

# EPI Newsletter

## Expanded Program on Immunization in the Americas

Volume X, Number 4

IMMUNIZE AND PROTECT YOUR CHILD

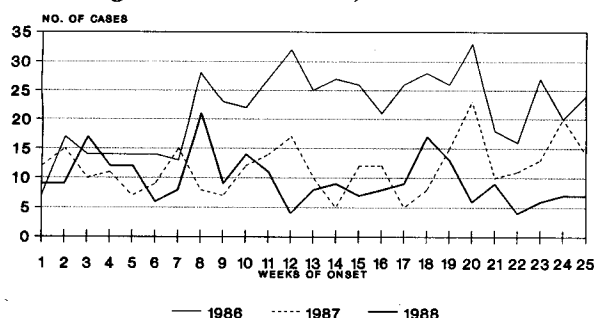
August 1988

### Polio Update

According to the guidelines published in the Polio Eradication Field Guide, every probable case reported must be investigated within ten weeks and be discarded or confirmed as a polio case. Up to week 35, only 23% of all cases reported, are pending final classification. Figure 1 shows the distribution of confirmed polio cases by week of onset, for 1986, 1987 and 1988. When the same data is accumulated by year, as in Figure 2, a substantial reduction in the number of confirmed cases is evident.

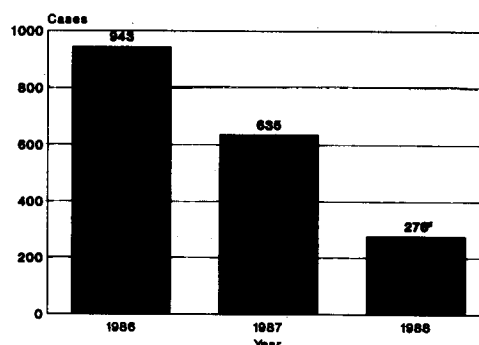
The TAG recommended that by its next meeting, to be held during the first week of November, 1988 in Buenos Aires, Argentina, all countries should be able to analyze their data by smallest administrative unit (i.e. counties or "municipios"). The preliminary data received thus far indicate the reduction in the occurrence of confirmed cases is substantiated by a significant decrease in the number of "municipios" with cases in the endemic countries (Figure 3). To date, only 1.2% of the 14,636 "municipios" in the infected countries have confirmed polio cases in 1988, which translates to 176 infected vs. 14,465 "municipios" that are "free of polio".

**FIGURE 1. Week of Onset of Confirmed Polio Cases  
Region of the Americas, 1986 to 1988\***



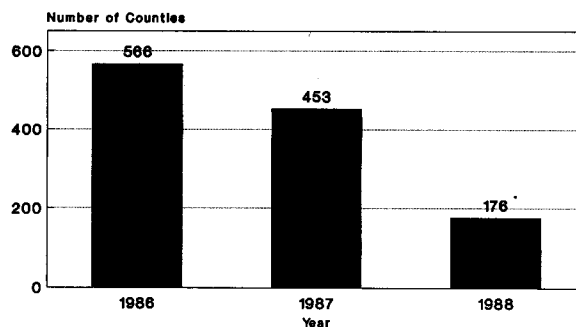
\* To week 25 (preliminary data)  
Source: PAHO

**FIGURE 2. Confirmed Polio Cases by Year  
Region of the Americas, 1986 to 1988\***



\* To week 25 (preliminary data)  
Source: PAHO

**FIGURE 3. Counties ("Municipios") with Polio Cases in  
the 12 Endemic Countries  
Region of the Americas, 1986 to 1988\***



\* To week 25 (preliminary data)  
Source: PAHO

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# Caribbean Countries Hold Subregional Workshop on the Surveillance of EPI Diseases

A subregional workshop was held between 18 and 20 July 1988, with the purpose of reviewing the current state of poliomyelitis, measles and rubella in the Caribbean and discussing the surveillance and immunization strategies necessary to control and eradicate those diseases. Participants included representatives from most English and French speaking Caribbean countries.

