

MORTALITY OF PHILADELPHIA FOR 1862.

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R E P O R T

ON

METEOROLOGY AND EPIDEMICS.

READ BEFORE THE

COLLEGE OF PHYSICIANS OF PHILADELPHIA,

FEBRUARY 4, 1863.

BY

WILSON JEWELL, M.D.,

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BOARD OF HEALTH OF PHILADELPHIA, ETC.

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# Mortality of Philadelphia for 1862.

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## REPORT

ON

## METEOROLOGY AND EPIDEMICS.

READ BEFORE

### THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

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IN offering my Annual Report on the Meteorology and Epidemics of our city for 1862, or in other words, on its hygienic condition and relative mortality, I would acknowledge our indebtedness to a beneficent Providence, for the good degree of health with which we have been favoured throughout the year.

**METEOROLOGICAL RECORD.**—The accompanying abstract of meteorological observations is furnished as usual by Prof. J. A. Kirkpatrick, A. M. His observations are made for the Smithsonian Institution. He has also added a comparative table of atmospheric phenomena for the last eleven years, for Philadelphia.

The mean temperature of the year 1862 was  $53.58^{\circ}$ , and stands one and one-eighth of a degree below that of 1861, and seven-tenths above that for eleven years.

The maximum temperature ( $95\frac{1}{2}^{\circ}$ ) occurred on the 7th day of July. The minimum temperature ( $8^{\circ}$ ) was on the 21st of December. The range of the temperature for the year was  $87\frac{1}{2}^{\circ}$ .

The warmest day of the year was August 9th, when the mean of the thermometer stood  $87.67^{\circ}$ . The coldest day was December 20th, when the mean for the day was  $15.83^{\circ}$ .

The maximum pressure of the atmosphere (30.555 inches) occurred on Nov. 16th; the minimum (29.216 inches) was on February 24th. The mean of the barometer for the year was 29.846 inches, which was a fraction lower than for 1861, and for the average of eleven years.

The force of vapour was less than for 1861, and for the average of eleven years.

The relative humidity of the atmosphere was greater than for 1861, but less than the average for eleven years.

The amount of rain that fell was nearly an inch more than in 1861, 45.656 inches, but three-quarters of an inch less than the average for eleven years.

It rained or snowed 134 days during the year. The month of June furnished the greatest amount of rain, 6.592 inches, when it rained 15 days. August the least, 1.455 inches, and for only 7 days.

*General Abstract of Meteorological Observations, made at Philadelphia, Pa., during the year 1862.*  
 By JAMES A. KIRKPATRICK, A. M., Prof. of Civil Engineering in the Central High School of Philadelphia.  
 (Barometer sixty feet above mean tide in the Delaware River.)

1862.	THERMOMETER.										BAROMETER REDUCED TO 32° F. But not corrected for altitude.							
	MONTHS.			RANGE.			Mean of daily oscillations.	MEANS.			RANGE.			MEANS.				
	Max.	Min.	Monthly.	Monthly.	Mean daily.	°	7 A. M.	2 P. M.	9 P. M.	Ave- rage.	Max.	Min.	Monthly.	Mean daily.	7 A. M.	2 P. M.	9 P. M.	Ave- rage.
January	54	10	44	°	5.04	10.21	29.36	34.47	31.97	31.93	30.408	29.325	1.088	.261	29.942	29.894	29.931	29.922
February	52	16	36	°	5.55	10.89	28.36	36.00	31.64	32.00	30.322	29.216	1.106	.225	29.939	29.891	29.922	29.917
March	56	22	34	°	3.95	14.44	34.24	44.21	39.18	39.21	30.173	29.276	.897	.173	29.804	29.747	29.795	29.782
April	82	28	54	°	5.89	17.87	44.57	55.23	48.28	49.36	30.321	29.422	.899	.146	30.025	29.979	29.994	29.969
May	85	40	45	°	5.77	19.81	57.85	70.08	61.32	63.08	30.058	29.518	.540	.124	29.785	29.740	29.760	29.762
June	89	47	42	°	5.34	17.60	64.57	74.72	66.75	68.68	30.146	29.375	.771	.123	29.738	29.706	29.728	29.724
July	92½	53	42½	°	4.23	17.50	71.13	82.06	73.60	75.60	30.156	29.487	.669	.107	29.743	29.724	29.731	29.733
August	95	54	41	°	3.89	16.56	71.47	82.93	75.13	76.51	30.099	29.557	.542	.122	29.829	29.796	29.818	29.814
September	87	48	39	°	4.30	16.22	63.53	76.03	67.55	69.04	30.086	29.398	.688	.128	29.881	29.845	29.876	29.867
October	86	35	51	°	5.48	15.31	52.70	64.29	56.98	57.99	30.201	29.307	.894	.151	29.865	29.825	29.859	29.830
November	71	27	44	°	5.94	13.40	40.67	48.18	43.25	44.03	30.555	29.380	1.175	.159	29.877	29.823	29.870	29.857
December	64	8	56	°	6.46	12.74	32.24	39.76	34.71	35.57	30.495	29.319	1.176	.197	29.932	29.895	29.936	29.921
Annual means	85½	8	87½	°	5.15	15.21	49.22	59.00	52.53	53.58	30.555	29.216	1.339	.160	29.863	29.822	29.852	29.846
Winter	64	10	54	°	5.42	11.89	30.08	37.58	33.16	33.60	30.462	29.216	1.246	.145	29.973	29.926	29.955	29.951
Spring	85	22	63	°	5.20	17.37	45.55	56.51	49.59	50.55	30.321	29.276	1.045	.118	29.871	29.822	29.850	29.848
Summer	85½	47	48½	°	4.49	17.22	69.06	79.90	71.83	73.60	30.156	29.375	.781	.117	29.770	29.742	29.759	29.757
Autumn	87	27	60	°	5.24	14.98	52.30	62.83	55.93	57.02	30.555	29.307	1.248	.146	29.874	29.831	29.868	29.858
For eleven years	100½	—5½	106	°	5.57	15.19	49.69	59.96	53.14	54.26	30.704	28.384	1.820	.156	29.890	29.850	29.874	29.871



*A Comparison of some of the Meteorological Phenomena of the year 1862 with those of 1861, and of the last ELEVEN years, at Philadelphia, Pa.*

Lat.  $39^{\circ} 57\frac{1}{2}'$  N. Long.  $75^{\circ} 10\frac{1}{2}'$  W. from Greenwich. Height of barometer fount, sixty feet above mean tide in the Delaware River.

