

[Report 1896] / Medical Officer of Health, Stockport County Borough.

Contributors

Stockport (England). County Borough Council.

Publication/Creation

1896

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Report on the Health
OF THE
County Borough of Stockport,

FOR THE YEAR
1896,

BY
CHARLES PORTER, M.D.,

B. CH., M.R.C.S., D.P.H. CAMB.,

MEDICAL OFFICER OF HEALTH,

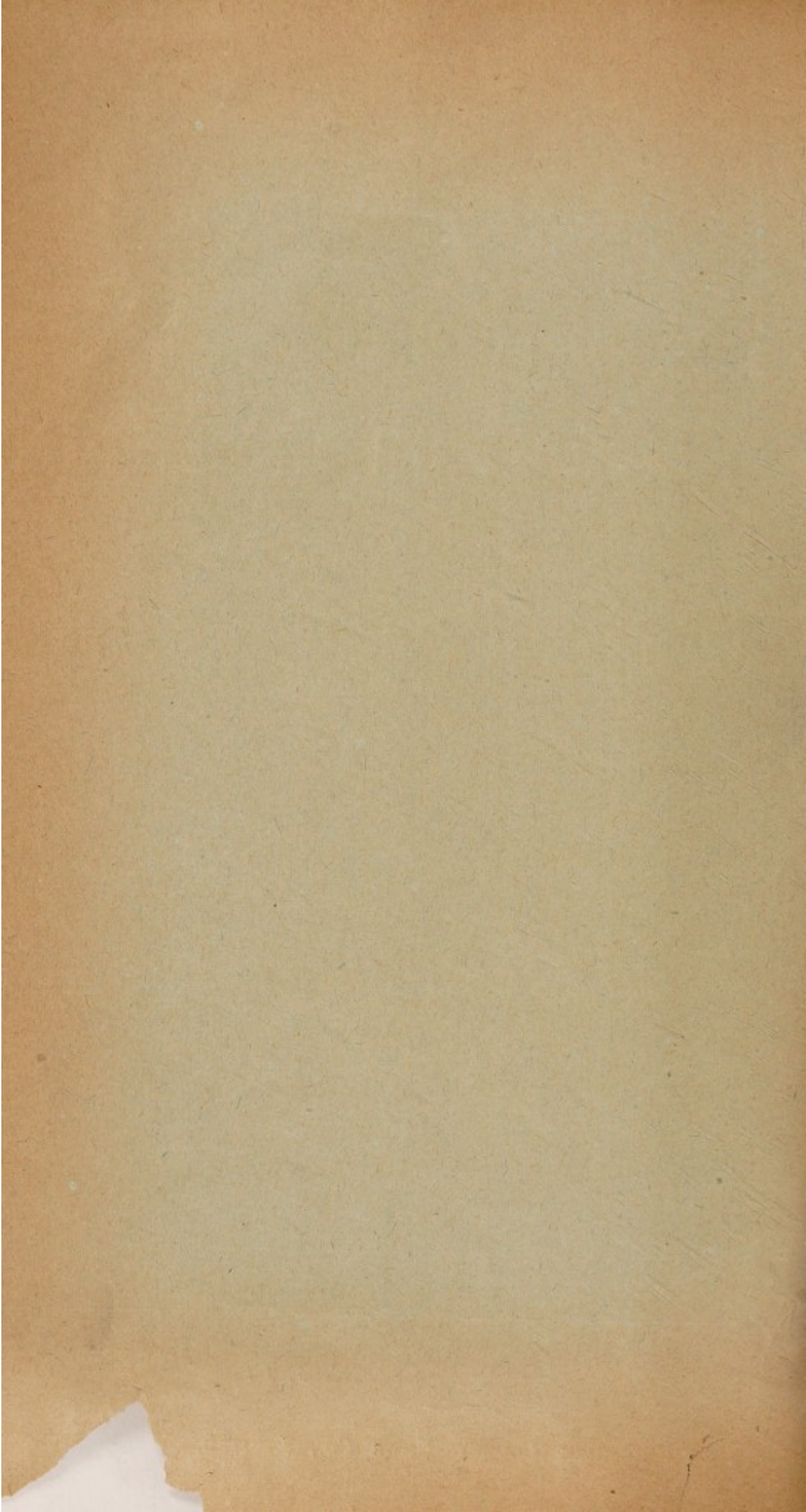
AND

Medical Superintendent of the Isolation Hospitals.

STOCKPORT:

NEW CHESHIRE COUNTY NEWS CO., LIMITED, WILKINSON STREET.

WILKINSON STREET.



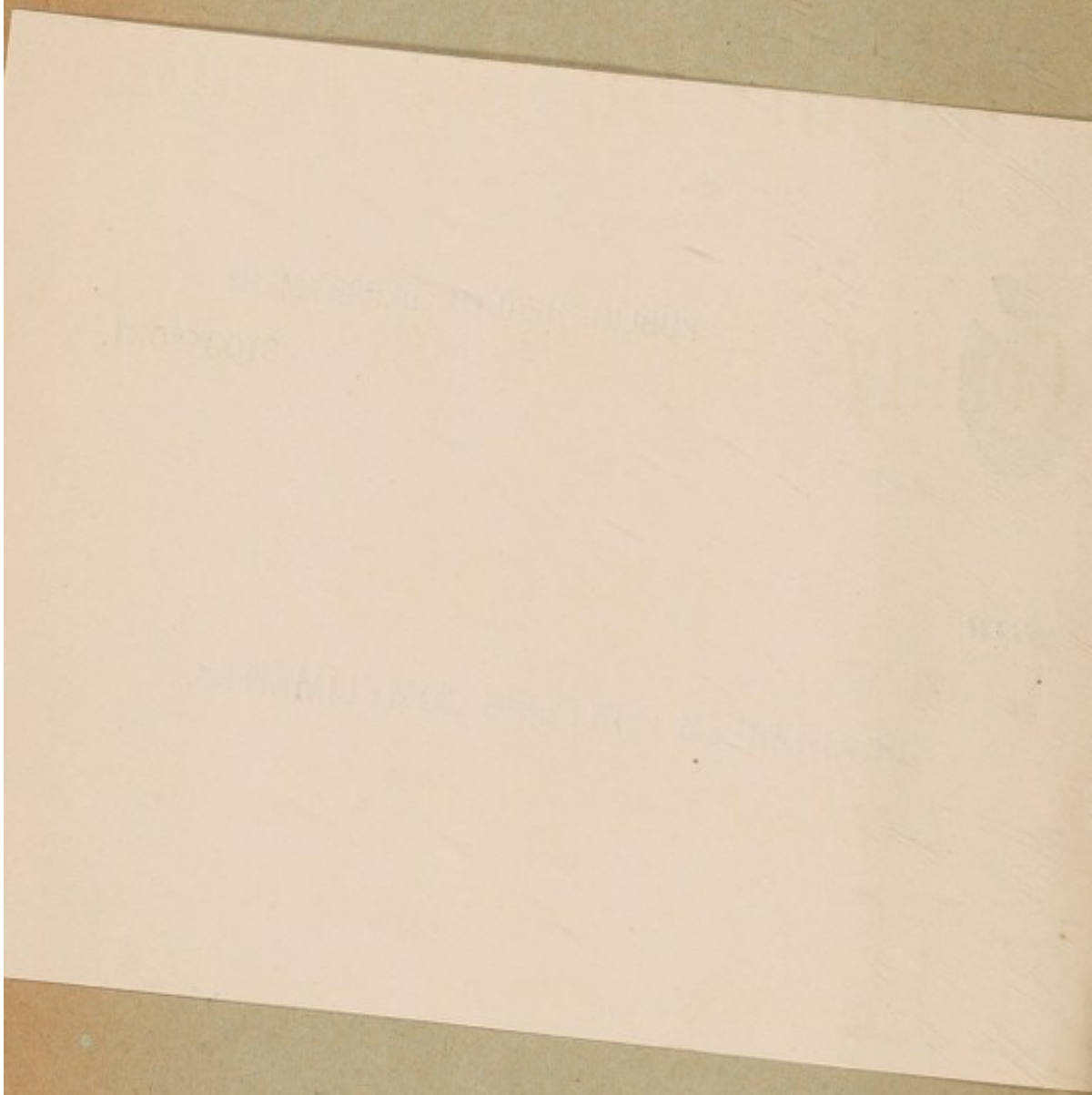


PUBLIC HEALTH DEPARTMENT.

STOCKPORT.

WITH

DR. CHARLES PORTER'S COMPLIMENTS.





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MEDICAL OFFICER OF HEALTH,

AND

Medical Superintendent of the Isolation Hospitals.

STOCKPORT:

NEW CHESHIRE COUNTY NEWS CO., LIMITED, WELLINGTON STREET.

SANITARY COMMITTEE, 1896.

—:O:—

Chairman—COUNCILLOR WILLIAM BELL.

Vice—Chairman—COUNCILLOR R. REDFERN.

THE MAYOR.

ALDERMEN GOULDEN AND HALLAM,

COUNCILLORS ALLCOCK, BARNETT, BOSTOCK, BRETNALL, BROADHURST
FILDES, GRADWELL, HIDDERLEY, J. G. JOHNSON, W. JOHNSON, J.
LOMAS, LOWE, MARRIOTT, MINSHULL, POTTS, SHUTTLEWORTH
STOTT, AND WILLIAM WOOD.

MONDAY—FIXED MEETINGS.

January	13	April	20	July	27	November	2
"	27	May	4	August	10	"	16
February	10	"	18	"	24	"	30
"	24	June	1	September	7	December	14
March	9	"	15	"	21	"	28
"	23	"	29	October	5		
April	6	July	13	"	19		

AT 3 O'CLOCK P.M.

—:O:—

HOSPITAL SUB-COMMITTEE.

—:O:—

Chairman—COUNCILLOR ALLCOCK.

COUNCILLORS BARNETT, W. BELL, BOSTOCK, BROADHURST, FILDES,
HIDDERLEY, J. G. JOHNSON, W. JOHNSON, MARRIOTT, MINSHULL,
REDFERN, SHUTTLEWORTH, AND STOTT.

MEETINGS—WHEN REQUIRED.

COUNTY BOROUGH OF STOCKPORT,

Public Health Department

May 15th, 1897.

TO THE RIGHT WORSHIPFUL THE MAYOR, ALDERMEN, AND COUNCILLORS
OF THE COUNTY BOROUGH OF STOCKPORT.

Mr. Mayor and Gentlemen,

I have much pleasure in submitting to you my Fourth Annual Report on the Health of your Borough, inasmuch as the sanitary records of the year 1896 are, on the whole, very encouraging.

Though the **marriage-rate** and **birth-rate** were both appreciably **below the average** of recent years, the **general death-rate per 1000 persons living** was **20·6** as **against an average rate of 24·7 for the preceding 10 years**. This is the lowest rate recorded except that (18·7) of the phenomenal year 1894.

The **low zymotic death-rate (2·9) of 1896**, in spite of the **severe and continued prevalence of scarlet fever**, is notable, and is mainly due to the **lessened mortality from measles, diarrhoea, and diphtheria**.

The same cause largely accounts, also, for the **reduced rate of infant mortality** (189 per 1000 births), and in this connection I beg to direct your attention to some interesting facts (*vide* p. 12), culled from **Miss Collett's recent Report to the Board of Trade**, in regard to the **employment of women in factories** in Stockport and similar towns.

The **results of your hospital treatment** of scarlet and typhoid fevers are given at p. 27.

As to the **sanitary future of your Borough**, I believe that many of you, Gentlemen, recognise the **constant grave nuisance and injury to health inseparably associated with the midden privy system**, and I venture to hope that as your sewerage works are now completed this matter may receive early and comprehensive consideration. I ask you to believe that I make this reference not only without desire to besmirch Stockport, but with the honest conviction that it is **the one thing needful** to place your Borough in its rightful place in the van of healthy manufacturing communities.

Of the **105 houses** reported in December, 1895, as unfit for human habitation on account of their **midden-privies having to be scavenged by carrying their contents through living rooms**, **94** have been dealt with, and the remainder are now in hand. No legal proceedings have been necessary.

As regards the country generally, the sanitary event of the year was the publication of the **Report of the Royal Commission on Vaccination**. Its importance to all who desire to safe-guard the Public Health is such that I have considered it due to you to summarize its recommendations at p.p. 14-17. **Its principal findings, &c.**, are that—

1. The protective value of vaccination and re-vaccination is vindicated.
2. The anti-vaccinators have failed to prove that foul diseases are frequently introduced with vaccine.
3. The use of calf lymph when desired is strongly recommended.
4. Compulsion of conscientious objectors, and repeated prosecutions, are condemned.
5. The Sanitary Authority, and **not** the Poor Law Guardians, ought to be the Vaccination Authority.

I beg to thank the Chairman and Members of the Sanitary Committee for their unvarying support, and for many acts of personal kindness. I am also indebted to your Chief Officials, and to Dr. Hyde Marriott, who has very kindly taken my place at the Hospital, &c., on various occasions. Finally, I must cordially acknowledge the zeal and efficiency of the permanent staff of your Hospital, and of the inspectors and clerks of your Health Department.

I am, Gentlemen,

Your obedient servant,

CHARLES PORTER,

Medical Officer of Health.

COUNTY BOROUGH OF STOCKPORT, 1896.

Estimated Population	-	-	-	-	76,800
Area	-	-	-	-	2,200 acres.
Rateable Value	-	-	-	-	£281,958 15 0
Value of a Penny Rate	-	-	-	-	£1,174 6 6 $\frac{3}{4}$
General Death-Rate per 1,000	-	-	-	-	20·6
Deaths of Infants under 1 year per 1000 Births	-	-	-	-	189
Zymotic Death-Rate	-	-	-	-	2·9
Phthisis Death-Rate	-	-	-	-	1·8

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Topographical Features of Stockport.

THE BOROUGH is situated on both the Cheshire and Lancashire sides of the valley through which flows the commencement of the river Mersey, formed by the junction within the borough of the Goyt and Tame.

GEOLOGY. The Coal Measures, Permian Sandstone, Permian Marl, and Pebble Beds form the solid rocks of the District. Overlying them is the Glacial Drift presenting great variations in thickness and in the relation of the sand, gravel, and clay of which the beds are composed. In certain districts where typhoid is observed to be specially prevalent, the sponge-like sand or gravel rests upon a more or less basin-shaped layer of clay.

Growth of Stockport.

Year.	Inhabited Houses.	Vacant.	Houses Building.	Population.	Mortality	Zymotic Mortality,	Deaths under one year per 1000 births.	Birth Rate.
1841	8814	†1157	...	†50495	...	...	...	...
1851	10568	...	...	†53835	...	...	...	...
1861	11298	..	...	†54682	...	..	...	...
1871	...	...	...	†53001	..	...	...	...
1881	13007	†1558	74	†59544	24·7	...	...	...
1891	15573	†1216	100	†70263	26·9	3·5	223	33·3
1892	..	...	...	71000	22·7	2·07	199	32·6
1893	16269	870	170	73000	23·9	4·8	222	32·06
1894	16397	804	150	73600	18·7	1·60	192	31·3
1895	16859	*1196	100	75360	24·8	4·40	231	32·5
1896	17190	*1196	120	76800	20·6	2·9	189	31·09

† Census Return.

