

## REPORT OF THE BUREAU OF VITAL STATISTICS,<sup>1</sup> 1925-1926

The work of the Bureau of Vital Statistics varies very little from year to year. The same methods for compilation, tabulation and analysis of the data received in the central office have been followed in the present fiscal year, although these methods are being improved in every possible way.

The principal defects of our system are:

(A) The local Registrars where all data originate, are not under the control of the Department of Health.

(B) The classification of births and deaths by race, domicile, age occupation, etc., is inaccurately made by the Registrars. The Department at present has no means for effectively correcting this situation, unless by special legislation.

(C) Practicing Physicians in general do not report transmissible diseases as required by law.

(D) Over ninety per cent of the births and practically all deaths are registered but not much reliance can be put on the causes of death reported because local doctors frequently sign certificates of death without ever having seen the deceased. This is due in the majority of the cases, to the great number of people which the physician has to attend. In some sections this number ascends to more than 15,000 persons. For this reason the physician in many instances has to guess the cause of death instead of scientifically determining it.

Three hundred and twenty-one physicians are practicing in Porto Rico, according to our records. The estimated population of the Island is 1,417,646. The average number of persons for each physician is about 4,500. Considering that of these 321 physicians 113 are practicing in San Juan and about 25 in Ponce, the second largest city in the Island, there are only 183 left for the rest of the Island, or an average of 6,829 people for each physician. This situation is particularly serious in the small towns.

### POPULATION

The estimated midyear population is 1,417,646 or an increase of 18,850 over the previous year. This estimate is arrived at by the

<sup>1</sup> The publication of the Annual Report of the Commissioner of Health for the fiscal year 1925-26 is begun in this issue of the REVIEW, beginning with the narrative portion of the report of the Bureau of Vital Statistics. For lack of space most of the tables are omitted.

arithmetical method, using the census figures of 1910 and 1920 as a basis.

Of this population 388,756 or 27.4 per cent is urban and 1,028,890 or 72.6 per cent is rural; 1,088,668 or 76.8 per cent is white and 328,978 or 23.2 per cent is colored.

#### Density of Population.

Porto Rico is known as a very thickly populated country. A population approaching one million and a half is living in a small territory of 3,435 square miles. Our density of population, 378.4 per square mile in 1920 is more than ten times as great as that of the continental States (35.5) in that year and much higher than that of the majority of the States separately, with the exception of Massachusetts (479.2) New Jersey (420.0) and Rhode Island (566.4). The only important foreign countries having a density of population higher than Porto Rico in the year 1920 are: Belgium, 648.0 per square mile; Holland, 563.3; Japan (proper), 392.4; England (proper), 464.3.

The estimated population per square mile in Porto Rico in 1926 is 412.7.

#### Rate of Natural Increase.

Industrially undeveloped and still backward agriculturally, Porto Rico has been, however, steadily increasing its population at an astounding rate.

Population has increased during the last twenty years as follows:

#### BIRTH RATES, DEATH RATES AND RATES OF NATURAL INCREASE OF POPULATION FOR TWENTY YEARS

Year	Birth rate	Death rate	Rate of Natural Increase
1906-1907.....	33.6	26.2	7.4
1907-1908.....	33.2	22.5	10.7
1908-1909.....	36.1	20.9	15.2
1909-1910.....	33.4	22.1	11.3
1910-1911.....	33.2	23.4	9.8
1911-1912.....	34.6	24.	10.6
1912-1913.....	35.1	22.3	12.8
1913-1914.....	38.6	18.4	20.2
1914-1915.....	39.2	19.7	19.5
1915-1916.....	37.6	21.9	15.7
1916-1917.....	34.4	28.4	6.
1917-1918.....	34.6	27.7	6.9
1918-1919.....	42.4	31.7	10.7
1919-1920.....	39.	23.2	15.8
1920-1921.....	36.4	22.3	14.1
1921-1922.....	39.	22.5	16.5
1922-1923.....	37.2	21.1	16.1
1923-1924.....	37.4	18.7	18.7
1924-1925.....	39.	22.4	16.6
1925-1926.....	39.7	22.8	16.9

As will be noticed from the above table the birth-rate, fluctuating between 33.2 and 42.4, has averaged 36.6 during that period of time;



the death-rate fluctuating between 18.4 and 31.7 has averaged 23.1 during the same period; the rate of natural increase with a fluctuation between 6.0 and 20.2 has averaged 13.5 per thousand in the 20 years.

