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Borough of Stoke-upon-Trent.

1902.

STOKE-UPON-TRENT URBAN SANITARY AUTHORITY.

ANNUAL REPORT
OF THE
MEDICAL OFFICER OF HEALTH

G. PETGRAVE JOHNSON,

M.D., C.M., D.P.H.,

Fellow of the Royal Institute of Public Health ;
Fellow of the Incorporated Society of
Medical Officers of Health,

Medical Officer of Health.

STOKE-UPON-TRENT :

VYSE AND HILL, CHURCH STREET AND WOLFE STREET.

1903.

Borough of Stoke-upon-Trent.

MEMORANDA.

Population at Census, 1891	...	...	...	...	24,027
Population at Census, 1901	...	...	...	...	30,458
Estimated Population at the middle of 1902	...	...	...	...	31,374
Number of Inhabited Houses at Census, 1891	...	...	...	...	4,486
" " " " 1901	...	...	...	...	6,012
" " " the end of 1902, about	...	...	...	...	6,723
Birth Rate per 1,000 living for 1902	...	...	...	...	32·8
Death Rate per 1,000 living for 1902	...	...	...	...	15·4
Death Rate from Zymotic Diseases in 1902	...	...	...	...	1·21
Deaths under 1 year per 1,000 births in 1902	...	...	...	...	16·2
Number of Persons per acre at Census, 1901	..	...	...	...	16·2
" " " at the end of 1902	...	...	...	...	16·8
New Dwelling-houses erected in 1902	...	...	...	...	199
Rateable Value of the Borough (for Borough Rate purposes) in 1902	...	...	...	...	£111,940
District Rate in 1902	...	...	...	...	2/9
Other Corporation Rates in 1902	...	...	...	...	1/1
Poor Rate, School Board Rate, Police and County Rate in 1902	...	...	...	...	3/11

Date of Incorporation, 2nd January, 1874.

Commission of the Peace granted 29th November, 1900.

Borough of Stoke-upon-Trent.

HEALTH COMMITTEE, 1901-1902.

Chairman :

HIS WORSHIP THE MAYOR (MR COUNCILLOR T. R. YOXALL).

Vice-Chairman :

MR COUNCILLOR EDWARDS.

Members :

MR ALDERMAN BIRKS	MR COUNCILLOR RISELEY
MR ALDERMAN WOOLLISCROFT	MR COUNCILLOR LYNAM
MR COUNCILLOR C. F. ROBINSON	MR COUNCILLOR PRICE
MR COUNCILLOR MASSEY	MR COUNCILLOR GIBSON
MR COUNCILLOR HARDING	MR COUNCILLOR HAND.

Town Clerk :

MR J. B. ASHWELL.

Assistant Town Clerk :

MR FR. COLLIS.

Borough Surveyor :

MR A. BURTON.

Inspector of Nuisances :

MR T. STAKE.

By the Order of the Local Government Board, dated March, 1891, the Medical Officer of Health is required to "make an Annual Report to the Sanitary Authority up to the end of December in each year, comprising a summary of the action taken or which he has advised the Sanitary Authority to take during the year for preventing the spread of disease, and an account of the sanitary state of the district generally at the end of the year. The Report shall also contain an account of the enquiries which he has made as to conditions injurious to health existing in the district, and of the proceedings in which he has taken part, or advised under any Statute so far as such proceedings relate to those conditions; and also an account of the supervision exercised by him or on his advice for sanitary purposes over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year. The Report shall also record the action taken by him or on his advice, during the year in regard to offensive trades, to dairies, cowsheds, and milkshops, and to factories and workshops. The Report shall also contain tabular statements of the sickness and mortality within the district.

By the instructions of the Local Government Board "the Medical Officer of Health must himself send a copy of the Annual Report to the Local Government Board and one to the County Council.

By the Factory and Workshops Act of 1901, the " Medical Officer is now required to specifically report on the administration of that Act in workshops and workplaces in his district, and to send a copy of the Report to the Secretary of State."

STOKE-UPON-TRENT,

FEBRUARY, 1901,

**To the Mayor, Aldermen and Councillors of the
Borough of Stoke-upon-Trent.**

GENTLEMEN,

I have much pleasure in submitting to you my Third Annual Report with regard to the Sanitary District which is under my superintendence. In many respects the Report will be found to be very satisfactory. The Death Rate during 1902 was the lowest ever recorded for the Borough. The population, number of inhabited houses, and rateable value of the Borough have steadily increased. The Birth Rate was above the average. The Infantile Mortality was 16 per 1,000 below the average. Diphtheria decreased still further during the year; the number of cases of Scarlet Fever notified, was by far the smallest since the Notification Act was adopted 12 years ago, and only two deaths were caused by this disease; the amount paid for the notification of Infectious Diseases was less than in any previous year. The Zymotic Death Rate was much below the average, and there were fewer deaths from Enteric Fever than in any previous year. During the year, New Building Bye-laws came into force; and a Resident Medical Officer was appointed at the Isolation Hospital. The plans for the Destructor are practically completed, and those for the Sanitary Convenience in the centre of the town are well advanced.

On the other hand, many matters to which attention has been called in previous reports, have not yet been efficiently dealt with. No action has been taken in reference to Phthisis. No advance has been made in our methods aimed at reducing the number of infant deaths. A Mortuary and Disinfector are needed. Slaughter-houses and Cowsheds are not yet kept as they ought to be. Workshops and Work-places have not received sufficient attention. Defects in water supply have not been remedied. Back

passages are in many instances in very bad condition. The Health Department is under-staffed, hence many nuisances are not efficiently attended to. Ashpits and Cesspits are not yet emptied often enough. No Ambulance is available for the removal of Enteric Fever patients. The smoke nuisance has not diminished.

Some of these defects might well occupy the attention of the Council during the next year.

I am, Gentlemen,

Your obedient Servant,

G. PETGRAVE JOHNSON,

AREA, PHYSICAL FEATURES, AND GENERAL CHARACTER OF THE DISTRICT.

The Borough is 1882 acres in area, and is roughly four-sided with angles north, south, east and west. About fifty acres are covered with water. It is bounded on the north-east side by the Fowlea Brook and the County Borough of Hanley; on the south-east side by the River Trent and the Urban District of Fenton and the Parish of Hanford in the Stone Rural District; on the south-west by the Lyme Brook and the Parish of Clayton in the Newcastle-under-Lyme Rural District; and on the north-west by the Borough of Newcastle-under-Lyme and the Wolstanton Rural District.

The Basford, Hartshill and Penkhull Hill runs from the North-West southwards into the Borough, causing a considerable elevation of the centre of the district.

The highest point in the Borough corresponds very nearly with the situation of the Penkhull Board Schools, and is 550 feet above the sea level. From this point the ground slopes away rapidly on the north-east and south-east sides towards the valleys of the Fowlea Brook and River Trent, and less rapidly on the south-west to the Lyme Brook. The lowest point in the Borough is at the junction of the Lyme Brook and the River Trent, where it is 331 feet above the sea level.

HEIGHTS ABOVE SEA LEVEL.

Penkhull Board Schools	550 feet
North Staffordshire Infirmary	541 „
Basford Post Office	536 „
Hartshill Church	513 „
The Convent	431 „
Trent Vale Church	366 „
The Town Hall	361 „
The Sewage Farm	349 „
Hanford Bridge	338 „

The Borough is located in the midst of the Pottery Coalfield. The Penkhull Hill is capped by a mass of red sandstone (Keele Series), with grey sandstone of the Newcastle-under-Lyme Series underlying it and appearing on the surface on the north-east, east, and south-west sides of the hill, it also appears at the north-west limits of the Borough towards Newcastle. Underlying the grey sandstone and appearing on the south, east, and north-east sides are the red and mottled Etruria marls, they also appear at the north-west part of the Borough. Springs come to the surface in the sides of the hill at the Junction of the sandstone and clay ; the water from these was at one time largely used for domestic purposes. In the lower parts of the Borough along the beds of the River Trent and the Fowlea and Lime Brooks alluvial gravel and sand are found with much water held up by boulder clay at a depth of a few feet. In all the other parts of the Borough and mainly to the west side of the Penkhull Hill, the subsoil consists of boulder clay, at places very stiff, and at others very loose and gravelly.

INDUSTRIES OF THE BOROUGH AND SURROUNDING DISTRICTS.

The chief are: 1.—China and Earthenware Manufacture.
 2.—Coal Mining. 3.—Iron Works. 4.—Brick and Tile Making.
 5.—Railway Works.

CENSUS, MARCH 31st, 1901.
MUNICIPAL BOROUGH OF STOKE-UPON-TRENT.

Civil Parishes and Wards	Houses				Population		
	Inhabited	Uninhabited		Building	Persons	Males	Females
		In Occupation	Not in Occupation				
Civil Parish— Stoke-upon-Trent, Area, 1882 acres.	6,012	145	186	141	30,458	14,950	15,508
Wards—East ...	1,768	107	46	11	8,789	4,355	4,434
South ...	2,057	14	79	76	9,826	4,738	5,088
West ..	2,187	24	61	54	11,843	5,857	5,986

Urban District	Rooms in Tene- ment	Tene- ments of less than 5 rooms	Persons per tenement											
			1	2	3	4	5	6	7	8	9	10	11	12
Stoke-upon-Trent M.B.	1	9	7	2	...	...	...	...	...	...	...	...	...	...
Total tenements— 6133	2	145	33	50	25	22	10	4	..	1	...	...	...	...
Total No. of tene- ments of less than 5 rooms—1829	3	211	8	40	47	40	32	25	5	9	4	1	...	...
	4	1464	31	208	290	288	206	160	136	84	40	17	3	1

In the Urban districts of Staffordshire, 42 per cent of the total tenements have less than 5 rooms. In the Rural districts the percentage is higher. In Stoke-upon-Trent only 20 per cent have less than 5 rooms.

As far as one can judge from the above returns, there is not much extreme overcrowding in this district, though there can be no doubt that as far as bedroom accommodation is concerned, there must be many houses with more occupants than there ought to be.

Altogether, a little more than one quarter of the population of the Borough live in four-roomed cottages.

**AGES OF PERSONS (MALES AND FEMALES) IN MUNICIPAL
BOROUGH OF STOKE-UPON-TRENT, 1901.**

	All Ages	Under 1 year	1	2	3	4	Under 5 years	5	10	13	14	15	16	17	18	19	20
Persons ...	30458	831	752	752	720	716	3771	3287	1983	613	625	594	666	615	608	598	576
Males ...	14950	428	380	379	346	352	1885	1647	964	314	325	297	313	291	292	296	259
Females ...	15508	403	372	373	374	364	1886	1640	1019	299	300	297	353	324	316	302	317

	21	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100 and upwards
Persons ...	2542	2752	2253	2050	1667	1370	1145	842	728	552	321	188	85	23	4	...	...
Males ...	1165	1323	1114	1018	862	680	587	392	381	255	155	86	36	12	1	...	..
Females ..	1377	1429	1139	1032	805	690	558	450	347	297	166	102	49	11	3	...	...

**GROUPED OCCUPATIONS OF MALES AGED 10 YEARS AND UPWARDS
IN MUNICIPAL BOROUGH OF STOKE-UPON-TRENT ; ALSO PRO-
PORTION OF CHILDREN OF 10 AND UNDER 14 YEARS OF AGE
ENGAGED IN OCCUPATIONS, 1901.**

Males aged 10 and under 14		MALES AGED 10 YEARS AND UPWARDS								
Engaged in occupations	Proportion per cent. engaged in occupations to total	Total occupied and unoccupied	Retired or unoccupied	Engaged in occupations	Commercial or Business Clerks	Conveyance of Men, Goods, or Messages	Coal and Shale Miners	Iron and Steel Manufacture	Engineering and Machine Making	Tools, Dies, Arms, Metal Trades
156	12·2	11418	1847	9571	287	1285	502	122	725	93

MALES AGED 10 YEARS AND UPWARDS

Cycles, Coaches, and other Vehicles	Building and Works of Construction	Wood, Furniture, Fittings & Decorations	Bricks, Plain Tiles, Terra Cotta	Earthenware, China, Porcelain Manufacture	Skins, Leather, Hair, Feathers	Paper, Prints, Book, Stationery	Dress	Food, Tobacco, Drink, Lodgings	All other Occupations	
160	885	163	359	2324	22	84	189	557	1814	

Grouped occupations of Females, aged 10 and upwards in Municipal Borough of Stoke-upon-Trent; also proportion of Children of 10 and under 14 years of age, and of Married or Widowed Women engaged in occupations, and proportion of Female Domestic Servants to separate Occupiers or Families, 1901 :—

Females aged 10 and under 14 years		FEMALES AGED 10 YEARS AND UPWARDS							
Engaged in occupations	Proportion per cent. engaged in occupations to total	Total occupied and unoccupied	Retired or unoccupied	Engaged in occupations		Teaching	Domestic Indoor Servants (not in hotels, &c.)	Charwomen	Laundry and Washing
				Unmarried	Married or Widowed				
86	6.5	11982	7876	3115	991	209	810	73	69

FEMALES AGED 10 YEARS AND UPWARDS

Tools, Dies, Arms, and other Metal Trades	Earthenware, China, Porce- lain, Manufacture	Skins, Leather, Hair, and Feathers	Textile Manufactures	Tailoresses	Milliners, Dressmakers, Shirt do., Seamstresses	Food, Tobacco, Drink, Lodgings	Other occupations	Proportion per cent. of Married or Widowed engaged in occupations	Proportion per cent. of Domestic Servants to total number of separate Occupiers or Families
...	1729	3	23	102	384	203	501	15.4	13.2

In my Annual Report of 1900 it was pointed out that the Death Rate of Stoke-upon-Trent, and also its Birth Rate are almost always lower than those in the surrounding towns; and I ventured to assume that the social position of the inhabitants of this Borough was on the whole somewhat better than in the surrounding towns, and that this was the explanation of the low Death Rate and Birth Rate. I supported the assumption with the statistics of out-door relief given in Stoke, compared to that given in the other districts of the Stoke Union. And now further support is given to this assumption when the percentages of the total tenements with less than 5 rooms in the several towns are compared, and also the proportion per cent. of domestic servants to the total number of separate occupiers in the several towns, as shewn in the tables below.

