14 cases of Typhoid Fever have been notified. These were in different parts of the town and called for no special comment. The local conditions, milk, water, &c., were enquired into and the necessary attention given. On the latter date another case was reported. On visiting the house in Stone Street the next day the patient was found to be dead. During the month of August two more cases from the same house, and 16 others (or in all 19 cases in 17 houses) were notified.

This increased prevalence was coincident with the appearance of an epidemic of this disease in the neighbourhood of Coseley, and on careful examination it was found that a large number of cases in both districts occurred among the workpeople of a certain firm at Bradley, whose ironworks are situated in the former district, just beyond our own boundary. Further investigation showed that in these works there is a supply of tap water for drinking purposes, and also a pump connected with a well, and that, because the water from the latter was thought to be colder than from the mains, drinking from it during the recent hot weather had been very common.

Passing through these works, and quite close to the well, is a main sewer which carries the sewage from a large portion of the Bradley district, and there were abundant evidences that the water in the well, which had recently been noticed to be brown and offensive, was polluted with sewage. This had followed closely upon certain operations, when the ground had been opened up and the sewers found to be leaking. The handle of the pump was at once pad-locked, and the use of the well water prohibited by the Coseley Authorities.

On the 29th of August, in company with the Sanitary Inspector, I visited these premises and found some men at work. I learnt that an old catch pit connected with the sewer had leaked considerably, that the earthenware pipes leading from it to the canal had often burst from pressure, and that from the canal had been removed very many tons of sewage and decomposing matter.

This catch pit, which was uncovered and shewn to me, was about 6ft by 3ft 6in., by 4ft deep, was built of brickwork and mortar, and so situated that the sewage must pass through it before it could reach a new catch pit, which had just been constructed. This new catch pit, I was informed, was large in size, had three compartments, the floors covered with concrete and the walls cemented, and was for the purpose of receiving the solid parts of the sewage, the effluent being passed on through new iron pipes into the canal. As, however, the sewage would still pass through the old catch pit first, the walls of which were bulging, and the mortar saturated with sewage, and in a perishable condition, and the bottom covered with sewage, it was obvious that pollution of the well would continue, I, therefore, at once wrote to the Coseley Surveyor drawing his attention to this, and his reply, dated the 16th inst., informs me that this condition has now been remedied, and the old catch pit properly cemented and really converted into a 'man hole or inspection chamber.'

Just inside the works there was another old catch pit which was without covering, the brickwork in a very defective condition and the mortar washed out To this I also drew attention of the Coseley Surveyor, but as far as I can ascertain, nothing yet has been done with it.

Of the 19 cases no less than 10 are in people directly connected with these works, and the remainder are all in the 'New Town' District, 6 being close together (3 in 1 house indeed) in Bridge Street and Stone Street. In these cases the houses are small and closeley crowded, where it is impossible to get currents of fresh air, and the courts and yards are narrow and dirty. The whole question of these dwellings for the very poor, and the best method of dealing with it, is of the highest importance, and will soon have to be faced. Though Typhoid Fever is not 'catching' in the ordinary sense, there is grave danger, especially in such surroundings, from the excreta being allowed to remain in or near the dwellings, and from failure thoroughly to destroy the activity of its germs.

During the month there has also been an enormous prevalence of diarrhœa as the result, no doubt, in part, of the very hot weather we

have lately experienced; and this has been accompanied by other diseases of the Alimentary System, causing a very heavy mortality in young children."

The further development of cases was as follows :—In the month of September 16 Notifications of 15 cases in 13 houses; in October, 20 cases in 20 houses: in November, 16 cases in six houses, and in December seven cases in four houses.

As most of these were so situated as not only to prohibit any possibility of isolation, but actually to be extremely dangerous to their neighbours, I deemed it advisable, and indeed urgently imperative, to re-open the old Cottage Hospital, and the first patient admitted on October 8th. From that date to the end of the year 17 patients—all, with one exception, above five years of age, were received. Some were in a very dangerous state on admission, and two died.

Only 10 of the cases were directly connected with the works at Bradley, but practically all—and this is most important—appeared in the poorer districts of the town where the streets and courts are close and narrow, currents of fresh air and ventilation of the dwellings practically absent; accumulation of filth common, and large, unroofed ashpits and wretched privies prevail.

It is well-known, and has frequently been demonstrated, that Typhoid Fever can be caused by pollution of the water supply or of some articles of food, particularly milk, but it is not such common knowledge that the germs may be conveyed through the air and that it is in an especial manner, connected with conditions of soil. It has been shewn that soils containing animal matter are favourable to the life of the typhoid bacillus, while virgin soils do not sustain it. "In one experiment indeed the bacillus not only maintained its life for 456 days in sterile polluted soil, but after drying and powdering to dust was still active." It is easy to understand how such soil in the form of dust may be carried away by the wind, and deposited on articles of food, meat, milk, &c., and so lead to cases whose origin may apparently be most obscure.

But contaminated soil alone may give rise to the continued presence of Typhoid Fever, and this is the explanation of its prevalence in the poorer parts of the town. Were the water supply at fault, the distribution of cases would have been general and wide-spread, and enquiries into the milk supply—constantly made—gave negative results. In the districts invaded all the conditions for continuous soil-pollution are seen at there best. No water closets, untapped sinks, ash pits frequently below the level of the soil, absence of spouting, causing damp walls and floors, unpaved yards leading to the soaking of subsoil with slop water and other impurities. Add to this that the dwellings are small, dirty and crowded, that the food is usually kept in, or near to, the living room—often in some receptacle having no communication with the external air,— and that the yards are sometimes so small that the ashpits and privies almost, if not actually, adjoin the houses!