* Lock-up Shops, &c., included.

Statistics for 1896.

Area of Municipal, Parliamentary, and County Borough	2200 acres.
Total Number of Inhabited Houses	17190

NUMBER OF INHABITED HOUSES IN EACH WARD.


No.	Ward.	Occupied Dwellings.	No.	Ward.	Occupied Dwellings.
1	Lancashire Hill	1149	8	Hollywood	1337
2	Heaton Lane	1392	9	Edgeley	1368
3	Old Road	1500	10	Shaw Heath	1179
4	Portwood	1528	11	St. Thomas's	1336
5	St. Mary's	891	12	Hempshaw Lane	1000
6	Vernon	1202	13	Cale Green	1288
7	Spring Bank	1163	14	Heaviley	857

ESTIMATED POPULATION, 1896.

(1) The "Natural Increase," i.e., the excess of births over deaths from Census Day, 1891, to 30th June, 1896, viz., 3,219, indicates a population of 73,482

The Registrar General's Estimate for 1896 is ... 76,636

Neither of these calculations allow for immigration and emigration. The estimate adopted for 1896 assumes that about 4.47 persons occupy each inhabited house, and is taken as 76,800.

 Your attention is again invited to the statistical importance of a careful yearly enumeration of both the occupied and unoccupied houses in each ward of the Borough at the time of the Annual Survey for Poor Law Purposes.

Marriages.

The number of marriages during 1896 was very considerably less than in 1895.

Year.	Number of Marriages.	Rate per 1000 living.	Rate for England.
1893	486	13.2	14.7
1894	615	16.7	15.1
1895	680	18.04	15.0
1896	585	15.2	..

TABLE (A).

TABLE OF DEATHS DURING THE YEAR 1896, IN THE URBAN SANITARY DISTRICT OF STOCKPORT, CLASSIFIED ACCORDING TO DISEASES, AGE, AND LOCALITIES.

Names of Localities adopted for the purpose of these statistics; Public Institutions being shown as separate Localities. (a)	Mortality from all causes at subjoined ages.								Mortality from subjoined Causes, distinguishing Deaths of Children under Five Years of Age.																	TOTALS							
	At all Ages.								Mortality from subjoined Causes, distinguishing Deaths of Children under Five Years of Age.																								
	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17	18	19	20	21	22	
LANCASHIRE HILL WARD	81	21	10	4	6	14	9	17	Under 5	...	...	...	...	...	...	...	...	...	...	...	1	1	...	6	...	...	1	8	1	...	13	31	
									5 upw'rds	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	17	5	8	...	17	50
HEATON LANE WARD	119	34	21	7	5	16	19	17	Under 5	...	...	...	1	...	...	...	...	...	...	...	2	1	1	13	...	...	2	16	...	...	19	55	
									5 upw'rds	...	1	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	1	2	2	...	11	21	7	1	18	64
OLD ROAD WARD	114	35	17	5	5	7	25	20	Under 5	...	2	1	2	...	...	...	...	...	...	...	6	...	11	...	...	...	...	9	1	...	20	52	
									5 upw'rds	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	8	17	5	1	28	62
PORTWOOD WARD	163	68	19	4	4	16	38	14	Under 5	...	1	...	...	...	...	...	...	...	...	...	1	3	...	14	...	...	1	27	...	...	40	87	
									5 upw'rds	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	8	28	2	2	30	76
ST. MARY'S WARD	101	31	17	4	2	12	15	20	Under 5	...	...	...	...	...	...	...	...	...	...	...	6	...	8	...	...	2	11	1	1	19	48		
									5 upw'rds	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	4	13	6	1	26	53
VERNON WARD	106	31	16	3	4	11	23	18	Under 5	...	...	...	...	...	...	...	...	...	...	...	1	...	10	...	...	15	...	...	...	21	47		
									5 upw'rds	...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	6	15	12	...	22	59
SPRING BANK WARD	108	42	12	2	5	10	24	13	Under 5	...	...	1	...	...	...	...	...	...	...	...	3	...	13	...	...	10	...	...	...	27	54		
									5 upw'rds	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	2	...	8	19	4	2	18	54
HOLLYWOOD WARD	114	35	17	4	4	16	23	15	Under 5	...	1	...	...	...	...	...	...	...	...	...	1	5	...	4	...	...	1	18	...	1	21	52	
									5 upw'rds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	13	21	3	2	22	62
EDGELEY WARD	96	33	10	5	8	15	9	16	Under 5	...	1	1	...	...	...	...	...	...	...	...	1	2	...	6	...	...	1	10	...	...	21	43	
									5 upw'rds	...	...	...	...	3	...	...	...	...	...	1	...	2	...	...	...	...	...	...	1	...	2	...	5	7	7	...	28	53
SHAW HEATH WARD	75	19	12	...	3	12	15	14	Under 5	...	...	...	1	...	...	...	...	...	...	...	1	...	2	1	5	...	...	2	...	19	31		
									5 upw'rds	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	2	...	...	9	7	6	...	19	44
ST. THOMAS' WARD	132	40	13	8	7	20	22	22	Under 5	...	1	1	...	...	...	...	...	...	...	...	...	4	...	9	...	...	2	10	1	...	25	53	
									5 upw'rds	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	8	24	12	1	29	79
HEMPSHAW LANE WARD	69	29	5	4	1	4	15	11	Under 5	...	...	...	...	...	...	...	...	...	...	...	2	...	5	...	...	2	7	...	...	18	34		
									5 upw'rds	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	5	4	1	19	35
CALE GREEN WARD	63	14	8	3	2	11	11	14	Under 5	...	...	1	...	...	...	...	...	...	...	...	1	2	...	3	...	...	8	...	...	7	22		
									5 upw'rds	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	5	10	...	22	41
HEAVILEY WARD	62	13	7	1	6	5	16	14	Under 5	...	1	2	...	...	...	...	...	...	...	...	...	1	...	3	...	...	5	...	...	8	20		
									5 upw'rds	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	5	8	1	24	42
INFIRMARY	33	1	3	6	1	10	8	4	Under 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2	4		
									5 upw'rds	1	...	2	2	1	11	12	29
UNION WORKHOUSE	195	7	7	1	8	36	73	63	Under 5	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	3	1	...	10	14		
									5 upw'rds	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	35	33	27	2	79	181
ISOLATION HOSPITAL	17	...	7	5	2	1	2	...	Under 5	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	7			
									5 upw'rds	...	4	...	...	6
TOTALS	1648	453	201	66	73	216	347	292	Under	...	13	7	4	...	...	...	...	...	...	...	1	15	31	2	110	...	...	15	159	4	3	290	654
									5 upw'rds	...	6	2	1	...	22	2	1	2	3	7	15

THE SUBJOINED NUMBERS HAVE ALSO TO BE TAKEN INTO ACCOUNT IN JUDGING OF THE ABOVE RECORDS OF MORTALITY.

Deaths occurring outside the district among persons belonging thereto									Under 5																								
									5 upw'rds																								
Deaths occurring within the district among persons not belonging thereto	61	1	4	2	2	14	16	22	Under 5																		3			1	1	5	
									5 upw'rds																		1	10	13	8	6	19	56

Births.

The births registered numbered 2,388. The birth-rate was 31·09 per 1,000, being 2·1 below the average for ten previous years.

There were 110 illegitimate births registered, or 4·6 per cent. of total, against 4·5, 6·1, and 4·5 in the three previous years.

Deaths.

The deaths registered numbered 1,648, or 293 less than in 1895. Excluding 61 deaths (chiefly in the Workhouse and Infirmary) of persons not usually resident within the Borough the **death-rate from all causes was 20·6**, as against 24·8 in 1895, and 24·5 for the ten years 1886-1895, and is lower than any previous rate recorded except that of 1894.

The following table summarises for comparison the more prominent mortal statistics for 1893-6.

CAUSE OF DEATH.	Number of Deaths.			
	1896	1895	1894	1893
Seven Chief Zymotics :—	231	336	132	366
Smallpox .....	...	...	2	2
Scarlet Fever	19	6	6	11
Diphtheria	14	27	16	32
" Fevers "—				
Typhoid & Continued	22	20	8	49
Measles	17	84	1	37
Whooping Cough	34	32	3	33
Diarrhœa	125	167	96	202
Influenza.....	9	16	8	3
Lung Diseases (including Phthisis)	542	629	457	526
Heart Disease	126	140	112	112
Injury	28	32	33	49

In 1896, as compared with 1895, there was a marked decrease in the number of deaths from diphtheria, measles, diarrhœa, and influenza, as well as from diseases of the heart and lungs. On the other hand the mortality from scarlet fever was unusually heavy. As in previous years, the most prominent factors of the death-rate are, in the order of their respective importance,

- (1) Lung diseases, including consumption.
- (2) Diarrhœal diseases of young children.
- (3) Infantile wasting, or food marasmus.
- (4) Heart disease.

The deaths which occurred within the district of persons not belonging thereto, may be thus tabulated :—

Where from.	DIED.			Where from.	DIED.		
	Work-house.	In-firmary.	Else-where.		Work-house.	In-firmary.	Else-where.
Hyde	14	1	...	Birmingham...	1	...	...
Manchester ...	6	...	...	New Mills... .	1	...	...
Reddish.....	5	3	...	Wilmslow	1	...	...
Marple	3	1	...	Bury...	1	...	...
Cheadle	3	..	...	Dukinfield.....	1	...	...
Bramall.....	3	...	...	Millbrook	1	...	...
Compstall ..	2	1	...	Shropshire ..	1	...	...
Bosden	2	...	...	Disley .....	..	1	...
Heaton Mersey	2	...	...	Levenshulme ..	...	1	...
Heaton Chapel	1	1	...	Northern			
Romiley	1	...	...	Etchells ...	...	1	...
Denton	1	...	...	Openshaw .....	...	1	...

Totals : In Workhouse 50, in Infirmary 11.

The deaths in the public hospitals of persons belonging to Stockport, exhibit the following ward distribution :—

Where from.	Died in			Where from.	Died in		
	Work-house.	In-firmary.	Isolation Hospital		Work-house.	In-firmary.	Isolation Hospital
Lancashire Hill	3	1	...	Hollywood	11	..	...
Heaton Lane...	12	4	3	Edgeley	7	1	...
Old Road	1	2	3	Shaw Heath....	21	...	2
Portwood	16	1	3	St. Thomas' ...	20	1	...
St. Mary's.....	24	...	1	Hempshaw Lane	6	2	1
Vernon	6	4	1	Cale Green	2	...	2
Spring Bank ...	15	5	1	Heaviley	1	1	..

In Workhouse 145, in Infirmary 22, in Isolation Hospital 17.

Summary of the vital and mortal statistics of the Borough and each of its Wards for the year 1896.

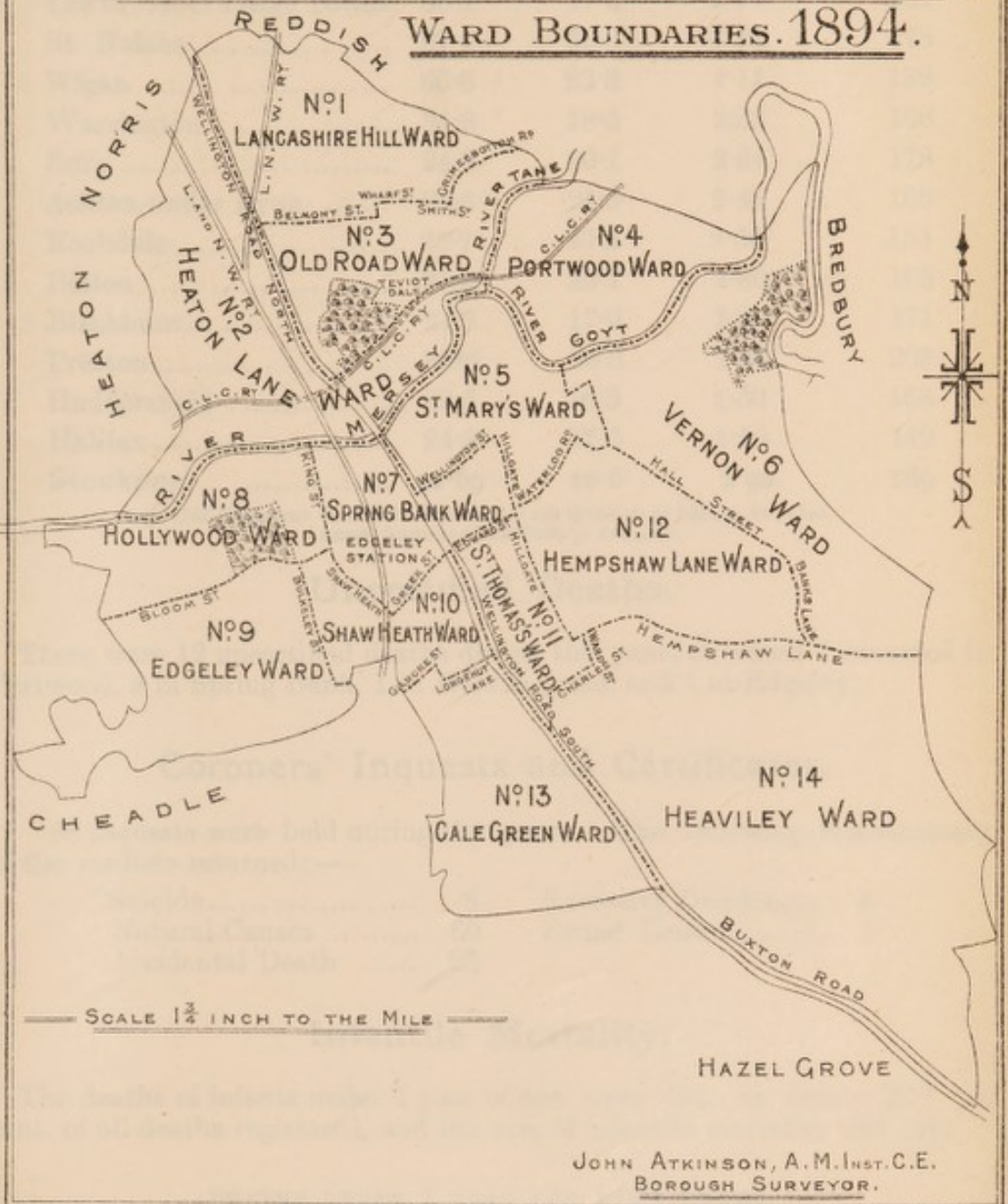
WARD.	Acro- age.	Estimat- ed popula- tion.	Per- sons per acre.	No. of Births regis- tered.	Birth- rate.	Cor- rect'd de'ths *	Cor- rect'd Death rate.	No. of de'ths under 1 year of age *	Infant mor- tality rate per 1000 births	No. of de'ths from 7 prin- cipal Zy- motic dis- eases†	Zy- motic Death rate per 1000.	Zy- motic death rate per 1000. (ex- clud- ing Diar- rhœa)	No. of de'ths from Diar- rhœa. *	Death rate from Diar- rhœa per 1000.	No. of de'ths from Con- sump- tion. *	Death rate from Con- sump- tion per 1000.	No. of de'ths from Other Lung Dis- eases. *	Death rate from Other Lung Dis- eases per 1000.
LANCASHIRE HILL ...	145	5,120	35.3	164	32.03	85	16.6	21	128	10	1.9	0.5	7	1.3	19	3.7	13	2.5
HEATON LANE ...	223	6,260	28.07	186	29.7	138	22.04	35	188	24	3.8	1.4	15	2.3	14	2.2	39	6.2
OLD ROAD ...	114	6,732	59.05	205	30.4	120	17.8	35	170	27	4.01	2.3	11	1.6	8	1.1	27	4.01
PORTWOOD ...	130	6,842	52.6	249	36.3	183	26.7	68	273	26	3.8	1.1	18	2.6	12	1.7	60	8.7
ST. MARY'S ...	91	4,006	44.02	144	35.9	126	31.4	31	215	19	4.7	2.7	8	1.9	12	2.9	29	7.2
VERNON ...	236	5,344	22.6	186	34.8	117	21.8	31	166	16	2.9	0.9	11	2.05	7	1.3	30	5.6
SPRING BANK ...	81	5,234	64.6	169	32.2	129	24.6	43	254	21	4.01	1.1	15	2.8	11	2.1	32	6.1
HOLLYWOOD...	97	5,960	61.4	194	32.5	125	20.9	35	180	11	1.8	1.1	4	0.6	15	2.5	39	6.5
EDGELEY ...	184	5,982	32.5	195	32.5	104	17.3	33	169	14	2.3	1.3	6	1.0	8	1.3	18	3.0
SHAW HEATH ...	61	5,300	86.8	156	29.4	98	18.4	22	141	12	2.2	0.9	7	1.3	15	2.8	16	3.01
ST. THOMAS' ...	53	6,010	113.3	196	32.6	153	25.4	42	214	20	3.3	1.6	10	1.6	12	1.9	35	5.8
HEMPSHAW LANE ..	146	4,485	30.7	134	29.8	78	17.3	29	216	11	2.4	1.1	6	1.3	6	1.3	12	2.6
CALE GREEN ...	145	5,710	39.3	118	20.6	67	11.7	14	118	10	1.7	1.2	3	0.5	2	0.3	13	2.2
HEAVILEY ...	494	3,815	7.7	92	24.1	64	16.7	13	141	9	2.3	1.5	3	0.7	2	0.5	10	2.6
STOCKPORT BOROUGH	2200	76,800	34.9	2388	31.09	1587	20.6	452	189	230	2.9	1.3	124	1.6	143	1.8	373	4.8

