EPI Newsletter

Expanded Program on Immunization in the Americas

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EPI Revolving Fund operations, 1979–1981

During its first three years of operation the EPI Revolving Fund has placed over 700 orders for vaccines worth almost $10.3 million. Table 1 shows the number of orders placed for each year and the corresponding dollar value.

TABLE 1. Dollar value of vaccines purchased through EPI Revolving Fund, 1979–1981.

Year	No. of orders	Value (US$)
1979	232	$ 2,273,000
1980	282	3,909,400
1981	222	4,064,792
Total	736	$10,247,192

Figure 1 shows the number of doses of each of the five vaccines procured through the Revolving Fund for the period 1979–1981 and the estimated 1982 requirements. As can be seen, there has been a dramatic increase in the amount of polio and DPT vaccines purchased over the three years.

Table 2 shows the prices paid for the five vaccines over the past three years, together with the prices in effect for 1982. As can be noted, the 1982 prices per dose are lower than the 1979 prices for DPT, TT and BCG vaccines. The 1982 prices for each vial size of polio vaccine are slightly lower than those for the previous period July–December 1981; overall, however, the price of polio vaccine has increased since 1979. The price of measles vaccine, which tends to be the most expensive of all the EPI vaccines, has gradually increased since July 1980–June 1981, though in that period the price of 1- and 10-dose vials decreased by an average of 23% in relation to the preceding period.

FIGURE 1. EPI Revolving Fund vaccine procurements, in doses, 1979–1982.

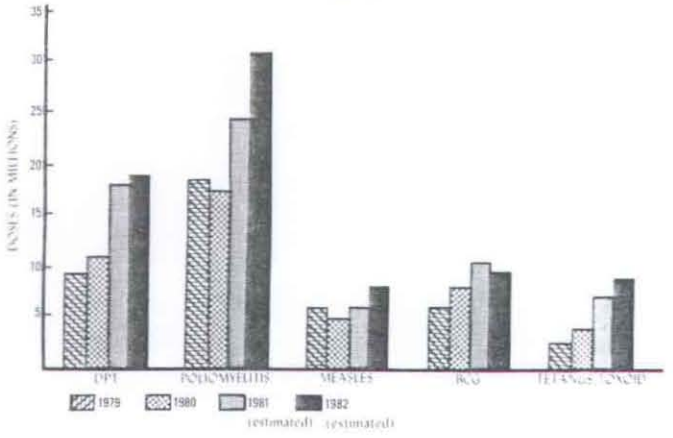

TABLE 2. EPI vaccine prices, 1979–1982.

Vaccine	Vial size (doses)	FOB price per dose (in US$) Jan. 79–Jun. 80	Jul. 80–Jun. 81	Jul.–Dec. 81	Jan.–Dec. 82
Polio	10	.022	.025	.035 .036*	.0297
	20	.019	.021	.029 .026*	.0253
	50	No contract in effect 1979–1981			.0199
Measles	1	.33	.28	.302	.385
	10	.14	.099	.106	.1278
DPT	10	.038	.041	.041	.0337
	20	.037	.034	.034	.0256
TT	10	.026	.026	.026	.0223
	20	.021	.023	.025	.0173
BCG	10	No contract in effect 1979–1981			.0996
	20	.055	.059	.054	.0486
	50	.029	.031	.027	.0249

*During this period two manufacturers supplied polio vaccine.

A comparison of the prices of the five EPI vaccines when the EPI Revolving Fund was first established in 1979 with the prices in effect for 1982 is shown in Table 3.

All these figures clearly show that the EPI Revolving Fund has been a successful mechanism for vaccine procurement. In general, the fund has managed to meet all the EPI vaccine requirements of participating members.

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TABLE 3. Percent change in EPI vaccine prices from 1979 to 1982.

Vaccine	Vial size	% price change from 1979 to 1982
Poliomyelitis	10	+35%
	20	+33%
Measles	1	+17%
	10	- 9%
DPT	10	-11%
	20	-31%
TT	10	-14%
	20	-18%
BCG	20	-12%
	50	-14%

Of particular importance, it has done so while assuring that members receive high quality vaccines, delivered on time and at reasonable prices.