As Typhoid Fever is a disease of gradual onset, there is little doubt that each new case as it occurs will lead to the deposition of in-

fected matter in these ashpits ; the refuse from the ashpits is emptied into the streets, and thence removed. This produces fouling of the yard and street, and a certain amount of refuse—laden with typhoid poison, be it remembered—being left behind is converted into dust and scattered about by the wind, and thus there is no end to the vicious circle which keeps up both the supply of the poison and its distribution.

In an interesting and important paper on Enteric Fever, at Norwich, the Medical Officer of Health for that city arrives at the following (among other) conclusions, based on the facts given : —

(1) That what may be described as the endemicity—that is, the continuous prevalence—of typhoid fever in the city, appears to be associated with the methods of disposing of excrement followed, and with defects in the sewerage and drainage.

(2) That bedroom crowding exerts a predisposing influence, probably by lowering the standard of healthiness in those subjected to such undesirable household conditions.

(3) That emanations from sewer gratings, untrappied gullies, and more particularly collections of festering excrement, exert a predisposing influence in those exposed to them ; and

(4) That the existence of some thousands of fixed and movable "bins" is unquestionably a source of continuous pollution alike to the soil and the air in the neighbourhood of dwellings, and affords favourable conditions for fostering a filth disease like Typhoid Fever ; and that, in scavenging, portions of excrement are liable to fall on to and get trodden into imperfectly paved yards, alley ways and streets.

From what has already been stated, therefore, it will not be difficult to understand that, even apart altogether from an epidemic due to a definite and traceable origin, a series of sporadic cases might readily occur without any apparent connection among themselves, yet which, if our knowledge of the train of associated circumstances were complete, might be traced back to a common source of infection. Supposing, for example, that the earth from a court contaminated with the enteric poison were turned up during the prevalence of dry weather, it might easily happen that the dust carried about by currents of air and deposited on milk, potted meat, bread. cheese, or other articles of food, usually consumed without further cooking, might be the true source of infection. The difficulty would be further increased by the fact that, before these sporadic cases could come under observation, the actual source of infection would have been long obliterated.

A list of the cases in the town (Table C) is annexed to this report in which are given some notes on the premises, method of excrement disposal, &c. A careful study of this will show the bearing of the previous remarks as to causation—the only facts common

to all being that already pointed out of pollution in or near to the dwelling. It is significant to note that no cases occurred in a house with W.C. attached.

Scarlet Fever.—91 cases of Scarlet Fever in 71 houses were notified during the year, as compared with 112 the previous year; 118 in the year 1896; 48 in the year 1895; 94 in 1894; and 235 in 1893. Six of the cases, all children under 5 years of age, terminated fatally. From the indifference and carelessness frequently displayed it is not to be wondered at that this disease prevails almost continuously here. Cases were notified in every month of the year, viz., 9 in January, 4 in February, 7 in March, 4 in April, 4 in May, 6 in June, 11in July, 11 in August, 14 in September, 8 in October, 5 in November, and 8 in December.

Diarrhœa.—During the year 61 deaths from diarrhœa, 59 being in children under 5 years of age, were registered, most of them, as usual, occurring in the summer months. 1 was in June, 4 in July, 21 in August, 55 in September, 8 in October, and 2 in November. The following gives the number of deaths above and below five years of age, and the mortality rate per thousand for the past ten years.

Deaths from Diarrhœa ...	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889
Children under 5 years ...	59	63	26	38	9	27	13	15	23	17
Above 5 years	2	6	3	4	1	8			2	1
	61	69	29	42	10	35	13	15	25	18
Rate per thousand ...	2·5	2·9	1·2	1·7	·42	1·4	·55	·63	1·06	·76

The causes of Diarrhœa have been repeatedly discussed, and its great prevalence this year has especial significance, because the insanitary conditions which largely influence it are just those conditions,already referred to, that also affect the spread of enteric fever. It is only necessary therefore to repeat, from last year's report, where the subject was fully considered, this paragraph: "It will be obvious how essential it is that saturation of the ground, particularly near to human dwellings, from deficient or absent spouting, surface water, by leakage from ashpits, cess-pools, &c., should be avoided. Further, there are other conditions intimately associated with a high diarrhœa rate that perhaps concern a health authority even more. Density of population and buildings; want of cleanliness, light and ventilation; foul emanations from ashpits, drains and sewers, accumulations of filth, manure, &c., have all a causal relation to diarrhœa. For this, among other reasons, close overcrowded and dirty courts, and back-to back houses, are evils that ought to be abolished.

Measles.—This disease was prevalent at the end of the year 1897, and 19 children, all under 5 years of age, died from it during the

past year, viz., three in the month of January, three in February, one in March, nine in May, two in July, and one in August, Owing to the number of children absent on account of this ailment St. Martin's Schools, Bradley, were, on my recommendation, closed for three weeks from May 1st.

Diphtheria and Membranous Croup.—Eight notifications referring to five cases of Diptheria, and two of Membranous Croup were received during the year; three of the former, and both the latter ended fatally.

The County Council have now, on the recommendation, through the Sanitary Committee, of the County Medical Officer of Health, made arrangements with the Authorities of Mason University College, whereby doubtful cases of diphtheria may be confirmed or otherwise by bacteriological investigations, free of charge, and any medical practitioner in the town can have the necessary apparatus for securing and forwarding some of the secretion or membrane on application at the Town Hall. The great value of this need not be pointed out.