						Proportion per cent. of Tenements with less than 5 rooms to total number of Tenements	Proportion per cent. of Domestic Servants to total number of separate occupiers
Burslem	...	...	...	...	..	27	7.8
Fenton	...	...	...	...	..	40	6.7
Hanley	...	...	..	...	...	29	9.2
Longton	...	...	...	...	...	55	8.0
Newcastle-under-Lyme	...	...	...	...	...	53	16.1
Stoke-upon-Trent	...	...	...	...	...	29	13.2
Tunstall	...	...	..	...	...	31	8.0

As bearing upon the comparative Death Rate, it is also important to note that the proportion of children under 5 years to the total population is less in Stoke than any of the surrounding towns, except Newcastle, and also that the proportion of those aged 15 to 35 to the total population is greater in Stoke than any of the surrounding towns, except Longton. In other words, the age distribution of the population is favourable to our Borough. We have a small proportion of those at the ages that succumb easily to disease, and a large proportion of those between the ages that contribute the smallest number of deaths.

Our usually comparatively favourable Death Rates, then, are not to be attributed altogether to better sanitary conditions.

						Proportion per cent. of Children at ages under 5 to total population	Proportion per cent. of those at ages 15—35 to total population
Burslem	...	...	..	...	..	12·7	43
Fenton	...	...	...	...	...	14·5	42
Hanley	...	...	...	..	...	12·6	43
Longton	...	...	...	...	...	13·1	48
Newcastle	...	...	...	...	...	12·2	41
Stoke ..	...	...	...	...	...	12·3	46
Tunstall	...	..	...	...	...	13·6	43

POPULATION.

The population according to the Census of:—

1871 was 15,144

1881 „ 19,261

1891 „ 24,027

1901 „ 30,458

The estimated population at the middle of the year 1902 was 31,374, and the statistics in this Report are based upon that estimate.

POPULATION OF BOROUGH AND NUMBER OF
INHABITED HOUSES.

Year	East Ward	West Ward	South Ward	Borough of Stoke-upon-Trent
Population at Census, 1901	8789	11843	9826	30458
Apparent Increase in Population, June, 1901, to June, 1902 ... ..	...	...	...	737
Number of Inhabited Houses at Census, 1901	1768	2187	2057	6012
Number of Inhabited Houses at end of 1902, about ... ..	...	...	...	6519
Number of Acres in ...	196	814	872	1882

The natural increase in the population during 1902 (*i.e.* the excess of births over deaths) was 547.

The number of persons per house at Census 1901 was 5·06
 „ „ „ „ „ „ 16·2
 „ „ „ „ „ „ the end of 1902 was 16·8

The number of persons per house in England and Wales at Census 1901 was 5·19, in 1891 it was 5·32.

NATURAL INCREASE IN THE POPULATION FROM THE END
OF 1891.

Year	Excess of Births over Deaths	Population at end
1900 .. Average for 1893 to 1900	375 ...	29,772 (estimated)
1901	475 ...	30,247
1902	547 ...	30,794

At the end of 1902 the estimated population was 31,748. If that estimate be correct, immigration must account for the difference between 30,794 and 31,748 (*i.e.* 954 in two years, or

an average of 477); in the previous eight years the average increase from immigration was 375. These statistics show a steady increase in the number of persons coming into the Borough, and indicates continued or increasing prosperity.

NEW HOUSES ERECTED.

In 1892	...	104	In 1897	...	156
1893	...	61	1898	...	198
1894	...	78	1899	...	273
1895	...	50	1900	...	363
1896	...	106	1901	...	270

In 1902 the number of houses erected was 199, (*i.e.* 71 less than in the previous year).

Plans for 316 dwelling-houses were passed during the year. In 1901 315 plans were passed. It is estimated that about half the Borough is now built upon. A large proportion of the remainder is farm land. There is still a considerable amount of land available for building purposes.

PLANS PASSED DURING 1902.

Houses	...	...	...	...	316
Shops	...	...	...	...	1
Church Institute	...	...	...	...	1
Nurses' Home...	...	...	...	...	1
Alterations and Additions to Houses	...	...	...	...	22
Works	...	...	...	...	0
Alterations and Additions to Works	...	...	...	...	7
„ „ „	...	...	...	...	3
Sheds, Stables, &c.	...	...	...	...	23
TOTAL					374

NUMBER OF DWELLING-HOUSES ON RATE BOOK AT
END OF 1902.

Houses rated under	£5 per annum	...	487
„ at £5 and under £10	„	...	4300
„ at £10 and under £20	„	...	1365
„ at £20 and under £30	„	...	293
„ at £30 and under £40	„	...	116
„ at £40 and under £50	„	...	60
„ at £50 and under £60	„	...	35
„ at £60 and under £70	„	...	19
„ at £70 and under £80	„	...	11
„ at £80 and under £90	„	..	9
„ at £90 and under £100	„	...	10
„ at £100 and under £200	„	...	13
„ above £200	„	...	5
<hr/>			
TOTAL	...	...	6723

There were 204 empty houses in the Borough at the end of the year.

(The above particulars have been kindly supplied to me by
Mr Brassington, District Rate Collector.)

RATEABLE VALUE OF THE BOROUGH.

Year	1896	1897	1898	1899	1900	1901	1902
	£	£	£	£	£	£	£
For General District Rate ..	78743	83269	87143	91288	96653	103500	108033
For Borough Rate ...	83660	87395	91454	95301	100825	108000	111940
Poor Rate, School Board Rate, &c., in the pound ...	s. d. 4 4	s. d. 4 5	s. d. 4 7	s. d. 4 6	s. d. 4 4	s. d. 4 9	s. d. 5 0
District Rate, in the pound ...	2 8	2 8	2 8	2 8	2 9	2 8	2 9

MARRIAGES IN THE BOROUGH OF STOKE-UPON-TRENT.

Year	Average for 10 years 1891-1900	1901	1902
Number of Marriages,	253	302	233
Marriage Rate per 1000 of population ...	18·8	19·7	14·8
Marriage Rate for Staffordshire... ..	Average 1889-1898 16·2	...	...
Marriage Rate of England and Wales ...	Average 1891-1898 15·5	...	...

The Marriage Rate for the Borough in 1902 is low compared to the previous years, but in 1901 it was very high.

BIRTHS.

The total number of Births registered in the Borough in 1902 was 1,067—564 males and 503 females, equal to an annual birth-rate per 1,000 of the population of 34·0.

The number of children born in the Workhouse, and included in the above was ;—

Belonging to Hanley	...	14—viz.,	6 males,	8 females
„ Longton	...	11	„ 6	„ 5
„ Fenton	...	6	„ 4	„ 2
„ Stoke	...	5	„ 1	„ 4
„ Stoke Rural...	...	0	„ 0	„ 0

—
TOTAL 36 of which 31 did not belong to Stoke.

Six births (3 boys and 3 girls) occurred in the Borough not belonging thereto.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1902 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.					TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Under 1 Year of Age.		At all Ages.						Number.	Rate.*
				Number	Rate per 1,000 Births registered.	Number	Rate*						
1	2	3	4	5	6	7	8	9	10	11	12	13	
1892.	24620	816	32.3	128	161	724	24.7	...	302	...	422	16.7	
1893.	25435	844	33.3	135	159	720	28.4	...	238	...	482	19.0	
1894.	26000	784	30.1	144	183	607	23.3	...	197	...	410	15.7	
1895.	26221	835	31.5	150	192	725	27.4	...	274	2	453	17.2	
1896.	26960	774	28.7	131	163	652	24.1	280	227	2	427	15.8	
1897.	27561	808	29.3	155	191	660	23.9	266	222	1	435	15.9	
1898.	28176	892	30.5	148	166	759	26.9	291	241	7	525	18.6	
1899.	28546	872	30.7	196	224	809	28.3	318	260	5	554	19.2	
1900.	29439	977	33.1	161	164	793	26.9	314	264	15	544	18.5	
1901.	30639	970	31.6	181	186	750	24.4	309	260	13	503	16.3	
Averages for years 1892-1901.	27360	857	31.1	152	178	719	25.8	296	248	6.3	475	17.2	
1902.	31374	1030	32.8	166	162	787	25.8	374	310	7	484	15.4	

* Rates in Columns 4, 8, and 13 calculated per 1000 of estimated population.

Total population at all ages, 30,458.

Number of inhabited houses, 6012.

Average number of persons per house, 5.06.

At Census of 1901.

Area of District in acres (exclusive of area covered by water), 1831.

I.	II.	III.
<p>Institutions within the District receiving sick and infirm persons from outside the District.</p> <p>North Staffordshire Infirmary, Hartshill, Stoke-on-Trent. 250 beds.</p> <p>Stoke-on-Trent Union Workhouse (serving the County Borough of Hanley, the Borough of Longton, and Stoke-upon-Trent, the Urban District of Fenton, and the Rural District of Stoke-upon-Trent.</p> <p>The Convent Home for Incurables.</p>	<p>Institutions outside the District receiving sick and infirm persons from the District.</p> <p>Bucknall Isolation Hospital. 130 beds.</p>	<p>Other Institution, the deaths in which have been distributed among the several localities in the District.</p>

Is the Union Workhouse within the District? Yes!

VITAL STATISTICS OF SEPERATE LOCALITIES IN 1902 AND PREVIOUS YEARS.

NAMES OF LOCALITIES	1. BOROUGH.				2. SOUTH WARD.				3. EAST WARD.				4. WEST WARD			
	Population esti- mated to middle of each Year.	Births registered	Deaths at all ages.	Deaths under 1 Year.	Population esti- mated to middle of each Year.	Births registered	Deaths at all ages.	Deaths under 1 Year.	Population esti- mated to middle of each Year.	Births Registered.	Deaths at all ages.	Deaths under 1 Year.	Population esti- mated to Middle of each Year.	Births registered.	Deaths at all ages.	Deaths under 1 Year
YEAR.																
1892																
1893																
1894																
1895																
1896																
1897																
1898																
1899																
1900																
1901																
Averages of Years 1892 to 1902																
1902	31374	1030	484	166	10177	162	73	8838	155	46	12359	167	47			

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1902.

CAUSES OF DEATH	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES							DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES)			TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT
	All ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	South Ward	East Ward	West Ward	
1	2	3	4	5	6	7	8	9	10	11	12
Measles ...	5	1	4	...	...	...	...	1	...	4	...
Scarlet fever ...	2	...	1	1	...	...	...	...	...	2	...
Whooping cough ...	8	8	...	...	...	...	...	3	3	2	...
Diphtheria and membranous croup ...	8	...	5	3	...	...	...	3	3	2	1
Enteric fever ...	2	...	...	1	...	1	...	...	2	...	9
Epidemic influenza ...	1	...	...	...	...	...	1	...	1	...	...
Diarrhoea ...	13	10	2	...	...	...	1	7	3	3	3
Enteritis ...	9	6	...	1	1	...	...	3	2	4	...
Puerperal fever ...	2	...	...	...	...	2	...	...	2	...	...
Other septic diseases ...	2	1	...	...	...	1	...	1	...	1	5
Phthisis ...	31	...	11	1	3	25	1	10	9	12	31
Other tubercular diseases ...	16	1	1	2	1	1	...	4	8	4	12
Cancer, malignant disease ...	19	...	...	...	...	13	6	7	5	7	32
Bronchitis ...	48	10	7	...	...	14	17	11	12	25	40
Pneumonia... ..	39	9	9	...	1	15	5	11	13	15	11
Pleurisy ...	1	...	...	...	...	1	...	1	...	...	1
Other diseases of the Respiratory organs ...	7	3	2	...	...	1	1	1	3	3	7
Alcoholism (Cirrhosis of liver) ...	9	...	...	...	...	6	3	2	3	4	8
Veneral diseases ...	1	1	...	...	...	...	...	...	...	1	5
Premature Birth ...	18	18	...	...	...	...	...	5	4	9	4
Diseases and accidents of parturition ...	2	1	...	...	...	...	...	1	...	1	...
Heart diseases ...	37	...	...	1	4	20	12	10	17	10	23
Accidents ...	10	1	1	3	...	3	2	1	5	4	37
Suicides ...	4	...	...	...	1	3	...	2	...	2	3
Lead poisoning ...	...	...	...	...	...	...	...	...	...	...	1
All other causes ...	190	96	9	4	5	38	38	77	60	53	138
All causes ...	484	166	52	17	16	146	87	161	155	168	374

DEATHS.