Following is a list of the final recommendations which emanated from the discussions:

1. Elimination of indigenous measles in the subregion by 1995.
2. Monitor vaccination coverage at the level of the smallest geopolitical unit (district, counties, parishes) in all countries of the Subregion.
3. Complete investigation of all cases of flaccid paralysis in children less than 15 years of age, including proper stool and blood samples sent to CAREC.
4. Adopt standard measles, rubella and congenital rubella case definition.
5. Every outbreak of measles and rubella should be investigated.
6. Evaluate and document ongoing rubella vaccination programs in the countries of the sub-region, to orient other countries in setting up their strategy for rubella control.
7. Set up or improve a congenital rubella syndrome surveillance system using hospitals, medical specialists and special institutions for handicapped children as sources of cases.
8. Develop in-country training material for surveillance of EPI diseases, organize EPI surveillance courses and request technical assistance and funding from PAHO/WHO, Washington, DC.
9. Inform CAREC of any changes in immunization.

## Seventh Resolution of the 101st Meeting of the PAHO Executive Committee

Upon reviewing progress on the implementation of the Plan of Action for the Eradication of Wild Poliovirus from the Americas by 1990, the 101st Meeting of the Executive Committee resolved:

1. To thank USAID, IDB, UNICEF, Rotary International and CIDA/CPHA for the level of cooperation and coordination achieved among themselves and with the PAHO Member Countries in carrying out the campaign to eradicate poliomyelitis from the Americas by 1990.
2. To urge all Member Countries to make every effort to carry out their adopted national plans of action in accordance with the general guidelines of the Regional Plan of Action and the recommendations of the Technical Advisory Group (TAG).
3. To accelerate and reinforce the work of the network of laboratories to provide support in virology for the diagnostic, surveillance and control activities of the programs of the Member Countries.
4. To stress that, if the goal of polio eradication is to be met, the following critical actions require the immediate and ongoing attention of the Member Countries:
  - 4.1 Countries still endemic for polio should:
    - a) Institute at least two regular national vaccination days per year as part of their national vaccination programs;
    - b) Utilize these national vaccination days to deliver TOPV as well as other EPI antigens so that the overall EPI coverage will be increased;
    - c) Continue these measures until polio eradication is achieved and certified and high EPI coverage is maintained.
  - 4.2 Countries not endemic for polio should ensure that high levels of immunization are maintained throughout the country.
  - 4.3 All Member Countries should:
    - a) Monitor immunization coverage at the level of the smallest political administrative units;
    - b) Take special measures to improve immunization rates in children under one year of age in areas where TOPV coverage is below 90% in that age group, and use this indicator as a measure of the functioning of the health infrastructure and as a basis for the reallocation of resources.
  - 4.4 Surveillance systems should be strengthened to detect all cases of acute flaccid paralysis:
    - a) All cases of acute flaccid paralysis occurring in persons less than 15 years old should be considered a national emergency and investigated immediately to

- determine if they represent poliomyelitis;
- b) Special control measures should be instituted immediately for all cases classified as probable polio;
  - c) All cases classified as probable polio cases should be reported as soon as possible to the international level, and specimens immediately sent to designated

reference laboratories for prompt and accurate testing.

5. To request that the Director present a progress report to the XXXIV Meeting of the Directing Council in 1989, just one year before the target date for achievement of the goal of polio eradication.

## Representatives of the Central American Nations Meet for the Second Time to Review the EPI and Polio Eradication

From 6 to 8 July 1988, in Santa Rosa de Copán, Honduras, health personnel from the Central American nations met with representatives of the International Agencies collaborating in the development of the EPI and polio eradication. The two main objectives of the meeting were to assess compliance with the recommendations made during the First Meeting at Esquipulas (see *EPI Newsletter*, Volume X, Number 2, page 5 and Table 3), and to review progress towards the goals of universal childhood immunization and polio eradication by 1990.

Following presentations by the collaborating agencies, a review of the polio situation in the Subregion (see Table 1) and reports on progress and achievements by each country (see Table 2), a final discussion yielded the following recommendations:

1. The most important task for the future will be the increase in coverage in children under one year of age, the strategies used for achieving this goal should be flexible and adapted at the local level.

2. The polio endemic countries (Guatemala, Honduras and El Salvador) will hold at least two National Vaccination Campaigns on the same dates—25 March and 29 April, 1989. The other countries in the Subregion (Nicaragua, Costa Rica, Panamá and Belize) will hold events related to their own immunization programs during these dates.

3. Before the next meeting, districts, departments or states with low coverage or with cases will direct actions towards increasing coverage. These should include strategies that are in consonance with local conditions; *i.e.*, departmental campaigns, house-to-house vaccinations, mini-concentrations, mobile brigades, as well as incrementing institutional vaccination.

