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## CONSUMPTION IN RHODE ISLAND.\*

The number of deaths caused by consumption, in 1881, was 706. This is much the largest number ever reported in Rhode Island in any single year.

Although the number is considerably larger than in any previous year, the proportion to the whole number of deaths, from given causes, is less than in many previous years, as may be seen in Table LIV.

The average annual proportion during a period of twenty years, previous to 1880, was 16.84 per cent. The proportion in 1881 was 15.12 per cent.

*Sex.*—Of the 706 deaths from consumption, in 1881, 308 were males, and 398 were females. There were 129 female decedents to each 100 male decedents; or 43.6 males, and 56.4 females in each 100 decedents.

There are, in every year, a considerably larger number of female decedents, from consumption, than of male decedents.

During the ten years from 1872 to 1881, inclusive, the number of reported deaths from consumption, in Rhode Island, was 6,333. Of this number 2,792 were males, and 3,541 were females.

There were, therefore, 127 females to each 100 male decedents; or 44.1 males and 55.9 females in each 100 decedents.

*Parentage.*—Of the 706 decedents from consumption, in 1881, 277 were of American parentage, and 429 of foreign parentage.

The proportions were 155 of foreign to each 100 of American parentage; or 39.2 decedents of American parentage, and 60.8 decedents of foreign, in each 100.

The proportion of foreign parentage is much larger than ever previously reported.

During the ten years from 1872 to 1881, inclusive, the whole number of deaths from consumption, as reported, was 6,333. Of this number 2,963 were of American, and 3,370 were of foreign parentage.

The proportions were, therefore, as follows: 113.7 of foreign parentage to each 100 of American; or 46.8 of American parentage, and 53.2 of foreign in each 100 decedents.

\* Extract from 29 Registration Report, R. I. C. H. FISHER, M. D.



During the five years from 1877 to 1881, inclusive, the whole number of deaths from consumption was 3,322. Of that number 1,434 were of American, and 1,888 were of foreign parentage.

There were 132 decedents of foreign parentage to each 100 of American; or 43.2 American, and 56.8 foreign in each 100 decedents.

*Season.*—During the year 1881 the largest number of deaths from consumption, in any quarterly period, occurred in the third quarter. This circumstance is not in accordance with the rule of many years.

The following summary will show the number in each quarterly period:

First Quarter.....	175	Second Quarter.....	182
Third Quarter.....	194	Fourth Quarter.....	155
Total.....	706		

Contrary to rule, also, was the occurrence of the largest monthly number of deaths in August. Following August in the order of largest mortality were January, May, March, April and July.

In 1881, 377, or more than 53 per cent. of the whole number of deaths from consumption, were of persons between twenty and forty years of age. In order to show more concisely the relation of age to mortality, the following synopsis is presented:

Age.	No. of Deaths.
Under 10 years of age.....	32
Between 10 and 20 years.....	84
Between 20 and 30 years.....	235
Between 30 and 40 years.....	142
Between 40 and 50 years.....	76
Between 50 and 70 years.....	106
Over 70 years.....	31
Total.....	706

The distribution of mortality from consumption, in the different sections of the State, is very unequal, not only in the percentage to the whole number of deaths in each section, but also in proportion to the population.

The following Table shows the total deaths from all reported *known causes*, with the number and percentage of deaths from consumption, in each of the larger divisions of the State, and in the whole State, in each of the last sixteen years, and in the aggregate for a period of twenty years, from 1860 to 1879 inclusive:

CONSUMPTION.

TABLE LIV.—CONSUMPTION.—Number and Percentage.

