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PROGRESS REPORT ON TUBERCULOSIS CONTROL IN THE AMERICAS

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"THE CONTROL OF TUBERCULOSIS IN MEXICO"

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THE CONTROL OF TUBERCULOSIS IN MEXICO

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Under the present organization of the Secretariat of Public Health and Welfare, the National Campaign Against Tuberculosis is part of the Administration of Epidemiology and Sanitary Campaigns and thus a subordinate agency of the General Public Health Administration. Its function is pre-eminently that of setting standards, but in certain circumstances it executes programs of its own aimed at applied research and operational investigation to determine how best to orient and direct the anti-tuberculosis programs.

As a standard-setting agency at the national level, the Nation Campaign Against Tuberculosis establishes the outlines by which the control organizations and offices can carry out and coordinate their programs uniformly throughout the country.

Practical application is the work of the Health and Welfare Offices of the Integrated Public Health Districts, which are part of the General Public Health Administration and the Federal District Health Administration.

The Integrated Public Health Districts vary greatly in area, and their populations fluctuate between 100,000 and 500,000, including generally both rural and urban inhabitants. Each has one or more Health Centers and one or more Regional Hospitals.

At the Health Centers, Chest Clinics have been established to discover tuberculosis cases, provide home or outpatient care, examine contacts, give BCG vaccinations, administer chemoprevention or chemoprophylaxis, and carry out follow-up or surveillance, social-welfare, and rehabilitation work.

All the routine services of the Health Centers --nursing, social work, health education, and so on-- are coordinated so as to make the control of tuberculosis in their jurisdictions as effective as possible. Similarly, closer contact and coordination are being sought between the Health Centers and the hospitals to increase the hospitalization of tuberculosis patients and to provide post-institutional treatment and surveillance; when a patient is discharged from a hospital he is expected to remain under the control of the Chest Clinic until he receives a

public health release. To achieve the best possible information and control situation, a system of hospital zones, in which the Chest Clinics are included, has been set up throughout the country. This permits rapid exchange of information, facilitates the maximum use of bed capacity, and so far as possible prevents the needless sending of patients to distant institutions and the overcrowding of hospitals.

The Integrated Public Health Districts are found throughout the country. At present they have 107 Chest Clinics and 25 Regional Hospitals with 3,000 beds for tuberculosis patients.

The attached graph shows the Mexican mortality and morbidity rates for tuberculosis between 1951 and 1960.

In mortality, an abrupt and continuing decline may be observed between 1951 and 1955, starting from a rate of 37.8 per 100,000 and reaching 22.1. For the period 1955-60, it remains at about 23 per 100,000.

The morbidity curve shows a rising trend during the 10-year period. Among other reasons for this phenomenon may be cited the diagnostic facilities provided by the growing number of Chest Clinics and the increase in mass examinations made possible by portable X-ray equipment.

It should be noted that these statistics are not as reliable as they should be, and that the actual morbidity and mortality rates must be higher.

The control programs are based primarily on maximum use of the facilities of the Chest Clinics, supplemented by hospitals and sanatoria.

Treatment consists mainly of the use of anti-tuberculosis drugs --chiefly isoniazid and para-aminosalicylic acid-- on a domiciliary or ambulatory basis. In the hospitals the same drugs plus streptomycin are used, supplemented by the so-called secondary drugs. Surgery is performed under strict conditions and generally after medical treatment has first been tried, except in emergencies.

The sanatoria provide care for chronic and advanced bacillary cases, which usually benefit little or not at all from medical or surgical treatment.

The cardinal idea is for the Chest Clinics to expand their activities to cover the entire population of the Health District, so that as the areas under control spread they will eventually comprise the entire territory of Mexico.

Considering the geographic, ethnographic, and social conditions of Mexican communities, it is obviously very difficult to examine and

control the total population --particularly that of rural areas, which is widely scattered and clustered in tiny communities.

Therefore, the Secretariat of Public Health and Assistance supplements the Chest Clinics with a dynamic program employing mobile brigades. This is a particularly useful means of dealing with the problem of country people, whose geographic isolation makes them harder and harder to reach with public health campaigns.

The mobile brigades are also used to handle special conditions in areas with a serious tuberculosis problem or in certain areas where the attendance at Chest Clinics is small.

