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PLAN OF ACTION FOR THE ERADICATION OF INDIGENOUS TRANSMISSION OF WILD POLIOVIRUS

This progress report by the Director of the Pan American Sanitary Bureau on the Expanded Program on Immunization (EPI) and the polio eradication efforts in the Americas reviews immunization coverage and its impact on disease reduction during the last few years. Furthermore, it discusses the initiative to eradicate the indigenous transmission of poliomyelitis from the Americas by 1990 and the advances made by Member Countries, as well as the last impediments to achieving the target as originally proposed.

The report analyzes the surveillance indicators regarding the polio initiative and the data concerning poliovirus circulation in the Western Hemisphere.

The lessons learned from the efforts to eradicate polio and from the acceleration of the EPI are also discussed, particularly in relation to the strategies that have evolved with the implementation of this program, and the impact of these strategies on the overall PAHO strategy of decentralization of health services and the targeting of special health conditions or diseases for control and/or elimination.

The progress report is accompanied by an annex entitled "Concept Paper," which outlines what could be undertaken in the Americas during the period 1991-1995 in the control of diseases preventable by vaccination if the same level of financial support and inter-agency coordination is maintained.

The Executive Committee is requested to review this progress report as well as the annexed Concept Paper encompassing Phase II efforts to control neonatal tetanus and measles. Comments are particularly requested on the efforts needed to assure the success of the campaign to eradicate polio, as well as on the overall scope of the plans for Phase II. The Committee is also referred to agenda item 4.10 concerning the calendar of possible eradication targets to be achieved in the Americas between now and the year 2000.

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PLAN OF ACTION FOR THE ERADICATION OF INDIGENOUS TRANSMISSION OF WILD POLIOVIRUS

1. Progress to Date

1.1 Immunization Coverage

Coverage was maintained at the highest level during 1989. Regional coverage for any of the EPI vaccines (DPT, OPV, measles and BCG vaccines) is over 60% for children under one year of age (Table 1). Data from the countries indicate that there is more uniformity in coverage levels, with very few countries presenting coverage below 50% for any of the EPI vaccines.

For those vaccines that require three doses, such as DPT and OPV, regional coverage with the first dose is approximately 90%, indicating that the strategy being utilized by the countries, which for most include the utilization of national vaccination days and outreach activities as a complement to institutional vaccination, is adequate to reach the greatest number of infants. The major problem continues to be the dropout rates from the first to the third dose of vaccine, which is exacerbated by the many missed opportunities for vaccination, that is, nearly 50% of all children that obtain health services in some countries (Figure 1).

While it is estimated that these levels of coverage are preventing some 30,000 deaths from measles, whooping cough and neonatal tetanus and some 5,000 cases of poliomyelitis, much remains to be done, for there are still nearly 4 million children born every year who do not receive the full benefit of immunization. It is also estimated that nearly 60% of newborns in the Americas may be exposed to neonatal tetanus because only a small proportion of women of child-bearing age are being vaccinated with tetanus toxoid for the prevention of this disease.

1.2 Disease Incidence

The impact in disease reduction continues to be seen, as shown in Figures 2 and 3 and Table 2. In spite of the fact that surveillance is not entirely developed for the EPI diseases other than polio, there is an observable tendency for the total number of reported cases to decline since the inception of this Program in 1977. For measles, for example, in the decade of the 1960s, there was a biennial pattern of increased incidence of the disease with rates of over 150 cases per 100,000 population. With the introduction of the vaccine, initially in North America in 1963 and later in Latin America in 1968, for the first time there was a gradual decline in the number of reported cases, from 649,522 in 1960, to 303,808 in 1976. With the implementation of EPI starting in 1977, a second phase of decline was observed, reaching a historical low of 105,617 cases in 1989, or 15.2 cases per 100,000 population, 10 times less than before the introduction of the vaccine. This decline

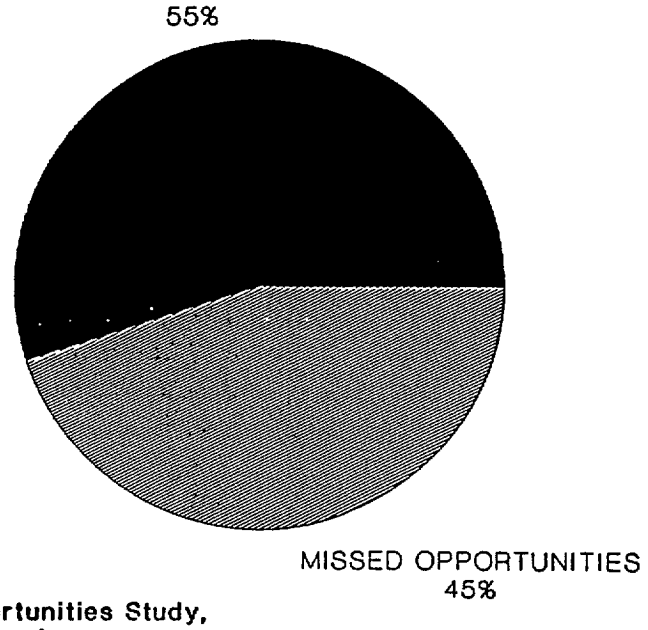
TABLE 1
VACCINE COVERAGE IN THE REGION OF THE AMERICAS, 1988-1989

REGION & COUNTRY	POPULATION (less than 1 year)		OPV3 %		DPT3 %		MEASLES %		BCG %	
	88	89	88	89	88	89	88	89	88	89
ANDEAN REGION	2,612,613	2,661,002	71	71	61	61	58	61	72	76
Bolivia	263,800	271,200	40	50	39	40	44	70	27	70
Colombia	816,960	834,180	94	93	74	75	74	73	99	90
Ecuador	312,353	316,622	57	64	54	55	52	57	86	92
Peru	665,000	670,000	61	60	61	58	52	52	70	62
Venezuela	554,500	569,000	74	67	56	55	51	50	50	68
BRAZIL*	4,217,375	3,617,900	89	96	54	51	60	56	67	66
CENTRAL AMERICA	978,747	999,973	68	72	63	65	66	67	68	77
Belize	5,270	---	73	---	73	---	70	---	97	---
Costa Rica	80,500	82,600	86	91	87	89	97	88	87	---
El Salvador	176,102	182,173	63	72	63	64	63	73	56	62
Guatemala	328,000	343,200	58	58	49	52	55	53	41	---
Honduras	191,019	183,600	70	83	74	78	76	86	84	75
Nicaragua	142,600	146,500	83	83	65	64	63	62	89	90
Panama	60,526	61,900	73	72	75	71	75	76	91	90
SOUTHERN CONE	1,139,601	1,125,627	91	83	82	79	86	79	95	91
Argentina	680,000	668,000	91	81	80	74	88	79	100	94
Chile	287,981	279,150	96	94	96	94	95	89	98	99
Paraguay *	118,620	121,877	86	71	56	67	63	58	56	58
Uruguay	53,000	56,600	82	82	82	82	72	76	98	97
LATIN CARIBBEAN	594,713	591,536	69	73	61	63	58	57	61	58
Cuba *	180,400	187,529	98	95	98	95	89	97	100	97
Haiti	201,707	201,707	48	50	49	50	59	31	45	40
Dominican Rep.*	212,606	202,300	65	75	41	47	29	46	43	41
MEXICO	2,100,000	2,579,200	95	96	60	65	70	85	73	80
LATIN AMERICA	11,643,049	11,575,238	84	86	60	61	64	67	71	74
ENGLISH CARIBBEAN	134,194	121,800	79	82	78	82	71	71	87	95
Anguilla	186	157	99	100	99	100	98	92	90	100
Antigua	1,080	1,088	99	100	98	100	95	95	-	-
Bahamas	5,600	---	84	---	85	---	78	---	-	-
Barbados	4,032	---	73	---	76	---	84	---	75	---
Cayman Islands	358	378	95	93	93	93	99	89	86	81
Dominica	1,648	1,715	97	94	96	92	90	88	98	99
Grenada	3,057	2,613	64	86	65	87	58	89	-	-
Guyana	20,000	17,658	69	79	64	77	55	69	64	76
Jamaica	52,270	57,487	83	84	82	85	68	71	96	100
Montserrat	199	---	91	---	91	---	86	---	86	---
St. Kitts & Nevis	924	924	93	100	94	100	77	90	75	---
St. Lucia	3,722	3,530	87	93	78	92	83	91	85	100
St. Vincent	2,708	2,482	97	97	98	98	97	100	95	99
Suriname	10,000	10,000	71	71	71	72	91	73	-	-
Trinidad & Tobago	28,000	23,280	83	77	82	77	72	59	-	-
Turks & Caicos Isl	220	250	92	89	94	89	92	76	94	100
British Virgin Isl.	190	238	76	97	84	100	62	87	48	100
NORTH AMERICA	3,998,895	4,009,000	---	---	---	---	---	---	---	---
Bermuda	895	---	85	---	83	---	86	---	-	-
Canada	358,000	362,000	---	---	---	---	---	---	---	---
USA	3,640,000	3,647,000	---	---	---	---	---	---	---	---
TOTAL**	15,776,138	15,705,038	84	86	60	61	64	67	71	74

– Vaccine not in use
--- No data available
* Coverage calculated with two doses of OPV
** TOTAL coverage does not include North America
Source: PAHO

