

directing council

regional committee



PAN AMERICAN  
HEALTH  
ORGANIZATION

XVII Meeting

WORLD  
HEALTH  
ORGANIZATION

XIX Meeting



Port-of-Spain  
Trinidad and Tobago  
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POLIOMYELITIS IN THE AMERICAS, 1951-1966

In the last ten years immunization against poliomyelitis has been available, producing dramatic reductions in morbidity and mortality from the disease in several countries. An analysis of the situation in each country over the past fifteen years shows the extent to which the benefits from extensive use of vaccines against poliomyelitis have been attained in the Americas.

In 1951, almost 35,000 cases of poliomyelitis were reported in the Region and of these over 31,000 were in the United States and Canada and only 4,000 in the remainder of the Region. By 1965, only 2,988 cases were reported, of which 2,913 were in Latin America. The total numbers(1) of cases reported from 1951 through 1966 are shown for three divisions of the Americas with rates per 100,000 population (Table 1). The change in Northern America is dramatic from a high of 62,876 cases in 1952 to a low of 75 cases in 1965. In both Middle and South America the annual numbers of cases show considerable variation ranging in Middle America from a high of 3,110 cases in 1954 to a low of 759 cases in 1964, and in South America from a high of 8,204 cases in 1956, to a low of 1,646 cases in 1965. Overall a decline in the period is evident in the two regional divisions. However, decreases have not been observed in all countries and epidemics continue to occur.

In 1967, localized epidemics of poliomyelitis have been reported in Colombia, Ecuador and Nicaragua. The following numbers of cases have been reported for similar periods in 1966 and 1967 for these countries:

		<u>1967</u>	<u>1966</u>
Colombia	- through April 16	254	45
Ecuador	- through August 26	358	104
Nicaragua	- through August 19	458	2

The outbreak in Cali, Department of Valle del Cauca, Colombia, began in October 1966 and ended in early March 1967. Of the total of 151 cases, 55 occurred in 1966. In the first 12 weeks of 1967, 136 cases were reported in Valle del Cauca.

Reported cases of poliomyelitis began to increase in Nicaragua during April and May and reached a high level in June; a decline occurred in July. Of the total of 458 cases for Nicaragua through 19 August 1967, 208 were in the Department of Managua and 166 in four neighboring departments; 43 deaths were recorded.

Table 1

Reported Cases of Poliomyelitis with Rates per 100,000  
Population in the Three Regions of the Americas,  
1951-1966

Year	Northern America		Middle America		South America (a)	
	Number	Rate	Number	Rate	Number	Rate
1951	31,006	18.4	2,239	4.8	1,730	3.5
1952	62,876	36.8	1,547	3.2	1,814	3.7
1953	44,595	25.6	2,429	4.9	3,849	7.4
1954	41,448	23.4	3,110	5.7	2,189	4.0
1955	30,248	16.7	2,911	5.2	2,230	4.1
1956	15,820	8.6	1,396	2.3	8,204	14.3
1957	5,773	3.1	2,820	4.6	2,261	3.9
1958	6,190	3.2	1,973	3.1	2,470	4.1
1959	10,314	5.3	3,005	4.6	2,762	4.4
1960	4,102	2.1	2,640	3.9	2,759	4.3
1961	1,501	0.7	1,532	2.2	2,950	4.5
1962	1,001	0.5	933	1.3	3,407	5.1
1963	572	0.3	1,451	2.0	2,954	4.4
1964	141	0.1	769	1.0	2,614	3.6
1965	75	0.0	1,267	1.6	1,646	2.2
1966(b)	102	0.0	1,267	1.6	1,680	2.2

(a) Excluding Brazil.

(b) Including provisional data.

In Guayaquil, Ecuador, 262 cases with 21 deaths were reported by the end of August. No information regarding cases in September has been received. Other parts of the coastal region are reported to have increased incidence; specifically, there has been an outbreak of 21 cases in Portoviejo, Province of Manabí.

All three epidemics reported have affected principally preschool children. The percentage of cases under 6 years of age was given as 85 in Cali and 94 in Guayaquil; in Nicaragua 93 per cent were of children under 5 years and 79 per cent under 3 years of age. Type I virus was identified in all three outbreaks.

A smaller outbreak of 31 cases in the Department of Piura, Peru, in 1967, also affected principally young children with 95 per cent of the cases in persons under 4 years of age.

In Tables 2 and 3 and in the figure presented, data regarding reported cases and rates per 100,000 population are given by country and year, for the period 1952-1966. The marked declines in case rates in the United States and Canada are clear. In Middle America reductions in reported case rates are observed for Costa Rica, Cuba, Mexico and Trinidad and Tobago. In Mexico an increase was noted in 1966. In Haiti, cases in 1958 numbered 238 and in other years only a few cases were reported.