COUNTIES.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	Total 20 years. 1860-1879.
<b>BRISTOL COUNTY.</b>																	
Total Deaths.....	162	144	129	165	146	150	184	173	159	162	148	201	187	141	209	203	3,144
Consumption.....	31	18	21	26	26	16	23	16	18	21	19	27	23	16	19	25	423
Percentage.....	19.13	12.50	16.28	15.76	17.81	10.67	12.50	9.24	11.32	12.97	12.83	13.43	12.30	11.35	9.09	12.31	13.45
<b>KENT COUNTY.</b>																	
Total Deaths.....	198	214	168	265	238	281	248	241	252	263	209	251	249	277	293	313	4,761
Consumption.....	41	56	38	50	46	63	33	42	32	43	28	42	41	38	45	36	870
Percentage.....	20.70	26.17	22.62	18.86	19.33	22.42	13.30	17.43	12.69	16.35	13.39	16.73	16.47	13.72	15.35	11.20	18.28
<b>NEWPORT COUNTY.</b>																	
Total Deaths.....	342	302	289	259	271	214	262	306	221	277	280	243	265	330	324	346	6,017
Consumption.....	52	47	43	40	37	23	29	44	26	41	45	33	31	45	34	51	857
Percentage.....	15.18	15.56	14.88	15.44	13.66	10.75	11.06	12.02	11.77	14.80	16.07	13.58	11.69	13.64	10.49	14.74	14.24
<b>PROVIDENCE COUNTY, TOWNS.</b>																	
Total Deaths.....	883	902	779	912	904	989	1,331	1,389	1,217	1,230	1,110	1,301	1,308	1,233	1,437	1,451	20,385
Consumption.....	171	210	158	180	173	195	231	197	139	201	211	222	229	197	189	220	3,661
Percentage.....	19.36	23.28	20.29	19.74	17.84	19.72	16.73	14.18	11.42	16.34	19.01	15.96	17.51	15.98	15.35	15.16	17.95

TABLE LIV.—CONSUMPTION.—Number and Percentage.—Continued.

COUNTIES.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	Total 20 years. 1860-1879.
PROVIDENCE CITY.																	
Total Deaths.....	1,013	945	1,086	1,240	1,249	1,239	1,581	1,725	1,965	1,894	1,850	1,932	1,973	2,017	2,063	2,130	28,194
Consumption.....	200	189	214	210	238	195	242	230	270	297	284	294	305	293	322	344	4,649
Percentage.....	19.74	20.00	19.71	16.95	19.06	15.74	15.31	13.33	13.74	15.68	15.35	15.22	15.46	14.53	15.60	16.15	16.49
WASHINGTON COUNTY.																	
Total Deaths.....	201	187	173	241	233	222	265	292	263	284	306	240	249	220	270	226	4,513
Consumption.....	28	39	38	43	56	35	49	51	44	47	68	43	47	48	33	30	861
Percentage.....	13.93	20.86	21.96	17.84	24.04	15.76	18.49	17.47	16.73	16.55	22.22	17.91	18.88	21.82	12.22	13.27	19.08
WHOLE STATE.																	
Total Deaths.....	2,799	2,694	2,624	3,082	3,101	3,095	3,871	4,186	4,077	4,110	3,903	4,258	4,231	4,218	4,596	4,669	67,214
Consumption.....	523	559	512	549	475	527	597	580	529	650	655	661	676	637	642	706	11,321
Percentage.....	18.68	20.74	19.51	17.81	18.52	17.03	15.41	13.86	12.96	15.79	16.78	15.52	15.98	15.10	14.02	15.12	16.84

The changes that occur from year to year, in the different divisions of the State, in regard to the number of specified causes of death, and the number and percentage from consumption, are concisely shown in Table LIV.

The proportion of deaths from consumption, during 1881, to all deaths from given causes, was less in every division of the State, with the exception of Newport county, than the average during the period of twenty years.

In comparison with the previous year, there were various changes.

In Bristol county the proportion was 12.31 per cent., as against 9.09 per cent. in 1880. In 1866 the proportion in this county was 19.13 per cent. The average of twenty years was 13.45 per cent.

Kent county reports the lowest proportion, in 1881, that was ever recorded. The ratio was 11.20 per cent., which is less than two-thirds the average proportion of twenty years. In 1868 and 1871 the proportions were more than twice as large.

