

destroy, but also because of the written and otherwise disseminated proselytic influence, both of himself and of his numerous followers.

This rapid review is, or has attempted to be, an act of faith on the part of Brazil, an expression of confidence in our continent. We in America are capable of a few things. The United States of North America, our oldest brother, is taking the place of our old and decrepit mother, suffering, poisoned Europe. . . . Our newer brothers all have something to offer. Brazil is an honor to her family.

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## PUBLIC HEALTH IN CUBA

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The Island of Cuba, and particularly the city of Habana, were considered in colonial times the Inferno of America. Yellow fever, malaria, smallpox, dysentery, typhoid fever, tetanus of the newborn, glanders, and even cholera and other diseases periodically decimated its population, from the days of the Conquest until the year of Independence. During the Intervention Government of the United States, after the country was freed from Spain in 1899, sanitation was begun and campaigns were waged against the prevailing epidemic and endemic diseases.

The Provisional Military Government lasted for two years and five months, and was under the direction of a physician, General Leonard Wood, who considered the improvement of the precarious health of an impoverished people the greatest of his duties. In this brief period the bases were laid for a public health organization which, carried to completion by succeeding administrations, soon converted the former Inferno into one of the most prosperous and healthy tropical regions in the world. Besides the subjection of Habana to the most thorough cleaning ever given a city, the program saw the organization in 1900 of two sanitary inspection services, in the charge of 100 Cuban physicians and directed by Major William Gorgas, and also the establishment of the Services of Sanitation and Disinfection, Statistics and Demography, and Orders, Archives, and Correspondence, and of a Department of Maritime Sanitation. A vaccine commission was created, as well as one for the combating of glanders and tuberculosis.

To the work of the former is due the disappearance of smallpox from Cuba, the last autochthonous case having been reported in 1923; and to the second, the disappearance of glanders from the equine population, and of bovine tuberculosis. The founding of a League Against Tuberculosis, of tuberculosis dispensaries and sanatoria, and of a Superior Board of Health, with legislative and executive powers, were also the results of the initiative of those fine administrators.

But the most notable accomplishment was the verification by the North American Commission for the study of epidemic diseases and especially of yellow fever, of the discovery of the transmission of yellow fever by the mosquito. This discovery, announced by Finlay in 1891 and proved by Read, Carroll, Agramonte and Lazear, has been the most important achievement in America to date, and the one most useful to humanity. The application by Gorgas, at first, and later by Finlay, Barnet, and Guiteras, of the preventive measures suggested by Finlay, resulted in the total eradication of yellow fever from Cuba. The last case was reported April 9, 1908.

When the Republic was restored in 1902, Finlay and Barnet succeeded Gorgas and his assistant Furbush, and extended the benefits of public health to the whole

country. The Superior Board of Health, whose decrees were executive in nature, in 1906 promulgated the Sanitary Ordinances, applicable to municipalities. Attention was given to tuberculosis, diphtheria, and other diseases, and the National Laboratory was organized.

Municipal sanitary administration was confided to local boards. Their inefficiency demonstrated the necessity of nationalizing health services, and a decree suggested by Major Jefferson R. Kean was issued creating the National Department of Health, supported by funds appropriated by the Central Government plus 10% of municipal revenues. This system proved very effective, and a number of difficult public health campaigns were carried out. In 1909 the Department was elevated into the Secretariat of Health and Welfare, today known as the Ministry of Public Health and Social Welfare.

The Ministry is divided into the Department of Health and that of Social Welfare. These two divisions, with their 126 local offices and 35 hospitals (which care for 13,441 patients) and numerous dispensaries, have been able to keep the mortality, morbidity, and epidemiological rates down to a low level comparable to that of the most progressive nations.

Yellow fever disappeared from Cuba in 1908, smallpox in 1923. Bubonic plague, which invaded the island in 1912 and 1914, was rapidly eradicated. The world pandemic of influenza, which reached Cuba in 1918, did not show its customary severity. Diphtheria has greatly decreased, and malaria has also been much reduced, and is confined to thinly-populated rural areas. Only infantile gastro-enteritis, intestinal parasitoses, and typhoid fever remain as problems to be solved, and they, along with tuberculosis, syphilis, leprosy, and other so-called social diseases, are today the chief objects of attack by the Ministry.

The prolonged economic crisis suffered by Cuba since 1920, and the political upheavals of 1930-1933 disrupted public health machinery. But in view of the dangers of deficient public health activity, there was created the Corporative Council of Education, Health, and Welfare, to which must be credited many brilliant initiatives and accomplishments. It functioned until October, 1940, when its various divisions were absorbed into the Ministries of Education and Public Health and Social Welfare.