	1862.	1861.	11 YEARS.
<b>THERMOMETER.</b>			
Highest—Degrees .	95 $\frac{1}{2}$ ° July 7	95° July 8	100 $\frac{1}{2}$ ° July 21, 1854
Lowest “ .	8 Dec. 21	—1 Feb. 8	—5 $\frac{1}{2}$ ° Jan. 23, 1857
Mean of warmest day	87.67 Aug. 9	87.80 July 8	91.30 July 21, 1854
Coldest day—mean	15.83 Dec. 20	7.80 Jan. 13	—1.00 Jan. 9, 1856
Mean daily oscillat'n	15.21	16.85	15.19
“ range .	5.15	5.57	5.57
Means at 7 A. M. .	49.22	50.15	49.69
“ 2 P. M. .	59.00	60.74	59.96
“ 9 P. M. .	52.53	53.24	53.14
“ for the year	53.58	54.71	54.26
<b>BAROMETER.</b>			
Highest—Inches	30.555 in. Nov. 16	30.526 in. Jan. 23	30.704 in. Jan. 28, 1853
Lowest “ .	29.216 Feb. 24	29.096 May 27	28.884 Apr. 21, 1852
Great'st d'y pressure	30.509 Nov. 16	30.483 Jan. 23	30.611 Dec. 18, 1856
Least daily pressure	29.390 Feb. 24	29.243 May 27	28.959 Apr. 21, 1852
Mean daily range .	0.160	0.167	0.156
Means at 7 A. M. .	29.863	29.890	29.890
“ 2 P. M. .	29.822	29.845	29.850
“ 9 P. M. .	29.852	29.870	29.874
“ for the year	29.846	29.868	29.871
<b>FORCE OF VAPOUR.</b>			
Greatest—Inches .	0.939 in. Aug. 8	0.841 in. Aug. 5	1.059 in. June 30, 1855
Least “ .	0.040 Dec. 20	.023 Feb. 8	.013 Feb. 6, 1855
Means at 7 A. M. .	.308	.319	.324
“ 2 P. M. .	.316	.332	.341
“ 9 P. M. .	.330	.343	.345
“ for the year	.318	.331	.337
<b>RELATIVE HUMIDITY.</b>			
Greatest per cent. .	100 per ct., often	100 per ct., often	100 per ct., often
Least “ .	18. Apr. 27, May 8	18 “ May 2	13 “ Apr. 13, 1852
Means at 7 A. M. .	74.9 per ct.	74.8 “	76.1 “
“ 2 P. M. .	56.4	54.9	57.5
“ 9 P. M. .	71.5	72.5	72.4
“ for the year	67.6	67.4	68.7
<b>CLOUDS.</b>			
No. of clear days .	100 days	109 days	111.7 days
“ cloudy days	265 “	256 “	253.5 “
Means of sky cover-			
ed at 7 A. M. .	62.9 per ct.	58.7 per ct.	59.5 per ct.
“ 2 P. M. .	62.8	61.6	60.0
“ 9 P. M. .	52.5	46.2	44.8
for the year .	59.4	55.5	54.8
Rain or melted			
snow, amount .	45.656 in.	46.414 in.	44.936 in.
No. of days on which			
rain or snow fell	134 days	125 days	127 days
Prevailing winds,			
from . . . .	N. 58° 40' W. .159	N. 81° 41' W. .239	N. 74° 29' W. .227

**BIRTHS, MARRIAGES AND DEATHS.**—It will be highly gratifying to the fellows of the College to learn, that the law for the registration of births, marriages, and deaths, in which they took an early and active part, has thus far been attended with very satisfactory results. Nor will it be considered a useless repetition to add, that it has already become a popular and permanent institution of our city. No expense has been spared by the Board of Health, to carry out efficiently the objects of this law. Nor is it any longer considered an unnecessary tax upon time, by those who are required to make their returns. For the most part the law is cheerfully and promptly complied with by all. The few exceptions to this are rapidly yielding their opposition, as the value of the law becomes more generally known and appreciated.

*Births.*—The births registered for the year 1862 (Table I.) have amounted to 14,741; of these, 7609 were males and 7132 were females. This shows an excess in favour of males equal to 7 per cent.

From investigations made by M. Villermé, of Paris, and confirmed by Dr. Emerson, in a paper on the Medical Statistics of Philadelphia, published in 1831,<sup>1</sup> in which he constructed a table of the births for each month, during a period of ten years, he showed that certain months of the year, independent of other causes, exerted an unfavourable influence on both conception and the increase of population by reproduction. "These causes seem to prevail during the extreme heat of summer and in the commencement of autumn, the months of August, July and September, standing lowest in the scale designating the months of conception."

By taking the number of births for each month during the two full years in which the registration law has been in operation, 1861 and 1862, and arranging them so as to place those highest in the scale of births in their numerical order, and opposite to these the corresponding months of conception, and similar results with those procured by Dr. Emerson, on a larger scale, will be observed, as in the following table:—

Months.	Whole Number of Births.	Corresponding Months of Conception.
1. January . . . . .	2898 . . . . .	June
2. March . . . . .	2893 . . . . .	April
3. December . . . . .	2706 . . . . .	October
4. February . . . . .	2702 . . . . .	November
5. August . . . . .	2695 . . . . .	March
6. October . . . . .	2684 . . . . .	May
7. November . . . . .	2684 . . . . .	February
8. July . . . . .	2676 . . . . .	December
9. September . . . . .	2667 . . . . .	January
10. June . . . . .	2497 . . . . .	September
11. May . . . . .	2459 . . . . .	July
12. April . . . . .	2451 . . . . .	August

Thus it will be seen, that the months furnishing the minimum of births and conceptions for the two years correspond with those given by Dr. Emerson for a period of ten years, viz: August, July and September, the months of conception, and April, May and June the months giving the lowest number of births.

<sup>1</sup> Am. Journal of the Medical Sciences, vol. ix. p. 21.

TABLE I.—Table of Births under the Registration Law, for the year ending December 31, 1862, with the Wards, Sexes, and Colour designated, together with the Percentage and Ratio of Births to Population of each Ward.

MONTHS.	Total.		BIRTHS.		BLACK.		STILLBORN.		Twins.		Triplets.		WARDS.										Wards Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	1	2	3	4	5	6	7	8	9	10	
January . . . . .	751	645	14	14	46	30	12	57	57	53	42	27	71	76	42	35	51						
February . . . . .	1,228	645	5	6	36	19	8	79	64	34	24	41	71	23	38	41							
March . . . . .	1,825	680	8	9	38	22	16	80	60	45	30	29	61	27	28	42							
April . . . . .	1,128	572	556	11	13	27	25	78	64	47	53	32	26	58	20	42							
May . . . . .	1,173	615	568	13	10	33	33	17	68	27	25	30	35	24	51								
June . . . . .	1,152	584	568	8	12	23	26	76	63	47	53	22	70	37	20	29							
July . . . . .	1,181	610	571	7	14	33	25	83	68	32	44	30	54	29	27	34							
August . . . . .	1,206	627	579	9	14	33	26	81	67	47	61	30	57	33	28	49							
September . . . . .	1,227	622	605	7	9	31	28	108	64	45	56	25	54	33	32	30							
October . . . . .	1,256	683	583	2	17	48	23	90	73	36	46	22	66	28	34	44							
November . . . . .	1,231	650	581	15	5	37	23	86	73	48	60	22	53	32	32	47							
December . . . . .	1,228	605	623	6	11	27	24	91	74	33	32	35	50	25	33	31							
Total . . . . .	14,741	7609	7132	117	134	414	297	1016	749	515	693	361	720	372	352	490							
Population of each ward . . . . .								30,886	29,123	19,929	23,461	14,882	31,267	27,770	17,106	21,849							
Percentage of births to population . . . . .								3.28	2.57	2.58	2.95	2.42	2.30	1.31	2.04	2.24							
Ratio of births to population . . . . .								30.39	38.88	38.69	33.85	41.22	43.42	74.65	48.55	41.55							

  

MONTHS.	Total.		BIRTHS.		BLACK.		STILLBORN.		Twins.		Triplets.		WARDS.										Wards Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	1	2	3	4	5	6	7	8	9	10	
January . . . . .	54	40	55	47	43	81	43	100	84	49	49	45	30	63	20	8							
February . . . . .	39	49	37	38	49	61	34	92	74	40	37	47	47	64	6	2							
March . . . . .	31	48	40	49	95	61	72	100	74	45	37	47	76	18	8								
April . . . . .	33	44	31	38	63	53	40	79	61	42	41	38	61	17	3								
May . . . . .	33	38	30	47	86	44	61	40	79	80	34	41	38	61	13								
June . . . . .	32	28	46	46	64	41	55	71	31	31	44	44	31	69	17								
July . . . . .	32	36	31	46	80	39	66	42	69	85	37	44	33	66	13								
August . . . . .	31	28	24	46	41	46	46	74	86	42	42	44	40	64	16								
September . . . . .	43	43	39	52	97	61	83	73	69	36	34	44	44	52	12								
October . . . . .	49	39	48	65	78	52	65	67	60	43	35	35	36	58	24								
November . . . . .	47	32	37	40	88	47	65	100	77	77	31	35	33	67	22								
December . . . . .	40	50	45	52	62	67	33	69	82	29	47	47	43	49	16								
Total . . . . .	464	465	463	572	1009	605	770	480	937	923	467	463	463	743	194	62							
Population of each ward . . . . .	16,681	16,681	20,045	21,958	32,091	23,264	20,441	38,898	29,963	17,169	17,173	23,985	23,788	31,13									
Percentage of births to population . . . . .	2.78	2.78	2.31	2.33	3.14	3.00	2.46	3.08	2.66	2.66	1.93	1.93	1.93	3.13									
Ratio of births to population . . . . .	35.95	35.87	43.29	42.40	31.80	30.31	42.58	40.57	32.45	37.54	37.09	51.80	31.94										

The explanation proposed by M. Villermé to account for the variation found at different seasons in the births and conceptions, was "the direct or indirect influence of the annual revolution of the earth around the sun, or in other words, to the order of the seasons." Dr. Emerson falls in with the views of the French *savan*, that fecundity in this region at least, is materially affected by high temperature, but considers that an epidemic influence, during the period embraced in his calculations, acted as a retarding force to conception.

