EPI Newsletter

Expanded Program on Immunization in the Americas

Volume XII Number 3 **IMMUNIZE AND PROTECT YOUR CHILDREN** June1990

Poliomyelitis in the Americas January to June, 1990

Figure 1. Confirmed Cases* of Poliomyelitis, January to June, 1990

** Definition: Acute paralytic illness associated with the isolation of wild poliovirus, irrespective of residual paralysis.*
Source: PAHO

Table 1. Polio Compatible Cases*

COUNTRY	Weeks 1 - 26, 1990
Argentina	0
Bolivia	0
Brazil	6
Canada	0
CAREC	0
Chile	0
Colombia	2
Costa Rica	0
Cuba	0
Dominican Republic	0
Ecuador	2
El Salvador	0
Guatemala	0
Haiti	0
Honduras	0
Mexico	1
Nicaragua	0
Panama	0
Paraguay	0
Peru	0
United States	0
Uruguay	0
Venezuela	1
TOTAL	12

** Definition: Acute paralytic illness with compatible residual paralysis at 60 days, or death, or loss to follow-up, in which there were not at least two adequate stool specimens obtained within two weeks after onset of paralysis and examined in three different laboratories. These cases can be neither confirmed as polio nor discarded as non-polio.*
Source: PAHO

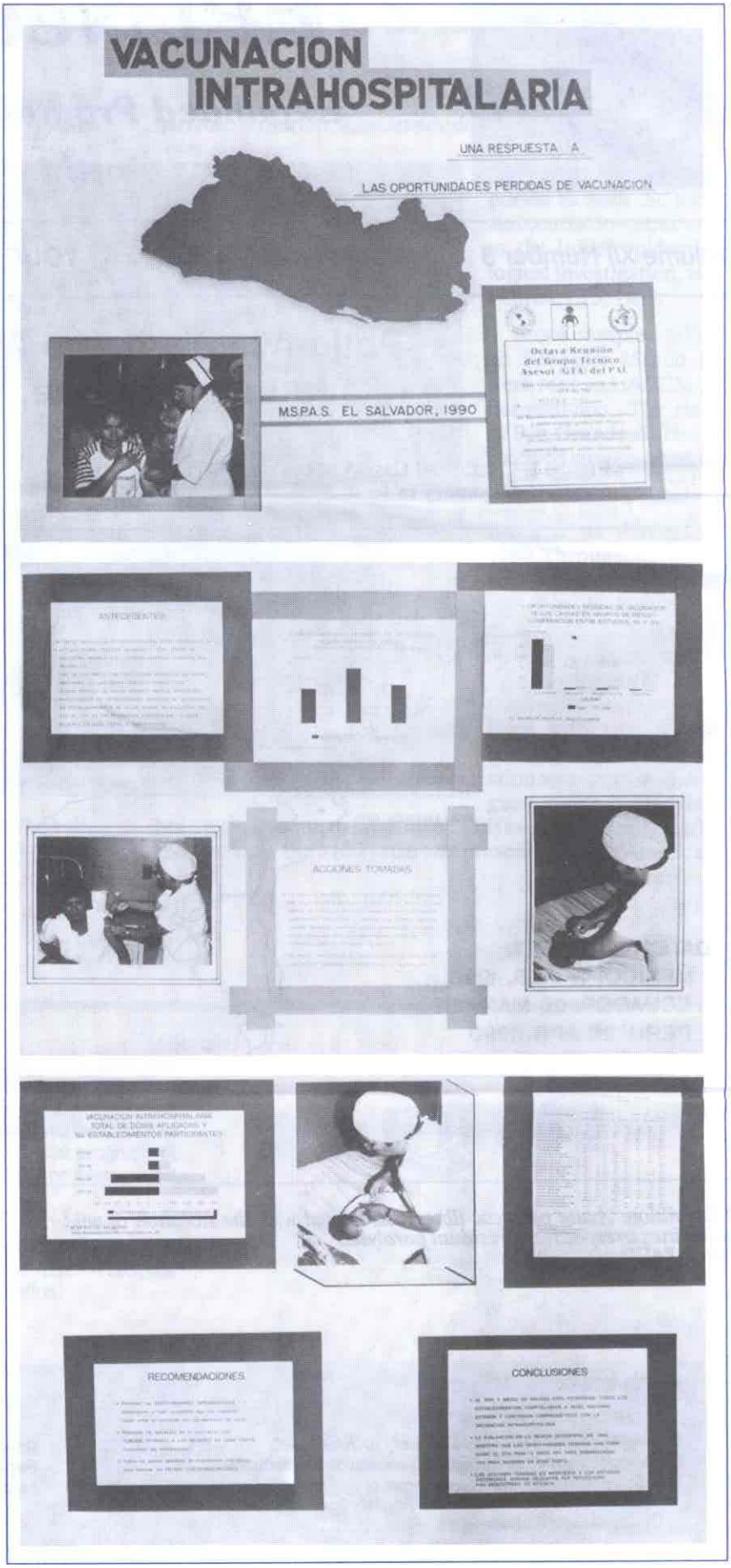
In this issue:

