

Report on the mortality of Edinburgh and Leith, for the months of June, July, and August 1847 / by James Stark.

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with Dr Stark's Comments.

REPORT

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ON THE

MORTALITY

OF

EDINBURGH AND LEITH,

FOR THE MONTHS OF

JUNE, JULY, AND AUGUST 1847.

BY

JAMES STARK, M. D.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

EDINBURGH:

PRINTED BY STARK AND COMPANY.

MDCCCXLVII.

REPORT, &c.

THE mortality of Edinburgh during the months of June, July, and August 1847 amounted to 1634,—836 being males, 731 females, and 67 still-born. During the corresponding months of 1845 the mortality amounted to 931, and during the same period of 1846 the mortality was 1077. The mortality of the months of June, July, and August of this year, therefore, exceeds that of the corresponding months of last year by 50 per cent

The mortality of Leith during the same period amounted to 166,—83 being males, 69 females, and 14 still-born. During the corresponding period of 1845 the mortality in Leith amounted to 128, during that of 1846 to 199. The mortality of the above-named months of this year is, therefore, 19 per cent. below that of last year.

The meteorological phenomena of the above months of this year differed considerably from those of the corresponding months of last year. Thus, the mean temperature of the months of June, July, and August 1847 was respectively $57^{\circ}.83$,— $61^{\circ}.22$,—and $58^{\circ}.22$ of Fahrenheit's scale. The mean temperature of the corresponding months of 1846 was respectively $63^{\circ}.45$,— $59^{\circ}.25$,—and $59^{\circ}.58$. During June 1846 the thermometer ranged from 41 to 84 degrees; but during June of this year from 38 to 76. During July 1846 the range was from 46 to 79 degrees; but during July of this year from 42 to 83; in fact, in so far as mere temperature was concerned, it would seem as if the weather of June of last year had re-appeared in July of this. During August 1846 the range of temperature extended from 42 to 76; but during August of this year from 37 to 77. The mean temperature, therefore, of these months was lower this year than last year, while the variations or alternations of temperature were greater. In no respect, however, were the meteorological differences during this year and last more conspicuous than in the amount of rain which fell respectively during each of these periods. Thus during June, July, and August 1846 there fell a total of 12.77 inches of rain; but during the corresponding period of this year there fell only 4.07 inches of rain—or less than a third of the fall during the corresponding period of the previous year. In fact such has been the drought during the present season, that instead of having had a fall of 22.07 inches of rain during the past months of this year, as we had last year, which approaches the average, we have only had a fall to the extent of 11.57 inches. During the above-named months west winds blew $40\frac{1}{2}$ days, east 19 days, south-west 14 days, north-west 8 days, south 5 days, north-east and south-east, each $2\frac{1}{2}$ days, and due-north $\frac{1}{2}$ day. The mean pressure of the atmosphere was 29.64 inches during June, 29.78 inches during July, and 29.68 inches during August—the barometer being 246 feet above the mean level of the sea.

The excessive mortality which Edinburgh has exhibited this year appears to have been produced by extrinsic causes which have no necessary connection with the conditions of the atmosphere or with the sanatory state of the town, viz. by the sickness and death which have pre-

vailed among the poor Irish who for months past have been flocking to the town to avoid the famine and pestilence in their own land. The diseases which these wanderers brought with them being propagated by contagion, many of the lower classes with whom they came in contact, were attacked therewith and fell victims thereto. That the sanitary condition of the town has not been the cause of the increased sickness is evinced from one single fact. When in May fever was found to prevail so extensively, that there was no room in the hospital for the numerous cases, measures were taken to get the lodging-houses and hovels frequented by these immigrants and by the lower classes thorough cleaned and white-washed, and, as far as possible, all nuisance and filth removed. Yet even this has not diminished the number of fever patients, the infection being kept up by the continued influx of Irish. In proof of the correctness of the above statement it may be mentioned, that on the 10th of June the number of fever patients in the Royal Infirmary was 473, on the 2d of September the number of fever cases amounted to 534.

The influx of Irish, however, has not alone vitiated the mortality statistics of Edinburgh during the past year, but has had a similar effect on many of the large towns of England and Scotland. As Scotland does not yet possess a Registration Bill no means exist of comparing the mortality here with that of other Scottish towns, but the Registrar-General of England's Quarterly Report for April, May, and June, enables us to compare the increase here with that of a few somewhat similarly circumstanced towns in England. The following table prepared from that report will show that we have not suffered worse than our neighbours from the above cause.

Table showing the ratio of increase in the mortality of different towns during the quarter ending 30th June 1847, over the corresponding quarter of 1846.

