



EPI Newsletter

Expanded Program on Immunization in the Americas

Volume XIV Number 4

IMMUNIZE AND PROTECT YOUR CHILDREN

August 1992

One year without polio in the Americas!

August 23, 1992 marked the first year that the Region of the Americas has been free of wild poliovirus. The last detected case occurred in Junín, Peru on 23 August 1991.

This achievement has been possible thanks to the eradication campaign launched by the Director of the Pan American Health Organization, Dr. Carlyle Guerra de Macedo, in May of 1985. The principal strategies used were the National Vaccination Days with applications of poliomyelitis oral vaccine and the intensified surveillance of reported cases of flaccid paralysis. These efforts succeeded in reducing the number of polio cases caused by wild virus from approximately 1 000 reported cases in 1986 to nine in 1991 (eight in Colombia and one in Peru). Since the virus was isolated from the Peruvian case, no other wild virus has been isolated in the Region (Figure 1).

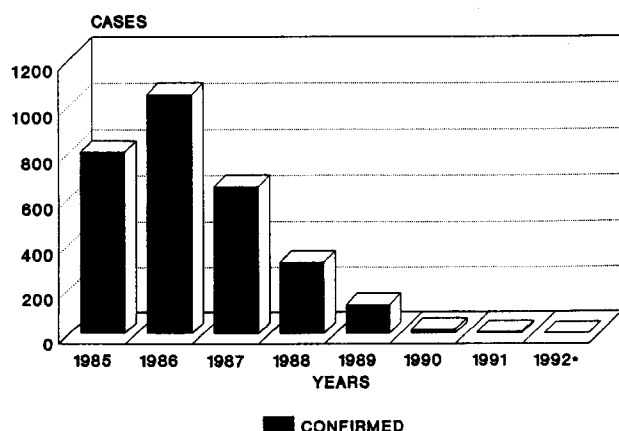
Region of the Americas were vaccinated against the principal childhood diseases (polio, measles, diphtheria, tetanus, pertussis and tuberculosis). By 1991, the overall coverage extended to over 75% of the population under one year of age.

The task was made possible thanks to the joint backing of various collaborating agencies, at a cost of approximately 542 million dollars (US). The governments from the countries have provided around 430 million and the rest has come from the collaborating agencies that include the Agency for International Development from the Government of the United States (USAID), Rotary International, UNICEF, the Inter-American Development Bank (IDB) and the Canadian Public Health Agency (CPHA).

In addition to the national vaccination days, mass communication was used extensively to inform the public and mobilize the population. Also, a laboratory network was used for diagnostic support. PAHO has established an impressive surveillance system of acute flaccid paralysis that includes more than 20 000 health units that report cases on a weekly basis.

The challenge now is to maintain the impetus by increasing the vaccination coverage, consolidating the gains made in eradication and achieving control and elimination of the other childhood diseases. PAHO has named a Poliomyelitis Eradication International Certification Commission that will verify the interruption of wild poliovirus transmission. It is estimated that the Commission will conclude its work in 1995. In the meantime, high levels of coverage and surveillance should be maintained and three years should pass by without confirmed cases of polio before the Region of the Americas can be certified as free of wild poliovirus. One of those three years has already passed; we will continue the effort and write history!

Figure 1. Confirmed cases of polio in the Region of the Americas, 1986-1992



* Information for 1992 through week 34

** Source: PESS/PAHO

At the inception of the Expanded Program on Immunization in 1978, less than 25% of the children in the

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Acceleration of the EPI in Central America

The Eighth Central American Meeting to review the progress of the Expanded Program on Immunization, the eradication of poliomyelitis, the elimination of neonatal tetanus and the control of measles was held in Panama City, from 18-19 August 1992. Joining the Central American countries as participants in the meeting were Mexico, Haiti, the Dominican Republic and the Reference Laboratory for the Diagnosis of Poliovirus, INCAP.

Control-Elimination of Measles

In the last three years there have been measles epidemics in each of the countries of the subregion, Costa Rica reported 6 340 cases with 28 deaths in 1991 (Table 1). Bearing in mind that epidemics occur in this subregion every four years, it is calculated that this year may be a "quiet" period, the stage most suited to developing a massive vaccination effort that forms part of the Elimination Plan to free Central America of this disease by 1997. Because of the high proportion of counties with coverage lower than 80% it is important to ensure the success of this initiative. For that it is necessary to place special emphasis on programming and developing complementary activities to the vaccination effort in these high risk areas.

