EPI Newsletter

Expanded Program on Immunization in the Americas

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Wild Poliovirus Surveillance

The Commission for the Certification of Poliomyelitis Eradication set various standards and requirements for certifying the Region as free of the wild poliovirus (see *EPI Newsletter*, Vol. XII, No. 4). The criteria include indicators of the status of surveillance for both acute flaccid paralysis and wild poliovirus. Among the latter the results of special environmental studies would be used to support the epidemiological data indicating absence of wild poliovirus among high risk groups.

Because of the small numbers of confirmed cases being reported, the poliomyelitis eradication program has now reached the point to begin environmental surveillance in order to verify the absence of circulation in areas at risk.

Investigation of asymptomatic contacts of cases of acute 'accid paralysis in Guatemala and Peru had shown silent transmission of wild poliovirus among normal children. The results of these studies suggested that community surveys of children could be used or as a method for environmental surveillance of wild poliovirus.

Because of the expense of community stool surveys, it is important that the less labor and cost intensive methodology of sewage sampling be evaluated. In developed countries, such as Finland, the usefulness of environmental sewage sampling has been demonstrated. Little is known about the usefulness in developing countries. To that end, a pilot study was recently conducted in Cartagena, Colombia. The purpose of this pilot study was to compare the sensitivity of two methods of environmental surveillance of wild poliovirus; community surveys of stools taken from normal children versus surveys of environmental sewage. Because the results of this study are still pending completion, it is too early to draw final conclusions. The methodology included collecting samples from 242 children from the Cartagena area and 42 environmental samples taken from sewage sites dispersed throughout the community where the children resided. Preliminary results indicate that eight wild type 1 polioviruses have been isolated from eight children, thus constituting the first systematic documentation of silent transmission in the Americas. If it can be shown that wild poliovirus can also be detected from the environmental sewage samples, the program will aggressively pursue a new branch of wild poliovirus surveillance, environmental sampling of sewage.

The final results of this study, in addition to the results of other similar studies, will help the Pan American Health Organization formulate policy for future environmental surveillance.

Figure 1. Wild Poliovirus Isolated in the Region of the Americas, 1991.

LAST DATES OF COLLECTION:

Colombia: 16 April

Peru: 2 February

Source: Country reports.

In this issue:

BCG Immunization in the Americas, 1990

In countries where tuberculosis transmission is prevalent, BCG immunization, administered at birth or as soon as possible thereafter, prevents the more severe disseminated forms of the disease that commonly affect children. The vaccine can also cause an 80% reduction in the incidence of tuberculosis before adolescence. In spite of the fact that the immunity conferred by BCG has not been demonstrated to last until adulthood and it is not known to reduce the sources of infection, the vaccine is considered to be highly important among the EPI antigens because it reduces the incidence of disease, especially the more severe forms of tuberculosis (tuberculous meningitis) which are highly lethal among children.

BCG must be administered at birth because 70% of the infections occur within the home, as a result of having an infecting member in the household. Between 50 and 60% of the infections will take place before school entry. With early application, the vaccine has greater possibilities of anticipating natural tuberculous infection and building an immunity that while not preventing infection, builds the body's ability to control it, reduces the probability of contracting disease, stops disseminations and the development of the more severe forms of the disease.

The risk of infection within a community depends on the number of sources of tuberculous infection that exist in it. It is usually expressed in percentage points that are related to the proportion of infections occurring in a year. Risks of infection of one or two percent are therefore very high, since they represent rates of 50 to 120 baciliferous cases per 100 000 population.

When there are infecting cases within a community, the occurrence of cases of tuberculous meningitis is inevitable. A study done in Holland and other countries, correlated the annual risk of infection with the incidence of infecting cases and the occurence of tuberculosis in those infected. This study showed that for every percentage point of annual risk of infection, about five cases of tuberculous meningitis will occur per 100 000 children under five.

The diagnosis of infantile tuberculosis is difficult, as are the diagnosis of meningitis and disseminated tuberculosis, especially when the economic situation and the accesibility to health services of the populations afflicted are taken into consideration. The delays in diagnosing and administering treatment account for high case fatality rates or disabling complications such as those resulting from irreversible neurological damage.

For the last 20 years, the countries with transmission have established the goal of vaccinating 90% of the newborns and 100% of children under one year of age.

