Original Articles.

FORTIETH REGISTRATION REPORT.¹

BY C. F. FOLSOM, M. D.

THE average annual rate of increase in the population of Massachusetts from 1870 to 1875 was 2.538 per cent. From 1875 to 1880 it was 1.55 per cent., estimated to have been unevenly distributed over the five years as follows: 0.000, 0.324, 0.599, 2.999, 3.835. In the three census years 1870, 1875, and 1880 the average of the ratios of the population to the assessed polls was 3.98. Calculating from the assessed polls of 1881 (469,207), the population for that year, upon the same basis, would be 1,867,444.

In the year 1881 there were recorded 45,220 births, 16,768 marriages, and 36,458 deaths; or 1003 more births, 1230 more marriages, and 1166 more deaths than in the previous year. The excess of living births over deaths was 8762, showing a natural increase of births over deaths amounting to 163 less than in 1880. The approximate rates for the year are: births 24.21, marriages 8.98, deaths 19.52, excess of births 4.69, to 1000 of estimated population, and for a period of years, as shown by the following table:—

	Marriages to 1000 Persons.	Births to 1000 Persons.	Deaths to 1000 Persons.	Excess of Birth-rate over Death- rate.
5 years ending 1855	11.7	28.8	18.7	10.1
5 years ending 1860	9.8	29.5	17.9	11.6
5 years ending 1865	9.3	25.4	20.7	4.7 ¹
5 years ending 1870	10.5	26.1	18.2	7.9
5 years ending 1875	9.9	27.6	20.8	6.8
5 years ending 1880	8.0	24.8	19.2	5.6
30 years ending 1880	9.9	27.0	19.3	7.8

¹ 8.3, excluding the three years most influenced by the war.

The highest birth-rates are in those parts of the State where there are most foreigners, who constitute mostly the laboring class; 26.6 per cent. of the births were in the third quarter of the year, 25.3 in the fourth, 24.1 in the second, 24.0 in the first. There were born 104.3 males to 100 females. Of the 801 illegitimate births 432 were in Suffolk County. There were 389 twin births and nine cases of triplets. There were 1466 still births.

The last ten years show an increase of nearly two thirds in the percentage of births of mixed parentage; that of the births of native-born parents has slightly increased, and the diminution is quite striking in the percentage of births of foreign parents. In a third of a century the decrease in births of natives has been very marked, while the increase in those of foreign parents apparently reached its height ten years ago, and the mixture of races is still becoming more prominent from year to year.

In the last quarter of the year 31.44 per cent. of the marriages occurred; in the second 25.62; in the third 22.17; in the first 20.77. The average age

¹ Fortieth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the Year ending December 31, 1881. Prepared under the direction of the Secretary of the Commonwealth. Boston: Wright & Potter Printing Company, State Printers. 1882.

of men at marriage was 28.8 years; of women 25.1; of men marrying for the first time 26.5; of women marrying for the first time 23.9.

The number of deaths in 1881 exceeded the mortality of the previous year by 1166, and was the greatest recorded in the State. The death-rate per 1000 of the living population was slightly (.27) less than for the previous year, but .30 per 1000 greater than the average of the previous five years, and .26 greater than the average for the preceding thirty years. It was exceeded only nine times since 1850. The deaths under one year of age exceeded those of 1880 by 199, whereas there were 1003 more births in 1881 than in 1880. The year was one, therefore, of a little less than average health. The threatened epidemic of small-pox was warded off by careful vaccination and revaccination, and the other infectious diseases were not in excess of the previous few years.

Sex.—The deaths of females exceeded those of males in 1881 by 149, a much smaller difference than has obtained since 1874. In fifteen deaths the sex was not reported. The ratio of females to males in the population, by the census of 1880, was 107.71. The excess of females over males was 66,205 as compared with 32,301 in 1855. The death-rate of males, for the five census years, 1860–1880, exceeded that of females by 1.2 per 1000.

