EPI Newsletter

Expanded Program on Immunization in the Americas

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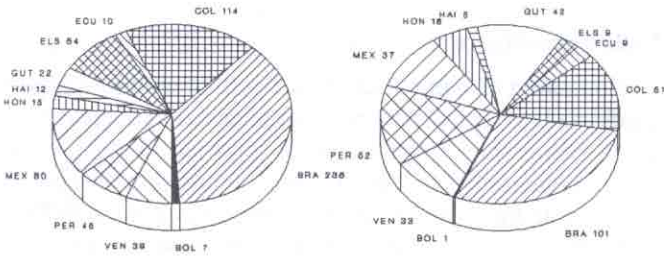
Polio in the Americas in 1988

Great advances were made in 1988 in the identification of probable cases of poliomyelitis. There were 1 906 cases of flaccid paralysis reported which had onset in 1988. Of these, 361 were confirmed as polio and 155 are still under investigation. In 1987, 656 cases were confirmed of 1 667 reported. The distribution of confirmed cases by country, for both years, is presented in Figure 1.

Figure 1. Confirmed cases of poliomyelitis. Region of the Americas, 1987 - 1988.

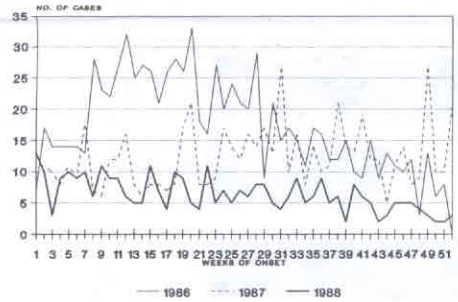


* Provisional data.

** Nine vaccine-related cases are not included in the total.

Source: Weekly telexes to PAHO.

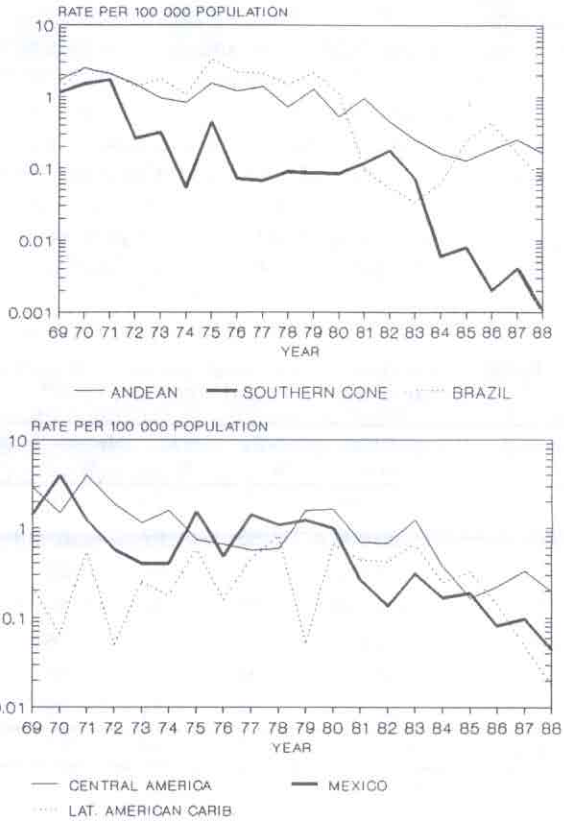
Figure 2. Week of onset of symptoms of confirmed cases of polio. Region of the Americas, 1986 - 1988.



Note: Date of onset for 11 1988 cases is unknown, and 155 are still pending final classification.

Figure 2 shows the distribution of confirmed cases by epidemiological week of onset of paralysis, for 1986, 1987 and 1988. A clear reduction in polio activity during 1988 is observed. The same is supported by Figure 3, in which morbidity rates by Sub-region reporting cases are presented.

Figure 3. Poliomyelitis morbidity rates, by year, by Sub-region. Latin America, 1969 - 1988.



Source: PAHO.
Provisional data.