In 1980, the average BCG coverage rate among children under one year of age in 20 countries of the Region, was 51%. In 1990, the Regional rate reached 78%, a significant advancement. It should nevertheless be noted that eight countries (40%), have rates above 90% although their populations represent only 19.7% of the population under one year of age in the Region.

Table 1. BCG vaccination coverage in children under one, 1990. Tuberculous meningitis in children under five years of age, 1990.

Country	Pop <5 yrs	% BCG	Vacc Pop	Unvacc Pop	Cases	Rates
COR	82 500	92	75 900	6 600	2	0.1
CUB	186 658	98	182 925	3 733	0	0.1
CHI	293 556	97	284 555	9 001	2	0.1
URU	56 014	97	55 454	560	1	0.1
Subtotal	618 728	96.8	598 834	19 894	5	0.1
ARG	602 288	99	596 265	6 023	33	1.2
BRA	3 610 961	78	2 816 550	794 411	270	1.4
BEL	7 200	80	5 760	1 440	-	-
COL	685 108	95	650 853	34 255	34	0.8
MEX	1 970 515	70	1 379 360	591 155	55	0.5
PAN	61 893	97	60 036	1 857	5	1.7
PAR	138 802	99	137 413	1 388	26	3.9
VEN	534 458	63	336 709	197 749	1	0.04
Subtotal	7 611 225	78.4	5 982 946	1 628 279	424	1.18
BOL	221 956	48	106 539	115 417	114	10.7
ECU	320 852	88	282 350	38 502	29	1.27
ELS	186 267	60	111 760	74 507	-	-
GUT	349 847	62	216 905	132 942	10	0.62
HAI	207 637	72	149 499	58 138	-	-
HON	180 721	71	128 312	52 409	17	2.1
NIC	148 085	81	119 494	28 136	-	-
PER	600 904	83	498 750	102 154	19	0.6
DOR	222 265	68	151 140	71 125	23	2.3
Subtotal	2 438 534	72.4	1 765 204	673 330	212	2.48
TOTAL	10 668 487	78	8 346 984	2 321 503	641	1.3

Source: Tuberculous meningitis cases & rates per 100 000 children under 5 years of age, HPT, PAHO;Population and vaccine coverage data: *EPI Newsletter*, Vol. XIII, No. 2, April 1991.

Table 1 presents the countries grouped according to incidence of bacteriologically confirmed pulmonary tuberculosis. The first group contains countries with moderate or low incidence rates (two to five per 100 000) that have also tended to decrease by five to seven percent over the last ten years. These countries have sustained excellent BCG coverage rates and reported a total of only five cases of tuberculous meningitis among children under four years of age in 1990, with an average incidence rate of 0.1 per 100 000.

The eight countries in the second group have reported incidence rates of 30 to 59 per 100 000, but the tendency to decrease has been less than 5% per year and less than 2% for some. The coverage rate among children under one year of age is almost 80%, which means there is a total population of approximately 1 627 450 children who are not protected against tuberculosis. In these countries, 424 cases of tuberculous meningitis were reported among children under four in 1990 (1.18 per 100 000). Finally, the third group is made up of countries where almost 30% of the children under one are not protected, in spite of the fact that they live in an environment with high levels of trans-

mission of tuberculosis. According to the latest data, 212 cases of tuberculous meningitis among children under four years of age were reported in these countries in 1990, yielding an age-specific incidence rate of 2.48. Nevertheless, there seems to be no doubt that these and the rates in the second group, show only part of the problem.

It would be advisable that the local and national staff of both the Expanded Program on Immunization and the Tuberculosis Control Program (both sources of the data presented in Table 1), meet regularly to analyze areas of common interests, correlate operational and coverage data with tuberculosis morbidity data and structure surveillance of adverse effects. An example of an area deserving more attention are those countries which, in spite of having high coverage rates, report high incidences of cases. Both programs should benefit from such joint activity, and more importantly, a substantial reduction in the effect of this disease on the younger populations of the Region should result from it.