Erysipelas.—No less than 34 cases of Erysipelas have been notified during the past year, as compared with 19 in the previous twelve months, and 13 in 1896. One case ended in death.

Whooping Cough.—Six deaths this year have been attributed to Whooping Cough, being the same number as the previous year, and 11 less than the year 1896, viz., two in August, one in September, two in October, and one in November.

Influenza.—Influenza has appeared more than once during the year, though always in a mild form, and six deaths were registered, viz., two in January, two in February, one in April, and one in August.

Zymotic Disease.—The deaths attributed to the seven principal Zymotic Diseases were 119, as compared with 99 in the previous year, 81 in 1896, and 118 in 1895. The subjoined table shew the number of deaths from each of these causes for the past year and the previous ten years.

Deaths from	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	Aver'ge 1888-97	1898
Scarlet Fever ...	2	3	1		6	9	8	1	10	8	4·8	6
Smallpox	3						1	1			·5	
Measles		5	12	9	13	15		51	7	11	12·3	19
Whooping Cough ...	5	14	3	6	23	7	12	3	17	6	9·6	6
Enteric Fever ...	2	4		1	6	4	1	8	7	1	3·4	22
Diphtheria and Membranous Croup	9	5		5	4	3	8	12	11	4	6·1	5
Diarrhœa	7	18	25	15	13	35	10	42	29	69	26 3	61
	28	49	41	36	65	73	40	118	81	99	63·0	119
Rate per thousand...	1 19	2 08	1·7	1·3	2·7	3·1	1 7	5 02	3·4	4·2	2·6	5·06

Vaccination.—The returns of the Vaccination Officer are given for the eight years 1890-97 and for the first half of the year 1898.

	Half Year to June 30, 1898.	1897	1896	1895	1894	1893	1892	1891	1890
Births Registered	473	963	864	955	926	939	929	946	891
Successfully Vaccinated ...	288	633	613	670	731	734	736	755	744
Insusceptible		3	4	6	4	6	9	2	5
Died Unvaccinated	74	167	118	133	114	145	117	119	93
Postponed	1	8	12	29	10	19	41	40	20
Removed from District ...	13	26	29	53	34	35	26	30	29
Certificates of Conscientious Objectors	2	5							
Unaccounted for	95	121	88	64	33				
	473	963	864	955	926	939	929	946	891

By the Act passed last session in Parliament it is provided that Vaccination shall now be performed at the home of the child and not at a vaccination station, and that lymph from the calf shall be used instead of humanised lymph. These changes are already well known to the public, and it is to be hoped the result will be more efficient and complete Vaccination throughout the country. Much of the Vaccination in this district is quite inefficient—the idea evidently being simply to fulfil the minimum requirements of the law without any regard to its real use—and will have little, if any, protective power against Smallpox when next it appears. This is the more to be deplored, because it not only gives a feeling of false security to the parents but tends to bring the operation into disrepute, and to inflict incalculable damage upon Vaccination as a preventative of Smallpox.

INFECTIOUS DISEASES HOSPITAL.

At the end of 1897, seven cases of Scarlet Fever remained in the iron building, and 30 were admitted during the year, seven being in children under five years of age ; 34 were discharged and one died, leaving two in at the end of December.

The old Cottage Hospital was opened on October 8th for the isolation and treatment of Enteric Fever patients. Up to the end of the year 17 were admitted, of whom seven were discharged cured, two died, and eight remained.

The Willenhall District Council, through the Medical Officer of Health, have suggested a conference between the Authorities of Darlaston, Willenhall and Bilston, to consider the question of constituting the three towns a "Hospital District," and of providing a joint hospital for infectious diseases for them, on a site within easy access of each, and the three Medical Officers of Health have been appointed by their respective Councils to confer on the subject. No more convenient plan, from a geographical point of view, could be devised, and the total populations (about 60,000) would justify the erection of a properly-equipped, even if unpretentious, building. It is strongly to be

desired that the consideration of this most important matter will result in the provision of thoroughly efficient means of isolation for the three districts—the present condition of things here being most unsatisfactory.

There should also be provided a reliable disinfecting apparatus, and a suitable mortuary in a central situation.

On many occasions I have pointed out the great need for district nurses here, and I am gratified to know that during the past winter three have, by the generosity of some of the leading inhabitants and in connection with The Queen Victoria Nursing Association, been appointed to work among the poor in all parts of the town. The value of such skilled assistance in the relief of suffering and distress, and even in the saving of life, is incalculable. The example, too, that the nurses will give in cleanliness in the home and in method, order, and gentleness in the sick room, must have permanently benefical results.

SANITARY WORK.

Infectious Diseases (Notification) Act, 1888.

227 certificates under this Act were received during the year, as compared with 146 in the previous twelve months, and 185 in the year 1896, viz., 91 of Scarlet Fever, 92 of Enteric Fever, 2 of Puerperal Fever, 6 of Diphtheria 2 of Membranous Croup, and 24 of Erysipelas.

The following table shows the number of notifications of each disease received in each month of the year, and also the total for this and the seven previous years.