FIGURE 1

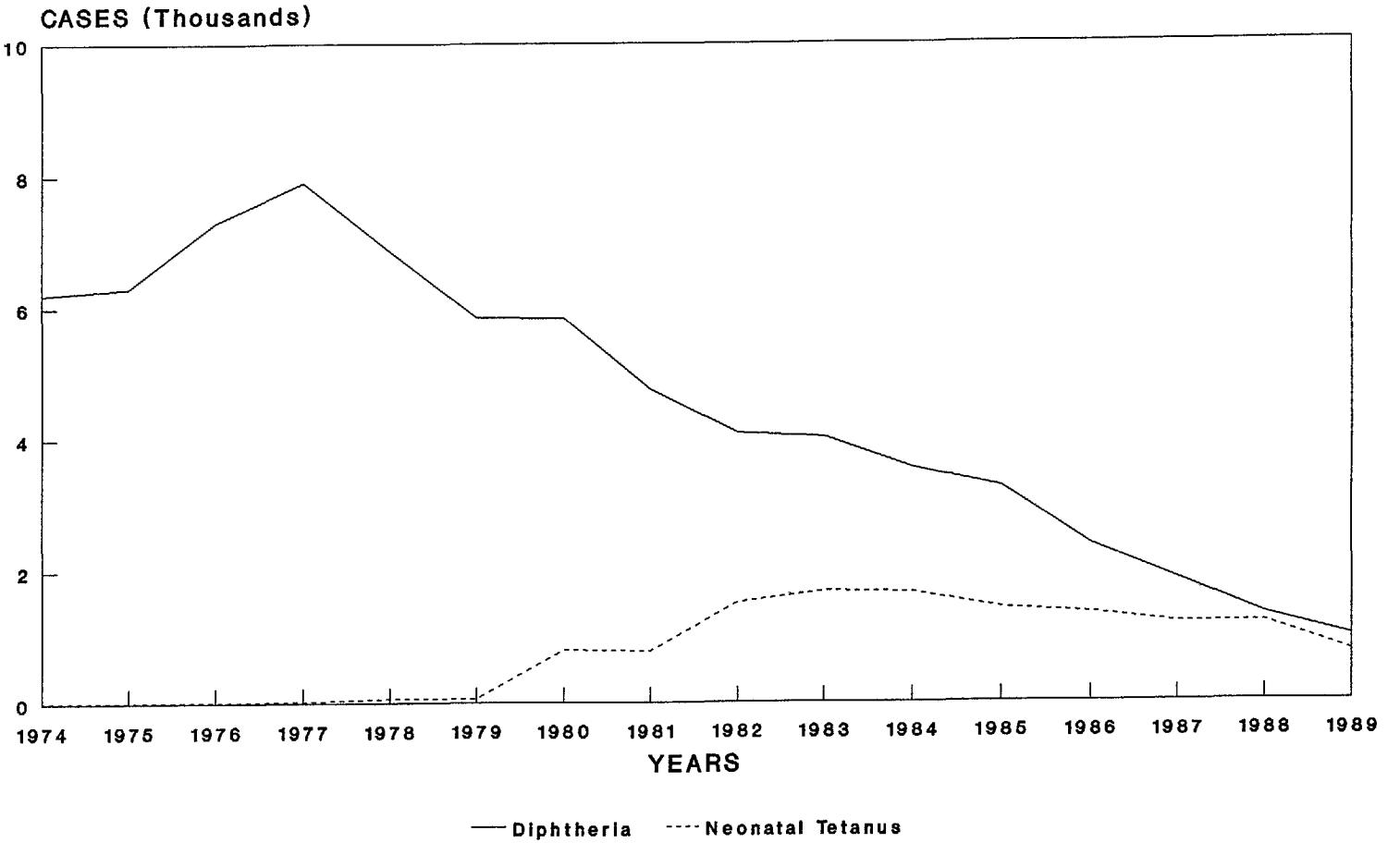
MISSED OPPORTUNITIES FOR VACCINATION OF CHILDREN UNDER TWO YEARS OLD, IN HONDURAS, 1988



Source: Missed Opportunities Study, Ministry of Health, Honduras

FIGURE 2

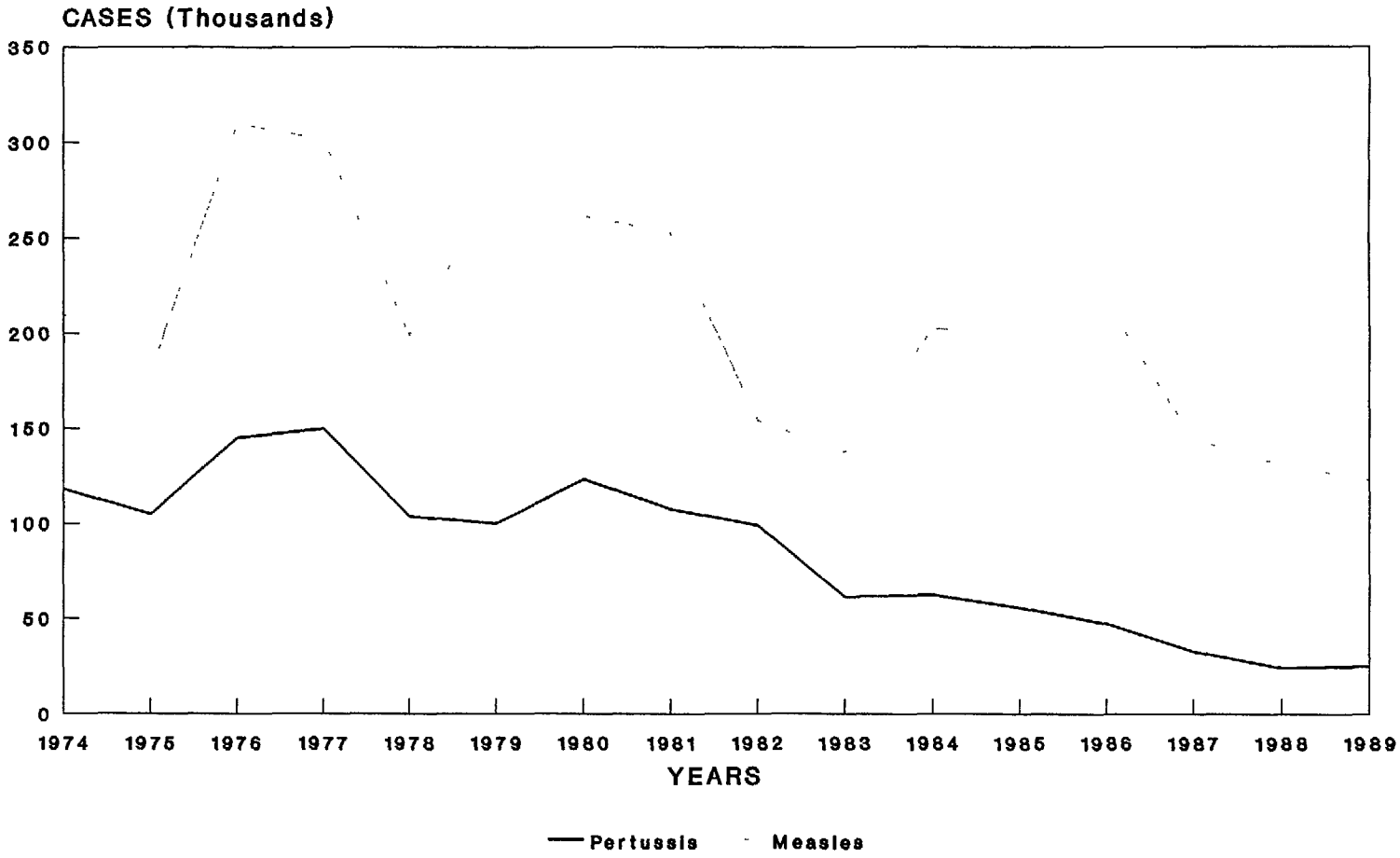
EPI REPORTED CASES: DIPHTHERIA, NEONATAL TETANUS. AMERICAS, 1974-1989*



* Provisional data for 1989.
Source: PAHO

FIGURE 3

EPI REPORTED CASES: PERTUSSIS, MEASLES. AMERICAS, 1974-1989*



* Provisional data for 1989.
Source: PAHO

TABLE 2
REPORTED CASES OF EPI DISEASES
AMERICAN REGION, 1988-1989

SUBREGION AND COUNTRY	MEASLES		NEONATAL TETANUS		DIPHTHERIA		PERTUSSIS	
	1988	1989	1988	1989	1988	1989	1988	1989
ANDEAN REGION	40,923	23,922	554	420	78	61	4,147	3,666
Bolivia	1,818	484	80	86	9	9	685	717
Colombia	15,732	10,235	193	148	23	35	1,994	1,668
Ecuador	7,990	3,649	128	58	8	3	197	256
Peru	3,180	---	112	84	36	14	806	435
Venezuela	12,203	9,554	41	44	2	0	465	590
SOUTHERN CONE	50,763	16,151	59	39	153	55	4,892	3,553
Argentina*	4,836	4,009	---	---	8	11	3,757	2,936
Chile	45,079	11,904	5	2	132	36	224	206
Paraguay	772	220	54	37	13	8	886	371
Uruguay	76	18	0	0	0	0	25	40
BRAZIL	26,179	18,783	324	295	1,104	836	8,868	10,747
CENTRAL AMERICA	3,108	25,460	110	82	0	0	1,194	555
Belize	74	11	0	0	0	0	0	1
Costa Rica	358	33	2	0	0	0	95	85
El Salvador	787	15,917	33	24	0	0	46	34
Guatemala	182	2,415	29	15	---	---	725	---
Honduras	1,155	6,653	11	19	0	0	235	75
Nicaragua	167	130	27	17	0	0	63	324
Panama	385	301	8	7	0	0	30	36
MEXICO	3,915	20,076	127	35	2	6	693	1,468
LATIN CARIBBEAN	814	1,195	33	12	75	25	136	369
Cuba	122	10	0	0	0	0	32	70
Haiti	---	---	---	---	---	---	---	---
Dominican Republic	692	1,185	33	12	75	25	104	299
LATIN AMERICA	125,702	105,587	1,207	883	1,412	983	19,930	20,358
ENGLISH CARIBBEAN	---	---	---	---	---	---	---	---
NORTH AMERICA	3,678	17,194	0	0	12	5	4,385	5,504
Bermuda	4	---	0	---	0	---	0	---
Canada*	609	958	---	---	11	3	1,106	1,759
USA*	3,065	16,236	---	---	1	2	3,279	3,745
TOTAL	129,380	122,781	1,207	883	1,424	988	24,315	25,862

--- Data not available

* Country which does not report cases of neonatal tetanus separately

undoubtedly results from the efforts made by all countries in increasing measles immunization coverage, which doubled between 1978 and 1989 (from 33 to 67%). Neonatal tetanus was practically unreported before 1978, the year surveillance efforts were initiated. Although surveillance needs much improvement, some 12 countries in the Region have identified those areas that are at highest risk for the disease (which in some areas is over 10 cases per 1,000 live births). Therefore, control measures could be directed initially to these high risk areas, making the initial efforts more efficient.

2. Polio Eradication Initiative

2.1 Present Status

The last Report of the Technical Advisory Group (TAG) Meeting, held in Mexico City, 19-23 March 1990, notes the considerable advances made over the last nine months. It particularly emphasizes the fact that it has now been more than three years since the last isolation of wild polioviruses in the countries of the Southern Cone, more than two years since the last isolation in Central America, and more than one year since the last such isolation in Brazil. In the English-speaking Caribbean the last isolation was in 1982 and, in the Latin Caribbean, Cuba has not reported polio cases since 1962. No wild poliovirus has been detected in Dominican Republic and Haiti over the last two years. During 1989, a record low of 130 cases were confirmed in the Western Hemisphere. These 130 cases represent a decrease of 61% compared with the 319 cases reported during 1988, and this decline occurred in a period in which more cases of acute flaccid paralysis (probable polio cases) were reported by the countries, thus indicating progressive improvement in the surveillance for the disease (Figure 4). Also, more stool samples have been examined, and the quality of stool sample collection and transportation, as well as the performance of the laboratories, have been steadily improving.