The number of deaths registered in the Borough in 1902 was 787—454 males and 333 females; this gave a Death Rate of 25·08 per thousand of the population at the middle of the year.

Of the total deaths, 310 (187 males and 123 females) were deaths of non-residents dying in the district, and having the deaths registered here. Of the foreign deaths, 154 occurred at the North Stafford Infirmary, 152 at the Workhouse, 2 at Convent, and 2 in the Borough. The Workhouse serves the districts of Longton, Fenton, Hanley, and Stoke Rural, as well as Stoke Urban.

Particulars of the 310 deaths of non-residents were sent monthly to the Medical Officers of Health of the districts to which they belonged.

Seven deaths of residents were registered beyond the district they occurred in, the Bucknall Isolation Hospital, which is in the Rural District of Stoke-upon-Trent.

The corrected number of deaths in the Borough was therefore 484 (males 267, females 217), and the corrected Death Rate 15·4 per 1,000 of the population.

Corrected number of deaths...	...	...	...	484
Death Rate of the Borough for 1902...	...	...	...	15·4
Death Rate of the Borough for 1901	...	...	...	16·3
Average Death Rate for 10 years, 1891-1900	...	...	...	17·3
Death Rate for England and Wales in 1902	...	...	...	16·3
Death Rate for 76 large towns of England and Wales in 1902	..	...	...	17·4
Death Rate of 103 smaller towns of England and Wales in 1902	...	..	...	15·3
Death Rate for Rural Districts of England and Wales in 1902	...	...	...	15·3

The Death Rate for the year compares favourably with the average rate for the past 10 years, and with the rate for England and Wales, though it is higher than that for the 103 smaller towns.

NETT DEATH RATES AND DEATHS OF THE BOROUGH FOR
YEAR 1890-1902.

1890 ... 18.4 ... 410	1896 ... 15.8 ... 427
1891 ... 16.5 ... 398	1897 ... 15.9 ... 439
1892 ... 16.7 ... 422	1898 ... 18.6 ... 525
1893 ... 19.0 ... 482	1899 ... 19.2 ... 554
1894 ... 15.7 ... 410	1900 ... 18.5 ... 544
1895 ... 17.2 ... 453	1901 ... 16.3 ... 502
	1902 ... 15.4 ... 484

The following table shows those diseases which caused more deaths, and those which caused less deaths in 1902 than in the previous year :—

	1902	1901
Measles	5	2
Enteritis	9	2
Phthisis	31	31
Other Tubercular Diseases	16	10
Cancer	19	17
Other Diseases of Respiratory Organs, other than Pneumonia, Bronchitis, or Pleurisy	7	0
Alcoholism	9	4
Premature Birth	18	16
Accidents	10	6
Suicides	4	2
All other Causes	190	179

Scarlet Fever	...	...	..	2	...	5
Whooping Cough	...	...	...	8	.....	9
Diphtheria	...	...	...	8	.....	17
Enteric Fever	...	..	...	2	.....	6
Epidemic Influenza	...	..	...	1	.....	5
Diarrhœa	...	...	...	13	.....	22
Erysipelas	...	...	...	0	.....	1
Other Septic Diseases		...	...	2	.....	3
Bronchitis	...	...	...	48	.....	61
Pneumonia	...	...	...	39	.....	43
Diseases and Accidents of Parturition	...			2	.....	4
Heart Disease	...	...	...	37	... ..	47

The largest number of deaths of all ages were from Phthisis and other Tubercular Diseases, Bronchitis, Pneumonia, and Heart Diseases.

MONTHLY DEATH RATE FROM ALL CAUSES.

Years ...					1898	1899	1900	1901	1902
January	...	...	...	...	18·9	17·8	17·9	18·3	21·3
February	...	...	...	...	13·8	18·1	15·9	16·6	19·1
March	...	...	...	...	15·0	23·6	16·3	14·0	18·7
April...	...	...	...	...	21·8	19·0	23·6	23·06	13·3
May ..	...	...	...	...	20·1	14·7	18·3	16·3	13·3
June ...	...	...	...	...	13·2	15·6	15·4	15·9	12·0
July ...	...	...	...	...	18·0	19·4	11·8	17·7	11·0
August	...	...	...	...	22·7	20·2	16·3	11·3	10·3
September	...	...	...	...	23·1	23·2	15·4	16·4	13·0
October	...	...	...	...	17·5	17·7	19·9	14·8	10·3
November	...	...	...	...	15·4	18·5	23·2	13·7	20·6
December	...	..	...	...	20·2	21·12	22·0	18·0	22·1

The Death Rate for the seven months, April to October inclusive, was only 12.0.

Table showing the number of Deaths in each Ward, with the Populations, Death Rates, and number of persons per acre, in 1902 :—

	EAST WARD.	SOUTH WARD.	WEST WARD.
Area in acres	196	872	814
Population... ..	8838	10177	12359
Persons per acre	45	11.6	15.1
Number of Deaths	155	161	168*
Death Rate	17.5	15.9	13.5

* The deaths in the Workhouse have been located as far as possible to the different districts.

NUMBER OF STILL-BORN CHILDREN.

	In 1899	In 1900	In 1901	In 1902
Buried at the Cemetery... ..	46	36	50	56
„ Workhouse	3	4	4	5
Total	49	40	54	61
Still-born children to 100				
children born	5.4	4.0	5.3	5.7
Still-born children to 100				
births In England and				
Wales	4	4		

The Law imposes a penalty of £10 upon any person who buries the body of a deceased child as if it were still-born. Anyone may make a declaration that the child was still-born and so secure burial, the law ought to be so amended as to make the written certificate of a Registered Medical Practitioner necessary, and all still-born children should be registered.

The total deaths registered in the Borough occurred as follows :—

	Gross	Belonging to Stoke.	Not belonging to Stoke.
In Stoke Borough, including Institutions...	412	410	2
In Stoke Union Workhouse	195	43	152
In the North Stafford Infirmary	176	22	154
In the Convent Home	3	1	2
In the Institution for the Blind and Deaf...	1	1	0
Total	787	477	310

BURIALS IN THE BOROUGH.

Burial Ground.	In Year 1901	In Year 1902	
Hartshill Cemetery	484	461	
Parish Church Yard	3	3	Closed for some years.
Lonsdale Street Ground	5	4	Closed.
Penkhull Church Yard	8	1	Closed in 1901.
Hartshill Church Yard	0	1	Closed several years.
Stoke Union Workhouse Burial Ground	82	97	
Total	582	567	

DEATHS NOT CERTIFIED BY A MEDICAL PRACTITIONER.

Inquests were held on 61 persons, of whom 22 were residents

in the Borough, and in these cases the verdicts were given as follows :—

Pneumonia hastened by intemperance	Heart Disease, Natural Causes.
Natural Causes.	Convulsions, Natural Causes.
Syncope, Natural Causes.	Convulsions, Natural Causes.
Fatty Heart, Natural Causes.	Convulsions,

SUICIDES.

By taking poison while of unsound mind.

Strangulation	„	„
Poisoning	„	„
Poisoning	„	„

ACCIDENTS.

Poisoning.	Fracture of Skull.
Fall.	Drowning.
Heart failure accelerated by a fall.	Run over by a train.
Fall of timber.	Burns.
Burns.	Heart failure accelerated by falling and breaking thigh.

Besides the above, there were 23 deaths in which, though the causes were not certified by a Medical Practitioner, inquests were not held. The following table shows the causes of these, as registered with the ages :—

Premature Birth 17 hours.	Apoplexy, 51 years.
Meningitis, 43 years.	Heart Disease, 35 years.
Asthma, Heart Disease, 77 years.	Heart Disease, 76 years.
Convulsions, 3 month.	Heart Disease, 58 years.
Cardiac failure with Dementia, 54 years.	Convulsions, 9 hours.
Heart Disease, 81 years.	Diarrhoea, 8 months.
Apoplexy, 70 years.	Premature birth, 12 hours.
Heart Disease, 69 years.	Premature birth, 2 days.
Premature birth, 1 hour.	Convulsions, 3 months,
Marasmus, Eczema, Convulsions, 3 months.	Bronchitis, 71 years.
Syncope from Heart failure, 80 years.	Convulsions, disease of middle ear, 6 months.
	Convulsions, 6 months.

The total number of uncertified deaths were therefore 45 out of the total of 477, or one in every 11. All these deaths have been classified under the causes as registered. In the 76 large towns of England and Wales, the rate per cent. of uncertified deaths in 1902 was 1·22 compared to 9·4 in Stoke-upon-Trent.

INFANT MORTALITY.

The deaths under one year in 1902 numbered 166.

Number of deaths under one year ...	...	...	...	166
„ per 1000 births in 1902	...	...	...	162
„ under one year per 1000 births in 67				
larger towns in 1902	...	..	...	145
„ under one year per 1000 births in 103				
smaller towns in 1902	...	...	...	135

Table showing the Infantile Mortality of Stoke for the years 1890—1902, compared with the 33 large towns in England and Wales.

Year ...	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
Stoke...	190	166	161	159	183	179	169	191	165	224	164	186	162
33 Large Towns	171	167	163	181	152	182	167	177	178	181	172	165	145
England & Wales	151	149	148	159	137	161	148	156	160	163	154	151	133

The Infantile Mortality was lower than it has been for several years, and from a table given subsequently, it is seen that the reduction was due to the comparative absence of death from Summer Diarrhoea through the influence of the cool weather of the Summer and early autumn.

I have in a previous Annual Report pointed out that the Infantile Death Rate in Stoke is favourable as a rule when compared to the surrounding towns, with the exception of Newcastle, in which the rate is sometimes lower. The connection between the employment of women in factories and

Infantile Death Rate is shown when the comparatively favourable Infantile Death Rate of Stoke is considered along with the proportion per cent. of women, and married women and widows, engaged in occupations apart from household duties. The proportions are less in Stoke than any of the other towns, except Newcastle.

				Average Infantile Death Rate 18 years, 1890-1899.	Proportion per cent. of Females aged 10 years and upwards engaged in occupa- tions to total num- ber of women of same age.	Proportion per cent. of Married or Wid- owed engaged in occupations to total number of females of 10 years & upwards.
Burslem	...	..	...	198	40	22'1
Fenton	...	...	...	209	37	20'9
Hanley	...	...	...	204	36	18'1
Longton	...	...	...	239	45	30'5
Newcastle	...	...	...	180	27	14'2
Stoke ..	...	...	..	178	34	15'4
Tunstall	...	...	...	216	37	17'5

Table showing the Deaths among Infants in 1900, 1901, and 1902, classified according to diseases :—

	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Diarrhoea	Enteritis	Influenza	Erysipelas	Syphilis	Other Septic Diseases	Phthisis	Other Tuber Dis.	Bronchitis	Pneumonia	Other Diseases of Respiratory Organs	Premature Births	Accidents	Other Diseases	TOTAL
1900	3	...	3	...	19	8	1	1	1	...	...	6	17	3	4	9	...	86	161
1901	2	...	7	2	31	2	...	1	1	1	...	2	11	14	...	16	1	90	181
1902	1	...	8	...	10	6	...	...	1	1	..	1	10	9	3	18	1	97	166

INFANT DEATHS FOR THE YEAR 1902.
(Arranged according to the Causes and Months.)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Measles ... ..	...	..	...	...	...	...	...	...	...	...	1	...	1
Whooping Cough...	2	2	1	1	...	1	...	...	...	...	...	1	8
Diphtheria and Memb. Creup	...	...	...	...	...	...	..	...	...	...	...	...	...
Diarrhoea ... ..	...	...	...	...	...	...	1	...	4	2	2	1	10
Enteritis	1	2	1	...	...	...	...	...	...	...	1	1	6
Erysipelas...	..	...	..	...	...	...	...	...	...	...	...	..	...
Other Septic Dis.	...	...	...	...	...	...	...	...	...	..	...	1	1
Syphilis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tubercular Diseases	...	...	...	1	...	...	...	...	...	...	...	...	1
Bronchitis	2	1	2	...	1	...	...	...	..	...	1	3	10
Pneumonia	2	...	1	...	..	1	...	...	...	...	1	4	9
Premature Birth ...	1	1	1	2	3	1	3	1	..	1	3	1	18
Accidents	1	..	...	...	...	...	...	...	..	...	...	...	1
Other Diseases. ..	15	12	6	5	8	7	5	1	9	5	16	12	101
TOTALS	24	18	12	9	12	10	9	2	13	8	25	24	166

On referring to the table given on page 56, it will be seen that the Infantile Death Rate for the year does not compare favourably with that for England and Wales and many of the towns, particulars of which are given in the table.