	Scarlet Fever	Enteric Fever.	Puerperal Fever.	Smallpox	Diphtheria & Membranous Croup.	Erysipelas	Totals.
January	9	2			1	4 ...	16
February	4	2				1 ...	7
March	7	3			2	2 ...	14
April	4	1				1 ...	6
May	4	2	1		1	1 ...	9
June	6	2				...	8
July	11	3	1			4 ...	19
August	11	19				3 ...	33
September	14	15			1	3 ..	33
October	8	20			2	5 ...	35
November	5	16				9 ...	30
December	8	7			1	1 ...	17
1898	91	92	2		8	34 ...	227
1897	112	9			6	19 ...	146
1896	118	31			23	13 ...	185
1895	48	30			11	17 ...	109
1894	94	14	2		9	19 ...	170
1893	235	18	5		8	23 ...	293
1892	168	36	1		5	34 ...	244
1891	63	13	2		2	12 ...	92

It will be noticed that, except Enteric Fever, the number is below the average this year.

Milk-shops, Dairies, and Cowsheds.—These have been regularly inspected, and, with one or two exceptions, found satisfactory. The question of fixing a minimum cubic space for cows in cowsheds is at present under the consideration of the Local Government Board, and regulations will probably be made ere long.

Workshops and Bakehouses.—These also have been frequently visited. In four cases notification of the workshops to H.M. Inspector of Factories had been overlooked, and two notices, to limewash and ventilate, had to be served. The bakehouses have been regularly limewashed.

There are 39 slaughter houses in use and only seven notices were required during the year for the abatement of nuisances in connection with them. On June 10th in one slaughter house the carcases of two beasts were discovered which, on examination, were found to be diseased. They were seized, condemned and destroyed. In December some unsound meat was seized in a shop in Church Street. The owner was summoned before the Stipendiary and fined.

From what has already been written it will be evident that many conditions deleterious to the health of the people still prevail. Some would have been remedied ere this had it not been for the cost. The Council has at present under consideration a new sewerage scheme, with proper treatment of the sewage, and there can be no doubt that this has become a matter of the most pressing urgency. The outlay of money must be great, and the present financial position of the town is the only justification for delay. The abolition of such antiquated methods of collecting excrement as the pail system, vaults, privy-middens, &c., as already intimated, is much to be desired, for there is not the slightest doubt that organic pollution of the soil is unavoidable where these are in operation, and the introduction of a thorough and complete water carriage system.

As previously intimated, some streets (*e.g.*, Smith street and Stone street) are so close and narrow that the dwellings are packed together, without proper light and currents of fresh air, and, were it not for the financial position already alluded to, should be dealt with as "unhealthy areas" and entirely condemned. Houses without through ventilation are common, and over-crowding prevails. Many are damp and unhealthy from the absence of damp-proof courses and spouting—both conditions should be remedied in all new buildings, and even in old houses the provision of the latter, at least, should be insisted upon. Four houses have been closed or made habitable, and 15 others repaired during the year. Eight cases of over-crowding have been dealt with, but, owing in part to the scarcity of cheap houses with a minimum of three bedrooms—to meet the needs of large families—it is most difficult to know how to deal properly with such and to ensure decency.

It has already been pointed out that the courts and yards frequently reek with emanations of all kinds, their surfaces are covered with accumulations of filth, stagnant water, &c., and their small size

often causes the privies and ashpits almost to adjoin the dwellings. These should be prevented by having the courts provided with an impervious pavement, when absorption of organic matter would be impossible, and well-lighted, and the ashpits should be made much less, rendered water-tight, and roofed over.

The bye-laws dealing with these and other sanitary matters have —so I am led to believe—been recently under consideration, but they have not been submitted to the Health Department, and the result, therefore, cannot be given. They should, however, be made to cover ths defects described. The importance of this will be further emphasized by a perusal of the following particulars. It is estimated that there are in the township 5203 houses (of which 200 are void), viz.—

Rated at £7 and under	—Front, 2585	3606
,, ,, ,,	Back, 1021	
Rated at more than £7 and under £15		1175
,, ,, £15		422
		5203

116 of these are supplied with water from sources other than the public supply ; but it is not, singularly enough, in these that typhoid has appeared.

An approximate calculation of the methods of excrement storage in vogue in the town give the following :—

Ash-pits	...	1242
Privy Vaults	...	947
Privy Middens	...	455
Pans or Pails	...	384
Model Privies	...	293
Water Closets	...	154

VITAL STATISTICS.

Births.—During the year 935 children, 490 males, and 445 females were born, being a decrease of 12 on the previous year and giving a birth-rate of 39·7 per thousand. The following gives the number of births, male and female, for each quarter in the last three years.

	1898			1897			1896		
	Males.	Fem'les	Total.	Males.	Fem'les	Total.	Males.	Fem'les.	Total.
First Quarter	139	128	267	118	125	243	100	86	186
Second Quarter	103	107	210	122	107	229	124	112	236
Third Quarter	120	113	233	123	102	225	111	104	215
Fourth Quarter	128	97	225	139	111	250	124	106	230
	490	445	935	502	445	947	459	408	867

Table showing the number of Births and Birth-rates from 1888 to 1898 —

Year.	Males.	Females.	Total.	Rate per 1000 per population.
1888	449	428	877	37·3
1889	437	458	895	38·08
1890	434	461	895	38·08
1891	469	481	950	40·4
1892	484	439	923	39·2
1893	466	449	915	38·9
1894	474	445	919	39·1
1895	485	472	957	40·7
1896	459	408	867	37·02
1897	502	445	947	40·2
Yearly average.				
1888-97	465·9	448·6	914·5	38·9
1898	490	445	935	39·7

For purposes of comparison, the birth-rate of the whole country, and of the Staffordshire Urban and Rural Districts, for the nine years, 1989-97, as given by the county Medical Officer, are added, together with the corresponding rates for England and Wales.

