EPI Newsletter

Expanded Program on Immunization in the Americas

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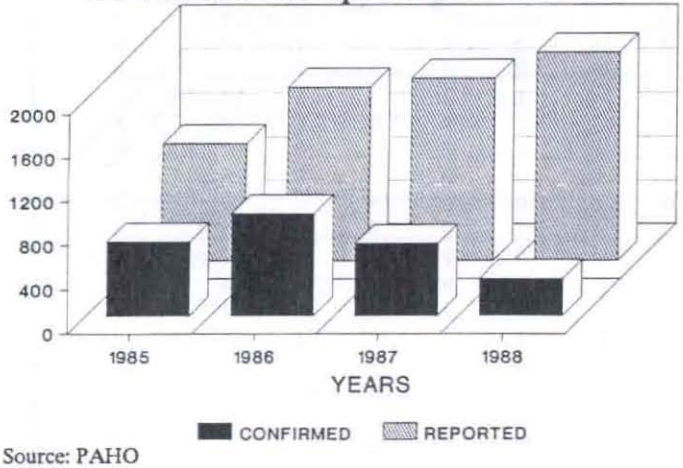
Polio Surveillance Indicators

The data presented below summarize the evolution of some of the main indicators of the status of polio surveillance in the Region.

Figure 1 shows the dramatic negative correlation between cases reported and cases confirmed since the initiation of the polio eradication effort; while reporting has nearly doubled since 1985, the number of cases confirmed has been reduced by half. Table 1, on the other hand shows that when the first 24 weeks of 1988 and 1989 are compared, although there have been improvements in case investigation, in terms of completeness of data submitted for cases reported, the timeliness of report (i.e., reporting within 15 days of onset of paralysis) can still be improved. This strengthening of epidemiological surveillance can also be observed in sample collection completeness and timeliness (Figure 2).

Figure 1. Polio in the Americas, 1985 to 1988
Evolution of Cases Reported and Confirmed.

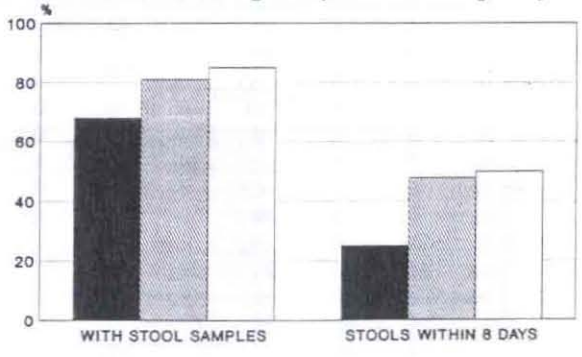


Source: PAHO

Table 1. Polio in the Americas, 1988 and 1989
Percent Cases reported with dates of onset of paralysis and reported in less than 15 days from onset.

Country	1988			1989		
	Cases reported	% w/ dates of onset	% reported <15 days	Cases reported	% w/ dates of onset	% reported <15 days
Bolivia	14	100	36	11	100	55
Brazil	417	100	75	345	97	79
Colombia	91	97	42	104	97	58
Ecuador	11	100	9	17	29	80
El Salvador	19	100	79	13	85	91
Guatemala	33	97	81	41	98	73
Haiti	4	100	25	7	100	14
Honduras	56	100	59	36	50	72
Mexico	110	75	67	79	97	38
Paraguay	9	100	44	8	100	63
Peru	57	95	57	64	98	68
Venezuela	46	100	35	31	100	45
TOTAL	867	96	65	756	92	67

Figure 2. Polio in the Americas, 1987 to 1989*.
Percent probable cases reported with stool samples taken and taken within eight days of onset of paralysis.



Source: PAHO

* Preliminary data.