Table 2. Reported Cases of Acute Poliomyelitis, by Country, 1952-1966

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966 <sup>(a)</sup>
Argentina	695	2,579	871	435	6,496	760	842	1,030	1,097	1,197	1,082	955	557	260	574
Barbados	-	3	1	-	-	1	-	6	-	-	7	79	-	-	-
Bolivia	7	2	-	1	18	14	3	5	-	3	3	1	10	41	b) 14
Brazil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Canada	4,755	8,878	2,390	1,021	607	273	323	1,886	905	189	89	123	19	3	3
Chile	575	554	589	416	719	333	328	456	546	648	441	115	363	206	130
Colombia (c)	29	154	110	155	108	169	230	234	233	170	581	397	755	330	489
Costa Rica	13	9	1,081	45	170	51	63	41	66	34	50	18	10	15	10
Cuba	492	68	56	267	56	96	103	288	330	348	46	1	1	-	-
Dominican Republic	-	7	-	-	18	4	5	321	29	17	29	357	17	46	17
Ecuador	47	37	62	40	30	42	37	43	36	97	49	169	89	217	148
El Salvador (d)	10	151	40	9	54	68	43	60	48	58	37	95	20	81	36
Guatemala	112	140	139	86	146	107	85	159	78	147	111	176	74	210	118
Guyana	2	2	3	2	4	100	-	2	1	2	182	311	-	-	-
Haiti	...	...	7	-	15	45	238	122	39	25	12	5	23	5	e) 4
Honduras (f)	...	...	...	...	17	20	87	13	27	48	10	27	38	265	38
Jamaica	2	4	759	71	14	395	92	18	132	16	25	15	57	53	6
Mexico	771	1,787	609	1,824	594	1,562	904	1,877	1,125	740	483	486	404	477	1,024
Nicaragua	24	191	45	113	48	68	255	20	211	70	13	151	47	105	3
Panama	26	15	15	9	144	8	11	24	29	27	65	13	20	9	4
Paraguay	40	59	70	37	115	35	18	27	43	39	25	67	40	18	14
Peru	127	79	73	203	294	291	491	435	453	373	598	581	553	444	138
Trinidad and Tobago	6	1	189	16	9	300	27	15	14	3	12	15	4	-	1
United States	57,879	35,592	38,476	28,985	15,140	5,485	5,787	8,428	3,190	1,312	910	449	122	72	99
Uruguay	26	56	86	551	71	49	162	55	15	51	50	2	22	12	23
Venezuela	266	327	325	390	340	468	359	475	333	370	393	316	226	118	150