Towns.	Mortality of Spring Quarter, 1846.	Mortality of Spring Quarter, 1847.	Actual increase during 1847.	Increase per 100.
Edinburgh,	1062	1529	467	43
Manchester,	1611	2362	751	46
Birmingham,	842	1263	421	50
Wolverhampton,	500	847	347	69
Carlisle,	241	433	192	79
Liverpool,	2098	4809	2711	129

Though it is not fair to compare a sea-port town like Liverpool with Edinburgh, the above table shows that several large towns in England, which have certainly not had a greater influx of Irish than Edinburgh, have yet experienced a greater increase in their mortality; for while the mortality in Edinburgh during the spring quarter of 1847 was only 43 per cent. greater than that of the corresponding quarter of 1846, that of the above-named towns (excluding Liverpool) exhibited an increase of from 46 to 79 per cent.

It is curious to observe that the increased mortality during the above-named months of this year over the corresponding months of last year seems to have been confined to three classes of disease—zymotic diseases, consumption, and old age. Thus, of the excess of 557 deaths, the class of zymotic diseases (epidemic and contagious) furnishes an increase to the number of 450; consumption an increase of 52; and old age an increase of 49. These furnish a total of 551, or within 6 of the total in-

crease—all the other diseases maintaining to each other nearly the same proportions as in former years.

The deaths from typhus fever have been very numerous during the above months, 389 having been registered under that head; whereas during the corresponding period of last year only 48 were registered under the same head. Of these 389 cases no fewer than 258 were males, and only 140 females, almost the whole being confined to immigrant Irish, and to the lowest class of the resident population. The youngest child recorded as having died from typhus fever was 3 months old; the oldest person 79 years of age. The chief mortality fell on those in middle life; and it is this fact which makes an epidemic of typhus fever prove a heavy calamity to a community, as by the death of the husband or parents it throws so many widows and orphan children in a state of destitution on the charity of the public. Thus 69 of the deaths from typhus fever were below 15 years of age; while 309 were between the ages of 15 and 60; and 20 above 60 years of age.

Small-pox has been rather prevalent among the lower classes, and in particular among those who have never been vaccinated. Of the 55 deaths produced by this cause 31 were males, 24 females. The chief mortality occurred among young children, 41 of the 55 cases being under 2 years of age. It was not ascertained that more than one of these cases had previously undergone vaccination.

The mortality of measles, which, during June and July, amounted monthly to 46, fell during August to 15; while hooping-cough cut off nearly the same number during each of these months. The deaths from diarrhœa, which numbered only 7 in June, increased to 11 in July, and to 18 in August. During August bowel complaints, including a few cases of British cholera, became frequent, but not nearly so prevalent as during the corresponding period of last year. This fact of itself shows that the common belief as to the autumnal bowel complaints being caused by eating fruit is not altogether correct. Last year fruit of all kinds was scarce, yet bowel complaints and British cholera were very prevalent during the intense heats of June, before there was any fruit in the market, and continued so during the three following months, during which the temperature kept at the high mean of 59 degrees. This year, again, fruit of all kinds has been abundant and cheap, but as the temperature has never been continuously very high, and the alternations of temperature have been greater, bowel complaints have not been nearly so prevalent.

Only 4 deaths have been registered under scurvy during the above months. No death, however, appears to have been caused by it during August, and the disease here in all its varied forms is rapidly disappearing.

Consumption has been unusually fatal during the above months. During June, July, and August of last year the mortality from consumption amounted to 148; during the corresponding months of this year the deaths numbered 201. It does not very clearly appear to what cause this increased mortality is owing. Part undoubtedly is attributable to the increased numbers of the population caused by the presence of the immigrant Irish, part to the greater and more sudden alternations of temperature to which we have been exposed during the past months. Perhaps, however, the scorbutic tendency which was so general among the population during the earlier months of this year has had more to do with this increase than either of these. The debility and generally vitiated or unhealthy state of both solids and fluids which this disease, or the tendency thereto, occasions, would seem to favour those morbid changes in the lungs which give rise to and characterise consumption;

and it is an undoubted fact that during the past months of this year many cases of consumption have proved rapidly fatal which in other seasons would have hung over for months or years. Confirmatory of this view we have the fact that inflammation of the lungs has been more prevalent and fatal during the present year than for very many years past, and we all know that an attack of inflammation in the lungs is often the first step towards the formation of consumption.

It is worthy of note that notwithstanding the increased general mortality, the number of still-born children has been considerably fewer during the above months than during the corresponding months of last year. Thus they amounted to 67 only during the above months of this year, but to 86 during the corresponding months of last year. The cause of this would form an interesting subject of inquiry.

Leith not being subject to the inroads of the immigrant Irish, illustrates better than Edinburgh the influence of atmospheric agencies on the health. The excessive heats which prevailed during the months of June, July, and August last year, having been more moderate this year, and the alternations of temperature greater, the consequence has been that the mortality of the above months has fallen 19 per cent. below that of the corresponding period of last year.