In this issue:

Polio in Europe

Following a recommendation made during the second meeting of the EPI European Advisory Group (EAG), the EPI national program managers met in Budapest from 26 to 29 April, 1988. The national program managers met to discuss the steps required to achieve target 5 of the strategy for health for all by the year 2000 and the objectives established at the Second Conference on Immunization Policies in Europe. Target 5, "Eliminating seven specific diseases", states the following: "By the year 2000, there should be no indigenous measles, poliomyelitis, neonatal tetanus, congenital rubella, diphtheria, congenital syphilis or indigenous malaria in the Region."

Table 1 presents the incidence of poliomyelitis from 1974 to 1988. At this point, all countries in the Region officially report the disease to the Regional Office. Eighteen countries are using the standard case definition ("any case of flaccid paralysis should be considered as suspected poliomyelitis and investigated thoroughly as soon as possible to contain potential outbreaks").

Of the 220 cases of polio in 1988, 165 occurred in the USSR. Recent outbreaks occurred in Israel (1988) and Spain (1987-1988). Imported cases were reported in 1987 by four countries and vaccine-associated cases by six countries. Of the 32 member states, 22 (66.7%) were using OPV, five were using IPV and 5 were using OPV and IPV. All but three member states reported immunization coverage rates of 80% or more.

Progress toward the eradication of poliomyelitis in the European Region has been made. Between 1980 and 1988, 22 countries became free of polio. The total number of reported poliomyelitis cases dropped from 547 to 220, almost by two-thirds. Six countries reported less than 10 cases of the disease per year, and only four have reported more than 10.

Source: WHO, Regional Office for Europe, Expanded Program on Immunization, Report of the Meeting of National Program Managers, Budapest, 26-29 April 1988, EUR/ICP/EPI 018.

Table 1. European Region: Reported annual number of poliomyelitis cases

Country	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	Years w/no cases
ALB	*	*	*	*	*	*	1	1	0	0	0	1	0	0	0	3
AUT	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	8
BEL	0	1	1	0	1	1	1	0	0	1	0	0	1[c]	1[a]	0	1
BUL	0	0	0	0	0	0	15	0	1	1	1	0	0	0	0	4
CZE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
DDR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
DEN	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	12
DEU	15	24	41	20	16	9	6	11	4	7	1	5	3	3	1[a]	1
FIN	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	3
FRA	19	18	9	9	26	14	10	9	14	3	5	2	4	2	1	
GRE	0	0	7	3	0	0	0	2	4	0	0	1	1	1	0	1
HUN	1	2	3	3	1	1	1	1	0	1	1	1[a]	1[a]	2[a]	0	1
ICE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
IRE	0	0	0	5	0	0	1	0	1	0	0	0	0	0	0	6
ISR	28	13	9	97	19	34	11	8	5	4	1	2	0	2	16	
ITA	9	4	9	10	2	2	1	1	3	3	2	1	0	1	0	1
LUX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
MAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
MON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
NET	0	0	0	1	110	0	0	1	0	1	1	0	0	0	0	4
NOR	3	0	1	0	0	0	0	1	1	0	0	0	0	1[c]	0	6
POL	22	9	14	10	6	1	3	1	7	2	2	3	2[a]	3[a]	4[a]	3
POR	3	7	2	0	1	1	0	0	1	0	0	0	0	1	1[b]	1
ROM	10	31	15	23	22	0	125	125	39	16	15	11	16	11	11	
SMR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
SPA	191	261	41	39	82	17	17	17	21	27	2	8	0	11	4	
SSR	139	133	106	264	152	165	165	307	257	181	115	138	174	173	165	
SWE	1	0	1	3	0	0	0	0	0	0	0	0	0	0	0	9
SWI	0	1	0	0	2	1	1	3	1	0	1	0	0	0	0	4
TUR	348	368	500	328	261	182	182	148	219	165	81	88	32	7	14	
UNK	6	3	11	19	3	2	2	2	3	5	6	5	7	0	3[a,c]	2
YUG	36	7	6	141	20	4	4	0	6	12	2	0	3	1	0	1
TOTAL	831	882	777	976	725	547	547	639	587	430	243	267	244	220	220	

* Data not available.
[a] Vaccine-associated cases.
[b] Six-year old male from Faro, imported vaccine-associated case.
[c] Imported case.