I am therefore disposed to attribute the diminished number of births in the months of April, May and June, for the two years past, to the extreme heat in the corresponding months of conception, viz: August, July and September, in connection with the insalubrity of the season, as it is well understood that the prevalence of epidemics, during these months, increases materially our bills of mortality.

The first ward, with a population of 30,886, contributed 1006, equal to an increase of 3.28 per cent. of its population. The fifteenth, containing 32,091 souls, gave 1009, or an increase of 3.14 per cent. The nineteenth ward, with its teeming population of 38,828 does not appear to be as productive as the two former wards, as it added only 957 births, an increase of 2.46 per cent. This number of recorded births is less by 2530, or 2.72 per cent., than that of 1861.

This falling off cannot be attributed to a defective record, caused by a delinquency on the part of those appointed to collect the births, or of those required to make returns. The greatest watchfulness has been observed by the health officer and his clerks, to secure the monthly returns, and I have the assurance that the number of physicians and midwives making returns, has been greater than those for 1861.

I can only attribute this decrease in the number of births, to the disturbing events connected with the rebellion.

It will be borne in mind that not only epidemics, but other agencies of a moral, social and national character, operating on a community to the depression of their mental and physical energies, will, by reducing the forces of organic life, unfavourably affect the increase of the population by reproduction.

I therefore believe that to the discouraging influences of the present war, and the agitated and unsettled state of the country, may be justly ascribed, in a great measure, the falling off of the totals of births for the year.

The daily average of births has been  $40\frac{1}{3}$ .

The first three months of the year furnished the largest number of births, April, May and June the lowest. January gave the highest, 1396, and April the lowest, 1128.

The most prolific ward appears to have been the seventeenth which yielded 770 births, or 3.30 per cent. in a population of 23,264.

The ward yielding the fewest births according to its population was the eighth. With a population of 27,770 it gave only 372 births, or 1.34 per cent., which is only one in 74.65 hundredths of its inhabitants.

In fifteen out of the twenty-five wards, the births exceeded the deaths. The fifteenth, twentieth, twenty-first, and twenty-second wards, presented the greatest contrast between the births and deaths. In the former, they exceeded the deaths by 190. In the three latter, they averaged an excess of 174.

In the remaining ten wards, the deaths exceeded the births, and the inference is a want of material prosperity in the community, or a defect in their natural numerical growth.

The preceding year (1861) yielded an increase of population by births over the deaths of 19 per cent. The year under consideration (1862), shows a decrease in population, by the deaths exceeding the births, equal to 2.38 per cent. This calculation is based upon the aggregate of deaths recorded for the year, but if the deaths of soldiers are deducted, the births will furnish an increase in the population of 6 per cent. over the waste by death.

The number of births on record from our coloured population amounted to 251. The deaths in the population reached 721. This record gives an excess of deaths among blacks of 65 per cent. over the births, and if the hypothesis be true, that a preponderance of births over deaths in a community is an index of prosperity in numerical growth, the inference is that our black population is diminishing.

Twin births to the number of 154 have been recorded. One triplet birth was returned for the year, in the month of December.

The stillbirths amounted to 711. Of this number 414 were males and 297 were females; an excess of male stillborn children equal to 39 per cent.

*Marriages.*—The total of marriages recorded for the year (Table II.) have been 4662, an increase of 245 over those for 1861.

TABLE II.—*Ages of Persons Married and recorded under the Registration Law for the year ending December 31, 1862.*

		AGES OF THE WOMEN.								TOTAL OF THE MEN.	
		Under 20	20 to 25	25 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80		Age not given.
AGES OF THE MEN.	Under 20	15	4								19
	20 to 25	565	798	92	13	3				12	1483
	25 to 30	166	760	328	64	4				17	1339
	30 to 40	62	326	276	198	20	1			6	889
	40 to 50	2	38	58	124	42	1			6	271
	50 to 60		4	6	35	24	16	1		1	87
	60 to 70		1	1	3	10	10	1		1	27
	70 to 80				1	3	3	2			9
	Age not given.	6	8	7	2					515	538
TOTAL OF THE WOMEN.		816	1939	768	440	106	31	4		558	4662

This department of the office does not afford the same amount of satisfaction that is given in the other branches. The defect is due alone to the indifference on the part of clergymen in making their returns in accordance with the law.

The table referred to gives the ages of the parties married as far as they were returned. It will be seen, however, that in 1096, or about 12 per cent. of the names returned, the ages were not given.

Of the parties married, 816, or 17.50 per cent. of the brides, were under twenty years of age, whereas only 19 of the grooms, or 00.47 per cent. were in their minority.

The most popular age for marriage appears to be between twenty and twenty-five. During this quinquennial period there were 1939 brides, equal to 41.59 per cent. of the total of marriages, and 1483 grooms, equal to 31.81 per cent.

Previous to this period, or twenty-five years of age, the brides, in point of numbers, are in the ascendant, but beyond it they rapidly decline, while the grooms increase.

Between twenty-five and thirty, there were only 768 brides or 16½ per cent., and 1339 or 28.72 per cent. of grooms.

There are nine marriages registered of men between seventy and eighty, and four women between the ages of sixty and seventy.

Table III. furnishes a record of the nativity of the brides and grooms.

TABLE III.—*Number of Marriages registered under the Registration Law for the year ending December 31, 1862, with the Nativity of the Brides and Grooms.*

NATIVITIES.		BIRTHPLACE OF BRIDES.			TOTAL OF GROOMS.
		United States.	Foreign.	Not given.	
BIRTHPLACE OF GROOMS.	United States . . . .	2234	239	26	2499
	Foreign . . . . .	425	1535	4	1964
	Not given . . . . .	27	14	158	199
TOTAL OF BRIDES . . . .		2686	1788	188	4662

Of the whole number of persons married, 5185, equal to 55 per cent., were American born, and 3752, or 40 per cent., were of foreign birth.

387 or 4 per cent. of the parties married, were returned without their place of birth being named.

2686, or 57.61 per cent., of the brides were American born; of these, 425, or 16 per cent., married foreigners, while only 9 per cent. of the grooms born in the United States married foreign women.

*Deaths.*—The following table furnishes a general summary of the deaths for the year 1862:—

White . . . . .	14,376	
Coloured . . . . .	721	
	<hr/>	
Total . . . . .		15,097
Males . . . . .	8,315	
Females . . . . .	6,782	
	<hr/>	
Total . . . . .		15,097
Male minors or children . . . . .	4,266	
Female " " . . . . .	3,772	
	<hr/>	
Total minors . . . . .		8,038
Male adults . . . . .	4,049	
Female adults . . . . .	3,010	
	<hr/>	
Total adults . . . . .		7,059
	<hr/>	
Total . . . . .		15,097
Deaths from registered diseases . . . . .	13,232	
Deaths from stillborn . . . . .	711	
Deaths from old age . . . . .	219	
Deaths from unknown causes . . . . .	97	
Deaths from external and accidental causes . . . . .	838	
	<hr/>	
Total from all causes . . . . .		15,097

A comparison of this total of 15,097 with the total returns of the previous year, 1861, will show an increase of deaths recorded for 1862, amounting to 629, equivalent to an increase of 4 per cent., and is the highest aggregate on record of any former year.

The announcement of this fact is at variance with my congratulatory introduction, and requires an explanation.

It would be doing great injustice to the sanitary and mortuary interests of our city if the conclusion should be entertained that the augmentation of deaths for the year 1862, as found upon the record, has been the result of a high rate of city mortality growing out of, and influenced by the invasion and progress of epidemic diseases. Fortunately, there is ample and incontestable evidence to prove the contrary.