Professor East of Harvard University, discussing the world-wide problem of over population, states that "Japan in the last census, 1920, put the total population of the mainland at 56,000,000 with an annual increase of 13 per 1,000, *quite a remarkable figure for a country consisting of only 148,756 square miles.*"

Argentina the most rapidly growing nation of the world with an immense territory, part of which is yet unexploited, had in 1921 a rate of natural increase amounting to 17.1 per thousand.

Porto Rico a country consisting of 3,435 square miles, had in 1913-14 an increase of 20 per thousand; in 1914-15 an increase of 19.5 per thousand and the rate of increase has been almost constant at 16 per thousand during the last five years. Moreover, in the year 1923-24 the number of births doubled the number of deaths, giving a rate of natural increase of 18.7 per thousand, which is exactly the same cipher of the death-rate, 18.7.

Migratory movements affect very slightly these figures.

#### BIRTHS

The extremely prolific nature of the Porto Rican people is evidenced once more by a high birth-rate of 39.7 per thousand population for the present fiscal year. The number of births (exclusive of still-births) in 1924-25 was 54,556, a birth-rate of 39.0 per thousand population; this year the births (exclusive of still-births) numbered 56,295, an increase of 1,731 births over the previous year and 0.7 in the birth-rate, 39.7.

The towns of Corozal, Ceiba, Juncos and Fajardo had the highest birth-rates with 61.0, 52.1, 48.9, and 48.9 births per 1,000 population respectively. The towns of Gurabo, Rincón and Vega Alta had the lowest birth-rates with 18.4, 25.9 and 27.4 births per 1,000 population respectively.

The birth-rate in San Juan was 38.0.

Only six small towns with a population ranking from 9,000 to 14,000 had a birth-rate below 30.

Place	Population	Births	Birth-rate
Gurabo.....	13,927	257	18.4
Jayuya.....	13,772	385	27.9
Vega Alta.....	11,079	304	27.4
Las Marías.....	11,150	327	29.8
Maricao.....	8,970	268	29.8
Rincón.....	9,196	289	25.9



Thirteen municipalities with a population ranking from 6,500 to 26,000 had a birth-rate above 45:

Place	Population	Births	Birth-rate
Aguadilla.....	26,009	1,204	46.2
Barceloneta.....	14,520	672	46.2
Adjuntas.....	18,606	852	46.3
Celba.....	6,539	341	52.1
Corozal.....	15,204	928	61.0
Fajardo.....	15,186	743	48.9
Juncos.....	14,027	686	48.9
Loíza.....	17,296	834	48.2
Luquillo.....	6,636	302	45.6
Naguabo.....	16,648	797	47.8
San Sebastián.....	23,935	1,136	47.4
Trujillo Alto.....	8,157	379	46.4
Vega Baja.....	17,511	854	48.7

The little adjacent island of Culebra with a population of 839, had a birth-rate of 56 per 1,000 population.

The nine most important cities of the Island with a population ranking from 20,000 to 91,500 had the following rates:

Place	Population	Births	Birth-rate
Aguadilla.....	26,069	1,204	46.2
Arecibo.....	49,068	2,159	44.0
Bayamón.....	34,912	1,301	37.2
Caguas.....	41,176	1,651	40.0
Guayama.....	20,279	740	36.4
Humacao.....	22,031	978	44.3
Mayagüez.....	43,454	1,731	39.1
Ponce.....	76,214	2,835	37.1
San Juan.....	91,602	3,486	38.0

The birth-rate in the U. S. Registration Area during the year 1925 (preliminary) was 21.2 and the state having the highest birth-rate during the same year was North Carolina with 28.8. The birth-rate in New York State for 1925 is 20.6, in New York City 21.9 per 1,000 population.