The following is the abstract of the mortality tables of Edinburgh and Leith for the months of June, July, and August 1847, classified according to ages and diseases.

TABLE OF AGES.

Ages.	EDINBURGH.						LEITH.					
	June.		July.		August.		June.		July.		Aug.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Still-born,	11	10	13	9	14	10	1	4	2	2	3	2
1 yr. & und	39	27	44	42	37	40	3	5	5	4	3	6
2	24	33	28	33	24	23	6	1	7	3	5	5
5	32	22	21	23	25	22	1	5	1	1	5	5
10	11	14	13	10	10	7	0	0	1	1	2	1
15	2	3	6	1	9	3	0	0	0	1	1	0
20	17	12	18	5	7	5	1	0	1	2	1	1
30	31	20	41	38	29	16	1	0	3	1	0	0
40	37	21	26	19	29	28	5	3	2	1	2	0
50	26	29	27	16	37	32	2	2	1	1	1	0
60	28	15	22	17	16	13	1	0	4	3	2	0
70	13	16	16	25	22	19	1	3	0	4	6	5
80	13	23	17	15	11	17	3	2	3	0	2	2
90	4	4	10	4	2	9	0	1	1	1	0	0
100	0	1	0	1	0	0	0	0	0	0	0	0
Not stated,	2	1	4	1	6	6	0	0	0	1	0	0
Total,	290	251	306	259	278	250	25	26	31	26	33	25
	541		565		528		51		57		58	

CLASSIFIED TABLE OF DISEASES.

Class.	DISEASE.	EDINBURGH.			LEITH.			
		June	July	Aug.	June	July	Aug.	
I.	Small-pox,	31	14	10	2	4	5	
	Measles,	46	46	15	0	0	0	
	Scarlet Fever,	0	0	3	0	1	1	
	Hooping-cough,	24	27	21	5	2	3	
	Croup,	2	4	4	0	0	2	
	Thrush,	0	5	0	0	0	0	
	Diarrhœa,	7	11	18	1	0	0	
	Dysentery,	0	1	1	0	0	0	
	Influenza,	1	0	0	0	0	0	
	Remittent fever,	1	0	1	0	0	0	
	Typhus fever,	128	139	131	2	8	0	
	Erysipelas,	2	4	0	0	0	0	
	Syphilis,	1	0	0	0	0	0	
	II.	Hæmorrhage,	1	1	3	1	0	0
Dropsy,		8	9	9	0	3	2	
Abscess,		0	0	2	0	0	0	
Anæmia		0	0	0	0	0	1	
Atrophy,		0	0	0	0	0	1	
Scurvy,		3	1	0	0	0	0	
Scrofula,		0	1	0	0	0	0	
Cancer,		1	2	3	0	1	2	
Tumour,		0	1	0	0	0	0	
Debility,		8	13	5	0	1	1	
Sudden death,		1	0	2	0	0	0	
III.		Hydrocephalus,	14	14	18	1	3	3
		Apoplexy,	2	6	7	0	0	1
		Paralysis,	9	8	5	0	1	1
	Convulsions,	4	3	4	1	1	0	
	Other diseases of brain, &c.	11	8	7	2	1	1	
IV.	Bronchitis,	1	0	4	0	0	1	
	Pneumonia,	15	17	7	8	0	4	
	Asthma,	6	2	3	0	0	0	
	Consumption,	58	73	70	4	6	6	
	Other dis. of respiratory organs,	10	8	6	0	0	0	
V.	Heart disease, aneurism, &c.	12	5	9	1	2	0	
VI.	Teething,	6	9	9	0	3	3	
	Enteritis,	18	8	12	2	2	2	
	Tabes mesenterica,	11	18	17	3	4	4	
	Other dis. of organs of digestion	9	8	14	1	0	3	
VII.	Kidney and urinary diseases,	4	3	3	0	0	0	
VIII.	Child-birth,	5	2	4	1	0	0	
	Disease of uterus, &c.	1	2	1	0	0	0	
IX.	Rheumatism,	1	1	1	0	0	0	
	Spine and joint disease,	0	1	2	0	0	0	
X.	Ulcer, Fistula, &c.	1	0	0	0	0	0	
XI.	Old age,	45	50	48	8	8	0	
XII.	Intemperance,	0	1	0	0	0	4	
	Violent deaths and suicides,	6	8	19	3	1	1	
XIII.	Still-born,	21	22	24	5	4	5	
	Causes not stated,	6	9	6	0	1	1	
Total,		541	565	528	51	57	58	