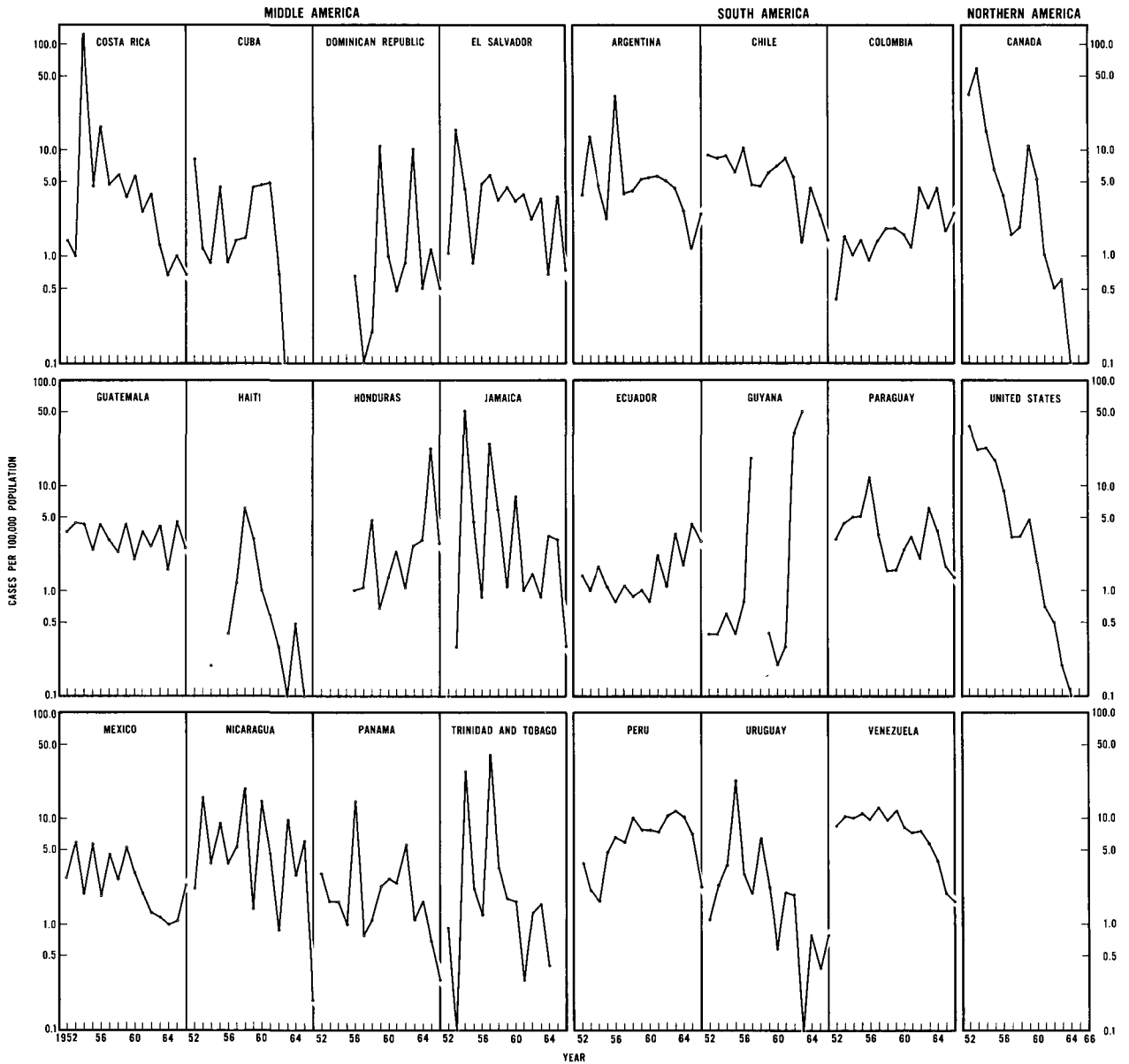
(a) Provisional data for Chile, Guatemala, Guyana, Haiti, Nicaragua, United States, Uruguay and Venezuela. (b) Reporting area. (c) Reporting area until 1963 inclusive. (d) Reporting area, except in 1963 and 1964. (e) Incomplete data. (f) Reporting area beginning 1962. (g) Reporting area except in 1966.

Table 3. Reported Cases of Acute Poliomyelitis per 100,000 Population, by Country, 1952-1966

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966(a)
Argentina	3.9	14.2	4.7	2.3	33.7	3.9	4.2	5.1	5.3	5.7	5.1	4.4	2.5	1.2	2.5
Barbados	-	1.4	0.1	-	-	0.4	-	2.6	-	-	3.0	33.3	-	-	-
Bolivia	0.2	0.1	-	0.0	0.6	0.4	0.1	0.1	-	0.1	0.1	0.0	0.3	1.1	b)0.8
Brazil	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Canada	32.8	59.6	15.6	6.5	3.8	1.6	1.9	10.8	5.1	1.0	0.5	0.6	0.1	0.0	0.0
Chile	9.1	8.6	8.9	6.1	10.3	4.7	4.5	6.1	7.1	8.2	5.5	1.4	4.3	2.4	1.5
Colombia (c)	0.4	1.6	1.0	1.4	0.9	1.4	1.9	1.9	1.7	1.2	4.3	2.8	4.3	1.8	2.6
Costa Rica	1.5	1.0	118.0	4.7	17.2	4.9	5.9	3.6	5.6	2.8	3.9	1.3	0.7	1.0	0.7
Cuba	8.5	1.2	0.9	4.3	0.9	1.5	1.6	4.3	4.8	5.0	0.7	0.0	0.0	-	-
Dominican Republic	-	0.3	-	-	0.7	0.1	0.2	11.0	1.0	0.5	0.9	10.6	0.5	1.3	0.5
Ecuador	1.4	1.0	1.7	1.1	0.8	1.1	0.9	1.0	0.8	2.2	1.1	3.5	1.8	4.2	2.8
El Salvador (d)	1.1	16.9	4.4	0.9	4.9	5.9	3.4	4.5	3.3	3.9	2.4	3.5	0.7	3.7	0.7
Guatemala	3.8	4.6	4.4	2.6	4.3	3.1	2.4	4.3	2.0	3.7	2.7	4.2	1.7	4.7	2.6
Guyana	0.4	0.4	0.6	0.4	0.8	19.4	-	0.4	0.2	0.3	30.6	50.8	-	-	-
Haiti	...	...	0.2	-	0.4	1.2	6.2	3.1	1.0	0.6	0.3	0.1	0.5	0.1	e)0.1
Honduras (f)	...	...	...	...	1.0	1.1	4.8	0.7	1.4	2.4	1.1	2.7	3.0	23.2	2.8
Jamaica	0.1	0.3	51.5	4.7	0.9	25.7	5.9	1.1	8.1	1.0	1.5	0.9	3.3	3.0	0.3
Mexico	2.8	6.2	2.1	6.0	1.9	4.8	2.7	5.4	3.1	2.0	1.3	1.2	1.0	1.1	2.3
Nicaragua	2.2	16.6	3.8	9.3	3.8	5.3	19.2	1.5	15.0	4.8	0.9	9.8	2.9	6.3	0.2
Panama	3.1	1.7	1.7	1.0	15.2	0.8	1.1	2.3	2.7	2.5	5.8	1.1	1.7	0.7	0.3
Paraguay (b)	3.1	4.5	5.2	5.2	12.3	3.4	1.6	1.6	2.5	3.3	2.0	6.1	3.6	1.7	1.3
Peru (b)	3.7	2.1	1.8	4.9	6.7	6.1	10.1	8.1	8.1	7.6	11.6	12.1	10.2	7.3	2.3
Trinidad and Tobago	0.9	0.1	27.1	2.2	1.2	39.2	3.4	1.8	1.7	0.3	1.3	1.6	0.4	-	0.1
United States	37.0	22.4	23.8	17.6	9.0	3.2	3.3	4.8	1.8	0.7	0.5	0.2	0.1	0.0	0.1
Uruguay	1.1	2.4	3.7	23.3	3.0	2.0	6.6	2.2	0.6	2.0	1.9	0.1	0.8	0.4	0.8
Venezuela (g)	8.9	10.8	10.1	11.7	9.8	13.0	9.6	12.3	8.3	7.3	7.4	5.7	3.9	2.0	1.7