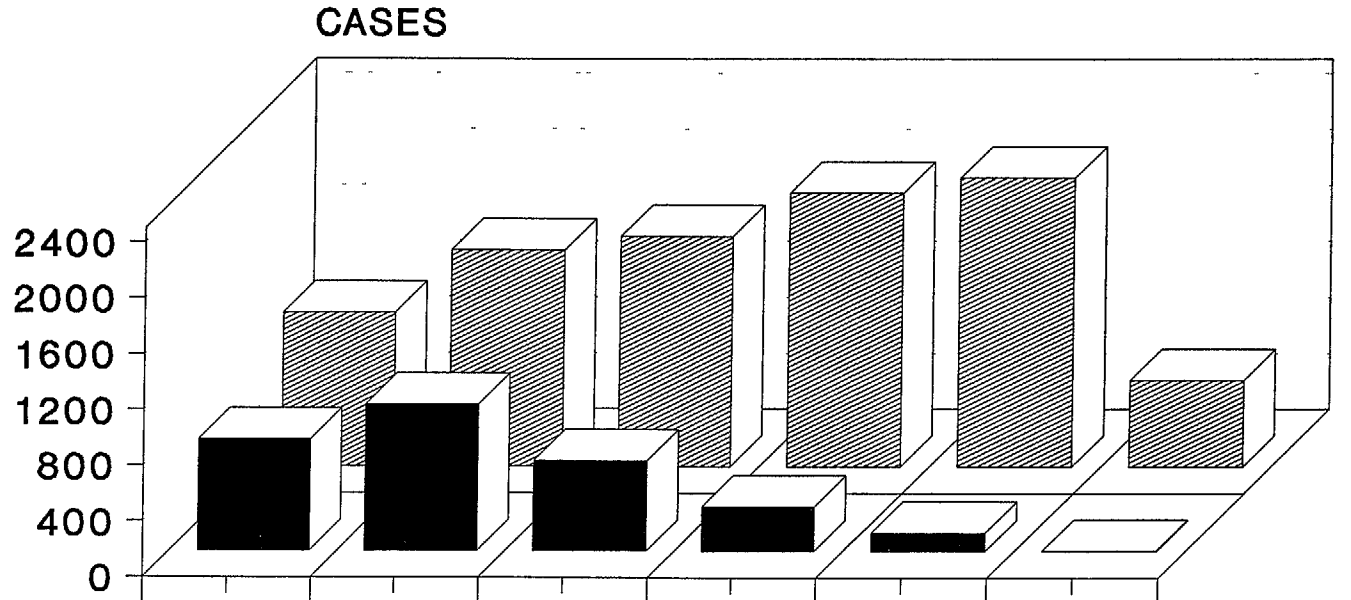
The confirmed cases occurred in less than 1% of the nearly 14,000 counties or municipalities that exist in the Western Hemisphere. These counties were located in the northeast of Brazil (last onset of a confirmed case due to wild poliovirus in March 1989), northwestern Mexico (last onset of a confirmed case due to wild poliovirus in November 1989) and the Andean countries of Venezuela (last onset of a confirmed case in April 1989), Colombia (last onset of a confirmed case in June 1989), Ecuador and Peru (last onset of a confirmed case in December 1989 (Figure 5). As of 21 April 1990 (the end of week 16), there were only three clinically confirmed cases of poliomyelitis in the Americas in 1990 for which laboratory analyses are continuing.

2.2 Surveillance Indicators

Surveillance for poliomyelitis is now concentrating on the search for the wild polioviruses, which are most likely to be found in the stool samples of individuals that are suffering from acute flaccid paralysis. Therefore, the rates of acute flaccid paralysis per 100,000 population

FIGURE 4

POLIO -- REPORTED AND CONFIRMED CASES, AMERICAS, 1985-1990*



	1985	1986	1987	1988	1989	1990
REPORTED	1100	1550	1650	1960	2071	623
CONFIRMED	800	1050	650	319	131	3

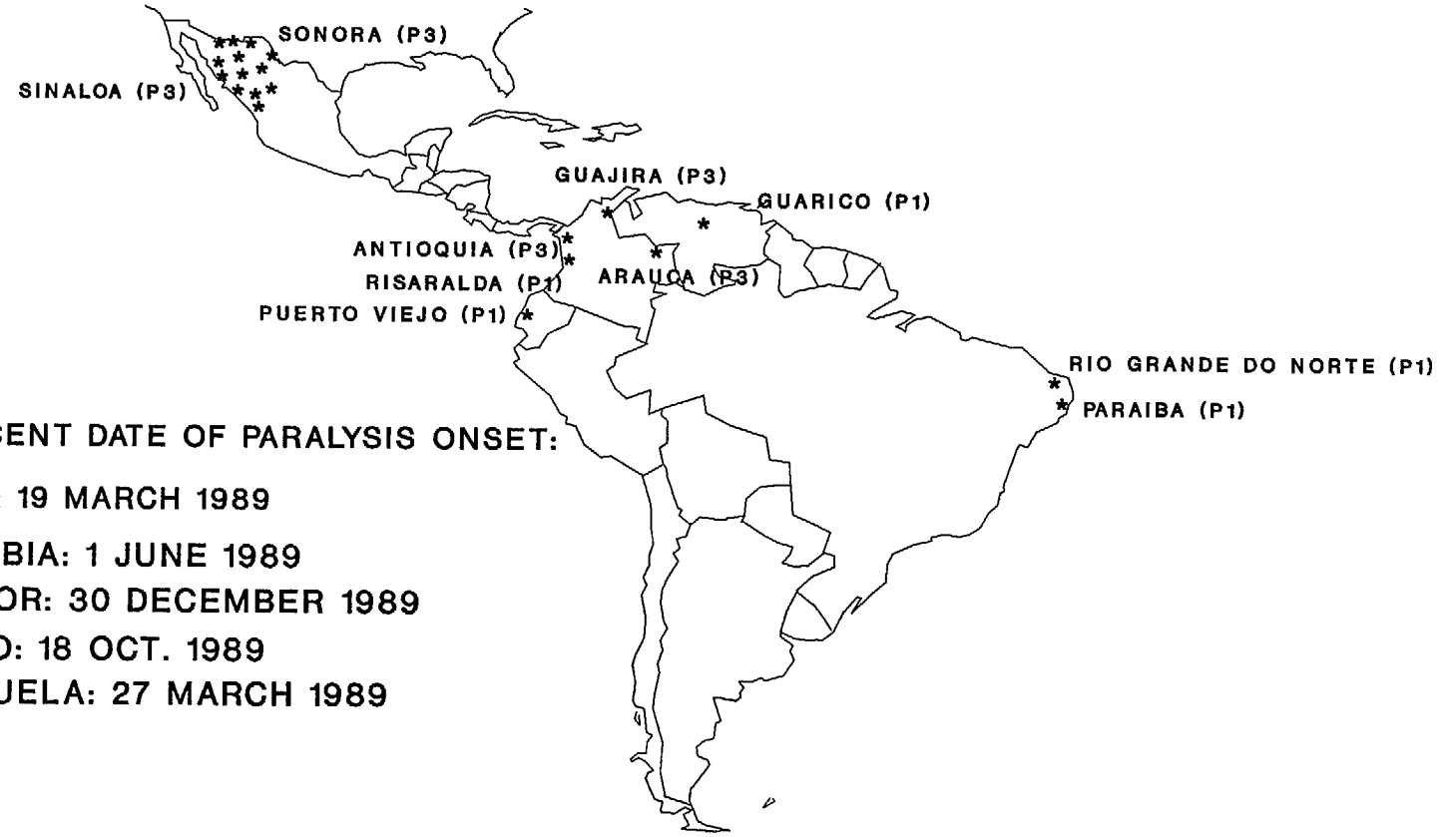
CONFIRMED REPORTED

* Data for 1989 and 1990 are preliminary, to week 16, 1990.
Source: PAHO

FIGURE 5

WILD POLIOVIRUS ISOLATED REGION OF THE AMERICAS, 1989

(AS OF WEEK 16, 1989)



MOST RECENT DATE OF PARALYSIS ONSET:

BRAZIL: 19 MARCH 1989

COLOMBIA: 1 JUNE 1989

ECUADOR: 30 DECEMBER 1989

MEXICO: 18 OCT. 1989

VENEZUELA: 27 MARCH 1989

under 15 years of age, becomes one of the most important indicators for measuring surveillance efficacy. The standard for this indicator, based on data accumulated so far by the program, is one case of acute flaccid paralysis per 100,000 children under 15 years of age. During 1989, the reported rate varied from 1.7 per 100,000 in Central America to 0.2 per 100,000 in the Latin Caribbean. The overall rate of cases of acute flaccid paralysis for the Region of the Americas per 100,000 children under 15 years of age was 1.05 in 1989 (Figure 6). Seventy per cent of these cases were reported within 15 days of onset of paralysis and 90% of them had stool specimens collected, 75% of these stools being collected within 15 days of onset of symptoms.

A cause for concern is the slow development of the system of negative reporting of acute flaccid paralysis. During 1989, of the 21 Latin American countries, only an average of nine were reporting weekly. The maximum number of sites that reported in any week was 3,847, during week 47. This negative reporting is for all cases of acute flaccid paralysis in children under 15 years of age and not for polio cases, and should include all sites that are likely to see cases of acute flaccid paralysis.

Notwithstanding the significant advances made, there remain substantial causes for concern. The first is the clock, which keeps ticking; as of the date of the Executive Committee Meeting only 6 months remain until the target date for regional eradication. There are still significant problems to overcome, such as immunization coverage levels which remain stagnant and have even declined in a few countries. Additionally, it is of the utmost importance that adequate stool specimens be obtained for all cases of flaccid paralysis in children under 15 years of age and that they immediately be submitted to the laboratories that are part of the regional network.