Districts.	Birth-rate per 1000 of Population.								
	1889.	1890	1891	1892	1893	1894	1895	1896	1897
Staffordshire — Combi'ed Urban&Rural	33·5	32·7	35·7	35·1	35·7	34·3	35·1	34·2	33·5
Staffordshire — Urban	35·2	34·5	37·3	36·3	36·6	35·4	36·2	35·4	34·8
Staffordshire — Rural	29·2	28·6	31·6	32·2	33·3	31·6	32·0	31·2	30·3
England and Wales	31·1	30·2	31·4	30·5	30·8	29·6	30·3	29·7	29·7
Large Towns in England ...	30·9	30·4	32·5	31·8	31·8	30·6	31·2	31·2	30·6
Bilston	38·08	38·0	40·4	39·2	38·9	39·1	40·7	37·0	40·2

Deaths.—549 deaths from all causes, 276 males and 273 females, were registered during the year, being a decrease of 33 on the previous year, and giving a death-rate of 23·3 per thousand. The average yearly number of deaths for the previous five years was 532, and for the decade, 1888-97, 520.

Table shewing the number of deaths in each quarter of the year, classified according to age and sex.

1898	Males.	Fem'les	Total. All ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upw'rds
1st Quarter ...	69	67	136	42	22	4	4	41	23
2nd Quarter ...	51	53	104	43	19	2	4	25	11
3rd Quarter ...	90	79	169	88	26	5	7	26	17
4th Quarter ...	66	74	140	41	33	6	8	32	20
	276	273	549	214	100	17	23	124	71

TABLE OF DEATHS for the Four Quarters of 1898, classiffed according to Diseases and Ages.

1898.	Age.	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not "spasmodic")	Whooping Cough.	Con'd. Fevers. Typhus.	Enteric or Typhoid.	Other or Doubtful.	Puerperal Fever.	Cholera.	Erysipelas.	Diarrhœa and Dysentery.	Diseases of Alimetary Organs	Rheumatic Fever.	Heart Disease.	Phthisis.	Diseases of Respiratory Organs.	Influenza.	Pyæmia.	Ague.	Inquests.	Uncertified.	All Other Diseases.	Total at Ages Stated.	Total.
1st Quarter	Under 5		7	1											1			4	18	1			3	2	27	64	136
	5 upwds.			1	1				3						4		4	3	20	3			3	1	29	72	
2nd Quarter	Under 5		9	1		1								1	5			1	15				2		27	62	104
	5 upwds.								2						5		4	4	11	1			2		13	42	
3rd Quarter	Under 5		3	2	1		3							48	9				4				2	1	41	114	169
	5 upwds.			1					7		1			2	1		4	4	7	1			5		22	55	
4th Quarter	Under 5			2			2		2				1	10	10			2	13				1		31	74	140
	5 upwds.				1	1	1		8						3		7	4	11				5		25	66	

TABLE OF DEATHS classified according to Diseases, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE, FOR THE PAST TEN YEARS.

YEARS	AGE.	Smallpox	Measles	Scarlatina	Diphtheria	Croup (spasmodic)	Whooping Cough	Typhus	Enteric or Typhoid	Other or Doubtful	Diarrhœa Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis Pneumonia and Pleurisy	Heart Disease	Inquest	Uncertified	Influenza	All Other Diseases	Total Ages Stated	Total at all Ages	Death-rate per thousand
1889	Under 5		5	3		3	14				17				1			1	60		313			161	281	519	22·0
	5 upwds.				1	1			4		1		1					23	49	11	7	17		122	238		
1890	Under 5		12	1		1	3				23							2	42		3	15	1	142	245	490	20·0
	5 upwds.					1					2							14	75	16	4	11	8	114	245		
1891	Under 5		8			4	6				15							4	55		6	18	2	171	289	556	23·6
	5 upwds.					1			1					1				29	79	10	15	2	3	125	267		
1892	Under 5		13	3		2	19				13							1	56		14	8	2	174	305	529	22·5
	5 upwds.			3	1	1	4		6					1				14	54	8	25	2	3	102	224		
1893	Under 5		15	5		1	7		2		27							1	42		2	5	4	152	265	534	22·7
	5 upwds.			4		2			2		8					1		15	61	18	10	1	2	146	269		
1894	Under 5			6		6	12				9								35		12	6	1	135	222	453	19·2
	5 upwds.		1	2	1	1			1		1		1			1		17	49	16	23	1	7	109	231		
1895	Under 5		146	1		11	3				38								51		9	4	4	210	378	634	26·9
	5 upwds.		5			1			8		4							19	64	12	18	1	9	115	256		
1896	Under 5		7	9	4	7	17		2		26				2				56		5	3		110	250	460	19·5
	5 upwds.			1					5		3					1		19	53	11	12	13		100	210		
1897	Under 5		10	7	1	2	6				63							11	48		9	12	2	132	304	582	24·7
	5 upwds.		1	1	1				1		6		1					16	81	25	19	3	7	116	278		
1898	Under 5		19	6	1	1	5		2		59			1				7	50		8	3	1	151	314	549	23·3
	5 upwds.			2	2	1	1		20		2		1			1		15	49	19	15	1	5	102	235		

Table of deaths during the past decade, classified according to age and sex.

