



# EPI Newsletter

## Expanded Program on Immunization in the Americas

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IMMUNIZE AND PROTECT YOUR CHILDREN

December 1989

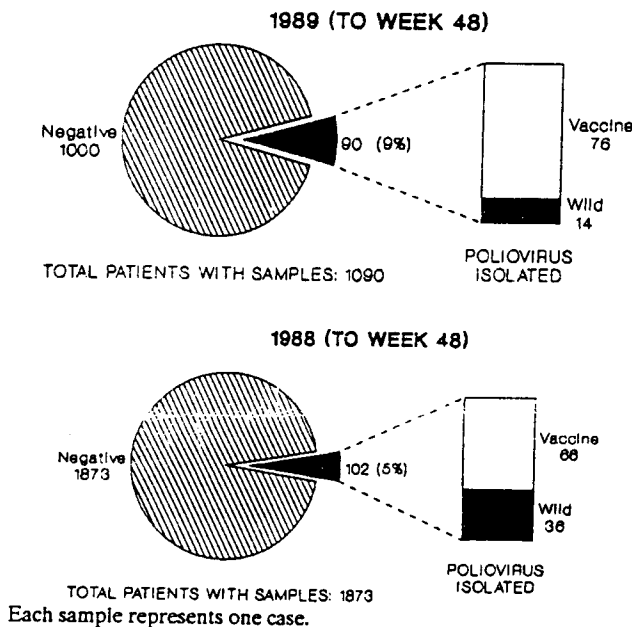
### Poliovirus Surveillance in the Americas

Through week 48 of this year, 1 781 stool samples have been processed from 1 524 patients in the regional laboratory network. This number of samples does not include samples from contacts. Of the 1 090 results known to PAHO, 90 patients (9%) have had poliovirus isolated from their stools, 74 vaccine virus and 14 wild virus (See Figure 1). There are 434 in process. Wild P3 virus has been isolated in Mexico (8), Colombia (2), and Venezuela (1). Wild P1 virus has been

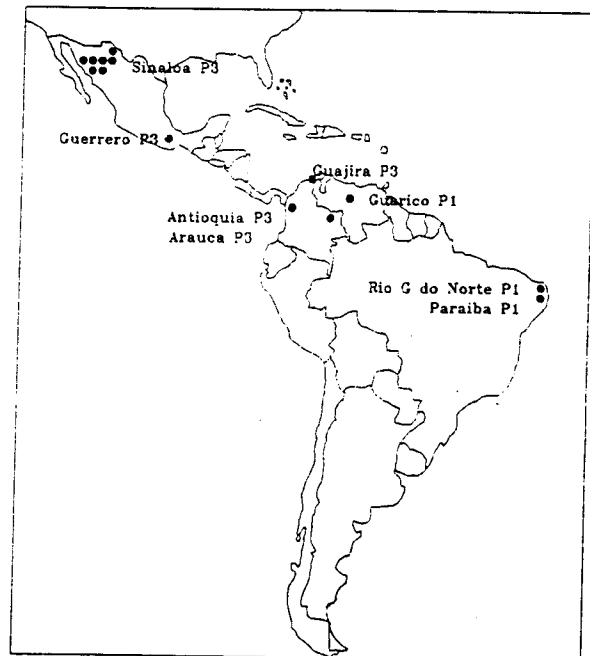
isolated in Brazil (2) and Colombia (1) (See Map). During the same time in 1988, stools from 1 373 patients were processed (not including the contacts), from which 102 were positive for poliovirus (5% of the patients). In contrast to 1989, 36 isolates in 1988 were wild virus (Figure 1). From 1988 to 1989, 51% fewer isolates were wild virus. In 1989, wild virus was isolated in only four countries.