Review of poliomyelitis in the Americas, 1971–1980

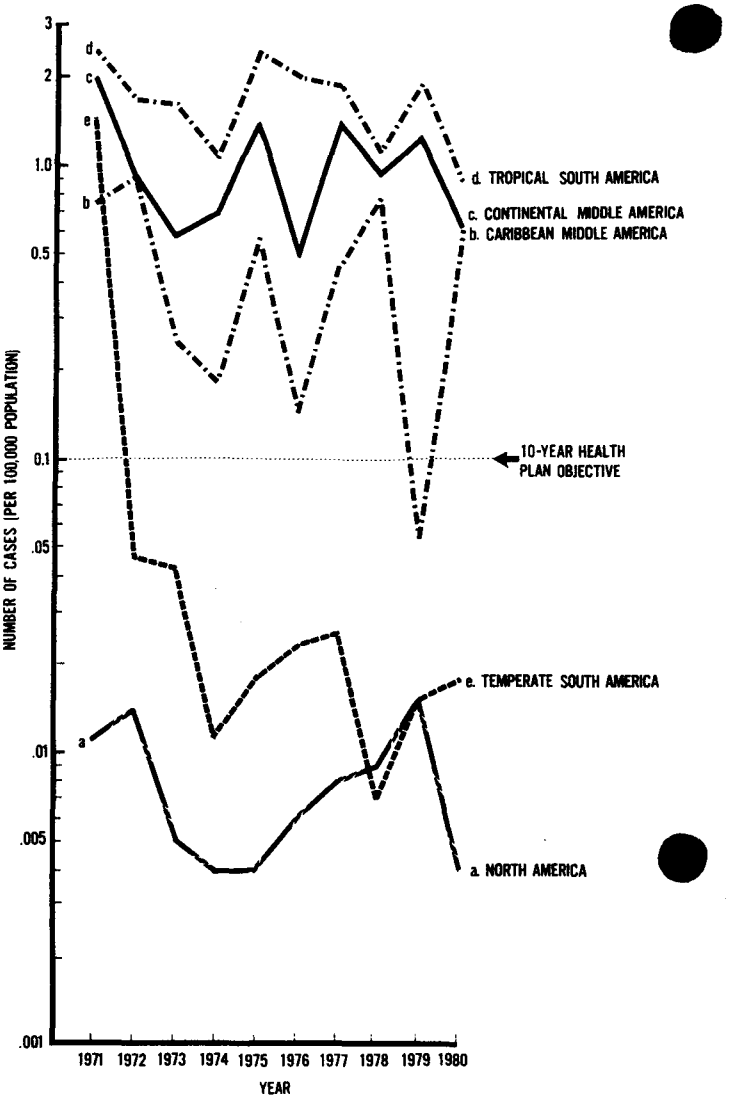
During the 10-year period 1971-1980, a total of 74,368 cases of paralytic poliomyelitis were reported by 29 of the 32 countries in the Americas for which data has been analyzed. Only three countries (Barbados, Dominica and Grenada) reported no cases during the 10-year period. A total of 6,680 deaths (case fatality rate = 9.0 percent) were reported during this period.

Figure 1 shows the annual incidence (per 100,000 population) of paralytic poliomyelitis by geographic region in the Americas during this 10-year period. The stated objective of the 10-year Health Plan for the Americas was to reduce the annual morbidity due to poliomyelitis to less than 0.1/100,000 population. This objective is indicated by an arrow in Figure 1. During this period, the countries in North America and Temperate South America have achieved and maintained the stated goals. Major increases in incidence were experienced in three of the five regions: in Caribbean Middle America in 1972, 1975, 1977-1978 and 1980; in Continental Middle America in 1971, 1975, 1977 and 1979; and in Tropical South America in 1971, 1975-1977 and 1979. These data suggest a "pandemic spread" of polio activity throughout the Americas during this 10-year period, with a shortening of the intervals between epidemic cycles.

Assuming that a country has achieved the above objective when five or more consecutive years have gone by with an annual incidence of less than 0.1/100,000 population (allowing for two expected epidemic cycles to have passed), then 14 of the 32 countries studied in the Americas (43.8 percent) have achieved poliomyelitis control since 1975. These countries are shown in Table 1. The Bahamas reported only one case of poliomyelitis during the entire 10-year period (in 1978), but due to its small population the incidence was 0.44 for that year.

It should be noted that in the Caribbean Middle America region polio continues to be a major problem in Haiti

FIGURE 1. Annual incidence of poliomyelitis (per 100,000 population) by geographic region in the Americas, 1971–1980.



a. North America: United States and Canada.
b. Caribbean Middle America: Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago.
c. Continental Middle America: Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama.
d. Tropical South America: Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname and Venezuela.
e. Temperate South America: Argentina, Chile and Uruguay.

TABLE 1. Poliomyelitis in the Americas. Countries reporting five or more years of incidence less than 0.1/100,000 population.