Mop-Up Operation

Mop-up operations have been planned already in almost all the countries of the Region. It is expected that 559 high-risk counties will be covered by these activities.

Colombia, Peru, and Mexico have been the most active countries in terms of organizing these activities. In Colombia and Peru, the majority of the activities were concentrated on house-to-house vaccinations performed in the periurban areas and low-income neighborhoods of the capital cities. In Mexico, the mop-up operations will be carried out in the two states from which wild poliovirus was isolated in the past and present year. A national meeting was held in Brazil from 25 to 27 April, where activities were planned and organized and a new logo was even approved for use in them (see below).

As evidenced by the preliminary data presented in Table 1, it is expected that by 15 July, those countries that have already programmed activities, will have covered all the high-risk counties with a first wave of house-to-house vaccinations.

Table1. Preliminary data on the Mop-Up Operation
House-to-house vaccinations
Region of the Americas, May 1989.

COUNTRY	Number of counties	Total population <5 yrs.	Date of first round of vaccinations	No. of children under 5 yrs. vaccinated	%
Bolivia	N.A.				
Brasil*	186	19 346	5 MAY	21 037	108
Colombia	35	393 711	APRIL	368 357	94
Ecuador**	20	109 325	29 APRIL		
El Salvador	37	260 820	MAY		
Guatemala***	54	520 285			
Haiti	N.A.				
Honduras	17	8 902			
Mexico	130	N.A.	29 APRIL	82 273	
Peru	48	186 967	2 DECEMBER	105 060	56
Venezuela	32	N.A.			
TOTAL	559	1 499 356		576 727	

N.A. Data not available.
* Data from 12 of 27 countries.
** Data from only 4 counties
*** Eleven counties will be covered by 15 July.

Coverage by County: an Update

The EPI Newsletter of October 1988 informed of the strategy of evaluating and monitoring coverage at the county level. Following is an update on theses activities in some countries of the Region.

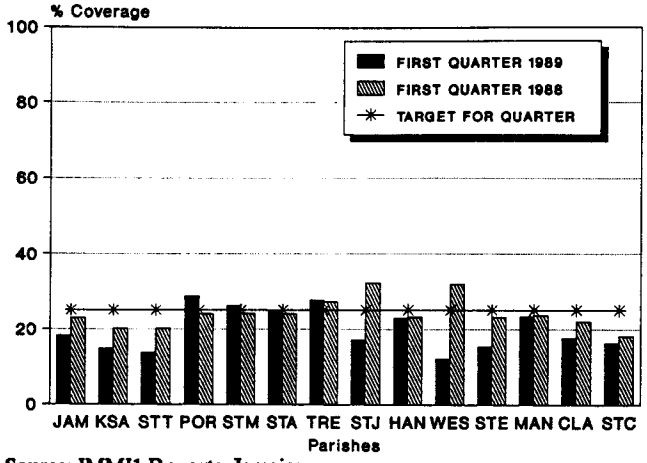
The evaluation coverage at the county level is an excellent instrument to monitor program progress, since it allows for the identification of high risk areas which could become sources of cases or epidemics.

Social communication activities are also reinforced since promotion can be directed specifically to those populations from the areas that need to increase coverage.

Those activities related to programming EPI acceleration and the National Vaccination Campaigns can also be streamlined and made more efficient, since sparse resources can be better allocated and utilized.