A very important aspect of surveillance of poliovirus is stool sample collection (including its timeliness and the

Figure 1. Status of Stool Samples Taken from Cases of Acute Flaccid Paralysis Americas, 1988 and 1989



Wild Poliovirus Isolated Americas, January through November, 1989



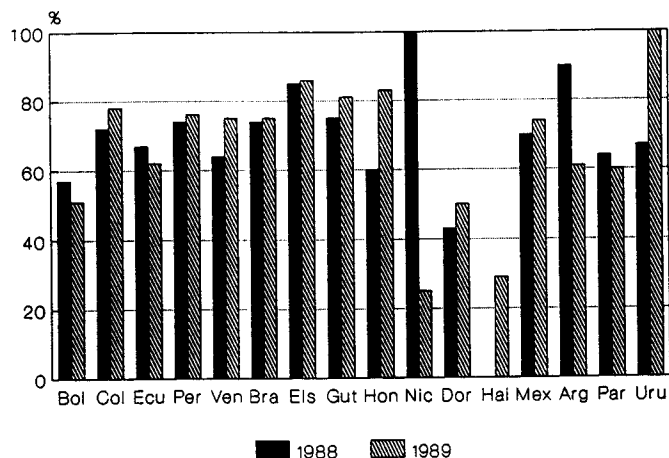
#### In this issue:

Poliovirus Surveillance in the Americas	1
Caribbean EPI Meeting	3
Southern Cone: Free of Polio?	5

Andean Countries Review EPI	6
Reported Cases of EPI Diseases	7

technique used to collect it). In the context of eradication, as fewer cases of wild virus occur, it will be very important that all cases of flaccid paralysis have stool samples taken so as to maximize our ability to identify the last areas of risk. In the first 48 weeks of 1989, 78% of the reported cases had stool samples taken. During the same time in 1988, 83% of the reported cases had stool samples taken. Figure 2 shows these data for each country. Note that the level of the proportion of patients that had stools taken declined in 11 countries, especially in Colombia, Venezuela, Nicaragua, Dominican Republic, Mexico, Argentina, and Paraguay.

**Figure 2. Percent Patients with Flaccid Paralysis with Stool Samples Taken (by Country) Americas, 1988 and 1989**



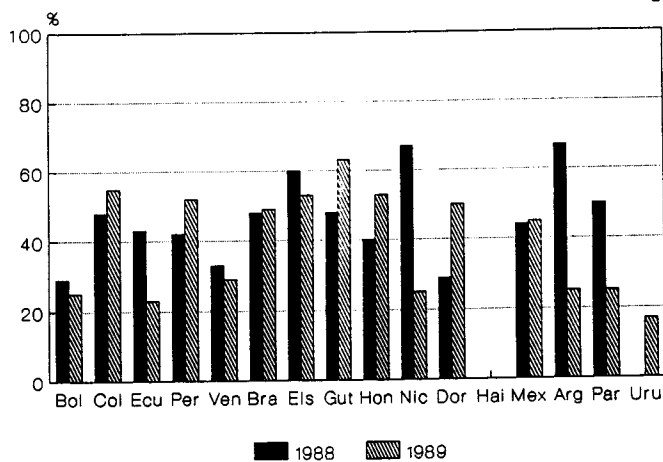
Weeks 1 to 48 1988 and 1989.

In 1989, of the stool samples taken, 48% were taken less than eight days from the onset of paralysis and in 1988 46% were taken less than eight days (See Figure 3). Of the 11 countries with fewer stools taken in 1989, Bolivia, Venezuela, El Salvador, Nicaragua, Argentina, and Paraguay also showed a decline in the percentage of stools taken less than 8 days after the onset of paralysis. Although Ecuador was one of the countries with a higher proportion of patients with stool samples taken in 1989, it showed a decline in the percentage taken less than eight days after the onset of paralysis.

In 1989, of the stool samples taken, 73% were taken less than 15 days after the onset of paralysis and in 1988 72% were taken in less than 15 days (See Figure 4). This proportion declined from 1988 to 1989 in five countries: Bolivia, Ecuador, Nicaragua, Argentina, and Paraguay.

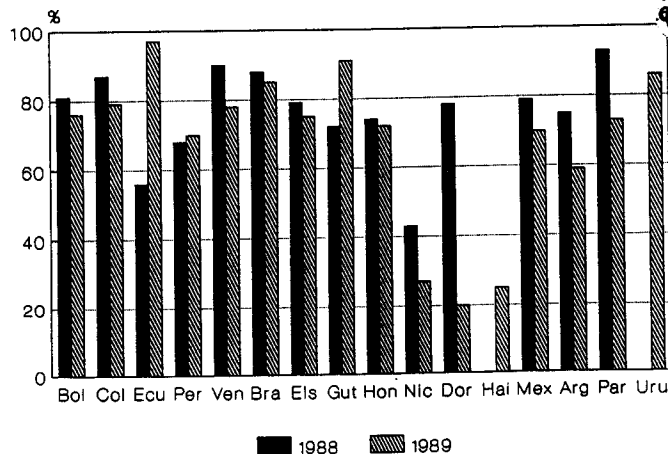
These data suggest that the goal of polio eradication in Latin America may be achieved by the end of 1990 and that the last areas at risk for poliovirus transmission are the north of Brazil, the north of the Andean Region, and Mexico. The rest of Latin America at this time seems free

