

DEATH RATES IN PORTO RICO AND SOME OTHER COUNTRIES

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A paper entitled "A World's War Against Disease" was submitted by John K. Gore, Vice-President of the Prudential Insurance Company of America, at the twenty-first convention of the Association of Life Insurance Presidents, held at New York, on December 9, 1927.

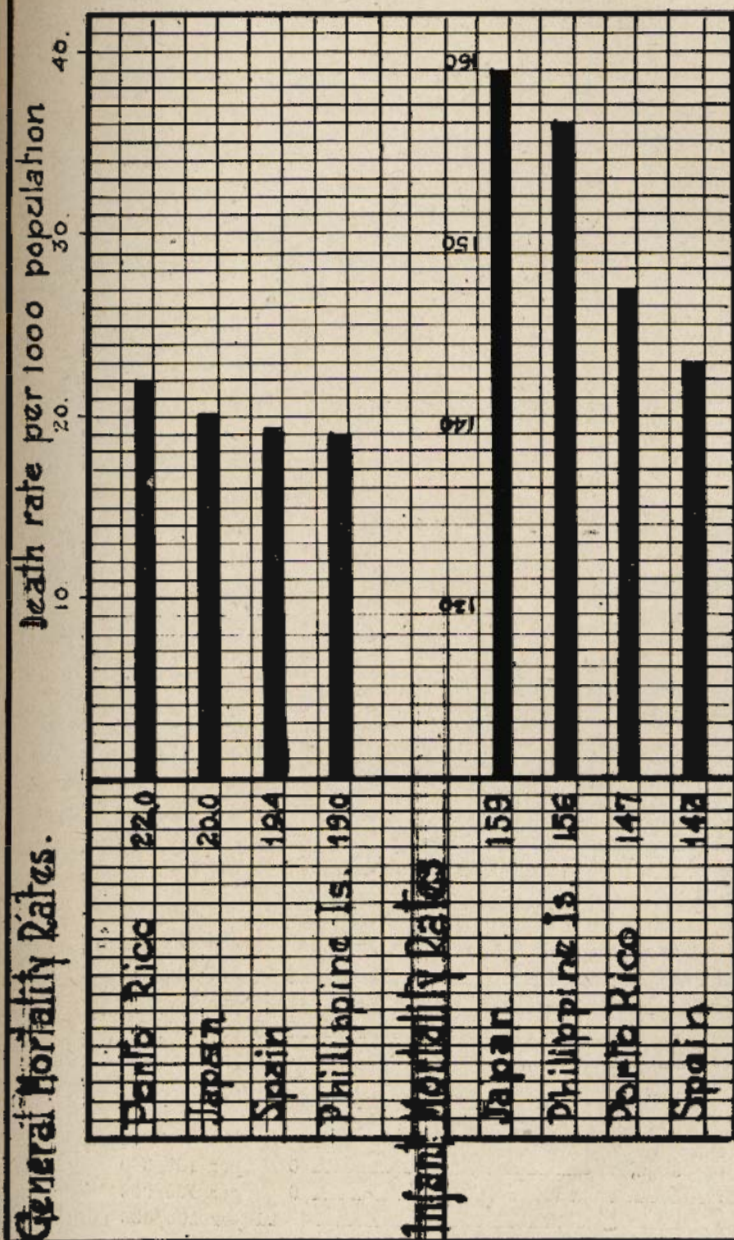
It is a "study of health conditions in more than thirty countries embracing a wide variety of climates and racial strains, with average population death rates for five-year periods, from 1901 to 1925, and comparative death rates from principal causes of death". Porto Rico is one of them, and, in looking over the general death rates, it is seen that the Philippine Islands, Spain and Japan immediately precede Porto Rico. It may be interesting to study the causes of these death rates in each of the different countries, and more so, if the following facts are considered:

1st. The Philippines are tropical and insular, as is Porto Rico. There are wide ethnic differences between the two; the population of Porto Rico being either of European or of African origin, with varying degrees of inter-mixture in a certain proportion of the population, and in some cases with reminiscences of Indian ancestry, while the population of the Philippines is overwhelmingly Malay; but there is a historic liaison arising from the fact that the people of the Philippines were during four centuries under the influence of the same race which predominates in Porto Rico, and that for thirty years now, both insular peoples have been in close contact with the United States of America and under the influence of American ideals and methods.

2nd. The modern Spanish people are kinsmen to the modern Porto Ricans; common ancestry makes for such ethnic relationship.

3rd. Japan is almost as thickly populated as Porto Rico and is insular as is Porto Rico.