No.	Date	Particulars	Debit	Credit	Balance
1	1880	By Balance		100.00	100.00
2	1881	To Cash	50.00		50.00
3	1882	To Cash	75.00		125.00
4	1883	To Cash	100.00		225.00
5	1884	To Cash	125.00		350.00
6	1885	To Cash	150.00		500.00
7	1886	To Cash	175.00		675.00
8	1887	To Cash	200.00		875.00
9	1888	To Cash	225.00		1100.00
10	1889	To Cash	250.00		1350.00
11	1890	To Cash	275.00		1625.00
12	1891	To Cash	300.00		1925.00
13	1892	To Cash	325.00		2250.00
14	1893	To Cash	350.00		2600.00
15	1894	To Cash	375.00		2975.00
16	1895	To Cash	400.00		3375.00
17	1896	To Cash	425.00		3800.00
18	1897	To Cash	450.00		4250.00
19	1898	To Cash	475.00		4725.00
20	1899	To Cash	500.00		5225.00
21	1900	To Cash	525.00		5750.00
22	1901	To Cash	550.00		6300.00
23	1902	To Cash	575.00		6875.00
24	1903	To Cash	600.00		7475.00
25	1904	To Cash	625.00		8100.00
26	1905	To Cash	650.00		8750.00
27	1906	To Cash	675.00		9425.00
28	1907	To Cash	700.00		10125.00
29	1908	To Cash	725.00		10850.00
30	1909	To Cash	750.00		11600.00
31	1910	To Cash	775.00		12375.00
32	1911	To Cash	800.00		13175.00
33	1912	To Cash	825.00		14000.00
34	1913	To Cash	850.00		14850.00
35	1914	To Cash	875.00		15725.00
36	1915	To Cash	900.00		16625.00
37	1916	To Cash	925.00		17550.00
38	1917	To Cash	950.00		18500.00
39	1918	To Cash	975.00		19475.00
40	1919	To Cash	1000.00		20475.00
41	1920	To Cash	1025.00		21500.00
42	1921	To Cash	1050.00		22550.00
43	1922	To Cash	1075.00		23625.00
44	1923	To Cash	1100.00		24725.00
45	1924	To Cash	1125.00		25850.00
46	1925	To Cash	1150.00		27000.00
47	1926	To Cash	1175.00		28175.00
48	1927	To Cash	1200.00		29375.00
49	1928	To Cash	1225.00		30600.00
50	1929	To Cash	1250.00		31850.00
51	1930	To Cash	1275.00		33125.00
52	1931	To Cash	1300.00		34425.00
53	1932	To Cash	1325.00		35750.00
54	1933	To Cash	1350.00		37100.00
55	1934	To Cash	1375.00		38475.00
56	1935	To Cash	1400.00		39875.00
57	1936	To Cash	1425.00		41300.00
58	1937	To Cash	1450.00		42750.00
59	1938	To Cash	1475.00		44225.00
60	1939	To Cash	1500.00		45725.00
61	1940	To Cash	1525.00		47250.00
62	1941	To Cash	1550.00		48800.00
63	1942	To Cash	1575.00		50375.00
64	1943	To Cash	1600.00		51975.00
65	1944	To Cash	1625.00		53600.00
66	1945	To Cash	1650.00		55250.00
67	1946	To Cash	1675.00		56925.00
68	1947	To Cash	1700.00		58625.00
69	1948	To Cash	1725.00		60350.00
70	1949	To Cash	1750.00		62100.00
71	1950	To Cash	1775.00		63875.00
72	1951	To Cash	1800.00		65675.00
73	1952	To Cash	1825.00		67500.00
74	1953	To Cash	1850.00		69350.00
75	1954	To Cash	1875.00		71225.00
76	1955	To Cash	1900.00		73125.00
77	1956	To Cash	1925.00		75050.00
78	1957	To Cash	1950.00		77000.00
79	1958	To Cash	1975.00		78975.00
80	1959	To Cash	2000.00		80975.00
81	1960	To Cash	2025.00		83000.00
82	1961	To Cash	2050.00		85050.00
83	1962	To Cash	2075.00		87125.00
84	1963	To Cash	2100.00		89225.00
85	1964	To Cash	2125.00		91350.00
86	1965	To Cash	2150.00		93500.00
87	1966	To Cash	2175.00		95675.00
88	1967	To Cash	2200.00		97875.00
89	1968	To Cash	2225.00		100100.00
90	1969	To Cash	2250.00		102350.00
91	1970	To Cash	2275.00		104625.00
92	1971	To Cash	2300.00		106925.00
93	1972	To Cash	2325.00		109250.00
94	1973	To Cash	2350.00		111600.00
95	1974	To Cash	2375.00		113975.00
96	1975	To Cash	2400.00		116375.00
97	1976	To Cash	2425.00		118800.00
98	1977	To Cash	2450.00		121250.00
99	1978	To Cash	2475.00		123725.00
100	1979	To Cash	2500.00		126225.00