- (a) Provisional data for Chile, Guatemala, Guyana, Haiti, Nicaragua, United States, Uruguay and Venezuela.  
 (b) Reporting area. (c) Reporting area until 1963 inclusive. (d) Reporting area, except in 1963 and 1964.  
 (e) Incomplete data. (f) Reporting area beginning 1962. (g) Reporting area, except in 1966.

REPORTED CASES OF ACUTE POLIOMYELITIS PER 100,000 POPULATION IN SELECTED COUNTRIES OF THE AMERICAS, 1952-1966



In Panama 65 cases were reported in 1962 and in the following years only small numbers. No definite decline appears in the other countries. In South America the number of reported cases of the disease per 100,000 population has decreased in Argentina, Chile, Uruguay and Venezuela. In Peru the case rate was low (2.3 per 100,000 population) in 1966 as compared to those for the previous years; in 1963, 12.1 cases per 100,000 population were reported. In several of the countries in this region increases are apparent, perhaps resulting from improved reporting of the disease.

In most of the countries where the decline has been marked, extensive vaccination programs have been carried out in recent years (Table 4). In the United States widespread application of inactivated poliovaccine began in 1955, followed by extensive use of oral poliovaccine, commencing in 1961. By the end of 1965, based on a sample survey (2) over 80 per cent of the population under 20 years of age had received either inactivated polio vaccine or oral poliovaccine. The poliovaccine status for four age groups (per cent of population with completed series of inactivated or oral poliovaccine) was as follows:

1-4	Years	73.9	per cent
5-9	Years	89.9	per cent
10-14	Years	92.1	per cent
15-19	Years	88.3	per cent

Similarly extensive use of both inactivated vaccine and of oral vaccine was made in Canada. In Argentina, Cuba, Mexico, Chile, Uruguay and Venezuela large numbers of children had also been vaccinated.

Following the mass vaccination programs in Cuba, no cases of poliomyelitis were reported in 1965 or 1966. In several of the other countries the decreases have not been as marked. The coverage by immunization may not have been sufficient or vaccination may not have been routinely carried out for children born after the mass vaccination programs.

Wide differences in the age distribution of cases of poliomyelitis are noted in the United States and Canada and the Latin American countries (Table 5). In 1956-1957 only 31 per cent of cases of poliomyelitis in Northern America were of children under 5 years of age (4 per cent under one year and 27 per cent from 1-4 years) and the percentage was similar for those 15 years of age or over (34). In contrast in Middle and South America over 75 per cent of cases for which age data were available were under 5 years in both regions and only 10 and 7 per cent were of persons 15 years or over. By 1960-1961 the percentage under 15 years of age had increased to 37.4 per cent in Northern America and to 80 and 84 per cent in Middle and South America. By the period 1965-1966 when only 174 cases were reported in the United States the percentage for those under 5 years of age had increased to 68 per cent and for those 15 years of age and over had decreased to 16 per cent. Similarly in the two regional divisions of Latin America the percentage under 5 years had increased to 88 per cent in Middle America and 90 per cent in South America.

