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PAN AMERICAN  
HEALTH  
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XI Meeting

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Topic 28: STATUS OF SMALLPOX ERADICATION IN THE AMERICAS

(Document presented by the Delegation of Mexico)

Background:

The history of smallpox in Mexico is the history of Mexico itself. The history of this disease, in fact, reflects the gradual development of a people, and the campaign to combat it extends as an unending chain of efforts aimed first at controlling smallpox and, finally, at eradicating it from the country.

In the colonial period, and on through the independence, reform, and revolution periods, smallpox in Mexico was a serious problem, but our country, bent on constructive accomplishments, soon adopted as its own Jenner's motto: Nations have smallpox only because they want it.

In this relentless campaign against smallpox in Mexico, the following facts and individuals are worthy of note:

In 1804, Dr. Francisco Javier de Balmis arrived in Mexico from Spain as chief of a campaign against smallpox, which he had organized in the mother country. The vaccine for human use was given by Dr. Balmis to Dr. Miguel Muñoz, who applied it widely throughout Mexico until 1842, when this noble work was passed on to his son, who carried on the task until 1872. He was succeeded by Dr. Malanco, in charge of the work, until 1898, who was followed by Drs. Huici and Bernaldex.

In 1908, following long debate in the National Academy of Medicine and in the Council of Public Health, Dr. Manuell upheld the view that use should be made of calf lymph, which was prepared for the first time, under his directions, by Dr. Alemán Pérez at the old Military Hospital in Mexico City.

Later, in 1915, at the National Bacteriological Institute in Jalapa, Veracruz, Braulio Ramírez prepared smallpox lymph in appreciable amounts and this was of great use in the campaign.

It should be recalled, as a valuable technical detail, that the use of calf vaccine was opposed by a number of physicians of that period, but the controversy was settled in favor of this product through experiments conducted by Dr. Cervera, who prepared smallpox lymph in Mexico City and compared his results with those obtained by Dr. Jos' Tomás Rojas in that same year of 1915 in groups of children from a school in Tacubaya who were immunized with the vaccine. In both cases the percentages of takes were the same.

With the promulgation of the Constitution of 1917, it was established that concern for public health - the greatest wealth of a people - was to be another of the functions of the Government of Mexico. As the result of this measure, the possibility of eradicating smallpox became a reality, and the efforts of the people and of the Government were joined in long-range programs that were to culminate - after the introduction of new means of communication and the general progress of the country - in the elimination of the disease. The last case occurred on 21 April 1951.

#### Epidemiology:

With the eradication of smallpox in Mexico, studies on the epidemiology and statistics of the disease have set a precedent and an example that have served as the basis for the preventive programs, which have been carried out systematically until they now form a regular and routine activity.

During this long period of continued effort, careful studies have been made of all aspects and details of the campaign to conquer smallpox, and these make up a chapter of preventive medicine that covers all stages of vaccination, from the arm-to-arm application that was once made, to the stage of immunization with calf lymph in selected groups and with periodic revaccination.

In Mexico it has been possible to observe that the maximal incidence of the disease occurred during the winter and early spring; and that, in the distribution by age groups, the highest mortality was in children under one year of age, followed by that in children aged one to four years, and finally, as the last major group, by that in children of from five to nine years of age.

#### Present status of the smallpox vaccination program:

The program of smallpox vaccination in Mexico covers the following major aspects:

a) Vaccination of all newborn infants and all susceptible persons detected through constant surveillance, together with periodic revaccination every five years.

b) Surveillance of international travellers and of all migratory movements within the country.

The plan of action includes:

1. Vaccination of inhabitants of all rural areas that are located far from health offices and that, owing to epidemiological conditions (vital statistics, customs, ecology), are considered to be the most exposed because of the low level of protection.

2. Surveillance to make sure that international travelers arriving in the country, particularly those coming from infected countries, have been vaccinated.

3. Taking advantage, for purposes of vaccination and revaccination, of migratory movements during fairs, religious processions, and gatherings of farm laborers that occur in various parts of the country.

4. Prompt investigation, through clinical, epidemiological, and laboratory means, of all suspect cases that are reported occasionally to health offices within the country. To comply with points 1 and 2, the services of the vaccination program maintain specialized mobile squads that systematically cover the rural areas, applying house-to-house vaccinations, and reaching the most remote settlements.

5. Classification of immunized persons, including primo-vaccinated children, up to the point where the results of the reading of the inoculation are obtained. This is a very important point in the program.