2.3 Case Classification

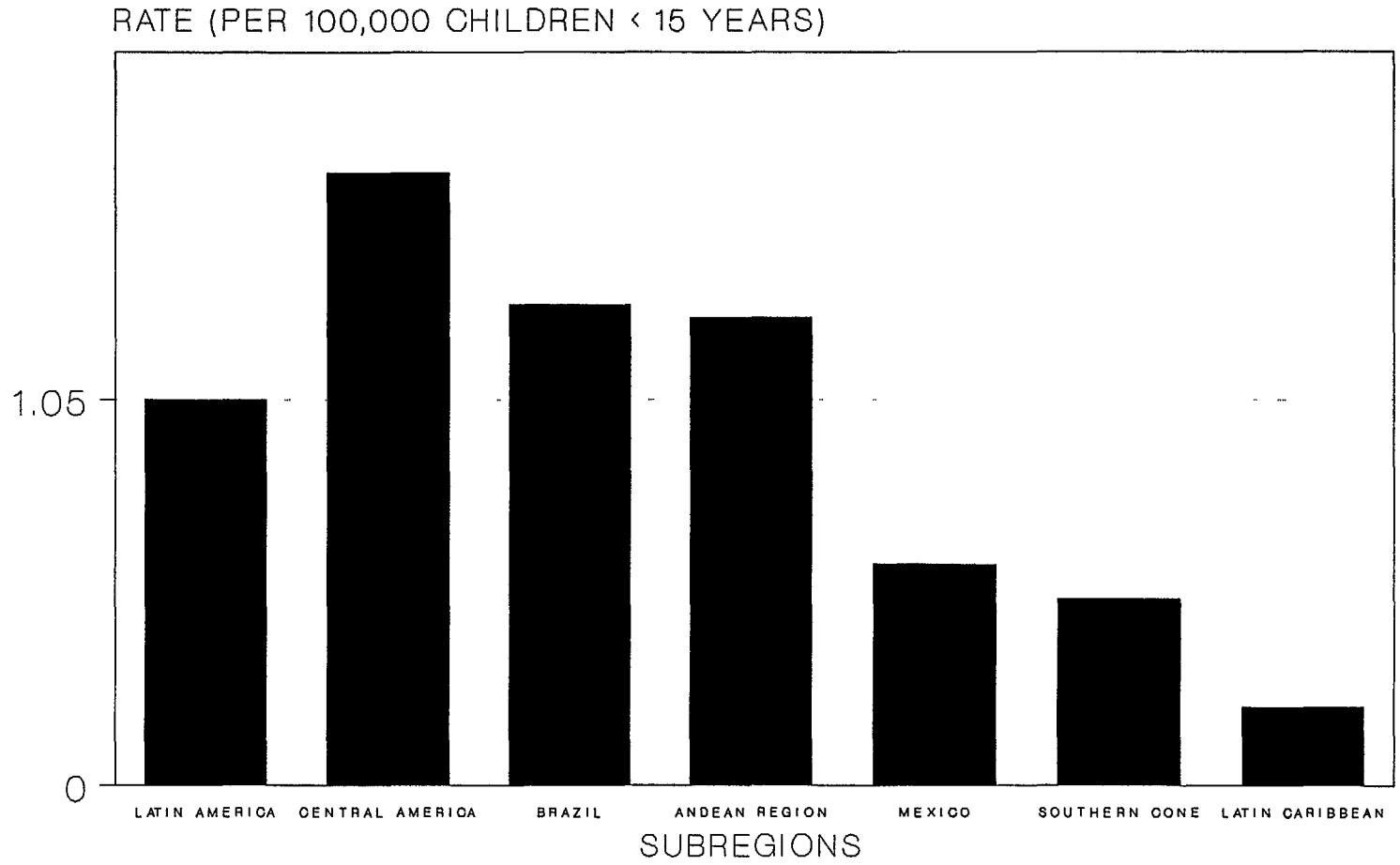
The final case classification should be revised to include a category of "polio compatible," which would include those cases of acute paralytic illness in which there were not at least two adequate stool specimens obtained within two weeks of onset of symptoms and examined in three different laboratories and with a) polio compatible residual paralysis at 60 days, or b) death, or c) loss to follow up. Furthermore, in order that probable cases be classified as "not poliomyelitis," at least two adequate stool specimens should have been obtained within two weeks after onset of symptoms and should have been found to be negative for poliovirus in at least three of the network laboratories.

2.4 Certification Commission

Anticipating successful achievement of the eradication target, the TAG recommended that an International Commission be formed and charged with developing criteria for certification of eradication, and that all countries in the Hemisphere participate in the routine negative reporting system for flaccid paralysis.

FIGURE 6

INCIDENCE OF ACUTE FLACCID PARALYSIS IN CHILDREN < 15 YEARS, BY SUBREGION LATIN AMERICA, 1989



SOURCE: PAHO

3. Lessons Learned

When the Director of PAHO first proposed the eradication of the indigenous transmission of wild poliovirus from the Americas by 1990, this goal was viewed as a springboard for strengthening the entire EPI, and its accomplishment would be used as a vehicle for the reinforcement of the health infrastructure. The major impediments to the goal at that time were: lack of political and social will, managerial constraints, suboptimal vaccine efficacy and stability, and inadequate epidemiological surveillance.

3.1 Strategy

The strategy to eradicate polio relies heavily on improvements of immunization coverage through the organization of national vaccination days, usually twice every year, in which OPV is administered to all children under five years of age, regardless of their previous immunization status. This strategy complements the institutional delivery of vaccination by basic health services. These two components of the strategy were aided by the organization of "mop-up" operations, or house-to-house vaccination in all those counties/districts believed to harbor the wild poliovirus during the last three years. These house-to-house operations have proved to be fundamental in interrupting transmission in most areas during 1989. Table 3 shows a breakdown of the vaccinations performed during mop-up operations in various countries of the Region.

By utilization of all the EPI vaccines during the national vaccination days, coverage for all EPI increased to high levels. If all countries (especially Brazil) had utilized all antigens in the national vaccination days, coverage for DPT and measles vaccines would today be over 75%. The non-utilization of all the EPI antigens in the NVDs represents a missed opportunity for vaccination.

Thus, the first lessons learned were that utilization of vaccines requires a flexible strategy that combines several tactics aimed at all sectors of the target population, including those that do not have easy access to health services at the present time.

3.2 Political and Social Will

The possibility of eradicating polio and strengthening the whole EPI had a strong appeal to governments and the several agencies that were supporting immunization efforts in the Region. The goal was concrete, measurable, and cost effective. To achieve it requires a series of improvements in the entire health delivery system. The governments strongly endorsed the proposal and the external agencies rallied behind the goal, together with PAHO. In this way, the Inter-Agency Coordinating Committee was formed, with participation of PAHO, United Nations Children's Fund (UNICEF), U.S. Agency for International Development (USAID), Inter American Development Bank (IDB), Rotary International, and the Canadian International Development Agency (CIDA) through the Canadian

Table 3.

Summary of 1989 Mop-Up Operations (with OPV)

Country	Number of counties covered	Total pop. <5 (target)	Total number of houses visited	Total pop. <5 vaccinated	%	Total pop. vaccinated*
Bolivia	9	39 298	27 086	28 817	73	85 753
Colombia	52	582 876	686 021	537 643	92	537 643
Ecuador	40	310 094	385 225	246 464	79	298 431
El Salvador	136	893 436	235 737	429 757	48	781 141
Guatemala*	59	229 767	154 391	195 302	85	247 026
Honduras	304	733 069	322 271	399 269	54	427 535
Mexico	36	703 828	- - -	592 670	84	592 670
Peru*	137	952 414	593 800	689 614	72	1 483 280
Venezuela	119	475 474	408 478	446 432	93	430 466
TOTAL	**892**	**4 920 256**	**2 813 009**	**3 565 968**	72	**4 883 945**

--- Data not available.
* Data on houses visited are incomplete.
** Some children were over 5 years of age.

Public Health Association (CPHA). This group represents a crossover of institutions and individuals, multilateral and bilateral, public and private, governmental and nongovernmental. Jointly they contributed more than US$110 million over the period 1987-1991 (Figure 7) and, most importantly, generated a tremendous social consciousness towards health issues and social mobilization.

Thus, the second lesson learned was that, with proper coordination, both governments and cooperating agencies can maximize the utilization of their resources and increase the cost-benefit and impact of health interventions. Today, the inter-agency coordinating committees that operate at country level, under the aegis of the Ministries of Health, are having an impact that goes beyond EPI, and cover a whole range of health activities.

3.3 Decentralization

By introducing the analysis of information at county level, the EPI has contributed enormously to the decentralization process. Today, there is information of immunization coverage at county or district level in almost all countries, and those that utilize this information are able to direct resources to those areas with lowest coverage and at highest risk of disease. Similarly, the surveillance system, initially organized for polio surveillance, is based on the weekly negative reporting from the local level, or county/district level, thereby creating a foundation for the collection of information in local health systems. By the end of 1989, there were nearly 4,000 such reporting sites reporting regularly.

These local surveillance systems helped detect problems with vaccine efficacy, particularly in the northeast of Brazil in 1986-1987. The information that was collected permitted the Technical Advisory Group to recommend a change in the formulation of the vaccine in the Americas, a recommendation subsequently endorsed by WHO for the rest of the world.

The third lesson learned was that the efforts to organize surveillance at the local level has also helped the creation of information systems that will be critical for decentralization of health services and the organization of local health systems.

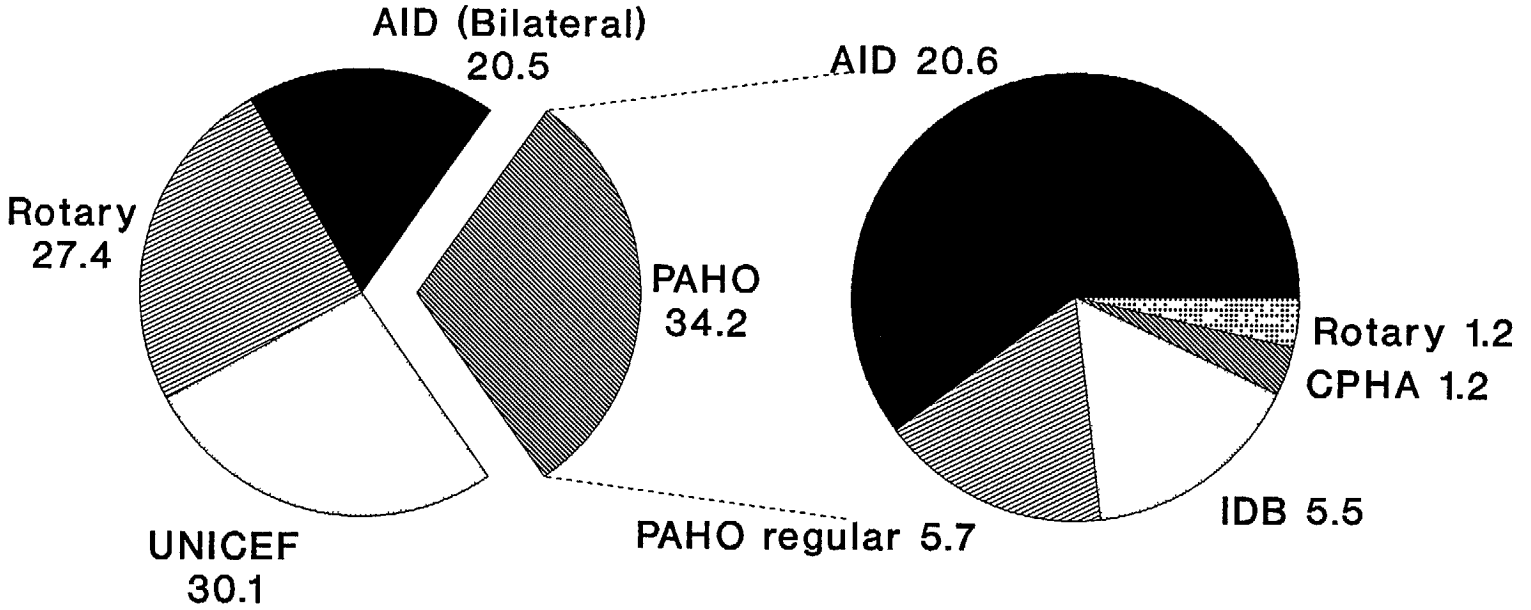
3.4 Disease Control/Elimination

The efforts to eradicate polio have called attention to the fact that, once technologies become available, the greatest challenge is to put them into operation in a most effective way. Therefore, the successes on the way to eradication of polio have demonstrated that once governments make a political decision and call for a coordinated effort with international agencies, resources become available, both from national and international sources, for implementation of these highly cost-effective interventions.