Table 4. Persons Immunized Against Poliomyelitis, by Country, 1961-1966

Country	1961	1962	1963	1964	1965	1966
Argentina	800,000	600,000	—5,000,000—	...	...	...
Barbados	290	347	a, b) 49,488	1,705	...	...
Bolivia	...	47,411	102,696	1,346	10,505	71,797
Brazil (c)	...	1,006,888	104,558	629,065	353,074	...
Canada	...	...	d) 500,000	2,850,000	...	...
Chile	16,883	913,169	90,433	545,466	261,429	...
Colombia	...	...	a) 76,592	18,428	29,364	92,421
Costa Rica	1,189	5,000	a) 164,028	a) 27,207	...	...
Cuba	546,710	2,219,907	185,261	218,347	230,716	234,985
Dominican Republic	2,709	...	580,209	...	...	...
Ecuador	...	...	...	228,533	...	22,421
El Salvador	...	...	5,621	...	174	...
Guatemala	28,400	12,550	15,200	...	...	...
Guyana	1,424	...	120,000	...	...	...
Haiti	...	8	...	...	...	...
Honduras	5,534	21,179	9,129	18,148	309,647	...
Jamaica	6,417	17,565	e) 103,446	16,261	44,219	...
Mexico	3,935,450	7,305,401	6,218,666	7,656,523	4,926,976	700,929
Nicaragua	...	398	7,198	20,177	102,979	...
Panama	614	2,669	73,065	40,415	8,946	11,775
Paraguay	f) 849	f) 513	...	g) 24,737	266,789	...
Peru	7,800	20,078	94,516	75,731	40,785	...
Trinidad and Tobago	h) 90	h) 122	...	...	...	...
United States	i) —	100,000,000	—	—	25,000,000	...
Uruguay	...	735,234	...	...	...	...
Venezuela	210,243	207,189	232,604	167,503	724,305	...

(a) Number of doses administered. (b) Incomplete data. (c) Interior of State of São Paulo. (d) Minimum estimate. (e) In addition 44,382 doses administered. (f) Data for capital. (g) Provisional data. (h) Excluding data from school program. (i) Approximate number of doses of each type of monovalent oral vaccine administered. (j) Approximate number of doses of all types of vaccine sold or distributed.

Table 5

Number of Reported Cases of Poliomyelitis by Age Group  
for Three Periods by Regions of the Americas

Age Group	1956-1957		1960-1961		1965-1966	
	Number	Per cent	Number	Per cent	Number	Per cent
Northern America						
Total	19,623	100	5,547	100	174	100
Under 1	795	4.1	250	4.6	117	67.6
1-4	5,259	27.0	1,801	32.8	19	11.0
5-9	4,215	21.6	1,345	24.5	10	5.8
10-14	2,503	12.8	597	10.9	27	15.6
15 and over	6,737	34.5	1,490	27.2	1	
Not stated	114		64			
Middle America						
Total	1,906	100	989	100	445	100
Under 1	287	15.2	185	18.9	86	21.5
1-4	1,137	60.0	596	60.8	268	67.0
5-9	174	9.2	119	12.1	32	8.0
10-14	102	5.4	32	3.3	7	1.8
15 and over	194	10.2	48	4.9	7	1.8
Not stated	12		9		45	
South America						
Total	9,574	100	3,151	100	1,292	100
Under 1	1,788	18.8	793	25.4	367	28.7
1-4	5,520	57.9	1,827	58.6	786	61.4
5-9	1,128	11.8	243	7.8	79	6.2
10-14	443	4.6	113	3.6	29	2.3
15 and over	653	6.9	140	4.5	19	1.5
Not stated	42		35		12	

Note: These regional totals by age are based on limited data available for only a few countries which vary for the three periods.



Interpretation of these findings is complicated. In the United States the highest incidence was in Texas in Pre-school children. This age group was not adequately vaccinated. Serological studies in various countries of the Hemisphere have shown that there is great activity of poliomyelitis viruses, even in areas where the disease was clinically unknown. At the same time, however, improved environmental sanitation and rising living standards in various regions have reduced the spread of the enteric viruses. Population groups formerly subject to poliomyelitis infection in the first months of life are no longer exposed, which means that increasingly larger groups remain susceptible. There is considerable variation by country indicating the need of data by age for evaluation of the changes in each country.

The lower proportions of cases of adults in the three regions may result from a higher level of immunity whether through vaccination or a broader contact with the virus in the community.