Source: Communicable Disease Program, PAHO

Progress Achieved in Measles Elimination Campaign

As a result of the highly publicized measles elimination campaign, 91% of the target population in the English-Speaking Caribbean (see *EPI Newsletter*, Vol. XIII, No. 3, June 1991) was immunized with measles vaccine this May (Table 1). This event, which represents the largest coordinated health effort ever attempted in the Caribbean, initiated a five-year campaign by the Pan American Health Organization and other donor agencies (CIDA/CPHA, UNICEF, Rotary International, and USAID) to vaccinate the entire population under age 15 and eliminate the indigenous transmission of measles. To this end, countries of the English-Speaking Caribbean and Suriname mobilized all their manpower and material resources and simultaneously achieved the highest immunization coverage against measles ever recorded in the area.

Member countries held meetings this July in Trinidad and Tobago, Antigua, and Jamaica to discuss the Measles Elimination Field Guide and the rapid implementation of the measles surveillance system. All member countries agreed that a single suspected case of measles should constitute a public health emergency and they adopted specific procedures for prompt reporting, investigation and control.

Everyone agreed that strategies are needed to find and immunize those children not vaccinated this May and to vaccinate children born each succeeding year. These measures are needed to limit the size of the susceptible population and reduce the possibility for an explosive outbreak of measles.

Table 1. Measles vaccination coverages achieved during the campaign conducted in the countries of the English-Speaking Caribbean during the month of May, 1991.

Countries (in order of population size at midyear 1990)	Estimated target population			Total population vaccinated			Percent of target population immunized		
	<2 years	2-14 years	<15 years	<2 years	2-14 years	<15 years	<2	2-14	<15
Anguilla	-	-	2 387	-	-	2 356	-	-	98,7
Turks and Caicos Islands	372	2 988	3 360	213	2 513	2 726	57,2	84,1	81,1
British Virgin Islands**	-	-	-	-	-	-	-	-	88,5
Montserrat	-	-	2 185	-	-	2 184	-	-	99,9
Caiman Islands*	-	-	3 792	-	-	3 218	-	-	84,8
Saint Kitts and Nevis	1 035	12 844	13 879	1 016	12 525	13 541	98,2	97,5	97,6
Dominica	-	-	26 826	-	-	25 512	-	-	95,0
Antigua and Barbuda	317	14 520	14 837	311	13 941	14 252	98,1	96,0	96,1
St. Vicent & the Grenadines	2 615	35 521	38 136	2 503	34 609	37 112	95,7	97,4	97,3
Grenada	5 300	31 800	37 100	5 205	31 005	36 209	98,2	97,5	97,5
Saint Lucia	2 005	40 300	42 305	2 000	38 834	40 834	99,8	96,4	96,5
Belize	-	-	77 975	-	-	64 246	-	-	82,4
Bahamas	2 665	65 801	68 466	2 656	57 175	59 831	99,4	86,9	87,4
Barbados	4 155	51 824	55 979	3 760	49 815	53 575	90,5	96,1	95,7
Suriname***	-	-	-	-	-	-	-	-	-
Guyana	19 015	214 294	233 309	16 597	201 517	218 114	87,3	94,0	93,5
Trinidad and Tobago	45 410	317 870	363 280	40 869	286 083	326 952	90,0	90,0	90,0
Jamaica	-	-	-	-	-	-	-	-	70,6

Note: Average coverage attained is 91,4%.
* The four to 14 year age group was target population.
** Campaigns took the form of mop-ups.
*** Campaign to be completed at a later date.
Source: EPI Programme, CAREC.

Measles Activity

The CAREC surveillance system indicates cumulative totals of the reported measles cases through the month of April at 3 264 in 1990 and at 102 in 1991. The numbers of reported cases decreased by a factor of 20. The continued

activity in Trinidad and Tobago and in Jamaica may represent the tail-end of last year's epidemic. Laboratory analysis performed at the CAREC Laboratory from the sera of cases of fever and rash illness in 1991, has confirmed measles activity only in Trinidad.

The coverage achieved during Measles Elimination Month (91%) is well approaching the goal of 95%. High coverage is important because it will sharply reduce the incidence of measles cases and enable the surveillance activities to concentrate on the remaining cases to be investigated and contained.

Several factors suggest that measles will occur at low levels in the CAREC-member countries for the next few years. The epidemics of 1989-1990 had the two-fold effect of eliminating a large number of susceptible children, and increasing vaccination coverage as hundreds of thousands of doses above the routine program were administered in massive campaigns. Furthermore, the Measles Immunization Month of May 1991 put an additional "blanket" on transmission and follow-up efforts will further interrupt transmission.