With an increase in coverage and with improvements in the surveillance system, it has become apparent that two other diseases, measles and neonatal tetanus, could be further controlled and or eliminated. In

FIGURE 7

EPI IN THE AMERICAS
CONTRIBUTIONS FROM EXTERNAL AGENCIES*
1987-1991 (In millions US$)



ALL EXTERNAL AGENCIES
(US$ 112.2 million)

PAHO DISTRIBUTION
(PAHO and grant funds)

* Preliminary data
Source: PAHO

that connection, Cuba set the target to eliminate measles by 1990, Costa Rica by 1993 and the English-speaking Caribbean by 1995. The efforts in Cuba have been very successful. During 1989 only 12 cases of measles were detected in the country and, as of 21 April in 1990 (week 16), no cases have been confirmed. Intensive surveillance will be necessary in order that interruption of transmission can be ascertained.

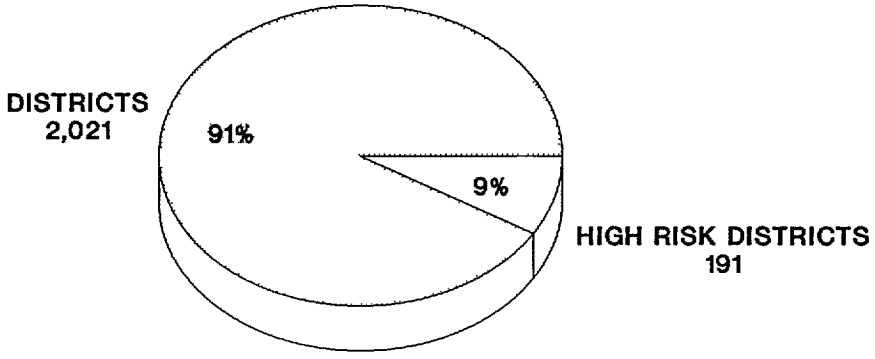
The countries of the English-speaking Caribbean are now organizing their programs for the elimination of measles. A regional Plan of Action is already developed and a Field Guide for Measles Elimination is in final draft. A "measles elimination month" is now being planned to be held in May 1991, in which all children 1-15 years of age will be immunized against measles, regardless of their previous immunization status. This intensive phase will be followed up by institutional vaccination of all children as they reach the first year of life, and epidemiological surveillance for the prompt detection of suspected cases and for the institution of control measures will be intensified.

The efforts in these two areas will be important milestones for improving our knowledge about how to control measles and may be pertinent in considering further control measures for the eventual elimination of this disease in the rest of the Hemisphere.

As far as neonatal tetanus is concerned, both WHO and PAHO have targeted the disease for elimination by 1995. Neonatal tetanus control can be achieved faster if efforts and resources are concentrated in risk areas of higher incidence. Considering the closeness of the target date, the use of methods to define high risk areas as fast as possible becomes fundamental. The identification of these risk areas will permit policy makers and program managers to start immediate control measures, by utilizing strategies suitable to their own health systems, which will aim at assuring that all women of childbearing age be immune against tetanus. Over the last year and half, 11 countries of the Hemisphere have identified their areas at risk for neonatal tetanus. Of the 2,212 geographical units (districts/counties) existing in these 11 countries, only 191 or 9% are at high risk for neonatal tetanus (Figure 8), contributing 73% of the total number of cases occurring in these countries (Figure 9). Furthermore, the women of childbearing age living in these areas represent only 21% of the total in the countries under consideration (Figure 10). This data shows that all countries should identify the areas at risk. Once this first step is finalized, control measures should be implemented. The target population should be all women of childbearing age that reside in those areas and should be reached by utilization of all vaccination tactics available, such as during prenatal care visits or any other visit to health care facilities, house-to-house vaccinations, or in conjunction with national immunization days. Simultaneously with such control measures, it is critical that an epidemiological surveillance system be established or improved to allow the measurement of the control activities and to identify any other area that may be at risk.

FIGURE 8

PROPORTION OF AREAS AT HIGH RISK FOR NEONATAL TETANUS AMERICAS*, CIRCA 1988

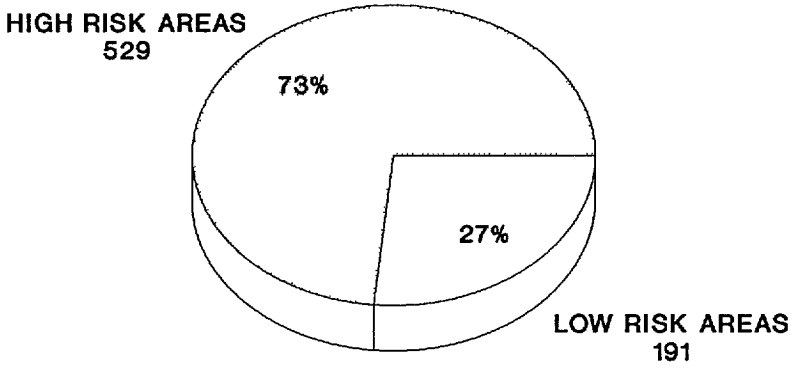


TOTAL DISTRICTS: 2,212

* 11 COUNTRIES

FIGURE 9

PROPORTION OF NEONATAL TETANUS CASES IN HIGH RISK AREAS AMERICAS*, CIRCA 1988

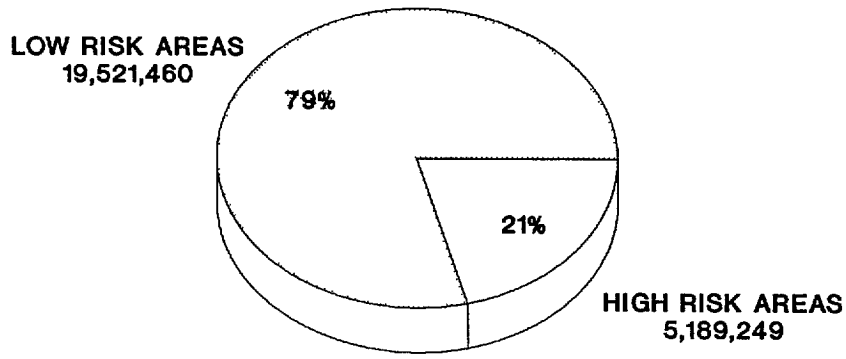


TOTAL CASES: 671

* 11 COUNTRIES

FIGURE 10

PROPORTION OF WOMEN OF CHILDBEARING AGE IN HIGH RISK AREAS AMERICAS*, CIRCA 1988



TOTAL POPULATION WOMEN OF CHILDBEARING AGE: 24,710,712

* 11 COUNTRIES

4. Future Challenges

4.1 Consolidation of Polio Eradication

The target of interrupting transmission of wild poliovirus from the Americas by the end of 1990 is achievable, but extra efforts will be necessary. Of particular importance will be the establishment of national weekly reporting systems (including negative reporting) for acute flaccid paralysis in all countries of the Region, accompanied by appropriate follow up of every reported case with adequate collection of stool samples for examination in the polio laboratory network. Again, information about the reward of US$100, instituted by PAHO and offered to anyone first reporting a probable case of polio that turns out to be due to the wild poliovirus, needs to be disseminated widely in all countries to increase interest in notification by both the general population and health workers.

The continuation of national vaccination days and the mop-up operations, both using OPV, becomes even more critical at this stage of the program. The process of certification of eradication of transmission of wild poliovirus will be initiated during 1990, with the guidance of an international commission appointed by the Director.

4.2 Sustaining and Increasing Coverage

As far as sustaining and increasing immunization coverage to reach the majority of children and women of childbearing age in the Region of the Americas, and consolidating the eradication of polio, much remains to be done. Some issues that require the utmost attention by Member Countries include the maintenance of a high level of political commitment that translates into human and financial resources for program operations. In this respect, the issue of vaccine supply becomes critical--over the last two years several countries have experienced increased difficulties in ensuring that national resources are budgeted for vaccine procurement. It is of paramount importance that governments assign the necessary funds for vaccine procurement in their annual national budgets. The assignment of sufficient funds to assure an adequate vaccine supply is the first indicator of political commitment toward this high priority, highly cost-effective, public health activity.

The second issue that deserves increased attention refers to actions that aim at the elimination of missed opportunities for vaccination, during visits made by children and women of childbearing age to any health facility, for any reason. As mentioned earlier, nearly 50% of these visits represent missed opportunities for vaccination, and over half of these missed opportunities are due to false contraindications to vaccination given by the attending health worker. Some countries, such as El Salvador, have instituted measures aimed at elimination of these missed opportunities by instituting obligatory vaccination in all hospitals. In the first 10 months of such a program, over 350,000 vaccinations were performed, without additional resources.

Another missed opportunity that needs to be eliminated occurs when countries do not utilize all the EPI vaccines during national vaccination days. It is important that all countries utilize all antigens during these national vaccination days, including tetanus toxoid for women of childbearing age.

4.3 The Next Phase

With the successes achieved by the countries of the Americas in establishing a solid basis for immunization programs and disease control/elimination, there are other challenges confronting the Region, in the area of diseases preventable by vaccination. They are outlined in a Concept Paper (Annex I), entitled "Child Health: Accelerated Immunization Program in the Americas, Phase II, 1991-1995," which discusses the possibilities of sustaining the momentum and building upon the lessons learned, for furthering disease control/elimination and the possible introduction of new vaccines into EPI during this decade.

To achieve this goal, it will be necessary that the ICC member agencies continue coordinating their efforts and assisting the governments with resources needed to assure the proper utilization and mobilization of national resources that are already available at country level.

It is estimated that, to achieve the consolidation of polio eradication, neonatal tetanus elimination by 1995 and further control of measles, plus sustaining and increasing present immunization coverage and the gradual introduction of new vaccines such as MMR and hepatitis B, additional external funding in the order of US$100 million would be required over the next five-year period.

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CONCEPT PAPER

CHILD HEALTH: ACCELERATED IMMUNIZATION PROGRAM IN THE AMERICAS
PHASE II: 1991-1995

Concept Paper

Contents

CHILD HEALTH: ACCELERATED IMMUNIZATION PROGRAM IN THE AMERICAS
PHASE II: 1991-1995

1. Introduction

Building self-sustaining immunization programs within health delivery systems is an important step toward the attainment of child health. By providing immunization to infants, the Expanded Program on Immunization (EPI) contributes directly to the broader goal of child health by reducing morbidity and mortality due to childhood diseases that are preventable by adequate vaccination and, in turn, it contributes to the overall development and strengthening of the health infrastructure.