El Salvador Responds to Missed Vaccination Opportunities

In response to the first study on Neonatal Tetanus which was undertaken in El Salvador in 1988, a countrywide program on Intrahospital Vaccination was initiated. Many of the children and pregnant women and women of childbearing age who attend health establishments are not fully immunized, but for one reason or another the opportunity to immunize them was not seized at that clinic. In areas where access to health services is limited, those missed opportunities should be converted to opportunities taken, by immunizing all those susceptible that for any reason come into contact with the health services.

The Intrahospital Vaccination Program was initiated in hospitals that had between 70 and 600 beds, in the outpatient, nursery, inpatient, and emergency areas, as well as with hospital visitors. In the first evaluation, from July to September 1988, five hospitals initiated intrahospital vaccination, and were able to apply a total of 42,359 doses of vaccines of the program. Up to December 1988, five hospitals maintained a level 79,956 doses of vaccines applied. In May 1989 a national meeting of intrahospital vaccination was convened. Ten hospitals and 13 health centers participated in this activity. Globally, application of 332,564 doses of vaccines was achieved. By the end of 1989, one-and-a-half years after the strategy was initiated, all of the hospital establishments at the national level were committed to the intrahospital vaccination activities, reaching the application of 424,499 doses of vaccine.

Editorial Note: A poster session was included for the first time during the last meeting of the Technical Advisory Group for EPI and Polio Eradication. The posters were presented by several countries in order to summarize special studies or efforts. The poster reproduced here won second prize and the article presented summarizes its content.



Measles Elimination and Surveillance of Acute Flaccid Paralysis in the English-Speaking Caribbean and Suriname

A technical working group was convened at CAREC May 21 to 23, 1990 to review the PAHO/EPI Measles Elimination Field Guide and discuss the status of surveillance for acute flaccid paralysis. The following summarizes selected major points of consensus, and initial operational commitments and requirements.

1. Review of PAHO Measles Elimination Field Guide.

Current surveillance systems must be enhanced. A sensitive system requires reporting of the condition "febrile rash" (suspected measles) and thus facilitates appropriate control measures to eliminate remaining chains of transmission.

A key strategy to interrupt chains of transmission involves a Caribbean Measles Elimination Month, when all children between 1 and 15 years of age should be immunized regardless of previous immunization history. Priority should be given to high risk children.

This campaign must be complemented by vigorous outbreak control to eliminate remaining foci of infection. More selective campaigns may be needed depending on local circumstances.

Control of measles importation requires further discussion. As private practitioners attend measles cases and, in some countries participate in providing immunizations, timely efforts are needed to sensitize physicians to the importance of this disease, and to enlist their participation in this program, including the surveillance effort.

In view of the need for a highly sensitive surveillance system, health staff other than epidemiologists must be trained to assess "suspected" cases and to investigate "probable" cases of measles. Functional communication and collaboration should exist among individuals responsible for MCH, EPI and Epidemiology.

Laws requiring proof of measles immunization, as well as other EPI immunizations, at time of school entry should be strictly enforced where they exist and established where they are lacking.

A detailed draft plan for implementation is being finalized.

2. Surveillance for Accute Flaccid Paralysis (AFP).

Jamaica, Trinidad and Tobago, and Guyana presented the AFP situation in their countries. The adequacy of surveillance varies widely and needs improvement in all countries.