Year	Males	Fem'les	Total at all ages	Under 1 Year	1 and under 5	5 and under15	15 and under25	25 and under65	65 and upw'ds
1888	218	234	452	141	66	24	19	106	96
1889	267	252	519	183	98	25	21	83	109
1890	260	230	490	163	82	23	17	110	95
1891	282	274	556	200	89	22	19	104	122
1892	286	243	529	203	101	29	11	90	95
1893	277	257	534	185	80	26	22	91	130
1894	239	214	453	161	61	21	16	99	95
1895	327	307	634	215	163	22	15	96	123
1896	244	216	460	157	93	18	17	112	63
1897	308	274	582	214	90	13	21	154	90
Yearly average 1888-97	270	250	520	182	92	22	17	104	101
1898	276	273	549	214	100	17	23	124	71

For all years previous to 1896 the figures given are "under 60 years" and "above 60 years," instead of "65 years."

Diseases of the Respiratory System. — 99 deaths were registered as due to diseases of the respiratory system. 49, or exactly one-half, being in children under five years of age, as compared with 129 in the previous year, and 109 in the year 1896. Of these, 17 occurred in January, eight in February, 13 in March, nine in April, 11 in May, six in June, three in July, three in August, five in September, 11 in October, eight in November, and five in December.

Consumption.—Consumption caused 22 deaths, seven being in children under five years of age, as compared with 27 in the previous year, 21 in 1896, 19 in 1895, 17 in 1894, and 16 in 1893.

Inquests.—23 deaths were investigated by the Coroner as compared with 28 in the previous year, 17 in the year 1896, 27 in 1895, and 25 in 1894.

Uncertified Deaths.—In only four cases of death was no certificate given by a Medical Practitioner (or the Coroner) as compared with 15 in 1897.

Infant Mortality.—It is somewhat singular that the number of deaths this year in infants under 1 year of age is exactly the same as in the previous year, viz., 214, and the infant mortality is equal to a rate of 228 per thousand registered births. The following table gives the figures for the nine years—1889-97—for Bilston, for the Urban Districts of Staffordshire, and for the large towns in England.

Deaths in children under one year per 1000 registered births.

	1889	1890	1891	1892	1893	1894	1895	1896	1897	Mean Rate.
Bilston	204	182	210	219	202	175	224	181	226	202
Urban Districts in Staffordshire	161	176	175	174	179	163	181	171	187	174
Large Towns in England ...	161	171	167	163	181	152	182	167	177	169

With regard to the question of child insurance, it is very peculiar that the children who died (214), or exactly the number of deaths in children under 1 year of age, were insured. In the previous year of the 304 children under five years of age who died within the twelve months, 204 were insured, while 214 was the number of infants under one year who died; and in 1896 of the children who died 156 were insured, and the number of infants under one year who died was 157.

Appended are the tables required by the Local Government Board and the Staffordshire County Council, together with the Sanitary Inspector's Statement, which gives a summary of the work done in his department during the year.

I am, Gentlemen,

Yours faithfully,

T. RIDLEY BAILEY, M.D., Edin.,

Medical Officer of Health.

Bilston, March 1st, 1899.

SUMMARY OF SANITARY WORK done in the Inspector of Nuisances' Department, during the year 1898, in the Urban District of Bilston.

		Inspections and Observations made.	Formal Notices by Authority	Nuisances Abated after Notice.
Dwelling Houses & Schools.	Foul Conditions	15		
	Structural Defects	35		
	Overcrowding, abated by Preliminary Notice	8		
	Unfit for Habitation	4	3	3
	Lodging-houses	48		
	Dairies and Milk-shops	41		
	Cowsheds, all Limewashed Twice	43		
	Bakehouses, ditto	101		
	Slaughter-houses Limewashed each Quarter	81		
	Canal Boats	66	4	4
	Ashpits and Privies, 10,886 Cleansed, 17 Privies Rebuilt, 10 Ashpits Rebuilt, 40 Privies Repaired, 8 Ashpits Repaired, 43 Privies Limed	11004	1	1
	Deposits of Refuse and Manure, 22 removed, Pig-wash, 4 Removed	26		
	Water Closets, 6 Erected, 4 New Urinals, 5 Urinals Cleansed	15	1	1
House Drainage	Defective Traps	16		
	No Disconnection	nil		
	Other Faults, Obstructed Drains	28		
	Water Supply, 10 Houses without Sufficient, supplied from Town Mains	10		
	Pigsties Cleansed and Limewashed	10		
	Animals improperly kept and removed	27		
	Offensive Trades	nil		
	Smoke Nuisances	2		
	Other Nuisances, Fowls in Houses	4		
	TOTALS	11584	9	9

	Nos.
Seizures of Unwholesome Food, the Carcases of Two Beasts and about 36 lbs. of Beef	
Samples of Food taken for Analysis	nil
,, ,, Found Adulterated	nil
,, of Water taken for Analysis	nil
,, ,, Condemned as unfit for use	nil

Precautions against Infectious Disease.

Lots of Infected Bedding Stoved or Destroyed	nil
Houses Disinfected after Infectious Disease	36
Schools ditto ditto	2
Prosecutions for not Notifying Existence of Infectious Disease	nil
Convictions ditto ditto	nil
Prosecutions for Exposure of Infected Persons or things	nil
Convictions ditto ditto	nil
Removed to the Scarlet Fever Hospital 30 cases and 17 cases of Typhoid to Hospital during the year	47

NOTE.—When an Inspection or Notice embraces more than one defect, it may be enumerated separately as regards each such defect.

Signed, **HERBERT WALKER, A. San. I.**

Date, February, 1899.

INSPECTOR OF NUISANCES.