There are then certain factors common to the Philippines and Porto Rico, to Spain and Porto Rico, and to Japan and Porto Rico which might account for a certain relationship and similarity in death



General Mortality Rates (per 1,000 Population) and Infant Mortality Rates (per 1,000 Live Births) in PORTO RICO, Spain, Japan and the Philippine Islands. Years 1921-1925.

rates. In the first instance the common factors are climatic and cultural; in the second, racial and cultural; in the third place, demographic and physiographic. The mortality rates for the four countries are as follows:

GENERAL MORTALITY RATES

From 1921 to 1925 inclusive.

Philippine Islands	19	per thousand
Spain	19.4	per thousand
Japan	20	per thousand
Porto Rico	22	per thousand

INFANT MORTALITY RATES

From 1921 to 1925 inclusive.

Spain	143	per 1,000 live births
Porto Rico	147	per 1,000 live births
Philippines	156	per 1,000 live births
Japan	159	per 1,000 live births

As to disease affecting infants and children principally, the rates are:

DIPHTHERIA

1921-1925

Philippine Islands	2	per 100,000
Porto Rico	12	per 100,000
Japan	17	per 100,000
Spain	68	per 100,000

MEASLES

1921-1925

Philippine Islands	30	per 100,000
Porto Rico	57	per 100,000
Japan	62	per 100,000
Spain	146	per 100,000

WHOOPIING COUGH

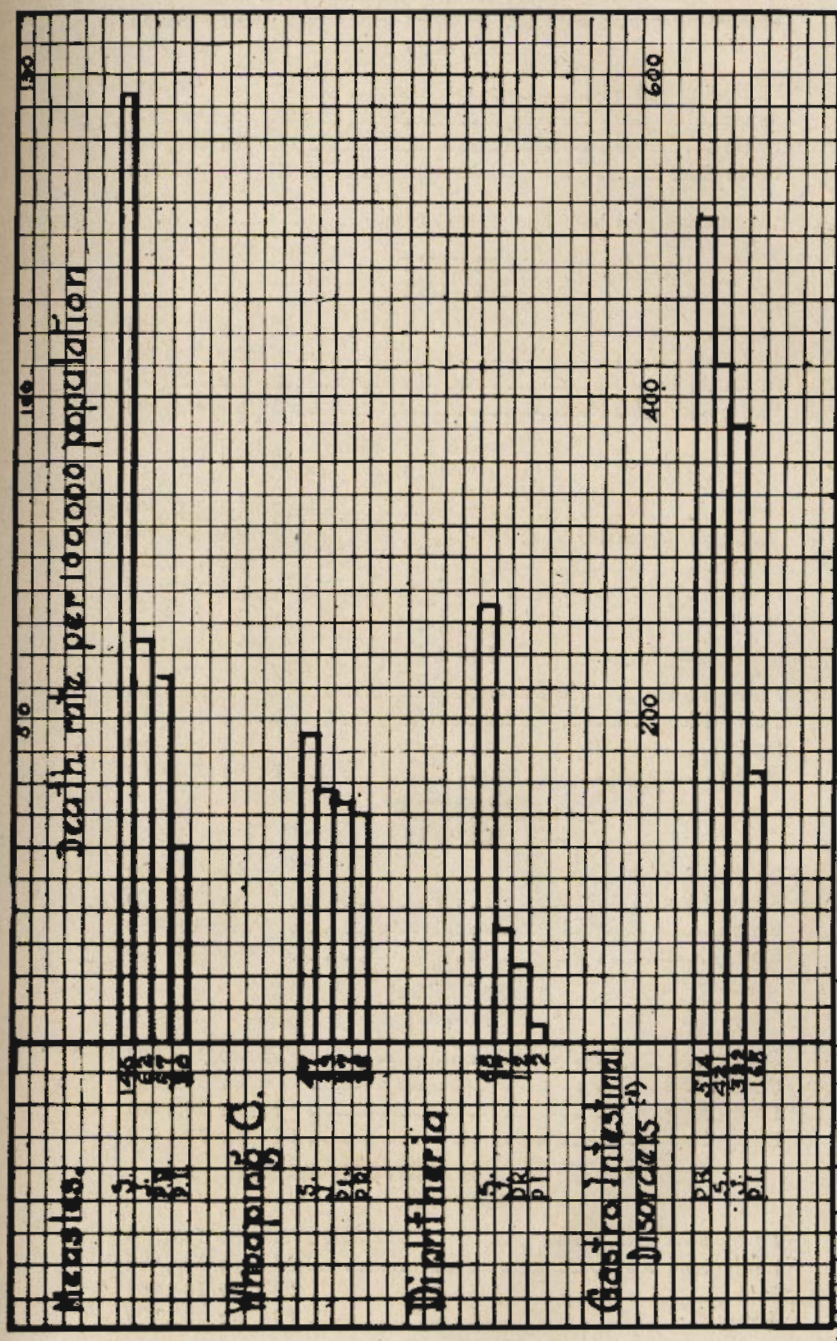
1921-1925

Porto Rico	35	per 100,000
Philippine Islands	37	per 100,000
Japan	39	per 100,000
Spain	47	per 100,000

SCARLET FEVER

1921-1925

Philippine Islands	0	per 100,000
Porto Rico	0	per 100,000
Japan	01	per 100,000
Spain	14	per 100,000



Infantile diarrhoea & Enteritis under 2 yrs

Mortality from Certain Diseases Affecting Infants and Children Principally in PORTO RICO, Spain, Japan and the Philippine Islands, years 1921-1926.