The need to standardize clinical data based upon protocols, and clinician involvement in the program was emphasized.

As a first step toward certification, Barbados, Guyana, Jamaica, Trinidad and Tobago, and Suriname should begin weekly negative reporting of AFP to CAREC. Stool samples should be collected and submitted for laboratory investigation.

The foregoing countries will present their experiences during the EPI Managers' meeting in Antigua, November, 1990, and serve as a model for improving AFP surveillance in the Caribbean.

The following areas will be of concern in the certification process: active surveillance, retrospective case finding, environmental sampling, coverage levels, laboratory assistance in diagnosis of AFP cases.

Sustaining and monitoring high coverage level at the smallest geo-political unit is important. The need to maintain an adequate cold chain at all times was emphasized.

Initial Operational Commitments and Requirements.

Measles: To the extent possible countries should attempt to start surveillance of "febrile rash" and report on their initial experience at the November EPI Manager's meeting. Epidemiologic data also should be collected on any outbreaks which might occur. AFP: Representatives from Trinidad & Tobago, Jamaica, and Guyana agreed to strengthen/establish weekly surveillance in collaboration with CAREC prior to the EPI Managers November meeting. Guyana and Barbados participants also proposed retrospective studies to be presented at that meeting.

CAREC's weekly report to Washington, and the monthly bulletin (CSR) should include AFP reports.

Resource levels (financial, human, equipment, and logistic support) in many countries are not sufficient to support the Regional Plan of Action for Measles Elimination. PAHO therefore should continue discussions with donor agencies with a view to enhancing financial resources as soon as possible.

The need to reaffirm political commitment for the measles elimination effort during the meeting of the English-speaking Caribbean Ministers of Health in July was stressed.

Study of Missed Vaccination Opportunities in Colombia

During the decade of the sixties and up to the mid-seventies, less than 5% of children under one year of age in the developing world received a first dose of OPV, DPT or measles vaccine. At present, coverages in Colombia, as in other countries, have achieved much higher levels. Colombia has achieved this through the establishment of National Vaccination Campaigns and the strengthening of the routine vaccination program. The routine program uses several strategies to achieve its targets; canalization, concentration, house-to-house vaccination and unplanned vaccination in aproximately 4 000 health establishments spread out over the whole Colombian territory.

Even though National Vaccination Campaigns have contributed to an increase in the coverage rates, as part of a preventive program such as vaccination of children, the ideal situation would be that vaccination were permanently offered and demanded in all existing health establishments.

The Expanded Program on Immunization aims at not only increasing coverages, but also vaccinating children before they reach one year of age. An unpublished coverage survey conducted by the Ministry of Health of Colombia in Barranquilla and Bogota in 1988, found that the average interval required to complete a child's vaccination schedule was 18 months. Since the average number of doctors' visits for children under five years of age in Colombia is between 3.7 and 7.1, it is apparent that these visits are not all used to take the opportunity to immunize children. Only four consultations would be necessary to complete vaccination schedules.

Many of the children who are missing doses seek health services for other reasons and are not vaccinated, therefore becoming a missed oppportunity for the routine vaccination program.

Research conducted in Mozambique, Comoros, Honduras, Sudan, El Salvador , Ecuador, and Venezuela have confirmed the existance of missed opportunities in health facilities, ranging from 30 to 80% of all visits. The reasons for not immunizing show that obstacles are mainly due to false contraindications, failure to identify eligible children, weaknesses in the suplly of biologicals, divisions and separations between preventive and curative services, and, even community resistance to vaccination.

This study was conducted with the intention of verifying the existance of missed opportunities within the health establishments of Colombia and identifying their major causes.

Methods

Two health districts were selected; one within an urban perimeter (Bogota) and other in a rural area (Sucre), from which 36 health service establishments were selected at random.

A missed opportunity for vaccinations was defined as "any visit to a health facility by a child under 24 months of age eligible for vaccination, with no contraindications to receiving any of the antigens, which does not result in the administration of any of the doses necessary at the time of the visit."