4. All the countries should systematically send all samples taken from probable cases to INCAP.

5. Adequate conservation of the cold chain should be guaranteed for every vaccine shipment from the laboratories to the countries (including the use of vaccine monitors); po-

tency tests should also be run in each country, to check vaccine potency in the field. The countries must present cold chain evaluations at the next meeting.

6. Every newborn should receive a dosis of OPV before being discharged from the hospital.

7. All health facilities providing services upon demand must take actions to eliminate the missed opportunities for vaccination which have been identified in studies presently being conducted in each country.

8. The enthusiasm which has been generated among the Regional Health Teams must be sustained, since it will not only facilitate containment activities, but also intersectoral participation, epidemiological analysis and the analysis of coverage at the local level.

**Table 1. Polio Vaccination Coverage in Children Under One Year of Age and Polio Cases by Country Central America, 1987 and 1988**

Country	% Coverage		No. of Confirmed Cases	
	1987	1988	1987	1988 <sup>1</sup>
El Salvador	58	38 <sup>2</sup>	55	7
Guatemala	21	17 <sup>4</sup>	18	16
Honduras	61	26 <sup>2</sup>	13	24
Costa Rica	88	...	—	—
Nicaragua	81	56 <sup>3</sup>	—	—
Panamá	74	15 <sup>2</sup>	—	—

<sup>1</sup> Up to week 26

<sup>2</sup> Up to April, 1988

<sup>3</sup> Up to May, 1988

<sup>4</sup> First trimester, 1988

9. The efforts that have taken place in every country to carry out National Polio Plus seminars, should be reinforced through the activities of the local Rotary Clubs with the corresponding Regional Health Teams.

10. Every three months, short meetings should be held between the staff of the Regional Border Offices, for the exchange of progress, information on coverage in the border areas and local experiences.

11. Observers from the neighboring countries should be invited to participate whenever a country holds important activities regarding case studies or increasing vaccination coverage.

12. Intersectoral and community (including rotarians, churches, unions, volunteers, etc.) participation should be encouraged in order to achieve, within the next 12 months, 100% vaccination coverage and adequate outbreak control and epidemiological surveillance. Coordinating Committees should be created for this purpose within each Health Region.

13. Each country should include within its National Program a social communication and health education component to support EPI, which uses the guidelines and recommendations set forth at the Social Communication Workshop held in Antigua, Guatemala in May, 1988.

14. Coverage data for each vaccine should be presented as a ratio in which the numerator is the number of children who have received the complete schedule, and the denominator is the total population under one year of age, during the period of time studied. The source of the denominator should be indicated, to include year and source.

15. The final recommendation was that the next meeting should be held from 18 to 20 January, 1989, in San Salvador, El Salvador, and that this final report be approved and supported at the next RESCAP meeting, to be held in August, 1988.

**Table 2. Compliance with Agreements and Recommendations made at the Esquipulas Meeting**

	<b>El Salvador</b>	<b>Guatemala</b>	<b>Honduras</b>	<b>Nicaragua</b>	<b>Panama</b>
<b>TO ACHIEVE AND MAINTAIN HIGH COVERAGES:</b>					
Hold at least 2 NVD's	3/1, 28/II, 10/IV	21 & 22/V 18 & 19/VI	1st already held, 2nd planned for 12/VIII	Feb, April & May	None to date, due to freeze on banks
Eliminate missed opportunities	Not in progress	Reviewing protocol	Being re-searched	In Progress	Studies to be conducted X/88
Vaccinate children in refugee camps	In progress with NGO's for MSP	N/A	In progress	N/A	N/A
Cease fire during NVD's	Yes	N/A	N/A	Vaccine administered all year in conflict areas, not only in NVD's	N/A
Coverage by "municipios"	In progress	Yes	Yes	In Progress	Yes
<b>TO IMPROVE SURVEILLANCE:</b>					
Report cases occurring in the border areas	Yes	Yes	Yes	N/A	N/A
Increase case reporting	86%	18%, and in progress	32%, and in progress	90% N/A	96%
Collect samples and ship to INCAP	In progress	77%	In progress	N/A	N/A
Evaluate using Field Guide indicators	Yes	Yes	Yes	N/A	Adopted VII/88
Processing laboratory samples	Low	Yes	Yes	N/A	N/A
Exchanging Epidemiological Bulletins	Partial	Yes	Received others, developing own	Partial	Financial problems restrict printing
Investigate all polio cases	Yes	Yes	Yes	Yes	Yes

# Residual Paralysis Survey among Children Under 15 Years of Age with Guillain-Barré Syndrome (Nicaragua, 1982–1987)

There have been no cases of polio reported in Nicaragua since 1982. The absence of cases in the last six years with the permanent use of massive vaccination campaigns suggests that the circulation of wild poliovirus has been interrupted in the Nicaraguan territory. Nevertheless, the experiences of other countries provides evidence that the virus may persist and cases may appear in communities that have adequate vaccination coverages. Since polio diagnosis is not always evident, it is not always possible to rest assured that all cases which warranted investigation were reported through the epidemiological surveillance system.