**Figure 3. Percent Stool Samples Taken Within Eight Days of Onset of Paralysis Americas, 1988 and 1989**



Weeks 1 to 48 1988 and 1989.

**Figure 4. Percent Stool Samples Taken Within 15 Days of Onset of Paralysis Americas, 1988 and 1989**



Weeks 1 to 48 1988 and 1989.

of poliovirus. Although much has been gained at this stage, the present level of poliovirus surveillance activities needs to be maintained, for it is in this fashion that the last areas at risk can be identified, so that supplemental strategies such as mop-up operations can be used to help terminate the transmission of wild poliovirus. However, it will be very important to maintain surveillance activities for poliovirus even after eradication in Latin America has been achieved. Until the poliovirus has been eradicated in the rest of the world there will always be the risk of virus importation to Latin America from other countries.

# Caribbean EPI Meeting

The VI Caribbean Meeting of EPI Managers took place in Barbados, from 13-17 November 1989. The Meeting was opened by the Chief Medical Officer of Barbados in representation of the Minister of Health and was attended by the EPI managers of all the English-speaking Caribbean countries, plus Suriname. Besides the EPI Managers, the Meeting was also attended by epidemiologists, MCH nurses, virologists, statisticians and social communicators.

Representatives of the International Agencies that are collaborating with the countries for the implementation of this program, such as the Pan American Health Organization (PAHO), the Caribbean Epidemiology Center (CAREC), UNICEF, the Canadian Public Health Association (CPHA) and Rotary International also attended the Meeting. For the first time in this series of Caribbean EPI Meetings, one member of the EPI Global Advisory Group (GAG) also attended.

The objectives of the Meeting were:

a) to review the achievements of the various countries in the implementation of their annual work plans that were developed during the V Meeting, held in Grenada in November, 1988 and to prepare the annual work plans for 1990;

b) to review the epidemiological situation of measles

and polio in the area in general and some countries in particular; and,

c) to review and discuss the Plan of Action for the Elimination of Measles from the English-speaking Caribbean by 1995. This had recently been approved by the Caucus of Ministers of Health of the English-speaking Caribbean and subsequently endorsed by the PAHO Directing Council at its Meeting in September, 1989.

## Conclusions and Recommendations

1. Remarkable progress has been made by the English-speaking Caribbean countries towards the achievement of the EPI targets of universal childhood immunization and polio eradication by 1990.

Many countries have achieved immunization coverages in excess of 80% for most of the EPI vaccines (Table 1) and the incidence of the EPI diseases has reached minimal levels. Poliomyelitis due to wild poliovirus has not been detected in any country since 1982. Diphtheria, whooping cough and tetanus have practically disappeared, and measles, the EPI disease that still remains a significant problem, has declined continuously since 1982, despite a slight increase in 1988 compared with 1987. (Figure 1.).

Table 1. Percent Fully Immunized<sup>1</sup> Children Under One Year of Age English-Speaking Caribbean, 1988

Country	Population		Percent Fully Immunized			
	Total (in thousands)	Target Group	DPT	TOPV	Measles <sup>1</sup>	BCG
Anguilla	7.6	186	100	100	98 <sup>3</sup>	90
Turks and Caicos Islands	8.7	220	94	92	92 <sup>3</sup>	94
British Virgin Islands	13.8	190	84	76	62 <sup>3</sup>	48
Montserrat	13.8	199	91	91	86 <sup>3</sup>	86
Cayman Islands	20.5	358	93	95	99 <sup>3</sup>	86
St. Christopher/Nevis	52.8	924	94	93	77	*
Bermuda	60.6	895	83	85	86 <sup>3</sup>	#
Dominica	81.4	1 648	96	97	90	98
Antigua and Barbuda	83.6	1 080	98	100	95 <sup>3</sup>	#
St. Vincent and Grenadines	111.0	2 708	98	97	97	95
Grenada	119.0	3 057	65	64	58	#
St. Lucia	142.0	3 722	78	87	83 <sup>3</sup>	85
Belize	169.0	5 270	73	73	70	97
Bahamas	238.0	5 600	85	84	78 <sup>3</sup>	#
Barbados	258.0	4 032	76	73	84 <sup>3</sup>	*
Suriname	391.0	10 000	64	64	83	#
Guyana	1 010.0	20 000	64	69	55	64
Trinidad and Tobago	1 250.0	28 000	82	83	72	#
Jamaica	2 440.0	52 270	82	83	68	96
TOTAL	6 470.0	140 359	78	79	71	88

