

THE LEPROSY CENSUS IN MEXICO UP TO 1936

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According to provisions of Article 17 of the Federal Rules of the year 1930, work was initiated in preparation for the first quinquennial census of leprosy. For this census advantage was taken of written obligatory declarations of authorized physicians, some private and others belonging to the institution concerned. This statistical work was finished in 1934. Since then (i.e., in 1935 and 1936) further data have been collected for the second census. These are included here.

The total number of persons known to be infected with leprosy amounts to 3,882. The data on these cases are summarized in Table 1, and will be discussed briefly.

TABLE 1.—*Analysis of data of 3,882 cases of leprosy enumerated in Mexico*

SEX DISTRIBUTION		
Male.....	2,264 cases	(58.3 percent)
Female.....	1,618 cases	(41.7 percent)
AGE DISTRIBUTION		
0 to 5 years.....	2 cases	(0.05 percent)
6 to 9 years.....	22 cases	(0.57 percent)
10 to 19 years.....	331 cases	(8.5 percent)
20 to 29 years.....	852 cases	(21.9 percent)
30 to 39 years.....	1,018 cases	(26.2 percent)
40 to 49 years.....	753 cases	(19.4 percent)
50 to 59 years.....	514 cases	(13.2 percent)
60 to 69 years.....	274 cases	(7.1 percent)
Over 70 years.....	116 cases	(3.0 percent)
FORM OF LEPROSY		
Macular.....	787 cases	(20.2 percent)
Anesthetic.....	780 cases	(20.1 percent)
Nodular.....	1,168 cases	(30.1 percent)
Mixed.....	1,147 cases	(29.5 percent)
ULCERATIONS		
Present.....	2,136 cases	(55.0 percent)
None.....	1,746 cases	(45.0 percent)
TREATMENT RECEIVED		
Some.....	2,088 cases	(53.8 percent)
None.....	1,794 cases	(46.2 percent)

TABLE 1.—(Continued)

FORM OF ISOLATION		
In wards.....	515 cases	(13.3 percent)
At home, properly.....	468 cases	(12.0 percent)
At home, improperly.....	2,899 cases	(74.7 percent)
PROHIBITED TRADES		
Practicing.....	1,078 cases	(27.8 percent)
Not practicing.....	2,799 cases	(72.2 percent)
FAMILY LEPROSY		
Yes.....	751 cases	(19.4 percent)
No.....	3,131 cases	(80.6 percent)
SOCIAL AND ECONOMIC STATUS		
Good.....	513 cases	(13.2 percent)
Bad.....	3,369 cases	(86.8 percent)
CONDITION OF DWELLINGS		
Good.....	988 cases	(25.4 percent)
Bad.....	2,894 cases	(74.6 percent)
CROWDED IN DWELLINGS		
Yes.....	1,848 cases	(47.7 percent)
No.....	2,034 cases	(52.3 percent)
HEALTHY PEOPLE LIVING IN SAME ROOMS		
Children.....	2,717	} (Total 6,739)
Adults.....	4,022	

With regard to sex, men are affected more frequently than women, the number of the former being 2,264 and of the latter 1,618. This gives a ratio of 1.4 : 1. These figures are in agreement with previous findings.

Few cases have been found in children in the first decade of life; there were registered only two single cases under 5 years of age and 22 between 6 to 9 years. There were 331 cases from 10 to 19 years, 852 from 20 to 29, 1018 from 30 to 39, 753 from 40 to 49, 514 from 50 to 59, 274 from 60 to 69, and 116 of more than 70 years. This indicates that the disease is contracted mostly by individuals in the fullness of life, when they should be most useful to society. Toward the end of life the numbers of cases decrease, it being very probable that extreme age confers a certain immunity against leprosy, though it is also to be considered that those who have suffered this disease earlier may not reach great age.

In keeping with what we have observed previously in Mexico and in other countries, the nodular type of the disease prevails above the others. There was a total of 1,168 such cases, and 1,147 of mixed type—altogether 59.6 percent of the whole. The macular and anesthetic types, with 787 and 780 cases, totalled only

TABLE 1.—Results of skin tests.