A child eligible for vaccination was defined as "any child between 0 and 23 months of age who at the time of the visit to the health facility needs to receive a dose of one or several antigens as stipulated in the vaccination schedule defined by the Ministry of Health of Colombia." The basic schedule is as follows: one dose of BCG at birth, three doses of OPV and DPT beginning at eight weeks of age with a minimum interval of four weeks between the application of each dose, and one dose of measles vaccine at nine months of age. The data was recorded following inspection of the immunization card or from a verbal report if the card was not available. OPV administered at birth was not included.

Previously trained nurses carried out the interviews: one for every person accompanying a child under 24 months of age (chaperon), upon exiting the facility, in order to determine the number of missed opportunities, and another to all personnel who were responsible for children under 24 months, in order to establish their knowledge of the existing vaccination schedule and the contraindications to the EPI vaccines. The person in charge of vaccinations at the establishment was administered the same questionnaire and additionally asked about availability of vaccines and availability and/or knowledge of the Manual of EPI Norms.

The data was gathered in two-day visits during working hours at each of the eligible facilities.

Those children who were also eligible for vaccination with missed opportunities and opportunities taken, were compared according to personal characteristics and the presence of risk factors. The impact of variables such as the age of the child, the type of chaperon, the time of travel to reach the health facility, the waiting time at the health facility, the person who saw the child at the health facility, the number of EPI vaccines and diseases that the chaperon knew, and, their knowledge of the appropriate ages for administering these vaccines.

In addition, the interviewers established whether the health personnel determined the vaccination status of the child, whether the person taking the child enquired as to the child's need to be vaccinated, and, whether the child's vaccination card was available at the time of the study.

The opportunities missed and taken, according to the type of service initially sought versus other services offered, were also evaluated.

Results

A total of 553 persons accompanying a child under two years of age were interviewed at 11 health facilities in Bogota and 428 at 24 facilities in Sucre. Additionally, 42 health personnel were interviewed in Bogota and 93 in Sucre, these included doctors, nurses and nursing assistants.

The interviews revealed a total of 365 (66%) children in

Bogota and 331 in Sucre (77.3%) who would have been eligible to receive any of the doses in the vaccination schedule. All of these children were included in the analysis.

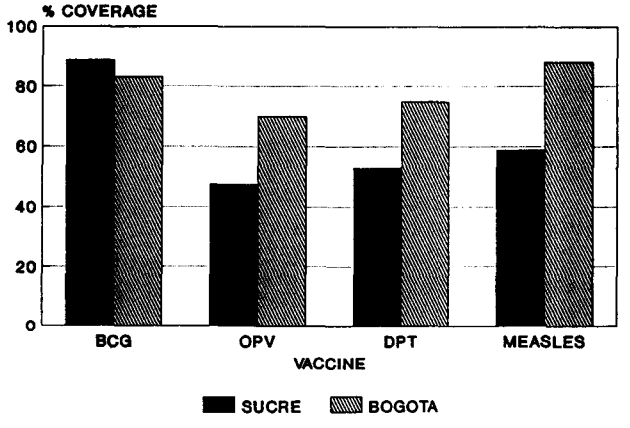
The opportunities missed among these eligible children were 52.1% in Bogota and 77.3% in Sucre (Table 1).

Approximately 90% of the persons accompanying the eligible children were the mothers and 60% had their vaccination card available during the visit. None of the eligible children in Bogota had real contraindications to receiving vaccine, five of the children in Sucre had been hospitalized and were excluded from the analysis. The average age of the eligible children was eight months in Bogota and seven months in Sucre.

The highest frequency of missed opportunities occurs among children under six months of age(40% in Bogota and 54%in Sucre), followed by those six to eleven months of age. An important quantity of children twelve to 23 months of age were missing some dose included in the vaccination schedule.

Figure 1 shows the missed opportunities by type of vaccine. The highest number of missed opportunities was found for BCG and measles vaccines. No significant differences were found in terms of location, BCG and measles vaccines showed the highest frequency of missed opportunities.

Figure 1. Missed Opportunites by Antigen Bogota and Sucre, Colombia, June and September, 1990



Source: Ministry of Health, Colombia

The reasons for not vaccinating were analyzed (Table 1). The lowest frequency occurred among the reasons somehow related to the chaperon. The second category —those advanced by the chaperon which could have been corrected if health personnel had intervened. Within this category, the greatest number of missed opportunities was caused by a combination of the chaperon's perception that the child was too sick to be vaccinated and the fact that the health personnel did not even attempt to convince them otherwise.