1. Argentina	8. Grenada
2. Barbados	9. Guyana
3. Canada	10. Jamaica
4. Chile	11. Panama
5. Costa Rica	12. Saint Lucia
6. Cuba	13. Trinidad and Tobago
7. Dominica	14. United States

TABLE 2. Age distribution and age-specific attack rates of reported cases of poliomyelitis, by geographic region in the Americas, 1971–1980.*

Age group (in years)	North America		Middle America				South America			
			Caribbean		Continental		Tropical		Temperate	
	% of total cases	No. of cases per 100,000	% of total cases	No. of cases per 100,000	% of total cases	No. of cases per 100,000	% of total cases	No. of cases per 100,000	% of total cases	No. of cases per 100,000
Less than 1	10.8	0.051	14.4	1.582	29.7	6.022	22.7	6.949	19.2	0.569
1–4	22.9	0.026	54.1	1.531	62.3	3.466	57.0	4.921	46.5	0.357
5–9	1.7	0.001	16.6	0.401	5.6	0.289	12.6	0.967	22.2	0.145
10–14	5.0	0.004	6.6	0.161	1.2	0.073	4.5	0.397	5.1	0.033
15–19	18.8	0.013	2.2	0.072	1.1	0.081	1.3	0.134	2.0	0.014
20 or older	40.8	0.004	6.1	0.034	0.1	0.002	1.8	0.047	5.1	0.006
Total	100.0	0.007	100.0	0.300	100.0	0.789	99.9	1.138	100.1	0.071

*Where the ages were reported as unknown, the age distribution of the knowns was calculated, and the cases were distributed accordingly.

and the Dominican Republic, accounting for 826 of the 1,067 reported cases (77.4 percent) in this region during the 10-year period.

Information on the age distribution of poliomyelitis cases was received from 27 countries during the period. Table 2 shows the age distribution of the reported poliomyelitis cases in terms of the proportion of total cases represented by each age group and the age-specific attack rates per 100,000 population. This table represents 262 country-years worth of experience. With the exception of North America, in all regions the highest proportion of cases occurs in the 1–4 year-old age group; in North America the highest proportion of cases occurs in the 20 or older age group. In all regions the highest age-specific attack rate is seen in the less than 1-year-old age group.

Table 3 shows the age distribution of cases in countries reporting age distributions by one-year age groups for the less than 5-year-old population. Approximately 81 percent of the reported cases occurred in children less than 4 years of age, with 59 percent less than 2 years of age. (Age-specific attack rates/100,000 population could not be calculated as the comparable population distribution for these age groups was not available.) These data suggest that by 4 years of age approximately 80 percent of the population is no longer at risk of paralytic poliomyelitis.

TABLE 3. Age distribution of polio cases in countries which include reporting by year of age in the less than 5-year-old population, 1971–1980. (Argentina, Bolivia, Guyana, Mexico, Panama, Peru, Trinidad and Tobago, Uruguay and Venezuela)

Age Group	Number of Cases	% of total cases
0–5 months	366	6.6
6–11 months	957	17.3
1 year	1,935	34.9
2 years	815	14.7
3 years	400	7.2
4 years	206	3.7
5–9 years	481	8.7
10–14 years	147	2.7
15–19 years	47	0.8
20–24 years	20	0.4
25 years and older	47	0.8
Unknown	117	2.1
Total	5,538	99.9

Table 4 shows a review of vaccination histories of poliomyelitis cases in five selected countries where information was available. The percent of cases with a history of no doses of vaccine ranged from a low of 37.0 percent (in Mexico) to a high of 72.1 percent (in Brazil). Only one country (Mexico) reported more than 5.0 percent of cases to have a history of three doses, suggesting that there may have been a problem with the handling and/or administration of vaccine in this country.

TABLE 4. Distribution of poliomyelitis cases, by vaccination history, in five selected countries in the Americas, 1977–1981.

DOSES/%	BRAZIL (1977)	MEXICO (1977–78)	HONDURAS (1979)	DOM. REP. (1980–81)	COLOMBIA (1981)	TOTAL
0 doses	1,095	466	145	81	133	1,920
(% of total)	(72.1)	(37.0)	(65.9)	(44.8)	(48.9)	(55.6)
1 dose	174	252	38	68	5	537
(% of total)	(11.5)	(20.0)	(17.3)	(37.6)	(1.8)	(15.6)
2 doses	61	177	14	13	2	272
(% of total)	(4.0)	(14.0)	(6.4)	(9.9)	(0.7)	(7.9)
3 doses	45	202	7	9	2	265
(% of total)	(3.0)	(16.0)	(3.2)	(5.0)	(0.7)	(7.7)
Unknown	144	164	16	5	130	459
(% of total)	(9.5)	(13.0)	(7.3)	(2.8)	(47.8)	(13.3)
TOTAL	1,519	1,261	220	181	272	3,453
(% of total)	(100.1)	(100.0)	(100.1)	(100.1)	(99.9)	(100.1)