#### Sex.

There were 29,077 male births and 27,218 female births with 51.65 per cent and 48.35 per cent respectively of the total.

#### Illegitimacy.

Out of the total number of births 11,799 or 21 per cent are illegitimate births. Santa Isabel, Guayama and Guayanilla present the highest percentages with 47.9, 40.0 and 38.3 per cent of illegitimate births respectively; Isabela, Moca and Hatillo the lowest with 4.3, 4.8 and 5.4 per cent of illegitimate births, respectively.

#### Relation Between Births and Deaths.

The relation between births and deaths is 1.7 births for each death.

## MARRIAGES

The number of persons married this year is 21,348 as against 18,848 the year before, an increase of 2,500 or 1,250 more marriages for the present fiscal year. The marriage-rate is 15.0, the highest one since 1918-19, which was the record-making year with a rate of 19.4 persons married per 1,000 population. The marriage-rate for 1924-25 was 13.4 persons married per 1,000 population.

## DEATHS

Deaths numbered 32,344 this year as compared with 31,350 last year. Consequently a very slight increase of 0.4 is recorded in the gross death-rate this year as compared with the previous year. The death-rate for 1924-25 was 22.4 deaths per 1,000 population; for 1925-26 it is 22.8.

The rise in the death-rate during the biennium from July 1st, 1924, to June 30, 1926, does not indicate an upward trend in the mortality curve. It is mainly due to the epidemic outbreaks of communicable diseases that swept the Island during the entire fiscal year of 1924-25 and the first semester of 1925-26. Nevertheless, significant increases were recorded in some causes of death as diarrhea and enteritis under and over two years of age, tuberculosis, malaria, congenital debility, chronic nephritis and uncinariasis, while others as rickets, bronchopneumonia, bronchitis, pneumonia and cerebral hemorrhage decreased considerably. Besides, it should be taken into consideration that the rise in the death-rate frequently synchronizes with the rise in the birth-rate.

In fact, a death-rate at 22 should be considered as normal in Porto Rico, taking into account the many factors contributing to maintaining a high mortality, *i. e.*, over population, high morbidity, high infant mortality, low wages, unemployment.

Among the causes of death, diarrhea and enteritis (under two years of age), tuberculosis and malaria are in the lead having caused 3,729, 3,408 and 1,755 deaths respectively during the year. It is worth while to notice that malaria has jumped from the seventh place in importance among the causes of death to the third place while rickets has dropped from the third place to the fourth.

Bronchopneumonia which had the fourth place last year has moved to the eighth place this year.

As in former years the town of Santa Isabel had the highest death-rate, 38.5. In 1924-25 this town had a death rate of 40.2; in 1923-24 a death-rate of 35.1, having maintained the first place



among all cities and towns of the Island for three consecutive years. Naranjito had the lowest death-rate, 9.4.

The towns and cities situated on the coastal regions generally had a higher death-rate than those situated in the interior.

The mortality in the important cities was as follows:

Place	Population	Deaths	Death-rate
San Juan.....	91,602	1,984	21.6
Ponce.....	76,214	2,074	27.4
Mayagüez.....	43,454	1,401	32.2
Arecibo.....	49,068	1,256	25.6
Guayama.....	20,279	622	30.6
Humacao.....	22,031	661	30.0
Aguadilla.....	26,009	745	28.6
Caguas.....	41,176	1,081	26.2
Bayamón.....	34,912	743	21.3

The towns having the highest death-rates are: Santa Isabel (38.5), Maunabo (37.6) and Añasco (35.4). Those having the lowest death-rates are: Barranquitas (12.2), Trujillo Alto (11.3) and Naranjito (9.4).

The highest 1925 death-rate in the United States Registration Area is shown for the state of Vermont (14.6).