* Deaths of Stockport residents in the Union Workhouse, Infirmary, and Isolation Hospital are here referred to the Wards in which they lived. Deaths within the Borough of Non-residents from out-townships are excluded. (See following table).

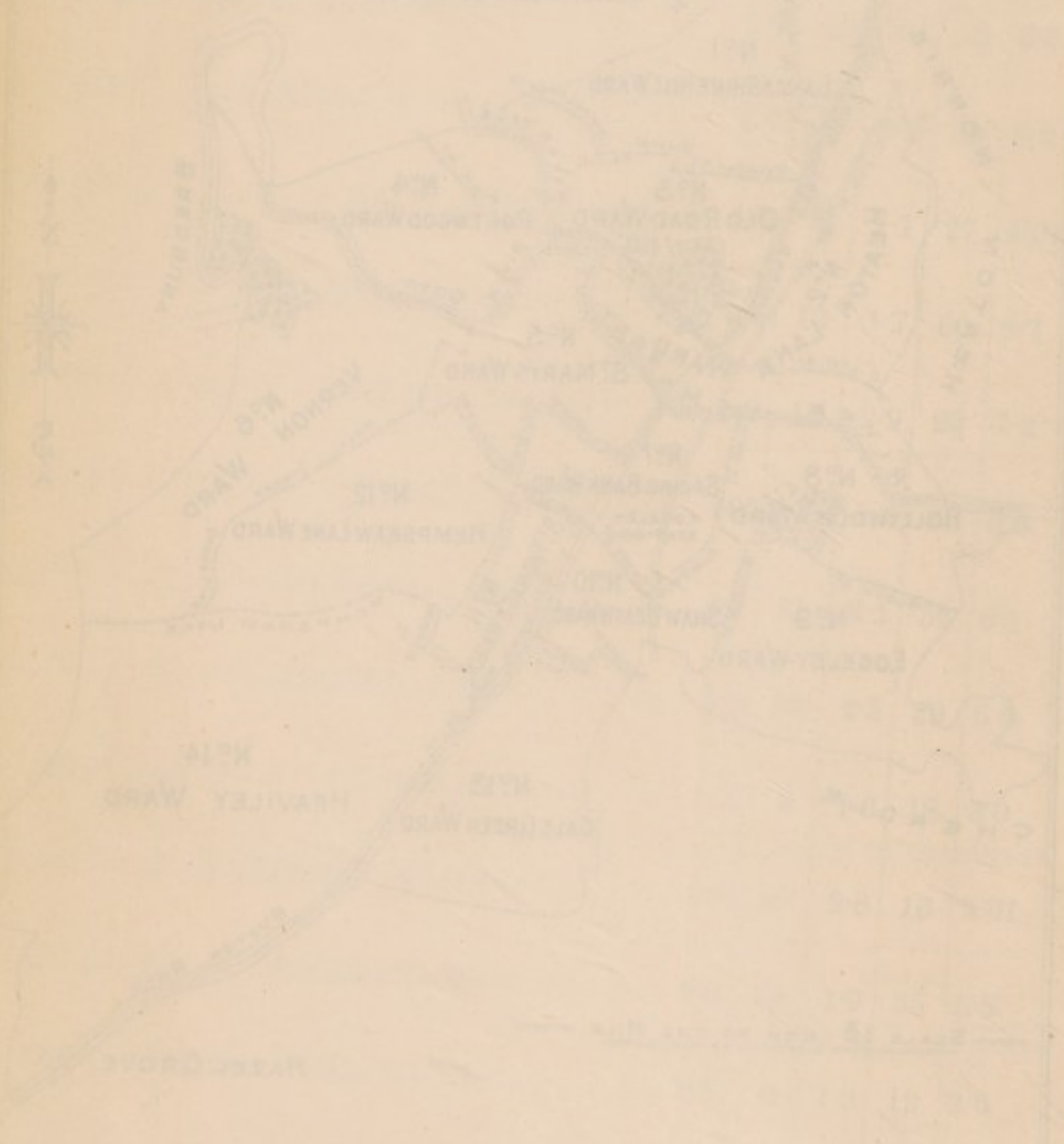
† The "seven principal Zymotic diseases" are smallpox, measles, scarlet fever, diphtheria and membranous croup, whooping cough, fever (typhus, typhoid, and continued), and diarrhœa.

COUNTY BOROUGH OF STOCKPORT.

WARD BOUNDARIES. 1894.



COUNTY BOROUGH OF STOCKPORT.
Ward Boundaries 1884.



John Atkinson, A.M., Surveyor.
General Sessions.

Statistics of other Districts. *

1896.	Birth-Rate.	Death-Rate.	Zymotic Death-Rate.	Deaths of Infants under 1 year to 1000 births.
England and Wales	29·7	17·1	2·18	148
The 33 Great Towns	30·7	18·9	2·86	167
The 67 Other Large Towns	30·1	17·3	2·52	161
St. Helens	37·4	20·2	3·98	178
Wigan	36·6	23·8	4·11	189
Warrington	34·8	18·5	2·82	168
Bury	24·8	20·1	2·64	178
Ashton-under Lyne	28·6	21·2	2·47	168
Rochdale	25·7	20·2	2·06	153
Bolton	31·3	20·7	2·80	168
Blackburn... ..	27·7	17·9	1·82	171
Preston	32·6	20·8	1·86	203
Huddersfield	20·5	16·5	1·60	166
Halifax	24·3	17·3	1·10	149
Stockport	31·09	20·6	2·90	189

* Vide Registrar General's Return for 4th Quarter of 1896, p. ix., also Annual Summary for 1896, p. xxv., &c.

Uncertified Deaths.

There were 12 uncertified deaths during the year, of which 7 occurred in Portwood, 3 in Spring Bank, 1 in Heaton Lane, and 1 in Edgeley.

Coroners' Inquests and Certificates.

88 inquests were held during the year. The following is a summary of the verdicts returned:—

Suicide	3	Excessive Drinking...	1
Natural Causes	60	Found Dead.....	1
Accidental Death	23		

Infantile Mortality.

The deaths of infants under 1 year of age were 452, or nearly 28·5 per cent. of all deaths registered, and the rate of infantile mortality was 189.

DEATHS UNDER 1 YEAR PER 1,000 BIRTHS.

	1893	1894	1895	1896
England and Wales	159	137	161	148
33 Great Towns	181	152	182	167
67 Other Large Towns	—	142	176	161
Stockport	225	192	231	189

The appended tabular analysis of the infant deaths of the last eight years indicates very clearly that the **chief causes** of this large factor of your death-rate are, as before pointed out, (a) prematurity and low vitality at birth; (b) respiratory disease; (c) diarrhoeal disorders, due to improper feeding and insanitary surroundings. The abatement of the latter condition, the limitation of female factory labour **before** as well as after confinement, and the extension of the Infant Life Protection Act, 1872, to **all** children who are nursed out, are amongst the remedies advocated for this evil. Improvement, however, must be gradual and largely commensurate with the diffusion of knowledge as to infant hygiene.

From a recent report by Miss Collett, compiled for and issued by the Labour Department of the Board of Trade, it appears that in regard to the employment in mills of female labour, Stockport stands fourth in the list of cotton manufacturing towns, coming after Burnley, Blackburn, and Preston. In Stockport, in 1894, 3,938 women and girls, at an average wage of 13s. 5d., were employed in the cotton trade, constituting 50 per cent. of the total number returned as occupied at the 1891 census. Of those over 18 years of age so employed, 37.7 per cent. were either married or widowed. Miss Collett points out that in the **weaving** districts, e.g., Blackburn, Burnley, and Preston, the female can earn nearly as much as the male operatives, and hence there is very little tendency for married female labour to decrease. In **spinning** districts, such as Stockport and Oldham, the earnings of men are considerably higher than those of women, and the diminution of married women's labour is therefore much more marked. This is borne out by the ~~the~~ last two census returns, which show that of every 100 females above 10 years of age in Stockport, 31 were employed as cotton operatives in 1881, but only 26 in 1891.

Whilst admitting that the tendency is towards the diminution of married women's labour, Miss Collett adds that the percentage so employed is "extremely high still. Blackburn, Burnley, Preston, Stockport, Rochdale, and Bury occupy an exceptionally bad position in this respect. In such towns, where nearly all the girls under 20 and half the women between 20 and 45 are engaged away from home, we may naturally look for a high infant mortality, and expectation is justified by the facts."

Zymotic Disease.

The features of the year's record were the wide prevalence of scarlet fever, and a markedly lessened mortality from measles, diarrhoea, diphtheria, and influenza.

The death-rate from the "Seven Chief Zymotic Diseases"* was equal to 2.9 per 1,000 persons living (as compared with 4.4 in 1895, 1.64 in 1894, and 4.8 in 1893), and of this figure diarrhoea was responsible for 1.6. The same rate for England and Wales was 2.18, for the 33 Great Towns 2.86, and for the 67 Other Large Towns 2.52.

* Smallpox, measles, scarlet fever, diphtheria and Membranous Croup, whooping cough, "fever" (typhus, typhoid, and continued), and diarrhoea.

Analysis of the Causes of Infant Mortality in Stockport.

FOR THE 8 YEARS—1889 TO 1896 INCLUSIVE.

CAUSES.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.	1 month, and under 2	2 months, and under 3	3 months, and under 4	4 months, and under 5	5 months, and under 6	6 months, and under 7	7 months, and under 8	8 months, and under 9	9 months, and under 1	10 months, and under 11	11 months, and under 12	TOTAL.	
Premature birth and congenital malformation	106	23	18	10	8	2	4	171	31	21	10	233	10	10	3	5	2	4	3	1	1	...	2	274	
Debility, low vitality, inanition, asthenia, marasmus, atrophy.	88	35	27	8	9	9	10	186	58	80	23	347	135	109	93	63	49	23	27	16	18	14	11	905	
Respiratory diseases (including pulmonary tuberculosis) ...	8	1	2	...	2	..	1	14	15	12	7	48	77	84	97	89	91	75	83	70	64	90	59	927	
Diarrhœa and other gastro-intestinal maladies ... ..	...	...	..	...	...	2	2	4	6	13	11	34	71	93	100	96	89	54	55	44	37	16	18	707
Tabes Mesenterica and tubercular peritonitis ... ..	...	...	..	...	...	...	...	...	...	...	...	...	4	2	7	9	9	13	4	4	4	5	1	62
Dentition ... ..	...	...	..	...	...	...	...	...	...	...	...	...	...	1	1	7	17	18	22	20	16	18	18	138
Convulsions and nervous diseases	20	17	13	9	7	3	3	72	20	18	4	114	51	54	44	33	30	14	14	19	15	15	10	403	
Meningitis (including Tubercular)	...	...	..	...	...	...	..	...	...	...	...	...	3	11	8	17	16	14	16	12	12	4	9	122
Zymotic diseases— w.—Whooping cough. d.—Diphtheria. c.—Membranous croup. sc.—Scarlet fever. m.—Measles. e.—Erysipelas.	1.E	1.W	2.W	3.W	4.W	9.W	3.W	10.W	11.W	15.W	7.W	12.W	9.W	14.W	15.W	112.W	230
	...	...	..	...	...	...	...	...	1.D	1.D	...	1.D	1.E	...	2.M	2.M	1.Sc	8.M	1.D	1.D	2.D	1.C	2.C	5.D
	1.E	1.E	...	1.E	1.E	4.M	...	7.M	1.Sc	21.M	21.M	21.M	4.Sc	6.C
	13.M	98.M	5.E
Suffocation =s. Injury =I. Overlain =o.	1.I 1.s	1.I	...	1.s	2.s 2.I	1.s 1.I	3.s 3.I	5.s 3.o	3.s 1.o	2.s 1.I 1.o	2.s	1.o	...	1.I	1.s	...	1.s	...	17.s 5.I 6.o	28
Other causes*	6	4	...	1	..	3	1	15	12	6	4	37	22	15	14	7	9	6	8	4	7	4	3	136	
TOTALS ...	230	81	60	29	26	19	21	466	145	152	61	824	386	392	377	341	330	244	249	209	207	202	171	3932	

TOTAL NUMBER OF BIRTHS DURING YEARS 1889 TO 1896 INCLUSIVE, 18,603

*DEATHS FROM "OTHER CAUSES" included *inter alia*:—27 inherited syphilis, 18 during first three months: 11 icterus, 8 being in 1st month: 7 atelectasis: 1 intestinal obstruction, 10th day: 4 intussusception, one in 5th and three in 7th month: 1 volvulus 5th, month: 1 strangulated hernia, 10th month: 1 prolapsus recti, 10th month: 1 congenital occlusion rectum, 3rd week: 1 tubercular diabetes, 11th month: 3 tubercular peritonitis, 5th and 9th months: 3 endocarditis, 1st month (verified P.M.), 4th and 8th months: 3 hæmorrhage umbilical cord, 1st, 2nd, and 3rd day: 3 inflammation umbilicus, 1st month: 1 gastro-intestinal hæmorrhage, 6th day: 1 lympho-sarcoma (verified P.M.), 4th month.