Immunization coverage for children under one year of age reached an all time high during 1988 in the Americas of over 60% for all of the vaccines included in the Program. Most importantly, for the first time, most of the countries reached a uniform coverage level.

Poliomyelitis is on the verge of being eradicated from the Western Hemisphere, and the goal of achieving this target, set by the PAHO Member Countries in 1985, is in sight. The other diseases included in the EPI--measles, tetanus, whooping cough, diphtheria and tuberculosis--have experienced a steady decline over the last few years as a result of the increase in immunization coverage.

Still, in spite of all these successes, much remains to be done. Nearly 4 million children born every year in the Americas do not get the benefit of immunization and many die needless, preventable deaths or are still crippled by diseases which could be preventable by immunization.

This Concept Paper outlines the efforts that have been made so far in the Americas to accelerate the immunization programs, and describes how the momentum can be sustained with additional impact on disease reduction and/or eradication in the 1990's.

2. The Phase I Effort

The Phase I effort, which took place from 1986-1990, had the goal of improving the health and productivity of the population in the Americas through the prevention of immunizable diseases, and had the following purpose:

To strengthen and accelerate the Expanded Program on Immunization in the Region and its objective of improved child health, including the eradication of indigenous transmission of wild polioviruses, and thus the eradication of poliomyelitis in the Americas by 1990.

2.1 Inter-Agency Coordination

The initial effort was accomplished through an multi-agency funded project, which was based on a Plan of Action elaborated by PAHO, under the guidance of a Technical Advisory Group (TAG) appointed by the PAHO Director.

To implement and follow up the Plan of Action, an Inter-Agency Coordinating Committee (ICC) was created. This ICC was formed with representation from the participating agencies: the United States Agency for International Development (USAID), the United Nations Children's Fund (UNICEF), the Inter-American Development Bank (IDB), Rotary International, and PAHO. Later on, as the Canadian International Development Agency (CIDA) through the Canadian Public Health Association (CPHA) contributed a grant to PAHO for strengthening of EPI in the English-speaking Caribbean, it became a member of the ICC. The ICC was charged with the task of ensuring coordination of all international agency inputs and reviewing progress as well as the needs for additional assistance. Furthermore, the ICC was also replicated at the country level, with participation of local representatives of the participating agencies.

The experience so far has shown that the ICC mechanism of coordination plays a critical role in the implementation of the Plan of Action. The same approach is now being used for other regional programs such as the diarrheal control program and the AIDS control program.

An important feature of this mechanism is that the agencies keep their identity in the program planning and implementation and that the lines of funding are clearly identified by agency, even when the funds are channeled through PAHO, as for example with the grants made to PAHO by USAID, IDB, CPHA and Rotary International. It is thus possible to identify all the USAID contribution--US$20.6 million channeled through PAHO, and another US$20.5 million channeled bilaterally to the various countries.

The total cost of the Phase I effort was of the order of US$542.2 million, with $430 million coming from national resources and $112.2 million in international resources, with the following break-down:

	US$ millions
PAHO:	
Regular funds	5.7
USAID Grant	20.6
IDB Grant	5.5
CPHA Grant	1.2
Rotary Grant	1.2
USAID Bilateral	20.5
UNICEF	30.1
Rotary	27.4
Country Funds	430.0
TOTAL	542.2

It is to be noted that initial pledges of contributions by UNICEF and Rotary International were $10.0 million each. The success of the project helped those two organizations to mobilize additional funds.

2.2 National Plans of Action

As stated previously, the ICC was replicated at the national level and each country had to prepare a five-year Plan of Action, in which all program activities were costed and funding sources identified, both from national as well as from international sources. These Plans of Action were then discussed with the ICC, revised if appropriate, and a multipartite agreement was signed with the respective governments for their implementation. Quarterly ICC meetings helped to monitor and adjust the Plan.

The mechanism also proved very successful at the country level, and several USAID country missions decided to "buy-in" into the project because the mechanism facilitated their cooperation with the countries. So far USAID "buy-ins" have been effected in Bolivia, Guatemala, Colombia, Dominican Republic, Haiti and Peru. In these "buy-ins" the source of funding also is identified.

Plans of Action were elaborated and agreements were signed in 23 countries in Latin America and the Caribbean. Quarterly reports are forwarded to USAID on technical and financial progress of the Plan of Action. Periodic reports are also sent to the other agencies that provide grants to PAHO, such as the IDB, CPHA and Rotary International.

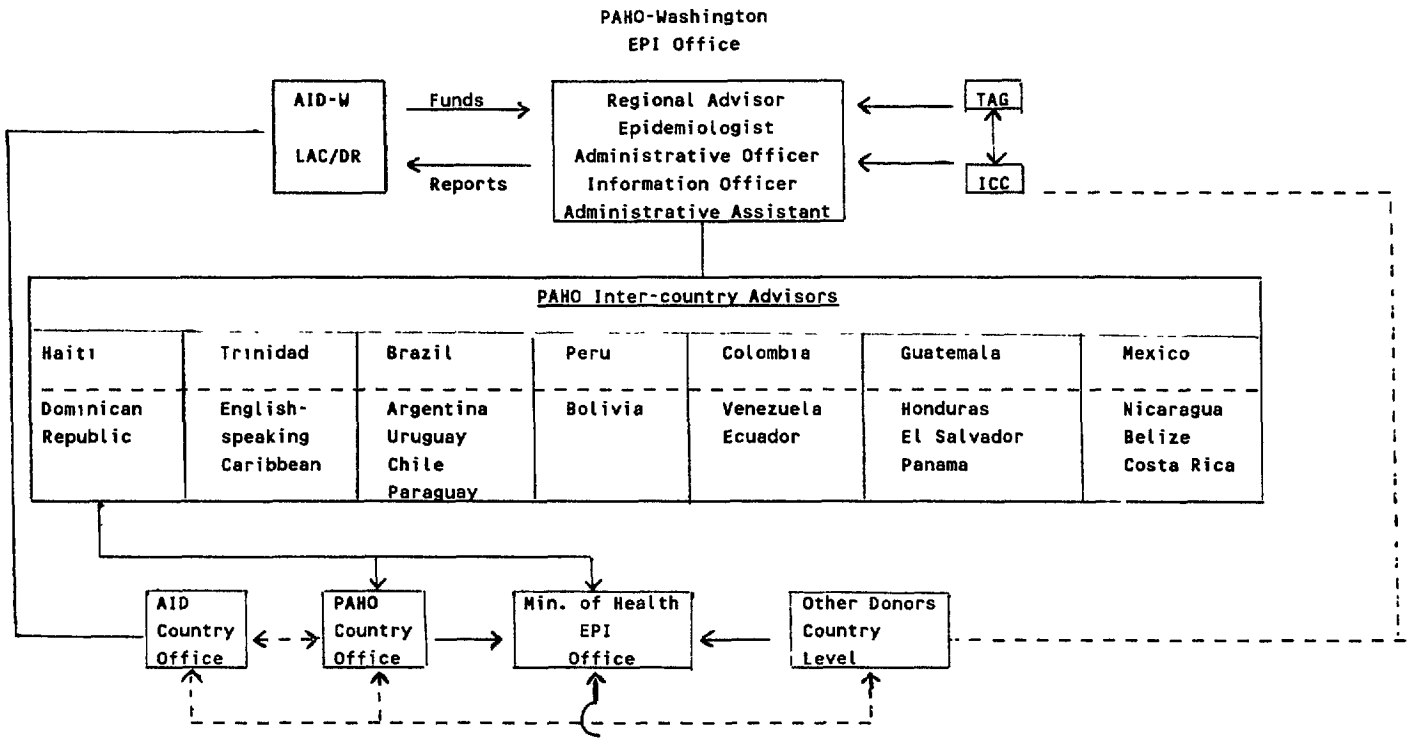
2.3 Management Structure

PAHO serves as the Secretariat for both the ICC and TAG Committees. The USAID grant to PAHO made additional technical and administrative personnel available. In this connection, one administrative assistant and one epidemiologist were added to the Regional Office and two epidemiologists were made available at intercountry level. Furthermore, PAHO technical staff and short-term consultants who were employed with funds from the IDB grant have allowed permanent technical and management personnel to be always available at country and regional levels. At subsequent TAG Meetings the Group recommended that an additional two epidemiologists be added to the central level PAHO/EPI Office to strengthen its analytical capabilities.

Basically, the relationships among PAHO, USAID and the organizational elements of the project contain the following, as shown in Figure 6:

- PAHO's EPI Office in Washington, D.C., which coordinates and manages the project regionally;
- A Technical Advisory Group;
- An Inter-Agency Coordinating Committee;
- National EPI Offices in the Ministries of Health;
- USAID Washington Office;
- USAID Country Offices;
- PAHO Inter-country Advisors;
- PAHO Country Advisors;
- Other Donors - Country Level.

ORGANIZATIONAL CHART



2.4 Evaluation

A mid-term evaluation was undertaken by an Evaluation Team selected by USAID in March 1989. This evaluation concludes that immunization coverage has increased in the Region of the Americas and poliomyelitis is on the way to being eradicated. The Team noted that surveillance has been strengthened and suggested that it be expanded to include the other EPI diseases as soon as the infrastructure is sufficiently developed.

Additionally, the Team found that the ICCs are an important institution and have served to coordinate program activities, although in some countries the ICCs need strengthening. They also found that USAID Missions, on the whole, have been very supportive of the project and that USAID Washington should encourage interested missions to use the "buy-in" mechanism to support these activities.

Finally, the Team concluded that the project is well managed, with an initial favorable financial management review, and suggested the need for a follow up on USAID-funded regional projects to expand the functional gains in surveillance capability achieved for polio towards improving surveillance for all EPI target diseases.

2.5 Impact

2.5.1 Increased Immunization Coverage

Coverage rates have increased progressively between 1986, when the Plan of Action was launched and 1989. Coverage rates for 1989 were: OPV3 86%, DPT3 61%, measles 67%, and BCG 74%. This is the highest immunization coverage ever achieved in the Region of the Americas.

2.5.2 Increased Surveillance

The project has developed a network of surveillance units for poliomyelitis that at the moment includes nearly 4,000 health facilities in the various countries, which are reporting weekly to the national level on the presence or absence of suspected polio cases.

These reports are also made to PAHO-Washington every week, which in turn publishes a weekly summary of the regional epidemiological situation. This system when fully consolidated can be expanded to include other EPI diseases, such as measles and neonatal tetanus. The system is computerized in almost all countries.

2.5.3 Network of Laboratories

To strengthen surveillance of polio, a network of laboratories was developed. This network include six laboratories in Latin America and the Caribbean as well as the US Centers for Disease Control in Atlanta, Georgia. The laboratories are located in Argentina, Brazil, Colombia, Guatemala, Mexico, and Trinidad and Tobago.

All the laboratories have been strengthened and supported to carry out the conventional techniques for poliovirus isolation and typification, and in addition, new technologies such as DNA probing for poliovirus characterization were transferred to the laboratories in Argentina and Brazil. It is expected that over the next year the technologies will be transferred to the other laboratories in the network.