#### Infant Mortality.

The number of deaths which occurred during the year in infants under one year of age was 8,482 as against 8,109 in 1924-25 or an increase of 373 deaths. Infant-mortality rates for both years are 150 deaths per 1,000 living births in 1925-26 and 148 deaths per 1,000 living births in 1924-25.

There were more infant deaths from diarrhea and enteritis (291), malaria (58), acute nephritis (46), congenital debility (234) and tetanus neonatorum (39). There were fewer infant deaths from measles (18), influenza (77), rickets (103), broncho-pneumonia (99) and congenital malformations (24), while all the other diseases more or less maintained the figures of the previous year.

As it may be expected, those municipalities which had a high general mortality had also a high infant mortality, those having low death-rates, had low infant mortality rates.

The highest infant mortality rates of 1925-26 appear for the following municipalities.

Place	Infant mortality rate
Santa Isabel.....	314
Rincón.....	301
Yabucoa.....	277
Vieques.....	264
Moca.....	258

Place	Infant mortality rate
Maunabo .....	256
Hormigueros .....	254
Añasco .....	241
Luquillo .....	211
Guánica .....	210
Guayama .....	209
Salinas .....	208
San Germán .....	208
Aguada .....	203
Patillas .....	202

Those municipalities having the lowest infant mortality rates were:

Place	Infant mortality rate
Culebra (Island) .....	21
Corozal .....	52
Naranjito .....	57
Barranquitas .....	71
Trujillo Alto .....	73
Morovis .....	78
Comerio .....	80
Agua8 Buenas .....	85
Sabana Grande .....	87
Aibonito .....	91

The cities had the following rates:

Place	Infant mortality rate
San Juan .....	163
Ponce .....	148
Mayagüez .....	186
Arecibo .....	152
Caguas .....	160
Guayama .....	209
Bayamón .....	168
Humacao .....	142
Aguadilla .....	167

Curiously enough, San Juan with a general mortality rate of 21.6 and with greater medical and hospital facilities had a higher infant mortality rate (163) than Ponce, (143), Arecibo, (152), Humacao (142) and Caguas (160) which had a general death-rate of 27.4; 25.6, 30.0 and 26.2 respectively.

The highest 1925 infant-mortality rate in cities from 50,000 to 100,000 population in the U. S. Registration Area appears for Huntington, W. Va. (97); among the States in the Registration Area, Maryland had the highest infant mortality rate (90.4).



**Proportional Mortality.**

The number of deaths in infants under one year of age represent 26.22 per cent of the total number of deaths.

**Childhood Mortality.**

The number of death in children from 1 to 2 years in 1925-26 is 3,853 as against 3,871 in 1924-25; deaths in children from 2 to 5 years numbered, 3,451 in 1925-26 and 3,388 in 1924-25.

Deaths in the age-groups from 0-1, 1-2 and 2-5 represent 48.80 per cent of the general mortality in 1925-26, 49.02 per cent of the general mortality in 1924-25.

The distribution of deaths by age groups is shown in the following table:

**DEATHS BY AGE PERIODS SHOWING PERCENTAGE OF TOTAL DEATHS, 1925-26**

Age periods	Deaths	Percentage of total
Under 1 year.....	8,482	26.22
1 to 2 years.....	3,853	11.91
2 to 5 years.....	3,451	10.67
5 to 9 years.....	1,442	4.46
10 to 14 years.....	782	2.42
15 to 19 years.....	1,270	3.93
20 to 24 years.....	1,573	4.86
25 to 29 years.....	1,509	4.67
30 to 39 years.....	2,380	7.36
40 to 49 years.....	2,001	6.19
50 to 59 years.....	1,760	5.44
60 to 69 years.....	1,528	4.72
70 to 79 years.....	1,230	3.80
80 to 89 years.....	745	2.30
90 years and over.....	338	1.05
Total .....	32,344	100.00

**Maternal Mortality.**

Maternal mortality from puerperal septicemia and from all other puerperal causes for 1924-25 and 1925-26 is as follows:

Puerperal septicemia			All other puerperal causes	
Year	Deaths	Rate per 10,000 total births	Deaths	Rate per 10,000 total births
1924-25.....	202	33.9	137	31.4
1925-26.....	191	31.2	202	33.0

**STILLBIRTHS**

The number of stillborn children in 1925-26, 4,856 was a little lower than the number recorded in 1924-25, (4,990).