The work of the brigades in urban areas, which usually have Chest Clinics, ordinarily consists of taking X-rays and channeling persons with apparently positive readings to the Health Center for further examination. In rural areas, besides taking X-rays, they make the Mantoux tuberculin test themselves, give BCG vaccinations, and make microscopic sputum examinations. The cases and suspects discovered by the brigades are referred to the nearest Health Center for clinical examination, treatment, and periodic surveillance.

When the brigades arrive in a community, they immediately coordinate their activities with the Health Center.

First community interest is aroused through education, for which purpose the brigades carry audiovisual equipment and publicity material.

The staff then takes a block-by-block census and at the same time makes appointments for examinations.

The mobile units have been undeniably effective in the Mexican environment. Going to the very heart of the communities, and working with great energy, they discover incipient cases and increase the productivity of the Chest Clinics.

Another collateral advantage of the mobile units is that persons with endothoracic abnormalities that are not pleuro-pulmonary are also referred to the Health Centers or other institutions for examination and treatment.

The Government is also seeking to learn more precisely the prevalence of the disease and its epidemiological characteristics, in order to broaden the control measures even further. The Secretariat of Public Health and Welfare, with the cooperation of WHO and UNICEF, is therefore carrying on special programs in representative areas of the country. It is hoped that the technical and administrative experience furnished by these studies will be useful in the future extension plans.

The general characteristics of this work are as follows:

Surveys are made of the prevalence of infection and the number of cases, combined of course with extensive regional control programs.

For the surveys, random samples are taken from the urban and rural populations of Health Districts in various regions with different ecological characteristics.

Standard WHO techniques are used, so that the results will be comparable with those of other countries similarly engaged with WHO and UNICEF.

The agreement with these international organizations has produced an increase in field investigations aimed at finding, on the spot, what administrative procedures will most improve the conduct of the program, in accordance with the epidemiological knowledge that is being acquired.

Varying patterns of treatment and home care under the supervision of auxiliary nursing personnel have been worked out.

Suspects and contacts are included in these studies.

Special treatment methods have been instituted for patients requiring hospitalization.

To take advantage of the benefits of practical experience in the field, one of the work regions is used for the training of personnel.

In all the areas, measures to improve the notification of tuberculosis cases are being employed.

Rehabilitation is another matter of deep interest to the Campaign --both in the physical and psychic aspects and in the economic.

To round out the organized effort Mexico is making to eliminate a public health problem responsible for so much moral and physical suffering and economic hardship, there are the studies of bovine tuberculosis and the activities for its control that are being carried on by the Secretariat of Agriculture and Stockraising.

Within this general panorama, the Technical-Administrative Standards of the National Campaign Against Tuberculosis set up the following norms for prevention in children:

BCG vaccination is the major preventive method in Mexico. Liquid vaccine is used, according to the Mantoux intracutaneous method, on non-reactors to the tuberculin test between the ages of one and twenty. Liophilized vaccine will soon be available. Its good keeping qualities in hot climates make it extremely useful for the rural areas.

For chemoprophylaxis use is made of isoniazid as the choice drug, the dose being from 5 to 10 mg. per kilogram of body weight.

Primary chemoprophylaxis --strictly speaking, chemoprevention-- in control programs is advised for children under five who do not react to the tuberculin test but who are contacts of bacillary patients. It should continue during the entire time the source persists and never for less than six months.

Secondary chemoprophylaxis in control programs is recommended for:

a. Children under five who react to the tuberculin test and have not been vaccinated with BCG. It is considered indispensable for those under three, whether contacts of tuberculous patients or not.

b. Persons between five and twenty who are contacts of bacillary cases and who react to the tuberculin test with an induration of 15 mm. or more.

Associated with the specific measures are more general ones connected with nutrition, housing, and habits of personal hygiene, on which information and orientation are constantly given. The housing and nutrition problems are being attacked directly by various programs.

The number of people vaccinated is increasing as a result of formal agreements between the Secretariat of Public Health and Welfare and the Secretariat of Public Education to broaden the BCG vaccination program for pre-school and school-age children.

Control in both children and adults is being stimulated by coordination agreements with the Mexican Social Security Institute, the Secretariat of National Defense, the Secretariat of Public Education, and other official institutions, semi-decentralized and decentralized.