Analysis of the Causes of Inf
For the 8 Years—1889

CAUSES		1889	1888	1887	1886	1885	1884	1883	1882	1881	1880
Premature birth and congenital malformation		106	23	18	10	8	2	4	171	31	21
Debility, low vitality, inanition, asthenia, marasmus, atrophy		88	35	27	8	9	9	10	186	58	80
Respiratory diseases (including pulmonary tuberculosis)		8	1	2	2	2	1	1	14	15	13
Diarrhea and other gastro-intestinal maladies		17	22	22	22	22	22	22	14	13	18
Typhoid, Cholera, and other acute febrile diseases		7	7	7	7	7	7	7	7	7	7
Dentition		10	10	10	10	10	10	10	10	10	10
Convulsions and nervous diseases		20	17	13	9	7	3	3	72	30	18
Meningitis (including Tubercular)		11	11	11	11	11	11	11	11	11	11
Zymotic diseases— r.—Typhoid m.—Measles sc.—Scarlet fever c.—Membranous croup d.—Diphtheria w.—Whooping cough		11	11	11	11	11	11	11	11	11	11
Suffocation = a Injury = I Overlain = o		11	11	11	11	11	11	11	11	11	11
Other causes*		8	4	6	1	7	3	4	15	12	16
Totals		230	81	60	29	26	19	31	466	145	153

TOTAL NUMBER OF BIRTHS DURING YEAR
*DEATHS FROM "OTHER CAUSES" included enteric fever:—27 indented syphilis, 18
1 intestinal obstruction, 10th day; 1 intussusception, one in 5th and three in 7th
prolapsus recti, 10th month; 1 congenital occlusion rectum, 3rd week; 4 tubercle
3 endocarditis, 1st month (ventric. part), 5th and 6th months; 3 hemorrhage
1 gastro-intestinal hemorrhage, 6th day; 1 lympho-sarcoma (ventric. part), 4th mo

TABLE (B).

Table of Population, Births, and of New Cases of Tuberculosis in the Urban Sanitary Districts of London, Year 1896.

Sanitary District	Population	Births	New Cases of Tuberculosis	Rate per 1,000	Males		Females					
					Population	Births	New Cases	Rate per 1,000	Population	Births	New Cases	Rate per 1,000
HERRSHAW LANE WARD	78	26	1	1.28	38	13	1	2.63	40	13	0	0.00
ST. THOMAS' WARD	97	33	2	2.06	48	18	1	2.08	49	15	1	2.04
HEATH WARD	41	21	1	2.44	21	8	0	0.00	20	13	1	5.00
SHAW HEATH WARD	70	26	1	1.43	35	13	0	0.00	35	13	1	2.86
EDGEBURY WARD	91	104	1	1.10	45	17	0	0.00	46	87	1	2.17
HOLLYWOOD WARD	93	101	1	1.08	46	17	0	0.00	47	84	1	2.34
SPRING BANK WARD	88	81	1	1.14	44	17	0	0.00	44	64	1	2.27
VENN'S WARD	100	86	1	1.10	50	43	0	0.00	50	43	1	2.00
ST. MARY'S WARD	1181	1331	1	0.08	590	641	0	0.00	591	690	1	0.17
PORTWOOD WARD	127	133	1	0.79	63	70	0	0.00	64	63	1	1.58
OLD ROAD WARD	103	103	1	0.97	51	52	0	0.00	52	51	1	1.92
HEATON LANE WARD	88	98	1	1.14	44	54	0	0.00	44	44	1	2.27
LAKESHIRE HILL WARD	77	87	1	1.30	38	49	0	0.00	39	38	1	2.63
TOTAL	103	103	1	0.97	51	52	0	0.00	52	51	1	1.92

TABLE (B).

Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health, during the Year 1896. In the Urban Sanitary District of Stockport, classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate Localities.	POPULATION AT ALL AGES.		Registered Births.		Ages under 5 or over 5.	New Cases of Sickness in each Locality coming to the knowledge of the Medical Officer of Health.								Number of such cases removed from the several Localities for treatment in							TOTAL.					
	Census 1891.	Estimated to middle of 1896.	(d)	(e)		FEVERS.								ISOLATION HOSPITAL.			WORKHOUSE HOSP.			Laywell Sanatorium, Trafford.						
						Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Erysipelas or Typhoid.	Continued.	Purpura.	Erysipelas.	TOTAL.	Smallpox.	Scarlatina.	Diphtheria.	FEVERS.								
																		Diphtheria or Typhoid.	Continued.			Diphtheria.	Enteric or Typhoid.	Erysipelas.		
(a)	(b)	(c)	(d)	(e)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
LANCASHIRE HILL WARD	77	87	77	87	Under 5	17								17	13										13	31
					5 upw'ds	18		1	5	1			3	28	15		3								18	
HEATON LANE WARD	88	98	88	98	Under 5	17		1						18	12										12	35
					5 upw'ds	26			4	1				31	22		1								23	
OLD ROAD WARD	103	102	103	102	Under 5	21	1	2						24	16										16	47
					5 upw'ds	36			5	1			7	49	27		3							1	31	
PORTWOOD WARD	127	122	127	122	Under 5	17								17	7										7	34
					5 upw'ds	36			4		1	2	43	60	25		2								27	
ST. MARY'S WARD	82	62	82	62	Under 5	10		1						11	8										8	23
					5 upw'ds	13			6				5	24	13									1	14	
VERNON WARD	100	86	100	86	Under 5	4								4	3										3	9
					5 upw'ds	7	1		3				3	14	4	1	1								6	
SPRING BANK WARD	88	81	88	81	Under 5	5	1							6	1										1	18
					5 upw'ds	18			2				1	21	17										17	
HOLLYWOOD WARD	93	101	93	101	Under 5	6								6	4										4	21
					5 upw'ds	13	2		8				1	24	13		4								17	
EDGELEY WARD	91	104	91	104	Under 5	10	1						1	12	3										3	18
					5 upw'ds	16			10	2			5	33	9		4	1						1	15	
SHAW HEATH WARD	70	86	70	86	Under 5	5	2		1					8	4		1								5	22
					5 upw'ds	15	1		9	1	1			27	11		6								17	
ST. THOMAS' WARD	97	99	97	99	Under 5	4	5						1	10	1										1	9
					5 upw'ds	1	4	6	1	10		1	4	27	1	3		4							8	
HEMPSHAW LANE WARD	78	56	78	56	Under 5	6								6	3										3	6
					5 upw'ds	11	4		5				1	21	2		1								3	
CALE GREEN WARD	62	56	62	56	Under 5	1	2							3	1										1	2
					5 upw'ds	6	5		2				4	17	1										1	
HEAVILEY WARD	41	51	41	51	Under 5	4	2							6	3										3	5
					5 upw'ds	3	1		4				1	9	2										2	
INFIRMARY					Under 5																					
					5 upw'ds																					
UNION WORKHOUSE					Under 5	1	1							2	1										2	10
					5 upw'ds				6	1			1	8			2	1		4	1				8	
BOYS' INDUSTRIAL SCHOOL					Under 5																					
					5 upw'ds	2								2	2										2	2
BISHOP BROWN MEMORIAL SCHOOL					Under 5																					
					5 upw'ds	1								1	1										1	1
TOTALS			1197	1191	Under 5	128	15	4	1			2	150	80		1		1							82	292
					5 upw'ds	1	225	20	2	83	7	3	38	379	1	37	1	31	2		4	1		3	210	

Infectious Diseases Notification Act.
Cases reported during 1896.

MONTH.	Small pox.	Scar- let Fever	Diph- theria	Mem- branous Croup.	Typhus Fever	Typhoid Fever	Continu- ed Fever	Puer- peral ever	Chol- era.	Erysi- pelas.	Totals
January ...	..	18	8	1	...	3	...	...	...	2	32
February ...	...	14	1	...	...	2	3	1	...	1	22
March ...	...	14	6	1	...	1	...	...	...	3	25
April ....	...	18	2	1	...	1	...	...	...	3	25
May ...	...	25	1	1	...	2	...	...	...	...	29
June	1	40	...	1	...	5	...	...	...	3	50
July .....	..	48	7	...	...	9	...	1	...	4	69
August ...	...	38	1	...	...	14	2	...	...	5	60
September ...	...	48	4	...	...	7	...	1	...	6	66
October..	...	30	3	...	...	13	...	..	...	3	49
November		35	...	..	...	16	...	...	...	4	55
December	...	25	2	1	...	11	2	...	..	6	47
Totals ...	1	353	35	6	...	84	7	3	...	40	529

41

91

TOTAL 529

To systematize your Inspector's work, they are now supplied with note books, having printed headings in regard to the points on which inquiry is desirable (*vide p 43*). Their results are afterwards transcribed on suitable printed schedules and filed.

Smallpox.

On 18th June a cotton operative living in Edward-street went about 9 p.m. with a message to the surgery of a medical man, and was found to be suffering from Smallpox. He was sent to the Union and removed the following morning to Whitehill. Of the 9 other inmates of the house in which he lived I re-vaccinated seven. I also warned and offered re-vaccination to each of the other workers in same spinning-room. The house was disinfected and kept under daily surveillance for 18 days. There were no further occurrences. The origin of this case was not clearly traced, though every effort was made to do so. The only possible clue elicited was that people from Oldham, where shortly before there had been several cases of smallpox, had stayed in this house about a fortnight previous to onset of illness.

Vaccination.

The following are the completed returns relating to primary vaccination of infants during the decennium 1885-1894 in the three registration districts of Stockport which include, in addition to the Borough, portions of Heaton Norris and Brinnington outside the Borough.

Year ending 31st Decembr	No. of Births registered	Successfully Vaccinated.	Insu'ceptible of accination.	Had Smallp'x	Dead Unvaccinated.	Postponement by Medical Certificate.	Reval to districts the Vaccination Officer of which has been duly apprised.	Removal to places unknown or which cannot be reached and cases not having been f'nd	Un-accounted for.
1885	2465	1985	4	...	333	9	14	87	33
1886	2637	2146	8	...	318	17	13	97	38
1887	2603	2156	6	1	293	22	18	72	35
1888	2520	1939	7	..	359	23	27	115	50
1889	2644	2127	12	...	318	31	21	107	28
1890	2551	1917	9	..	392	35	22	125	51
1891	2700	2035	5	...	377	46	26	142	69
1892	2644	1935	3	..	362	81	26	169	68
1893	2682	1901	14	...	397	33	33	144	160
1894	2690	1890	15	..	403	64	25	166	127
1895	2858	1843	13	...	449	46	12	237	258
Totals.	28994	21874	96	1	4001	407	237	1461	917

I am indebted to the courtesy of C. F. Johnson, Esq., Solicitor, Clerk to the Guardians, for these figures.

While the number of births registered has gradually increased, the number "successfully vaccinated" has steadily decreased since 1891, and in 1896 the number of "removals, &c.," and of "unaccounted for" are much higher than in any of the previous years. This is very unsatisfactory.

Report of the Royal Commission on Vaccination.

This was issued late in the year. On account of its great importance I have summarized for your information the conclusions of the "Majority" Report, which was signed by 11 of the 13 Commissioners.

(A) As to the protective effect of vaccination (*Par. 377*):

- (1) That it diminishes liability to attack.
- (2) That it renders the disease less fatal and of a milder type.
- (3) That protection is greatest in the years immediately succeeding vaccination. The period of highest protection, though variable, is in general about 9 or 10 years.

(4) That thereafter protection rapidly diminishes, but is considerable during the next 5 years, and possibly never altogether ceases.

(5) That its **modifying** power is greatest in the period in which its **protective** power is greatest, but that this **modifying** power diminishes less rapidly, and is still very considerable during the later periods of life.

(6) That re-vaccination restores the protection which time has diminished, but this protection again diminishes, and therefore the operation should be at intervals repeated.

(7) That vaccination in three or four places is more effectual than in one or two places only, and that "marks" of an area of half a square inch indicate better protection than "marks" of appreciably less area.

(B) As to the alleged injurious effects of vaccination :

(1) With regard to the assertion that the mortality from certain specified diseases, *e.g.*, syphilis, scrofula, skin disease, blood poisoning, diarrhœa, bronchitis, &c., has increased concurrently with the spread of vaccination :—

Par. 398.—" . . . the evidence is overwhelming to show that in the case of some of the diseases referred to, vaccination cannot have produced any effect upon the mortality from them, and that it has not, in the case of any one of them, increased the mortality to a substantial, we might even say an appreciable, extent."

(2) With regard to the assertion that injury or death has frequently resulted from the operation :—

Erysipelas and syphilis are specially considered. The risk of the latter is described as "almost infinitesimal" (*Par. 432*) with due care and inquiry, *and if calf lymph be used absolutely nil.*

Par. 434.—" . . . although some of the dangers said to attend vaccination are undoubtedly real and not inconsiderable in gross amount, yet when considered in relation to the extent of vaccination work done they are insignificant," and are decreasing.

(C) As to the best means for preventing or lessening the ill-effects, if any, resulting from vaccination :

(1) That to eliminate the risk of syphilis, parents should not be required to submit their children to vaccination by means of any but calf lymph.

(2) That the present period of 3 months from birth within which vaccination is compulsory be extended to 6 months.

(3) That the Local Government Board should issue a code of clear and simple rules for guidance in the care and protection of the vaccinated arm.

(4) That vaccination be performed at the child's home, thus avoiding exposure, and revealing insanitary condition of residence.

(5) That postponement be expressly permitted when desirable on account of the child's state, or of its surroundings, or of any zymotic prevalence in the neighbourhood.