Elsewhere in this report a table is presented showing stillbirths and stillbirth rates by municipalities. The stillbirth rate for the entire Island in 1924-25 was 83 stillbirths per 1,000 total births; for 1925-26 it is 79 stillbirths per 1,000 births.

Available statistics from the State of New York for 1925 and from the State of New Jersey for 1922 and 1923 show the following stillbirth rates:

1925	Stillbirths per 1,000 births
New York:	
New York State .....	41
New York City .....	45
Rest of State .....	36
New Jersey, 1922 .....	40
New Jersey, 1923 .....	39

#### MORTALITY FROM TRANSMISSIBLE DISEASES

Transmissible disease caused 3,462 deaths this year, which represent 26.1 per cent of the total number of deaths.

The following diseases were responsible for the greatest number of deaths: tuberculosis (3,408), malaria (1,755), uncinariasis (940), measles (605), tetanus neonatorum (530) and typhoid fever (317).

#### DISEASES REPORTED

As may be observed by the morbidity table appearing elsewhere in this report the number of cases of reportable diseases reported in 1925-26 is 80,106 as against 7,291 reported last year. The material increase in the number of cases reported does not mean that the reporting of communicable diseases has improved to any great extent, but that there are included 73,866 cases of uncinariasis, most of them reported by the treatment units of the Bureau of Rural Sanitation of the Department of Health.

TABLE NO. I

**MORTALITY FROM PRINCIPAL CAUSES OF DEATH**  
1925-26, 1924-25, 1923-24

Int. List No.	Causes of death	Deaths		
		1925-26	1924-25	1923-24
113	Diarrhea and enteritis (under 2 years) . . .	3,729	3,270	3,078
31-37b	Tuberculosis (all forms) . . . . .	3,408	3,087	2,834
5	Malaria . . . . .	1,755	1,474	959
56	Rickets . . . . .	1,703	2,028	1,708
114	Diarrhea and enteritis (2 years and over)	1,625	1,532	1,394
160	Congenital debility . . . . .	1,548	1,304	1,082
164	Senility . . . . .	1,452	1,466	1,363
100a	Bronchopneumonia . . . . .	1,370	1,879	968
129	Chronic Nephritis . . . . .	1,230	925	380
99ad	Bronchitis (all forms) . . . . .	1,364	1,482	1,058
101b	Pneumonia . . . . .	1,150	1,379	918
115	Ankylostomiasis . . . . .	940	772	737
128	Acute nephritis . . . . .	776	791	938
87	Diseases of the heart (all forms) . . . . .	1,200	1,061	953
7	Measles . . . . .	605	620	9
29	Tetanus . . . . .	698	644	650
1a	Typhoid fever . . . . .	317	262	229
74a	Cerebral hemorrhage . . . . .	285	401	478
91	Arteriosclerosis . . . . .	275	284	279
71a	Simple meningitis . . . . .	256	269	233
41	Purulent infection, septicemia . . . . .	242	202	161
146	Puerperal septicemia . . . . .	191	224	295
43-49	Cancer (all forms) . . . . .	580	494	456
38	Syphilis . . . . .	177	134	109
10	Diphtheria . . . . .	131	101	83
105	Asthma . . . . .	111	90	68
118b	Intestinal obstruction . . . . .	111	82	91
126	Peritonitis without specified cause . . . . .	100	81	89