The question of reducing the infantile deaths is a pressing one. Insanitary conditions very soon make their mark on the infant lives, and young children serve as a sure means of

judging of the sanitary condition of a district. The chief causes of the deaths among infants are Diarrhœa, Enteritis, Bronchitis, Pneumonia, Marasmus, and Convulsions; and care in feeding, clothing, and cleanliness will do much to reduce the number of deaths from these causes. In this district Leaflets on Feeding and Management of Infants are now regularly distributed by the Registrar of Births, a copy being supplied to each person registering a birth. In my last year's report I advised the establishment of a *depôt* such as is now established in several districts for the supply of milk specially prepared and sterilized for the feeding of infants, and though it would probably not pay its way, it would not entail a very large yearly expenditure, and has proved useful in those places where it has been employed. In the *depôt* the milk is not simply sterilized, it is mixed in varying proportions with water, sugar, and cream to suit children of different ages, and put in special bottles, each containing one meal. It is prepared with the greatest care under the most favourable conditions, and then sterilized.

I am convinced that a regular inspection of all young children of occupiers of houses below a certain value by trained Inspectors, with power to see that proper care is taken of the children, would most materially aid in reducing the infantile mortality. At present this can only be done indirectly, by means of either Health Visitors or Female Sanitary Inspectors, and I would strongly urge the adoption of these agents as a means (1) of bringing pressure, when necessary, to bear on those responsible for the care of the children, (2) of enhancing the value of the leaflets distributed by giving practical illustrations and help to those in need of them, and (3) of bringing to notice any sanitary defects in connection with houses visited. Both these agencies are at work in some towns with the happiest results. In the case of Health Visitors, a Voluntary Committee of Ladies aid in supervising their work. These agencies could be very usefully employed in this district; and I am sure many ladies would be found willing to assist in this work, and the cost would not be great considering the benefit to be derived.

SEVEN PRINCIPAL EPIDEMIC DISEASES.

Number of Deaths in 1902	...	...	...	38
Zymotic Death Rate in 1902	...	...	...	1.21
„ „ „ 1901	...	...	...	2.31

The Zymotic Death Rate in the 76 large towns of England and Wales in 1902 was 2.12. In 1900 the Zymotic Death Rate of the Borough was 2.54.

DEATHS FROM ZYMOTIC DISEASES.

	Number of deaths		Rates per 1000 living	
	1901	1902	1901	1902
Diarrhoea	32	13	1.04	0.414
Whooping cough	9	8	0.29	0.255
Diphtheria and Membranous croup ...	17	8	0.55	0.255
Scarlet fever... ..	5	2	0.16	0.063
Enteric fever	6	2	0.20	0.063
Measles	2	5	0.07	0.160
Small-pox .. ...	...	...	...	...
Total	71	38	2.31	1.210

The Zymotic Death Rate shows a decrease of 1.1, compared to the previous year. The average Zymotic Death Rate for the past 10 years was 2.57, so that the rate for 1902 was much below the average, and was as low as we can expect it to be except under special circumstances.

Number of Deaths at certain ages from the Principal Zymotic Diseases in 1902 :—

	Under 5 years	Over 5 years	Total
Diarrhoea	12	1	13
Measles	5	...	5
Whooping cough	8	...	8
Diphtheria and Membranous croup	5	3	8
Scarlet fever... ..	1	1	2
Enteric fever... ..	...	2	2
Small-pox ... ..	...	...	...
Total	31	7	38

As usual the majority of the deaths occurred amongst children under 5 years of age, shewing the necessity of specially protecting young children from infection.

ZYMOTIC DEATH RATES IN STOKE-UPON-TRENT IN 1890-1902.

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
Stoke-upon-Trent ...	1'03	2'74	1'58	2'64	1'03	1'74	2'85	2'28	4'25	4'44	2'54	2'31	1'21
33 large towns of England and Wales..	2'77	2'41	2'63	3'17	2'43	2'82	2'90	2'87	2'85	2'81	2'50	2'68	...
76 larger towns...	...	...	...	...	...	...	...	...	...	...	...	...	2'12
England and Wales ...	2'05	1'33	1'90	2'47	1'76	2'14	2'18	2'15	2'22	2'21	2'00	2'05	1'64
103 smaller towns ...	...	...	...	...	...	...	...	...	...	...	...	...	1'53

It will be seen that the Zymotic Death Rate for England and Wales was unusually low in 1902.

Notification of Infectious Diseases.

The Infectious Diseases Notification Act, 1889, has been in force in the Borough since February 1st, 1890.

The diseases which are notified in the Borough are those scheduled in the Act, together with Bubonic Plague, added by order of the Local Government Board at the end of 1900. Measles is not included in the diseases notified.

The following notifications of cases were received during the year :—

	North Stafford Infirmary	The Workhouse	Blind and Deaf School	The Borough (excluding Institutions)	Total
Scarlet fever	2	...	...	55	57
Diphtheria	3	1	..	62	66
Membranous croup...	...	...	...	1	1
Enteric fever	56	...	...	30	86
Puerperal fever ... ..	...	...	...	6	6
Erysipelas	2	7	...	13	22
Small-pox ... ..	...	2	...	1	3
					241

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1902.

Notifiable Disease	Cases notified in whole District						Total Cases notified in each locality			No. of Cases removed to Hospital from each locality		
	At all Ages	At Ages—Years					1	2	3	1	2	3
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65						
Small-pox ...	3	...	...	...	...	2	1	...	3	...	...	3
Diphtheria ...	66	...	25	31	5	5	...	22	23	21 3 at N.S.I.	15	12 3 from NSI included
Membranous croup	1	...	1	...	...	...	...	...	1	...	...	...
Erysipelas ...	18	..	...	2	1	12	3	3	6	9	..	...
Scarlet fever ...	57	...	16	34	4	3	...	23	13	21 2 at N.S.I.	11	14 2 from NSI included
Enteric fever ...	33	...	...	4	12	17	...	8	13	12 3 at N.S.I.	7	5 3 occurred N.S.I. not included
Puerperal fever ...	6	..	...	...	...	6	...	1	3	2	...	...
Totals ...	184	...	42	71	22	45	4	57	59	68	33	34

Isolation Hospital—Bucknall Isolation Hospital, in the Rural District of Stoke-upon-Trent.

Included in the above are 59 foreign cases, so that the total number belonging to the Borough was 182.

In 1901, the number of cases notified belonging to the Borough, was 245, so that there were 63 cases fewer than in 1902.

The foreign cases occurred as follows :—

0 cases of Diphtheria at the North Stafford Infirmary.			
52	„	Enteric Fever	„ „ „ „
0	„	Scarlet Fever.	
2	„	Erysipelas at the Workhouse.	
1	„	Enteric Fever	„
2	„	Erysipelas at the North Stafford Infirmary.	
2	„	Small-pox imported to the Workhouse.	

Total 59

17 Cases (*ie* 16 Enteric Fever cases and 1 Diphtheria case removed to the North Stafford Infirmary) were notified a second time, so that the actual number of notification certificates received was 258, or 51 less than the previous year.

The Infectious Diseases Notification Act entailed a charge upon the Borough of £25 8s. 0d., which is the smallest amount since the Notification Act came into force.

		£ s. d.				
The amount paid in 1893 was		62	2	6	for 521 notification.	
„	„	1894	„	47 13 6	„	417 „
„	„	1895	„	43 17 0	„	388 „
„	„	1896	„	35 14 0	„	317 „
„	„	1897	„	32 9 6	„	245 „
„	„	1898	„	70 17 0	„	652 „
„	„	1899	„	86 19 6	„	788 „
„	„	1900	„	55 8 6	„	498 „
„	„	1901	„	32 17 6	„	309 „
„	„	1902	„	25 8 0	„	258 „

DIPHTHERIA AND MEMBRANEOUS CROUP.

Number of cases belonging to the Borough	...	66
Number of houses infected	... ..	49
Death rate per 1000 of the population	... ..	·255
Case Mortality (deaths per 100 cases)	... ..	12
Removed to the Isolation Hospital	... ..	39=58%

Table showing the number of cases of Diphtheria and the number of deaths with the Death rate and Case Mortality per 100 in 1890—1902.

Year.	Number of Cases.	Number of Deaths.	Death Rate	Case Mortality per 100 Cases.	Death Rate for 33 Large Towns in England and Wales.
1890	...	2	0·09	...	...
1891	14	3	0·11	21·4	0·21
1892	17	3	0·11	23·5	0·27
1893	31	2	0·07	6·4	0·42
1894	18	6	0·23	33·3	0·38
1895	28	2	0·07	7·1	0·35
1896	23	2	0·07	8·6	0·38
1897	32	5	0·18	15·6	0·31
1898	109	14	0·49	12·8	0·31
1899	128	26	0·91	20·3	0·40
1900	129	25	0·84	19·3	0·34
1901	92	17	0·55	18·5	0·33
1902	66	8	·255	12·1	For 76 Large Towns 0·27

After four years of much increased prevalence, this disease seems now to be steadily decreasing, and the death rate is once again below that for the large towns. During the first five months of the year the disease was very prevalent, and all the deaths occurred in those months. The disease was entirely absent during August and September.

Table showing the number of cases notified in each Ward with the number of deaths in 1902 :—

	East Ward.	South Ward.	West Ward.
Number of Cases	24	22	21
Number of Deaths	3	3	2

From this table it will be seen that the three Wards were equally affected.

Case Mortality per 100 among the Cases removed to the Isolation Hospital and those left at home :—

Year.	Number of Cases removed.	Number of deaths among those removed.	Case Mortality per cent. in those removed.	Case Mortality per 100 in those left at home	Number of Deaths among those left at home.	Number left at home.
1899	35	3	8.5	24.7	23	93
1900	59	10	16.9	21.4	15	70
1901	55	10	18.1	18.9	7	37
1902	39	5	12.8	11	3	27

Number of cases of Membraneous Croup notified in the following years :—

1896 ... 3	1900 ... 2
1897 ... 0	1901 ... 1
1898 ... 4	1902 ... 1
1899 ... 3	

0 cases of Diphtheria occurred in the Workhouse.

0 „ „ „ „ Institution for the Blind and Deaf Children.

3 „ „ „ „ North Stafford Infirmary.

63 „ „ „ „ Borough (excluding Institutions.

The following is an outline of what was done during the year to combat the disease :—

In addition to notification by Medical men, post cards ready printed were supplied to all Schools and Attendance Officers for the immediate notification of any cases of suspicious illness, such as sore throat that might come to their knowledge, and where no Medical man is in attendance. Much useful information has been obtained in that way.

The County Council has continued the arrangements with the Birmingham University, for Bacteriological Examination, free of charge, of swabs from the throats of suspicious cases. About two dozen swabs were sent for examination during the year, and positive results obtained in one-fourth, in previous years, positive results were obtained in half of the cases. This diminution is very satisfactory as indicating a decrease in the prevalence of the disease as well as a more frequent and early use of this means of diagnosis in doubtful cases.

As in previous years all cases were visited within a few hours of receipt of notification by the Sanitary Inspector, and enquiries made and noted on printed forms and steps taken to secure isolation. Printed sheets with directions as to precautions to be taken and also extracts from the Public Health Acts were left at each house. All cases which could not be fairly well isolated at home were removed to the Isolation Hospital. As a rule, all cases were removed from the ordinary cottage houses whenever the other inmates included any children, also from shops and public buildings.

Post cards were regularly sent to Schools notifying the presence of the disease in houses, and requesting the exclusion of all children from such houses till further notice. In such case the children have been excluded from school until a fortnight after disinfection of the house, post cards being sent to the schools stating when the children might be admitted.

The Health Committee have supplied antitoxin, free of charge, for prophylactic use in the Borough. It has not been made use

of to any extent during the year, and I would again advise that a fee be paid for each injection among those exposed to infection.

On removal of a case to the Hospital, the room was fumigated with sulphurous acid, aired, and cleaned. In cases treated at home, or when the room was dirty, the paper was wetted with a solution of Perchloride of Mercury, stripped from the walls and burnt.