No statistically significant differences were found when analyzing missed opportunities and the age of the children,

Table 1. Reasons for not vaccinating according to the chaperon's responses Bogota and Sucre, Colombia , 1989

REASONS FOR NOT VACCINATING	BOGOTA N	BOGOTA %	SUCRE N	SUCRE %
Chaperon dependant				
Carelessness/forgetfulness	7	3.7	27	10.8
Disagreeable experience	4	2.1		
Did not bring card	3	1.6	3	1.2
Parent disagrees			2	0.8
Did not wait			2	0.8
Unauthorized chaperon	2	1.0	4	1.6
Subtotal	16	8.4	38	15.2
Advanced by the chaperon but avoidable if health personnel had intervened				
Chaperon believes child is too sick	29	15.3	31	12.4
Visit shared with civil registry	27	14.2		
Visit was not for vaccination	20	10.5	2	0.8
Considers child has received sufficient vaccine	10	5.3	22	8.8
Prefers to return later	10	5.3	7	2.8
Subtotal	96	50.5	62	24.8
Contingent on personnel other than vaccinator				
Scheduled for a later date	41	2.6	41	16.4
Doctor recommended no vaccination	10	5.2	3	1.2
Chaperon did not find vaccination service	2	1.0	3	1.2
Others	6	3.2	16	6.4
Subtotal	59	31.0	62	24.8
Contingent on the vaccination service				
Not convenient/necessary	11	5.8	34	13.6
Related with scheduling	4	2.1	11	4.4
Related with supplies	4	2.1	42	16.8
Subtotal	19	10.0	87	34.8
TOTAL	**190**	**100.0**	**250**	**100.0**

Source: Ministry of Health, Colombia.

the duration of travel to the health establishment and the length of the waiting period, whether or not vaccination was included as the principal reason for seeking health care. The fact that the chaperon had or did not have a radio or television did not make a significant difference either in Bogota or in Sucre.

As far as the type of care originally sought, it was found that the children who were visiting in order to obtain vaccine appeared to be protected against missed opportunities.

The highest risk was presented by those who sought care other than vaccination, treatment control, or sick-visits. Those children attending the health facility for growth and development monitoring (which is theoretically closely related to EPI), had a two-fold risk of missing vaccination opportunities.

The availability of the child's vaccination card had an impact over whether the opportunity to vaccinate was

missed or taken. Also important was whether the health personnel attempted to establish the vaccination status of the child or at least that the chaperon asked to have that established.

Twenty physicians, nine nurses and 13 nursing assistants were interviewed in Bogota. In Sucre, there were 20 physicians, seven nurses and 64 nursing assistants. Fifty-one percent of all personnel interviewed were completing the mandatory year of social service. Of all the personnel interviewed in Bogota and Sucre, 38% had spent less than 12 months on the job.

Only one fourth of the personnel interviewed in Bogota and one third in Sucre, had received a briefing that included information on the EPI. The effect of this could be observed in the fact that even though a high percent (95%) responded adequately regarding the times that vaccination was offered at the health establishment, only six of the 42 interviewed in Bogota and 47 of the 93 interviewed in Sucre were right about additional data such as age for first DPT dose, minimum age for measles vaccine and minimum interval between DPT doses. Most troublesome was the fact that none of the people interviewed responded adequately regarding the contraindications to vaccination, therefore establishing the fact that there is no clear knowledge about this point.

Conclusions and Discussion

Results confirm that over one half of the children in Bogota and close to 75% in Sucre did not receive the vaccine doses that they were eligible for and that the causes for these missed opportunities were most frequently related to the personnel working at the health facilities.

When analyzing the reasons for not vaccinating, it was necessary to consider four categories since, even though some of the reasons could be related to the mother/chaperon or the health personnel, there was another group of reasons which although enunciated by the chaperons, if the health personnel had intervened to clarify them, the researchers felt the children would have been vaccinated. The lack of intervention on the part of the health personnel could be due to lack of knowledge, to an inability to convince the chaperon or because they shared the chaperon's missinformation.