URBAN DISTRICT OF BILSTON.

(A) Deaths Registered during the year 1898, classified according to Diseases, Ages, and Localities; showing also the Population of such Localities and the Births therein during the year.

Population.		Registered Births.			Deaths from all Causes at subjoined Ages.									Mortality from subjoined causes, distinguishing deaths of Children under 5 years of age.																				
					At all Ages.													Fevers.															
Census, 1891.	Estimated to middle of 1898.	Males.	Females.	Total.	Males.	Females.	Total.	Under 1 year.	1 year and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 65.	65 years and upwards.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa or Dysentry.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Inquests.	Influenza.	Uncertified.	All Other Diseases.
23,453	23,500	490	445	935	276	273	549	214	100	17	23	124	71	Under 5 ...		6	1	1		2					1	19	5	59		7	50		8	1	3	151
														5 & upwards		2	2	1		20			1				1	2		15	49	19	15	5	1	102

(B) New Cases of Infectious Sickness coming to the knowledge of the Medical Officer of Health during the year 1898, enumerating the Number of Houses Infected, the Total Number of Deaths, also the Number of Cases Treated and the Deaths that occurred in Infectious Hospitals.

		Smallpox.	Scarlatina	Diphtheria	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas	Measles.	Whooping Cough.
Houses infected - - - - -			71	5	2		73			2		34	(?)	(?)
Total cases reported among persons belonging to District - - -			91	5	2		91			2		34		
Total deaths reported among persons belonging to District - - -	Under 5		6	1	1		2					1	19	5
	5 & upwds.		2	2	1		20			1				1
Cases treated in Hospital among persons belonging to District -	Under 5		7				1							
	5 & upwds.		23				16							
Deaths occurring in Hospital among persons belonging to District -	Under 5													
	5 & upwds.		1				2							

Is "Notification of Infectious Diseases" Compulsory in the District?—*Yes.* Since when?—*February 1st, 1890.*

Is Measles included among the Diseases notified?—*No.*

Is Whooping Cough ,, ,, ,, *No.*

Is an Isolation Hospital available for the District?—*Yes, temporary arrangement.*

Area of District in Acres?—*1866.*

Signed, T. RIDLEY BAILEY, M.D., M. O. H.

Table C.—A list of Enteric Fever Cases in Bilston in the year 1898.