2.5.4 Strengthened Infrastructure

The improvements in epidemiological surveillance and the organization of the laboratory network were accomplished with the provision of equipment and materials and with the training of personnel.

Several hundred individuals were trained in disease surveillance and a few in laboratory techniques for polio diagnosis.

The strengthened surveillance has provided information on both coverage and disease incidence at the district or county levels. This information has been useful for the overall development of the local health systems, because information and its analysis are the basis for the management of health services. The analysis of coverage, for instance, requires the knowledge of population denominators at the local level. This knowledge is also required for the organization of other health interventions.

Furthermore, the motivation of the health workers involved in this program makes them more responsive to other activities in health promotion and disease prevention.

Therefore, the gains achieved so far by the EPI have contributed to the strengthening of the health services infrastructure, especially at the basic level.

2.5.5 Poliomyelitis Eradication

In 1988, a total of 342 cases of polio were reported in the Region of the Americas, representing a decline of over 60% from the 930 cases reported in 1986. The impact of the intensification of surveillance can be seen by the almost 100% increase in notification of cases of acute flaccid paralysis regionally that occurred in 1988 compared with 1985. On the other hand, there has been a decline in the incidence of confirmed cases of the disease. Additionally, the number of counties from which infection has been reported has declined to less than 2% of all the nearly 14,000 counties existing in the Region--236 infected counties in 1988, compared with 544 in 1986.

Circulation of wild poliovirus is now confined to very few areas of the Region and it seems that transmission has already been interrupted in the Southern Cone countries, in the southern areas of Brazil, in Central America and in the Caribbean, with the exception of Haiti. During 1988, there were only 36 wild poliovirus isolates from more than 3,800 stool specimens collected; for 1989, only 22 wild poliovirus isolates have been identified from more than 3,500 stool specimens examined so far. These wild virus isolates were found in two states of northeast Brazil, three states of Mexico, one state of Venezuela, and two districts of Colombia.

In summary, data so far indicates that transmission of wild poliovirus is on the verge of being interrupted in the Region of Americas.

The strategies that were developed in the Americas for polio eradication are now being adapted for use in the global poliomyelitis eradication effort.

3. Sustaining the Momentum: The Phase II Effort

Much has been achieved so far with the Phase I effort, and these accomplishments are due mainly to the catalytic role that the agencies have played in a concerted way and to the funds that were identified and channeled to the countries. This catalytic effect and external funding have helped pave the way for the increased commitment of the countries themselves, both in political and resource allocation terms.

The challenge now is to maintain and sustain this momentum, in order that immunization coverage is further expanded, the eradication of poliomyelitis is consolidated, and other EPI diseases are controlled and/or eliminated.

This challenge can be met only if the collaborating agencies continue to work together, with the same strategic approach that proved to be so successful over the past three years.

3.1 Inter-Agency Coordination

For the Phase II effort it is proposed that the Inter-Agency Coordination Committee continue its function and that PAHO continue to serve as its Secretariat. Besides the regular funds available from PAHO for this period, the contribution of the USAID would continue to be both bilateral and through a grant to PAHO. The Inter-American Development Bank (IDB) will be approached to continue its participation at a level similar to the Phase I effort. There is every indication that both UNICEF and Rotary International will continue supporting this effort in Phase II. They will also be approached to continue operating through the ICC. The Canadian International Development Agency (CIDA), through the Canadian Public Health Association (CPHA), which joined the Phase I effort after its initiation, will also be approached to continue its participation, which is directed mostly toward the English-speaking Caribbean.

Agencies such as the European Economic Community (EEC), Japan International Cooperation Agency (JICA), Swedish International Development Agency (SIDA), Finnish International Development Agency (FINNIDA), Danish International Development Agency (DANIDA), Lions International, and others could also be approached to participate in this initiative.

3.2 National Commitment

As the ICC continues and the funding from external sources is assured, it is expected that the commitment from Member Governments will be forthcoming. The political commitment has already been declared through several PAHO and WHO resolutions that address the issues of child health and immunization, including the elimination of measles and neonatal tetanus in the 1990's.

3.3 Maintaining and Increasing Coverage

Immunization coverage had reached over 60% by 1988 and 1989. The remaining 30 to 40% immunization gap represents the population most hard to reach. Much effort will be needed to assure that they are served. Some of the strategies that need to be used include the elimination of missed opportunities by vaccinating, at every opportunity, women of child-bearing age and children who have contact with a health facility and by the use of special immunization activities, such as national or regional immunization periods, where coverage remains low and disease transmission continues to be a problem. The concept of missed opportunity should be expanded to address the failure to include nongovernmental organizations and private providers as active partners in national immunization programs and the failure to use all EPI antigens on immunization days.

These activities will have to be supported by continuous training of health care personnel at all levels of the health system. Furthermore, it will be necessary to accelerate the process of decentralization of health services and its resources, particularly those related to logistics and supplies, transport facilities and supervisory capabilities. Intensive promotion and social mobilization is fundamental for the maintenance and expansion of coverage. The cold chain will need to be expanded, maintained and/or replaced. Continuous research will guide these activities.

3.4 Expanding Surveillance

The system that has been organized in Phase I needs to be expanded to include other EPI diseases, particularly measles and neonatal tetanus, which are to be targets for control and elimination in the 1990s. This expansion will require additional training of epidemiologists, further strengthening of information systems and information analysis capabilities, and expansion of the network of laboratories, both in terms of technologies available and geographic distribution.

The Phase I effort has contemplated the possibility of this expansion. New diseases could be incorporated into the present reporting network and in the computerized surveillance system.

3.5 Financial Analysis and Management

The organization of national work plans for the five years of the Phase I effort has facilitated the process of financial analysis and management. These plans have gone through yearly revisions and allowed the detailed analysis of inputs by external agencies and governments. Costs can be classified by source and category.

In Phase II, this process will be strengthened, with the possibility of further identification of national inputs by category and elimination of the bottlenecks in project implementation, particularly in relation to disbursement and financial accounting. The process of decentralization of financial resources will also require that local managers be trained in issues related to financial management. Phase II will further address the issues related to accountability at local level.

4. Impact

4.1 Sustained Immunization Coverage

The Phase II effort will sustain and increase the gains in immunization coverage achieved so far. This sustained immunization coverage will be a consequence of improvements in the management of immunization services, strengthened by the decentralization of responsibilities and the provision of further training and supervision. The gains of the EPI so far have contributed to the decline of overall infant and childhood morbidity and mortality rates. Even in areas where infant and childhood mortality has remained unchanged or has increased, the reduction of the morbidity and mortality from EPI diseases has slowed the increase in disease rates.

The increase in immunization coverage and the further reduction in EPI diseases, with the possible elimination of measles and neonatal tetanus in a Phase II effort, coupled with the eradication of polio which will be achieved in Phase I, may have a substantial impact in stabilizing or reducing further the overall infant mortality rates during the 1990s.

4.2 Neonatal Tetanus Elimination

The Forty-Second World Health Assembly, in May 1989, approved Resolution WHA42.32 calling for the elimination of neonatal tetanus by 1995. This resolution was endorsed by the XXXIV Meeting of the PAHO Directing Council in Resolution XI, in September 1989.

The Region of the Americas, during the Phase I effort, has identified all the areas in which neonatal tetanus poses a high risk to newborn children. The Phase II effort will allow intensive vaccination programs of women of childbearing age to be undertaken in these areas so that the disease can effectively be eliminated.

4.3 Measles Reduction

Measles is responsible for the majority of hospitalizations and deaths from all of the EPI diseases. The World Health Assembly and PAHO Directing Council resolutions mentioned above also have called for the reduction of this disease to levels below 40/100,000 population during the 1990's.

In the Americas, several countries, including Costa Rica, Cuba and those of the English-speaking Caribbean, have singled out this disease for elimination before or by 1995. The experiences gained

particularly in the English-speaking Caribbean will be extremely valuable for the real possibility that this disease be entirely eliminated from the Western Hemisphere by the year 2000.

4.4 Introducing New Vaccines

As these national immunization programs mature, it becomes appropriate to consider the introduction of additional vaccines of public health importance, such as Rubella, mumps, and hepatitis B vaccine in countries in which adult carrier rates for this virus is over 2%.

5. Program Beneficiaries

As in Phase I, the primary beneficiaries will be children under five years of age and women of childbearing age in the Region of the Americas.

Secondary beneficiaries include communities and national governments, which will be spared the cost of lost productivity and rehabilitation. Regionally, benefits include strengthened health delivery systems and laboratory facilities that can be used for other priority health programs.

As with the polio eradication effort, lessons learned by health professionals and donors in Phase II can be used to strengthen immunization programs in other parts of the world.

6. Proposed Management and Organization

Phase II will be organized and managed by building on the management and organizational structure of Phase I, which will be further strengthened and consolidated.

The overall regional implementation, monitoring, and logistical support to the project will be managed and provided by the PAHO/EPI staff, both central and inter-country staff. The four technical and administrative personnel already funded by USAID will be reinforced by an additional two epidemiologists at the central level.

The PAHO/EPI office will coordinate all activities related to the Phase II effort. This is critical to ensure a consistent, coordinated effort in the regional activities. The USAID-funded personnel will assist in the planning management and implementation of the project and in the coordination of activities related to epidemiological surveillance, outbreak investigations, immunization strategies, and supervision of inter-country and country advisors.

The Technical Advisory Group will continue to guide the technical aspects of the project and the Inter-Agency Coordinating Committee will continue its function of ensuring coordination of all international inputs. The PAHO/EPI office will continue serving as Secretariat for both Committees.

National Plans of Action covering the five-year period 1991-1995 will be developed by each country and will be discussed and revised if appropriate with the ICC. Multipartite agreements will be signed between the agencies and the governments. These National Plans of Action will be developed into annual work plans that will cover the specific activities that should be implemented in each quarter of the operating year, and these instruments will serve as the basis for program monitoring at country level by the local ICCs.

A mid-term evaluation review will be conducted by an independent team selected jointly by the ICC Member Agencies.

7. Phase II Budget

The chart below presents the total Phase II budget estimates for the period 1991-1995.

Requests will be made to the agencies which have contributed to Phase I efforts, as well as to others, to contribute financially to these expanded disease control and elimination efforts, directly to Member Governments and through PAHO, as has been done successfully over the past five years.