Alternatives were discussed for the attack phase of the initiative to eliminate measles in Central America. For this activity all of the 13 100 000 children between the ages of nine months and 14 years would be vaccinated. Taking into account the seven million doses of measles vaccine that have been donated by the Government of Brazil, alternatives were discussed on how to implement the plan since 6.5 million doses are still needed to carry it out and the additional resources for the attack phase have not yet been identified. With this background two alternatives have been proposed that will be raised at the RESSECA Meeting in September 1992:

a) Postpone the attack phase until the first trimester of 1993; or

b) Develop the attack phase in two stages:

b.1) October - November 1992, vaccination of school children (other age groups can be included if financing is available) and

b.2) March - April 1993, vaccination of preschoolers and the rest of the school-age population.

It is important to emphasize the necessity of available resources for the two stages in September and January respectively.

Results have been reported from the initiatives to eliminate measles in the English-speaking Caribbean, Brazil and Chile and progress has been made in strengthening the epidemiological surveillance of measles in these same countries.

Strengthening the surveillance of measles is one of the essential and priority elements in monitoring the progress of the program. It is necessary to develop the basic elements of surveillance presented in the Field Guide, particularly with regard to disseminating the case definition and preparing a simple record of case investigation. Also investigators should take advantage of the low incidence of measles to use these instruments for collecting better information on each case of measles, which will then allow a better understanding of its epidemiology and will optimize control actions.

Eradication of Poliomyelitis

The most recent isolations of wild poliovirus in the Central American Region were in October 1990, in Guatemala. The rest of the countries registered the following dates: Panama 1972, Costa Rica 1973, Belize 1980, Nicaragua 1981, Honduras 1987 (last case confirmed in 1989), El Salvador 1987 (last case confirmed in 1989), Haiti 1989 and Mexico, 1990.

Although the Region has the best indicators for epidemiological surveillance in the Americas, a worsening trend has been noted in these and in the rates of acute flaccid paralysis. Also, some countries must increase the number of reporting units to include the other institutions of the Health Sector. The effort should presently be concentrated on improving these indicators, especially in the collection of two adequate stool specimens from every probable case and from at least five contacts. It is necessary to ensure the proper preservation of these specimens until they arrive at the reference laboratory and so it is proposed that measures

Table 1. Measles cases and rates per 100 000 inhabitants. Central America, 1985 - 1992. Information circa week 26 of 1992, ending 27 June

	1985		1986		1987		1988		1989		1990		1991		1992
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.
Costa Rica	1	0.04	4534	120.07	3869	141.46	347	12.39	33	1.12	75	2.55	6340	215.57	2100
El Salvador	1413	25.45	278	4.86	405	6.87	787	12.91	16536	22.03	1124	21.89	751	14.63	330
Guatemala	2272	28.53	1650	20.13	400	4.74	182	2.10	2413	27.01	8819	95.87	206	2.18	26
Honduras	6476	148.09	603	13.36	977	20.95	619	12.89	6353	27.52	8360	177.24	95	1.92	23
Nicaragua	956	29.22	2550	75.33	792	22.62	314	8.67	381	10.17	18225	470.83	2867	71.69	1845
Panamá	4295	196.93	4199	188.55	1885	82.86	378	16.28	301	12.70	1891	79.79	2430	102.53	471
TOTAL	15420	59.06	13938	51.88	8552	30.89	2701	9.48	26028	92.04	38.564	135.71	12.696	43.73	4835

Source: PAHO

be taken to control the temperature of these stool specimens so that they arrive at the laboratories in proper condition.

Of the 242 cases of AFP reported in Central America in 1991, three were classified as compatible and 239 were discarded. The conditions regarding the stool collection of the discarded cases were as follows: 199 adequate, 34 inadequate and six without specimens. It is important to emphasize that the classification criteria of the cases as compatible with polio should be followed up. Every case with inadequate specimens that presents sequelae compatible or not with polio and/or that is lost and/or that dies should be classified as compatible unless another pathology or diagnosis can be proven without a doubt. It is the responsibility of the certification commission to discard these cases based on an adequate documentation of the clinical history.