Antigen	Dosage Mgm. per 0.1 cc.	Degree of reaction				Positive total number	Negative total number	Total number of tests
		1+	2+	3+	4+			
GROUP A: Children of Culion lepers removed from six months to two years after birth and taken to Welfareville near Manila. All have history of contact, some having early or suspected signs or symptoms, others having no signs or symptoms.								
Protein, Leprosy No. 370.....	0.0002	0	0	0	0	0	5	5
	0.005	0	0	0	0	0	3	3
	0.01	5	2	3	0	10	3	13
Polysaccharide, Leprosy No. 370.....	0.005	0	0	0	0	0	3	3
(Saline solution)	0.02	0	0	0	0	0	9	9
	0.04	0	0	0	0	0	13	13
	0.08	6	0	0	0	6	13	19
	0.16	4	0	0	0	4	14	18
Polysaccharide, Leprosy No. 370.....	0.08	2	0	0	0	2	10	12
(Acacia solution)								
Gum acacia, 2 percent (Control).....	2.0	0	0	0	0	0	12	12
Phosphatide, Leprosy No. 370.....	0.005	0	1	0	0	1	3	4
	0.015	0	2	0	0	2	10	12
TPT, Leprosy Karlinski.....	0.01	0	0	1	0	1	5	6
	0.01	3	48	6	0	57	43	100
TPT, Leprosy Phipps L-1.....	0.01	0	1	0	0	1	5	5
	0.01	0	46	13	0	59	41	100
TPT, <i>M. tuberculosis hominis</i>	0.0002	1	0	0	0	1	8	9
	0.005	0	4	2	0	6	6	12
	0.005	1	37	42	10	90	10	100
TPT, <i>M. tuberculosis avium</i>	0.005	5	44	14	5	68	32	100
TPT, Leprosy Daines.....	0.01	0	36	13	2	51	49	100
Leprosin (370) (In olive oil).....	1.0	1	5	0	0	6	24	30
Leprosinic acid (370) (In olive oil).....	1.0	0	24	3	0	27	3	30
Olive oil, pure (Control).....	(Conc.)	7	0	0	0	7	23	30
TPT, <i>M. smegmatis</i>	0.01	0	26	10	0	36	64	100
TPT, Leprosy Karlinski, Daines and L-1 (mixed)	0.01	4	8	4	0	16	14	30
GROUP B: Boys and girls of the training school at Welfareville near Manila. No history of contact with leprosy, and no signs or symptoms.								
Protein, Leprosy No. 370.....	0.01	0	2	0	0	2	8	10
Polysaccharide, Leprosy No. 370.....	0.04	4	0	0	0	4	6	10
(Saline solution)	0.08	0	0	0	0	0	19	19
	0.16	1	0	0	0	1	37	38
Phosphatide, Leprosy No. 370.....	0.015	8	0	0	0	8	2	10
Leprosin (370) (In olive oil).....	1.0	0	3	0	0	3	27	30
Leprosinic acid (370) (In olive oil).....	1.0	0	27	3	0	30	0	30
Olive oil, pure (Control).....	(Conc.)	0	0	0	0	0	30	30
TPT, <i>M. marinum</i> No. 2.....	0.01	0	4	4	0	8	1	9
TPT, Leprosy Duval.....	0.01	0	4	5	0	9	0	9
TPT, Leprosy Karlinski.....	0.01	0	1	4	0	5	4	9
	0.01	9	49	3	0	61	39	100
TPT, Leprosy Phipps L-1.....	0.01	0	1	4	0	5	4	9
	0.01	5	58	2	0	65	35	100
TPT, Leprosy Daines.....	0.01	5	62	2	0	69	31	100
TPT, <i>M. tuberculosis hominis</i>	0.005	0	4	3	0	7	3	10
	0.005	2	47	42	1	92	8	100
TPT, <i>M. tuberculosis avium</i>	0.005	1	55	31	0	87	13	100
TPT, <i>M. smegmatis</i>	0.01	3	51	3	0	57	43	100
TPT, Leprosy Karlinski, Daines and L-1 (mixed)	0.01	1	13	4	4	22	8	30
Gruskin antigen (Blood fibrin, lepers').....	(Conc.)	0	0	0	0	0	9	9
GROUP C: Advanced cases of leprosy at San Lazaro Hospital, Manila. All clinically and bacteriologically positive.								
Protein, Leprosy No. 370.....	0.01	2	2	0	0	4	26	30
Polysaccharide, Leprosy No. 370.....	0.08	0	0	0	0	0	10	10
(Saline Solution)								
Phosphatide, Leprosy No. 370.....	0.01	1	0	0	0	1	29	30
Leprosin (370) (In olive oil).....	1.0	0	0	0	0	0	30	30
Leprosinic acid (370) (In olive oil).....	1.0	0	9	0	0	9	21	30
Olive oil, pure (Control).....	(Conc.)	0	0	0	0	0	30	30
TPT, <i>M. marinum</i> No. 2.....	0.01	2	0	1	0	3	7	10
TPT, Leprosy Duval.....	0.01	4	2	0	0	6	4	10
TPT, <i>M. smegmatis</i>	0.01	1	21	1	3	26	74	100