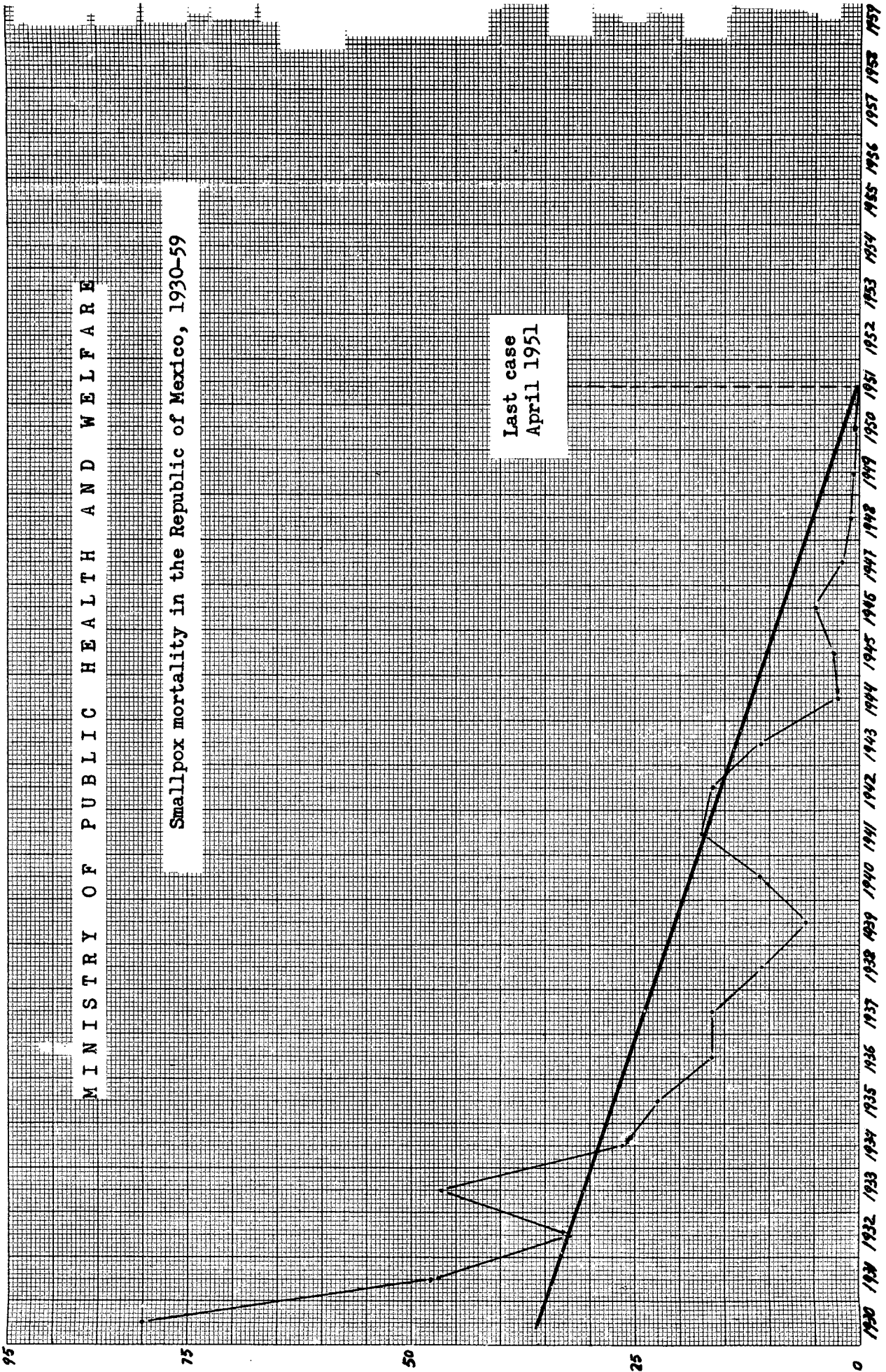
6. Finally, periodic evaluation of various population groups to determine the extent and degree of immunity.

#### Summary:

As a summary of the activities covered in this paper, a graph covering the smallpox campaign in the Republic of Mexico is attached hereto.

MINISTRY OF PUBLIC HEALTH AND WELFARE

Smallpox mortality in the Republic of Mexico, 1930-59



Last case  
April 1951