Following an epidemic of poliomyelitis in the Dominican Republic in 1980–1981, the vaccine efficacy of three doses of polio vaccine in the less than 1-year-old population was evaluated and found to be 96 percent (See *EPI Newsletter* III-5). The data presented on age distribution of cases, combined with the vaccine efficacy data from the Dominican Republic, support the present recommendations to immunize the less than 1-year-old population preferentially, with three doses of polio vaccine. The data also support the EPI recommendation that booster doses of poliomyelitis vaccine need not be given.

For additional information on poliomyelitis in the Americas, readers may wish to refer to the following articles which have appeared in previous issues of the *EPI Newsletter*.

1) Poliomyelitis in the Americas: 1976-78. Vol. I, No. 2, p. 3, July 1979.
2) Poliomyelitis: Honduras, 1979. Vol. I, No. 3, p. 3, September 1979.
3) Poliomyelitis in Argentina. Vol. II, No. 2, p. 4, April 1980.
4) Poliomyelitis: Dominican Republic, 1980. Vol. II, No. 5, p. 6, October 1980.
5) Poliomyelitis: Honduras, 1979. Vol. II, No. 6, p. 8, December 1980.
6) Poliomyelitis: Venezuela, 1979. Vol. II, No. 6, p. 8, December 1980.
7) Control of poliomyelitis in Brazil. Vol. III, No. 1, p. 3, February 1981.
8) Poliomyelitis: Cuba, 1962-1978. Vol. III, No. 2, p. 1, April 1981.
9) Poliomyelitis: Colombia, 1981. Vol. III, No. 4, p. 4, August 1981.
10) Review of Poliomyelitis in the Dominican Republic: 1940-1981. Vol. III, No. 5, p. 1, 1981.

Cold-chain courses in Mexico

The Mexican Institute of Social Security (IMSS) has sponsored six cold-chain courses since August 1980 which have trained 148 health professionals responsible for operation of Mexico's immunization program. Participants at these 3-day courses included medical epidemiologists, public health nurses, and personnel involved in the conservation and storage of vaccines from 37 state delegations.

The purpose of the training was to instruct health personnel on the proper conservation of vaccines and the timely delivery of immunization services in order to assure good protection of the target population. Instruction was given in the areas of vaccine supply, storage, distribution, conservation and control. The IMSS serves 51 percent of Mexico's population, and administered 21,173,346 doses of vaccine between January and July 1981.

As of September 1981 all the delegations had adapted and reproduced the course for different types of personnel. Furthermore, there has been a considerable decrease in refrigerator failures, erroneous processing of orders and problems in the handling and control of biologicals.

Anyone interested in obtaining information on the course methodology, technical materials, and teaching exercises, as well as the norms for evaluation and follow-up, should write to: Jefatura de Servicios de Medicina Preventiva, Instituto Mexicano del Seguro Social, Durango No. 323, 6to. piso, Col. Roma, México 7, D.F., Mexico.

Source: Preventive Medical Services, Mexican Institute of Social Security, 16 October 1981.

Review of EPI training activities

The EPI is now well into its third phase of training activities with the organization of local courses taught by health workers who have previously attended a national EPI course. Second-phase training activities focused on training mid-level supervisory personnel directly involved in the daily management of immunization activities, while the first phase consisted of two regional courses directed toward national public health officials.

Since 1979 almost all countries and territories in the Americas have had at least one national course. Most of these are now carrying out local training programs using instructional materials adapted from the five-module text developed at PAHO for the national courses.

Table 1 shows the number of national and local courses held in all countries of the Region for which information is available, as well as the number of course participants.

TABLE 1. National and local EPI courses in the Region of the Americas, 1979–1981 (provisional).