In this issue:

Third Central American Meeting to Review the EPI and Polio Eradication

Introduction

The Third Central American Border Meeting to review advances in the EPI and polio eradication by 1990 was held in Guatemala City, Guatemala from 15 to 17 February. Representatives from Belize and Mexico, the Subregional Reference Laboratory for polio diagnosis (INCAP), pediatric neurologists collaborating with the program in the various countries and a member of the Technical Advisory Group attended for the first time. Also present were epidemiologists, MCH staff, and other central-level supervisory personnel, as well as personnel from the operative, local levels and several technical staff from the international agencies which are collaborating with the program (PAHO, UNICEF, AID, and Rotary International).

Coverage

This is the first time in the history of the EPI in Central America that global coverage levels are at or over 60%, for all EPI antigens. With the exceptions of Guatemala and Nicaragua, the countries have individually achieved coverages between 60 and 70% for all antigens (no national data on Tetanus Toxoid (TT) coverage in women of childbearing age were presented). This increase in the global coverage figures is principally due to the increases experienced in Guatemala as a result of the National Vaccination Campaigns held in 1988 and more importantly, due to the accelerated vaccinations that became possible as of October 1988, when PAHO financial resources were decentralized (Table 1).

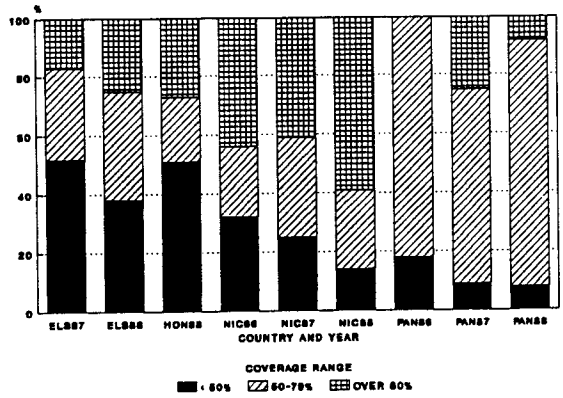
Table 1. Vaccination coverage in children under one year of age. Central America, 1988*

Country	Population <1 year	OPV3 %	DPT3 %	Measles %	BCG %
BEL	5 280	73	73	70	97
COR	80 000	86	87	87	87
ELS	178 538	62	61	63	65
GUT	328 548	55	47	54	38
HON	191 019	70	74	76	84
NIC	140 600	83	51	55	89
PAN	60 526	73	75	75	91
TOTAL	984 511	67	60	65	67

* Provisional data.

Another important point regarding vaccination coverage is that some countries (El Salvador, Honduras, Nicaragua and Panama) were able to analyze it at the county ("municipio") or other comparable geopolitical level. Figure 1 shows that those countries which have utilized this information for the past two or three years (El Salvador, Nicaragua y Panama), have been able to reduce the number of counties with coverage below 50%. This is an indication of the strides that can be made when this information is used for programming.

Figure 1. Distribution of counties by range of OPV3 coverage among children under one year of age. Central America, 1986-1988.

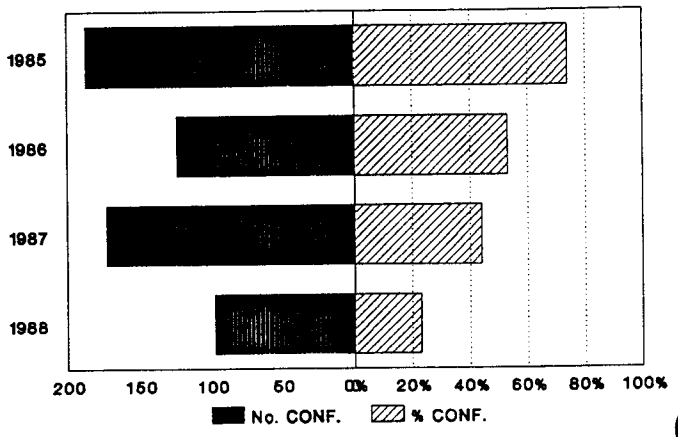


Source: Country reports.

Polio Surveillance

Compared with previous years, the total number of cases confirmed in Central America and Mexico has decreased in 1988. Fewer than 100 cases were reported in 1988, compared to nearly 200 in 1987. Figure 2 shows that the confirmation rate for probable cases reported has gone from 75% in 1985 to 20% in 1988, reflecting the advances made in epidemiological surveillance and case-finding of suspected cases. Guillain-Barré Syndrome (GBS) is the most common diagnosis for discarding cases (40%), and has been for the last three years.