The actual situation of poliomyelitis vaccination programs was considered at the XII Meeting of the Ministers of Health of Central America and Panama (3) with the following conclusion: "It is recommended that the countries of Central America reorient the programs of vaccination against poliomyelitis on the basis of definite knowledge of the problem establishing useful levels of protection in the most susceptible age group, without neglecting the new susceptibles added to the population."

Sabin (4) has commented on the problem that even when mass vaccination programs reached as much as 90 per cent of the susceptible age groups as in the Brazilian States of Guanabara and Sao Paulo, continuous migration of unvaccinated children as well as insufficient coverage in localized regions contribute to the continued occurrence of cases.

The important role of health services should be emphasized, both in providing preventive services and in ensuring the adequate diagnosis and control of the disease. The effects of vaccination programs initiated during epidemics have proven to be limited when compared with those of large scale mass programs followed by continuing vaccination activities.

#### REFERENCES

1. Reported Cases of Notifiable Diseases in the Americas, PAHO, Sc. Pub. Nos. 48, 58, 86, 102, 114, 135 and 149.
2. Poliomyelitis Surveillance, Annual Summary for 1965, Communicable Disease Center, No. 288, 1966, U.S.P.H.S.
3. "Situación Actual de la Poliomiélitis, Programa de Vacinación," Documento de Trabajo, Tema 10, XII Reunión de Ministros de Salud Pública de Centroamérica y Panamá, 1967.
4. Poliomyelitis: Accomplishments of Live Virus Vaccine, A.B. Sabin, Paper in Vaccines Against Viral and Rickettsial Diseases of Man, PAHO, 1967.

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Agenda Item 33

CD17/32 (Eng.)  
7 October 1967  
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STATEMENT ON THE ITEM PREPARED BY THE GOVERNMENT OF NICARAGUA  
AT THE XVII MEETING OF THE DIRECTING COUNCIL OF THE PAN AMERICAN  
HEALTH ORGANIZATION, XIX MEETING OF THE REGIONAL COMMITTEE OF  
THE WORLD HEALTH ORGANIZATION FOR THE AMERICAS

ONE DAY MASS VACCINATION AGAINST POLIOMYELITIS

Mr. Chairman:

Fellow Representatives:

It is a pleasure for me to speak to the XVII Meeting of the Directing Council of the Pan American Health Organization, XIX Meeting of the Regional Committee of the World Health Organization, on the item entitled "One-day mass vaccination against poliomyelitis, based on electoral districts", which was included in the agenda at the suggestion of my Government and through the kindness of the Director of the Pan American Sanitary Bureau, Dr. Abraham Horwitz. It is even a greater pleasure for me to be able to put before this important Pan American Meeting the idea of his Excellency the President of the Republic of Nicaragua, General of Division, Anastasio Somoza Debayle, of basing the vaccination campaign on the electoral districts and using the voting lists as vaccination lists.

On 1 May 1967, I took office as Minister of Public Health, in response to the wishes of the President. Confronted with a terrible and widespread epidemic that afflicted the children of Nicaragua, I began faithfully to discharge my civic duties and to deal firmly and decisively with it. The first measure I ordered against this terrible scourge was for intensive vaccination to be carried out in all health centers in the country and I requested the Connaught Laboratories of Canada through the Emergency Fund of the Pan American Sanitary Bureau, for the estimated amount of vaccine for immunizing all children under 6 years of age who had not been vaccinated in the routine programs carried out under the national health plan.

At that point we requested PASB for assistance and they immediately sent us an epidemiologist. At the same time I asked the USPHS Communicable Disease Center in Atlanta, Georgia, to send us two other epidemiologists, and they quickly arrived in Managua. In response to the alarm our cables caused in international circles, friendly governments provided us with assistance in one form or another. Their worthy representatives in our country expressed to us their solidarity in the painful hour we were going through. Among these governments, special mention should be made of the USA, Mexico, El Salvador, Honduras, Great Britain, France, Japan, Israel and Egypt. I should like also to mention a number of international institutions including the First Baptist Church of Cleveland, the Catholic Relief Services, Brother's and Brother Foundation and various laboratories and equipment and manufacturing houses that sent us assistance. Since it was impossible to moderate the epidemic case rate, which was steadily increasing with a growing number of cases in the age-group up to 15 years, the epidemiologists suggested that arrangements be made for the mass vaccination of the population between the ages of 3 months and 15 years. At that moment it crossed my mind to put into effect the suggestion of the President of my country, namely, that we use the electoral districts of the Republic which cover the entire extent of the national territory.