Country	National courses	No. of participants	Local courses	No. of participants
Antigua	1	9	—	—
Argentina	1	45	18	387
Bahamas	1	24	—	—
Belize	1	17	—	—
Bolivia	2	176	13	611
Brazil	2	139	14	1,116
British Virgin Islands	1	10	—	—
Cayman Islands	1	9	—	—
Chile	3	86	7	259
Colombia	1	37	16	1,129
Costa Rica	1	35	4	142
Cuba	—	—	—	—
Dominica	1	16	—	—
Dominican Republic	1	27	—	—
Ecuador	1	60	23	1,273
El Salvador	—	—	—	—
Grenada	1	13	—	—
Guatemala	1	67	12	396
Guyana	1	25	6	97
Haiti	1	18	—	—
Honduras	2	84	6	147
Jamaica	1	24	—	—
Mexico	1*	24	—	—
Montserrat/St. Kitts/Nevis/Anguilla	1	14	—	—
Nicaragua	1	42	...	...
Panama	2	47	3	115
Paraguay	1	41	—	—
Peru	2	64	21	776
Saint Lucia	1	15	—	—
Saint Vincent and the Grenadines	1	19	—	—
St. Kitts/Nevis	1	35	—	—
Suriname	—	—	—	—
Trinidad and Tobago	1	24	—	—
Uruguay	—	—	—	—
Venezuela	—	—	—	—
Total	37	1,246	143	6,448

*Organized by the Mexican Society of Public Health and the School of Public Health.

—none

... information not available

As can be seen, more than 7,500 health workers have been trained in national and local EPI courses between 1979 and 1981, and new courses are constantly being scheduled.

United States: Measles importations from the Americas

In the 21-month period 30 December 1979 through 10 October 1981 (week 1 of 1980 through week 40 of 1981), 190 cases of measles were reported[1] to have been imported into the United States from 42 different countries worldwide. A case is considered to be imported if a person has onset of rash within 15 days of arriving in the United States from a foreign country.

These cases represent 1.2 percent of the provisional total of 16,202 cases of measles reported to the Centers for Disease Control (CDC) during that period. An average of two measles importations were reported each week without distinct seasonal variation (Figure 1). The proportion of measles cases reported as being imported increased from 0.7 percent (95/13,506) in 1980 to 3.5 percent (95/2,696) during the first 40 weeks of 1981. The number of importations per week averaged 1.8 in 1980 and 2.4 in 1981.

Of the 190 persons with imported measles, 82 (43.2 percent) were travelers who arrived in the United States from 13 different countries in the Western Hemisphere (Table 1). The proportion of imported measles cases arriving from the Americas has increased from 35.8 percent (34/95) in 1980 to 50.5 percent (48/95) during the first 40 weeks of 1981.

TABLE 1. Measles importations into the United States from other American countries. 30 December 1979—10 October 1981.

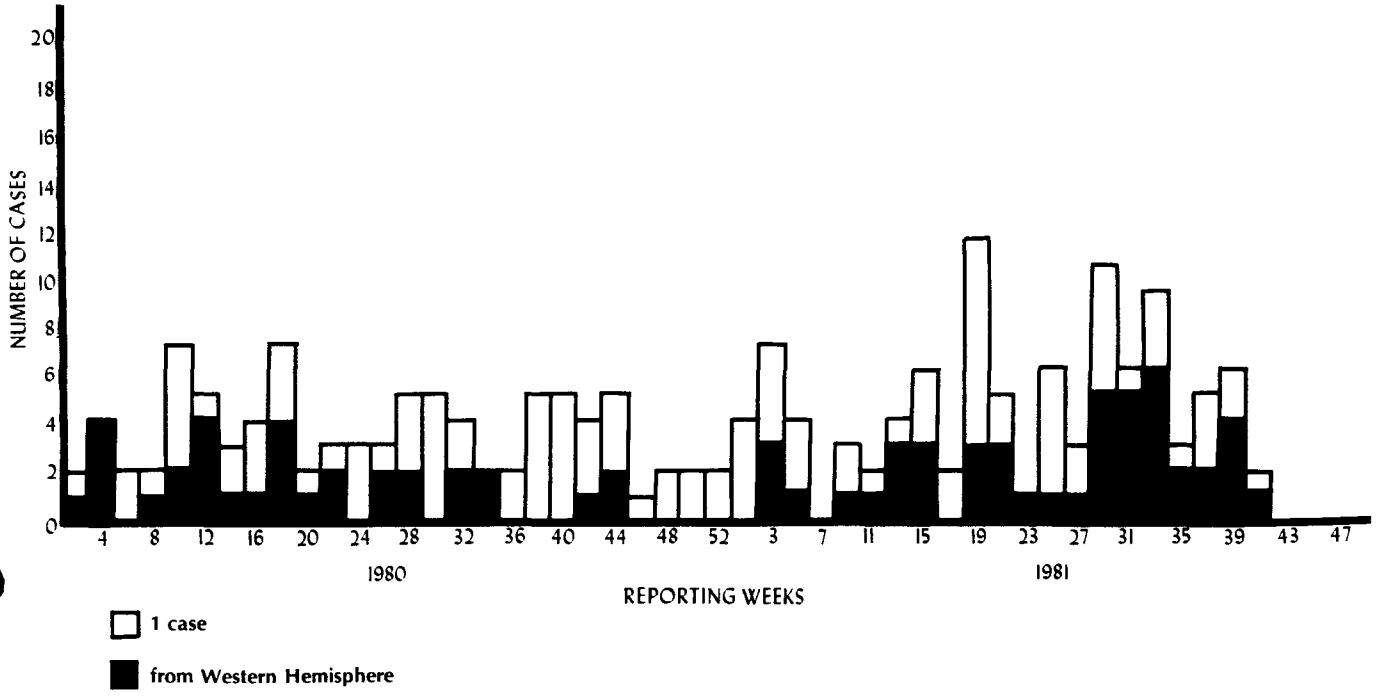
Country	Number of importations	Percent
Mexico	38	46.3
Canada	15	18.3
Venezuela	9	11.0
Dominican Republic	4	4.9
Jamaica	4	4.9
Trinidad	3	3.8
Bahamas	2	2.4
Honduras	2	2.4
Argentina	1	1.2
Barbados	1	1.2
Colombia	1	1.2
Guyana	1	1.2
Nicaragua	1	1.2
Total	82	100.0