The slow build-up of susceptible populations from future birth cohorts will be a critical factor beyond the next few years. Even if 95% vaccination of the target group is achieved, current measles vaccines are 95% efficacious, so approximately 10% of each year's birth cohorts will remain susceptible. These cohorts will accumulate into tens of thousands of susceptible children in a few years. Susceptible populations may also increase due to an influx of children from countries with lower coverage rates.

Some Considerations for the Elimination Campaign

Four main considerations can be drawn for successfully eliminating measles and maintaining a "measles free zone". First, the target vaccination coverage for children should be 100% by the time they reach their second birthday. Second, programs attempting to improve efficacy by changing the vaccination schedule from nine to 12 months should do so only if incidence is very low. Third, the temptation may exist to prematurely declare measles eliminated in a few years if indigenous transmission reaches zero as predicted. Immunization against measles can only cease if and when global eradication has been achieved. Fourth, neighboring countries in the Caribbean should be invited to participate in this measles elimination effort and preliminary motions have already been made in this regard. In 1991 epidemiologists from Haiti, the Dominican Republic and Puerto Rico expressed interest in participating.

If indigenous transmission ceases after 1991, it can only resume if the virus is re-introduced into susceptible populations. Because large numbers of people travel between the Caribbean and the rest of the world, plans are needed to advise travellers going to and from a "measles free zone" and for coordinating information on the occurrence of measles at the global level. Surveillance to identify new foci of transmission and prompt containment will also be necessary.

Specific measures adopted this July by countries participating in the campaign include a detailed reporting system and an aggressive follow-up for suspected cases of measles.

This fall countries began reporting weekly to CAREC all suspected, confirmed or discarded cases with an I.D. number. When a suspected case is reported, the unit responsible for tracking and surveillance will investigate each suspected case and collect and ship blood specimens.

The surveillance system in each country will attempt to promptly report, investigate and classify all cases of rash and fever illness meeting the definition of a suspected case in the Measles Elimination Field Guide. Any suspected case reported will be the basis for initiating action.

In addition, the surveillance system will be designed to detect sporadic measles cases wherever they occur and follow up with prompt containment actions, including laboratory support and immunization of contacts. In this way, it is planned to eliminate measles by 1995.

Source: CAREC Surveillance Report, Vol. 17, No. 4, April 1991; Surveillance and Field Operations Unit and EPI Programme, CAREC.

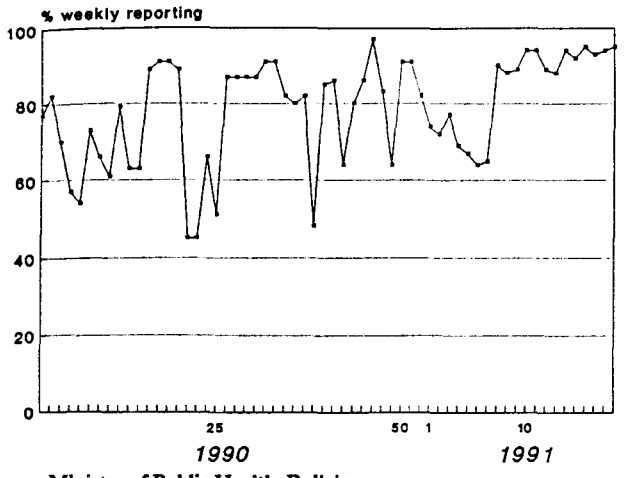
Neonatal Tetanus Control in Santa Cruz de la Sierra, Bolivia

Santa Cruz de la Sierra is a tropical city of 600 000 inhabitants, where studies have consistently demonstrated a high incidence of neonatal tetanus. Of the 475 cases found in Bolivia between 1986 and 1990, 64% (304) occurred in the Santa Cruz Sanitary District, where 18% of the total population of the country resides. Forty-five percent of the 304 cases lived in urban and periurban areas of Santa Cruz. The remaining 171 cases were from the other 10 Sanitary Districts. In 1988, tetanus toxoid coverage had only reached 15.7% in urban Santa Cruz and 13.3% in the rural area.