Newport county presents a percentage slightly in excess of the average of twenty years. The ratio was 14.74 per cent., as against 10.49 per cent. in 1880.

Providence county towns show a proportion of 15.16 per cent., as against 17.95 per cent. for the twenty year period. In 1867 the ratio was 23.28 per cent.

Providence city shows the least variation of any section presented in Table LIV. In 1881, however, the percentage was larger than in any year since 1870. But the ratio of 1881, which was 16.15 per cent., is less than the average of twenty years. During the five years preceding 1871 the average proportion was 19.09 per cent. During the ten years from 1872 to 1881 inclusive, the proportion was 15.03 per cent.

Washington county has usually a large percentage of mortality from consumption, but during the last two years the proportion has greatly lessened. The lessened ratio has not been made by a larger number of deaths from other causes, but from a largely diminished number of deaths from consumption.

During the ten years from 1870 to 1879, inclusive, the number of deaths from consumption, in Washington county, was 488, or an annual average of about 49.

In 1880 the number was 33, and in 1881 the number was 30.

The proportion in 1881 was 13.27 per cent., and the proportion during twenty years previous to 1880 was 19.08 per cent.

There has also been a gradually lessening proportion of deaths from consumption in the whole State, during the last quarter of a century. The fluctuations of percentage one year with another, during the period of diminishing proportions, have been small in degree.

During the ten years from 1862 to 1871, inclusive, the average annual proportion of deaths from consumption was 18.33 per cent.

During the ten years from 1872 to 1881, inclusive, the average annual proportion was 15.05 per cent.

It will be noticed that the proportion of the whole State, 15.12 per cent., is less than that of the period of twenty years.

CONSUMPTION. PROPORTION OF DEATHS TO POPULATION.

It will be understood that the preceding remarks have been in relation to the *proportion* of deaths from consumption, to the whole number of deaths from *all specified causes*.

It may be of interest to ascertain the *proportion* of deaths from consumption, *to the population*, in the different divisions of the State.

The results of 1879, 1880 and 1881 are based on the enumeration of the United States census of 1880.

The results of the long period of nineteen years, and the periods of five years each, are based on the semi-decennial enumerations of population, by the State and National censuses.

1879.

	Total Deaths from Consumption.	Of population one in every	Of the population.
Bristol County .....	16.....	712.....or.....	1.40 in each 1,000
Kent County.....	38.....	542.....or.....	1.84 in each 1,000
Newport County.....	45.....	538.....or.....	1.86 in each 1,000
Providence County, Towns....	197.....	473.....or.....	2.11 in each 1,000
Providence City.....	293.....	358.....or.....	2.80 in each 1,000
Washington County.....	48.....	470.....or.....	2.13 in each 1,000

1880.

	Total Deaths from Consumption.	Of population one in every	Of the population.
Bristol County.....	19.....	599.....or.....	1.66 in each 1,000
Kent County.....	45.....	458.....or.....	2.18 in each 1,000
Newport County.....	34.....	711.....or.....	1.40 in each 1,000
Providence County Towns....	189.....	496.....or.....	2.03 in each 1,000
Providence City.....	322.....	326.....or.....	3.07 in each 1,000
Washington County.....	33.....	681.....or.....	1.50 in each 1,000

1881.

	Total Deaths from Consumption.	Of population one in every	Of the Population.
Bristol County	25	456	or 2.19 in each 1,000
Kent County	36	572	or 1.75 in each 1,000
Newport County	51	470	or 2.12 in each 1,000
Providence County, Towns	220	423	or 2.36 in each 1,000
Providence City	344	305	or 3.24 in each 1,000
Washington County	30	749	or 1.34 in each 1,000
State	706	391	or 2.56 in each 1,000

1860-1878.

NINETEEN YEARS.