The vaccination status was established on only 48% of the children in Bogota and 56% in Sucre. This is in sharp contrast with the statements made by 90% of the personnel in Bogota and 65% in Sucre, stating that they routinely checked the vaccination status of children they worked with.

Some children do not have or overcome the aforementioned obstacles but are still not vaccinated for lack of adequate supplies of antigens or syringes (16% in Sucre).

Another point worth mentioning is the lack of integration between preventive and health care facilities and other facilities which may share physical space. This was the case, for example, with the birth registry office, which could have been targeted in Bogota to reduce the high number of missed opprtunities for BCG.

It was noteworthy that the possibility of taking the opportunity to vaccinate is related to the initiative of the health personnel in asking the chaperon about the child's vaccination status. Many of the reasons included in the motives of the chaperon, or in the category of interaction with health personel, could be avoided if the health personnel attempt to talk with the mother and clarify the false contraindications, the rare occasions when it is necessary to delay the vaccinations, the need for a given number of doses to attain adequate protection, and the importance of using each visit to vaccinate their child.

On the other hand, consideration should be given to requiring children to carry vaccination cards, which would permit health establishments to quickly establish the child's vaccination status and decide on options in such a way that not carrying one would not impede receiving the necessary vaccination. As shown by the results of the information provided by the health personnel, little is known of the standards in the EPI, and almost half of the officials do not receive information regarding these standards upon taking office. As long as the health personnel are not able to establish with certainty the situations in which a child is eligible for vaccination, and more importantly while it is not a routine activity to establish the need for vaccines, the users of the health services will not be 100% vaccinated.

In view of the observations made in the study and the similar experiences and results of interventions in other countries, it is suggested that the screening of children eligible become a reality in all the health organizations. It was also suggested that in this study not only the vaccination official be involved, but each one of the officials of the organization. In addition, they could all be trained to administer the biologicals.

To accomplish this it is necessary that the present Standards of EPI be widely taught, especially to the executors at the local level, perhaps through small workshops.

Notices which are confusing and adverse attitudes of the users towards the biologicals should be replaced in the health establishments by printed information that will remind chaperons that their visit to the health establishment is also an opportunity to initiate or complete the vaccination schedule of their child.

It would also be necessary to undertake tasks to spread the word and to train the community to clarify the false contraindications and encourage the demand for vaccination services by taking advantage of each visit to a health establishment.

Currently work is underway on the design and implementation of a national level strategy which includes the ideas and plans mentioned above. The impact of the strategy will be evaluated during 1990.

Source: Restrepo, AM; Ganter, B; Rodríguez, R; Avendaño, J. *Estudio de Oportunidades Perdidas de Vacunación en Organismos de Salud de Dos Servicios Seccionales de Salud en Colombia*, Bogota, January 1990. For copies of the original report, write to PAHO, A.A. 253367, Bogota, Colombia.

Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1990 to date of last report, and for same epidemiological period in 1989, by country.