<sup>1</sup> Fully Immunized means a course of three or more doses of DPT and TOPV have been administered at least four weeks apart. For other vaccines, it refers to one dose only.

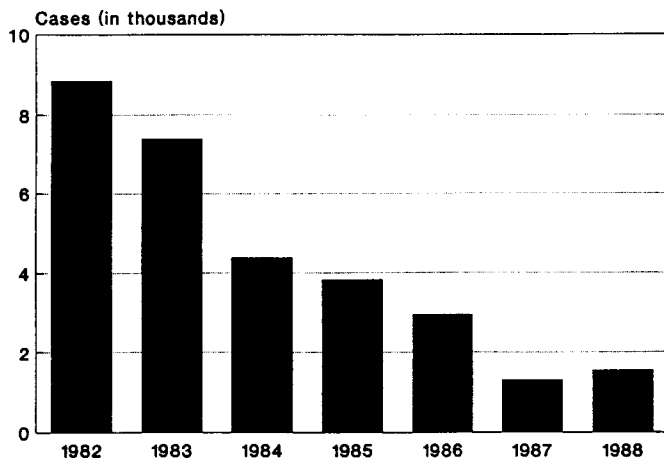
Refers to MR vaccine administered to children nine to 18 months of age.

MMR vaccine is used.

\* Only children five years of age and above are immunized.

# Vaccine is not administered under the national program.

**Figure 1. Reported Cases of Measles in the English-Speaking Caribbean, 1982 to 1988**



However, much work still remains to be done if these levels of coverage are to be maintained and if the certification of interruption of transmission of polio and the elimination of measles by 1995 are to be achieved.

2. Several countries still report a number of children not completing their immunization schedules, either by default, migration or through lack of reporting by private practitioners. These problems must be addressed through special studies that may clarify these issues, such as missed opportunities studies, interviews with private practitioners (such as the one presented by the Bahamas), and tracking mechanisms for defaulters. It is expected that several countries will conduct these studies during the next period and will report back at the next Meeting in 1990.

3. As far as the certification of poliomyelitis is concerned, it will be necessary for the countries to institute a system for the surveillance of flaccid paralysis.

Recent data from the PAHO Regional polio surveillance system indicates that every country should experience a background rate of at least 1 case of flaccid paralysis per 100,000 population under 15 years of age. If this rate were applied to the English-speaking Caribbean, then at least 20 cases of flaccid paralysis should have been reported from the area. Jamaica, for example, should have detected at least 8 such cases during 1989.

However, less than five cases of flaccid paralysis were detected in the entire English-speaking Caribbean area, indicating that improved surveillance for flaccid paralysis will have to be established. Then, proper investigation can be instituted and stool samples collected for laboratory investigation for wild polioviruses, at the PAHO polio reference laboratory for the Caribbean located at CAREC, Port of Spain.

The certification of interruption of indigenous transmission of wild poliovirus will require that all countries present evidence that cases of acute flaccid paralysis are not caused by wild polioviruses.

It is therefore suggested that all countries establish routine surveillance system for flaccid paralysis (such as the one being implemented by Suriname) and it is recommended that this be coordinated between epidemiologists, laboratories, neurologists and neuro-pediatricians in the various countries.

4. The Group reviewed the Plan of Action for the Elimination of Measles from this area by 1995 and there was consensus that several actions could start even before additional resources become available. These include:

a. Adoption of the standard case definitions outlined in the Plan of Action by all countries. These definitions are:

\* *Suspected case*: any illness with rash and fever.