ITEM	TOTAL (US$1,000)
PERSONNEL	
Inter-country	9,053.5
In-country	3,225.0
Consultants	2.500.0
INFORMATION	3,850.0
MEETINGS	2,000.0
LABORATORIES	2,700.0
TRAINING	6,600.0
NATIONAL MOBILIZATION	14,300.0
PROMOTION	15,000.0
COLD CHAIN	4,300.0
EVALUATION	2,200.0
RESEARCH	2,250.0
VACCINE/SYRINGES	24,000.0
CONTINGENCY	4,200.0
PROGRAM SUPPORT COSTS*	4,505.2
TOTAL	$100,683.7

* It is expected that, as in Phase II, PAHO would continue to be the recipient of grant funds totalling approximately US$26.0 million. Of these funds, $4,505,200 (13%) would be for program support costs.

executive committee of the directing council

PAN AMERICAN HEALTH ORGANIZATION

working party of the regional committee

WORLD HEALTH ORGANIZATION

105th Meeting
Washington, D.C.
June 1990

Provisonal Agenda Item 4.4

CE105/13, ADD. I (Eng.)
18 June 1990
ORIGINAL: ENGLISH

PLAN OF ACTION FOR THE ERADICATION OF INDIGENOUS TRANSMISSION OF WILD POLIOVIRUS

For the information of the Executive Committee, please find attached:

1) The most recent information on reported cases of the diseases included in the Expanded Program on Immunization available to PAHO in Washington, D.C. (18 June 1990). This information, replaces that presented in Table 2 of Document CE105/13.

2) The most recent information on the detection of wild poliovirus in the Americas for 1989 and 1990. The map for 1989 replaces Figure 5 of Document CE105/13.

3) The most recent edition of the Weekly Bulletin on Polio Surveillance in the Americas (Vol. 5, No. 23, for the week ending 9 June 1990) (published in English only).

Table 2

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	
						Non Neonatal		Neonatal					
		1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
LATIN AMERICA													
Andean Region													
Bolivia	31 Dec.	484	1 818	2	2	...	30	86	67	9	9	717	685
Colombia	31 Dec	10 235	15 732	14	41	108	193	193	148	35	23	1 668	1 994
Ecuador	31 Dec.	2 403	7 990	5	9	40	129	58	128	3	8	256	109
Peru	31 Dec.	984	3 180	1	55	311	10	160	112	54	36	1 358	806
Venezuela	31 Dec.	9 554	12 203	16	20	44	17	...	24	0	2	590	465
Southern Cone													
Argentina(v)	31 Dec	4 009	4 836	0	4	62	80	10	...	11	8	2 936	3 737
Chile	31 Dec.	11 904	45 079	0	0	14	14	2	5	36	132	206	224
Paraguay	31 Dec.	220	772	0	0	121	62	37	52	8	13	371	886
Uruguay (v)	31 Dec.	18	76	1	0	5	2	0	0	0	0	40	25
Brazil	31 Dec.	19 454	26 179	36	106	1 557	1 842	299	324	846	987	11 112	8 868
Central America													
Belize	31 Dec	11	74	0	0	0	0	0	0	0	0	1	0
Costa Rica	31 Dec.	33	358	0	0	2	5	0	2	0	0	85	95
El Salvador	31 Dec.	15 917	787	3	12	24	50	24	33	0	0	34	46
Guatemala	31 Dec	2 415	182	3	38	15	67	15	29	...	...	...	725
Honduras	31 Dec.	6 653	1 155	1	6	13	21	16	11	0	0	75	235
Nicaragua	31 Dec.	130	167	0	0	54	67	17	27	0	0	324	63
Panama	31 Dec.	287	364	0	0	5	2	9	6	...	0	36	29
Mexico	31 Dec.	20 076	3 915	27	18	177	303	35	127	6	2	1 468	693
Latin Caribbean													
Cuba	31 Dec.	10	122	0	0	6	5	0	0	0	0	70	32
Dominican Republic	31 Dec	1 867	692	0	1	41	104	17	33	36	75	361	104
Haiti	31 Dec.	...	..	2	9	...	...	..	...	...	...	...	...
CARIBBEAN													
Antigua & Barbuda	31 Dec.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	31 Dec.	60	22	0	0	1	1	...	0	0	0	0	0
Barbados	31 Dec.	2	1	0	0	2	1	...	0	0	0	0	0
Dominica	31 Dec.	9	10	0	0	0	1	0	0	0	0	0	0
Grenada	31 Dec.	2	4	0	0	1	0	...	0	0	1	0	2
Guyana	31 Dec.	11	917	0	0	0	6	0	0	0	0	0	0
Jamaica	31 Dec.	5 778	30	0	0	5	3	...	0	5	5	3	7
St. Cristopher/Nevis	31 Dec.	12	12	0	0	0	0	0	0	...	...	0	0
St. Lucia	31 Dec.	10	4	0	0	0	1	0	0	0	0	0	0
St. Vincent & Grenadines	31 Dec.	1	10	0	0	3	1	0	0	0	0	0	1
Surinname	31 Dec.	0	68	0	0	2	1	...'	1	0	0	0	0
Trinidad & Tobago	31 Dec.	2 180	388	0	0	11	4	...	...	0	0	2	11
NORTH AMERICA													
Canada**(v)	31 Dec.	958	609	0	3	2	3	...	...	3	11	1 759	1 106
United Sates**(v)	31 Dec.	16 236	3 065	0	9	46	48	...	...	2	1	3 745	3 379

** Country does not report neonatal tetanus data separately.
# Data for polio includes only confirmed cases through week 52 (ending 30 December, 1989).
(v) All polio cases are vaccine -related.
(i) Polio cases are imported.
... Data not available.

Figure 5

WILD POLIOVIRUS ISOLATED REGION OF THE AMERICAS, 1989

LATEST DATES OF ONSET:

BRAZIL: 19 MARCH 1989
COLOMBIA: 2 DEC. 1989
ECUADOR: 30 DEC. 1989
MEXICO: 6 NOV. 1989
PERU: 14 DEC. 1989
VENEZUELA: 27 MARCH 1989

Figure 5 A

WILD POLIOVIRUS ISOLATED REGION OF THE AMERICAS, 1990

LATEST DATE OF ONSET:

MEXICO: 19 FEB. 1990

Pan American Health Organization
Pan American Sanitary Bureau, Regional Office of the
World Health Organization

Vol. 5, No.23

Expanded Program on Immunization
Polio Surveillance in the Americas

Weekly Bulletin for the week ending 9 June 1990

Last case with wild poliovirus had onset on February 19, 1990 in Mexico.

New Polio Case Classification

At the Technical Advisory Group (TAG) meeting in Mexico City this year, a new case classification for polio was recommended to minimize the false positive reporting of confirmed polio cases.

As of week 22, 1990, the weekly Polio Bulletin will report polio cases using the following new case classification approved by TAG:

i. ***Confirmed poliomyelitis*** *- Acute paralytic illness associated with the isolation of wild poliovirus, irrespective of residual paralysis. Accordingly, the weekly Polio Bulletin will show these cases in Table 3.*

ii. ***Vaccine-associated poliomyelitis*** *- Acute paralytic illness in which vaccine virus is believed to be the cause of the disease. Vaccine-associated cases should be reported separately. They are not considered to be the same as confirmed polio with wild poliovirus isolates.*

iii. ***Not poliomyelitis*** *- Acute paralytic illness in which at least two adequate stool specimens have been obtained within two weeks after onset of paralysis and have been found negative for poliovirus. Aliquots of the original samples should be held at the laboratory for possible future use. To ensure the accuracy of this categorization, any patient who dies, is lost to follow-up, or who has residual paralysis at 60 days should have aliquots of the original specimens examined in two other laboratories in the network, using all appropriate techniques. If the specimens were adequate and all are negative, even these patients will be considered as "not polio" and will be "discarded". This classification represents a major change from the current system.*

iv. ***Polio compatible*** *- 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. This should be a very small proportion of cases. The Polio Bulletin will present these cases in Table 4.*

The cases of acute flaccid paralysis (probable polio) still under investigation, will continue to be presented in Table 5. Tables 1 and 2 will combine to present virus isolation results.

Table No. 3
CONFIRMED CASES OF POLIOMYELITIS, BY WEEK OF ONSET
(PROVISIONAL DATA)

SITE	TOTAL 1989	CUMULATIVE		WEEKS										
		1989	1990	1- 4	5- 8	9-12	13-16	17	18	19	20	21	22	23
ARG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRA	2	2	0	0	0	0	0	0	0	0	0	0	0	0
CAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHI	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COL	5	4	0	0	0	0	0	0	0	0	0	0	0	0
COR	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
CUB	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
DOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ECU	2	0	0	0	0	0	0	0	0	0	0	0	0	0
ELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GUT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HAI	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HON	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEX	13	4	1	0	0	1	0	0	0	0	0	0	0	0
NIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
URU	0	0	0	0	0	0	0	0	0	0	0	0	0	0
USA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEN	1	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	23	11	1	0	0	1	0	0	0	0	0	0	0	0

Table No. 4
POLIO COMPATIBLE CASES
WEEKS 1-23, 1989 & 1990

SITE	TOTAL 1989	WEEKS 1-23	
		1989	1990
ARG	0	0	0
BOL	2	2	0
BRA	28	15	5
CAN	0	0	0
CAR	0	0	0
CHI	0	0	0
COL	8	4	2
COR	0	0	0
CUB	0	0	0
DOR	0	0	0
ECU	2	1	2
ELS	3	0	0
GUT	3	1	0
HAI	2	1	0
HON	1	1	0
MEX	12	8	0
NIC	0	0	0
PAN	0	0	0
PAR	0	0	0
PER	14	5	0
URU	1	1	0
USA	0	0	0
VEN	12	3	0
TOTAL	88	42	9

Table No. 5
CASES OF ACUTE FLACCID PARALYSIS UNDER INVESTIGATION,
BY WEEK OF REPORT

SITE	CUM	WEEKS							
	1990	1- 4	5- 8	9-12	13-16	17-20	21	22	23
ARG	29	0	5	10	9	3	0	2	0
BOL	8	0	0	0	0	3	1	2	2
BRA	178	2	14	14	58	50	8	21	11
CAN	0	0	0	0	0	0	0	0	0
CAR	4	0	0	0	0	3	0	0	1
CHI	0	0	0	0	0	0	0	0	0
COL	54	0	6	5	9	18	3	8	5
COR	1	0	0	0	0	0	0	1	NR
CUB	0	0	0	0	0	0	0	0	NR
DOR	1	0	0	0	0	0	1	0	0
ECU	20	0	1	0	4	11	0	2	2
ELS	18	0	0	0	5	5	2	3	3
GUT	12	0	0	0	5	4	1	1	1
HAI	9	1	1	3	1	2	0	1	0
HON	6	0	0	1	2	3	0	0	0
MEX	61	0	7	7	13	28	3	2	1
NIC	2	0	1	0	0	0	0	0	1
PAN	3	0	0	0	3	0	0	0	0
PAR	2	0	0	0	0	1	0	1	0
PER	7	0	0	0	1	6	0	0	0
URU	3	0	0	0	1	0	0	1	1
USA	0	0	0	0	0	0	0	0	0
VEN	23	1	3	5	3	5	2	0	4
TOTAL	441	4	38	45	114	142	21	45	32

CAR INCLUDES INFORMATION FROM ALL CAREC MEMBER COUNTRIES
NR NO REPORT RECEIVED