All bedding and clothing has been regularly disinfected at the Isolation Hospital. Three hours are occupied in the removal, disinfection, and return of one load.

Attention was always given to the Sanitary condition of the premises where cases occurred, and any defects found dealt with, special examinations being made when necessary.

The Infants' Department of Cliff Vale Schools was closed from January 13th to February 17th. Between January 10th and January 20th, six cases occurred in the school, they were all girls between 6 and 8 years of age, and they sat together at school. Two were notified on January 10th, one on January 13th, and one on January 14th, on which day I visited the school and examined several children, and excluded one suffering from the disease, on January 20th the sixth case was notified. The drains of the school were examined, and certain serious defects which were found were immediately put right by the Managers.

I inspected the district in which these schools are situated, and reported to the Health Committee as follows :—

“The surface of North Street and Shelton Old Road is very bad. In Shelton Old Road there are many rain-water pipes directly connected with the drains. The houses in Cotton's Hollow are out of repair, and the pavements are bad, and the ashpit accommodation bad and insufficient. I also notice many large uncovered ashpits.”

Of the 49 houses infected during the year, 24 had either cesspit-closets or slop-closet, 8 had closet-pans without flushing apparatus, and 17 had water-closets.

Table showing the ages at which the deaths from Diphtheria occurred :—

	Age 1 to 3 years.		3 to 5 years.		5 to 7 years.		7 and upwards.
	0	..	5	...	3	...	0
	5	...	6	...	3	...	3
	7	...	6	...	9	...	3
	7	...	10	...	5	...	4
<hr/>							
Total ...	19	...	27	..	20	...	10

Cases of Diphtheria classified according to ages :—

Year			Under 1 year	1 to 5	5 to 7	7 and upwards
1902	...	..	...	25	8	33
1901	...	...	2	31	12	47
1900	...	..	1	31	24	73
1899	...	..	...	32	17	79

Cases of Diphtheria classified according to the months :—

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1897	2	5	1	2	1	...	1	1	4	4	7	4
1898	2	2	...	2	7	2	3	22	2	24	23	20
1899	13	16	14	8	9	8	4	8	9	10	12	17
1900	7	10	9	1	12	9	20	10	7	15	16	13
1901	15	14	6	7	8	3	12	4	9	7	5	2
1902	18	10	6	11	6	1	2	...	...	5	4	3
<hr/>												
Totals ...	57	57	36	31	43	23	42	45	31	65	67	59

Number of Houses Infected in the Borough, including
Institutions :—

Year	No. of Houses	No. of Cases	Not first Cases in Houses	Percentage of Secondary Cases
1898 	48	70	22	31
1899 	91	122	31	25
1900 	113	123	10	8
1901 	76	92	16	17
1902 	49	66	17	25

The percentage of secondary cases was almost as high as in the case of Scarlet Fever, showing the highly infectious nature of this disease.

NUMBER OF CASES REMOVED TO THE ISOLATION HOSPITAL.

	No. of Cases Notified	No. of Cases Removed	Percentage of Removals
1898 	70	7	10
1899 	128	35	27·3
1900 	123	59	45·2
1901 	92	55	60
1902 	66	39	58

The percentage of removals was about the same as the previous year.

MEASLES.

Number of Deaths 	5
Death Rate per 1,000 living	0·160
Death Rate in 1902 from Measles in 76 large towns in England and Wales ...	0·50

Number of Deaths from Measles in the Borough at different ages :—

Year	Under 1 year	1 to 5	5 to 15	15 and upwards
1896	10	29	...	...
1897 ..	...	1	...	...
1898	5	30	...	...
1899 ... ..	...	...	..	...
1900	3	9	1	...
1901	2	...	...	...
1902	1	4	..	...

Table showing the number of Deaths and Death Rates from Measles in Stoke-upon-Trent from 1900-1902 :—

Year	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
No. of Deaths...	2	6	6	22	0	1	39	0	35	0	13	2	5
Death Rate ...	'09	'24	'33	'86	'00	'03	1'44	0	1'24	0	'47	'07	'16
Death Rate for 33 large towns	...	'52	'68	'44	'62	'53	'72	'55	'56	'46	'43	'43	in 76 towns '50

Measles is not a disease which is notified in the Borough, so that it is impossible to give the case mortality. Our chief sources of information are the School Attendance Officers and Teachers.

This disease was very prevalent in the Borough throughout the latter part of the year, and the following Schools were closed :—

Trent Vale National Schools, Infants' Department, from September 20th, for 3 weeks

Garner Street Schools, Infants' Department, from October 12th, for $5\frac{1}{2}$ weeks.

Penkhull Schools, Infants' Department, from October 20th, for 4 weeks.

Cross Street Schools, Infants' Department, from November 3rd, for 3 weeks.

Central Schools, Infants' Department, from November 5th, for 3 weeks and 5 days.

Boothen Schools, Infants' Department, from December 2nd, $2\frac{1}{2}$ weeks.

Considering the extent of the outbreak, the number of deaths—viz., 5, was very small.

The disease is not notifiable in this Borough, and I have not advised that it should be made so.

Leaflets giving hints on the treatment and precautions to be taken were freely distributed by the Attendance Officers and School Teachers.

The 5 deaths were children under 5 years of age, and as is shewn by the table above, practically all deaths from Measles occur in children below 5 years of age, and the question whether anything is gained in an educational respect by allowing children under 5 years to attend School has been very much debated of late. They are certainly much more exposed to infection, and the gain from a public health point would be considerable if they were entirely excluded from Elementary Schools.

SCARLET FEVER.

Number of cases ...	...	...	...	...	57
Number of Deaths ...	...	...	...	...	2
Death Rate per 1,000 living ...	...	...	...	...	·063
Case Mortality per 100 cases...	...	...	...	...	3·5
Number of Cases Removed to the Isolation					
Hospital ...	...	...	...	44 = 77 per cent.	

Table showing number of Cases and Deaths with Death Rate and Case Mortality per 100 cases of Scarlet Fever in the Borough :—

	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
No. of Cases ...	143	131	299	265	228	132	109	300	409	233	97	57
No. of Deaths ...	5	3	3	6	7	3	6	22	17	6	5	2
Death Rate ...	'24	'11	'11	'23	'26	'14	'21	'77	'59	'20	'16	'063
Case Mortality per 100 cases ...	3'5	1'0	1'0	2'2	3'0	2'3	5'4	7'3	4'1	2'5	5'1	3'5
Death-rate for 33 large towns of England and Wales ..	'17	'29	'29	'20	'17	'22	'18	'14	'13	'13	'16	In 76 large towns: '19
No. of Cases removed to Isolation												
Hospital...	13	12	83	83	51	17	16	60	117	152	64	44
Percentage removals ..	9'0	9'1	27'7	32	22'3	12'8	14'5	20	28'5	65'6	66	77

NUMBER OF CASES NOTIFIED IN 1901.

From the North Stafford Infirmary ..	...	2
,, Workhouse ...	...	0
,,		
,, Borough, including Institutions	...	55
TOTAL...		57

It is pleasing to note that 1902 was a remarkable year in respect to Scarlet Fever. The smallest number of cases were notified with the least number of deaths and lowest death-rate since the Notification Act came in force in the district. A larger percentage of cases were removed to the Hospital than in any previous year.

Table showing the number of houses infected (excluding Institutions) and the number of secondary cases:—

Year.	Number of houses infected.	Number of Cases.	Number of not first cases in houses.	Percentage of not first cases.
1898	215	297	82	27·6
1899	264	392	128	32·6
1900	171	219	48	21·9
1901	71	97	26	27
1902	41	57	16	28

Cases classified according to the ages of those attacked :—

Ages in years.	1 to 5.	5 to 15.	15 and upwards.	Number of attacks above 15 years per 100 cases
Number of Cases in 1900 ...	83	116	34	14
„ „ 1901 ...	23	58	16	16·5
„ „ 1902 ..	17	34	6	10·5

The percentage of attacks above 15 years of age is high.

Cases classified according to months in 1902 :—

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Number of Cases ...	7	9	8	6	6	7	1	3	3	...	5	2
„ Deaths ...			1						1			

Table showing the number of cases in each Ward with the number of Deaths and Death Rate :—

	East Ward	South Ward	West Ward
Number of Cases	13	23	21
„ Deaths ... ..	...	...	2
Death Rate ... ..	...	...	0.063

Practically the same methods were adopted in dealing with this disease as in the case of diphtheria.

WHOOPIING COUGH.

Number of Deaths	...	...	...	...	8
Death Rate	...	...	...	...	0.255
Death Rate in the 76 large towns of England and Wales	...	...	...	...	0.37

Number of Deaths and Death Rate for year 1900-1902 :—

	Number of Deaths	Death Rate	Death Rate in the 33 large towns
1890	3	0.13	0.59
1891	23	0.99	0.64
1892	14	0.47	0.56
1893	6	0.23	0.23
1894	6	0.23	0.48
1895	8	0.30	0.36
1896	4	0.14	0.57
1897	3	0.10	0.41
1898	6	0.21	0.42
1899	8	0.28	0.38
1900	4	0.13	0.44
1901	9	0.29	0.36
1902	8	0.255	in 76 large towns 0.37

Seven of the 8 deaths occurred during the first half of the year, when the disease was most prevalent, being a continuation of the epidemic of the previous year; Sporadic cases occurred throughout the rest of the year.

DIARRHŒA.

Number of Deaths	...	...	...	...	13
Death Rate per 1,000 of the population	...	...	...	...	0·414
Death Rate for the 76 large towns of England and Wales	...	...	...	...	0·54

Table showing the Number of Deaths from Diarrhœa with the Death Rates from 1890-1902 :—

Year	No. of Deaths	Death Rate	Death Rate for the 33 large towns	No. of Deaths in Children under 1 year
1890	18	0·80	0·79	...
1891	12	0·49	0·65	...
1892	12	0·47	0·70	...
1893	25	0·98	1·22	...
1894	4	0·15	0·49	..
1895	27	1·02	1·18	...
1896	21	0·77	0·80	15
1897	41	1·48	1·24	34
1898	31	1·10	1·22	27
1899	54	1·89	1·21	27
1900	22	0·74	0·93	19
1901	32	1·04	1·22	31
1902	13	0·414	in 76 large towns 0·54	10

The low Zymotic Death Rate—viz., 1·21 was largely due to the small number of deaths from diarrhœa. July and August are the months when the disease is usually most prevalent, the

hot weather being favourable to the disease. The year was noted for the large number of wet days, and consequently cool weather in the summer and early autumn.

ENTERIC FEVER.

Number of cases in the Borough in 1902	...	33
Number of Deaths	...	2
Death Rate per 1,000 of the Population	...	·063
Houses Infected	...	27

Years...	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
No. of Cases	...	...	..	...	...	...	56	48	62	79	33	26	33
No. of Deaths	6	5	4	5	5	3	7	8	12	22	5	6	2
Death Rate	·27	·20	·15	·19	·19	·11	·26	·29	·42	·77	·16	·20	·063
Case Mortality per 100	...	...	...	..	...	...	12	16	19	28	15	23	6
Death Rate of 33 large towns of England and Wales	·17	·19	·14	·24	·19	·19	·19	·18	·20	·22	·19	·16	for 76 large towns ·15

The Death Rate for the past year was the lowest in this Borough of which there is any record.

The following list gives the streets in which the cases occurred and the number in each street :—

Stoke Old Road	...	1	...	North Stafford Infirmary	3
Allen Street	...	...	1	London Road	...
Wilson Street	...	...	3	Bold Street	...
Queen's Road	...	...	1	Hill Street	...
High Street, Hartshill	...	1	...	Bath Street	...
The Villas	...	...	1	Canning Street	...
Lewis Street	...	...	3	Fletcher Road	...
Shelton Old Road	...	1	...	Liverpool Road	...
Mount Farm Yard	...	1	...	Honeywall	...
East Street	...	...	1	Chapel Street	...
Fielding Street	...	...	1	The Nurses' Home	...
Campbell Road	...	...	2	Victoria Street	...
Cornwallis Street	...	1	...	Quarry Avenue	...

In 8 cases the disease was contracted outside the Borough. The patients had either nursed cases from outside the Borough, or were ill when they arrived in Stoke.

In 4 others the infection was derived directly from previous cases.

In 3 other cases which occurred in one house the disease was probably got from an unrecognised attack in a very young child.

Of the remaining 18 cases, 10 occurred between October 6th and October 30th, and in 6 of these oysters, probably from the same source, had been eaten at varying intervals previous to the attacks.

Special pails were supplied to all infected houses with disinfectants to receive the excreta. These pails were removed twice weekly, and the contents buried. In all cases careful examination was made of the premises, and disinfection carried out at the termination of each case.

Arrangements exist with the University of Birmingham, through the County Council, for Bacteriological diagnosis of Enteric Fever cases, but it has not been made use of in a single instance.