Travelers arriving from three countries accounted for 75.6 percent (62) of the importations from the Americas: Mexico 38 (46.3 percent), Canada 15 (18.3 percent), and Venezuela 9 (11.0 percent). Ten other countries each contributed 4 or less importations during the 21-month period.

Returning U.S. citizens (vs. foreign nationals) have begun to account for an increasing proportion of all measles importations (worldwide). In 1980, 33 (34.7 percent) of 95 imported measles cases were among U.S. citizens, compared with 58 (61.1 percent) of 95 importations reported the first 40 weeks of 1981. A similar increase has been observed in U.S. citizen importations from the

[1]CDC. Measles importations—United States. *MMWR* 30:455–462, 1981.

FIGURE 1. Measles importations, by reporting week. United States, 1980–1981.



Americas. In 1980, 17 (50.0 percent) of 34 measles importations from the Americas were among U.S. citizens, compared with 31 (64.6 percent) of 48 such importations reported during the first 40 weeks of 1981.

Of 190 importations from around the world, immunity status was determined for 108 persons, of whom 59 (54.6 percent) were U.S. citizens and 49 (45.4 percent) were foreign nationals. Of these 108 persons, 14 U.S. citizens and 18 foreign nationals at least 15 months of age and born after 1956 had no evidence of measles immunity. Measles immunity consists of either documented physician-diagnosed measles or receipt of live measles vaccine on or after the first birthday. These 32 cases (29.6 percent) could probably have been prevented had the persons been vaccinated. The remaining 76 (70.4 percent) cases would have been difficult to prevent by use of the current recommendations for measles vaccine in the U.S. Fifty persons were less than 15 months of age, the age when measles vaccine is routinely recommended in the U.S., and 12 persons were born before 1957 and would generally have been thought to be immune. Finally, 14 persons had adequate documentation of measles vaccination with live vaccine on or after the first birthday or of physician-diagnosed measles disease. The immunity status of 82 (43.2 percent) of the 190 persons who had imported measles (worldwide) is not known.

Transmission of measles to other persons in the United States was documented for 49 (25.8 percent) of the total 190 importations, and for 22 (26.8 percent) of 82 measles importations from the Americas. Measles outbreaks occurred in Arkansas,[2] Florida, and New York[3] following these importations. However, in most other instances transmission was limited.

Editorial note: A national effort is underway to eliminate indigenous measles from the United States by 1 October 1982.[4] In 1962, the year before measles vaccine was licensed, 481,530 cases of measles were reported to CDC, compared with 13,506 in 1980, a decrease of 97.2 percent. During the first 40 weeks of 1981, only 2,696 cases were reported. Measles encephalitis and deaths have also decreased. As the incidence of indigenous measles decreases, imported measles will be increasingly recognized as a problem in the United States.[5]

Measles importations are a continuing source of reported measles cases in the United States. In the 21-month period discussed here, the substantial decline in total measles cases led to a rise in the proportion of imported measles cases. The risk of measles from foreign sources appears to be low and relatively constant throughout the year.

The proportion of imported measles cases arriving from Western Hemisphere countries increased during the 21-month period. Two countries sharing land borders with the United States—Canada and Mexico—accounted for the majority of these importations. This may reflect the sizable movement of persons between the United States and those countries. A rising proportion of imported cases occurred among returning U.S. citizens.