An evaluation of the PESS database showed that for Central America more than 50% of the discarded cases did not have clinical variables that are considered critical for a good evaluation of the cases. Thus, to facilitate the task of the Certification Commission in its study of problem cases and to avoid delaying the certification because of an incomplete study of cases, it is of the utmost importance to make available all the data that are required in the PESS information system.

During the period between January and July of 1992, the Central American countries of Panama and Belize sent to INCAP a total of 603 specimens that were collected from 100 cases and their contacts. A total of 316 specimens have been processed (201 cases and 115 contacts) in addition to 597 samples from a study involving high risk Guatemalan communities whose results are presented separately. From the case specimens only one from Belize was not processed because it was inadequate (swabbed in transport for bacteria) and from the contact specimens 28% were processed at the request of epidemiologists from the subregion.

Although the conditions of the specimens have improved, some deficiencies still persist, above all regarding the volume, temperature and reporting prior to shipment. The rate of isolation is 36.3% for the cases and 53.9% for the contacts, with differences existing among the countries.

Elimination of neonatal tetanus

The goal of eliminating neonatal tetanus (NNT) by the year 1995 is increasingly presented as a feasible goal, from the gains that have been made as well as the high political backing offered by the First Ladies in those countries where the disease is endemic. This important support for the plan to eliminate neonatal tetanus will be officially announced in September in the next meeting of First Ladies of the Americas.

There have been 106 cases of neonatal tetanus (NNT) reported and investigated during the course of the year in the countries that were represented at the meeting, with the exception of Haiti (Table 2). In Costa Rica and Belize no cases were reported in 1992. Haiti continues without an information system for this disease, and is also lacking in effective action for vaccination with tetanus toxoid. Guatemala has developed a surveillance system. In Mexico, the frequency of NNT in thirteen of the most high risk counties fell from 32 cases in 1990 to 15 cases in 1991 and zero cases through June of 1992.

From the observation of overall annual data of NNT cases, it is not possible to verify the impact that control measures have had on this disease. This can be explained by the increase in the quality of the epidemiological surveillance system. To overcome this bias, the data was analyzed from the cohorts in counties at risk. In this way it can be observed that in Central America, in the 69 counties identified at risk in 1989, the incidence of NNT fell from 115 cases in 1989 to 17 cases in 1991 and five cases during the course of 1992. This decrease is due to the massive activities to vaccinate women of childbearing age with TT2 that have been carried out in the Central American countries.

El Salvador, Guatemala, Honduras, Nicaragua and Panama presented results from special studies geared toward improving the quality of the epidemiological surveillance system to determine with greater sensitivity the "silent" areas that are at high risk for neonatal tetanus. These studies include "local surveillance", and evaluation of risk factors to actively search for the disease.

Table 2. Cases of neonatal tetanus and rates per 1 000 live births. Central America, 1985 - 1992*

	1985		1986		1987		1988		1989		1990		1991		1992
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.
El Salvador	52	0.32	39	0.21	26	0.14	33	0.66	28	0.54	25	0.48	18	0.07	16
Guatemala	17	0.05	8	0.09	24	0.08	29	0.1	113	0.38	50	0.16	15	0.04	6
Honduras	20	0.1	24	0.14	21	0.12	4	0.02	20	0.11	39	0.23	18	0.23	9
Nicaragua	30	0.27	28	0.22	32	0.24	26	0.17	17	0.1	15	0.09	11	0.07	4
Panama	12	0.16	12	0.16	7	0.09	7	0.09	12	0.11	5	0.06	6	0.09	3
TOTAL	131		111		110		99		190		134		68		38

* Information through week 26, ending 27 June.

After the presentations were made, the following recommendations were proposed:

In the counties that have reported cases of neonatal tetanus in the period from 1985 - 1992 there should be followup among the cohorts of susceptible women of childbearing age until 100% of them are vaccinated with at least two doses of tetanus toxoid.

Ensure that vaccination activities with tetanus toxoid are initiated or accelerated for all women of childbearing age in all risk areas that have been identified. Furthermore, identify the necessary measures to carry out an evaluation of the impact of these activities which would be presented at the next meeting.

It is vital to monitor the coverage with TT2 at the county level in women of childbearing age and to improve the recording of information of care for neonates in all the hospitals in risk areas.