It would, I am sure, be of much use in some obscure cases, and especially in the case of young children, in whom the disease is frequently of a mild type, and unrecognisable by ordinary methods.

The only hospital accommodation for Typhoid Fever is at the North Stafford Infirmary. We were able to remove 16 cases out of the total of 33.

Enteric Fever is an infectious disease, and the difficulty of nursing patients suffering from this disease in a general hospital, and at the same time preventing its being contracted by others is considerable. Every year increases the conviction that accommodation should be provided in special Wards, and this of course should be done at the Joint Isolation Hospital at Bucknall. The only reason for retaining these cases in a general hospital is to provide means of training for nurses. This is not a reason which should weigh with the Sanitary Authority of a

district, and we should, by providing special accommodation for these cases, make it possible for the general hospital to exclude them almost entirely. I understand that at the North Stafford Infirmary only 4 patients suffering from enteric fever are allowed in each Ward at the same time.

There is no ambulance available for the removal of enteric fever cases. I have brought this fact to the attention of the Health Committee on more than one occasion. The patients at present have to be removed in a cab, in which it is impossible to place them in a horizontal position; this means considerable unnecessary risk to the patient.

PHTHISIS AND OTHER FORMS OF TUBERCULOSIS.

Number of Deaths from Phthisis	...	...	31
Death Rate	...	...	·98
Number of Deaths from other forms of Tuberculosis	..	...	16
Death Rate (per 1,000 living) from Tuberculosis			·50

Table showing the Number of Deaths and Death Rates from Phthisis in the Borough in the years 1891-1902 :—

	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
No. of Deaths ..	26	38	30	29	46	35	28	26	27	31	31	31
Death Rate ..	1·08	1·50	1·18	1·11	1·79	1·29	1·01	0·92	0·94	1·05	1·01	·98
Death Rate from Phthisis in England and Wales ...	1·59	1·46	1·46	1·38	1·39	1·30	1·34	1·31	...	...	...	...

OTHER FORMS OF TUBERCULOSIS.

In 1902 there were 16 deaths due to forms of Tuberculosis other than Phthisis; in 1901 there were 10; in 1900, 15; in 1899, 17; in 1898, 24; in 1897, 13; in 1896, 16.

Through the arrangements made by the County Council with the University of Birmingham, medical men in the Borough

have facilities for bacteriological diagnosis in doubtful cases ; they have been taken advantage of on several occasions.

I regret to have to report that no steps have yet been taken to further combat Tuberculous diseases. I brought the matter to the attention of the Health Committee in 1901, and I can only again urge that something should be done without delay.

In many places throughout the kingdom voluntary notification is now in force. This might usefully be adopted here. Notices might be posted up prohibiting spitting, and booklets might be distributed when needed.

The Potteries Electric Traction Company have notices in their cars prohibiting spitting. The North Stafford Railway Company have also put up notices at the Station.

There is a balcony at the North Stafford Infirmary for the treatment of Phthisis, and balconies are being erected at the Stoke-upon-Trent Union Workhouse Hospital. Surely the Sanitary Authority for the Borough ought not to be behindhand. During the past year more deaths were caused by Tuberculosis than any other disease except Bronchitis.

DISEASES OF THE RESPIRATORY ORGANS.

						No. of Deaths
Bronchitis ...	...	...	...	.	...	48
Pneumonia ..	...	...	...	...	...	39
Pleurisy ...	..	...	...	...	...	1
Other Diseases ...	...	...	...	...	...	7
						—
Total ...	...	...	...	...	...	95
						—
Death Rate per 1,000 living	...	...	...	...	...	3'02

Number of Deaths, with Death Rate from Bronchitis,

Pneumonia, and Pleurisy in the Borough in the Years 1891-1902 :—

Year	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902
No. of Deaths ...	88	74	72	77	90	78	77	76	88	96	104	95
Death Rate ...	3.24	2.93	2.84	2.96	3.48	2.89	2.79	2.69	3.08	3.25	3.39	3.02

The average Death Rate in England for 1889-1897 from diseases of the Respiratory Organs was 3.5.

LEAD POISONING.

Deaths in the Borough from Lead Poisoning in the years 1897-1902 :—

1897 ...	...	...	...	...	2
1898 ...	...	...	...	...	1
1899 ...	...	...	...	...	2
1900 ...	...	...	...	...	0
1901 ...	...	...	...	...	0
1902 ...	...	...	...	...	0

One death occurred at the North Stafford Infirmary, but the person was not a resident of this Borough.

The total number of cases of Lead Poisoning in the China and Earthenware Trades reported to the Chief Inspector of Factories and Workshops for the years 1899, 1900, and 1901 were as follows :—

	Males	Females	Total
1899 ...	128	121	249
1900 ...	95	104	200
1901 ...	57	49	106

These figures show a very satisfactory and steady improvement.

VACCINATIONS.

					Births Registered	Successfully Vaccinated	Insusceptible	Had Small-pox	Died	Postponed	Removals Certified	Removed Unvaccinated	Unvaccinated	Conscientious Objections...	Number of Vaccinations to 100 Births
1896	...	...	...	...	730	554	2	0	94	17	4	27	33	0	76
1897	...	...	...	...	733	587	2	0	101	15	3	51	14	0	80
1898	...	...	...	...	830	550	1	0	100	19	4	58	97	1	66
1899	...	...	...	...	832	585	6	0	124	37	18	42	15	5	70
1900	...	...	...	..	923	633	0	0	137	64	11	49	22	7	68
1901	...	..	...	...	935	672	0	0	134	49	7	32	36	5	71
Half-year ending June, 1902					520	361	0	0	62	39	5	26	27	0	69

The number of children vaccinated to 100 births for the years from 1896 to 1902 shew a slight decrease in the later years. This seems to be due to the larger number of cases in which vaccination has been postponed.

SMALL-POX.

At the end of November two cases, both tramps, were notified from the Union Workhouse Infirmary. Both the cases were brought while ill to the Workhouse from neighbouring districts. They were isolated, and immediately transferred to the Bagnall Small-Pox Hospital. The infection was derived from previous cases in the neighbouring district of Hanley. Disinfection and re-vaccination were resorted to, and no other cases occurred.

On December 24th a case was notified from the Basford District, in the West Ward. The spots were becoming vesicular when the case was notified. The patient was removed, and disinfection and re-vaccination of contacts carried out. As no steam disinfectors were available the bedding and clothing were burned, and compensation given; no quarantine was enforced. Hand-bills urging re-vaccination were distributed throughout the

district. No further cases occurred. In this case also infection was clearly derived from a previous case in the neighbouring town of Hanley. The patient was employed at a factory in that district, and had come into contact with infected clothing.

The present Small-Pox Hospital is a temporary structure (an iron building, with accommodation for 8 patients). Early in the year a case of small-pox having occurred in the Wolstanton Rural District, a meeting of the Medical Officers of Health of the Pottery towns was called at Burslem by the Health Committee of the Burslem Sanitary Authority. A resolution was passed urging the immediate erection of a temporary hospital.

This resolution was submitted to the Joint Small Pox Hospital Committee, which had previously acquired a site, and the temporary hospital was erected within a few weeks.

The iron buildings have had to be supplemented by tents to deal with the present outbreak of Small Pox in the joint district.

A considerable amount of re-vaccination has been done throughout the Borough.

Death Rates, &c., in Stoke-on-Trent and certain other Towns in 1902.

TOWNS	Population	Birth Rate per 1,000	Death Rate per 1,000	Zymotic Death Rate	Phthisis Death Rate	Respiratory Death Rate	Death Rate from other forms of Tuberculosis	Infant Deaths per 1,000 Births
LANCASTER	41,570	26.77	14.19	1.61	1.17	2.69	0.67	141
STALYBRIDGE	27,938	24.9	20.4	2.6	1.7	4.0	...	176
WEST BROMWICH	65,938	34.6	19.8	2.6	...	...	...	162
WIGAN	61,827	37.42	20.25	3.27	0.89	5.96	0.21	158
WOLVERHAMPTON	95,736	31.6	16.2	1.71	1.05	3.43	0.54	137
PUDSEY	14,940	21.1	15.4	1.9	1.0	3.3	0.33	180
CREWE	43,237	32.6	14.9	2.05	0.50	2.79	0.78	131
ASHTON-UNDER-LYME	43,890	27.9	19.0	1.4	1.57	4.21	...	142.5
SOUTHPORT	48,500	19.42	15.32	0.64	0.82	2.53	0.55	142
ECCLES	35,000	27.1	15.8	2.2	0.8	2.5	0.6	112
ASTON MANOR	78,481	29.4	12.3	1.9	0.8	...	...	129
STAFFORD	19,582	28.39	16.49	1.42	1.68	...	...	115
HANLEY	62,452	35.1	18.0	3.2	0.67	3.4	1.1	170
TUNSTALL	19,962	40.8	19.8	2.3	1.4	4.7	0.7	118
LONGTON	36,120	39.3	22.5	2.15	1.55	7.17	0.38	195.7
ENGLAND AND WALES	...	28.6	16.3	1.64	...	...	...	133
RURAL ENGLAND AND WALES	...	27.4	15.3	1.14	...	...	...	119
76 LARGER TOWNS	...	30.0	17.4	2.12	...	...	...	145
103 SMALLER TOWNS	...	27.3	15.3	1.53	...	...	...	135
STOKE-ON-TRENT	31,374	32.8	15.4	1.21	0.98	3.02	0.50	162

RAINFALL AT HARTSHILL IN 1902.

Rain Gauge	Diameter of Funnel				
	Height of Top	Above Ground If			
		Above Sea Level 485f			

(By JOSEPH KNIGHT, ESQ.)

Month	Total Depth		Greatest fall in 24 Hour		Number of Days on which '01 or more fell
	Inches	Depth	Date		
January	1'68	'36s	26th	17	
February	1'63	'37s	8th	14	
March	2'25	'58	14th	19	
April	2'27	'48	15th	15	
May	3'18	'95	22nd	23	
June	2'19	'63	29th	14	
July	1'96	'41	25th	15	
August	3'68	'50	17th	21	
September	1'62	'30	10th	18	
October	3'61	'77	13th	22	
November	2'25	'57	28th	17	
December	2'60	'54SR	30th	18	
TOTAL	28'92	...	...	213

FOOD AND DRUGS ACTS.

BOROUGH OF STOKE-UPON-TRENT

For the information of the Medical Officer of Health for the Borough of Stoke-upon-Trent. Particulars of samples purchased in Stoke-upon-Trent for analysis by the County of Stafford Inspector, under the Food and Drugs Act, for the year ending December 31st, 1902 :—

Description	No. of Samples	Adulteration	Genuine	Proceedings taken	Convictions
Milk... ..	33	3 adulterated 80 to 88% ground rice	33	...	...
Pepper	12	...	9	...	1 conviction
Mace	6	...	6	...	...
Butter	15	...	15	...	..
Lard... ..	10	...	10	..	..
Tea	4	...	4	...	..
Cheese	8	...	8	...	...
Bread	4	..	4	...	..
Coffee	6	...	6	...	...
Chocolate Chumps..	10	...	10	..	...
Mercury Ointment...	3	1	...	...	1 conviction

E. W. T. JONES, Analyst.

E. W. H. KNIGHT, Chief Inspector.

ISOLATION HOSPITAL.

The Contagious Diseases Hospital at Bucknall, in the Rural District of Stoke-upon-Trent, serves the Urban Districts of Hanley, Fenton. and Stoke-upon-Trent, and the Rural District of Stoke-upon-Trent; it is under the management of a Joint Hospital Board. There are in the Hospital 72 beds and cots

for Scarlet Fever, and 36 for Diphtheria, besides 23 beds and cots for private patients and observation purposes. In all about 125 beds and cots. There is no provision for Typhoid Fever. The buildings are permanent ones, pavilions connected by covered ways.

The Staff of the Hospital consists of—

A Visiting Medical Officer

A Female Resident Medical Officer

A Master and Matron

Nurses and Probationers to the required number.

The population of the Joint District now exceeds 120,000.

SCALE OF CHARGES.

Adopted by the Board on the 10th day of June, 1892, and the 3rd day of June, 1898, for maintenance and care, &c., of patients admitted by order of a Medical Officer of Health within the District of the Board. :—

Patient under 14 years of age	...	...	1/4 per day
Patient, 14 years of age and upwards	...	...	1/9 per day
Medical Attendance in each case attended by the Board's Medical Officer	...	...	£1 1s.
Contribution to Common Fund, per patient			£3 10s.

PRIVATE PATIENTS.

Patients treated in Private Wards	...	...	5/- per day
Medical Attendance, in each case attended by the Board's Medical Officer	...	...	£2 2s.
Contribution to Common Fund per patient...			£3 10s.