Subregion and country	Date of last Report	Measles		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non Neonatal		Neonatal					
		1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989
LATIN AMERICA													
Andean Region													
Bolivia	6 May	39	128	0	0	...	...	4	51	24	4	82	228
Colombia	22 Apr.	1 831	4 528	0	4	0	68	54	63	7	15	339	454
Ecuador	1 Apr.	523	3 649	1	0	19	93	17	58	1	3	145	256
Peru	30 Jun.	...	...	1	26	...	...	...	...	...	...	...	...
Venezuela	3 Jun.	3 672	5 314	0	1	34	13	12	29	0	0	475	173
Southern Cone													
Argentina(v)**	13 Jan.	63	174	0	0	4	...	...	...	1	0	...	...
Chile	5 May	389	5 522	0	0	9	4	0	0	18	13	42	125
Paraguay	27 May	239	67	0	0	115	17	37	10	7	1	197	49
Uruguay (v)	5 May	0	...	0	0	2	0	0	0	0	...	33	...
Brazil	30 Jun.	...	...	0	2	...	...	...	...	...	...	...	...
Central America													
Belize	30 Jun.	19	11	0	0	0	0	0	0	0	0	2	1
Costa Rica	2 Jun.	6	10	0	0	1	0	0	0	0	0	41	15
El Salvador	3 Jun.	443	12 703	0	0	17	21	4	15	0	0	54	17
Guatemala	2 Jun.	7 257	50	0	0	22	21	1	7	1	0	27	51
Honduras	31 Mar.	4 865	64	0	0	11	7	5	4	0	0	22	19
Nicaragua	26 May	2 436	45	0	0	17	21	6	7	0	0	95	26
Panama	31 Mar.	44	...	0	0	0	0	0	0	0	0	1	...
Mexico	31 Mar.	22 906	1 103	1	5	38	43	13	15	0	0	204	269
Latin Caribbean													
Cuba	17 Feb.	0	0	0	0	0	0	0	0	0	...	7	...
Haiti	30 Jun.	...	...	0	0	...	...	...	...	...	...	...	...
Dominican Republic	30 Jun.	...	...	0	0	...	...	...	...	...	...	...	...
CARIBBEAN													
Antigua & Barbuda	7 Apr.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	3 Mar.	8	4	0	0	0	0	0	0	0	0	0	0
Barbados	28 Apr.	0	0	0	0	0	0	0	0	1	0	0	0
Dominica	7 Apr.	3	4	0	0	0	0	0	0	0	0	0	0
Grenada	28 Apr.	0	1	0	0	0	0	0	0	0	0	0	0
Guyana	27 Jan.	0	3	0	0	0	0	0	0	0	0	0	0
Jamaica	24 Mar.	2 304	3	0	0	...	...	...	...	...	...	...	...
St. Kitts/Nevis	30 Jun.	...	...	0	0	...	...	...	...	...	...	...	...
St. Vicent	24 Mar.	0	0	0	0	3	0	0	0	...	...	...	...
Saint Lucia	27 Jan.	0	1	0	0	0	0	0	0	0	0	0	0
Suriname	30 Jun.	...	...	0	0	...	...	...	...	...	...	...	...
Trinidad & Tobago	14 Apr.	317	689	0	0	3	0	0	0	0	0	0	1
NORTH AMERICA													
Canada	30 Apr.	68	161	0	0	0	0	0	0	5	0	3 074	286
United States**(v)	23 Jun.	12 810	7 995	0	0	24	...	0	...	1	...	1 414	1 135

** Country does not report neonatal tetanus data separately.
# Data for polio includes only confirmed cases through week 26 (ending 30 June, 1990).
(v) All polio cases are vaccine -related.
(i) Polio cases are imported.
... Data not available.

First Polio Reward Presented in Brazil

A reward of $100 was presented in Natal, capital of Rio Grande do Norte (RN), Brazil on May 29th to the person who reported the first regional case of confirmed wild poliovirus in 1989. The reward, as established by the XXXIV Directing Council of the Pan American Health Organization, was offered to the first person to report in writing the first case of poliomyelitis which was subsequently confirmed to be due to wild poliovirus infection by laboratory confirmation, in a county or district previously free of wild poliovirus circulation.

Dr. José Anchieta Rodrigues de Moura, a physician with the SSAP in Jardim do Seridó, was honored for notifying public health officials. Nurse Maria de Lourdes Medeiros was honored for investigating the case. Ms. Medeiros is part of the technical team of the IV Health Region headquartered in Caicó, RN.

The polio victim, a 3 year old, resides in the urban area of Sao Jose do Seridó, Rio Grande do Norte. The case had onset of paralysis on February 3, 1989. The date reported to both the local and central levels, as well as the initial epidemiological investigation, was February 15, 1989.

Stool samples taken on February 15 and 17 were sent to LACEM in Pernambuco. The state of Rio Grande do Norte received confirmation of the isolation and typification of type 1 wild poliovirus on August 3, 1989. Throughout recent years, the municipio of Sao Jose do Serido has consistently achieved over 90% vaccine coverage through its Campolio campaigns. Even with such a high coverage a mop-up operation was enacted in August 1989. There has been no migration to the county. This award ceremony marks the first time the $100 prize was presented in the Americas.

The EPI Newsletter is published every two months, in Spanish and English 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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