(6) That vaccination vesicles should not be opened except for some adequate reason.

(7) That lymph should be preserved on tubes instead of on dry points.

(8) That all vaccinating instruments should be sterilized.

(9) That inspection of the vaccinated arm should be later in the 2nd week instead of on the 8th day, and that another inspection in the 3rd week be obligatory.

(10) That the vaccinator be bound to attend if summoned on account of any unfavourable symptom occurring prior to date fixed for inspection and that medical attendance be provided for any supervening illness.

(D) As to the value of means, other than vaccination, for diminishing the prevalence of smallpox:

Par. 503.—That there is nothing to warrant the conclusion that in this country vaccination might be safely abandoned and replaced by a system of isolation.

Par. 499.—That, as an auxiliary to vaccination, complete notification, *plus* immediate hospital isolation, *plus* careful supervision, or, if possible, isolation for 16 days of those who had been in immediate contact with sufferers is of very high preventive value, *provided that* (a) there be no considerable aggregation of smallpox patients in a hospital situated in a populous district, and (b) the ambulance arrangements be organised with scrupulous care.

Par. 507.—In view of the fact that outbreaks of smallpox frequently originate from the introduction of the disease to common lodging houses by tramps, it is recommended

(1) That the laws relating to common lodging houses be extended to all common shelters [*e.g.*, Salvation Army].

(2) That local authorities be empowered

i. To require medical examination of all persons entering common lodging houses or casual wards.

ii. To forbid, temporarily, fresh admissions to, or to require the temporary closure of, an infected common lodging house.

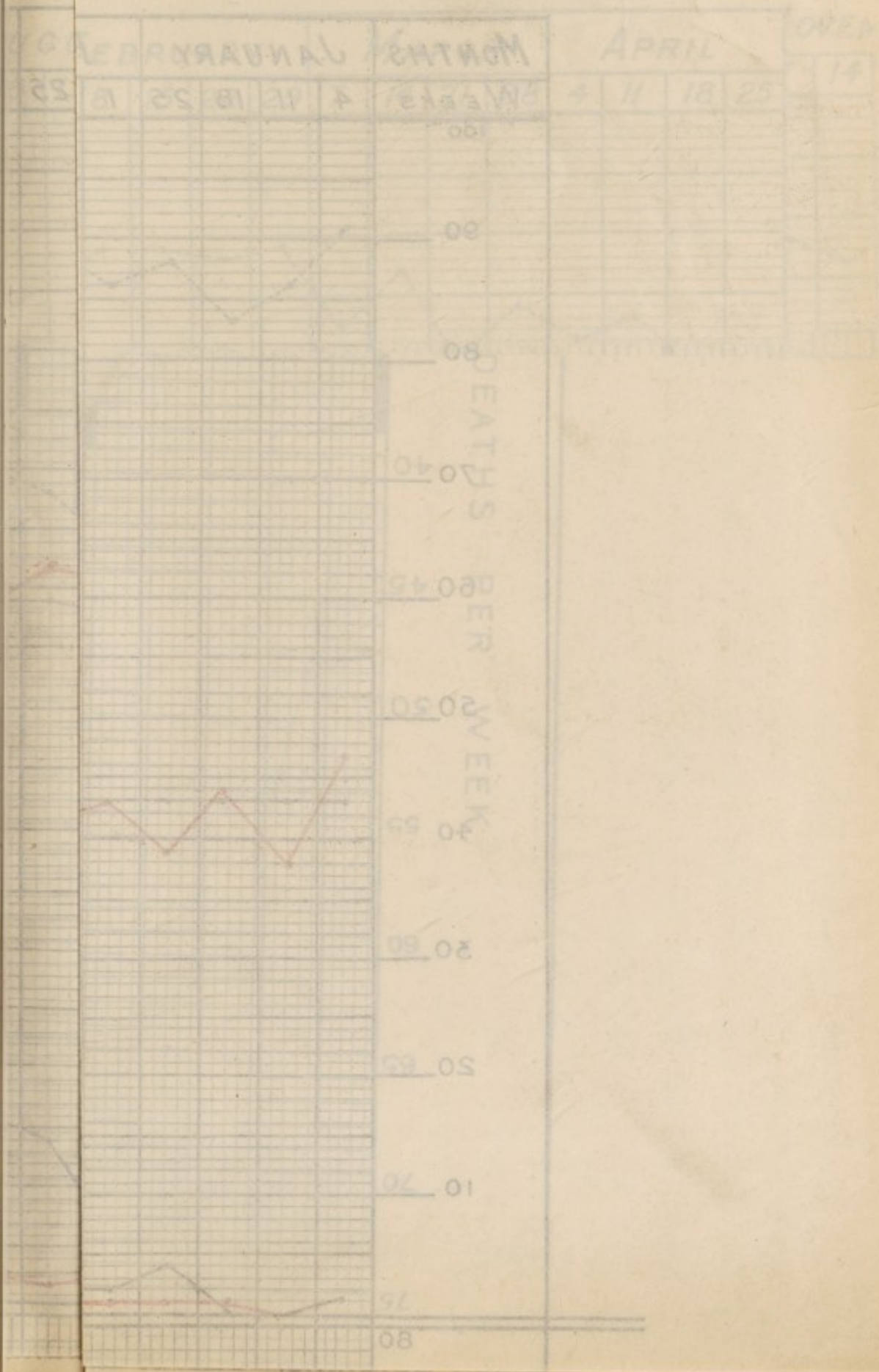
iii. To offer free lodgings to any inmate suspected of being infected.

(3) That the Public Vaccinator or the Medical Officer of Health should attend and vaccinate the inmates of such lodging houses or wards, except such as are unwilling to submit to the operation.

(4) That the Sanitary Authority should notify adjoining Authorities of the occurrence of smallpox in common lodging houses, &c.

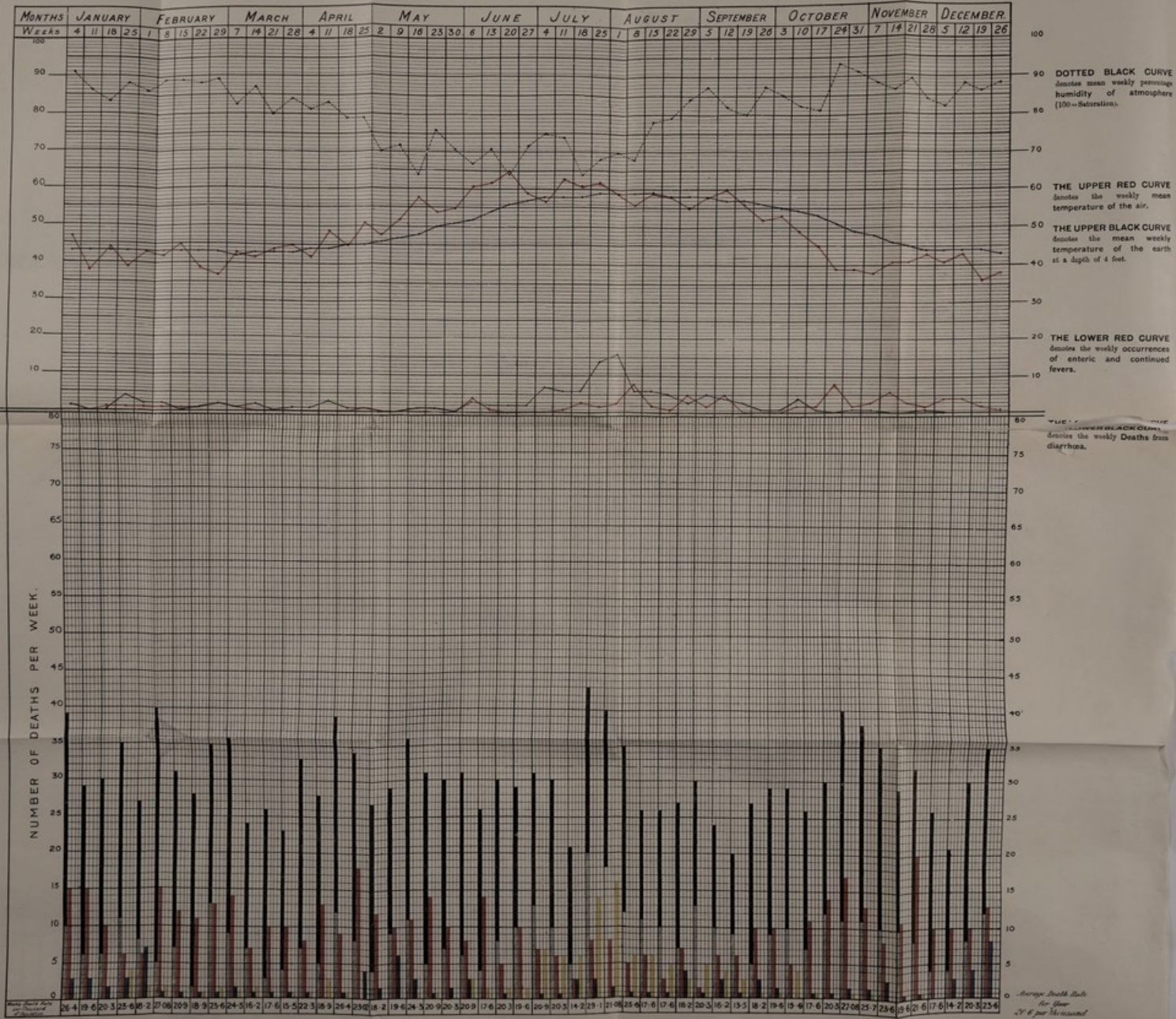
Par. 508.—That sanitation and vaccination, concerning as they both do the health of the people, should be under the jurisdiction of a single authority, and that the Sanitary Authority is the appropriate one for that purpose.

City Board.



Number of deaths per week

County Borough of Stockport, 1896.



Black Columns. = Total of deaths from all causes. The shaded portion denotes deaths of children under 1 year.
Red Columns. = Deaths from Respiratory Diseases.
Blue Columns. = Deaths from Zymotic Diseases (excluding diarrhoea).
Yellow Columns. = Deaths from Diarrhoea.

(E) As to the enforcement. &c., of vaccination :

Par. 521, 524.—The compulsion of conscientious objectors to submit their children to vaccination, and the enforcement of repeated penalties, are condemned.

Par. 533.—In view of the great importance of re-vaccination it should be in every way encouraged, but not made compulsory.

Enteric or Typhoid, and Continued Fever.

84 cases of typhoid and 7 of continued fever were reported, as compared with an annual average of 105 cases of typhoid and continued fever during the previous 5 years. Twenty-two deaths resulted, representing an annual death-rate per 1,000 persons living of 0·28, as compared with 0·19 (from "fevers") for the 33 Great Towns, and 0·20 for the 67 Other Large Towns. During the decennium 1886-1895, the average annual rate for your Borough was 0·34.

The chief causes of this disease in Stockport are:—

- (1) Soil and ground-air pollution by soakage of liquid filth from the many enormous foul privy pits which exist.
- (2) Soil and ground-air pollution by leakage of sewage from defective drains.
- (3) Infected dust and emanations from privy pits into which typhoid discharges have been thrown.

The evils of soil pollution are greatly accentuated by hot dry weather, and in the honest discharge of my duty I must again record the opinion that the persistence of the midden-privy system in your town is a serious and constant source of injury and danger to health, especially in hot weather.

Diarrhœa.

125 deaths were registered from this cause, of which 110 were amongst children under 5 years of age. This represents a mortality per 1,000 of 1·6, as compared with 0·79 for the 33 Great Towns, and 0·68 for the 67 Other Large Towns.

The relation of this disease to insanitary conditions of residence, early weaning, and injudicious hand-feeding has been repeatedly indicated.

In regard to its connection with the earth temperature, at a depth of 4 feet, the fourth year observations in Stockport (*vide* chart) are in close accord with Dr. Ballard's views.

Measles.

17 deaths (10 being in the Heaton Norris Wards) were recorded from measles, as against 84 in 1895. This represents a rate of 0·22 per 1,000 persons living, compared with 0·71 in the 33 Great Towns and 0·64 in the 67 Other Large Towns.

Six deaths occurred in January, 2 in February, 1 each in March and April, and 7 in December.

The age-incidence was as follows:—

Under 1	1—2	2—3	3—4	4—5	Over 5
7	3	2	1	2	2

Scarlet Fever.

The exceptional and persistent prevalence of scarlet fever was very remarkable; 353 cases were reported, of which 19 (or 5·3 per cent) died. The mortality per 1,000 persons living was 0·24, against 0·22 for the 33 Great Towns, and 0·20 for the 67 Other Large Towns.

The disease appears to have been very prevalent in the neighbourhood generally, as the rate for Salford was 0·49, for Oldham 0·38, and for Manchester 0·37.

DEATHS FROM SCARLET FEVER IN STOCKPORT, 1875-1896.

1875	156	1883.....	28	1891.....	10
1876	52	1884.....	22	1892.....	4
1877.....	22	1885.....	4	1893.....	11
1878	18	1886.....	14	1894.....	6
1879.....	63	1887.....	24	1895.....	6
1880.....	126	1888.....	16	1896.....	19
1881.....	24	1889.....	11		
1882.....	17	1890.....	26		

In 1896 the incidence of the disease was on Portwood during the early part of the year; in May the Heaton Norris Wards were invaded, and shortly afterwards Spring Bank and Edgeley districts became affected. Some 200 cases in all occurred from 1st May to 30th September, and about 90 during the last quarter of the year; 247 patients (or about 70 per cent.) were isolated in your hospital.

PORTWOOD.

To supply a complete account of the 53 scarlet fever occurrences in Portwood it is necessary to revert to the notification in November, 1895, of a very severe case in Emperor street, which led to the detection of 2 un-notified previous sufferers in the same house, who contracted the disease early in October from a visitor from an infected dwelling in a Yorkshire village, and had, except for two or three days, continued their school attendance uninterruptedly. On examining their classmates, 6 were found to exhibit evidences of the disease, and were at once excluded. The malady, however, continued to spread to such an extent that on the 18th November the school was closed for 14 days. To this diffusion of infection 3 cases which occurred at the end of December in Mellor-street are believed to be traceable, and they in turn seem to have transmitted the infection early in January, 1896, to 3 playmates in Portwood Hall Place, which is close by. These

latter were attended by an unqualified practitioner, who is said to have advised their mother to keep silence about it unless she wished to have her children sent to the hospital. The existence of these cases was, however, discovered in the course of inquiry into further outbreaks amongst the neighbours' children. Of these numerous sufferers, some attended St. Paul's School, others Portwood Wesleyan School; both these institutions thus became infected, causing a further extension of the disease amongst the scholars from the central and eastern portions of the ward. In all, 31 cases occurred from January 1st to May 31st. During the four succeeding months the cases notified only numbered 8, but in the last quarter of the year there was a slight recrudescence, 14 occurrences having been reported, some of which were apparently attributable to school attendance, whilst several were directly traceable to contact with previous cases.