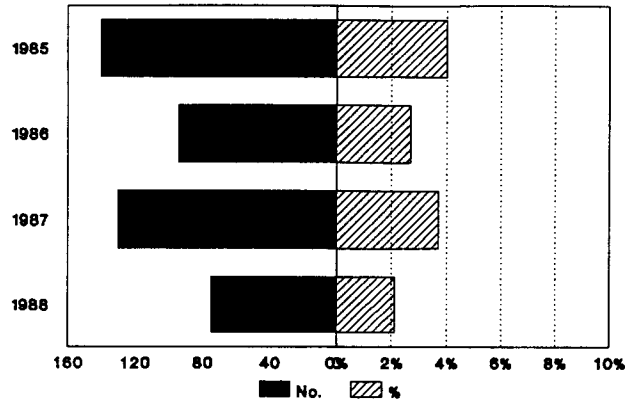
Figure 2. Confirmed polio cases and confirmation rates. Central America* and Mexico, 1985 - 1988.



* Only includes polio-infected countries.
Source: Country reports.

The number of infected counties also decreased from 4% in 1987 to 2% in 1988, for a total of 75 infected out of the 3 489 counties in all of Central America and Mexico (Figure 3 and Table 2).

Figure 3. Polio-infected counties. Central America and Mexico, 1985 - 1988.



Total number of counties = 3 489.
Source: Country reports.

Table 2. Counties with confirmed polio cases. Central America and Mexico, 1985 - 1988

COUNTRY	TOTAL	1985	1986	1987	1988
Belize	6	0	0	0	0
Costa Rica	80	0	0	0	0
El Salvador	261	ND	19	33	11
Guatemala	329	21	23	20	30
Honduras	289	5	6	10	3
Mexico	2 362	114	46	67	31
Nicaragua	100	0	0	0	0
Panama	62	0	0	0	0
TOTAL	3 489	140	94	130	75
% Counties		4.0	2.7	3.7	2.1

ND No data available.

Although epidemiological surveillance has improved considerably in most countries, there is still room for improvement.

The proportion of cases reported within 15 days of onset has consistently increased in all countries, with the exception of Honduras. Almost 90% of the cases in El Salvador are being reported within this time period.

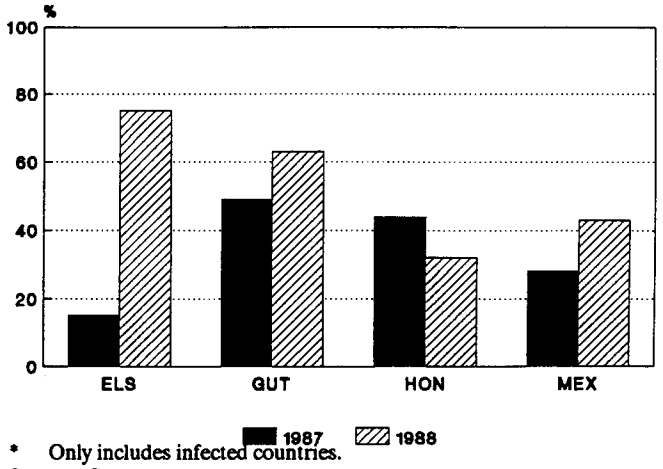
Except for the cases reported in Mexico, more than 80% of the cases reported in the Sub-region are being followed-up within 11 weeks of onset of symptoms.

The organization of control measures has improved in all countries in 1988 but, in Honduras they were instituted for only less than 40% of the cases. A very low proportion of these were taken during the 48 hours that followed reporting of the case. In Honduras, control measures were never taken within this time period.

The collection of stool samples from all probable cases assumes a crucial role during this phase of the program, since it permits evaluation of the eradication of the wild virus. Over 70 % of the cases have had samples taken in El Salvador, Guatemala, Honduras and Mexico.

On the other hand, although this indicator shows improvement from 1987 to 1988 in El Salvador, Guatemala and Mexico, only some cases have had these samples taken during the first few days of illness. In this regard, Honduras has seen a worsening situtation when compared to 1987 (Figure 4).

Figure 4. Probable cases of polio with stool samples taken within the first eight days since onset of symptoms. Central America and Mexico, 1987 - 1988*



* Only includes infected countries.
Source: Country reports.

Although reporting among countries has improved at the national level, the difficulties in exchanging information at the local, border levels persist.