GASTRO INTESTINAL DISTURBANCES

(Including gastro enteritis in those under two years of age.)

1921-1925

Philippine Islands.....	165 per 100,000
Japan.....	132 per 100,000
Spain.....	421 per 100,000
Porto Rico.....	514 per 100,000

As to general diseases the rates are:

INFLUENZA

1921-1925

Japan.....	16 per 100,000
Spain.....	33 per 100,000
Porto Rico.....	33 per 100,000
Philippine Islands.....	38 per 100,000

TYPHOID FEVER

1921-1925

Porto Rico.....	14 per 100,000
Philippine Islands.....	19 per 100,000
Japan.....	22 per 100,000
Spain.....	27 per 100,000

CANCER

1921-1925

Philippines.....	9 per 100,000
Porto Rico.....	31 per 100,000
Spain.....	61 per 100,000
Japan.....	70 per 100,000

DIABETES

1921-1925

Philippines.....	1 per 100,000
Porto Rico.....	2 per 100,000
Japan.....	2 per 100,000
Spain.....	7 per 100,000

MALARIA

1921-1925

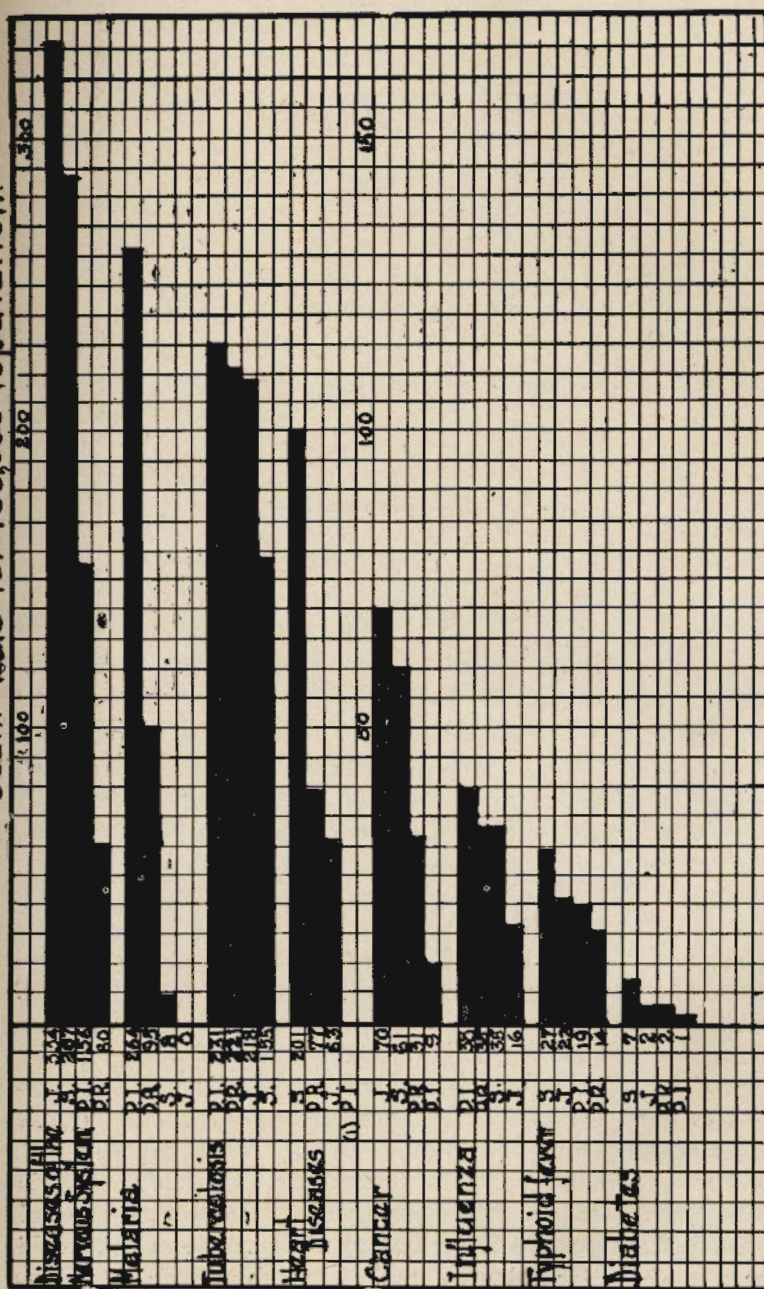
Japan.....	0 per 100,000
Spain.....	8 per 100,000
Porto Rico.....	95 per 100,000
Philippines.....	264 per 100,000