	Yearly average. No. of deaths. Consumption.	Yearly average. Of population one in every	Of the population.
Bristol County	21.4	442	or 2.26 in each 1,000
Kent County	43.8	403	or 2.48 in each 1,000
Newport County	42.7	492	or 2.03 in each 1,000
Providence County, Towns	182.3	403	or 2.48 in each 1,000
Providence City	229.0	349	or 2.87 in each 1,000
Washington County	42.0	452	or 2.21 in each 1,000

	5 years, 1865-1869. Of population one in every	5 years, 1870-1874. Of population one in every	5 years, 1875-1879. Of population one in every	3 years, 1879-1881. Of population one in every
Bristol County	368	471	525	569
Kent County	340	432	535	514
Newport County	440	626	576	562
Providence County, Towns	370	434	397	460
Providence City	247	282	342	328
Washington County	461	427	394	608
State	344	386	396	418

The changes that occur, from year to year, in the *proportion* of the deaths from consumption to the *population* of the different divisions of the State, are very clearly shown in the summaries of the three single years, that is, 1879, 1880 and 1881.

Thus it will be seen that Bristol county varied from one death by consumption in every 712 of the population, in 1879, to one in every 599 in 1880, and one in every 456 in 1881. Kent county varied from

one in every 542, in 1879, to one in 458 in 1880, and one in every 572 in 1881. It is evident that the results of single years are quite inconclusive, as regards the relative or absolute liability to consumption, of any division or population of the State.

But the proportions to population, as ascertained by the averages of a series of years, afford conclusions which, if not absolutely exact, are, at least, very closely approximate thereto.

In comparing the proportions of one division with another, there is a possibility of small error from the difference of movements in the population of the divisions, that is, the rapidity of increase or decrease of population.

In each of the five year periods the proportions are slightly larger than the actual population would warrant, the proportions being based upon the population according to the semi decennial enumerations of the years, with which each of the periods commenced.

#### CONSUMPTION. PROPORTION TO POPULATION BY PARENTAGE.

On a previous page, there were given the proportions of death from consumption in the two general classes of parentage; that is, American and foreign. The proportions there given and the comparisons made, were of the absolute number of deaths in each class from consumption, in relation to the combined or total population.

It is now proposed to give the proportions of mortality from consumption, in each class of parentage, in relation to the separate population of each.

The proportions are given for three periods of five years each, extending from 1865 to 1879 inclusive; and one period of two years, 1880 and 1881; and are based on the population of each class at the commencement of each period.

Persons who were the children of mixed marriages (i. e. American father and foreign mother, or vice versa) are classed with the parentage of the fathers.

Deaths, by parentage, did not have separate consideration in the general reports previous to 1865.

The populations of the two classes, at the commencement of the periods taken, were respectively as follows:

	1865.	1870.	1875.	1880.
American Parentage.....	117,316	124,591	134,722	139,117
Foreign Parentage. ....	67,649	92,762	123,517	137,414

The number of deaths from consumption in each class of population respectively, in each term of years, were as follows:



CONSUMPTION.

	1865-1869.	1870-1874.	1875-1879.	1880-1881.
No. deaths from Consumption.				
American Parentage.....	1,575.....	1,507.....	1,499.....	564.....
Foreign Parentage.....	1,114.....	1,301.....	1,780.....	784.....

The following summary will show the mortality from consumption in each class, in proportion to the population of each:

	5 years, 1865-1869.	5 years, 1870-1874.	5 years, 1875-1879.	2 years, 1880-1881.
DEATHS FROM CONSUMPTION				
Of population.	One in every	One in every	One in every	One in every
Of American Parentage .....	372.....	413.....	449.....	493.....
Of Foreign Parentage.....	303.....	356.....	347.....	351.....

It will not fail to be observed how regularly the proportions of mortality from consumption, in the population of American parentage, have diminished during the last seventeen years. It will also be observed that the proportions of mortality from consumption, in the population of foreign parentage, diminished from the first to the second period, since which time the proportions in that population have not materially changed.