The Corporative Council of Education, Health, and Welfare, was composed of the 1,200 civil-rural schools and 40 educational missions, the Institute of Technology, the rural homes for children, the child guidance centers, a Technical Rural Health Service, a National Tuberculosis Council, a Foundation for the Control of Leprosy, Syphilis, and Venereal Diseases, and the Finlay Institute, with its School of Public Health and Tropical Medicine.

The Technical Rural Health Service was devoted, as the name implies, chiefly to rural problems. It began by giving adequate training to all its personnel, creating a body of public health experts and specialists. It then undertook a number of projects including the codification of public health laws and ordinances, for the preparation of a Sanitary Code; a public health survey of the whole Republic; organization of the Vital Statistics Department; improvement of the control of food and drugs and of drug manufacture; campaigns against prevailing diseases; supervision of foods, beverages, and aqueducts and other water supply systems; health education; intensification of international cooperation in public health; creation of a Scientific Research Center; and the preparation of programs for future action.

The National Tuberculosis Council is responsible for the fact that throughout the Republic there are tuberculosis dispensaries, sanatoria, and hospitals, and for an impressive amount of educational work. Its functions include not only

the finding, isolation, and care of patients, but also the education of the public, the instigation of laws establishing social security coverage for tuberculosis, readaptation for work, post-sanatorium aid, traveling dispensaries, sanitation of dwellings, and so forth. The Constructions Section has improved existing hospitals and dispensaries and has begun the construction of two magnificent sanatoria: that of Tope de Collantes, in the Trinidad hills, 800 meters above sea level, which has a capacity of 600 beds; and the other, in Habana, for children, capacity 500.

The Leprosy Foundation has brought to light the number of existing cases; it has improved the national leprosarium and begun the construction of another, in the eastern part of Cuba, and has also carried on an excellent campaign against yaws.

Another excellent measure of the Provisional Revolutionary Government was the creation of the National Public Assistance Corporation, which supervises the activities of private Welfare institutions and also some official ones, gives aid to numerous institutions, and tends to the maintenance of the vocational schools.

Since 1936 the Rockefeller Foundation, in cooperation with the Cuban Government, has carried on an energetic campaign against malaria. Its technicians have succeeded in controlling the disease in certain areas. They have completed model anti-mosquito projects, and organized, in a town of 60,000 inhabitants, a model sanitary unit whose program serves as a practical school for local officers.

**Vital statistics.**—General death rate (per 1,000 population): 1902–1911, 14.4; 1926–1935, 11.4; birth rate, 30.8 and 23.4 respectively; marriage rate, 6.5 and 4.2; infant mortality (per 1,000 live births), 136.2 and 100.2. The lowest mortality rate was that for 1902 (9.8), and the highest, that of 1920 (17.2). In 1898, the deadly policy of concentration caused the mortality rate to rise to 89.2 per 1,000 inhabitants.

**Disease mortality.**—(Rates per 100,000 population): Typhoid and paratyphoid, 1902–1911, 15.6; 1926–1935, 14.5; diphtheria, 8.2 and 2.8; whooping cough, 6.5 and 3.2; scarlet fever, 2.4 and 0.05; smallpox, 0.04 and 0; measles, 4.3 and 1.6; malaria, 47.8 and 20.9; yellow fever, 0.6 and 0; leprosy, 1.6 and 0.8; syphilis, 3.3 and 4.4; cancer, 39.8 and 42; respiratory tuberculosis, 169.6 and 77; other forms of tuberculosis, 17.5 and 4.9; enteritis in children under 2, 197.5 and 153; in persons over 2, 62.1 and 61.6.

**Funds.**—The public health appropriations have varied from 1.50 pesos per capita in 1910 to 2.15 in 1918–19, and 0.55 in 1933–34; the present figure is 1.10. The various agencies of the Corporative Council of Education, Health and Welfare which were absorbed by the Ministry of Public Health and Social Welfare, had their own budget of \$2,186,788, which increases the per capita expenditure for health for the present year to 1.75 pesos.

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**Public health as an investment.**—“The sanitation of a city is always costly, for every public health measure requires an expenditure of money, and some projects are very expensive; but we must not forget that the funds employed in this type of work are not only well spent: they are productive as well. In a healthy city the population increases, diseases diminish, work is encouraged, valuable lives are saved, credit becomes available, industries and commerce prosper; in a word, the capital used in sanitation and the preservation of public health returns a hundred-fold on the investment.”—LUIS RAZETTI, First Venezuelan Medical Congress, Caracas, 1911, as quoted by *Rev. Educ. Sanitaria*, July 15, 1937, p. 1.