To give you some idea of these districts and of the personnel that helped to bring the one-day mass immunization campaign to a successful conclusion, I must tell you that an electoral district covers a geographical area the average population of which is 400 voters of both sexes over 18 years of age, representing a population of 1,000 in all age groups. The total population of Nicaragua is covered by 1,572 electoral districts, plus 493 additional polling booths. Each electoral district has a Board of Directors consisting of a Chairman and a representative of each of the political parties, and the whole electoral system comes under one of the State Authorities known as the Electoral Authority. The mass poliomyelitis vaccination campaign based on electoral districts was carried out as follows:

1. Policy-Making Stage:

- 1.1 In view of the seriousness of the epidemic, the Technical Health Council, under my authority, declared a state of national emergency in agreement with the Pediatric Society.
- 1.2 The Technical Council met with the Electoral Authority, Ministry of Public Education, Civic Organizations, such as: the Firemen's Association, the Red Cross, Service Clubs, Press Association, the National Guard; with the PASB advisers; with businessmen and other community leaders, and declared 9 July and 20 August "National Poliomyelitis Vaccination Day, 1st and 2nd Dose" respectively, for those children who had not been immunized.

- 1.3 All the community leaders represented at the above-mentioned meeting turned to the Government and voluntary personnel and members of associations, under their jurisdiction, so as to coordinate their efforts with the National Health Authorities at the various levels.
  - 1.4 An Executive Committee for the Plan of the National Poliomyelitis Vaccination Campaign was organized, as were subsidiary committees at the departmental, municipal and district level.
  - 1.5 The departmental health educators were brought to the capital to receive instructions on putting the plan into effect in each department, municipality and district.
  - 1.6 The population to be vaccinated was defined: that under 15 years of age.
  - 1.7 The vaccine to be administered was distributed by department, municipality, and canton.
  - 1.8 Leaflets were distributed containing instructions on indications, doses, contra-indications, storage of vaccine, siting of vaccination stations, vaccinators, vaccination lists, vaccination booklets and the dispatch of vaccination reports to the municipal, departmental and district authorities.
  - 1.9 Intensive health education activities through the Press, Radio, and Television with the view to motivating the population to take part in the program.
  - 1.10 A meeting of the health authorities with community leaders at all levels in order to coordinate efforts or to instruct them on standards for the implementation of the plan.
  - 1.11 Medical supervisors, nurses, and teachers were organized at the central level to cover the various areas of the country.
2. Operational Stage:
- 2.1 The vaccination stations opened their doors at 7 a.m. and were instructed not to close them until vaccine had been administered to the last person who asked for it that day.
  - 2.2 At the local level the vaccination stations were manned by members of the electoral district board as well as by volunteers but they were supervised by technical staff from the Ministry of Health at all times.

- 2.3 The vaccine was administered by a person previously trained for that purpose, generally the district Chairman or a schoolmaster.
- 2.4 The national radio station was installed in the office of the Minister and, on their own initiative, all the other radio stations in the country were hooked up with it so that the citizens were kept constantly informed of the development of the campaign; bulletins were issued on the administration and maintenance of the vaccine.
- 2.5 Vaccine and personnel requirements were taken care of by national communication services. Valuable cooperation was also received from the National Guards whose airplanes made special parachute drops of the thermos flasks containing the vaccine in difficult or inaccessible places. In addition, full collaboration was received from the Automobile Club of Nicaragua in ensuring safe and efficient land transportation.
- 2.6 Vaccinations were performed on 9 July and, in the same way, six weeks later, on the 20th of August, when the second dose was given. However, the second time many of the difficulties that had occurred on the first day were overcome.
- 2.7 On both days the lists of vaccinees began to arrive in the evening and were then tabulated by the Division of Biostatistics. These data are to be found in the document which has been distributed.

During the course of those tragic three months, 458 cases occurred. Fifty four children died while battling death in an iron lung. Bulbar poliomyelitis destroyed their small organisms in the cruel and hopeless struggle. Nine Emerson pulmotors moved their diaphragms replacing the diaphragms that did not move while seven Bird positive pressure ventilators were simultaneously at work. The physiological blood gas analyzer was of vital importance in evaluating respiratory capacity and, in that bitter and obstinate struggle, all community leaders were at one, forming a solid front with the medical practitioners and the health authorities of the country to stem the deadly advance of that terrible scourge. As an aftermath of that implacable disease many homes are sunk in sadness and many children are broken in body.

When the epidemic broke and the number of cases fell to zero, we then began the long, intensely sad, intensely painful process - which we are courageously facing, of rehabilitating our children crippled by infantile paralysis. Both the President of my country and the First Lady of the Nation, Dame Hope Portocarrero de Somoza, President of the National Medical Care and Social Welfare Board, as well as the Ministry of Public Health, under my authority, and the community at large are constantly working to restore those children to health.