TPT, Leprosy Karlinski.....	0.01	1	18	1	0	20	80	100
TPT, Leprosy Phipps L-1.....	0.01	2	26	3	1	32	68	100
TPT, Leprosy Daines.....	0.01	3	24	1	1	29	71	100
TPT, <i>M. tuberculosis hominis</i>	0.005	0	44	29	12	85	15	100
TPT, <i>M. tuberculosis avium</i>	0.005	3	44	5	2	54	46	100
TPT, Leprosy Karlinski, Daines and L-1 (mixed)	0.01	1	17	1	2	21	9	30
Gruskin antigen (Blood fibrin, lepers').....	(Conc.)	0	0	0	0	0	10	10
GROUP D: Advanced cases of leprosy at Culion Leper Colony. All clinically and bacteriologically positive.								
TPT, <i>M. tuberculosis hominis</i>	0.005	9	43	14	0	66	29	95
TPT, <i>M. phlei</i>	0.01	20	30	4	0	54	41	95
TPT, Leprosy, rat.....	0.01	31	29	8	0	68	27	95
TPT, Leprosy Phipps L-1.....	0.01	31	32	6	0	69	26	95
TPT, Leprosy Daines.....	0.01	28	37	7	0	72	23	95
TPT, Leprosy Karlinski.....	0.01	26	21	7	0	54	41	95
GROUP E: Cases of leprosy admitted to the Eversley Childs Treatment Station, Cebu, within three months. Received little treatment. All cases clinically and bacteriologically positive.								
Polysaccharide, Leprosy No. 370.....	0.16	3	0	0	0	3	58	61
(Saline solution)								
TPT, <i>M. tuberculosis hominis</i>	0.0002	0	0	0	0	0	31	31
	0.005	17	20	2	0	39	38	77
TPT, <i>M. tuberculosis bovis</i>	0.005	0	2	0	0	2	1	3
TPT, Leprosy Duval.....	0.01	5	8	0	0	13	17	30
TPT, Leprosy Karlinski.....	0.01	8	0	0	0	8	25	33
Leprosinic acid (370) (In olive oil).....	1.0	1	0	0	0	1	2	3
GROUP F: Preparole cases of leprosy at the Culion Leper Colony. Bacteriologically negative.								
TPT, <i>M. tuberculosis hominis</i>	0.005	15	51	20	0	86	6	92
TPT, <i>M. phlei</i>	0.01	26	37	6	0	69	23	92
TPT, Leprosy Phipps L-1.....	0.01	37	30	5	0	72	20	92
TPT, Leprosy Daines.....	0.01	24	42	7	0	73	19	92
TPT, Leprosy Karlinski.....	0.01	32	32	5	0	69	23	92
TPT, Leprosy, rat.....	0.01	38	31	6	0	75	17	92
GROUP G: Preparole cases of leprosy at the Eversley Childs Treatment Station, Cebu. Bacteriologically negative.								
TPT, <i>M. tuberculosis hominis</i>	0.005	2	64	10	2	78	22	100
TPT, Leprosy Duval.....	0.01	20	33	0	0	53	47	100
TPT, Leprosy Karlinski.....	0.01	13	16	0	0	29	71	100
GROUP H: Family groups at Talisay, Cebu. These individuals were members of 24 different families. In each family there was, or had been, a case of leprosy. These individuals had history of contact, but no signs or symptoms of the disease.								
TPT, <i>M. tuberculosis hominis</i>	0.005	3	57	8	2	70	39	109
TPT, <i>M. tuberculosis bovis</i>	0.005	5	38	11	1	55	54	109
TPT, Leprosy Karlinski.....	0.01	7	47	0	0	54	55	109
Leprosinic acid (370) (In olive oil).....	1.0	19	15	0	0	34	75	109
GROUP I: Physicians, nurses, attendants at the Culion Leper Colony. History of contact, but no signs or symptoms of the disease.								
TPT, <i>M. tuberculosis hominis</i>	0.005	6	30	7	1	44	38	82
TPT, <i>M. phlei</i>	0.01	17	53	1	0	71	13	84
TPT, Leprosy Phipps L-1.....	0.01	17	48	0	0	65	19	84
TPT, Leprosy Daines.....	0.01	14	58	4	0	76	8	84
TPT, Leprosy Karlinski.....	0.01	13	55	1	0	69	15	84
TPT, Leprosy, rat.....	0.01	18	54	2	0	74	10	84
GROUP J: Physicians, clerks, other employees at Talisay and at the Eversley Childs Treatment Station, Cebu. History of contact, but no signs or symptoms of leprosy.								
TPT, Leprosy Duval.....	0.01	2	15	0	0	17	0	17
TPT, <i>M. tuberculosis hominis</i>	0.005	1	0	0	0	1	0	1
GRAND TOTAL.....								5,174