This survey was organized to discard the possibility that polio cases actually occurred during this six-year period that were missed by the reporting system. For this purpose, all cases of residual paralysis in children under 15 years of age were investigated using hospital discharge records; specifically, all discharges with diagnoses of Guillain-Barré Syndrome (GBS), polineuritis and polineuropathies of unspecified etiology, since January 1, 1982 (Figure 1).

The clinical file of each case was reviewed and the diagnosis, age, sex, date of admission, I.D. number, address, names of both parents and status at discharge (dead or alive). Home visits were performed for all children discharged alive, as a way of establishing the presence and extent of residual paralysis. All these visits were done by a medical doctor or a professional nurse; if necessary, a second visit took place, with the participation of an epidemiologist with experience in evaluating cases of paralysis.

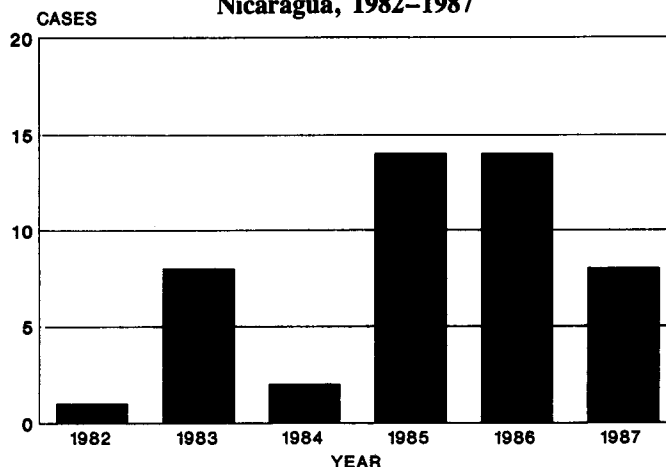
The cases were classified as urban or rural according to their place of habitual residence. They were distributed and analyzed by sex, age, and date of onset and compared with the 46 cases of polio reported in 1981.

Most of the hospitals had information only from 1983 on, due to the changes which have taken place in the hospital infrastructure in the country. A total of 177,317 hospital discharge records were reviewed (63% of all discharges involving children under 15 years of age), 47 cases were found among these (incidence = 27 per 100,000 discharges), of which 5 had died while in hospital (hospital case fatality rate = 10.6%) (Figure 1). Eighty-six percent (36) of the cases were visited at home. The six remaining children were lost to follow-up due to address change or inaccessibility of the home. One of the children was re-admitted six weeks after being discharged and died two months after the second discharge. He had a diagnosis of acute bacterial meningitis, confirmed by the laboratory.

Two cases of paralysis were found among the children examined. One in a 14-year old boy residing in an urban area of Managua who had a febrile onset in June 1987, accompanied by generalized paralysis and loss of sensation. He presently has spastic paraplegia with loss of sensation in the lower limbs and lack of bowel control. All of these symptoms present a clinical picture compatible with transverse myelitis. The other patient

was a six year old boy who had polio at six months of age, in 1981 and was hospitalized in 1986 for rehabilitation.

**FIGURE 1. Cases of Guillain-Barré Syndrome, by Year  
Nicaragua, 1982–1987**

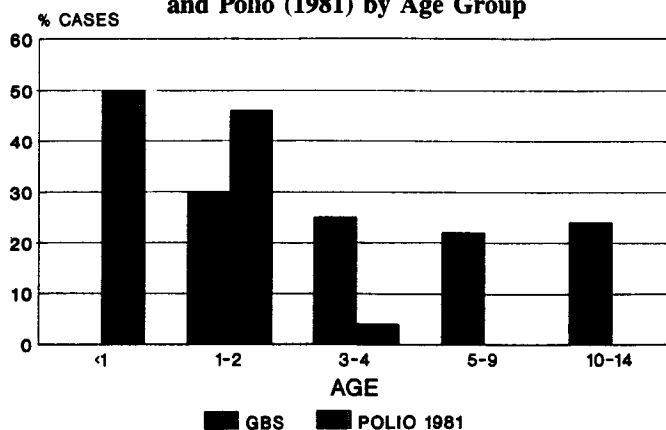


Source: Communicable Diseases, Ministry of Health, Managua, Nicaragua, June 1988.