Of the 36,458 deaths, 7389 were of infants under one year of age, 11,970 of children under 5. The average death-rate for ten years per 1000 living at the several ages was 200.19 under 1; 67.96 under 5; 8.86 from 5 to 10; 4.38 from 10 to 15; 7.34 from 15 to 20; 10.33 from 20 to 30; 10.74 from 30 to 40; 12.12 from 40 to 50; 17.62 from 50 to 60; 33.27 from 60 to 70; 72.77 from 70 to 80; 176.24 over 80. The average age at death in 1881 was 33.07 years.

The distribution of diseases by classes shows a decrease in "zymotic" and increase in local diseases as compared with 1880, but otherwise little change. From the "zymotic" or infection diseases, the proportion for 1881 was 1.5 less than for 1880, and 3.8 less than the average for ten years. From constitutional diseases it was very near the average, and .6 more than in 1880. The local diseases were 5.1 higher than the average, and only .2 higher than for the previous year. Developmental diseases, although 1.4 less than the ten years' average, were .5 higher than for 1880. Violent deaths were .2 below the average, and .2 below the proportion of the previous year.

The progressive increase in typhoid fever from 1879 has continued in spite of improved drainage and introduction of pure drinking water. The advance in the mortality from typhoid fever was much more rapid in the three years, 1879–1881, than was the decline in the previous three years, 1876–1878. The other infection diseases caused fewer deaths than in 1880, the decline being most marked in scarlet fever, which was the least fatal in 1881 of all the years since 1871. Diphtheria (with croup) caused only eleven deaths less than in 1880, and is in its seventh year of excessive prevalence.

From 1857 to 1880 the mortality rate from cancer more than doubled, while from consumption there was a diminution of nearly twenty-five per cent. In 1881 there were 949 deaths from cancer, and 5886 from consumption, as compared with 242 and 4625 in 1857, and with 928 and 5494 in 1880.

The principal local diseases still show an increase in

numbers of deaths, which has been almost steadily progressing in the ten years.

In *developmental diseases* the prevalence of puerperal fever is marked, and there is a striking decrease in the deaths ascribed to childbirth, but the two together caused 205 deaths in 1881 as compared with 211 in 1880.

Violent deaths show a decided diminution in deaths by homicide, and a great increase over the previous year from suicide. The railroad accidents were by far the most of any year in the decade.

Pulmonary consumption is, as usual, by far the most fatal of all the diseases. Pneumonia is next, as it was in 1874, 1875, 1878, 1879, and 1880, being third in 1872, 1873, 1876, and 1877. Heart disease — sometimes a vague term — is third, in place of occupying a lower place from fourth to eighth in the previous nine years. Cholera infantum fell steadily from the second place in 1872 and 1873 to the sixth in 1879, was third in 1880, and is in 1881 fourth. Old age, fifth in order, was sixth in 1880 and fourth or fifth from 1872 until then. Diphtheria was second in 1876 and 1877, third in 1878 and 1879, fifth in 1880, and is now sixth. Typhoid fever, after having fallen from the fourth place in 1872 to the thirteenth in 1879, was tenth in 1880, and this year is seventh. Cephalitis was tenth in 1879 and ninth in 1880; this year eighth. Paralysis, for the previous four years, seventh. Cancer was eighth in 1880 and 1879; previously from tenth to twelfth. Bronchitis has been eleventh for three years. The twelve leading causes of death constituted 59.98 per cent. of the mortality for the year, as compared with 59.8 in 1880.

A table of prevalence of typhoid fever in the several towns for ten years shows the average annual death-rate per 1000 living to have been in the State 6.37; in Boston, 5.55; in four towns of 40,000 to 50,000 population, 6.28; in three, of 30,000 to 40,000, 8.13; in five, of 20,000 to 30,000, 5.36; in twelve, of 10,000 to 20,000, 6.43; in thirty, of 5000 to 10,000, 5.19; in twenty-three, of 4000 to 5000, 6.51; in thirty-three, of 3000 to 4000, 7.42; in forty-nine, of 2000 to 3,000, 6.63; in ninety-eight, of 1000 to 2000, 6.20; in eighty-three, of less than 1000, 7.11.