a little over 40 percent. A majority (2,136) of the lepers had open sores; 1,746 had none.

It may be added here that bacteriological examinations were made in 1,256 cases; the remaining 2,626 not being examined. Positive results were reported in 911 cases, negative in 345.

A little more than one-half of the cases registered, 2,088, had had treatment, while 1,794 had not had any.

There are in the country 2,899 known lepers who are improperly separated in their dwellings from other people. There are 468 living at home reported as properly isolated, and 515 in wards. Prohibited trades were being followed by 1,078 individuals.

Cases of familial leprosy were relatively frequent, this condition pertaining to 751 of the cases registered. Cases occurring in the second, third and fourth generations were not rare. Conjugal leprosy was also fairly frequent.

Only 513 of the persons concerned were of good social and economical position; the rest (3,369) were of very poor status. The same must be said with regard to their education; while 531 were well educated, 3,351 had a poor one or none at all.

The dwellings of 988 of those who had the disease were good, but those of a great majority (2,894) were bad. Nearly one-half (1,848) of these leprous people were living under crowded conditions; 2,034 were not. In this connection it is a disturbing fact that 6,739 nonleprous persons were living in the same rooms with their leprous relatives. In the majority of instances these rooms were the only ones that they had. Among these people there were 2,717 children, who on account of their age are especially liable to be infected.

This census has confirmed the existence of the traditional foci of this endemic disease. The Federal District, with 603 cases, is one of the most important of them. However, this focus in the central part of the country has been formed by immigration of lepers, mostly from other, more important foci. These people, most of whom wander about the city, constitute a very serious problem for the health of the capital of the Republic. The State of Jalisco comes first with 682 cases, followed by Guanajuato with 601, Michoacan with 501, Sinaloa with 365, Colima with 139, and other federal entities with less than 100. (See Text-fig. 1)

In accordance with the provision in the fourth resolution approved by the third International Leprosy Conference, which



TEXT-FIG 1.—Graphic representation of the numbers of leprosy cases in the different political subdivisions of Mexico.

took place at Strasbourg in 1933, from which resolution we made Section IV of Article 23 of our Rules, we have conducted a search for suspicious cases at the same time that we made the census of actual lepers. Our attention was directed to the families or near relatives of those who were suffering the disease. Medical examinations were made, individually and periodically, on 15,424 of these contacts, with the result that 98 persons were found to be leprosy who ordinarily would have escaped observation. This result fully supports the conclusion reached by the Strasbourg Conference.