The variations of the proportions of the mortality from consumption, in the two classes of population, may be presented in a different and perhaps clearer way, as follows:

	5 years, 1865-1869.	5 years, 1870-1874.	5 years, 1875-1879.	2 years, 1880-1881.
NUMBER OF DEATHS FROM CONSUMPTION				
Of population.	in each 10,000.	in each 10,000.	in each 10,000.	in each 10,000.
Of American Parentage.....	26.8.....	24.2.....	22.3.....	20.2.....
Of Foreign Parentage.....	33.0.....	28.1.....	26.0.....	28.5.....
Total Population.....	29.1.....	26.0.....	25.2.....	23.9.....

From the above statistics the inference is unavoidable that consumption, as a cause of death in Rhode Island, has gradually diminished since 1865. The facts shown by the statistics reasonably warrant the following conclusions:

1. That consumption, in the total population of Rhode Island, has gradually lessened in frequency of occurrence, or that medical treatment has been more successful in its cure.

2. That the lessened frequency, or more successful treatment of consumption, has been confined almost exclusively to the population of American parentage.

3. That the proportion of mortality from consumption has always been larger, in the population of foreign parentage.

4. That the mortality from consumption, in the class of foreign parentage, has not diminished in proportion to the population of the same parentage, during the last twelve years.

The following extract, from the late report of the city registrar of Providence, presents statistics and remarks, in respect to mortality from consumption in that city, quite in conformity with the foregoing:

“But the true rate of mortality from consumption, in the two classes of the population, is best shown by a direct comparison of the number of deaths with the actual population. At four different periods, in Providence, we have had censuses showing the parentage of the population; and at the same periods we have had full and accurate reports of the decedents from consumption, by parentage. Taking these periods, and comparing the decedents from consumption by parentage with the population by parentage, we find the following results for the city of Providence:

Population of American parentage.	
1856.....	One death from consumption in 268.2.
1865.....	One death from consumption in 310.1.
1875.....	One death from consumption in 415.0.
1880.....	One death from consumption in 435.2.

Population of Foreign parentage.	
1856.....	One death from consumption in 262.6.
1865.....	One death from consumption in 248.8.
1875.....	One death from consumption in 288.4.
1880.....	One death from consumption in 268.0.

Total population.	
1856.....	One death from consumption in 266.
1865.....	One death from consumption in 280.
1875.....	One death from consumption in 336.
1880.....	One death from consumption in 326.

These figures show the following important facts:

1. In the population of American parentage in Providence there has been a very remarkable change in the mortality from consumption, during the last twenty-five years. In 1856 there was, in this population, one death from consumption in 268.2; in 1880 there was only one death in 435.2. This decrease, as seen from the figures, has been continuous during the whole period.

2. In the population of foreign parentage, in Providence, the *rate of mortality* from consumption has changed only very slightly in the last twenty-five years. In 1856 the rate was one death in 262.6 of the population; in 1880 it was one in 268.0; and during this time it has been both slightly higher and lower than these rates. The rate of mortality from consumption, among the population of foreign parentage, in 1880, was almost precisely the same as the rate in the population of American parentage in 1856."

#### CONSUMPTION IN MASSACHUSETTS.

Consumption as a cause of death has, as far back in years as comparative registration of deaths reaches, shown a larger mortality in proportion to the population, in Massachusetts, than it has in Rhode Island. The proportions of the sexes of the decedents from that cause, in the two States, have not largely varied.

The following summary will show the proportion of deaths, from consumption, to the living population in Massachusetts, during the different years named:

Deaths from consumption in each	1865.	1870.	1875.	1879.	1880.	1881.
10,000 of population .....	36.8	34.3	34.7	30.4	30.8	31.5

It will be seen that the proportional mortality, from consumption, has diminished very considerably in Massachusetts, since 1865.

For the purpose of more readily comparing the proportions of mortality from consumption in the two States, the following summary is presented, showing the ratio of deaths from consumption to the living population in Rhode Island, during the same years:

#### RHODE ISLAND.

Deaths from consumption in each	1865.	1870.	1875.	1879.	1880.	1881.
10,000 of population .....	29.6	26.4	25.2	23.3	23.2	25.6