The report will be ready at the State House in a few weeks for free distribution.

PUERPERAL SEPTICÆMIA AND LOCALIZED PERITONITIS.¹

BY DR. J. H. NICHOLS, CAMBRIDGE.

THE case which I report to the Society to-night is one of puerperal septicæmia and localized peritonitis, with a large sero-purulent effusion, limited by adhesions, discharging through the umbilicus, complicated with catarrhal pneumonia and double milk leg; ending in recovery.

Mrs. L., twenty-five years old, had always been well before the present attack. She had been married three years, and had given birth to one child, her confinement having been natural. Her second child was born at 11.30 P. M., January 22, 1881. The midwife who attended her reported the labor a short and natural one. At nine P. M. of the 23d, less than twenty-

four hours after delivery, she had a severe rigor, followed by fever, headache, vomiting, and pain in the lower part of the abdomen. During the 24th, the second day of the disease, the fever and pain continued, and she had diarrhoea. I saw her on the third day. She had a second chill, less severe than the first, two hours before my visit; the skin was hot and moist, the tongue furred, the headache severe; there were frequent light-colored, very offensive dejections, and occasional vomiting; there was much thirst; the pain in the abdomen was referred chiefly to the right iliac region, where the tenderness was also most marked; the abdomen was moderately tympanitic, and moved fairly well in respiration; the uterus was firmly contracted, and was not very tender on pressure; the lochial discharge was scanty, of natural color and odor; there were no clots in the vagina; the pulse was 130; respirations 36; temperature 102° F. On the fourth day all the symptoms were less severe; there had been profuse sweating during the night; pulse 96; respirations 24; temperature 99° F.

Fifth day. Was slightly delirious in the night, and the pain and diarrhoea were worse. At 10.30 A. M. she had a severe rigor; when seen an hour later, the face was pale and pinched; the skin hot and dry; pulse 120; respirations 36; temperature 104° F.; she had vomited several times. In the evening, pulse 130; respirations 36; temperature 102½° F.; the lochial discharge was pale and somewhat offensive in odor.

Sixth day. Delirious in the night, and had profuse sweating; no dejection; the pain and tenderness of the abdomen continued, and there was fullness and a feeling of resistance on palpation in the right iliac region. A. M. Pulse 130; respirations 36; temperature 103½° F. P. M. These figures were the same; the tongue was dry and brown.

Seventh day. Had a good night. A. M. Pulse 112; respirations 24; temperature 101½° F. P. M. Pulse 120; respirations 28; temperature 101½° F.; no dejection.

Eighth day, A. M. Pulse 120; respirations 28; temperature 101½° F. P. M. Record was the same; the lochial flow was less offensive, and of a brighter color; two large loose dejections. There has been no secretion of milk.

Ninth day, A. M. Pulse 112; respirations 26; temperature 100½° F. P. M. Pulse 120; respirations 26; temperature 101½° F.; no dejection.

Tenth day. For three or four days has had a slight cough, which to-day is worse, with scanty, thin, frothy expectoration, not tinged with blood; the lower half of the right back was slightly dull on percussion, and coarse moist râles were heard there. A. M. Pulse 120; respirations 28; temperature 101½° F. P. M. Pulse 120; respirations 26; temperature 102° F.; no dejection.

Twelfth day. Profuse sweating during sleep; the mouth was sore, and there was an eruption of herpes about the nose and lips; the cough was worse, and the expectoration thicker; the dullness on percussion over the right base was more marked; the vocal resonance and thrill increased, and the coarse râles still present.

Thirteenth day. Mouth very sore; fauces red and covered with a sticky mucus; tongue red and dry; pulse 120; respirations 28; temperature 102° F.

Fifteenth day. Rectum packed with hardened fæces; after clearing out this accumulation the vagina was found to be cool and moist; the lochial flow had

¹ Read before the Boston Society for Medical Observation, February 20, 1882.