Every state in the United States requires that a child have proof of measles immunity before entering school, consisting of a written record at the time he is enrolled.[6] Therefore, children who enter the United States and plan to enroll in school should be vaccinated against measles (unless contraindicated) and retain written documentation. It is suggested that children who do not plan to enroll in school (e.g., tourists, preschoolers) also have documentation of measles immunity before entering the United States.

Source: Amler RW, Bloch AB, Orenstein WA, Bart KJ, Turner PM Jr, Hinman AR. Immunization Division, Center for Prevention Services, Centers for Disease Control, U.S. Public Health Service, Department of Health and Human Services, Atlanta, Georgia 30333 (USA)

Immunization status of children entering school in Canada, 1980

In 1980–1981 the immunization history of all children entering school in the Ottawa-Carleton region was documented by the public health nurses. The percentage of children immunized for the seven vaccine-preventable diseases listed in Table 1 ranged from 94.0 to 96.3 percent; the corresponding numbers and percentages immunized for 1978 and 1979 are also shown.

TABLE 1. Immunization status of children entering school. Ottawa-Carleton region, 1978–1980.

	1978		1979		1980	
	Total	%	Total	%	Total	%
Population	7,616	100.0	7,913	100.0	7,039	100.0
Diphtheria, pertussis, tetanus, and polio	6,643	87.2	6,728	85.0	6,777	96.3
Measles	6,152	80.7	6,411	81.0	6,680	94.9
Mumps	4,928	64.7	5,833	73.7	6,616	94.0
Rubella	5,920	77.7	6,282	79.4	6,651	94.5

These percentages are strikingly higher than any previously recorded for the region and compare favorably with any urban area of Ontario. It is a commendable record, particularly considering the size and mobility of

[2]CDC. Measles, weeks 37–40—United States. *MMWR* 30:533–535, 1981.

[3]CDC. Multiple measles importations—New York. *MMWR* 30:288–290, 1981.

[4]Hinman AR, Brandling-Bennett AD, Nieburg PI. The opportunity and obligation to eliminate measles from the United States. *JAMA* 242:1157–1162, 1979.

[5]Frank JA Jr, Hoffman RE, Mann JM, Crowe JD, Hinman AR. Imported measles: a potential control problem. *JAMA* 245:264–266, 1981.

[6]Robbins KB, Brandling-Bennett AD, Hinman AR. Low measles incidence: Association with enforcement of school immunization laws. *AMJ Public Health* 71:270–274, 1981.

NUMBER OF REPORTED CASES OF MEASLES, POLIOMYELITIS, TETANUS, DIPHTHERIA AND WHOOPING COUGH. 1981 AND 1980, BY COUNTRY AND DATE OF LAST REPORT.

COUNTRY	DATE OF LAST REPORT	MEASLES		POLIOMYELITIS		TETANUS		DIPHTHERIA		WHOOPING COUGH	
		1981	1980	1981	1980	1981	1980	1981	1980	1981	1980
ARGENTINA	24 OCT. 81	9,308	8,344	...	37	151	166	53	58	14,255	19,580
BAHAMAS	04 NOV. 81	42	461	—	—	2	3	—	—	8	15
BARBADOS	24 OCT. 81	1	27	—	—	7	11	9	10	8	43
BOLIVIA	28 MAR. 81	822	364	5	5	48	37	7	11	626	352
BRAZIL	20 JUN. 81	25,037	30,881	95	1,099	1,249	1,346	1,955	2,241	18,142	19,406
CANADA	03 OCT. 81	1,933	12,573	—	—	1	1	4	48	1,773	1,792
CHILE	17 OCT. 81	3,343	2,677	...	—	13	22	170	191	1,849	1,378
COLOMBIA	18 MAY 81	6,507	3,106	82	45	192	231	54	148	1,832	2,893
COSTA RICA	17 OCT. 81	144	930	—	—	7	9	—	—	156	803
CUBA	12 SEP. 81	6,701	3,143	—	—	15	19	—	—	188	81
DOMINICA	17 OCT. 81	20	—	—	—	—	2	—	—	6	1
DOMINICAN REP.	No 1981 data										
ECUADOR	28 FEB. 81	1,150	413	6	—	19	15	3	1	62	234
EL SALVADOR	03 OCT. 81	9,531	1,442	44	8	94	59	1	—	2,809	540
GRENADA	07 NOV. 81	9	53	—	—	3	—	—	1	—	5
GUATEMALA	03 OCT. 81	2,795	2,079	28	32	64	49	16	5	972	1,225
GUYANA	12 SEP. 81	19	452	...	...	...	12	—	1	8[a]	...
HAITI	29 AUG. 81	516	198	—	6	30	233	3	29	79	413
HONDURAS	03 OCT. 81	3,269	3,311	10	3	17	22	—	2	957	1,860
JAMAICA	10 OCT. 81	5,152	25	—	—	9	10	7	9	12	41
MEXICO	28 FEB. 81	2,687	3,686	28	149	71	83	—	—	836	609
NICARAGUA	No 1981 data										
PANAMA	25 JUL. 81	1,440	1,152	—	—	21	19	—	—	78	360
PARAGUAY	19 SEP. 81	437	442	10	7	123	137	4	4	417	703
PERU	12 SEP. 81	4,303	4,917	115	94	191	178	53	131	4,584	2,240
SAINT LUCIA	12 SEP. 81	108	31	—	—	2	1	—	—	461	—
ST. VICENT AND THE GRENADINES	19 SEP. 81	2	257	—[b]	—	—[b]	—	—	—	1[b]	17
SURINAME	12 SEP. 81	703	11	—	—	...	...	2	—	...	...
TRINIDAD & TOBAGO	03 OCT. 81	3,460	267	—	—	12	19	3	—	9	10
U.S.A.	14 NOV. 81	2,869	13,128	7[c]	8[d]	53	65	4	4	1,061	1,486
URUGUAY	01 AUG. 81	4,891	83	—	—	7	11	—	—	205	126
VENEZUELA	17 OCT. 81	23,921	7,315	15	—	...	...	6	11	3,165	2,190