LANCASHIRE HILL, HEATON LANE, AND OLD ROAD WARDS.

The three Heaton Norris Wards suffered more severely than any other part of the Borough, no less than 96 cases being reported therein from the middle of May to the end of September. This outbreak apparently had its principal origin amongst the scholars of Christ Church School. The first case was that of a pupil in the infant department, who sickened on the 15th May, but was not medically attended or notified till 27th May, for which culpable neglect the parents were subsequently prosecuted and fined. In the meantime another child from the infected house continued its attendance in the same department. Numerous cases were subsequently certified from this school, 39 of its pupils being attacked by the disease during the remainder of the year. On repeated occasions I inspected between 200 and 300 children in the Infant Department, each time excluding several who exhibited unmistakable symptoms of this illness. Mr. Morley, the headmaster, and his assistants also exercised great care in regard to the exclusion and prompt notification of suspicious cases. During Whitsuntide the interior of the school buildings, and the fittings, slates, &c., were thoroughly washed with soap and water, and then swabbed or sprayed with a 1 per cent. solution of chlorinated lime. Fresh occurrences amongst the scholars continued, however, to be reported, and in numerous other instances infection was indirectly traceable to the school. Measures of individual exclusion and of school disinfection thus proving of little avail, the school was closed on 13th July, 1896, for five weeks by order of the Sanitary Committee, this period including the usual summer holiday of three weeks. During this time the buildings were again disinfected, lime-washed, and painted. A slight diminution was noticeable in August, but after the re-assembling 6 fresh cases were reported in September, and 10 during the last quarter of the year.

Lancashire Hill British School also became a focus of infection during the summer, owing partly to the attendance of children from Reddish where the disease was very rife, and partly to its wide prevalence in Heaton Norris. At the end of July this school was subjected to measures of closure and disinfection similar to those recorded in regard to Christ Church School.

In October the outbreak commenced to wane, and in the fourth quarter of the year the notifications from Heaton Norris numbered only 24, as compared with 87 in the preceding three months.

ST. MARY'S AND SPRING BANK WARDS.

47 certificates were received from these wards. 3 isolated attacks occurred in Spring Bank, and 5 in St. Mary's in the spring months, 2 being traced to contact with cases in other parts of the Borough. Early in June 3 unnotified sufferers were detected in a court off Lord street, 2 of whom had sickened on May 7th and 19th respectively, but had continued their school attendance, strange to say without giving rise to any reported cases amongst their class-mates. There is no clear evidence that school attendance was responsible for the 22 occurrences in July, August, and September. In 4 instances there was history of contact with an infected person, and in each of 3 households 2 persons suffered from the disease. Between 25th October and 20th November 7 cases arose in Spring Bank in the homes of 5 children attending the Infant Department of S.S. Philip's and James' School. No notifications from either ward were registered during September.

HOLLYWOOD, EDGELEY, SHAW HEATH, & CALE GREEN WARDS.

From the commencement of June to the end of the year 58 cases occurred in these wards, of which 25 were in Edgeley proper. House-to-house infection rather than school attendance appears to have been in the majority of instances responsible for the occurrence of the fever, and its generally mild character added considerably to the difficulty of tracing cases and arresting its prevalence. Thus in Victoria street, Shaw Heath, the necessity of obtaining medical advice for a somewhat severe case resulted in the discovery in the same house of 4 other sufferers, in various stages of the disease, who had continued to mix with their neighbours as usual. On the other hand, a group of three cases of extraordinary severity occurred in May in The Grove, Shaw Heath. Two of these children died in the hospital and the third died at home, each within 48 hours of the onset of illness. There appears to be little doubt that the first of these sufferers became infected from a convalescent patient in a district adjacent to the Borough.

VERNON, HEMPSHAW LANE, ST. THOMAS', AND HEAVILEY WARDS.

In these remaining portions of the town there were comparatively few cases. In Hall street, in August, 2 children sickened who had been in contact with a sufferer in Brinnington. They, in turn, when convalescent in October, appear to have infected two of their neighbours' children, one of whom attended Little Moor School. Five attacks subsequently occurred in the houses of other pupils, and, though a connection cannot be clearly demonstrated, there is reason to think they were associated in their origin with the Hall street cases. In Upper Brook street, in October, a mother contracted the disease whilst nursing her child. In Prison street, in November, a very slight undetected case gave rise to two others in the same house, and a similar occurrence was reported shortly afterwards in the neighbourhood of Hall street.

RETURN CASES.

In 4 instances the disease attacked a child in a house to which, within the previous fortnight a convalescent patient from your Hospital had returned. In each case the attack from which such discharged patient suffered had been uncomplicated, and the children were apparently quite clear from evidences of disease when sent home, but the number of patients in the scarlet fever ward during their period of isolation was much in excess of the regulation number.

First Case in House.				Recurring Case.		
Initials.	Attacked.	Isolated.	Discharged.	Initials.	Attacked.	Remarks.
E.A.S.	June 8	46 dys	July 28	F.S.	Aug. 6	Slept in same bed with E.A.S.
M.F.L.	June 26	58 dys	Sept. 2	A.L.	Sept. 16	Slept in same bed with M.F.L.
H.W.	July 23	53 dys	Sept. 15	E.E.W.	Sept. 22	Did not sleep in same room.
L.M.R.	Aug. 3	44 dys	Sept. 18	C.H.R.	Sept. 23	Was nursed and kissed by L.M.R. whose nose and lip became sore after leaving hospital.

Dr. Niven, of Manchester, has recently expressed the opinion that the probable cause of most return cases is the continued lurking of the poison in the cavities of the mouth and nose, and recommends antiseptic irrigation for several days previous to discharge. This precaution is now systematically adopted.

The Sanitary Committee have approved the following notice which is now served at time of removal of every scarlet fever patient to hospital:-

COUNTY BOROUGH OF STOCKPORT.

NOTICE TO SCARLET FEVER PATIENT OR PATIENT'S GUARDIAN.

SIR OR MADAM,—You are hereby notified that the removal to, and treatment in Hospital of.....suffering from Scarlet Fever, is undertaken only upon the distinct understanding that, from the very nature of the disease, the Corporation is totally unable to guarantee that.....will be absolutely free from infection at the time of discharge. Suitable precautions to that end will, however, be taken.—By order,

WALTER HYDE, Town Clerk.

The counterfoil of the above registers name and address of patient, and of recipient of notice, and is signed by the Sanitary Inspector concerned. At time of discharge each patient, or his remover, receives a copy of the following notice, which is identical with that first used by Dr. Boobbyer, of Nottingham.

TO PARENTS, GUARDIANS, AND OTHERS.

Although every care is exercised to guard against conveyance of Infection by persons discharged from the Stockport Isolation Hospital, it is impossible in some instances to prevent this accident, for no one can say with certainty how long Scarlet Fever may lurk in the system. Parents and others are therefore warned against allowing recently discharged patients to come into unnecessarily intimate contact with others. No person discharged from a fever hospital should be allowed to sleep in the same bed as another until at least a fortnight after discharge. A short holiday in the country with plenty of fresh air, apart from others, is always desirable after convalescence from Scarlet Fever, and all persons recovering from Scarlet Fever should be warmly clothed and otherwise protected against cold. Any recently discharged person who complains of sore throat, nose, or ears, or who has a breaking out on the skin should be at once isolated and placed under the care of a Medical Man. In any case, the Corporation cannot accept responsibility or liability for the outbreak of infection subsequent to the discharge of any patient from hospital.—By order of the Sanitary Committee,

MEDICAL SUPERINTENDENT.

Diphtheritic Disease.

There were 35 cases of diphtheria and 9 deaths, and 6 cases of membranous croup and 5 deaths, making a total of **41 cases of diphtheritic disease and 14 deaths**, as compared with 50 cases and 27 deaths in 1895, 34 cases and 16 deaths in 1894, and 80 cases and 32 deaths in 1893.

The case-mortality was equal to 34·1 per cent., as against 45·7 in 1895, 47·5 in 1894, and 40·0 in 1893.

The diphtheritic death-rate per 1000 persons living was 0·18 against 0·38 for the 33 Great Towns, 0·25 for the 67 Other Large Towns, and 0·60 for London.

The monthly occurrences of notified diphtheritic disease were as follow:

January.....	9	April... ..	3	July	7	October... ..	3
February ..	1	May.....	2	August	1	November	0
March	7	June	1	September..	4	December	3

The incidence of the disease as regards sex and age is thus shown :—

ATTACKS : SEX AND AGES.

Years	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-20	-30	*30	Total.
Males	1	...	3	5	3	1	2	1	1	...	1	1	...	...	...	1	2	...	22
Females .....	...	3	1	3	...	3	2	...	...	1	...	...	1	..	...	3	1	1	19
Persons	1	3	4	8	3	4	4	1	1	1	1	1	1	...	...	4	3	1	41

DEATHS : SEX AND AGES.

Years.....	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-20	-30	*30	Total
Males	4	1	2	1	2	...	...	...	...	...	...	...	...	...	...	...	10
Females	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Persons	1	5	3	2	1	2	...	...	...	...	...	...	...	...	...	...	...	14

It is seen that :—

(1) The disease was most rife in the first and third quarters of the year, and not, as is usual, in the fourth.

(2) 66 per cent. of attacks and ALL deaths occurred amongst children under 7 years of age.

(3) Rather more males than females were attacked; this is very unusual.

(4) The case-mortality amongst males was 45.5 per cent.; amongst females only 21.0 per cent., and of all occurrences 34.1 per cent.

As regards ward incidence, 3 cases of membranous croup and 1 of diphtheria occurred in March, April, and May on the borders of Lancashire Hill and Old Road Wards, viz., in Rowland Street, Baker Street, Love Lane, and Short Street. There was no community of school attendance or milk supply, but the children lived comparatively close together.

By far the greatest prevalence was, as in each previous year on which I have reported, in "an area comprising St. Thomas' Ward (i.e., Higher Hillgate, and the streets between Middle Hillgate and Wellington Road) and portions of Hempshaw Lane and Heaviley Wards contiguous respectively to Johnson Street and Charles Street." Within these limits 13 cases occurred, of which 5 were in the neighbourhood of Charles Street at the east of which end lies a large and often offensive tip. 6 cases occurred in Cale Green, and 3 in Shaw Heath, 2 in Hollywood, and 1 each in Edgeley, Heaton Lane, St. Mary's, and Vernon Wards.

The Vernon Ward case was that of a policeman who consulted me on 6th March for slight huskiness. On examining him no evidences of diphtheria were observed, except some swelling of the neck glands. The usual remedies for this condition not having much effect, some throat mucus was sent on 9th March to Professor Delépine, who reported that it contained diphtheria bacilli. Some days later the constable's wife also complained of huskiness, but presented no other sign, and in her case also Professor Delépine reported the presence of diphtheria bacilli. The policeman was isolated in hospital for some weeks, and in the middle of April was apparently quite well, but on the 23rd April, being 51 days after the first outset of huskiness, Professor Delépine reported that the throat mucus still contained "diphtheria bacilli of the short type in moderate number." Spraying with a 1 per cent. solution of chlorinated lime was continued for a week longer, and then the patient was discharged with directions to practice this precaution daily for a fortnight. No further case arose, so far as I am aware.

From October, 189⁵~~6~~, to end of December, 1896, Professor Delépine investigated bacteriologically for you 15 cases of diphtheria. The specific organism of the disease was found to be present in 9 cases and absent in 5, whilst 1 case was returned as "very doubtful."

I beg again to draw your attention to the desirability of providing at your Isolation Hospital for the isolation of cases of this very fatal disease.

Influenza.

9 deaths were registered viz., 1 in January, 1 in February, 4 in May, and 3 at the end of September and the beginning of October.

Puerperal Fever.

3 cases were reported, of which 2 died. In each case the sanitary conditions were fairly good; each was attended by a separate doctor and midwife.

The midwife was warned in every case, and her clothing disinfected.

Erysipelas.

40 cases were reported and 2 deaths registered. In the majority of instances no history of injury was obtained, but structural sanitary defects were occasionally detected and remedied.

Whooping Cough.

34 deaths were registered, 31 being those of children under 5. This represents a rate per 1,000 of 0.44 as against 0.42 in 1895, 0.04 in 1894, and 0.45 in 1893.

For the 33 Great Towns this rate was 0.57, and for the 67 Other Large Towns 0.43.

The ward-incidence of the disease is shown in Table A (appendix). The monthly occurrences were as follows:—

January	5	April	1	July.....	1	October ...	0
February ...	2	May.....	5	August	4	November..	2
March	1	June.....	2	September..	3	December..	8

Lung Diseases.

Phthisis or Consumption.

Excluding 13 deaths (mostly in the Workhouse) from out townships, 143 deaths were registered, equal to a rate of 1.8 per 1,000 per annum, against 2.1 in 1895 and 1.4 (nearly) for England and Wales in 1895.

As regards ward-incidence, Lancashire Hill comes first with 3.7 per 1,000 persons living; then follow St. Mary's (2.9), Shaw Heath (2.8), Hollywood (2.5), Heaton Lane (2.2), St. Thomas' (1.9), and Portwood (1.7). On the other hand, Cale Green and Heaviley are the lowest, with 0.3, and 0.5 respectively.

38 deaths from consumption occurred in the Workhouse.

A list has been prepared of the 279 houses in which deaths from phthisis have occurred in each of the years 1894, 1895, and 1896. A comparison of these lists indicates a **tendency for phthisis to become associated with certain houses**, possibly by infection due to particles of the dried sputum of previous sufferers.

Situation of house	1894	1895	1896
London Place	—	1	1
do. do.	—	1	1
Brinksway	—	1	1
Chestergate ..	—	—	2
Edward Street	—	—	3
Grimshaw Street.....	2	—	—
Manchester Road ...	—	2	—
Smith Street	1	1	—

Bronchitis, Pneumonia, and Pleurisy.

The deaths from these maladies numbered 386 (of which 159 were of children under 5), as against 463 in 1895, and 301 in 1894. This diminution of mortality from respiratory disease as compared with 1895 is probably largely due to the much slighter prevalence of measles and influenza last year, and may in turn have contributed to the lessened mortality from heart disease.

The death-rate for the Borough from these diseases was 4·8 per 1,000 living. As regards the wards, Portwood (8·7), St. Mary's (7·2), Hollywood (6·5), Heaton Lane (6·2), and Spring Bank (6·1), stand highest; St. Thomas' and Vernon follow closely with 5·8 and 5·6, whilst the lowest rates are shown by Cale Green (2·2) and Lancashire Hill (2·5). The last figure is noteworthy inasmuch as Lancashire Hill Ward has by far the highest phthisis death-rate.

Contagious Diseases (Animals) Acts, 1894 and 1896.