In my last Annual Report I pointed out that the space allowed per head was much less than what is considered necessary in hospitals for infectious diseases. The matter is of importance, in considering both the health of the patient, and the health of the community. Overcrowding tends to increase

the complications of the diseases, and it also encourages the occurrence of return cases. It exposes the patients to unnecessary risks, and renders the hospital less effective as a preventive agent, the patients being more liable to carry infection out of the Hospital when discharged.

In the New Pavilion the cubic space per patient is 1,134 feet in the case of 32 patients, and 1,218 in the case of 4 patients.

In the Upper, Lower, and Centre Pavilions there are 72 beds, and the cubic space per patient is 1,134 feet.

In the New Isolation the cubic space is 1,404 feet per patient, here there are 8 beds.

In the Old Isolation Pavilion the cubic space per patient is 842 and 874 feet.

I understand that the plans when submitted to the Local Government Board show 2,000 cubic feet for each patient, but that when the Wards have been built the practice has been to furnish it for twice the number of patients. If it is right to allot 2,000 cubic feet to each patient in the first instance, it cannot be right to reduce it afterwards to such a very marked extent ; and the Hospital can only be described as overcrowded if used as at present furnished.

There ought to be 2,000 cubic feet allowed to each adult patient, and never less than 1,500 cubic feet to each child in the most pressing times of epidemic. And in cases of Diphtheria and sceptic cases of Scarlet Fever 2,000 cubic feet should be maintained in cases of children.

I would urge upon the Council the necessity of seeing that the Hospital is efficient in this respect, and so to adequately serve the purposes for which it was intended.

There is one Ambulance for the removal of patients in the Joint District. It is kept at the Hospital, which is three miles from this Borough.

The rule which compelled us to have the admittance order in the case of children under 3 years of age countersigned by the Chairman of the Joint Board has been altered. The order is

now countersigned by the Chairman of the Health Committee in the particular district. This, though less inconvenient, causes unnecessary delay.

Since the Hospital has been more extensively used and become better known, we have experienced less difficulty in persuading parents and patients to consent to removal; and it was not necessary to obtain a magistrate's order in any case.

During the year 83 cases were removed to the Isolation Hospital from the Borough; 44 were cases of Scarlet Fever, and 39 were cases of Diphtheria.

Number of Patients remaining in the Hospital at the end of 1901	9
Number of Patients removed to the Hospital in 1902	83
<hr/>	
Total	92
Number of Patients remaining in the Hospital at the end of 1902	4
<hr/>	
Number of Patients Discharged or Died	88
Number of Patients Chargeable to the Poor Law Authorities	7
<hr/>	
Number of Patients Chargeable to the Borough ...	<u>81</u>

The isolation of 81 patients at the Hospital entailed an expenditure of £649 7s. 10d. Special precepts for £445 14s. 9d. were also levied, and of this sum £330 might be placed to the year 1902, which, together with £54 placed to it from the special precept of the previous year, makes a special sum of £384. So that the total sum, £1,033 7s. 10d., was spent in the isolation of 81 patients, or about £12 15s. per patient. In the year 1901 the expenditure was £1,413 3s. 2d. for 186 patients, *i.e.*, about £7 12s. per patient; and in 1901 the expenditure was £1,268 11s. 4d. for 148 cases, *i.e.*, about £8 10s. per patient.

The estimate of the expenditure for the year 1902 for the isolation of infectious diseases was £700. I have pointed out that that is too low an estimate. It should not be made less than £1,000, as the expenditure can only be less than that under very exceptional circumstances.

From the above statistics it will be seen that the total amount spent is not reduced simply by reducing the number of cases sent to the Hospital. In recent years the cause of over-expenditure under this heading has been held to be the needless isolation of so large a number of cases. In the past year 83 cases were removed, but these cost half as much again per head as previously. Hence the total expenditure is not proportionately reduced.

FACTORIES AND WORKSHOPS.

WORKSHOPS.						BAKEHOUSES							
Number of Visits	Number in which Sanitary Defects were found	Number of Reports referred to Factory Inspector (Unregistered Factories, &c.)	No. of Cases in which Magis-terial proceedings were taken	Numbers Registered during the year	Total Number Registered	No. of Visits to Houses where Outworkers are Employed	Factories and Workshops not provided with proper means of escape in case of fire	No. of Visits	No. in which Sanitary Defects were found	No. of Reports referred to Factory Inspector	No. of Cases in which Magis-terial proceedings were taken	Number Registered during the year	Total Number on Register
17	3	0	0	8	117	..	..	45	6	0	0	2	16

The 8 workshops registered during the year were registered on notices received from the Inspector of Factories and Workshops. No special effort has been made by the Council to ascertain what workshops are situated in the district, so that it is doubtful if the register is complete.

It will be seen from the table above that the workshops have not been efficiently inspected during the year; in the previous year I visited a large number, in company with the Sanitary Inspector, and the following is from my last Annual Report:—

“There was no case of overcrowding observed. Notices to repair, cleanse, and limewash were served in several instances, and in a few cases better sanitary conveniences were provided on notice from the Sanitary Inspector. All those visited were satisfactory in respect to lighting and ventilation.”

Workplaces have not been regularly inspected. Factories have not been inspected during the past year. In the previous year I reported as follows :—

“The sanitary accommodation in the factories are in several instances unsatisfactory, the large cesspools being very foul, and the arrangements for privacy inadequate.”

Marked improvements were made in one or two instances.

Bakehouses have been regularly inspected. None are underground. They all satisfy the requirements as to separation from sleeping rooms, closets, ashpits, and drains. They have proper water supplies. Limewashing is carried out regularly. Some are not as well lighted and ventilated as they ought to be. Some are in need of repairs. They vary much as to cleanliness. The floors in some are not kept clean, and the spaces under the troughs are used to hide away miscellaneous things. There is no overcrowding.

SAFETY FROM FIRE.

There are no workshops in the district in which more than 40 persons are employed. In the case of factories nothing has been done during the past year to ascertain whether they are provided with such means of escape from fire as can reasonably be required.

HOME WORK.

No lists of any home workers have been received.

On more than one occasion I have reported to the Health Committee on the advisability of increasing the Staff in the Health Department; and I also pointed out the necessity of regular inspection of workshops and workplaces, and the impossibility of anything but fitful and inadequate inspections under the present conditions.

OFFENSIVE TRADES.

There are in the district one fellmonger's establishment, one tripe boiling business, and a rag and bone store. There are no bye-laws with respect to offensive trades.

Regular inspections have been carried out, and no complaints have been received.

Calcining of bones is carried on on two of the factories in the Borough. In one place it has proved a nuisance on several occasions, but alterations are to be made to the kiln, which will, I hope, remedy this.

In the other case little nuisance has been caused since certain improvements to the kiln were carried out more than two years ago.

Several fish-frying shops and some shops for the sale of fish in the district give rise to distinct nuisances, and call for more attention; and the fish and game dealers should be urged to remove their refuse more frequently.

SEIZURE OF UNWHOLESOME FOOD.

In May a quantity of fish which was being sold in the Borough on Sunday morning was seized and condemned, and subsequently the two joint owners were fined three pounds and costs each by the Magistrates.

SLAUGHTER-HOUSES.

There are in the Borough four licensed Slaughter-houses and five registered ones. There are bye-laws for their regulation, they are not, however, up-to-date. I have in previous years asked the Health Committee to revise these. During the year the use of two registered slaughter-houses has been discontinued. In one instance the slaughter-house was probably the worst of the registered ones, being situated under a sleeping room, and in direct communication with the main street.

Large accumulations of manure are still allowed to remain on many of these premises. In some, horses are kept in the lairs. I have found pigs kept on the manure heaps, and in some

instances offal lying about on the floors. Pigs also are kept on the premises for indefinite periods. Dogs are allowed in the slaughter-houses. I have observed notices obliterated, and a "licensed slaughter-house" with a notice "registered slaughter-house." All these defects point to a want of thoroughness in sanitary administration.

Instances are constantly occurring throughout the country, demonstrating the necessity of strict supervision of all places where food is prepared for human consumption; and I would urge the Council to insist on all these being kept in a proper state in every detail.

Under present conditions it is impossible to efficiently inspect meat sold in the Borough.

A Public Abattoir is much needed. All licensed slaughter-houses could then be done away with. An abattoir would certainly be made use of in time, though possibly at first it would not pay its way.

DAIRIES, COWSHEDS, AND MILKSHOPS.

There are in the Borough 14 Dairies and Cowsheds, and 30 Milk Shops. During the year 85 inspections were made.

The regulations of the Local Government Board came into force in the Borough in November, 1901.

Milkshops are as a whole kept in a cleanly state, though the place for keeping the milk is not always satisfactory.

In many instances the cubic space per cow is much below 800 feet.

In most cases greater care is necessary in watching the condition of the air in the sheds. In some instances fodder is stored in direct aerial communication with the sheds. The lighting of some should be improved. In a few instances I have found the sheds exceptionally well kept, while others are filthy,

especially the floors. The drainage arrangements of all are good, but accumulations of manure are frequently much too near the doors and ventilation openings.

In past years I have pointed out the necessity of having a veterinary surgeon to inspect and report on the cows in the sheds.

As in the case of slaughter-houses, the defects found indicate a lack of thoroughness in inspection and administration.

WATER SUPPLY.

The Staffordshire Potteries Water Works Company supplies the Borough with water. The quality is good, and the supply constant and adequate. The water supplied to Stoke-upon-Trent is derived from deep wells in the Bunter Sandstone at Hatton. From these wells the water is pumped to a reservoir 775 feet above the sea level, and from thence the mains run through Trentham, Hanford, and Trent Vale to Penkhull, the highest point in the Borough (550 feet above the sea level,) and from these it is distributed throughout the town. The pressure in the mains is very considerable.

The following is the analysis of a sample of water from a tap direct from the main :—

The analysis was made by me February 16th, 1903. It shows that the water supplied to the Borough is very good.

					Parts per 100,000
Total Solid matter dried at 212°F.	...	...	...	...	20·9
Free and Saline Ammonia	...	...	...	...	0·0016
Organic Ammonia	...	...	...	...	0·003
Nitric Nitrogen	...	...	...	...	0·38
Combined Chlorine	...	...	...	...	1·1
Oxygen absorbed in 4 hours at 80°F.	...	...	...	...	0·000
Colour	...	...	...	...	.. Pale bluish
Hardness before boiling	...	...	...	...	7·63
Hardness after boiling	...	...	...	...	5·4
Nitrites	...	...	...	...	Absent

There are still a few houses in the Borough supplied by wells. In the case of one of these supplying a farm the water is polluted. I have advised that it should be closed, but it has not yet been dealt with.

There are still some instances in the Borough of very insufficient water supply. I drew attention in my last annual report to one—viz., Villa Street, Boothem, there, 14 houses each with a closet pan, but no flush, have only one water tap to the 14 houses. This has not yet been remedied.

I am pleased to be able to report that closet pans without flushes are not now allowed to be put in.

SMOKE NUISANCE.

During the past year the Sanitary Inspector has made 15 observations, but no action has been taken.

From careful observations I am able to state that not less than half the black smoke produced in the day time is from boiler furnaces. It cannot be disputed that the chimneys in connection with those furnaces, being higher than those of kilns and ovens, do not cause so great direct nuisance or annoyance, but a great deal could be done to diminish the general smoke nuisance by dealing with the smoke from boiler furnaces this is comparatively easy, and an exercise of its powers with firmness by the Authority would not press unduly on anyone, it would only mean "care" in attending to the furnaces instead of "carelessness," and a saving of coal to the manufacturer. With respect to the smoke from kilns and ovens, a conference is, I understand, to be held in the district. It is much to be desired that some means may be found of diminishing the nuisance from these. Here again more careful stoking would be a saving of fuel. The time for starting kilns might often be more wisely chosen.

CANAL BOATS.

Stoke-upon-Trent is the Registration Authority for the whole of the surrounding district. There are 489 boats on the register.

Thirteen boats, of which 10 were new ones, were registered during the year.

In 1899 305 inspections were made, and 64 infringements detected

„ 1900	150	„	„	„	34	„	„
„ 1901	187	„	„	„	49	„	„
„ 1902	205	„	„	„	59	„	„

The Inspector reports that among the infringements were the following :—With respect to (a) Registration, 6 ; (b) Certificates, 5 ; (c) Marking, 2 ; (d) Overcrowding, 5 ; (e) Separation of sexes, 2 ; (f) Cleanliness, 6 ; (g) provision of water cask, 3 ; (h) Painting, 29.

In the case of some of these, such as overcrowding, proceedings ought to be taken in order to enforce the regulations. At present it simply means that to a great extent the regulations may be disregarded or not at will. I referred to this matter in my last annual report.