No.	Date of Not'tion	Sex.	Age	Address.	Water Supply.	House.	Privy.	
1	Jan. 1	Male	30	John st., Ettingshall	town	through house	vault	large yard with back houses
2	,, 4	Female	20	Wolverhampton st...	,,	through house	vault	came home ill from Blackpool
3	Feb. 9	Male	20	off Union street ...	well	through house	vault	well water foul, now supplied from town mains
4	,, 21	,,	27	Lunt ...	town	through house	midden	isolated cottage
5	Mar. 3	,,	13	John street ...	,,	back to back	pans, open ashpit	small yard, back house
6	,, 21	,,	36	Free street ...	,,	through house	pans, open ashpit	large open yard
7	,, 28	Female	8	Rough hills ...	,,	through house	vault	
8	April 10	,,	17	Brook street ...	,,	through house	vault	separate yard
9	May 12	Male	23	Brook street ...	,,	through house	vault	brother of above case
10	,, 29	,,	28	Bridge street ...	,,	through house	vault	confined yard
11	June 11	,,	37	Union st., Ett'shall	,,	through house	vault	good yard
12	,, 12	Female	42	George street ...	,,	through house	pans	large yard, three back houses in same
13	July 1	Male	7	Brook street ...	,,	through house	vault, open a'pit	good yard and premises
14	,, 14	,,	?	Church street ...	,,	through house	pan	good yard and premises
15	,, 29	Female	12	Stone street ...	,,	through house	pans, open ashpit	moved into this house from Moxley previous week, this [house back to back, filthy privy vaults
16	Aug. 3	,,	25	Queen street ...	,,	through house	vault, open a'pit	
17	,, 3	Male	14	Lester street ...	,,	through house	pans	confined back yard
18	,, 6	,,	12	Swan passage ...	,,	back to back	pan	houses dilapidated, since closed
19	,, 7	,,	50	bk. 'Nelson' Bridge st	,,	through house	large midden ...	confined back, row of back houses
20	,, 9	Female	2	Stone street ...	,,	through house	pans	same house as case No. 15
21	,, 9	,,	15	Stone street ...	,,	through house	pans	same house as case No. 15
22	,, 14	Male	30	Bank st., Bradley ...	,,	through house	vault	B
23	,, 14	,,	20	Hill street ...	,,	single, thro' v.	midden	B
24	,, 14	,,	52	Bridge street ...	,,	through house	midden	
25	,, 22	,,	23	Bank street ...	,,	back to back	vault	B
26	,, 23	,,	18	Oxford street ...	,,	through house	vault	B
27	,, 23	,,	17	Dudley street ...	,,	through house	midden	B
28	,, 26	Female	26	Oxford street ...	,,	through house	midden	
29	,, 27	Male	27	off Dudley street ...	,,	through house	vault	B
30	,, 30	,,	20	Hill street ...	,,	through house	vault	B
31	,, 30	,,	17	Salop street ...	,,	through house	midden	B
32	,, 30	,,	17	Cross street ...	,,	through house	midden	B
33	Sept. 1	,,	10½	Bridge street ...	,,	through house	midden	next yard to No. 16 and No. 24.
34	,, 5	,,	43	Swan bank ...	,,	through house	vault	visiting No. 19 and No. 17
35	,, 10	,,	26	Ct. 9, Bridge st. ...	,,	through house	pans, open mid...	
36	,, 12	Female	30	Stone street ...	,,	through house	vault, open mid.	visiting No. 15, 20, 21
37	,, 13	Male	22	Oxford street ...	,,	through house	vault	
38	,, 13	,,	26	High st., Moxley ...	,,	through house	vault, ...	
39	,, 19	Female	17	Oxford street ...	,,	through house	vault, open a'pit	attending on No. 19
40	,, 19	Male	10	Bridge street ...	,,	through house	large midden ...	over the wall next yard to cases Nos. 15, 20, 21, 36
41	,, 19	,,	7	Stone street ...	,,	through house	pans	same yard as Nos. 15. 20, 21
42	,, 19	,,	12¼	Ct. 1, Lester street...	,,	back to back	pans, open a'pit.	yard very confined by surrounding buildings
43	,, 19	Female	5	Pipe's Meadow ...	,,	through house	pans, large a'pit.	
44	,, 22	,,	22	Oxford street ...	,,	through house	pans	
45	,, 26	Male	11	Bridge street ...	,,	through house	vault	
46	,, 27	Female	3½	Bridge street ...	,,	through house	midden	next house to No. 24 next yard to No. 33
47	,, 27	Male	24	Bridge street ...	,,	through house	pan	
48	Oct. 1	Female	45	Stone street ...	,,	through house	pans }	
49	,, 1	,,	20	Stone street ...	,,	through house	pans }	the mother of cases No. 15, 20, 21, 49 and in same house
50	,, 3	,,	27	Slater street ...	,,	back to back	vault	B secondary case.
51	,, 3	Male	27	Bridge street ...	,,	back to back	midden	two doors from No. 40, over wall next yard No. 15, 20, [21, etc.
52	,, 3	,,	23	Oxford street ...	,,	through house	vault	
53	,, 3	,,	28	Church street ...	,,	through house	vault	
54	,, 8	Female	38	Walsall street ...	,,	back to back	midden	
55	,, 13	,,	27	Queen street ...	,,	cot, v. by win.	midden	attending on case No. 36
56	,, 13	,,	21	Bridge street ...	,,	through house	pans	
57	,, 14	Male	7½	Mill street ...	,,	through house	midden	
58	,, 14	,,	38	Coseley street ...	,,	back to back		
59	,, 14	,,	27	Peascroft lane ...	,,	cot., thro' ven.	midden	
60	,, 16	,,	22	Beckett street ...	,,	cot., thro' ven.	vault	
61	,, 17	Female	24	Vine street ...	,,	through house	vault	
62	,, 21	Male	12	Millfield road ...	,,	back to back	vault	
63	,, 21	,,	24	off Mill street ...	,,	cot., thro' ven.	vault	visiting case No. 35
64	,, 22	Female	21	Oxford street ...	,,	through house	vault	nursing case No. 37, same house
65	,, 24	,,	30	John street ...	,,	through house	vault	
66	,, 25	,,	10	Coseley street ...	,,	back to back	pans	visiting at No. 58
67	,, 26	,,	22	Ct. 10, Temple street	,,	back to back	vault	
68	,, 26	,,	14	Oxford street ...	,,	through house	'model'	
69	,, 28	Male	11	Ct. 10, Temple street	,,	back to back	vault	visiting No. 67
70	Nov. 1	,,	10	Ct. 10, Temple street	,,	back to back	vault	visiting No. 67
71	,, 5	Female	1	Mill street ...	,,	back to back	'model'	}
72	,, 6	,,		Mill street ...	,,	back to back	'model'	} same house
73	,, 8	Male	29	Mill street ...	,,	back to back	'model'	}
74	,, 8	Female	10	Green lane ...	,,	through house	'model'	}
75	,, 8	,,	8	Green lane ...	,,	through house	'model'	}
76	,, 8	Male	7	Green lane ...	,,	through house	'model'	} same family—one house
77	,, 8	Female	5	Green lane ...	,,	through house	'model'	}
78	,, 8	,,	3	Green lane ...	,,	through house	'model'	}
79	,, 19	Male	17	Smith street ...	,,	single, thro' v.	vault	}
80	,, 19	Female	10	Smith street ...	,,	single, thro' v.	vault	} yard very confined
81	,, 19	Male	8	Smith street ...	,,	single, thro' v.	vault	}
82	,, 25	,,	30	Green lane ...	,,	cot., thro' ven.	vault	
83	,, 25	Female	44	Ct. 16, W'pton st....	,,	through house	vault	
84	,, 26	Male	17	Bradley street ...	,,	through house	vault	visiting No. 55
85	Dec. 8	,,	4	Ct. 1, Bridge street..	,,	through house	vault	
86	,, 16	Female	17	Ct. 16, W'pton st. ...	,,	through house	vault	attending on No. 83, same house
87	,, 23	,,	9	Ct. 16, W'pton st. ...	,,	through house	vault	}
88	,, 23	Male	12½	Ct. 16, W'pton st. ...	,,	through house	vault	} same house as Nos. 83 and 86
89	,, 23	Female	5	Ct. 16, W'pton st. ...	,,	through house	vault	}
90	,, 24	Mole	33	Temple street ...	,,	back to back	vault	
91	,, 23	,,	4½	Ct. 16, W'pton st. ...	,,	back to back	vault	

"B"—Cases directly connected with the ironworks at Bradley.