Reference Laboratory: INCAP

INCAP received 177 fecal samples from the Central American countries in 1988 and isolated 41 poliovirus, of which all, except for one which is still being studied, were found to be vaccine-related.

All the countries agreed to send fecal samples of every probable case identified to INCAP, accompanied by each clinical-epidemiological investigation form. In addition, the epidemiologists and laboratory personnel agreed to use a unique case identification number. The suggestion was made that fecal samples of up to four contacts (children under five years of age living permanently with the probable case) be taken in countries not considered to be infected.

All cases and contacts shall be identified by a unique number containing the country code, the year in which the case had onset and its epidemiological sequence number for the year in which the case was reported. Contacts will additionally carry the letter C followed by a sequence number. For example, case number ELS-89-001-C1 corresponds to the first contact of the first case with onset in 1989 in El Salvador.

Samples should be shipped to INCAP in Guatemala every Monday or Tuesday, and their arrival should be pre-

ceeded by a telephonic or telegraphic communication detailing the flight number and date of arrival. Honduras will send its samples once a month and INCAP promised to inform the country epidemiologists of the results on the tenth of every month.

Neurological Diagnosis

There was agreement that the neurological diagnosis should be established on the basis of the clinical, epidemiological and laboratory criteria already set forth in the Polio Field Guide. Also, that a good differential diagnosis required knowledge of symptoms and their evolution.

A study was conducted in Honduras, in which the files of 88 patients diagnosed as having GBS between 1981 and 1987, were reviewed. The majority were between 3 and 12 years of age (61%), 72% had a history of some gastrointestinal or respiratory ailment, 35 had reported distal weakness and 20 proximal weakness, and albuminocytologic dissociation was found in only 55%.

Eleven of the 84 probable cases reported in Guatemala had had an electromyographic evaluation; of which, 8 had altered conduction velocities, two were under five years of age, and in which the paralysis tended to involve the lower extremities and be ascending, and recover in more than 60 days.

Missed Opportunities for Vaccination

A study of missed opportunities for vaccination was conducted in El Salvador. Results, like those of similar studies conducted in Honduras and Nicaragua, indicated that over half of these missed opportunities were due to false contraindications to vaccination. In El Salvador, where the practice of immunizing hospitalized patients has been introduced, coverage rates among newborns have increased considerably, as have those among women of childbearing age.

Conclusions

Table 3 summarizes compliance with the agreements made during the previous meeting in Santa Rosa de Copán, Honduras.

Table 3. Compliance and percent compliance with agreements reached during the Second Central American Meeting held in Santa Rosa de Copan, Honduras, 1988

INDICATOR	GUT	ELS	HON	NIC	COR	PAN	%
Coverage by county	no	yes	no	yes	no	yes	50
Vaccination days	yes	yes	yes	yes	no	no	66
Special activities	yes	yes	yes	yes	yes	yes	100
Samples to INCAP	yes	yes	yes	yes	no	no	66
Potency tests	yes	yes	yes	no	no	yes	66
OPV to newborns	yes	yes	no	yes	no	yes	66
Missed opport.	no	yes	yes	yes	yes	no	66
Rotarians	yes	yes	yes	yes	yes	yes	100
Trimestral mtgs.	no	no	no	no	no	no	0
Intersectorial part.	yes	yes	yes	yes	yes	yes	100
Social communic.	no	yes	no	yes	yes	yes	66
Cold chain evals.	no	no	no	yes	no	no	16

In general, most of the points agreed upon have been followed-up, even though the three-monthly border meetings and the joint vaccination campaigns were not held, and only Nicaragua has conducted a cold chain survey.