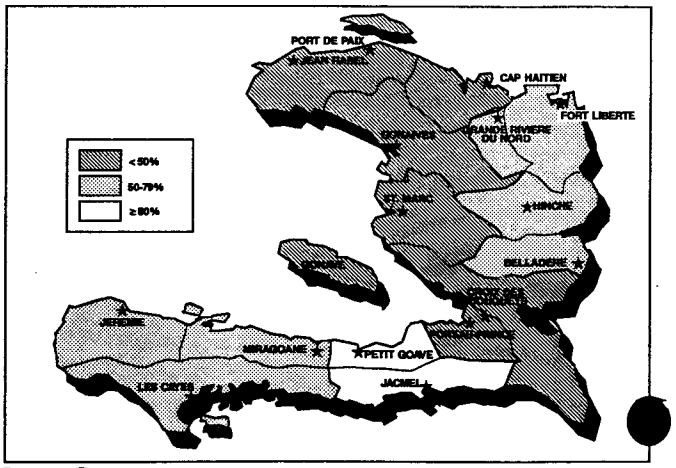
Finally, it is important to emphasize that monitoring coverage by county transfers the responsibility for program evaluation to the local level. This has the effect of reinforcing the lower levels and increasing the speed with which responsive actions can be implemented.

Figure 1. OPV Coverage by Parish Jamaica, End of First Quarter 1988, 1989.



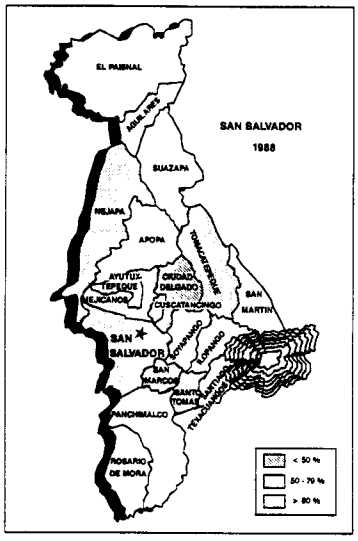
Source: IMMI1 Reports, Jamaica.

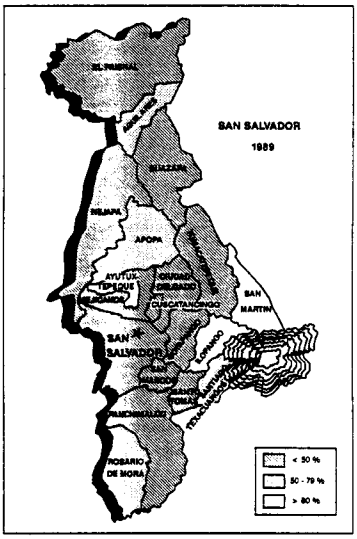
Figure 2. OPV Coverage by County Haiti, 1988



Source: Country reports.

Figure 3. OPV Coverage by County, Metropolitan Region (Department of San Salvador), El Salvador. 1988 1989





Source: Country reports.

Polio in the Southern Cone

The Fourth Meeting of the "Asunción Group" met in Asunción, Paraguay from 14 to 16 June. The participating countries were Argentina, Chile, Paraguay and Uruguay, as well as the Southern Cone border countries of Bolivia and Brazil. The Group met for the first time in Asunción in July 1987 to discuss actions necessary to develop country level plans and intercountry coordination, with a view to improving the surveillance activities and the eradication of wild polio virus transmission in the subregion of the Americas. As in previous meetings, technicians from PAHO, Rotary International and the Agency for International Development (USAID) took part.

The prime objective of the Fourth Meeting was to evaluate the efforts and progress in each country since the Third Meeting (held in September 1988), in addition to programming the activities to be undertaken over the next nine months.

The strategies outlined in the First Meeting continue to be the goal for the upcoming months. These include the intensification of epidemiological surveillance by establishing a system of negative reporting of cases of flaccid paralysis, defining geographical areas of high risk for the disease, and aggressive control measures in the presence of probable cases of polio. Added to these strategies is the need to develop intensive "mop-up" vaccination activities as defined by the VI Technical Advisory Group Meeting of the EPI, held in Buenos Aires in November 1988. The "mop-up" activities will serve as a complement to the routine vaccination activities and the national vaccination campaigns held in the countries.