SUMMARY

The Mexican tuberculosis control programs are being developed along three principal lines:

a. Mass campaigns in Public Health Districts in which the Chest Clinics carry out control methods by ordinary or standard systems.

b. Campaigns in areas where, for some special reason, attendance at the Chest Clinics is low, in which case the Health Centers is supplemented by mobile brigades.

c. Surveys of prevalence in representative areas by means of random samples, made for the purpose of increasing knowledge and seeking various types of practical solutions to the problem of organizing a control program on a vast scale.

Prevention in children relies mainly on BCG vaccination, primary chemoprophylaxis, and secondary chemoprophylaxis.

BCG is administered by the Mantoux method using liquid vaccine.

Primary chemoprophylaxis is advised above all for children under five who do not react to the tuberculin test and who are contacts of bacillary cases.

Secondary chemoprophylaxis is recommended particularly for children under five reacting to the tuberculin test who have not been vaccinated with BCG, and is considered indispensable for those under three. It is also recommended for persons between five and twenty who are contacts of bacillary cases and who react to the tuberculin test with an induration of 15 mm. or more.

The improvement of nourishment, housing, and habits of personal hygiene are among the other measures important in a tuberculosis control program.

Annexes

SECRETARIA DE SALUBRIDAD Y ASISTENCIA
CAMPAÑA NACIONAL CONTRA LA TUBERCULOSIS

MORBILIDAD Y MORTALIDAD POR TUBERCULOSIS PULMONAR Y TODAS FORMAS
REPUBLICA MEXICANA 1951 a 1960

AÑO	POBLACION.	DEFUNCIONES *				**	
		T.B.Pulmonar	Tasa +	T.B.T.Formas	Tasa +	Núm.de Casos	Tasa +
1951	26 663 817	10 078	37.8	11 201	42.0	7 697	28.9
1952	27 370 380	8 844	32.3	10 119	37.0	8 059	29.4
1953	28 432 943	7 437	26.1	8 608	30.2	7 331	25.8
1954	29 317 506	6 956	23.7	8 052	27.5	8 341	28.4
1955	30 497 114	6 732	22.1	7 808	25.6	8 504	27.9
1956	31 083 632	7 230	23.2	8 434	27.1	9 485	30.5
1957	32 020 743	7 431	23.2	9 494	29.6	10 223	31.9
1958	32 855 758	8 099	24.6	9 399	28.6	10 801	32.9
1959	33 740 421	7 973	23.6	9 169	27.2	11 144	33.0
1960	34 625 938	8 145	23.5	9 356	27.0	12 158	35.1

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** FUENTE.- Dirección de Epidemiología y Campañas Sanitarias.

Tasa por 100 000 Habitantes.