Aside from being of urban origin, the Santa Cruz cases were children of multiparous mothers who had never received tetanus toxoid immunization, although they had, sporadically received prenatal care or had even had a hospital delivery. In view of these findings, the Ministry of Social Welfare and Public Health enacted control measures. The strategies used to carry out these control measures included strengthening epidemiological surveillance, establishing permanent immunization services, and intrahospital vaccination activities resulting from the coordinated efforts of Nongovernmental Organizations, the National Social Security Fund, and Private Institutions. The training of nurse-midwives and community health leaders as well as teams from the health services in order to incorporate them into the immunization and surveillance programs, also formed part of the strategy.

One of the first activities for neonatal tetanus control was the establishment of a national weekly reporting network, which was responsible for the timely reporting of cases, including negative reporting. All institutions participating in neonatal tetanus control were incorporated into the reporting system (Figure 1). The case investigation form was also implemented in order to follow-up on risk factors.

Figure 1. EPI Epidemiological Surveillance Percent Weekly Reporting Santa Cruz Sanitary District



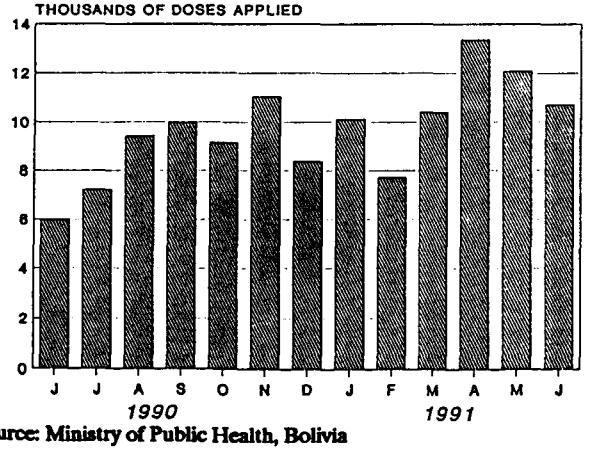
Source: Ministry of Public Health, Bolivia

Daily immunization was started nationally in 1991, using all vaccines and all institutions. The elimination of missed vaccination opportunities was one of the primary objectives of this program. Until this, almost all health services offered immunization, but only once or three times per week and on fixed schedules that could be limited to one vaccine at a time. This system accounted for a great proportion of missed vaccination opportunities (40 to 60%).

An intra-hospital immunization system was started in June 1990 within all institutions participating in neonatal tetanus control. In- and out-patients were targeted, as were their guests and chaperones. In this manner, even "third level" hospitals, which traditionally only became involved in curative medicine, could take advantage of patient contact and even contact with the patient's relatives to dispense preventive care.

The second evaluation of this strategy was performed this year and it shows that of the 125 589 doses administered, 39 799 were tetanus toxoid, of which 63% were applied as first dose, demonstrating conclusively that the population that usually seeks hospital services is generally also unprotected.

Figure 2. Second Meeting for Evaluating Intra-hospital Vaccination Santa Cruz de la Sierra, Bolivia



Source: Ministry of Public Health, Bolivia

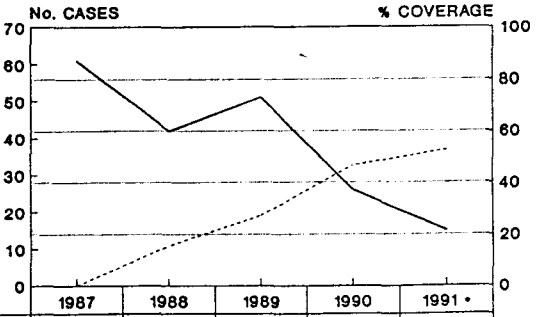
The Ministry of Public Health has agreed to provide the supplies necessary so that institutions can provide immunization services permanently and participate in the National Vaccination Campaigns. The institutions, in turn, will follow the guidelines of the Expanded Program on Immunization, report their accomplishments to the Ministry of Public Health on a monthly basis, and will integrate the national epidemiological surveillance network.