\* *Probable case*: generalized maculo-papular rash with more than 2-3 days duration and fever higher than 101°F with coryza, or conjunctivitis, or cough.

\* *Confirmed case*: fulfills the case definition and has epidemiological linkage with another confirmed or probable case or is laboratory confirmed.

b. A suspected case should be reported immediately by the attending physician and investigated promptly by the epidemiologist, who discards the case if it fails to meet the case criteria for a probable case. If the case meets the criteria for a probable case, control measures will be instituted immediately with vaccination of all contacts irrespective of their previous vaccination status, (the age group for these vaccinations will be determined by the characteristic of the outbreak) and investigations to identify the source of infection will follow. Specimens will also be taken for laboratory confirmation at the designated reference laboratories.

c. The present reporting network, which in many countries relies solely on sentinel reporting, should be expanded to include all health facilities and private practitioners. The reporting network should also institute negative reporting, in which zero cases will also be reported.

d. A standard case investigation form should be adopted by all countries. It is suggested that the form that is in the PAHO/WHO Surveillance Guidelines be adopted by all countries, until the PAHO Field Guide for Measles Elimination becomes available in early 1990. This Field Guide will be discussed by the designated country epidemiologists at a Meeting to be organized by PAHO and CAREC in early 1990.

5. The Group agreed that the ideal period to launch the Caribbean "Measles Elimination Month", in which all children under 15 years of age would be immunized against measles irrespective of their previous immunization status will be May, 1991. This also coincides with the celebration of the "Child's Month" in many Caribbean countries.

6. If the plan to eliminate measles is to succeed, very intensive social communication and mobilization will

have to be undertaken. This will require the preparation of a Caribbean Social Mobilization Plan, which must address the need to increase awareness of political and community leaders, the population in general and health workers of the activities to be implemented and the importance of acceptance of vaccination. This will be particularly important in relation to the Caribbean Immunization Month, in which all children under 15 years of age will have to be immunized, many of whom will have been vaccinated or suffered the disease. The Plan will also have to address specific country needs and population attitudes towards immunization.

PAHO and UNICEF are requested to initiate actions for the elaboration of this Plan, in collaboration and

after consultation with national authorities. A special meeting in which country representatives will prepare their national social mobilization and communication plans should be organized by PAHO and UNICEF in early 1990.

7. The exchange visits of EPI managers, which was instituted last year has proved to be very useful for the cross-fertilization of programs. Innovative ideas that are implemented in several countries could be observed by program managers and many of these could be adapted to their country needs.

8. The VII Caribbean Meeting of EPI Managers should take place 12 to 16 November, 1990 in Antigua.

## Southern Cone: Free of Polio?

The last confirmed polio case that can be attributed to wild poliovirus in the Southern Cone (Argentina, Chile, Paraguay, and Uruguay), occurred in Paraguay in March 1985. However, on 20 October, 1989, the Malbrán Institute, regional laboratory for the Southern Cone, located in Buenos Aires, Argentina, informed about the characterization of three possible wild poliovirus type 3, two from samples taken from cases from Uruguay and one from Argentina. The concerned authorities of the governments of the countries involved responded to this event.

In Argentina, the isolation was from a three year old male patient from the province of Santiago del Estero who had onset of paralysis and was hospitalized in the province of Salta. On the same day that the laboratory reported the results, authorities from the Ministry of Health contacted the Directors of Epidemiology of the state that the case was reported from and the state where the case resided, and a central-level epidemiologist travelled to organize the field investigation. Because the case had been lost to follow-up, it was necessary to contact the media in an effort to locate the patient and his relatives. Contacts were investigated and hospital records were reviewed for evidence of other suspect cases; none were found. There also was a cold chain review performed which resulted in recommendations for its improvement. Vaccination coverages were analyzed, at the state and county level and some areas of low coverage were identified, which were then targeted for intensified vaccination activities. A relative, who had heard the media calls, directed the investigators to the patient's place of residence, in the province of Santiago del Estero. The child was evaluated, the parents were interviewed and contacts' histories were taken. The preliminary evaluation was consistent with Guillain-Barré Syndrome and the patient was transported to the provincial capital to be evaluated by a pediatric neurologist who confirmed the findings.

An active search for cases was carried out by reviewing all admissions records at the Children's Hospital; only three suspect cases were found that had been reported in time.