The other 33 children were found to have no residual paralysis or signs of muscle atrophy. Some of the more recent (less than two years) cases reported a symmetric sensation of weakness in the lower limbs that did not seem to affect normal physical activities. This weakness was supported by clinical examination findings and is consistent with a diagnosis of GBS.

None of the GBS cases occurred in children below one year of age, and only 30%, in children below three years (Figure 2). This is in contrast to the usual age distribution of polio cases, which tends to occur more frequently in these age groups. Nevertheless the GBS incidence rate was higher in children under five than in those between five and 14 years of age.

**FIGURE 2. Guillain-Barré Syndrome (1982–1987)  
and Polio (1981) by Age Group**



Source: Communicable Diseases, Ministry of Health, Managua, Nicaragua, June 1988.

These cases came from all areas of the country and the home visits took place even in those areas most affected by the armed conflict, which are presumed to be at higher risk for poliomyelitis. Since no cases of residual paralysis consistent with poliomyelitis were found, the earlier presumption of eradication of the wild virus through massive vaccination campaigns, was reinforced. It was not possible to confirm the diagnosis of the cases that died, nevertheless, given that the common fatality for polio is below 20%, it would be highly unlikely that all these cases would have been due to polio.

The study did however, confirm the need to review and strengthen the epidemiological surveillance system, since several of the cases investigated had not been reported and/or

followed-up through the routine system in order to discard a polio diagnosis.

The highest incidence of GBS during the first years of life contrasts with the epidemiology of the disease in the more developed nations. One possible explanation is the association of GBS with viral infections that might affect these children more in the less developed nations as a result of reduced hygiene and overcrowding. The continued study of the epidemiology of GBS in less developed nations might contribute further to this hypothesis.

**Source:** Communicable Diseases, Ministry of Health, Managua, Nicaragua, June 1988.

## Clinical Aspects of Polio, Guillain-Barré Syndrome, and Transverse Myelitis

Signs and Symptoms	Poliomyelitis	Guillain-Barré Syndrome	Transverse Myelitis
Fever at onset of paralysis	Present	Absent	May be present or absent
Meningeal irritation*	Usually present	Usually absent	Absent
Pain in muscles	Severe	Variable	Absent
Paralysis	Usually asymmetric	Symmetrical and ascending	Symmetrical and stationary
Progression of paralysis	3 to 4 days	Two weeks	Rapid, usually a few hours
Residual paralysis	Usually present	Usually absent	Variable
Paresthesia**	Rare	Frequent	Frequent
Sensation	Normal	May be diminished	Diminished
Deep tendon reflexes	Diminished or absent	Diminished, may return in several days	Absent, may return in 1-3 weeks
Spinal fluid at the beginning of the illness	High leukocyte count; normal or high protein (up to 25% over normal)	Normal or slightly high leukocyte count; very high protein***	Normal or high leukocyte count; moderate or high protein
Case fatality rate	2 to 20%	5 to 10%	Less than 1%

\* Usually characterized by stiffness of neck, headache, and vomiting.

\*\* Abnormal sensations such as burning, tingling, or itching.

\*\*\* Usually the second week after onset of paralysis.

# Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, diphtheria and whooping cough from 1 January 1988 to date of last report, and for same epidemiological period in 1987, by country

