

by periods have been 23,784 *colonos* in 1901-1911, 60,398.80 in 1911-1920, 180,026.66 in 1920-1926, and 293,948.06 in 1926-1941.

Population.—The population of the Republic has increased from 1,287,395 inhabitants in 1924, to 1,459,594 in 1930, 1,597,564 in 1935, 1,744,535 in 1939, and 1,787,930 in 1940.

General mortality.—The total number of deaths has varied from 33,047 (25.7) in 1924, to 31,490 (21.6) in 1930, 38,884 (23.7) in 1935, 31,656 (18.1) in 1939, and 31,242 (17.5) in 1940.

Infant mortality.*—1930, 10,329; 1935, 8,617; 1939, 8,289; 1940, 9,019.

Causes of death.—Malaria: 1924, 3,189 (248); 1930, 3,115 (213); 1935, 4,470 (280); 1939, 3,418 (196); 1940, 3,325 (186); diarrhea-enteritis, under 2 years: 1,821 (141), 2,467 (169), 3,587 (225), 2,349 (135), and 2,791 (156) respectively; tuberculosis: 478 (37), 529 (36), 765 (48), 743 (43), and 698 (38.5); pneumonia: 766, 661, 1,414, 1,918, and 1,674; measles; 119, 350, 1,315, 1,863, and 1,276.

THE EVOLUTION OF PUBLIC HEALTH IN GUATEMALA

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History.—The history of medicine in Central America was in the beginning the history of the plagues, obstacles, and catastrophes which confronted Governments in their efforts to safeguard their people. The construction of hospitals and asylums to meet immediate needs, was the first public health development described in the ordinances and chronicles of the past century. At that time, public health and hygiene were not branches of an exact science, based on social, epidemiological and mathematical principles, but consisted of ordinances, suggestions, or regulations issued by the authorities of the Central-American Federation, through its municipalities.

The oldest Central American public health ordinance is that published under Title II, Law V, No. 314, October 2, 1839, of the First Book of Laws of the National Sovereignty, which read as follows:

"Article 28.—In the case of pestilence, all proper measures to relieve the necessities of the people shall be taken.

"Art. 42.—The Sanitary Police are empowered to deal with matters of correction and security; they shall be strictly obligated to prevent and remove anything which may prejudice public health; they shall see to the cleaning of the streets, plazas, and markets, watch over the quality of foods of all kinds, and shall effectively bring about the drying up or drainage of stagnant or unhealthy pools of water.

"Art. 45.—In cases of pestilence, the Municipalities shall immediately report to the *Corregidor* of the Department, but this shall not relieve them of the duty of immediately organizing Boards of Health and of providing assistance to the inhabitants."

Population.—Another early undertaking was the appointment of a Committee for the taking of the First Census of the Republic. In 1825 the State of Guatemala, in the Central American Federation, had 318,215 inhabitants; in 1893 the country had 1,364,678; in 1903, 1,842,134; in 1921, 2,004,900, and in 1940, 3,284,189.

The population of Guatemala has increased, therefore, one million in the last 20 years, a fact which demonstrates more than any other, the progress realized thanks to its present wise laws and regulations and to its cultural and scientific relations with the United States and Europe. The advance of the public health sciences, the eradication of yellow fever, the quarantine of ports and international

* Stillbirths have been excluded from deaths from 0 to 1 year.

conventions, as well as the sanitation of Cuba and Panama, have permitted the utilization of natural resources and the growth of population.

Mortality.—Another factor which must be taken into account is the general death rate. In 1865 the average annual mortality was 30 deaths per 1,000 inhabitants. Today, thanks to the degree of public health organization and its constant vigilance this average has dropped to 19 per 1,000. The typhoid fever mortality has decreased from 23.3 per 100,000 in 1930 to 6.7 in 1940, and the small-pox rate from 1.1 in 1931 to 0.22 in 1940.

Funds.—Appropriations for sanitation and public health have increased from an annual average of 4,267 *quetzales* during 1900–1909, and 3,621 in 1910–1919, to 33,975 in 1920–1929, 194,910 in 1930–1940, and 115,967.05 in 1940.

Health index.—The general basis for estimating the public health index is the disappearance of the pestilential diseases which were so devastating in the last century: hospital septicemias, smallpox in the villages and rural areas, typhus fever, and finally, malaria in the lowlands. Fortunately, many of these plagues have vanished forever, and smallpox, which was formerly a terrible enemy which no one escaped, today is responsible for but an insignificant mortality, and cases become more and more uncommon. This victory is the result of patient effort beginning May 12, 1824, when the Public Health department of Guatemala made vaccination compulsory. (Vaccination was practiced in the hospitals of the Kingdom of Guatemala in 1804, by the *protomédico* or royally appointed physician Dr. Narciso Esparragosa y Gallardo.) In 1840 more adequate regulations were established; these were confirmed in 1871 by the liberal laws, and reaffirmed by the present sanitary regulations.

National Vaccine Institute.—During the period from 1909 to 1940, the National Institute of Vaccine prepared a total of 18,021,307 doses of smallpox vaccine, which were widely distributed throughout the Republic. On more than one occasion, supplies have been sent to neighboring Republics.

Vital index.—The vital index (excess of births over deaths) of Guatemala has fluctuated, on the average, between 15 and 22, since 1871.

This brief sketch affords an idea of the biologic potentialities of Guatemala and is a testimony of the abilities of her native races to develop and grow toward greater progress and culture, when their health is protected and their vital needs are assured by preventive medicine and social hygiene.

THE NATIONAL HEALTH AND SOCIAL WELFARE SERVICE OF HAITI

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The National Service of Hygiene and Social Welfare of Haiti was re-organized in 1919 and has since come to be one of the most important administrative branches of the Government.

The Service has developed gradually and has become an organization which functions on a rational basis and which renders inestimable services to the urban and rural population.

The Service extends its activities throughout the Republic by means of 11 hospitals and 125 rural clinics, all of them housed in buildings constructed within the last twenty years.