The epidemiologists met with the local Rotarians to inform them and engage them in some of the activities and a course on Polio Eradication was held for health professionals in the affected and neighboring areas.

Because the case was from a province which borders with Bolivia, the authorities of that country also engaged in activities to respond to the notification of the case. Active case finding was complemented by massive house-to-house vaccinations performed in all the border areas.

In Uruguay, the two cases (two males, ages 4 and 2) had been found through active search, one 12 days, and one 24 hours after hospitalization, at that point, samples had been taken and sent to the Malbrán Institute for analysis. The report of the possible isolation of wild strains prompted immediate action both by the Uruguayan health authorities and PAHO personnel. Vaccination coverages were analyzed, the children were visited by pediatric neurologists who diagnosed myasthenia in one, and polyradiculoneuritis in the other, and an active search for additional cases was performed. The Ministry of Public Health made public announcements over the media with the purpose of notifying the public and calling for booster vaccinations.

PAHO facilitated all arrangements to have the samples transported from Malbrán to the reference laboratory at the Centers for Disease Control (CDC) in Atlanta, Georgia, U.S.A. The purpose was to repeat the virus typification and characterization. The tests performed yielded non-polio enteroviruses, therefore confirming that the cases were acute flaccid paralyses caused by other enterovirus. Nevertheless, the swift responses of the health authorities of the three countries involved are an example of the actions that should accompany the notification of probable polio cases in areas which are free of transmission or where transmission is on the verge of being interrupted. Another important by-product was the retrospective evaluation of the routine measures taken with probable cases reported; i.e., the taking of samples, case histories and follow-up, which in the case of both countries proved to be adequate.

# Andean Countries Review EPI

The first Andean Meeting on EPI and Eradication of Poliomyelitis was held in Quito, Ecuador, from 6 to 7 November 1989. This meeting resulted from a decision taken by the Andean countries during the VII Meeting of the Technical Advisory Group of EPI in Cartagena in July 1989. Its purpose was to coordinate their activities as well as update the situation of the countries and their efforts to strengthen EPI and achieve the eradication of poliomyelitis and universal vaccination of children in the 12 months that remain before the end of 1990. Representatives of all the Andean countries (Bolivia, Colombia, Ecuador, Peru, and Venezuela) participated in this meeting. Brazil participated as an observer.

In addition to staff members from EPI and the areas of epidemiology, virology, maternal and child health in the central levels of the participating countries, health officials from the local and operational levels also participated, together with representatives of the international agencies that collaborate with the Program (USAID, UNICEF, PAHO/WHO) and representatives of Rotary International.

## Conclusions and Recommendations

1. The progress in all the countries of the Andean area toward achievement of the EPI's goals of universal immunization of children and eradication of polio by December 1990 is notable. The high political priority assigned by the governments of the countries of the area to these goals and the cooperation of the multilateral, bilateral, and private agencies has been essential in achieving this progress. Furthermore, the efforts still required for achieving the goals over the next 12 months are very substantial and will demand still further action.
2. The Group recommends that meetings of the Inter-agency Coordinating Committee (ICC) be held in each country with the participation of the Minister of Health to discuss the results attained in 1989 and the programming for 1990. The representatives of Japanese External Cooperation (JEC), should be invited to participate in these meetings as a means of increasing coordination with this agency. These meetings should critically analyze the technical and financial fulfillment of national plans of action and programming for 1990.
3. The immunization strategy for the 1990s should include the following elements in all the countries in the Andean area:
  - a. Strengthening of the regular vaccination program with emphasis on eliminating missed vaccination opportunities, decentralizing resources toward local levels, and administering all EPI vaccines;

- b. National vaccination days, with special emphasis on risk areas deriving from low coverage or transmission of the diseases included the program, including decentralization of mass communications media and application of all the EPI vaccines (except BCG), including tetanus toxoid;

- c. "Mop-up" operations in municipalities or districts identified as susceptible to high risk of transmission of the wild polio virus, employing trivalent oral polio vaccine (OPV) house-to-house in two rounds with a minimum interval of one month between each round.

According to previous recommendations of the TAG, OPV should be administered to newborn children. This dose should not be counted in the vaccination schedule.

Noninclusion of all EPI vaccines (except BCG) in national vaccination days should be considered as missed vaccination opportunities.