A single glance at the death-table from zymotics—an index of public health—a class of diseases by which may be distinguished the salubrity or unhealthiness of the year, furnishes the proof that they have fallen off in the aggregate to the extent of 558, equal to 16 per cent. when compared with those of the previous year, 1861.

One remarkable sign of the improved condition of the health of our city is the fact that those destructive epidemic diseases, scarlet fever, smallpox, and diphtheria, which prevailed in 1861 to a fearful degree, carrying to the grave 2450 of our population, have this year carried off only 1397 or 57 per cent. less than in 1861, and ere the year 1862 had closed, their epidemic influence was so far diminished as scarcely to have been recognized in the community.

There is, however, an agency foreign to the ordinary operating causes for the increase of our city mortality that has contributed in a large degree to swell the number of the annual death-roll. It is the war in which the country is at present involved. From this cause alone it can be shown that 1202 of the deaths registered are of the number who had fallen on the

battle-field, or had died from disease contracted in the camp, or on the march, many of whom have expired in the government hospitals throughout our city, and many who had returned home only to die among their friends.

None of these deaths properly belong to the annual mortality of the city, and in order to form a correct estimate, every one of them should be deducted. By this method the mortality will be reduced to 13,895, or about 4 per cent. less than that of 1861.

It may therefore with safety be announced that, notwithstanding the successful operation of the registration law, to which I so fully referred in my last report, and which enables us to secure a nearer approximation to the true number of deaths than ever before, the deaths of 1862 fall below those for 1861. This result furnishes the evidence that the city has been comparatively healthy during the year.

Nor is this good share of health to be ascribed in any measure to extensive sanitary improvements through the agency of our municipal authorities. As in former years, so with the past, very little interest has been taken towards the improvement of the hygiene of our city on the part of our councils.

The river docks continue to be receptacles for every description of filth, sending forth their fetid and deleterious miasma into the atmosphere; the city sewerage, with all the attention recently bestowed upon the traps at the inlets to the culverts, still afford imperfect drainage. Under existing arrangements, which allow the indiscriminate use of the culverts for conveying away the deposits of privies and water-closets, as well as the solid refuse from houses, yards, gutters, and streets, they may eventually entail upon the community a far greater sanitary evil than they are designed to remove.

The system of street-cleaning is still defective in many essentials. At best, it is very imperfectly executed. Many districts of the city, where the greatest need exists for sanitary conservation, receive but little if any attention.

Intra-mural interments, as applicable to those graveyards located in densely-populated neighbourhoods and in grounds already crowded to saturation with the decomposing remains of the dead, continue to be a nuisance, dangerous to public health, demanding legislative enactment as the only certain remedy for their entire abatement.

The proper disposal of street dirt and kitchen garbage, with their disgusting and unhealthy emanations, especially during the warm months—underground and cellar tenements, and other domiciliary arrangements, where defective light and ventilation with an overcrowded population and a want of the common conveniences of life prevail—slaughter-houses, hogs and pens, cow stables, filthy yards and alleys, together with a host of offensive manufacturing establishments, and a great diversity of minor nuisances, continue to be sanitary evils, crying aloud for redress.

These and similar causes may be regarded as among the prominent baneful influences contributing to depress the vital energies of our population, and engendering diseases of zymotic origin—diseases that are preventable, and which, with a more general knowledge of the laws of hygiene and a wisely directed practice, would in a great measure be obviated.

In addition to these prevalent and established causes for atmospheric contamination during the year, our once quiet and peaceful city was selected by the government as a location admirably adapted for hospital accommodations for the sick and wounded of the army. During the year

just closed there have been as many as twenty-two (22) military hospitals opened and occupied in various sections of the city.

Great anxiety at one time was felt for the health of the city when these hospitals were about to be opened. It was hardly to be expected that the introduction of several thousand cases of wounded and sick soldiers, under the most unfavourable circumstances for hygienic purposes, could take place—in addition to our ordinary amount of disease—without their exerting a contaminating atmospheric influence upon the sick as well as upon the healthy of the community. Nor was the fact that camp and typhoid fevers and dysenteries, and suppurating wounds of every description, would make up a large majority of the cases, and that the remainder would comprise the broken-down and feeble of the army, whose depraved systems were already thoroughly prepared for infection, calculated to lessen the excitement in the public mind.

It is highly gratifying, however, to be able to report that these fears and apprehensions have proved groundless. The admirably selected locations of these hospitals, with but few exceptions; the excellent management and unremitting attention of the surgeons in charge; the skill displayed by the attending surgeons and physicians; the valuable hygienic arrangements instituted, and, in short, the entire medical police established throughout, have proved of inestimable value in preventing the introduction and spread of epidemic and infectious diseases.

It would seem to be almost out of place, in this report, to allude in any manner to the extraordinary and praiseworthy services bestowed upon the sick and wounded soldiers, who have been the recipients, from time to time, of these hospitals, by all classes of our citizens. I cannot refrain from noticing more especially the commendable and the disinterested devotion of the ladies, who have contributed so largely to the alleviation of the sufferings of these noble men, by their personal attendance, and have distributed with a liberal hand supplies and delicacies of every description, with a kindness and earnestness which belong alone to woman.

Through the politeness of the surgeons in charge of the government hospitals located in our city, I have been able to furnish the number of cases under treatment, as well as the number of deaths during the year—or, from the date of their opening up to the 31st of December, 1862, as follows:—

Opened in 1862.	Location.	Surgeons.	Cases.	Deaths.	Per ct.	Deaths to cases.
Jan. 1st	Broad Street <sup>1</sup>	Dr. John Neal	3,206	89	2.50	1 in 36
June 1st	W. Philadelphia	" Hayes	5,156	164	3	1 in 31½
March 9th	South Street <sup>2</sup>	" Hart	1,163	47	4	1 in 25
"	5th & Buttonwood	" Bournonville	1,665	78	4.75	1 in 21
March 5th	Wood Street	" Horner	1,021	22	2	1 in 46
Aug. 19th	Filbert Street	" Breed	967	16	2	1 in 60
Jan. 1st	Christian Street	" Reese	964	40	4	1 in 24
June 18th	Master Street	" Goddard	953	43	4.50	1 in 22
Sept. 3d	Race Street	" Burpee	828	9	1	1 in 92
March	St. Joseph's	" Moon	713	29	4	1 in 24
July 5th	Germantown	" Darrach	651	4	.50	1 in 257
July 30th	Episcopal	" Thomas	531	33 <sup>3</sup>	7	1 in 16
"	4th & George	" Harlow	527	46	9	1 in 11½
Aug. 18th	Hestonville	" Agnew	301	4	1	1 in 75
"	12th & Buttonwood	" Morton	257	1	0.39	1 in 163
Nov. 2d	Haddington	" Levis	191			
"	Turner's Lane	" E. S. Dunster	606	17	2.75	
March 1st	Summit House	" Sergeant	773	32	4	1 in 24
July 11th	Catharine Street	" Picot	199	8	4	1 in 25
"	Broad & Prime	" Kenderdine	270	35 <sup>3</sup>	13	1 in 7
"	Islington Lane	" J.V. Patterson	17	1		1 in 17
"	Camac's Woods	" W. M. Camac	14			
			20,973	718	3.39	1 in 44
	Cooper Shop	" Nebinger		8		
	Union Hospital	" Ward		14		

From this record it will be seen that 20,973 medical and surgical cases have been treated in these hospitals, with a loss by death of only 718, or 3 per cent., and as one death in every 44 of the cases.

When all the unfavorable circumstances surrounding these sick and wounded soldiers from the date of their injuries on the battle field, or their sickness in camp, their exposure and sufferings, from the want of timely surgical and medical attention, the distance they were conveyed by land and water carriage, and the unpromising condition in which many of them were found upon their arrival at the hospital to which they were conveyed, some of whom were moribund, and quite a number dying on that or the following day—the wonder is, that the percentage of mortality among them was not far higher. No stronger evidence could be produced of the skilful manner in which the medical and surgical treatment in the government hospitals of our city has been conducted, than this limited percentage of deaths.