The highest coverage rates in the Region of the Americas was reached in 1988 with the EPI vaccines. A Regional average of at least 60% coverage for measles, DPT and BCG vaccines was reached, and at least 80% coverage for OPV.

In the last decade there has been a continual decline in the various EPI diseases, with poliomyelitis reaching the lowest rates in the history of the Hemisphere: less than 400 confirmed cases, and less than 2% of all the municipalities of the Region infected with polio during the year. More than 3,500 stool samples of probable cases of polio have been studied in the reference laboratories and less then 50 polio virus isolates have been identified, with less than 30 characterized as wild polio virus. It appears that circulation of the wild virus in early 1989 is limited to the northeast of Brazil, the countries of the Andean Region, and Mexico.

Regional strategies have been adjusted to more directly address the control of EPI diseases, and to include efforts of various countries for intensification of anti-tetanus vaccination in women of child-bearing age in the areas identified as high risk. In addition, other countries are dedicating themselves to the goal of eliminating measles, such as Cuba, where no cases have been reported in the last five months, and in the English-speaking Caribbean, where a Plan of Action for Elimination of Measles by the year 1995 is underway.

The EPI regional strategies are adjusted with a view to strengthening vaccination activities through the decentralization of resources to the areas and the local health systems, the elimination of lost opportunities for vaccination in the health establishments in addition to the national vaccination campaigns using all the EPI antigens.

The progress made in all of the countries insofar as surveillance and control of flaccid paralysis is well known. Table 1 shows the improvement in most of the indicators of epidemiological surveillance, with the need to improve the opportunity for reporting, the organization of control methods, and the follow-up of cases. With few exceptions, the recommendations resulting from the previous meetings of this Group and those resulting from the Technical Advisory Group on the EPI have been fulfilled. During 1988 and the first six months of 1989 no wild polio virus has been identified in Argentina, Bolivia, Chile, Paraguay, Uruguay, and in southern Brazil.

Extra effort will be needed to maintain adequate support from the reference laboratories for this subregion (the Malbran Institute of Argentina and the Fiocruz Institute of Brasil), although it is recognized that considerable improvement has been made in the response time of the samples sent by the various countries.

Advancement in case reporting was very important in Argentina and Bolivia in relation to the last meeting and Paraguay made considerable progress in the organization and control of the system of negative reporting of flaccid paralysis. In Brazil there has been an increase in the commitment from the Ministry of Health, which reflects in 1989 the reaching of the highest coverage rates seen in regional and national vaccination campaigns since 1984 and the beginning of the organization of the national system of negative reporting of flaccid paralysis and the identification of more than 300 municipalitis as free of cases after "mop up" operations. In addition, inasmuch as an improvement in the surveillance indicators is observed, there are indications that they might be reporting a certain number of false positives, since many cases are not confirmed using the ideal criteria for confirmation.

In the participating countries in general, it is notable that the effort of the last two years toward the organization of the polio surveillance system and the intensification of vaccination activities has brought about the complete reorganization of the national epidemiological surveillance systems, the strengthening of local health systems and the participation of different sectors of society as a whole and of communities in particular.

Despite the important advances mentioned, the "Asunción Group" recognizes that an even greater effort is

necessary over the next 18 months until December 1990, the deadline of the goal set by the countries for the eradication of polio. Toward this goal, the following recommendations for implementation in the ensuing months were made:

1. In view of the future changes of government in many of the participating countries, and with the objective of maintaining the priority and political support, it is recommended that authorities with political influence from the ministries of health be invited to participate in the next meeting of the "Asunción Group".

2. Promote the development of mechanisms for decentralization, particularly financial, as well as bring more support to the operation levels, with the objective of increasing their efficiency and efficacy.

3. Involve in the program the universities, professional schools, and Scientific Societies through discussion and dissemination.