All reported cases of neonatal tetanus should be investigated and special attention given to basic information about them: source, age of patient, vaccination history with tetanus toxoid in the mother prior to giving birth.

Based on available information, efforts should be made to follow the special studies to improve the specificity and sensitivity of the surveillance system.

Finally, it was recommended that contact be initiated with the advisors to the First Ladies or their equivalents in each country to enlist their support for EPI activities.

Vaccination coverage

By the first semester of 1992, the vaccination coverage in children under one showed a decline when compared with those of 1991, except in the case of Costa Rica. For that same period it can be noted that El Salvador and Guatemala did not achieve adequate coverage for all the EPI vaccines.

For the first time all of the countries represented showed vaccine coverage by county for OPV3 as well as for measles vaccine. However, it is troubling that more than 50% of the counties of the region still have coverage under 80% which is not sufficient to ensure control/elimination of the vaccine-preventable diseases. It is necessary to gear actions and resources to these high risk areas to regain coverage and reach numbers that surpass those of last year.

Handling opened vaccine vials

Although vaccines contain chemicals or preservatives to stabilize and ensure the safety of the vaccine at the moment it is produced, there is no guarantee that these substances are able to kill microbes that may contaminate a vial of vaccine once it is opened. The maximum effect that can be expected from these substances is that they minimize the proliferation of microorganisms. Microbial contamination of an opened vial of vaccine, even if it is stored in a refrigerator, may cause infections in the persons vaccinated with it.

The rate of contamination of multiple-dose vials is estimated at between 0% to 8%. The rate of contamination depends on: 1. the skill of the person who puts the needle in the top; 2. the care and frequency with which the multiple-dose vials are penetrated to withdraw vaccine, the size of the needle and the length of time it remains in the top; 3. The quality of the material that the lid or top is made of may influence if it can resist multiple perforations without fragmenting; 4. the fineness of the needle and its diameter; 5. the knowledge of the persons who handle sterile equipment.

The object of each application of a vaccine dose is to inject it in the most sterile manner possible without harming the person, using a vaccine that is not contaminated.

Thus, PAHO recommends the following storage time for vials of vaccine that have been opened and stored at a temperature between 0 and 8 degrees centigrade.

VACCINE	Time
Measles, MR, MMR, rubeola	8 hours
Polio	8 hours
BCG	8 hours
DPT, DT, TT	5 days
Hepatitis B	5 days
Haemophilus (HBCV)	8 hours
Yellow Fever	8 hours

The countries that wish to use another standard which allows storage of opened vials for a longer time should have routine control programs to ensure that the vaccine is not contaminated.

Posters used in the campaigns against measles in Chile and Brazil



De 25 de abril a 22 de maio, vacinação nacional. De 9 meses a 14 anos de idade.

O Brasil Unido Contra O Sarampo

MINISTERIO DA SAUDE

A circular logo with the words "VACUNATE Y LLESTO" around the top edge. Inside the circle is a silhouette of a child's head and shoulders. Below the circle is a banner with the text "Dile Chao al Sarampión!".

**CAMPAÑA NACIONAL
DE VACUNACION
ANTISARAMPION**

Chile, 6 al 16 de Abril de 1992

DISTRIBUCION GRATUITA

GRACIAS

**CON ESTA VACUNA,
USTED AYUDA A CHILE A DECIRLE
CHAO AL SARAMPION**

Mamá,

Entre cinco y doce días después de la vacuna, su hijo puede tener algunas reacciones normales.

Estas pueden ser fiebre, romadizo o puntitos rojos en la piel.

No se preocupe, en general, no duran más de un día. Puede cuidarlo usted misma en su casa.

Para la fiebre, déle bastante líquido o colóquele paños tibios en la frente. Observe cómo reacciona.

Si las molestias no pasan, vaya al consultorio o posta más cercano a su domicilio.

MINISTERIO DE SALUD

La vida es lo primero

First Ladies in support of infancy

The historic meeting will be celebrated from 23 - 25 September in 1992 in Cartagena, Colombia. The First Ladies of the Americas will meet with representatives from PAHO, UNICEF, UNFPA and nongovernmental agencies. It is hoped that during the meeting participants will discuss the goals of the World Summit for Infancy, the importance of National Action Programs for infancy and the connection of these with the Convention on the Rights of Children. The principal objective of this meeting is for the First Ladies to devote a large part of the time to exchanging points of view regarding the initiatives that they will support.