Since writing the above, the Canal Boat Inspector has received a circular letter from H.M. Inspector, Canal Boats Act, in which the following occurs :—

“ I do not think the Acts and Regulations are properly carried out, and I do not think Inspectors are properly doing their statutory duty when these paper forms (i.e., notices of infringements) are made the only penalty for infringements detected concerning such matters as overcrowding, mixing of sexes, indecent occupation, carrying offensive cargoes without double bulkhead, and the insanitary condition of cabins, especially where children are concerned.”

The following occurs in the last annual report of H.M. Inspector, Canal Boats Act :—

“ The report for Stoke-upon-Trent Urban District is again very good.”

COMMON LODGING HOUSE.

There is one Common Lodging House in the Borough, and there are Bye-laws in force for its regulation. There are 25 beds in the house available for single lodgers and 3 for married couples. The house is an old one, it is as well kept as it can be, and is regularly inspected. It would be a distinct advance to have it replaced by a Municipal Model Lodging House.

MORTUARY.

It is the intention of the Corporation to erect a mortuary on a portion of the land acquired at Field Place. It is many years since the need of a mortuary was first brought to the attention of the Council. During the past year, on more than one occasion, the need of such accommodation has been keenly felt, and I trust that its provision will not be much longer delayed.

HOUSING OF THE WORKING CLASSES.

During the past year Magistrates' Orders were obtained for the closure of three houses in Welch Street, and notices to make habitable were served in the case of two houses in Stoke Road, Hartshill.

The seven houses in Frost's Entry which were closed in 1900, and which had become a nuisance to the surrounding houses, were taken down on notice from the Council.

There are a considerable number of houses in the older streets of the Borough which require detailed inspection with a view to remedying existing nuisances. I have had repeated complaint with respect to some in Bold Street and Steele Street and Hulme Street, Hartshill.

In numerous instances throughout the Borough the open spaces in the rear of houses are reduced by the erecting of fowl-houses and pigeon coops.

The Authority has a Building Inspector to supervise the erection of new houses and alteration of old ones.

BUILDING BYE-LAWS.

New Building Bye-laws came into force at the end of the year. Among other excellent requirements for domestic buildings are the following :—

The concreting or asphalting of building sites.

No party wall or external wall to be less than 9 inches thick.

The tread of each step in stairs to be not less than 8 inches wide, and every staircase to have a hand-rail.

Provision of an open space at front and back of a minimum size, and not to be diminished. The open space at the rear to be not less than 150 square feet.

A ventilation space of minimum height to be provided under every boarded floor on lowest storey.

Window space of at least $\frac{1}{10}$ th the floor area to be provided in every habitable room. The window must be made to open. Special means of ventilation to be provided in habitable rooms without fire-places.

A minimum height for habitable rooms.

The owner of every dwelling-house (old or new) when necessary to prevent or remedy insanitary conditions must pave the yard with impervious material.

At least 150 square feet of open space in connection with new dwelling-house to be paved.

All drain inlets to be trapped except two for ventilation.

All drains to be disconnected from sewers.

All new drains to be ventilated by two untrapped openings, one on the house side of the disconnecting trap and as near it as possible, and the other as far as possible from the first.

Waste pipes to open over channels.

Every water closet, whether inside or outside the house to have a window and adequate means of ventilation.

All new water closets to have a flushing box, and to be at all times properly supplied with water.

All new drains are now tested by the smoke test. It would be an advance if the water test could be substituted.

REMOVAL OF NIGHTSOIL AND ASHPIT REFUSE.

This work is done directly by the Council throughout the whole district. It has been regularly and as well done as it is possible with the present staff,

Nightsoil is removed only between the hours of 10 p.m. and 5-30 a.m. A small quantity is disposed of directly to farmers in the district, but most of it is taken to the Sewage Farm, and there mixed with ashes, and sent away as manure by canal boat.

The ashpit refuse is chiefly tipped at Scotchman's Hole, whither it is conveyed by boat on the canal from the wharf at Field Place. Some has also been tipped on low-lying land at Etruria.

The Council intend to erect a Destructor, at Field Place, and the plans are now almost completed; it will prove of great value.

The Cesspools and Ashpits are only emptied on an average between five or six times a year. In the new Building Bye-laws no ashpit is to be built to contain more than one month's ashes, clearly showing that the emptying of ashpits once in two months is much too infrequent. Many cesspools become a great nuisance long before they are emptied; and I have noticed some actually overflowing, showing that it is only with the greatest care they can be kept from becoming quite full in the time. The present fractional yearly increase in the number of times of emptying is a totally inadequate way of dealing with this matter.

It is satisfactory to note that all new houses are now supplied with ashbins. There are about 2,000 in the Borough, and these are emptied once weekly, and in some cases more frequently.

There are also 200 shops in the main streets where there is a daily collection of refuse. I am sorry to observe that people are in the habit of putting slops into the bins. This soon makes them offensive, and ought not to be done.

There are in the district 2,220 Cesspit Closets.

In 1897 40 Cesspit Closets were converted into Water Closets.

In 1898 161	„	„	„	„	„
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In 1899 172	„	„	„	„	„
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In 1900 300	„	„	„	„	„
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In 1901 174	„	„	„	„	„
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In 1902 128	„	„	„	„	„
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An effort should be made to increase the number of these conversions. The best way, and most sanitary of removing excreta from the vicinity of dwelling-houses is by water carriage.

POLLUTION OF BUILDING SITES.

I have noticed considerable improvement in this respect during the year, though occasionally polluting material is still deposited on building sites.

POLLUTION OF RIVERS.

During the past summer less complaint has been made with respect to the rivers. No doubt this was due to the cool weather which prevailed. There has been considerable activity throughout North Staffordshire during the past year in respect to sewage disposal, and the condition of the streams will sooner or later be improved.

ROADS AND BACK STREETS.

I am pleased to be able to report that I have noticed an improvement in the general state and cleanliness of the main streets during the past year. They have also been more efficiently watered. There has been steady progress made

in paving of footpaths. Attention should also be paid to the back lanes and passages. These are often in urgent need of sweeping. I understand they are never swept by the Corporation, except after emptying the ashpits.

Several of the main streets and back lanes require paving with stone setts. New streets remain for an indefinite time unfinished, leading to accumulations of water, mud, or dust.

BYE-LAWS.

As pointed out in previous Reports, bye-laws are needed for the following purposes :—

- (1) Prevention of Nuisances.
- (2) For the Regulation of Houses let in Lodgings.
- (3) New ones with respect to Slaughter-houses.

DRAINAGE AND DISPOSAL OF SEWAGE.

The Borough Surveyor informs me that the following sewers have been laid during the year :—Storm and soil sewers, Wolesley Road and Trentham Road, Oakhill ; storm sewers, London Road ; and the following sewers have been relaid—Back Wood Street, Back Allen Street, Union Street, and Back Stoke Old Road.

The sewerage of some parts of the Borough cannot be said to be sufficient for present needs.

As pointed out in previous reports, more ventilating shafts and automatic flush tanks could be usefully employed in connection with the sewers in order to prevent nuisance from manholes and to cleanse the low-lying sewers. Many untrapped street gullies have been trapped during the year, and manhole bottoms are being inverted with channel pipes as found to be necessary.

In many districts the rain water fall pipes are directly connected with the drains and sewers. This has several times been referred to. A special effort should be made to remedy this defect.

As a rule in the larger houses, and where water closets are situated in the houses, the drains are ventilated by a pipe continued upwards from the soil pipe, but only in houses specially redrained within the last few years are the drains disconnected by a trap and inspecting chamber from the sewer. In smaller houses, with the water closets outside, there is no disconnection of drains from the sewers, and in those that have the drains ventilated it is done by means of the rain-water fall pipes. Under the new bye-laws all new houses will have the drains disconnected and ventilated.

All the sewage of the Borough is dealt with at the Sewage Farm at Boothen. It is all pumped both day and night. The average amount of sewage in 24 hours is about 1,000,000 gals. The farm is 45 acres in area. The sewage is treated by subsidence and by land filtration and irrigation. The effluents pass into the River Trent. The sludge is dried by exposure in the open air and spread on the land. Sewage from one of the mains can be used to irrigate the Boothen Farm, adjoining the Sewage Farm.

STAFF IN THE HEALTH OFFICE.

I have advised the Health Committee on several occasions to increase the staff in the Health Department by the appointment of a second Inspector. At the beginning of the year there were two qualified Inspectors, and I then advised that a Clerk should be appointed, to allow the Inspectors to give their whole time to outside work. Very soon after, the Assistant Inspector left to enter on duties elsewhere, and a boy was appointed in the office to replace him. At present there is only one Inspector, and a boy in the office, so that the staff has been reduced, and that at a time when the work of the department is increasing.

Among other duties, the Inspector of Nuisances has, with the aid of a foreman, to superintend the removal of nightsoil and ashes. This of itself demands a large amount of attention, and it is impossible for one Inspector to carry out efficiently the work in this Borough. As a consequence many nuisances are not detected, and nuisances that are known to exist go on indefinitely without being remedied.

I should like also to direct the attention of the Council to the office accommodation of this department.



HEALTH OFFICE,

STOKE-UPON-TRENT,

JANUARY 19TH, 1903.

Sanitary Inspector's Annual Report

TO THE

Medical Officer of Health.

DEAR SIR,

I have pleasure in presenting to you the Annual Report of the work done in my department during the year ending December 31st, 1902.

SCAVENGING.

The following is a comparative statement of work done under this head during the past two years :—

FIFTY-TWO WEEKS ENDING 1902.

Complaints received—

Ashpits	147	Cesspools	408	Total	555
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SAME PERIOD LAST YEAR.

Complaints received—

Ashpits	181	Cesspools	476	Total	657
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SCAVENGERS' WORK DONE.

FIFTY-TWO WEEKS ENDING 1902.

Ashpits cleared	17,902
Ashbins Cleared	85,992
Loads removed	...	...	...	...	11,674
Cesspools Cleared	...	...	...	...	12,592
Tubs removed	...	...	...	...	4,659
Number of Horses employed	...	...	...	...	10
Number of Men employed	...	...	...	...	30
Wages paid, £1,630 4s. 7½d.					

52 WEEKS ENDING DECEMBER, 1901.

Ashpits and Ashbins cleared	...	...	...	...	66,317
Loads removed	...	...	...	...	12,151
Cesspools cleared	...	...	...	...	11,919
Tubs removed	...	...	...	...	4,771
Number of Horses employed	..	...	...	...	10
Number of Men employed	...	...	...	...	30
Wages paid, £1,613 15s. 1d.					

ASHPITS.

During the year a steady decrease in the number of ashpits has been maintained, and a very large increase in the number of galvanised iron ashbins. These number now about 2,000, and are emptied weekly. We have therefore about one-third of the houses in the Borough scavenged weekly, and the centre of the town daily in addition. During the year the ashpits in the Borough have been emptied with increasing frequency, the average times for the year being over five.

CESSPOOL CLOSETS.

At the end of the year 1901 there were 2,348 cesspool closets in the Borough. These have been reduced by 128, making the number 2,220 at the end of last year.

These are emptied now on an average more than five times a year. Fewer complaints are received, and these are generally due to special circumstances which the department cannot control.

As is usual in the summer months some difficulty was again found in securing convenient tips for the nightsoil from the outer districts.

The average cost of scavenging each inhabited house during the last year was four shillings and eightpence, the cost for the year previous was four shillings and sevenpence halfpenny.

The following is a summary of the work done as Inspector of Nuisances in this Borough during the past year :—

SUMMARY OF SANITARY WORK.

				Inspections and Observations made.	Formal Notices by Authority.	Nuisances Abated After Notice.
Dwelling Houses and Schools	Foul Conditions	...	...	77	77	56
	Structural Defects	...	...	106	106	91
	Overcrowding	...	...	12	12	12
	Unfit for Habitation	...	...	3	3	3
	Lodging Houses	...	...	82	2	2
	Dairies and Milkshops	...	}	85	4	4
	Cowsheds	...				
	Bakehouses	...	...	45	6	6
	Slaughter Houses	...	...	86	2	2
	Canal Boats...	...	...	205	48	46
	Ashpits and Privies	...	...	246	246	173
	Deposits of Refuse & Manure	...	...	6	9	6
	Water Closets	...	...	25	24	24
House Drainage	Defective Traps	...	...	39	39	37
	No Disconnection	...	...	25	25	22
	Other Faults	...	...	56	56	55
	Water Supply	...	...	4	4	3
	Pigsties	...	...	4	4	4
	Animals improperly kept	...	...	7	7	7
	Offensive Trades	...	...	25	0	0
	Smoke Nuisances	...	...	15	0	0
Totals				1,153	671	553

Seizures of unwholesome Food 4

Samples of Water taken for Analysis 1

„ „ condemned as unfit for use 1

PRECAUTIONS AGAINST INFECTIOUS DISEASE.

Lots of Infected Bedding Disinfected or Destroyed	...	35
Houses Disinfected after Infectious Disease	...	122

I am,

Your obedient servant,

T. STAKE, Asso. San. Inst.