[a] 31 January 1981
[b] 25 April 1981
[c] 6 paralytic cases
[d] 6 paralytic cases

— No cases
... Data not available

the population and the numbers of professionals involved. Many people contribute to this widespread acceptance and receipt of immunization, including parents, family physicians, public health nurses, obstetricians and pediatricians, hospital nurses, and day nursery staff. The requirement for immunization against these diseases, prior to admission to day nurseries, is also a factor. It is this cooperative, reinforcing effort by a number of people which has allowed such a high immunization level to be reached in the absence of compulsory immunization at school entry. It should also be noted that in 1980–81 the Regional Health Unit extended its immunization program against measles, mumps and rubella in schools.

The vaccination status of the 300 to 400 children who entered school lacking the recommended immunization will be reviewed in 1981 upon completion of the school immunization program.

Source: *Canada Diseases Weekly Report* 7(38):190–191, 19 September 1981.

NEWSBRIEFS

EPI Global Advisory Group holds annual meeting

The annual meeting of the EPI Global Advisory Group (GAG) took place on 19-22 October 1981 at PAHO in Washington. The Group began its work with a consideration of global and regional progress, and then reviewed and finalized the EPI Progress and Evaluation Report which Dr. Halfdan Mahler, WHO's Director-General, will present to the WHO Executive Board in January 1982 and to the World Health Assembly in May 1982.

The final day of the meeting was spent in reviewing the EPI in the Americas. Presentations by PAHO staff from several divisions and units emphasized integration of the EPI with the other activities endorsed in the PAHO plan of action for achieving health for all by the year 2000. Other presentations concerned activities within the EPI, including training and the use of the *EPI Newsletter* in continuing education, cold chain research and development, the use of program evaluation in revising national EPI plans of action, and a review of data on the morbidity and mortality from the EPI target diseases in the Americas. Finally, the national program managers from Ecuador and Honduras reviewed the status of the EPI in their countries.

The final report of the EPI Global Advisory Group Meeting is still in preparation. Readers will be advised as soon as it is available.

Dr. Héctor Acuña, Director of PAHO, gives opening address at EPI Global Advisory Group Meeting in Washington, D.C.

Mexico contributes to EPI Revolving Fund

In October, Mexico contributed $4,000 to capitalizing the EPI Revolving Fund for vaccine purchases, bringing total capitalization to $2,306,000. PAHO welcomes this type of support as it continues to seek ways of reaching the $4,000,000 necessary for smooth fund operations. In addition to Mexico, the Netherlands, Barbados and Cuba have also made voluntary contributions to the fund.

The *EPI Newsletter* is a periodic publication prepared by the Expanded Program on Immunization (EPI) of the Pan American Health Organization, Regional Office for the Americas of WHO. Its purpose is to facilitate the exchange of ideas and information concerning immunization programs in the Region in order to promote greater knowledge of the problems faced and their possible solutions.

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