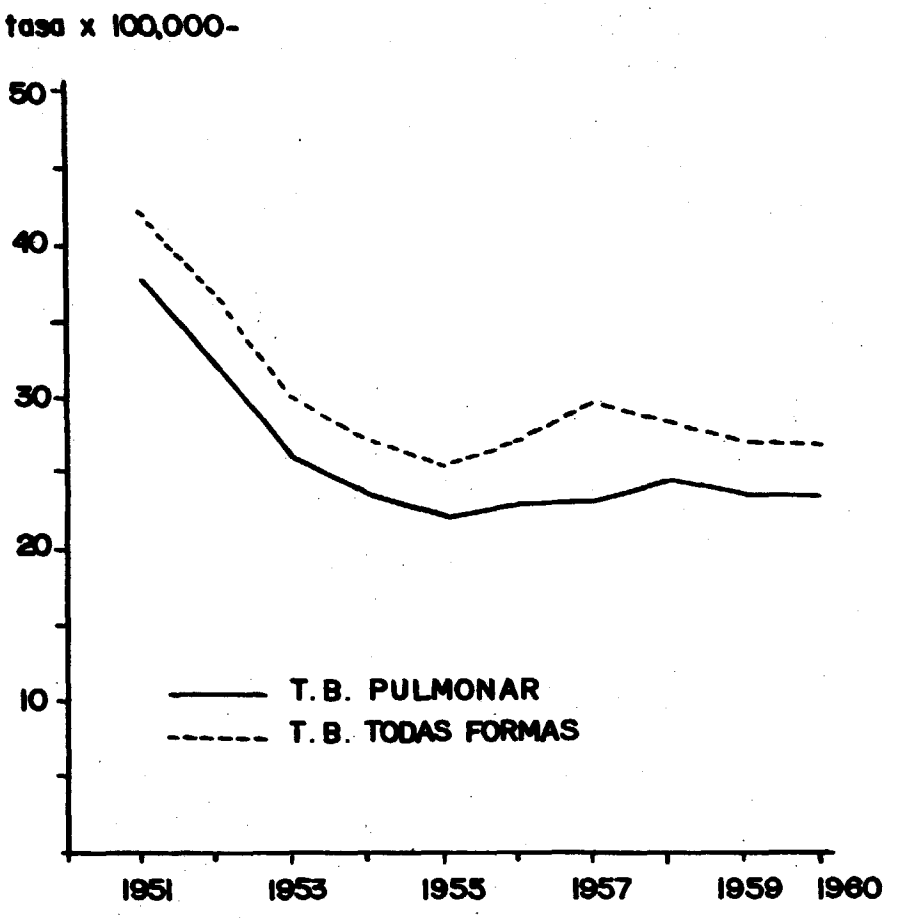
SECRETARIA DE SALUBRIDAD Y ASISTENCIA

CAMPAÑA NACIONAL CONTRA LA TUBERCULOSIS

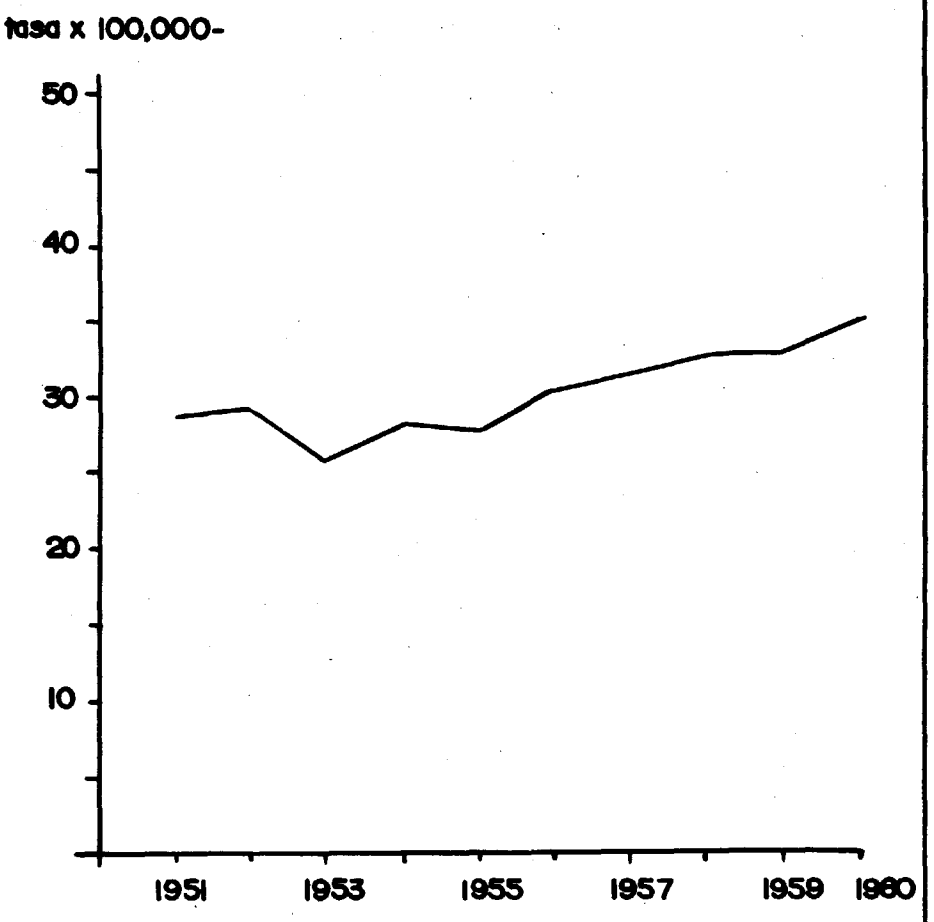
REPUBLICA MEXICANA

1951 - 1960

MORTALIDAD POR TUBERCULOSIS



MORBILIDAD DE TUBERCULOSIS PULMONAR



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ANNEX II