4. Request a subregional meeting of neurologists with the objective of discussing technical aspects of surveillance of flaccid paralyses and final classification of cases in the Southern Cone.

5. Incorporate the social security, non-governmental organizations, and unions in the epidemiological surveillance system for flaccid paralysis in all the countries.

6. Achieve the "official constitution" of the Technical Committees for the Final Classification of Flaccid Paralysis.

7. Promote periodic Border Meetings with the objective of realizing joint training activities, vaccination, surveillance and research. These activities will be coordinated locally.

8. Plan National Vaccination Days to be held in the countries on the same dates in order to strengthen the coordination.

9. Strengthen the participation and coordination of the Rotary Clubs.

10. Carry out "Mop-Up" operations in those areas identified as high risk for transmission of polio virus (such as municipalities recently infected or rapidly growing peri-urban areas), register the number of homes visited in the blank area of the operation as well as the number of children vaccinated in the predetermined age group.

11. Maintain and improve stable systems of weekly negative reporting of polio.

12. The next Meeting of the "Asunción Group" will take place in Uruguay in March 1990.

Table 1. Compliance with the Activities Agreed Upon During the Third Meeting of the Southern Cone Countries, Paraguay 1988.

INDICATOR	ARG	BOL	BRA	CHI	PAR	URU	%
Coverage by county	YES	NO	NO	YES	YES	YES	66
Weekly negative reporting	YES	YES	NO	YES	YES	YES	83
Special vaccination activities	YES	YES	YES	NO	NO	YES	66
Samples to the reference laboratory	YES	YES	YES	YES	YES	YES	100
Organization of control measures	YES	YES	YES	YES	NO	YES	83
National consulting commission	YES	YES	YES	YES	YES	YES	100
Rotarian activities	YES	YES	YES	YES	YES	YES	100
Intersectoral participation	YES	YES	YES	YES	YES	YES	100
Social Communication	YES	YES	YES	YES	YES	YES	100

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 1988, by country

Subregion and country	Date of last Report	Measles		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non Neonatal		Neonatal					
		1989	1988	1989	1987	1988	1987	1988	1987	1988	1987	1988	1987
LATIN AMERICA													
Andean Region													
Bolivia	31 Dec.	1 793	987	2	7	...	56	117	48	9	16	794	520
Colombia	31 Dec.	14 801	20 620	49	114	279	...	173	189	23	45	1 746	3 372
Ecuador	31 Dec.	8 004	1 537	9	10	129	105	128	81	9	18	193	312
Peru	31 Dec.	3 180	4 652	61	45	10	33	112	138	36	54	806	2 344
Venezuela	31 Dec	11 203	19 261	33	45	1	18	23	18	2	2	465	915
Southern Cone													
Argentina**(v)	31 Dec.	4 836	6 890	4	1	80	76	...	...	8	10	3 175	1 722
Chile	31 Dec.	46 201	2 652	0	1	13	18	3	3	121	168	213	45
Paraguay	31 Dec.	772	1 360	0	0	101	46	9	59	13	18	886	261
Uruguay (v)	31 Dec.	76	1 190	0	0	2	11	0	0	0	0	25	384
Brazil	31 Dec.	23 844	61 645	110	236	1 851	1 861	328	441	1 108	1 399	8 366	16 556
Central America													
Belize**	31 Dec.	74	224	0	0	0	0	...	0	0	1	0	0
Costa Rica	31 Dec.	358	...	0	0	4	7	0	0	0	0	95	132
El Salvador	31 Dec.	434	251	10	54	...	40	15	26	0	2	...	162
Guatemala	31 Dec.	208	...	38	22	67	55	29	23	2	...	725	53
Honduras	31 Dec.	619	858	6	15	13	6	24	16	0	0	107	344
Nicaragua	31 Dec.	314	693	0	0	...	12	...	32	0	3	144	293
Panama	31 Dec.	364	1 085	0	0	5	9	6	5	1	...	29	45
Mexico**	31 Dec.	3 748	2 691	20	80	272	311	...	34	2	21	464	763
Latin Caribbean													
Cuba	31 Dec	121	858	0	0	5	6	0	0	0	0	32	103
Dominican Republic (v)	31 Dec.	336	...	1	2	...	76	...	7	...	126	34	149
Haiti	31 Dec.	17	...	8	12	...	85	...	41	0	83	23	307
CARIBBEAN													
Antigua & Barbuda	31 Dec.	2	0	0	0	0	0	0	0	0	0	0	0
Bahamas	31 Dec.	22	42	0	0	1	0	0	0	0	0	0	0
Barbados	31 Dec.	1	2	0	0	1	3	0	0	0	0	0	0
Dominica	31 Dec.	10	82	0	0	1	1	0	0	0	0	0	0
Grenada	31 Dec.	4	6	0	0	0	0	0	0	1	0	2	1
Guyana	31 Dec.	917	22	0	0	6	2	0	0	0	0	0	0
Jamaica	31 Dec.	35	35	0	0	3	1	0	0	5	2	7	20
St. Cristopher/Nevis	31 Dec.	12	...	0	0	0	...	0	0	0	0	0	0
St. Lucia	31 Dec.	4	4	0	0	1	0	0	0	0	0	0	0
St. Vincent & Grenadines	31 Dec.	10	1	0	0	1	0	0	0	0	0	0	0
Suriname	31 Dec.	68	5	0	0	2	2	0	0	1	0	0	0
Trinidad & Tabago	31 Dec.	388	441	0	0	6	3	0	0	0	0	11	12
NORTH AMERICA													
Canada**	31 Dec.	549	14 585	1	0	4	7	...	0	11	4	738	1 827
United States**	31 Dec.	2 933	3 588	0	5	49	48	...	...	1	3	3 008	2 529