We, Nicaraguans, cannot let this occasion pass without expressing out thanks to the scientists who came to our help and put their scientific knowledge at our disposal. I should like here to express our sincere thanks to the Government and the people of the United States who at all times gave us support and generous assistance. I should also like to express our thanks to that great President of the United States of America, Lyndon B. Johnson who gave us such magnificent help and cooperation; I should like to say the same to the medical personnel of the United States and from international agencies who shared our responsibilities towards the children of Nicaragua.

In the document which has been distributed to you, you will find the details of the history of poliomyelitis in Nicaragua; the history of the most recent epidemic; and the method used on the one-day mass vaccination of the population, in which voting district were used as vaccination areas.

Mr. President,  
Fellow Representatives:

Please accept my most sincere thanks for the attention you have kindly given me and may I take this opportunity to pay tribute to all the officials and staff of the Ministry of Public Health of my country and all the officials and staff of the Ministries of Public Health of the Americas who are so worthily represented here today, the public health workers who tread the highways and byways of the Americas, giving freely of their scientific knowledge in order to improve the social and economic potential of our people.

directing council



PAN AMERICAN  
HEALTH  
ORGANIZATION

XVII Meeting

regional committee

WORLD  
HEALTH  
ORGANIZATION

XIX Meeting



Port-of-Spain  
Trinidad and Tobago  
October 1967

CD17/34 (Eng.)  
10 October 1967  
ORIGINAL: SPANISH

POLIOMYELITIS IN CUBA

(Document submitted by the Government of Cuba)

1962 - 1st Campaign with Sabin trivalent oral vaccine (T<sub>I</sub>, T<sub>II</sub>, T<sub>III</sub>)  
(1 million TCD-50).

Two doses were administered at an interval of 4-6 weeks to children between the ages of 1 month and 14 years.

A serological survey was carried out before and after vaccination.

2,187,855 children were immunized or 87.5 per cent of the population in that age-group.

1963 - The 2nd Campaign was launched: the first dose consisted of bivalent Sabin vaccine (T<sub>II</sub>, T<sub>III</sub>) and 4-6 weeks later a second dose of monovalent (T<sub>I</sub>) vaccine was administered.

Two doses were given to the population between the ages of 1 month and 14 years.

88.1 per cent of this age-group received the first dose and 89.8 per cent (2,293,256 children) the second.

This method of immunization was used since the serological survey made after the first campaign showed that the Virus type I antibody levels were rather low and the question arose of possible interference when the trivalent vaccine was administered. A first dose of T<sub>II</sub>, T<sub>III</sub> was administered in order to prevent possible interference of other viruses with the T<sub>I</sub> that was administered later.

1964 - In the 3rd Campaign two doses of trivalent vaccine were given to the population between the ages of 1 month and 5 years. Children between the ages of 6 and 14 years were given only one dose of trivalent vaccine, since the serological test showed that a good level had been achieved with earlier immunizations.

2,452,438 children between the ages of 1 month and 14 years were immunized or 94.6 per cent of the population in this age-group.

1965 - In the 4th Campaign two doses of trivalent vaccine were administered to children between the ages of 1 month and 4 years, and one dose of the same vaccine to those between the ages of 5 and 6. This was done because serological studies demonstrated optimum levels in children over those ages.

1,019,461 children between the ages of 1 month and 4 years or 97.4 per cent of the population in this age-group were given 2 doses and 375,255 children between the ages of 5 and 6, or 111.2 per cent of the population in this age-group were given 1 dose.

1966 - In the 5th Campaign two doses of trivalent vaccine were administered to children between the ages of 1 month and 2 years and one dose to those between 3 and 4 years of age. The ages were decided in the light of the findings of serological studies.

652,739 children between 1 month and 2 years were immunized or 100.4 per cent of the population in that age-group; 490,474 children between 3 and 4 years or 115.6 per cent of the population.

1967 - In the 6th Campaign only 2 doses of trivalent vaccine were given to children under 2 years of age.

It is planned to continue vaccinating up to the age of two years to ensure that the child receives two doses before it reaches the age of 1 year, and 2 doses before it reaches the end of its second year of life.

A booster dose is given on entering school.

Serological surveys are used for control purposes at all times.

Vaccine is administered during the first three months of life to prevent other enteroviruses interfering with the immunization in summer when gastroenteritis is frequent.



In 1965, 1966, and 1967 no cases of poliomyelitis occurred.

Between 1962 and 1965 only 2 cases were reported.

From 1962 to date no deaths due to poliomyelitis have occurred.