Estimating the population of the city at 600,000, and the aggregate deaths on record 15,097, as represented in Table No. 4, which includes 711 stillborn children, and 1202 deaths of soldiers, which do not properly belong to our city mortality, and it gives us one death in every 40, or twenty-five deaths in every 1000 of the population.

By deducting the stillborn and the deaths of soldiers which I have designated as of foreign origin, and the result presents a more favourable estimate; one death in every 45 of the population, and twenty-two in every 1000.

<sup>1</sup> The regular treatment did not commence until June 1.      <sup>2</sup> Opened in 1861.

<sup>3</sup> Many of these were moribund when brought from the cars.

Of the sexes the rate of mortality has been 8315 males, and 6782 females. This is an unusual excess of male deaths, equal to 1523 or 23 per cent., amounting to more than double the ordinary excess of deaths among males, and may be properly attributed to the large number of the remains of soldiers brought here for burial, and of those who expired in the U. S. hospitals in our city.

The adult deaths were 7059; the minors or children 8038. This excess of deaths in minors, or those under twenty years of age, has been unusually small, not over 14 per cent. Last year it reached 64 per cent. The highest number of deaths in any one period of life, was among infants under one year. They amounted to 3661 (including the stillborn) equal to 23 per cent. of all the deaths. Those under five years numbered 6626, equal to 44 per cent.

By reference it will be found that these figures fall considerably below those of the previous year. This difference is owing mainly to the decline of deaths from smallpox, scarlet fever and diphtheria.

The number of adult deaths compared with those of minors is a very prominent feature in this report. Those between 20 and 40 years amounted to 3336, or 48.50 per cent. above those in the same period for 1861. Those between 40 and 70 were 2666, or 18.69 per cent. more than those in 1861.

From seventy upwards to extreme old age, the deaths were 1057, or 18.69 per cent. over those in 1861; the variation, though not very great, is sufficient to prove that some extraordinary influence was at work to effect the change.

The same outside cause, to which I have already adverted—the mortality in the army of the United States, will in a great degree account for these results.

**MONTHLY MORTALITY.**—The deaths for several months throughout the year are given in the accompanying table.

*Return of Deaths in each Month, showing the number of Deceased Males and Females, Adults and Children, for the year 1862.*

1862.	Males.	Females.	Adults.	Children.	Total.
МОНТЯС.					
January . . . .	664	650	557	757	1,314
February . . . .	576	504	460	620	1,080
March . . . . .	601	603	531	673	1,204
April . . . . .	660	553	586	627	1,213
May . . . . .	685	660	653	692	1,345
June . . . . .	551	451	480	522	1,002
July . . . . .	966	801	649	1,118	1,767
August . . . . .	1,061	594	803	952	1,755
September . . . .	573	464	490	547	1,037
October . . . . .	754	481	676	559	1,235
November . . . .	570	451	549	472	1,021
December . . . .	654	470	625	499	1,124
	8,315	6,782	7,059	8,038	15,097
		15,097		15,097	

The greatest number of deaths in any one month was in July, which furnished 1767, while August contributed 1755. June gave the lowest, 1002, and November the next, 1021.

The deaths in every month exceeded 1000, and have been more equally distributed than usual.

The month of May, generally a healthy period of the year, gave 1345 deaths—the third in numerical order of mortality.

The months of October, November and December, furnished a heavier mortality among adults than in children, equal to 20 per cent. This is an uncommon occurrence, and can only be accounted for by the deaths among soldiers.

**MORTALITY IN WARDS.**—The following table presents the deaths in each of the twenty-four wards, with the population of each ward according to the last census. The ratio of deaths to population calculated in this table, will differ from that elsewhere given, as it is based on the census of 1860, instead of reckoning the natural increase of the population.

**TABLE IV.**—*Mortality in each Ward, with the Population (according to the late Census), the ratio of Deaths to Population, the Percentage of Deaths in each Ward to the Total Mortality, and Deaths in each thousand of the Population. Also the Deaths from unknown Wards, from the Almshouse and from the Country.*

WARDS.	Population last census.	Deaths.	Deaths to population.	Per cent. of deaths to total mortality.	Deaths in each thousand of population.
First . . . .	30,886	1,037	1 in 30	6.86	33.48
Second . . . .	29,123	827	1 " 36	5.47	28.51
Third . . . .	19,929	491	1 " 41	3.25	24.55
Fourth . . . .	23,461	711	1 " 33	4.70	30.87
Fifth . . . .	24,792	520	1 " 48	3.44	20.80
Sixth . . . .	14,882	350	1 " 43	2.31	23.33
Seventh . . . .	31,267	829	1 " 38	5.49	26.74
Eighth . . . .	27,770	465	1 " 60	3.08	16.60
Ninth . . . .	17,196	338	1 " 51	2.23	19.88
Tenth . . . .	21,849	599	1 " 37	3.96	27.27
Eleventh . . . .	16,681	384	1 " 44	2.54	22.58
Twelfth . . . .	16,681	429	1 " 39	2.84	25.23
Thirteenth . . . .	20,045	380	1 " 53	2.51	19.00
Fourteenth . . . .	24,258	493	1 " 50	3.26	20.54
Fifteenth . . . .	32,091	819	1 " 40	5.42	25.59
Sixteenth . . . .	20,067	520	1 " 39	3.44	26.00
Seventeenth . . . .	23,264	677	1 " 35	4.48	29.43
Eighteenth . . . .	20,441	596	1 " 35	3.94	29.80
Nineteenth . . . .	38,828	1,042	1 " 38	6.90	26.71
Twentieth . . . .	29,963	736	1 " 41	4.87	24.53
Twenty-first . . . .	17,159	284	1 " 61	1.88	16.70
Twenty-second . . . .	17,173	286	1 " 61	1.89	16.82
Twenty-third . . . .	23,985	329	1 " 73	2.17	13.70
Twenty-fourth . . . .	23,738	660	1 " 36	4.37	27.50
Twenty-fifth . . . .	.....	130	.....	0.86	.....
Unknown . . . .	.....	135	.....	0.89	.....
Almshouse . . . .	.....	508	.....	3.36	.....
From the country	.....	522	.....	3.59	.....
Total for 12 mos.	.....	15,097		100.00	
Total population	565,529				
Ratio of deaths to population		.....	1 in 38		

The first ward, this year, furnishes the highest number of deaths according to its population, 1037, and the twenty-third the lowest, 329. The former giving 33 and the latter 13 in every thousand of their population.

The first ward therefore appears to have been the most unhealthy, and the twenty-third the healthiest.

The deaths in the nineteenth ward are reduced a fraction less than in 1861, and although charged with 1042 deaths, it rates the eighth in the line of descent from the first ward, the most unhealthy, the deaths being 26.71 in every thousand of its population.

The seventeenth ward last year gave 36 deaths to every thousand of its population, and was rated the most unhealthy. This year it contributes only 29.80 to each thousand, and stands the fourth in numerical order from the first, the most unhealthy.

The five most unhealthy wards, all of them crowded and defective in sanitary improvement, have been the first, fourth, eighteenth, seventeenth and second, in the order named. They have furnished 32 per cent. of all the deaths for the year.

These are the same found grouped together in last year's report as the most unhealthy—substituting, however, the second for the nineteenth, and taking its place as the fifth in the line of descent from the most unhealthy.

There has been an increase in the number of deaths recorded, over those of the former year 1861—in fifteen of the wards, while in the ninth, eleventh, thirteenth, sixteenth, seventeenth, nineteenth, twentieth, twenty-first and twenty-third, they have fallen off.

The eighth ward, with its 27,770 inhabitants, continues to present a very favourable record for health. Furnishing only 1 death in every sixty, or 16 deaths in every thousand of its population, while its adjoining ward on the south, the seventh, with a population of 31,267, contributes 1 death in every 38, or  $26\frac{7}{10}$  in every thousand of its population. This unfavourable contrast with its northern neighbor, can readily be accounted for by the numerous imperfections that will be found to exist in its sanitary condition, particularly in its eastern, southern and south-western sections.