4. It is necessary to continue to improve the taking of stool specimens from probable cases of polio in countries in which the interval between the onset of symptoms and taking of the specimen is more than 8 days (Ecuador, Bolivia, Peru).

Both Ecuador and Peru have the option of sending stool specimens to the INS in Colombia in order to facilitate their transport in light of the difficulties of shipping specimens to FIOCRUZ in Rio de Janeiro.

Emphasis is being given to the recommendation of the EPI Technical Advisory Group (TAG) to discontinue the taking of blood specimens from probable cases of polio and to refrain from the use of serology for the diagnosis of polio.

Inasmuch as wild poliovirus isolates are less and less frequent, emphasis is placed on the sending of specimens from contacts in accordance with the criteria established by the TAG.

For identification purposes, the report on results, cases, and contacts should be identified with the name of the country, the year of the case, and the epidemiology number. The letter C should accompany the epidemiology number when the isolate comes from contacts. Example: BOL-89-003-C for isolates from contacts of Case No. 3 in Bolivia.

5. The Group considers that the demands of the polio eradication program require laboratory units whose technical response is simultaneous with the levels of operational action, that the Andean subregion already has a laboratory infrastructure that would permit self-sufficiency in this respect, and that the national laboratories should in the short-term be converted into support units for EPI national programs and polio eradication programs.

# Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1989 to date of last report, and for same epidemiological period in 1988, by country.

Subregion and country	Date of last Report	Measles		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
		1989	1988	1989	1988	Non Neonatal		Neonatal		1989	1988	1989	1988
						1989	1988	1989	1988				
<b>LATIN AMERICA</b>													
<b>Andean Region</b>													
Bolivia	1 Jul.	223	615	2	1	13	19	66	46	5	5	321	193
Colombia	17 Jun.	6 669	8 144	19	44	99	129	721	811	26	6	681	810
Ecuador	17 Jun.	2 403	2 605	1	8	46	56	28	62	0	5	113	109
Peru	9 Sept.	518	3 180	16	54	70	122	84	112	14	36	435	806
Venezuela	21 Oct.	8 413	...	15	27	0	0	32	...	...	...	465	...
<b>Southern Cone</b>													
Argentina**(v)	29 Jul.	1 411	1 493	0	4	36	35	...	...	5	3	1 451	2 358
Chile	11 Nov.	11 804	30 381	0	0	14	13	2	3	32	111	193	141
Paraguay	30 Sep.	144	...	1	0	75	55	13	64	8	11	315	664
Uruguay (v)	16 Dec.	18	...	1	0	...	...	...	...	0	0	34	16
Brazil	26 Nov.	14 529	15 689	33	101	1 327	1 560	263	283	736	983	6 058	6 480
<b>Central America</b>													
Belize**	9 Dec.	11	74	0	1	0	0	0	0	0	0	1	0
Costa Rica	9 Sept.	33	293	0	0	1	3	0	0	0	0	36	82
El Salvador	1 Jul.	14 117	364	3	12	14	26	15	18	0	0	18	23
Guatemala	9 Sept.	843	353	3	38	46	53	13	22	8	2	116	481
Honduras	28 Oct.	3 848	...	2	6	14	...	12	...	0	0	50	...
Nicaragua	9 Sept.	68	130	0	0	24	32	11	12	0	0	206	37
Panama	24 Sep.	227	...	0	0	3	...	4	...	0	...	34	...
Mexico**	29 Nov.	12 194	2 837	19	19	177	218	26	93	6	2	1 468	534
<b>Latin Caribbean</b>													
Cuba	26 Sep.	9	...	0	0	4	...	0	0	0	0	53	...
Dominican Republic (v)	29 Jul.	490	292	0	1	25	21	3	7	14	34	186	32
Haiti	*	...	...	2	8	...	...	...	...	...	...	...	...
<b>CARIBBEAN</b>													
Antigua & Barbuda	25 Nov.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	4 Nov.	45	20	0	0	0	0	1	1	0	0	0	0
Barbados	2 Dec.	2	0	0	0	0	1	2	0	0	0	0	0
Dominica	17 Jun.	5	...	0	0	0	0	0	0	0	0	0	0
Grenada	19 Aug.	0	...	0	0	1	...	0	...	0	...	0	...
Guyana	1 Jul.	7	433	0	0	4	0	0	0	0	0	0	0
Jamaica	1 Jul.	10	...	0	0	1	...	0	...	1	...	0	...
St. Christopher/Nevis	29 Jul.	12	...	0	0	...	...	...	...	...	...	...	...
St. Lucia	16 Sep.	8	2	0	0	0	...	0	...	0	...	0	...
St. Vincent & Grenadines	29 Apr.	0	...	0	0	0	...	0	...	0	...	0	...
Suriname	*	...	...	0	0	...	...	...	...	...	...	...	...
Trinidad & Tobago	23 Sep.	2 114	280	0	0	0	2	0	0	0	0	5	8
<b>NORTH AMERICA</b>													
Canada**(v)	29 Jul.	10 383	410	0	2	2	1	...	...	2	11	570	414
United States**(v)	25 Nov.	13 811	2 726	0	9	41	...	...	...	3	...	3 284	2 781