TABLE NO. II

**DEATHS FROM TUBERCULOSIS (ALL FORMS) AND DEATH RATES  
PER 100,000 POPULATION BY MUNICIPALITIES, 1924-25, 1925-26**

Rank 1925-26	Municipalities	1925-26		1924-25	
		Deaths	Rate per 100,000 population	Deaths	Rate per 100,000 population
	PORTO RICO.....	3,408	240	3,085	221
1....	Río Piedras.....	129	471	137	514
2....	Mayagüez.....	204	469	168	389
3....	Guayama.....	93	459	94	467
4....	San Juan.....	329	413	360	404
5....	Hormigueros.....	20	400	13	263
6....	Aguadilla.....	103	396	106	412
7....	Ponce.....	284	373	288	381
8....	Caguas.....	148	359	123	305
9....	Manatí.....	73	344	57	264
10....	San Lorenzo.....	68	333	38	189
11....	Vega Baja.....	55	314	68	394
12....	Juncos.....	43	307	42	302
13....	Cayey.....	83	306	67	252
14....	Bayamón.....	106	305	94	274
15....	Santa Isabel.....	23	305	29	386
16....	Dorado.....	19	296	14	221
17....	Arecibo.....	142	209	106	217
18....	Salinas.....	40	284	46	330
19....	Arroyo.....	19	261	18	248
20....	Fajardo.....	39	257	38	252
21....	Humacao.....	54	243	39	179
22....	Aguada.....	33	239	19	138
23....	Rincón.....	22	239	26	286
24....	Coamo.....	45	237	32	177
25....	San Germán.....	59	237	53	214
26....	Cidra.....	41	236	14	82
27....	Ceiba.....	15	229	8	124
28....	Juana Díaz.....	43	224	20	104
29....	Aguas Buenas.....	27	221	14	116
30....	Yauco.....	59	218	55	204
31....	Cabo Rojo.....	48	199	38	159
32....	Vega Alta.....	22	199	31	284
33....	Guaynabo.....	25	198	16	130
34....	Naguabo.....	33	198	27	163
35....	Luquillo.....	13	196	13	197
36....	Guánica.....	22	195	23	208
37....	Añasco.....	26	188	25	180
38....	Isabela.....	40	185	48	225
39....	Lares.....	50	183	28	105
40....	Sabana Grande.....	22	172	26	204
41....	Vieques.....	21	170	13	106
42....	Toa Baja.....	13	168	21	274
43....	Villalba.....	23	167	11	80
44....	Comerio.....	27	160	26	157
45....	Corozal.....	24	158	18	119
46....	Camuy.....	25	157	22	140
47....	San Sebastián.....	37	155	21	88
48....	Gurabo.....	21	150	11	79
49....	Aibonito.....	22	149	20	138
50....	Yabucoa.....	31	148	43	207
51....	Patillas.....	21	147	24	168

TABLE No. II—Continued

**DEATHS FROM TUBERCULOSIS (ALL FORMS) AND DEATH RATES  
PER 100,000 POPULATION BY MUNICIPALITIES, 1924-25, 1925-26—Cont.**

Rank 1925-26	Municipalities	1925-26		1924-25	
		Deaths	Rate per 100,000 population	Deaths	Rate per 100,000 population
52...	Carolina.....	23	146	29	184
53...	Barranquitas.....	17	138	16	131
54...	Hatillo.....	22	137	17	108
55...	Lajas.....	17	136	13	105
56...	Trujillo Alto.....	11	135	16	138
57...	Río Grande.....	18	126	18	127
58..	Adjuntas.....	23	124	7	37
59...	Culebra.....	1	119	0	0
60...	Quebradillas.....	12	118	12	119
61...	Lofza.....	20	116	35	134
62..	Utuado.....	42	111	53	142
63..	Peñuelas.....	16	110	10	69
64...	Ciales.....	34	108	33	150
65...	Guayanilla.....	14	106	15	115
66...	Maunabo.....	9	106	0	0
67...	Toa Alta.....	12	106	16	142
68...	Las Piedras.....	11	97	7	62
69..	Barceloneta.....	14	96	14	97
70..	Moca.....	16	94	13	77
71...	Morovis.....	15	94	51	196
72...	Jayuya.....	12	87	17	125
73...	Las Marías.....	8	71	3	27
74...	Barros.....	11	68	15	93
75...	Naranjito.....	5	44	12	106
76...	Maricao.....	1	11	4	45