The Pan American Health Organization and UNICEF have invited them to participate actively in the elimination of neonatal tetanus, the promotion of breast feeding and the prevention of early pregnancy. It should be emphasized that the elimination of neonatal tetanus by 1995 was included within the goals established by the Summit. The programs described are being carried out in almost all the countries of Latin America and the Caribbean and the idea is to obtain the participation of the First Lady of each country, or her equivalent, so that she will contribute her efforts to achieving the goals established in each area. It is hoped that the meeting will conclude with an official declaration to that effect.

Differential diagnosis of cases of acute flaccid paralysis

The Expanded Program on Immunization (EPI) of the Pan American Health Organization (PAHO) in collaboration with the Sector of Neuroepidemiology of the National Institutes of Health (NIH) of the Government of the United States will hold a meeting to discuss the differential diagnosis of the cases of acute flaccid paralysis from 14 - 16 September of 1992.

The purpose of the meeting will be to evaluate the cases of acute flaccid paralysis and of Guillain-Barré Syndrome (GBS) that have been reported to the surveillance system for the eradication of poliomyelitis, established by PAHO. Participants will include the neurologists who have collaborated most actively with the eradication program and participated in meetings with pediatric neurologists that

the EPI has been holding in the Region since 1989. Each neurologist will present a study of acute flaccid paralysis and GBS held in his country. Studies will also be presented regarding other causes of acute flaccid paralysis, such as intoxication by *Karwinskia* or pesticides, AIDS, traumatic neuritis, etc. and some neuropathological studies of GBS in children.

It is hoped that this meeting will expand the pool of available information regarding acute flaccid paralysis and at the same time update the diagnostic criteria.

All the documents presented in the final report will be published as part of the documents in the PAHO Technical Series.

Brazil donates vaccine for the measles campaign in Central America

The government of Brazil has made a donation of seven million doses of measles vaccine for the first attack phase of the Central American initiative to eliminate measles. The following table illustrates how the donations have been distributed to each country.

Table 1. Doses of measles vaccine donated by the Government of Brazil to the Central American countries.

Country	Population	%	Number of doses required	Number of doses donated
Guatemala	3,975,000	32	4,300,000	2,240,000
El Salvador	2,887,500	18	2,500,000	1,260,000
Honduras	2,225,000	18	2,400,000	1,260,000
Nicaragua	1,675,000	13	1,800,000	910,000
Costa Rica	1,300,000	10	1,400,000	700,000
Panama	1,037,500	9	1,100,000	630,000
TOTAL	13,100,000	100	13,500,000	7,000,000

Source: PAHO

Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1992 to date of last report, and the same epidemiological period in 1991, by country.