The ninth, thirteenth and fourteenth wards, with their combined population of 61,499, present also a very favourable record. They return 1 death to 51, or 19.80 in every thousand of their population.

**ZYMOTIC DISEASES.**—This class embraces those which belong to epidemics, endemics, and contagious diseases, and have their origin in causes which are specific and local, and considered as preventable wherever a careful attention is given to sanitary improvements. These are the diseases which carry off so many of our infant population, especially among the indigent, and those who are compelled to rear their offspring in the crowded sections of the city, where the provision for ventilation, light, and other sanitary arrangements, is defective in the extreme. The deaths from the diseases under this head, as may be seen by the accompanying table (Table V.), have amounted to 3506. Compared with those of 1861, the previous year, and they are less by 558, or 16 per cent.



TABLE V.—Zymotic, Epidemic, and Contagious Diseases for 1862—Continued.  
Division 2. Showing Location, Colour, Nativity, and Wards.

DISEASES.	ALMSHOUSE.	PEOPLE OF COLOUR.	COUNTRY.	NATIVITY.			WARDS.																									UNKNOWN WARDS.			
				United States.	Foreign.	Unknown.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25				
																																	75	103	155
Cholera.	..	..	..	..	1	64	37	26	22	11	13	41	16	9	17	20	19	14	18	30	25	32	18	54	43	13	13	16	28	12	8				
" infantum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
" morbus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Diarrhoea.	..	..	..	..	..	33	21	4	4	2	3	2	1	3	2	1	1	1	2	2	2	2	3	3	5	1	1	1	1	1	1				
Diphtheria.	..	..	..	..	..	243	65	109	15	24	9	14	9	5	17	5	6	15	8	6	4	2	11	22	14	23	39	15	9	2	10	112	6		
Dysentery.	..	..	..	..	..	11	16	7	12	13	9	15	11	12	12	6	14	10	19	22	5	9	12	26	15	..	13	20	12	5	3	3			
Erysipelas.	..	..	..	..	..	17	12	2	7	2	3	22	3	2	4	2	5	2	3	7	4	7	10	6	3	6	4	14	..	..	..	..			
Fever, congestive	..	..	..	..	..	5	5	1	1	1	2	1	4	1	3	2	2	2	2	4	5	1	3	4	5	1	..	..	..	..	..	..			
" intermittent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
" eruptive	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
" malignant	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
" remittent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" scarlet	..	..	..	..	..	30	30	22	19	14	9	36	19	10	13	7	9	15	23	44	12	17	19	22	20	6	46	2	38	2	2	..	..	..	
" typhoid	..	..	..	..	..	34	34	11	17	14	12	45	12	7	48	11	41	18	35	25	17	20	51	42	17	8	16	42	8	2	..	..	..	..	
" typhas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
" yellow	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Hooping cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles.	..	..	..	..	..	4	12	7	10	12	7	16	10	3	8	3	2	7	11	10	2	15	7	15	18	5	7	3	6	1	..	..	..	..	
Smallpox	..	..	..	..	..	8	7	6	7	2	4	6	4	2	2	8	2	3	2	7	5	3	1	9	4	..	1	9	5	..	..	..	..	..	
Syphilis	..	..	..	..	..	39	25	12	11	6	2	9	4	6	3	12	5	3	5	10	12	13	6	24	13	15	12	1	7	4	4	..	..	..	..
Thrush or aphthæ	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Variella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	75	103	155	2825	336	345	238	216	112	125	92	68	219	93	61	132	86	107	81	100	181	122	141	125	271	192	72	71	85	296	40	..	..	..	..

There are, however, 526 of these deaths<sup>1</sup> that do not belong to our city mortality, having been brought here from the army. By deducting these, the deaths under this head will be reduced to 2980, or 1084 less than the former year, equal to 26.50 per cent.

To the total of deaths for the year, from all causes, these rate as 23 per cent., or one in every 4 and a third.

The falling off in the deaths from scarlet fever, smallpox, and diphtheria, has been 1050 from those in 1861.

This amount, however, has been made up in a great measure by the large increase of deaths from typhoid fever and diarrhœa. The former rose from 281, in 1861, to 658, and the latter from 183 to 417.

The heavy increase of mortality in these diseases can only be ascribed to deaths in the government hospitals, and to those brought here from the seat of war for interment.

The only disease named in this class, that has been increased in its mortality to any extent, over that of the former year, and cannot be attributed to foreign origin, has been hooping-cough, which has run up to 208 from 93. In every other disease, with the exception of those already named, there has been very little change.

Cholera infantum, as usual, has provided 629 deaths for the record, and unlike many other diseases where the deaths are distributed over the entire year, its mortality is confined to the three summer months of July, August, and September, at the same time selecting 327 or 50 per cent. of its innocent victims from the first, second, third, seventh, fifteenth, nineteenth and twentieth wards, which may be considered by far the most crowded and the most unsanitary sections of the city.

<sup>1</sup> The following catalogue has been obtained from the Registration Office. It gives the names of the diseases and casualties on the certificates of death of those soldiers of our army who have been buried in this city during the year 1862:—

Typhoid fever,	263	Dropsy,	9	Inflammation of heart,	1
Wounds, gunshot,	292	Congestion of bowels,	1	Congestive fever,	1
Disease of the heart,	11	Tuberculosis,	4	Dyscrasia,	1
Peritonitis,	7	Congestion of lungs,	1	Erysipelas,	4
Diphtheria,	16	Disease of kidneys,	2	Scurvy,	3
Apoplexy,	5	Ossification of aortic valve,	1	Bronchitis,	3
Intermittent fever,	2	Compression of brain,	1	Cholera morbus,	2
Pleuro-pneumonia,	9	Abscess,	4	Marasmus,	4
Typhoid pneumonia,	24	Pleurisy,	3	Palsy,	1
Drowning,	3	Scarlet fever,	1	Hepatitis,	1
Consumption,	88	Rheumatism,	1	Larynx,	1
Brain fever,	3	Jaundice,	1	Concussion of brain,	2
Pneumonia,	23	Dysentery,	40	Gastric fever,	1
Inflammation of bowels,	3	Gangrene,	6	Parotitis,	1
Debility & exhaustion,	34	Tonsillitis,	1	Tetanus,	1
Convulsions,	3	Remittent fever,	7	Effusion on brain,	1
Ossification of arteries,	1	Disease of lungs,	1	Scrofula,	1
Inflammation of brain,	6	Pyemia,	15	Epilepsy,	2
Congestion of heart,	1	Bilious fever,	1	Murder,	1
Ulceration of bowels,	4	Falling from a window,	1	Scrofula,	1
Intemperance,	3	Diarrhœa,	177	Softening of the brain,	2
Dropsy of the chest,	1	Softening of brain,	1	Consumption of stomach,	1
Measles,	3	Accidents on railroad,	13	Trismus,	1
Variola,	7	Fever, pernicious,	1	Mania-a-potu,	1
Congestion of the brain,	14	Sunstroke,	1	Total,	1,202
Gastro-enteritis,	8				
Unknown,	35				

Scarlet fever, smallpox, and diphtheria have prevailed during the year, but not to an alarming extent. During the first quarter, they furnished 437 deaths; in the second, 244; in the third, 154, and in the fourth, 215. These figures show a considerable decline in the second and third quarters, and although there was a slight increase in the fourth, they present a falling off of one-half from the first quarter. Smallpox fell off from 152 in the first quarter to 22 in the fourth. Scarlet fever, in the same period, from 189 to 92.

Diphtheria, however, appears to have increased during the last quarter. The first gave 96 deaths; the second, 56; the third, 72; while the fourth run up to 101.