** Country does not report neonatal tetanus data separately
# Data for polio includes only confirmed cases through week 52 (ending 31 Decembe, 1988).
(v) Polio cases are vaccine-related.
(i) Polio cases are imported.
... Data not available.

Solar Powered Refrigerator Saves Jamaican Vaccines

A solar powered vaccine refrigerator installed in the Kingston, Jamaica area survived Hurricane Gilbert and saved the country's main vaccine supplies. The storm immediately disrupted electrical services throughout the country and some health centers have yet to regain power eight months after, though solar vaccine refrigeration continues.

Solar refrigerators are really very simple and only differ slightly from conventional electric refrigeration. The difference is that solar refrigerators get electricity from photovoltaics (PV). PV solar energy collectors convert sunlight directly to electricity. Because solar powered refrigerators have a large battery bank to supply power to the refrigerator at night and during storms, the two Pan American Health Organization (PAHO) funded vaccine refrigerators worked admirably through the hurricane and its aftermath. The two systems, located at Cassava Piece and Mavis Bank, can operate for up to eight days without sun. Both systems have five solar panels that were mounted on the roof and actually survived the violent winds attesting to the fine installation program developed by Jamaica's Ministry of Health.

Vaccine stored at the St. Andrew facility in Kingston were moved to nearby Cassava Piece when alert staff noted dangerously high temperatures approaching. This saved the vaccines from spoilage as well as providing cooling for other supplies. Soon Jamaica will install two more PV vaccine refrigerators in the areas most severely hurt by Hurricane Gilbert - at Seaforth in the east where the storm entered and at Mt. Peto in the west where it exited.

The World Health Organization (WHO) and PAHO have been involved in solar refrigeration for the past several years and it is estimated there are over 500 solar powered vaccine refrigerators in use worldwide. Most have been deployed in remote areas where conventional sources of fuel or electricity are either unavailable or unreliable. Widely recognized as a reliable and clean technology, solar power proved its benefit in a new way in Jamaica.

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