Subregion and country	Date of last Report	Measles		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non Neonatal		Neonatal					
		1992	1991	1992	1991	1992	1991	1992	1991	1992	1991	1992	1991
LATIN AMERICA													
Andean Region													
Bolivia	...	...	...	0	0	...	...	...	...	...	...	...	...
Colombia	...	...	...	0	8	...	...	...	...	...	...	...	...
Ecuador	11 Jan.	...	...	0	0	...	...	...	...	1	...	...	...
Peru	...	...	...	0	1	...	...	...	...	...	...	...	...
Venezuela	18 Apr.	3 921	5 283	0	0	19	28	7	8	0	0	115	274
Southern Cone													
Argentina	...	...	...	0	0	...	...	...	...	...	...	...	...
Chile	15 Feb.	198	166	0	0	2	3	0	0	2	1	21	11
Paraguay	13 Jun.	120	162	0	0	10	...	6	...	2	1	75	21
Uruguay	13 Jun.	163	218	0	0	3	0	0	0	0	0	25	30
Brazil	...	...	...	0	0	...	...	...	...	...	...	...	...
Central America													
Belize	15 Aug.	5	7	0	0	...	...	1	1	...	...	0	2
Costa Rica	29 Feb.	952	...	0	0	...	...	...	...	...	...	1	...
El Salvador	...	...	...	0	0	...	...	...	...	...	...	...	...
Guatemala	23 May	26	107	0	0	6	11	...	...	0	0	76	32
Honduras	21 Mar.	6	39	0	0	8	...	7	4	0	0	52	10
Nicaragua	29 Feb.	271	...	0	0	5	...	2	...	0	0	27	...
Panama	25 Apr.	314	1 738	0	0	0	0	1	0	0	0	2	4
Mexico	1 Aug.	549	20	0	0	104	0	31	1	0	0	48	5
Latin Caribbean													
Cuba	...	...	...	0	0	...	...	...	...	...	...	...	...
Haiti	...	...	...	0	0	...	...	...	...	...	...	...	...
Dominican Republic	11 Jul.	4 558	324	0	0	18	24	2	3	7	9	...	...
CARIBBEAN													
Antigua & Barbuda	6 Jun.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	6 Jun.	0	0	0	0	0	1	0	0	0	0	0	0
Barbados	18 Jul.	0	0	0	0	1	4	0	0	0	0	0	0
Dominica	6 Jun.	0	1	0	0	...	...	0	0	0	0	0	0
Grenada	6 Jun.	0	2	0	0	...	...	0	0	0	0	0	0
Guyana	6 Jun.	0	2	0	0	0	0	0	0	0	0	0	0
Jamaica	6 Jun.	12	243	0	0	...	...	0	0	0	1	...	...
St. Kitts/Nevis	6 Jun.	0	5	0	0	0	0	0	0	0	0	0	0
St. Vincent	6 Jun.	0	2	0	0	1	0	0	0	0	0	0	0
Saint Lucia	13 Jun.	7	6	0	0	0	0	0	0	0	0	0	0
Suriname	6 Jun.	0	0	0	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	27 Jun.	66	83	0	0	5	7	0	0	0	1	0	4
NORTH AMERICA													
Canada	28 Mar.	311	743	0	0	2	0	0	0	2	0	521	637
United States	20 Jun.	25	5 843	0	0	4	11	0	0	1	1	53	902

... Data not available.

New external collaboration for the 1992 EPI Plan of Action

Within the funds that have been committed to carry out the EPI plans of action for 1992, more than four million dollars have been included for countries in the Region that have been granted for such diverse projects as mopping-up operations, cold-chain equipment, consultants for specific purposes, training, vaccination coverage, etc. A summary of some of the most important contributions follows:

For Bolivia, the Committee of Organizations for Voluntary Service (COVS, auxiliary of the cooperation project of the Italian Government) has granted US\$170 000 for cold-chain equipment in La Paz. In El Salvador, PRODERE is collaborating with US\$160 000 to strengthen the regular vaccination program through the purchase of cold-chain equipment and through training for health personnel regarding the EPI and surveillance of vaccine-preventable diseases with emphasis on the PRODERE areas of intervention and the former areas of unrest (States of Morazán, San Miguel, Chalatenango). PROSAMI has pledged US\$66 155 to encourage training and liaison among 83 NGOs in regular immunization activities through training workshops. Also included is the provision of cold-chain equipment and materials for immunization activities to new NGOs; EPI-related training to 94 health promoters associated with NGOs, training of 300 community volunteers to participate in vaccination activities, and support for

mobilization and travel expenses to 400 persons when the two vaccination days are carried out.

In Guatemala, the Dutch cooperation project (Subregional Project of Engineering and Maintenance) is providing support with \$US280 000 for maintaining the cold chain at the subregional level, while in Honduras the Spanish cooperation project has pledged \$US200 000 to the National Organization for the Control of Biologicals.

In Peru the Swiss Government has pledged to donate \$US2 676 556 for implementing the cold chain, and in Nicaragua the Inter-American Development Bank is studying a project to purchase equipment and spare parts for the cold chain for the sum of \$US100 000.

The other collaborating agencies include the Integrated Health Project (PROISS) of the World Bank, local Rotary clubs, Save the Children Agency of the United Kingdom, the Christian Fund for Infancy, Italian cooperation project, UNFPA, JICA, the European Economic Community, French cooperation project, Project HOPE and diverse branches of governments of the countries of the Region. To these are added the traditional collaborators of the EPI such as AID, UNICEF, Rotary International, IDB and CPHA.

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.

References to commercial products and the publication of signed articles in this *Newsletter* do not constitute endorsement by PAHO/WHO, nor do they necessarily represent the policy of the Organization.



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