The provisions of the Markets and Fairs Swine Fever Order, 1896 (5,518), were placarded throughout the town as required by the Board of Agriculture.

A large number of swine fever "removal licences" were issued, and added very considerably to the clerical work of the Sanitary Office.

The Isolation Hospital.

A.—DIALSTONE LANE HOSPITAL.

Cost :—

	£	s.	d.
Cost of Buildings	4635	13	4
Cost of Site	1346	14	0
Cost of Furnishing	854	19	5

to Jan. 1st, 1896.

The hospital was opened for the reception of patients in 1881.

CASES TREATED FROM 1888 TO 1896 INCLUSIVE.

	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Smallpox	98	0	1	0	6	22	26	0	0
Scarlet Fever..	35	36	91	32	26	127	138	100	247
Typhus	3	0	0	0	1	0	0	0	0
Enteric	12	14	22	15	16	85	19	37	34
Diphtheria ...	0	0	2	1	2	9	2	0	1
Other diseases	1	16	4	0	0	1	0	0	0
	—	—	—	—	—	—	—	—	—
	149	66	120	48	51	244	185	137	282
	—	—	—	—	—	—	—	—	—

PAYMENTS BY PATIENTS.

	£	s.	d.		£	s.	d.		£	s.	d.
1888	108	4	6	1891.....	25	7	0	1894.....	150	9	10
1889	591	10	9	1892	150	18	6	1895.....	176	15	4
1890.....	122	14	6	1893.....	122	12	0	1896.....	191	8	11

Total in 9 years = £1,640 1s. 4d.

NETT COST OF MAINTENANCE.

	£	s.	d.		£	s.	d.		£	s.	d.
1888.....	715	0	2	1891.....	928	6	2	1894.....	1313	12	0
1889	864	19	0	1892.....	509	19	8	1895.....	1137	5	11
1890	606	16	2	1893... .	1392	8	11	1896	1544	11	7

In the following table is set forth particulars in regard to the number of patients isolated during the year 1896. The beneficial influence of the hospital was again most marked, especially in dealing with the scarlet fever outbreak:—

Disease.	In Hospital 1st January, 1896.	Admitted.	Recovered.	Died.	In Hospital 31st December, 1896.
Scarlet Fever ..	16	249	255	10	30
Typhoid ,, ...	4	34	32	6	12
Erysipelas ,, ...	...	1	1	...	...
Diphtheria ,, ...	...	1	1	...	...
Totals.....	20	285	289	16	42

3 cases of typhoid were removed to Salford Sanatorium.

4 cases of typhoid, 1 of diphtheria, and 1 of erysipelas were treated in the Union.

Average length of isolation for scarlet fever cases 47 days.
 " " " " typhoid " " 44 "

COMPARATIVE MORTALITY OF CASES TREATED.

	At Home.	In Hospital.
Scarlet Fever.....	8·4	4·0
Typhoid Fever	28·0	17·6

These figures speak for themselves.

HOSPITAL STAFF.

The nursing and household arrangements were most efficiently supervised by the Matron, and I have pleasure in again referring to the marked efficiency and skill attained by the Steward in the use of the steam disinfectant. Over 4,580 articles, some being of very delicate texture, have been dealt with, and I have not received a single complaint as to injury thereto.

The Steward has also charge of the Bathing Station, at which 486 inmates of infected houses were bathed during the year.

FURTHER HOSPITAL ACCOMMODATION NECESSARY.

This very serious want is I believe, fully recognised by the Sanitary Committee, and should be met as soon as is reasonably possible, by the erection of a new pavilion. At present there is no provision for the isolation of more than two kinds of infectious illness, and hence no diphtheria cases can be admitted.

NEW ADMINISTRATIVE BLOCK.

A fine new administrative block comprising 8 bedrooms and other necessary apartments for Matron, Master, and Nurses, as well as waiting and committee-rooms, &c, at an estimated cost of £2,270, was commenced in July, 1896, and is now (April, 1897) rapidly approaching completion. It is substantially built, and should meet the requirements of your hospital for a good many years to come. When ready it will remove the great difficulty hitherto experienced in retaining the services of efficient nurses.

OTHER REQUIREMENTS.

An unclimbable impenetrable fence, 6ft. 6in. high, round the hospital grounds, and the partitioning off by similar fences of the grounds used by convalescents from different diseases.

B.—WHITEHILL SMALLPOX HOSPITAL.

The mild case of smallpox which occurred during the year was isolated at Whitehill for 19 days.

* Summary of Hospital Expenditure, 1896.

	£	s.	d.
Salaries, Wages, and Uniforms	507	4	7
Extra Nursing	27	17	7
Food Account	629	9	10
Maintenance of Typhoid Patient at Ladywell Sanitorium ...	9	6	0
Drugs	25	5	3
Coal, Coke, Gas, and Water	186	15	2
Rates.	45	4	9
Telephone Rent	15	3	2
Repairs to Pavilions, Out Offices, Van, &c.	141	6	3
Furnishing	108	11	7
Miscellaneous	40	3	4
	<hr/>	<hr/>	<hr/>
	1736	7	6
Less amount received from other Authorities for Removal and Isolation of their cases, disinfection, &c. ...	191	8	11
	<hr/>	<hr/>	<hr/>
	£1544	18	7
	<hr/>	<hr/>	<hr/>

I am indebted to the Borough Treasurer for the statement from which the foregoing summary has been prepared.

In addition to this £1,544 18s. 7d., the sum of £48 5s. 10d., has been paid in wages to the Borough Surveyor's Assistants in connection with the new administrative block.

BROUGHAM AMBULANCE.

As the existing van-ambulance was considerably the worse for wear and insufficient for your increasing requirements, the Sanitary Committee, after inquiry, visited Wigan and Birkenhead, and inspected the new carriages in use in these towns. Eventually a first-class brougham ambulance was obtained from Messrs. Atkinson and Phillipson, of Newcastle-on-Tyne, who have made a speciality of these vehicles. It runs easily and smoothly, and as it is provided with rubber tyres and a tubular air-bed the discomfort and danger of removal to sick patients is minimised.

The brougham cost £104 5s., and the air-bed £4 16s.

HOUSE—DISINFECTION.

471 rooms and 4 large schools were cleansed and disinfected.

The agent used for this purpose is a 1 per cent. solution of bleaching powder (chlorinated water), coloured with a small amount of permanganate of potash.

Public Water Supply.

Many complaints as to the foul appearance and discolouration of the public water service were received during the summer, both from private consumers and from the Baths' Superintendent. This official reported that intending bathers had frequently left the building, declining to enter the water on account of its colour.

As regards the supply to the Baths, the Sanitary Committee have resolved to sink a deep well, and have obtained estimates and applied for borrowing powers.

SUPERVISION OF PUBLIC WATER SUPPLIES BY SANITARY AUTHORITIES.

At the Congress of the Sanitary Institute, held in Newcastle-on-Tyne in September, attention having been drawn by your Medical Officer of Health to the fact that Sanitary Authorities outside the Metropolis are virtually without any powers of compulsory supervision of public water supplies except in regard to wells or pumps, a resolution was adopted "That it is desirable for the protection of the public health that organised effort be made to obtain for the authorised officers of any authority full right of entry, inspection, and sampling at any time to and in all sources, &c., of public water supplies, and especially in regard to works of water purification."

Meteorological Station.

Owing to the generosity of Mr. Thomas Kay, J.P., this station is now excellently equipped. Useful observations were taken and reduced daily throughout the year, and published in the local Press.

Chief Industries.

Felt-hat making, cotton spinning, bleaching, weaving, and printing are the chief industries of the town, but there are several large breweries and other important commercial undertakings. The influence of these various occupations on the health of the operatives engaged therein is a subject for future inquiry.

Action taken under the Housing of the Working Classes Act, 1890.

On January 13th, 1896, the list of 105 houses printed at page 48 of my Annual Report for 1895 was submitted to the Sanitary Committee as unfit for human habitation, because the only means of scavenging the privy and ashpit of each was by carrying its contents in baskets through a living room, thereby creating a sickening and insufferable nuisance. Notices were consequently served under the Housing of the Working Classes Act, and I feel sure that it will be as gratifying to the members of the Council generally as it is to the Sanitary Committee and myself, that at the time of writing 94 houses have been dealt with by the owners, and the remaining 11 are now in hand. No legal proceedings have been necessary.

Summary of action taken by owners of houses where the privies were scavenged by carrying contents through dwelling-room:—

Suitable exit obtained for emptying existing privy pits in	29 cases.
Water-closets provided in	55 cases.
" " arranged for with contractors	10 cases.
Slop-water-closets provided in	7 cases.
Bins in lieu of large offensive dry ashpits	4 cases.

House Drainage.

In view of the relationship between soil pollution and such diseases as typhoid fever, I have again to call attention to the importance of securing really watertight drains in connection with new buildings. All drains should be capable of resisting the water test, which puddled clay will not withstand.

Sewerage System.

74 lineal yards of old sewers were taken up and re-laid during the year.
478 lineal yards of new sewers were constructed on Highways.
1373 lineal yards of new sewers were constructed on Private Streets.

NUISANCE FROM OPEN PORTION OF HEAVILEY BROOK.

This has been dealt with by the Highways Department in so far as its pollution is caused within the Borough. One of the feeders of this stream has been culverted over for 69 yards, and freed from the sewage of several houses in Lake Street, whilst on the Buxton Road your Surveyor has caused the drains of the houses between the "Duke of York" and "Pear Tree Cottage" to be disconnected from the brook, and made to discharge into the Buxton Road Main Sewer.

It is known that the sewage from several houses in Kennerley Grove Lane, on Buxton Road, at the south side of Park Road, and on the south side of Woodsmoor Lane enter this brook outside your Borough. The Rural Sanitary Authority are, however, preparing a scheme of sewerage for this district which, it is hoped, will eventually put an end to the pollution under notice.

VERTICAL SHAFT VENTILATORS FOR SEWERS.

10 were erected during the year, making a total of 72, in the areas most affected by typhoid. No road surface ventilators were closed.

Complaints of offensive manholes have been notably less frequent.

INTERCEPTING SEWERS AND OUTFALL WORKS.

The Engineer states that these works are practically completed, with the exception of laying out and under-draining the outfall land upon which the sewage is intended to be finally treated by a process of intermittent downward filtration. The contract for this work has been let.

Excrement and Refuse disposal.

There are at present about 2,000 water-closets with dry ashpits (including some 500 slopwater closets), chiefly in connection with new houses. Most of the old houses, however, have common privy pits, of which there are estimated to be between 5,000 and 6,000. In addition no less than 280 privy pits have been constructed during the past three years. The provision of closet accommodation for mills and factories is in many cases in a very unsatisfactory condition, and has been the subject of correspondence between the Factory Inspector and the General Purposes and Sanitary Committees.

As to the very great and constant danger and injury to health occasioned by the existing defective mediæval midden privy system, and the nuisance inseparable from its scavenging, I beg to confirm and refer you to what I have stated in my previous annual reports. I append figures, which speak for themselves as regards diseases largely due to the wholesale soil and air pollution occasioned by these receptacles, and I beg to recommend to your consideration, as of the first importance to the health of your Borough, the question of the adoption of some general scheme of water carriage therein:—

DEATH RATE PER 1000 IN

STOCKPORT.											England and Wales.	
Year.	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1885 to 1894	1885 to 1894
Typhoid Fever	0.55	0.54	0.47	0.15	0.23	0.24	0.23	0.67	0.10	0.26	0.34	0.17
Diarrhoea	1.35	1.25	0.67	0.77	1.13	0.91	0.73	2.73	1.3	2.17	1.15	0.59
All Causes	26.4	26.9	25.03	23.5	26.5	26.9	22.7	23.9	18.7	24.8	24.7	18.9

IS A SAVING OF WATER EFFECTED BY USE OF WASTEWATER CLOSETS ?

To test the truth of this proposition two blocks of exactly similar property were selected in Carmichael Street, Edgeley. At the request and expense of the Sanitary Committee the water supplied to each block between 7 a.m. on October 28th, 1896, and 7.30 a.m. on May 13th, 1897, was metered by the Water Co.:—

Lot A.—14 houses with wastewater closets used 151,320 gallons or 33.3 gallons per house per day.

Lot B.—10 houses with ordinary water closets used 65,720 gallons or 54.8 gallons per head per day.

Scavenging.

DAY SCAVENGING DEPARTMENT.

1,033 loads of refuse have been removed from 658 dry ashpits, or nearly 1.6 loads per pit.

6,192 loads of sweepings have been removed from the streets.

78 loads of cinders	}	have been put on the streets.
565 " sand		
3,575 " water		

NIGHT SCAVENGING DEPARTMENT.

27,210 loads of refuse have been removed from 10,831 privy-pits, &c. which averages 2.5 loads for each pit, which is included in this total.

The Scavenging Department and its work have recently undergone re-organisation and re-arrangement, for which Mr. Councillor Redfern, vice-chairman of the Sanitary Committee is responsible, and to which he has recently devoted a large amount of personal attention. The work is now controlled by a special Sub-committee, whose desire it is to adopt the block system as far as the peculiar conditions of the work allow.

Whilst desirous of giving due prominence to this measure of reform, I should fail in my duty if I did not point out that no practicable organisation, however efficient it may be, can obviate the very great nuisance inseparable from the disturbance of large quantities of putrid excremental filth. This can only be obtained by the introduction of water-carriage, and now that your sewerage works are practically complete, I venture to hope that the matter may receive your early consideration.

Tips.

There are 2 tips, viz., one in Newbridge Lane and one in Charles Street.

Complaints were from time to time received in reference to Newbridge Lane Tip, and I beg to confirm and refer you to what I have previously stated in regard to the nuisance *necessarily* and *inseparably* associated with *any* enormous accumulation of filth in the vicinity of dwellings and of a large school, and on the outcrop of a water-bearing stratum.

Of course this wet ashpit and other refuse must be got rid of somehow. Destruction by fire is the most effective, though not the least costly, method. Pending its adoption, the desideratum is that tips should only be formed and used in situations remote from dwellings.

It is satisfactory to know that Newbridge Lane Tip is not expected to be available for more than 2 or 3 years longer.

General Inspection of the District.

Appended is a summary of the notices served in the four districts into which, for the purposes of inspection, your district is divided.

Inspector.	District.	Provisi'n and repair of gully traps and drains.	Repairs and alterations of privy-pits.	Disconn-ection of waste-pipes from Sewers.	Provisi'n of Water Closets	Removal of Manure and other Refuse.	Cleans-ing of premises	On account of over-crowding	Miscel-laneous.	Totals.
J. Marshall	Portions of St. Mary's Spring Bank, and St. Thomas' Ward	12	13	1	78	...	1	...	7	112
C. R. Billingham	Lancashire Hill, Heaton Lane, and Old Road Wards	45	28	1	21	10	28	...	13	146
W. Ramscar	Portwood, Vernon, Hempshaw Lane, Heaviley, and portions of St. Mary's and St. Thomas' Wards..	35	28	1	30	5	46	2	8	155
J. H. May	Hollywood, Edgeley, Shaw Heath, Cale Green and portion of Spring Bank Wards	78	29	6	32	6	21	3	6	181
	Totals	170	98	9	161	21	96	5	34	594

In addition, in an increasing number of instances nuisances were abated and improvements effected as the result of verbal representations to property owners. As the service of formal notices were not necessary in these cases, they are not included in the foregoing table.