Country does not report neonatal tetanus data separately.  
 Data for polio includes only confirmed cases through week 48 (ending 2 December, 1989).  
 (v) Polio cases are vaccine-related.  
 (i) Polio cases are imported.  
 ... Data not available.

For this purpose the Group encourages the health agencies and national governments of each country of the Andean region to assign priority to supporting human, budgetary, and equipment resources and to provide continuous training.

In addition, PAHO, UNICEF, and other international agencies are requested to reinforce this process of consolidation of laboratory support for the diagnosis of poliomyelitis.

6. With the exception of Venezuela, the other countries of the area should re-evaluate the number of health establishments that make up the system of weekly notification of flaccid paralysis for the purpose of increasing their geographical extension.

7. Promotional material should be developed for timely notification of cases of flaccid paralysis for the health personnel at all levels and especially for the community through the use of mass media, audiovisual material, and other publicity material.

8. Evaluation of "mop-up" operations should include epidemiological surveillance, especially with regard to the presence or absence of cases after the two rounds of vaccination and to the relationship between the number of cases worked on (in children under 5 years of age) and the number of children vaccinated in this age group.

9. Bolivia and Venezuela should evaluate their coverage at the municipality or district level and compare it with the other countries, and take special vaccination actions in municipalities with coverage of less than 80%. This measure will assist in achieving universal immunization and eradicating polio by 1990.

10. All the countries of the area have identified the areas of highest risk for the neonatal tetanus. The Group is committed to initiating or continuing vaccination of all women of reproductive age in these areas at any time during pregnancy. These actions will be carried out in both the regular programs and during national

vaccination days. There will be a need for greater support from the cooperation agencies in order to guarantee some of the necessary inputs, such as syringes. The Group will present the results of these vaccinations at the next meeting.

11. With regard to missed vaccination opportunities, almost all the countries in the area with the exception of Bolivia and Peru have carried out operations research to identify the proportion of missed vaccination opportunities in the health establishments, together with their causes, among which the most important is that concerning false contraindications. Measures must now be taken to resolve this problem so as to take advantage of all opportunities of contact with children and with women of reproductive age and the health services. The Group will report on the results of these measures at the next meeting.

12. The recommendation has been made to decentralize the program's resources, both for regular and "mop-up" vaccination and for epidemiological surveillance actions. This decentralization should be carried out at the municipal and district levels in which the required actions should be taken. Feedback on the fulfillment of these vaccination and surveillance goals as to these levels--following the example Colombia has presented--should be provided in other countries.

13. The countries of the Andean Group agreed to carry out one of their national vaccination days on the same date in 1990 on an Andean Vaccination Day. This date should be discussed by the countries and decided upon in January 1990 in order for a workshop for the programming of information and promotion activities to be held with regard to this activity.

14. The Andean Group for EPI and the eradication of polio should meet in June 1990 in Bolivia in order to evaluate the fulfillment of these recommendations and

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The *EPI Newsletter* is published every two months, in English and Spanish, by the Expanded Program on Immunization (EPI) of the Pan American Health Organization (PAHO), regional Office for the Americas of the World Health Organization (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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Editor: **Ciro de Quadros**  
Assistant Editors: **Peter Carrasco**  
**Roxane Moncayo Eikhof**  
**Jean-Marc Olivé**  
Contributor to this issue: **Jon Andrus**

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