TABLE A.—*Wards in which Zymotic or Epidemic Diseases were prevalent and deaths over 150.*

WARDS.	Population.	Total deaths.	Deaths from zymotics.
1 . . . . .	30,886	1037	238
2 . . . . .	29,123	827	216
7 . . . . .	31,264	829	219
15 . . . . .	32,091	819	181
19 . . . . .	38,828	1042	271
20 . . . . .	29,963	736	192
24 . . . . .	23,738	660 <sup>1</sup>	221
	215,893	5950	1538
From country . . . . .			155
			1693

TABLE B.—*Wards in which Zymotic or Epidemic Diseases have not prevailed extensively, and where the deaths were under 150.*

WARDS.	Population.	Total deaths.	Deaths from zymotics.
3 . . . . .	19,929	491	112
4 . . . . .	23,461	711	125
5 . . . . .	24,792	520	92
6 . . . . .	14,882	350	68
8 . . . . .	27,770	465	93
9 . . . . .	17,196	338	61
10 . . . . .	21,849	599	132
11 . . . . .	16,681	384	86
12 . . . . .	16,681	429	107
13 . . . . .	20,045	380	81
14 . . . . .	24,258	493	100
16 . . . . .	20,067	520	122
17 . . . . .	23,264	677	141
18 . . . . .	20,441	596	125
21 . . . . .	17,159	284	72
22 . . . . .	17,173	286	71
23 . . . . .	23,985	329	85
25 . . . . .		130	40
Unknown . . . . .		135	25
	349,643	8117	1738
Almshouse . . . . .			75
			1813

The above tables have been prepared in order to furnish some idea of the healthy and unhealthy localities or wards in the city.

<sup>1</sup> Less those from almshouse 508.

In my last year's report I presented similar tables, in which the one marked A, analogous to that in this report, enumerated eleven wards, where deaths from epidemic diseases had exceeded one hundred and fifty. The table A, given above for 1862, recapitulates only six of these wards, the first, second, seventh, fifteenth, nineteenth and twentieth, to which I have added the twenty-fourth, where the deaths from zymotics were above one-hundred and fifty.

The decline of deaths from zymotic or preventable diseases in the remaining five of the eleven wards, as presented in table A, 1861, viz: the fourth, eleventh, sixteenth, seventeenth and eighteenth, may serve as an indication of the improved state of health in the city; nor have I any doubt, had it been practicable to have secured the deaths from zymotic diseases that have occurred in the government hospitals in our city, there being one in each of the above seven wards, and those that have been brought into the city from the seat of war and other places and buried from these wards, and deducted them from the total of deaths properly belonging to these wards, the figures would stand considerably below one hundred and fifty in each, making such a table unnecessary and effecting a sensible change in the index that pointed out these wards as the most unhealthy.

Table B embraces the remaining eighteen wards, together with the deaths from unknown wards. An average of the total of deaths in these eighteen sections—uniting the twenty-fifth and the unknown in one—will give 450 for each ward, while an average of the other seven wards makes the deaths 850 in each; thus showing the mortality to be nearly double. If we average the deaths from zymotic diseases in the seven wards, it returns 219 for each, and in the eighteen, the average will be 96 deaths.

This may not be the most accurate test of the health of one ward over another, as there may exist causes modifying unfavourably the mortality in one section over that of another, foreign to its sanitary condition, yet enough is learned to enable us to discriminate between the healthy and unhealthy districts.

The twenty-first, twenty-second and twenty-third wards, which are suburban, and to a large extent rural, furnished as high a rate of deaths from zymotic diseases as did several of the intramural wards with an equal population, and surrounded by far more adverse influences, incident to a residence in a crowded city. The cause of this mortality may be ascribed to the existence of malaria, which is to be found in most of the rural districts adjacent to our built up wards, where, during the autumnal season, there is abundance of decaying vegetable matter, together with numerous small sluggish streams of water and stagnant pools, on the unimproved lots, that create disease of an endemic character.

The fifth, eighth, ninth and twenty-third wards appear to have given only three deaths, from zymotic diseases, in every thousand of their population; the sixth, thirteenth, twenty-first and twenty-second wards contributed four in every thousand, while the remaining sixteen of the twenty-four, furnished a still higher proportion. It may, therefore, be assumed with entire safety, that the above named wards present a very favourable character for health, in comparison with other sections of the city. Three of them, it may be observed, are classed as rural districts.

The fact must not be overlooked that a large proportion of the deaths from this class of diseases, as a general rule, fall upon children and infants under five years of age. During the year under consideration, 1928 were

of this description, equal to 55 per cent. of the entire mortality. Of this number 784, or 22 per cent., were under one year of age.

The principal diseases of which these children died, were cholera infantum, diphtheria, diarrhœa, scarlet fever, hooping-cough, measles and smallpox.

Of this latter disease, there were in all 264 deaths, and of these 196, nearly two-thirds, were in children under ten years of age. This fact furnishes a strong appeal as to the necessity of an obligatory law for vaccination.

The deaths from smallpox were most numerous in the first, second, and nineteenth wards.

The deaths from diphtheria were distributed very generally through the city, except in the eleventh, sixteenth and twenty-first wards. The first two gave 6 and 5, but in the last named not a death is recorded.

Hooping-cough has prevailed to a greater extent during the year than usual. The first and the third quarters, the coldest and warmest seasons of the year, furnished the highest number of deaths.

The mortality for the year reached 208. This is the largest number of deaths that has ever been recorded in this city for any single year. In 1839 they reached 191, and in 1842, 197. Every other year, with the exception of 1844 and 1846, when they rose to 101 and 104, the mortality was quite small.

Measles has also been on the increase. The deaths having amounted to 109. Like diphtheria, the disease appears to have been very general through the city, if the deaths will serve as an index, but in the twenty-first, a rural ward, there is not a death recorded. There were four deaths in adults, three between 10 and 15 years, and the remainder under 10.

I have intentionally omitted the tables heretofore constructed, which designate the different varieties of sporadic diseases, and separate them into classes, according to the particular organs or parts of the system involved. In making minute investigations these tables are certainly useful, but as the diseases by name are to be found alphabetically arranged in the general table of deaths marked No. VI., they can be referred to for general purposes, and subdivided by those who take a special interest in mortality statistics.

In place of these classified divisions, I offer the following table of the most fatal sporadic causes of death which have occurred during the year, as well as during the previous year 1861. Inserting those causes only that rate above fifty in 1862, and comparing them with those of 1861.

*Deaths from Sporadic Causes in 1862, compared with those from similar causes in 1861.*

	1861.	1862.		1861.	1862.
Abscess . . . . .	47	52	Gangrene . . . . .	46	55
Apoplexy . . . . .	162	176	Hemorrhage . . . . .	72	82
Burns and scalds . . . . .	81	81	Inflammation of Brain . . . . .	305	365
Cancer (different varieties) . . . . .	189	181	“ of Bronchi . . . . .	138	116
Casualties . . . . .	122	135	“ of Lungs . . . . .	681	749
Croup . . . . .	304	258	“ of Peritoneum . . . . .	67	87
Congestion of Brain . . . . .	275	324	“ of Stomach & Bowels . . . . .	238	306
“ of Lungs . . . . .	110	147	Inanition . . . . .	124	125
Convulsions . . . . .	636	703	Intemperance . . . . .	29	82
Consumption of the Lungs . . . . .	1817	1949	Marasmus . . . . .	533	643
Dropsy . . . . .	284	236	Mania-à-Potu . . . . .	32	57
“ of Brain . . . . .	222	200	Old Age . . . . .	203	219
“ of Chest . . . . .	63	55	Palsy . . . . .	159	164
Disease of Brain . . . . .	112	98	Scrofula . . . . .	76	74
“ of Heart . . . . .	265	242	Stillborn . . . . .	758	711
Debility . . . . .	826	940	Unknown . . . . .	104	97
Drowned . . . . .	99	135	Gunshot Wounds . . . . .	21	292
Effusion of Brain . . . . .	73	69			

With few exceptions it will be observed that there is a degree of uniformity in the deaths from various causes, and this order is not peculiar to these two periods, it may be seen in the mortality of one year with another, in our own bills of mortality, likewise in those of other cities for a succession of years, and is only disturbed by an increase or decrease of the population.

The most marked inequality in any one cause between these two years is presented in that of gun-shot wounds, which figures 292 in 1862, and only 21 in 1861, which at that time was considered an extraordinary number. It needs no argument to prove from whence came this remarkable increase.