1. As stipulated in the National Plans of Action, the ministries of health and all external cooperation agencies supporting the program must decentralize their resources in order to improve implementation at the local level. The Interagency Coordinating Committees should meet more frequently in all countries, so that follow-up can be strengthened.
2. The studies on flaccid paralysis which have been carried out in Costa Rica, El Salvador, Guatemala, Honduras and Mexico, must also be done in the other countries participating at this meeting.
3. PAHO should promote that a meeting take place, within the next two months, where all the neurologists collaborating wiht the program get together with the purpose of standardizing their diagnostic criteria.
4. Costa Rica and Panama should send stool samples of all the cases of flaccid paralysis occurring in their territories to INCAP.
5. The countries which have not yet conducted cold chain reviews, should do so, and all OPV vaccine left over after every work day should be discarded as standard practice in all countries.
6. The personnel responsible for control activities in the border areas must exchange maps and names in order to improve the coordination of both surveillance and control.
7. The TAG recommendation to award the equivalent of US$100 to the person reporting and the health worker investigating the first probable case from which wild virus is isolated in a given county ("municipio"), should be implemented.
8. Every country will present data on the proportion of units reporting weekly (including negative reporting) at the next meeting.
9. The committments made at the meeting held in Santa Rosa de Copán, are still in effect for the next activity period, but the activities related to the "Mop-up Operation" in the counties where polio transmission is identified, must also take place.
10. The Secretaries of Health (or Directors) should follow-up and monitor the compliance with these recommendations on a monthly basis for the next six months and should participate in the next meeting
11. Those countries which are presently carrying-out national vaccination campaigns should continue to try to hold at least one joint campaign, preferably in April of each year.
12. The next meeting to review advances and monitor progress will be held in August 1989 in El Salvador.
13. Health personnel from some of the counties targeted for "mop-up" operations and some members of Rotary International are expected to participate in the next meeting to share their experiences.

EPI vaccination coverages in children under one year of age. Latin America, 1988 (provisional data)

	Population under one year of age	OPV3	DPT3	Measles	BCG
Latin American Caribbean					
Cuba	187 982	94%	94%	85%	98%
Dominican Republic	212 606	64%	39%	26%	38%
Haiti	201 707	48%	49%	59%	45%
SUBTOTAL	602 295	68%	59%	56%	59%
Central America					
Belize	5 270	73%	73%	70%	97%
Costa Rica	80 500	86%	87%	97%	87%
El Salvador	178 538	62%	61%	63%	65%
Guatemala	328 000	55%	47%	54%	38%
Honduras	191 019	70%	74%	76%	85%
Nicaragua	142 600	83%	51%	55%	89%
Panama	60 526	73%	75%	75%	91%
SUBTOTAL	986 453	67%	60%	65%	67%
Andean Region					
Bolivia	263 800	40%	39%	44%	27%
Colombia	816 960	94%	74%	74%	99%
Ecuador	312 353	57%	54%	52%	86%
Peru	665 000	67%	66%	57%	73%
Venezuela	512 870	68%	51%	49%	78%
SUBTOTAL	2 570 983	72%	61%	59%	79%
Southern Cone					
Argentina	707 770	70%	61%	68%	74%
Chile	287 981	96%	96%	95%	98%
Paraguay	132 800	82%	57%	63%	56%
Uruguay	53 000	82%	82%	72%	98%
SUBTOTAL	1 181 551	78%	70%	75%	79%
BRAZIL	4 217 375	89%	54%	60%	67%
MEXICO	2 100 000	95%	60%	70%	72%
TOTAL	11 646669	82%	59%	63%	74%

Source: PAHO
Note: OPV coverages for Brazil, Cuba, Mexico and Paraguay are with two doses.

Operation Mop-up

Rotary International is providing funds to ensure that the conditions that are necessary and sufficient to eradicate the wild poliovirus are created in all the countries that are endemic. This phase of the polio eradication program has been termed "Operation Mop-Up" and is specifically oriented towards the implementation and acceleration of the three key elements of the overall program strategy by 1990. These three key elements are:

a) achieving and maintaining high vaccine coverages;
b) intensive surveillance and active case investigation;
c) aggressive outbreak control.

Operation Mop-Up will ensure that the countries endemic for polio receive all the support needed to carry on the activities listed below. Both financial and human resources will be necessary to monitor the execution and ensure the undertaking of the intensified eradication activities:

