

**ANNUAL REPORT OF THE
DEPARTMENT OF SANITATION OF
THE ISTHMIAN CANAL
COMMISSION FOR THE YEAR
1907**

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FOR THE
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W. C. GORGAS

Assistant Surgeon-General, U. S. Army
Chief Sanitary Officer

WASHINGTON
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LETTER OF TRANSMITTAL.

OFFICE OF CHIEF SANITARY OFFICER,
Ancon, Canal Zone, February 24, 1908.
CHAIRMAN ISTHMIAN CANAL COMMISSION,
Culebra, Canal Zone.

SIR: I herewith forward annual report for the calendar year 1907.

We averaged during the year 10,709 white employees, among whom we had 179 deaths, giving us an annual death rate of 16.71 per thousand. Last year, 1906, we had a death rate among our white employees of 16.27 per thousand.

We averaged during 1907, 28,634 negro employees, among whom we had 953 deaths, giving us a rate of 33.28 per thousand. The preceding year, the rate in the same class was 49.01 per thousand. This means that among our negro employees 16 fewer men died in 1907 in every thousand than in 1906.

We averaged during the year 1907, 39,343 employees of all kinds on our rolls. Among these we had 1,132 deaths, giving us a death rate of 28.77 per thousand. The preceding year our death rate in the same class was 41.24 per thousand. This means that in our force taken as a whole we had 13 fewer deaths in every thousand men than we had in 1906; that is, the improvement in the health conditions in the year 1907 over those of 1906 saved the lives of 507 men in our laboring force.

The improvement has also been considerable in the health of the total population. In 1907 our death rate in this class was 33.63 per thousand; in 1906, 49.10 per thousand, showing a saving of 16 lives per thousand over the year 1906. This for the total

population of 102,000 means the saving of 1,632 lives in 1907 as compared with 1906.

Among our 4,300 white American employees we had during the year 42 deaths, which gives a rate per thousand of 9.76. Of these, 29 died from disease, which would give us a death rate from disease of 6.74 per thousand, which is about as small as would occur among a similar body of men in any healthy part of the United States.

We had in Commission quarters the families of these 4,300 men—1,337 women and children. Of these, 9 died, giving a death rate of 6.73 per thousand; smaller, I think, than the death rate in the same class in most parts of the United States. Generally, the death rate of women and children, considered together, is much higher than that of men in the prime of life. In this instance they are almost exactly the same.

Among our 39,000 employees, we had on an average every day 987 sick. This would give us a rate per thousand of 25, which compares very favorably with bodies of men such as our Army or Navy or similar organizations.

During the year we had 173 violent deaths among the employees, as compared with 55 in the preceding year. I can think of no particular reason for this very great increase. There was probably very much more blasting and railroad work going on in 1907 than in 1906.

From beriberi we had 2 deaths among the employees in 1907 as against 6 in 1906. Among the employees in 1907 we had 48 deaths from dysentery as against 69 in the preceding year. From malaria among the employees we had 154 deaths in 1907 as against 233 in 1906. This I think a particularly good showing, as the force was considerably smaller in 1906 than in 1907. From pneumonia among the employees we had 328 deaths this year as against 421 last year.

Taking the population at large and considering individual diseases, we also find some gratifying decreases. From malaria, with a total population of

66,000 in 1906, we had 712 deaths; in 1907, with a total population of 102,000, we had 568 deaths. From dysentery, in 1906, we had 190 deaths. With nearly double the population in 1907 we had only 116 deaths. From beriberi, in 1906 we had 68 deaths; in 1907, 53 deaths. Of these 53 deaths 48 occurred in the city of Panama; that is, beriberi is almost entirely confined to the city of Panama. From pneumonia, for the year 1906, we had 720 deaths; in 1907, 581 deaths. From hook worm, which causes tropical anæmia, we had in 1906, 15 deaths; in 1907, 7 deaths. When we first came to Panama we looked upon this as probably one of the most formidable diseases with which we would have to deal.

It is an interesting fact that of our total mortality, 28.77 per thousand, among our laboring force, only 4.57 per thousand died of disease ordinarily called tropical, among which we include malaria.

Taking malaria itself, we admitted into our hospitals during the year 1906, 21,739 cases; in the year 1907, 16,753 cases. As we had a force of 26,000 in 1906, and of 39,000 in 1907, these figures would show that in 1906 eleven-thirteenths of our force had malaria, while in 1907 only five-thirteenths had this disease; that is, the malaria for the year had been reduced just one-half as compared with 1906.

It is interesting to note in this connection that in 1906 our death rate from malaria was, approximately, among the whites, 2 per thousand, and among the blacks, 8 per thousand. In 1907 the same rates were 3 per thousand and 4 per thousand. This seems to show a greatly increased resisting power among the blacks during 1907, as compared with 1906. The slight increase in death rate from malaria among the whites is due to the fact that the white American force has decreased, and the white foreign force greatly increased. The foreign force, being much less intelligent than the American white force, increased to some extent the mortality among the whites.

It is worthy of note that we admitted to our hospitals during the year only 243 cases of syphilis and 190 cases of gonorrhoea. This in so large a force, I think, is quite remarkable. And it is equally remarkable that we should have admitted to our hospitals during the year only 116 cases of alcoholism.

We gave during the year 438,000 days' treatment to employees in hospitals, at a cost for food of \$129,000, which gives us a cost per capita per day of 29.5 cents for food. The total running expenses for all hospitals for this same period was \$735,000, which would give us a total cost per capita, per day, of \$1.677. This compares very favorably, as to expense, with hospitals in the United States, and when we consider that almost all of our supplies are considerably more expensive than in the United States, I think it is doing very well.

During the year we had 71,000 people come to the Isthmus and 44,000 leave, which gives an increase in population of 27,000.

For the year, then, I think we can state that the health conditions on the Isthmus show a marked improvement as compared with all previous years since we have been here, and that this improvement seems to be continuous; that the health of the American whites—men, women, and children—is fully as good as in most parts of the United States; that the working efficiency of our force, as far as loss from sickness is concerned, is as good as that of a similar force anywhere in the United States, and better than that of either our Army or Navy.

We have had no case of yellow fever anywhere on the Isthmus, excepting that taken off the shipping at the quarantine stations; no case of bubonic plague, and only one death from smallpox, which was not in the person of an employee.

Very respectfully,

WM. C. GORGAS,
Chief Sanitary Officer.