Demolition of foul privies, and their replacement by water-closets with the necessary drain connections and ventilation was effected in 120 instances.

In the following statement is set forth the number of blocks of buildings and of the included houses the drainage of which was completely rearranged during the year :—

DISTRICT	WARDS.	BLOCKS.	CONSTITUENT HOUSES.
No. 1	Old Road.	29	119
	Lancashire Hill.....		
	Heaton Lane		
No. 2	Hollywood	27	134
	Edgeley		
	Shaw Heath		
	Cale Green.....		
	Spring Bank (part)		
No. 3	Spring Bank (most of)	29	112
	St. Mary's "		
	St. Thomas' "		
No. 4	Portwood	29	93
	Vernon		
	Hempshaw Lane		
	Heaviley		
	St. Thomas's (very little).....		
	St. Mary's "		
TOTALS ..		114	458

^{complaints}
128 ~~of these~~ were registered in the office, and, in addition, a considerable number were made verbally to the Inspectors whilst going through their districts.

I regret to record that Chief Inspector Marshall contracted a very severe and dangerous illness while superintending the opening of some very foul blocked drains in Hillgate. Severe purging and vomiting were followed by septic pneumonia and for many weeks his condition was very critical.

Dairies, Milkshops and Cow-sheds.

The number of dairies and milk shops in the Borough was 122. These were frequently inspected and a new register compiled under the following heading :—Registered number ; date, address, and name of occupier ; nature of shop ; dozens retailed ; place and method of storage (if kept covered, &c); cleanliness and structural condition of premises ; remarks as to existence of nuisances in vicinity, &c.

REGISTERED COW-SHEDS WITHIN THE COUNTY BOROUGH OF STOCKPORT.

Inspector Ramscar.

NAME.	No. of Sheds.	Cubic Capacity.	No. of Cows Allowed.	No. of Cows Sheltered.	Drainage.	Ventilating and Lighting.	Water Supply.	Condition as to Firing.	Condition as to Cleanliness.	Distance of Manure Pits.	REMARKS.
Warth Meadow Farm ..	1	6264	7	4	No drains inside	Through ventilation well lighted	Towns Water	Fair	Very fair	10ft.	This shed is constructed of brick piers, with intervals of timber, and is fairly well adapted.
Wood Bank Farm.....	2	6860 9800	8 12	14 11	Cesspool	Through ventilation fairly well lighted	Towns Water	Good	Very fair	12ft.	Brick structures, well adapted.
Victoria Park Farm	1	1520	2	1	Fair	Through ventilation fairly well lighted	Towns Water	Fair	Very fair	30ft.	Brick structure, well adapted.
Holly Mount Farm	3	3418 2565 1753	4 3 2	1 3 1	Cesspool	Through ventilation fairly well lighted	Rain Water	Good	Very fair	20ft.	Brick structures, well adapted.
Lisborne House Farm ...	2	3990 3040	5 3	3 0	Cesspool	Through ventilation fairly well lighted	Rain Water	Fair	Fair	12ft.	One brick and one wooden structure, fairly well adapted.
Ash Cottage, Great Moor	1	2000	2	2	Cesspool	Fairly well lighted and ventilated	Towns Water	Fair	Very fair	10ft.	Structure built of timber and corrugated iron, fairly well adapted.
Cherry Tree Farm.....	2	2740 2300	4 3	10 2	Good	Through ventilation fairly well lighted	Towns Water	Fair	air	40ft.	Brick structure, ceiling very low.
Dial House, Mile End ...	2	2275 1576	3 2	7 3	Cesspool	Through ventilation fairly well lighted	Well Water	Very good	Clean	None on premises	One brick and one wooden structure, both well adapted.
Dial Farm, Dialstone Lane	1	2048	3	5	Cesspool	Lighting and ventilation fair	Pond	Fair	Fair	10ft.	Brick structures, fairly well adapted.
Marsland's Farm, Cow Lane	2	2108 1700	3 2	2 5	Cesspool	Through ventilation no windows	Pond	Fair	Fair	12ft.	Brick structure, fairly well adapted.
Hempshaw Gate Farm...	1	2812	4	5	Very good	Through ventilation not very well lighted	Towns	Very good	Very clean	50ft.	Brick structure, fairly well adapted.
Pear Tree Farm, Dialstone Lane	2	2295 2141	3 3	7 5	Good	Through ventilation no windows	Towns	Fair	Fair	50ft.	Brick structures, fairly well adapted.
24, Park Lane	2	1188	2	2	No system	Through ventilation fairly well lighted	Towns	Fair	Very clean	18ft.	Wooden structure, fairly adapted.
Oak House, Stepping Hill	1	2856	4	3	Good	Very well lighted and ventilated	Towns	Very good	Remark'ly clean	50ft.	Brick structure, very well adapted.
Nangreave Farm	1	1225	2	2	No system	Through ventilation fairly well lighted	Well	Fair	Fair	50 yds.	Brick structure, fairly well adapted.

Inspector Billingham.

Brown House Farm	3	3360 3120 2600	4 4 3	6 7 7	Good to Cesspool	Through ventilation well lighted	Towns	Very good	Very clean	14ft.	Brick structures, well adapted.
Danby Farm	2	1729 1601	2 2	6 0	Good	Through ventilation well lighted	Towns and well	Very good	Very clean	50 yds.	Brick structure, well adapted.
20, Penny Lane	1	3230	5	5	Good to Cesspool	Through ventilation well lighted	Spring	Very good	Very clean	12 yds.	Brick structure, well adapted.
Smith Street	1	1397	2	2	Good	Through ventilation well lighted	Towns	Very good	Very clean	None on premises	Brick structure, well adapted.

Inspector May.

Springfield House, Northgate Street	1	2992	4	2	Good	Through ventilation well lighted	Towns	Very good	Very clean	75 yds.	Brick structure, well adapted.
Edgeley Farm	4	1296 3248 3690 5200	2 4 4 6	2 7 11 3	Good	Through ventilation well lighted	Towns and well	Very good	Very clean	15 yds.	Brick structure, very well adapted.
Cale Green Farm	2	5080 2552	6 3	8 6	Good	Through ventilation well lighted	Towns and well	Fair	Clean	20 yds.	Brick structure, well adapted.

REGISTERED COW-SHEDS

...

NAME	No. of Beds	Cattle Capacity	No. of Cows Allowed	No. of Cows Registered	Remarks
Oak House, Steeping	1	2856	4	3	
...	1	1572	3	3	
94, Park Lane	2	1188	2	2	
stone lane	2	2141	3	2	
Pear Tree Farm, Dial-	2	2395	3	3	
...	2	2141	3	2	
...	1	2812	4	2	
...	1	2108	3	3	
...	2	1700	2	2	
...	1	2048	3	2	
...	1	1578	2	2	
...	2	2275	3	2	
...	2	2800	3	3	
...	2	2740	4	4	
...	1	2000	2	2	
...	3	3040	3	0	
...	3	2990	2	3	
...	1	1753	2	1	
...	3	2565	3	3	
...	3	3418	4	1	
...	1	1530	2	1	
...	2	2800	12	14	
...	1	6264	7	4	

whosen

The number of cowsheds within the Borough is 22, viz., 4 in Heaton Norris, 1 in Cale Green, 3 in Edgeley, 2 in Vernon, 3 in Hemphaw Lane Ward, and 9 in the semi-rural Heaviley Ward. During the year these places were again systematically inspected with regard to their cubic capacity, drainage, ventilation, water supply, and general adaptability. In more than two-thirds of these sheds the number of cattle sheltered at the time of inspection considerably exceeded that allowed by your Bye-laws. The owners have been notified in each case.

Bakehouses.

These numbered 52, and were regularly inspected during the year. In the majority of cases their condition is fairly satisfactory, but as regards ventilation and lighting, a few cellar bakeries are far from perfect.

Slaughter-houses: Meat Inspection.

These numbered 46, and were regularly inspected each week. Some of them are very good, the majority are fairly good, while a few of them are structurally ill-adapted for the use to which they are put. In every case a good supply of water is laid on, and they are kept in a fairly satisfactory condition. Most of them are unfortunately situated in crowded localities and in close contiguity to dwelling-houses.

One seizure of unsound meat was effected during the year, and the vendor, who had been previously convicted, was sentenced to three months' imprisonment.

Tripe Dressing Establishments.

The places numbered 17, and during the year were regularly inspected. With some two or three exceptions they are all fairly suitable for the use to which they are put; they all possess a plentiful supply of clean water, and were kept fairly well limewashed and cleansed.

Offensive Trades, &c.

These include :—Knacker and bone boiler, three tanners, one tallow-melter, two gut-scrapers.

The tallow-melter's establishment was burnt down during the year, and is being re-erected on improved principles.

Workshops.

The work of inspection was regularly carried out during the year. Cases of overcrowding and want of cleanliness were few in number, the most usual faults being defective and insufficient closet accommodation, and imperfect ventilation. The latter is often a most difficult matter to remedy. To provide a constant supply of fresh air without creating cold and draught is, as you are aware, of paramount importance from a hygienic point of view, but while the physical difficulties in doing so are very great, the inclinations of the workers are even a greater obstacle, for such windows and flues as do exist are carefully fastened or stopped up in most cases, except in the hottest weather.

A very thorough and systematic inspection of all the workshops in the Borough was completed during the year, and a comprehensive register was compiled under the following headings :—

1.—Registered Number	11.—No. of workers allowed - Overtime at 400 c.f.
2.—Address and Name of Occupier	12.—Notice affixed
3.—Name and Address of Owner or Agent	13.—Means of heating
4.—Trade	14.—Means of ventilation—open window
5.—No. of Rooms	15.— Do. open chimney
6.—Cubic capacity	16.— Do. other means
7.—Number of gas jets or gas irons <i>(3 gas jets count as one person).</i>	17.—Closet accommodation—Nature and condition
8.—No. of workers employed—ordinary	18.— Do. For sexes
9.— Do. do. Overtime	19.—Water supply
10.—No. of workers allowed—ordinary at 250 c.f.	20.—Date and hour of inspection
	21.—Remarks

Common Lodging-Houses.

There are 22 common lodging-houses, registered to accommodate 778 persons nightly. I have repeatedly inspected these houses, and am of the opinion that only four of them are even reasonably fit for the purpose for which they are used. The lodging-houses were inspected regularly at least twice a week.

It is a matter for surprise to me that more good and respectable common lodging-houses do not exist in Stockport. In Edinburgh and other towns, where model lodging-houses have been started by private individuals or associations, and placed in charge of reliable deputies, they have been largely availed of, not only by travellers, but by respectable working men in constant employment, and have proved decidedly successful financially.

Smoke Nuisances.

30 observations were taken during the year. The method adopted is for two inspectors to watch not more than three chimneys for two consecutive hours, marking, in a suitable book, the proportion of each five minutes of the two hours during which dense, medium, and no smoke is emitted from each chimney. This occupies most of the working morning or afternoon of two inspectors, and, as conviction implies no moral disgrace whatever, and the fines are nominal, little or no improvement results, and it is not difficult to employ the inspectors more profitably. This is the reason why the number of observations now recorded is small. The time-limit for dense black smoke is seven minutes in two consecutive hours, and this was exceeded in one case only, and by 14 minutes. The defendant was fined 5s. and costs.

Apart from the evil of actual air pollution, the emission of such quantities of smoke has indirectly a most pernicious effect on ventilation of dwellings, as people who like to keep their houses clean, are very naturally disinclined to keep their windows open in a smoky atmosphere.

Sale of Food and Drugs Act.

112 samples were taken under this Act during the year and submitted to the Public Analyst, particulars of which are as follows :—Milk 39, butter 26, coffee 25, lard 21, and pepper 1.

It is highly satisfactory to record that in no case was a milk found to be sophisticated, and most of the samples analysed were of a high quality.

In two instances "margarine" was fraudulently sold for butter, and fines of 20s. and 40s. respectively were inflicted, with costs, in each case. One of these was the local branch of the so-called Danish Dairy Company, which is really owned by a man named Goodwin. The London solicitors to the Danish Government sent down a witness to prove a number of previous convictions against this individual, but as the defendant was represented by his Stockport manager, the evidence of the Danish Government's witness was ruled inadmissible, and the defendant thus escaped a heavier penalty.

Legal Proceedings during the Year 1896.

OFFENCE.	RESULT.	SENTENCE.
		£ s. d.
Emitting dense smoke from mill chimney	Convicted	0 5 0 and costs.
Selling margarine for butter	Do.	1 0 0 and costs and 10/6 Analyst's fee
Do. do. do. ...	Do.	2 0 0 and costs and Advocate's fee.
Selling adulterated coffee	Do.	0 5 0 and costs and 10/6 Analyst's fee.
Failing to notify a case of infectious disease	Do.	0 10 0 and costs or 14 days.
Exposing and selling unsound meat	Do.	2 months hard labour.
Having unsound meat in his possession.. ..	Do.	1 month hard labour.

LINES FOR FUTURE ACTION.

The Annual Report of the Medical Officer of Health is required to "indicate directions for further consideration and action." These have been already discussed in detail, and it only remains for me to briefly summarise as follows the various recommendations submitted to you :—

(1) The consideration and adoption of a comprehensive scheme for the conversion of the midden-privy to the water-carriage system of disposal of refuse, and the abolition of Tips within the town.

(2) The revision of the Bye-laws with respect to the construction of sanitary conveniences in connection with buildings.

(3) The continuance and extension of your efforts to provide for the thorough cleansing and ventilation of the public sewers; and the removal, as soon as it can be afforded, of the existing defective flagged or bricked sewers.

(4) The general improvement of the housing of the working classes by the continued enforcement of existing legislation in that respect: and as regards new property, *by entirely disallowing the erection of any further privies* and by enforcing stricter compliance with the building bye-laws, especially those with regard to the drainage of subsoils, the asphaltting or concreting of sites, and the provision of water-tight drain-joints.

(5) The provision of additional hospital accommodation, to permit of the separate isolation of each of the more serious notifiable diseases and the erection of an unclimbable continuous barrier, 6ft. 6in. high, around the hospital grounds.

Various other lines of sanitary progress might be indicated, *e.g.*, the provision of a public abattoir, but being of secondary importance as compared with the foregoing recommendations, these matters will doubtless have for the present to stand aside.

CHARLES PORTER,

MEDICAL OFFICER OF HEALTH.