- Monitoring the number of infected counties and counties with OPV vaccination coverage below 90% in children less than one year of age. These counties will be targeted for special interventions such as local vaccination days and/or house-to-house vaccination, in order to reach coverages of at least 90%.
- Fully investigating all probable polio cases (complete history, fecal specimen and S1 taken) within a week after onset of paralysis. There will be enough trained personnel at the central level to carry out case investigation and surveillance activities. The epidemiologist investigating the case will stay in the area of the probable case until the control measures have been implemented.
- Having a trained epidemiologist conduct two follow-up visits for every probable case; the first, three weeks following onset of symptoms to collect the second serum sample (S2), and the second 60 days after onset of symptoms, to evaluate the presence of residual paralysis. Laboratory data should be available at the time of the second follow-up visit. All probable cases will be reclassified within ten weeks of onset.
- Having central level investigators take full responsibility for the proper collection, handling and transportation of each specimen sent to the reference laboratories.
- Documenting the proportion of children under one year of age vaccinated during containment activities initiated after the identification of each case — defined as an outbreak. Two rounds of vaccine will be administered at this time; the first one, a week after onset of paralysis of the first case. In addition, special containment teams will be organized to assist local level authorities in polio control measures. In some countries, it may be temporarily necessary, to have a number of containment teams organized because of the large number of cases reported and other logistical considerations. If coverage is below 90%, a door-to-door strategy should be utilized to vaccinate all children under five years of age.
- Every probable case that is not fully investigated, followed-up, and contained, will be considered as a program failure.

Special plans of action have already been prepared in Brazil, Colombia, Ecuador, Guatemala, and Mexico. These plans are mainly oriented towards supporting the additional manpower and funds needed for transportation, fuel, and perdiems. The following activities have been labeled as necessary to propel the endemic countries towards achieving the eradication of polio:

1. Reinforcing the manpower responsible for case investigation and control in every infected country, particularly in the high-risk areas.
2. Holding monthly meetings in the infected countries, with the purpose of evaluating the polio situation. The reports of these meetings will be immediately presented and discussed with PAHO intercountry and headquarters' level staff.
3. Telexing basic information about the specimens sent to the reference laboratories and PAHO headquarters.
4. Organizing special vaccination teams in infected countries with OPV coverage below 50% (Bolivia, Haiti, Guatemala, Peru), in order to quickly increase national coverage.
5. For those infected countries with OPV coverage above 50%, the special vaccination teams should only be organized at the level of the counties that are infected and the ones that surround them. This should rapidly increase OPV coverage and stop transmission of the wild virus.
6. Concentrating in increasing the effectiveness of the national polio surveillance system in all countries, in order to ensure that all cases of flaccid paralysis are notified to the central level.
7. Implementing weekly negative reporting in all countries at the level of all reference health facilities.

It is expected that with the additional funds provided by Rotary International to carry out the Operation Mop-Op in the endemic countries, OPV coverages will increase to at least 90% in each county and that every probable case of polio will be properly investigated and aggressively controlled. If this occurs, the wild polio virus should be eradicated from the endemic countries by the end of 1990.

The Plans for this operation will be an integral part of the existing EPI National Plans of Action supported by the ICC Agencies, including Rotary International. PAHO will be responsible for their implementation and will disburse funds based upon each country's plan for the intensification of polio eradication and the occurrence of probable cases of poliomyelitis. Headquarters staff will visit each country monthly to evaluate progress and monitor the implementation of the critical eradication activities.

The indicators of successful program implementation will be the reductions in the number of confirmed polio cases and infected municipios, and the increases in vaccination coverages in each country.

Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, tetanus, 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		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non-neonatal		Neonatal					
		1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987
LATIN AMERICA													
Andean Region													
Bolivia	31 Dec.	1 984	987	1	7	75	104	23	48	7	16	577	520
Colombia	16 Jul.	7 234	...	51	114	123	...	73	...	1 108	1 399	8 366	16 556
Ecuador	31 Dec.	8 004	1 537	9	10	129	105	128	81	9	18	193	312
Peru	31 Dec.	3 180	4 652	52	45	122	138	10	133	36	54	806	2 344
Venezuela	26 Nov.	11 265	16 556	33	39	1	1	23	12	2	2	444	764
Southern Cone													
Argentina**(v)	5 Nov.	4 148	8 024	1	1	80	92	...	...	8	11	3 585	2 182
Chile	31 Dec.	46 210	2 652	0	0	19	21	3	3	121	168	213	45
Paraguay	31 Dec.	543	1 360	0	0	34	59	52	59	13	18	825	261
Uruguay	10 Dec.	73	...	0	0	2	...	0	...	0	...	21	...
Brazil	31 Dec.	23 844	61 645	101	236	1 851	1 765	328	441	1 108	1 399	8 366	16 556
Central America													
Belize**	31 Dec.	74	224	0	0	0	0	...	...	0	1	0	0
Costa Rica	27 Feb.	97	...	0	0	0	...	0	...	0	...	4	...
El Savador	3 Sep.	434	251	9	54	31	32	25	14	0	2	30	118
Guatemala	13 Aug.	140	...	42	22	50	...	21	...	2	...	439	...
Honduras	31 Dec.	619	858	18	15	13	12	24	6	0	0	107	310
Nicaragua	31 Dec.	314	693	0	0	...	...	...	...	0	3	144	225
Panama	31 Dec.	354	1 085	0	0	0	0	7	7	1	...	31	53
Mexico**	10 Dec.	3 590	2 691	37	80	254	264	...	...	2	21	448	745
Latin Caribbean													
Cuba	5 Nov.	119	752	0	0	5	5	0	0	0	0	30	93
Dominican Republic(v)	13 Aug.	336	...	2	1	22	...	7	...	51	...	34	...
Haiti	30 Jan.	17	...	5	12	4	...	3	...	0	...	23	...
CARIBBEAN													
Antigua and Barbuda	31 Dec.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	24 Dec.	22	42	0	0	1	0	0	0	0	0	0	0
Barbados**	24 Dec.	1	2	0	0	1	1	0	0	0	0	0	0
Dominica**	8 Oct.	7	77	0	...	1	1	...	...	0	0	0	0
Grenada	17 Dec.	4	6	0	0	0	0	0	0	1	0	2	1
Guyana	8 Oct.	741	2	0	0	4	2	0	0	0	0	0	0
Jamaica**	3 Dec.	30	35	0	0	3	0	...	...	5	2	7	20
St. Christopher/Nevis	31 Dec.	12	...	0	0	0	...	0	...	0	...	0	...
St. Lucia**	29 Oct.	4	4	0	0	1	0	...	...	0	0	0	0
St. Vincent & Grenadines	30 Jul.	7	2	0	0	0	0	0	0	0	0	0	0
Suriname	10 Sep.	45	5	0	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	3 Dec.	35	207	0	0	2	3	0	0	1	0	11	12
NORTH AMERICA													
Canada**	19 Nov.	517	2 056	1	0	3	4	...	...	12	4	672	1 042
United States**	31 Dec.	290	3 655	0	0	48	48	...	...	1	3	2 925	2 823

** Country does not report neonatal tetanus data separately.
# Data for polio includes only confirmed cases through week 52 (ending December 31 1988).
(v) Polio cases are vaccine-related.
... No data available.

Global Program on Aids and Expanded Program on Immunization: Joint WHO/UNICEF statement on early immunization for HIV-infected children

In consultation with UNICEF, WHO's Global Program on AIDS and the Expanded Program on Immunization produced a joint statement on immunization and HIV-infected children in October 1987. The thrust of that statement was to encourage the use of all the EPI antigens in HIV-infected children with the exception of BCG which should not be given to children thought to have symptomatic HIV infection. Further experience continues to support these recommendations, highlighting the benefits of immunization in protecting HIV-infected children, particularly against measles and complications of tuberculosis.

1. Children with known or suspected HIV infection are at increased risk of severe measles. Such children should be offered measles vaccine as early as possible.

2. Standard WHO recommendations for children at high risk of contracting measles are to immunize with standard measles vaccine at 6 months of age with a second dose at 9 months. Children with known or suspected HIV infection should be considered in this high-risk category and receive measles vaccine at 6 months of age, followed by a second dose at 9 months.

3. Studies are currently under way to examine the safety and efficacy of high doses and/or alternative strains of measles vaccines in children at 6 months of age or ealier. The efficacy data from these studies have been encouraging. Furthermore, no significant adverse events have been associated with the use of either standard or alternative vaccines at higher doses in children below 9 months of age (or indeed in older children). The number of children who have been studied is, however, still too small to permit detection of uncommon events. Studies of safety and efficacy of these vaccines are specifically encouraged in children known or suspected to be HIV-positive.

4. Parents of HIV-infected children may be HIV-infected themselves, and have a higher incidence of infectious tuberculosis than the general population. Early protection against tuberculosis with BCG immunization is therefore recommended for HIV-infected children who are not symptomatic.

Source: Weekly Epidemiological Record No. 7, 1989, pp. 48-49.

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