Another exception is that of debility, in which there is an increase of 110 in 1862, as also of consumption of the lungs, 132; intemperance, 53; inflammation of the lungs, 68; inflammation of the brain, 60; congestion of the brain, 40. Many of these may be traced directly to the record of causes for deaths among soldiers.

The similarity, as shown in this table, between the causes of death for the two years is remarkable in apoplexy, burns and scalds, casualties, diseases of the brain, debility, effusion of brain, inanition, old age, palsy, scrofula, cancer, and unknown.

The proportion of deaths by consumption to those of other diseases, has been one in  $7\frac{1}{2}$ , and the percentage to all other deaths 12.71.

To the population, estimating it at 600,000, they were as one in every 308.

The excess of deaths is with females. The most prevalent age for deaths from consumption is between twenty and thirty. It carried off in 1862 in this decennial 608 persons. More than one-half of all the deaths occurred between the ages of fifteen and forty.

The first, second, fourth, seventh, tenth, fifteenth, nineteenth and twentieth wards are charged with 881 deaths from consumption, more than one-half the entire mortality, and these wards are with but one exception the tenth among the most unfavourable for health.

The almshouse furnished 124 deaths, and the coloured population is set down for 149 deaths from consumption.

The mortality assigned to debility, intemperance, mania-a-potu and in-

flammation of the brain, have all increased more or less, while on the other hand croup, dropsy (general and of the brain and chest), and disease of the heart have shown a moderate decline.

There are to be found certain variations in the mortality record for 1862 from that of 1861, and even of earlier years, which depend in some measure upon the rebellion and its results, that are deserving of a passing notice. They are as follows :—

1. The increase in the annual aggregate of deaths, without the prevalence of any unusual epidemic.

2. The unusual mortality among males, as compared with those of females, equal to 23 per cent., and presenting an excess more than double the usual number.

3. The limited proportion of deaths of minors or children to those of adults, not over 14 per cent. The previous year they exceeded 64 per cent.

4. The astonishing increase in the deaths from gun-shot wounds. From 21 of the preceding year to 292 !

5. The increased mortality from typhoid fever, amounting to 658, or 477 above those of 1861, equal to 170 per cent. The excess in all probability was from the deaths of soldiers.

6. The falling off in the deaths from scarlet fever, smallpox, and diphtheria, when compared with those for 1861, amounting in the aggregate to 1397, or 57 per cent.

7. The unusual annual increase in the deaths from consumption of the lungs and debility. The former amounting to 132 or 7 per cent., and the latter to 112 or 13 per cent.

8. The large number of the remains of soldiers brought into our city for interment, amounting to 1202, causing our rate of mortality to appear higher by 4 per cent. than belongs to it.

9. The organization of 22 government hospitals in our city, where there have been treated during the year 20,336 sick and wounded soldiers from the seat of war, thus swelling our list of city deaths—one for every death in these hospitals amounting to 700.

















TABLE VI.—Interments in the City of Philadelphia during 1862—Continued.  
Division 2. Mortality classified according to Colour, Nativity, and Wards.

DISEASES.	ALMSHOUSE.	PEOPLE OF COLOUR.	COUNTRY.	NATIVITY.			WARDS.																													
				United States.	Foreign.	Unknown.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Unknown.				
																																	1	2	3	4
Dysentery.	1	5	6	103	38	22	17	12	2	7	2	3	2	2	4	4	5	2	3	7	4	7	4	7	10	6	3	6	4	14	3	8				
Drowned.			12	71	36	28	9	6	12	5	12	4	9	2	2	5	7	1	1	4	2	5	6	5	6	3	3	3	5	5	3	3				
Diabetes.		1		9	1																															
Dyspepsia.				1	1																															
Dislocation of spine.				1																																
Dysuria.	2	3	5	59	3	7	4	4	10	2	6	1	4	3	4	2	2	3	2	7	1	1	1	1	1	1	1	1	3	1	1	1	1			
“ “ lungs.	3	1	2	17	4	1	1	1	1	1	2	2	3	3	3	2	1	1	1	1	1	1	1	1	3	1	1	1	6	1	1	1	1			
Epilepsy.	8	3	3	57	9	8	5	5	1	1	2	1	4	1	3	2	2	2	2	4	5	1	1	1	3	1	1	1	12	1	1	1	1			
Erysipelas.				1	1																															
Empysema of lungs.				1	1																															
Enlargement of heart.				3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1		
“ “ liver.				3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1		
“ “ prostatic gland.	1			3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1		
Exposure.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Empyema.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Echyma.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Fever.	1	1	1	4	17	8	3	1	1	1	1	1	1	1	2	1	2	2	2	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
“ “ bilious.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ brain.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ congestive.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ camp.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ catarrh.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ eruptive.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ gastric.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ hectic.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ intermittent.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ puerperal.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ rheumatic.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ malignant.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
“ “ scarlet.	1	3	18	30	3	18	30	22	19	14	9	36	19	10	13	7	9	15	23	44	12	4	4	4	2	1	1	1	1	1	1	1	1	1	1	1
“ “ typhoid.	7	17	440	3	18	30	34	30	22	19	14	9	36	19	10	13	7	9	15	23	44	12	4	4	2	1	1	1	1	1	1	1	1	1	1	1
“ “ typhus.	3	16	68	392	127	135	34	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
“ “ yellow.	1	1	22	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Fracture of the arm.				2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
“ “ leg.				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1





TABLE VI.—Interments in the City of Philadelphia during 1862—Concluded.  
Division 2. Mortality classified according to Colour, Nativity, and Wards.

DISEASES.	ALMSHOUSE.	PEOPLE OF COLOUR.	COUNTRY.	NATIVITY.		WARDS.																										
				United States.	Foreign.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	UNKNOWN WARDS.	
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	UNKNOWN WARDS.	
Scrofula		12	0	1	57	11	7	2	4	3	1	8	3	6	2	3	2	1	2	1	2	4	4	7	1	3	15	4	4			
Smallpox		2	4	1	236	17	89	25	12	11	6	2	4	6	3	12	5	3	5	10	12	13	6	21	15	1	1	7	4			
Softening of the brain		2	4	1	29	17	3	3	1	5	3	4	1	2	4	1	2	1	1	1	1	1	2	1	1	1	3	3	..			
"    heart		..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Stillborn		..	54	4	709	..	56	40	25	44	31	28	31	17	17	21	19	25	16	22	51	26	47	51	11	7	12	24	5	16		
Syphilis		13	2	..	14	6	1	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Suicide		..	..	..	6	2	1	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Suffocation		..	..	..	9	3	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Structure of cesophagus		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    pyloris		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    glottis		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Strangulation		..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Suffocating catarrh		..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Syncope		..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Scurvey		1	2	2	11	8	2	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Tumours		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Tympanitis		1	1	1	21	4	2	3	2	2	1	3	1	1	1	1	1	1	1	1	1	1	1	2	2	1	..	..	..			
Tetanus		..	..	..	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Teething		15	3	20	41	14	42	5	..	1	5	2	3	2	2	1	1	1	2	1	3	6	2	3	4	..	..	..	..			
Unknown		..	..	..	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Ulceration		..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    of the bowels.		..	..	..	1	1	8	7	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    bladder		..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    larynx		..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    stomach		2	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
"    throat		..	..	..	3	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Violence		..	..	..	2	4	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Wounds		1	1	54	162	60	70	13	7	0	3	5	8	15	3	8	21	4	36	8	12	14	17	6	4	6	19	6	2			
"    gunshot		..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Worms		..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Total.		508	721	522	11039	2762	1037	827	491	711	520	330	829	465	338	391	384	429	380	493	819	520	677	576	102	735	254	286	329	1163	120	155

Total number of deaths reported for 1862  
 White 15,097  
 Coloured 14,376  
 Total 29,473  
 Males 8,315  
 Females 6,782  
 Total 15,097  
 From which deduct stillborn 711  
 Total 14,386

The number of male adults 4,049  
 " female adults 3,010  
 " male children 4,296  
 " female children 3,772  
 Deduct stillborn males 414  
 " females 297  
 Total 15,097

In Twenty-fourth Ward deduct deaths in Philadelphia Almshouse, 508.  
 Net deaths in Twenty-fourth Ward, 660.