Subregion and country	Date of last report	Measles		Polio-myelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non-neonatal		Neonatal					
		1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987
LATIN AMERICA													
Andean Region													
Bolivia	*	...	...	6	4	...	...	...	...	...	...	...	...
Colombia	16 Jul.	7234	...	86	74	123	...	73	...	6	...	761	...
Ecuador	26 Mar.	1327	248	10	10	—	24	29	21	3	5	50	99
Peru	*	...	...	61	24	...	...	...	...	...	...	...	...
Venezuela	18 Jun.	7786	11274	47	22	1	1	9	8	1	7	254	1
Southern Cone													
Argentina	11 Jun.	1324	1299	1	—	31**	54**	...	...	75	7	2233	864
Chile	16 Jul.	2306	1036	—	—	9	7	2	2	88	95	45	16
Paraguay	23 Apr.	89	89	1	—	24	17	12	13	5	7	171	52
Uruguay	13 Aug.	57	367	—	—	2	3	—	—	—	—	11	346
Brazil	16 Jul.	6963	3405	288	161	1128	813	182	223	680	792	5458	9843
Central America													
Belize	13 Aug.	66	206	—	—	—	—	—	—	—	1	—	—
Costa Rica	*	...	...	—	—	...	...	...	...	...	...	...	...
El Salvador	26 Mar.	122	68	24	35	—	15	1	3	—	2	11	50
Guatemala	*	...	...	37	10	...	...	...	...	...	...	...	...
Honduras	23 Apr.	294	81	43	9	—	9	4	2	—	—	30	93
Nicaragua	27 Feb.	71	163	—	—	—	—	—	1	—	—	19	19
Panama	16 Jul.	133	...	—	—	47	...	20	...	1	...	381	...
Mexico	21 May	1607	...	84	53	42	...	35	...	2	...	213	...
Latin Caribbean													
Cuba	30 Jan.	34	124	—	—	—	—	—	—	—	—	—	—
Dominican Republic	*	...	...	—	—	...	...	...	...	...	...	...	...
Haiti	30 Jan.	17	...	4	11	4	...	3	...	...	...	23	...
CARIBBEAN													
Antigua & Barbuda	21 May	—	—	—	—	—	—	—	—	—	—	—	—
Bahamas	23 Apr.	5	—	—	—	—	—	—	—	—	—	—	—
Barbados	16 Jul.	—	2	—	—	—	—	1	—	—	—	—	—
Dominica	27 Feb.	1	—	—	—	—	—	—	—	—	—	—	—
Grenada	18 Jun.	4	4	—	—	—	—	—	—	1	—	2	1
Guyana	26 Mar.	147	2	—	—	—	—	—	—	—	—	—	—
Jamaica	*	...	...	—	—	...	...	...	...	...	...	...	...
St. Christopher/Nevis	26 Mar.	1	—	—	—	—	—	—	—	—	—	—	—
Saint Lucia	*	...	...	—	—	...	...	...	...	...	...	...	...
St. Vincent and the Grenadines	*	...	...	—	—	...	...	...	...	...	...	...	...
Suriname	23 Apr.	4	3	1	—	—	—	—	—	—	—	—	—
Trinidad & Tobago	18 Jun.	201	247	—	—	2	3	—	—	—	—	5	7
NORTH AMERICA													
Canada	30 Jan.	38	...	—	—	—	—	...	...	8	...	92	...
United States	27 Feb.	275	...	—	—	4	...	...	...	—	...	233	...

\* No 1988 reports received.

\*\*Tetanus data not reported separately for neonatal and non-neonatal cases.

Total tetanus data is reported in non-neonatal column.

#Data for polio is through week 35 (ending 3 September 1988).

—No cases

...Data not available.

# Schedule for 1988 National Vaccination Days

Country	Months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Belize				17								
Bolivia				17			24					
Brazil					21			13				
Colombia					28 <sup>a</sup>		25 <sup>a</sup>			26——1 <sup>b</sup>		
Dominican Republic			19-20 <sup>c</sup>				16-17 <sup>c</sup>				19-20 <sup>d</sup>	
Ecuador					28-29							
El Salvador	31	28		10								
Guatemala				21-22	18-19							
Haiti									11	23		4
Honduras				29-30		3-4		12				
Mexico	30 <sup>e</sup>		19 <sup>e</sup>							24-28 <sup>f</sup>		
Nicaragua			27-28	24-25	28-29							
Paraguay							30 <sup>a</sup>		10			
Peru					22		10 <sup>d</sup>					
Venezuela		7		10		12						

<sup>a</sup> Polio

<sup>b</sup> Accelerated activities

<sup>c</sup> Polio and DPT (under 2 years)

<sup>d</sup> Measles and Polio (under 2 years)

<sup>e</sup> Polio and DPT

<sup>f</sup> Measles

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Editor: Ciro de Quadros

Assistant Editors: Peter Carrasco

Roxane Moncayo Eikhof

Jean-Marc Olivé

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Expanded Program on Immunization  
Maternal and Child Health Program  
Pan American Health Organization  
525 Twenty-third Street, N.W.  
Washington, D.C. 20037  
U.S.A.