DISEASES OF THE NERVOUS SYSTEM

1921-1925

Porto Rico.....	60 per 100,000
Philippines.....	156 per 100,000
Spain.....	287 per 100,000
Japan.....	334 per 100,000

Death Rate per 100,000 Population.



PR No figure given for Philippines Is.

A Comparison of the Mortality from Certain Important Causes of Death as They Occurred in PORTO RICO, Spain, Japan and the Philippine Islands During the years 1921-1925.

HEART DISEASES

1921-1925

Japan	63 per 100,000
Porto Rico	77 per 100,000
Spain	201 per 100,000
Philippines Islands	(No figures given)

TUBERCULOSIS

1921-1925

Spain	155 per 100,000
Japan	218 per 100,000
<i>Porto Rico</i>	221 per 100,000
Philippines	231 per 100,000

The density of population in these countries is:

1926

Porto Rico	412.7 inhabitants per sq. mile
Japan	397.5 inhabitants per sq. mile
Philippines	96.2 inhabitants per sq. mile
Spain	111.7 inhabitants per sq. mile

SIMILARITIES

Aside from the similarity in the general death rates there is a group analogy in the incidence for the following diseases: whooping cough; scarlet fever (Spain excepted); tuberculosis, (Spain excepted); influenza, (Japan excepted); diabetes; (Spain excepted). The exception as to influenza, on behalf of Japan, has probably no significance if the epidemiological behavior of the malady is recalled. It is only a question of when the pandemic hits a certain country. And besides, the difference in rates is not extraordinary.

On the other hand, the similarity in tuberculosis (Spain with a much lower rate excepted) and in diabetes, (Spain again excepted, now because of a much higher rate) may have a little more meaning. The incidence in diabetes suggests that the food habits of the people should be studied for the detection of analogies or differences; racial susceptibility could have no possible bearing in this particular instance. It is not our intention at present to make a study of the food habits of the Philippine people, the Japanese and the Porto Ricans but it may be interesting to note that rice is a staple food in Porto Rico, Japan and the Philippines with the exclusion of (and perhaps this is the important factor), many other articles which would make for a much better balanced diet. The tuberculosis rate is as strikingly high as diabetes is significantly low.

The similarity in the scarlet fever incidence, or rather absence,

is well accounted for in Porto Rico and the Philippines. That this disease is not tropical is a very general observation. We have not as clear an explanation to offer for the low incidence in Japan. The rather high incidence for Spain is no surprise.

DIFFERENCES

In all four countries in this group infant mortality is high, but it seems clear that since Japan has the highest and the Philippines the second highest rate, while their general mortality rates are almost the same, and less than that of Porto Rico, it must follow that the adult population of these two countries dies at a rather lower rate than that of Porto Rico. Spain and Porto Rico, it would seem, have a proportionately higher adult mortality than the two oriental peoples.

In measles and diphtheria the order is exactly the same as in whooping cough; Spain leads in measles and in whooping cough.

There seems to be a rather definite climatic factor in the incidence for diphtheria. The use of toxin-antitoxin mixture shall be a factor in the future, and other prophylactic measures may have already become modifying factors.

Spain and Japan do not suffer greatly from malaria. The Philippine Islands seem to suffer much more than Porto Rico from this infection. In both, climate is, no doubt, a very important factor, modified by sanitation and other conditions as well.

Of all these diseases, typhoid fever is the most related to the sanitary conditions. If taken as an index of hygienic progress, Porto Rico would have first rank, the Philippine Islands would have second rank, Japan third and Spain would come last.

If heart diseases and the diseases of the nervous system be accepted as an index to the prevalence of syphilis, Porto Rico and the Philippines are relatively much freer from the latter than Spain and Japan.

In this group of four, Porto Rico stands very well in almost all diseases with the exception of tuberculosis and gastro-intestinal diseases, in spite of its having the lowest rate for typhoid fever. As to density of population, it stands highest.

Race, of all common factors, seems to be the least important. Climate, socio-economic conditions, habits, and organized sanitation, in the order given, seem to be the most potent reasons for the similarities in general death rates in this group of countries, and for similarities and dissimilarities in specific death rates. Density of population should be further analyzed as a factor.