Neonatal tetanus is known to occur mainly in rural areas, and given the fact that 50% of the population live in them, and that 30% of these populations do not have access to the health services network, strategies needed to be developed that would ensure access. In 1990, 80 urban and rural midwives were trained in the application of tetanus toxoid and the reporting of cases compatible with neonatal tetanus and other EPI diseases. The training included delivery of tetanus toxoid vials and disposable injection materials that could survive for fifteen days without cold chain. After four months, these midwives had applied 4 243 doses of tetanus toxoid to women of childbearing age without any problems. In the meantime, they also reported four cases of neonatal tetanus. On the basis of this experience, a similar training was started in July of this year, targeting 290 midwives and 40 community health leaders from other geographic areas.

A training program was started nationally in 1991, targeting field workers and personnel from the health services' management offices. Participants reviewed the causes for missed vaccination opportunities, false contraindications, the cold chain, monthly coverage evaluations, local EPI programming, and ways in which to carry out permanent immunization activities in the various health establishments. It had been ten years since training at this scale had taken place. Undoubtedly, local services benefit greatly from this kind of program. In the Santa Cruz Health District, for example, over 700 health employees were trained.

The advances made in neonatal tetanus control have allowed the program to attain political importance within the Santa Cruz health district as well as within the country in general. Figure 3 shows that it is possible to have decreases in incidence at the same time as increases in vaccination coverage, in spite of strengthening epidemiological surveillance.

Figure 3. Neonatal Tetanus Cases and TT2 Coverage among Women of Childbearing Age Urban Santa Cruz, 1987 - 91*



	1987	1988	1989	1990	1991 *
CASES NNT	61	42	51	26	15
% TT2 WCB	0	15.7	27.3	46.4	52.6

* June/91 — CASES NNT ····· % TT2 WCB

Population: 138 400 women of childbearing age

Source: Ministry of Public Health, Bolivia

"Asunción Group" meets in Chile

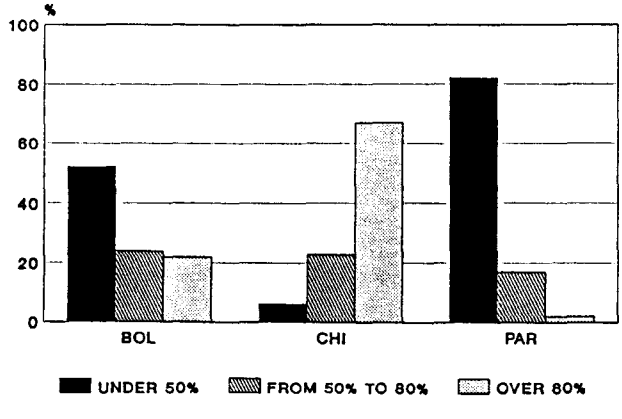
The Seventh Meeting of the "Asunción Group" was held from 5 to 7 August, 1991 in Santiago, Chile, to discuss the progress of EPI and poliomyelitis eradication in the countries of the Southern Cone, Bolivia and Brazil. Discussions revolved around advances towards the certification of polio eradication, review of vaccination coverage data, the degree of compliance with epidemiological surveillance indicators, and progress towards measles and neonatal tetanus control. Presentations were made to discuss progress in environmental sampling as a methodology for the detection of wild poliovirus circulation. Participants included technical staff of the ministries of health of the above-mentioned countries and representatives of the international organizations that have supported the countries for the past five years; UNICEF, USAID, Rotary International, and PAHO. The meeting was opened by the Minister of Health of Chile, Dr. Jorge Jiménez de la Jara; co-chaired by Dr. Norma del Punta, National Director of Sanitary Medicine of Argentina and Dr. José Manuel Borgoño, member of the EPI/PAHO Technical Advisory Group.

Vaccination Coverages

Argentina and Brazil did not present immunization coverage data for 1991, although Brazil had experimented an important increase in coverage rates with DPT3 and measles vaccine from 1989 to 1990. Overall, preliminary coverage data for 1991 are similar to previous years, thus requiring that Paraguay and Bolivia increase efforts to reach higher levels, especially the implementation of strategies directed at reaching unprotected populations, such as intra-hospital vaccination and reduction of missed vaccination opportunities.

Bolivia, Chile and Paraguay presented analyses of coverage data by county, and Argentina presented a classification of its Departments (states) according to the size of their population of children under one year. This is an innovative approach since it allows for weighing geographic entities with low coverage rates. Figure 1 shows counties ranked according OPV3 coverage rates.

Figure 1. Distribution of counties according to OPV3 coverage among children under one. Southern Cone and Bolivia, up to June, 1991.



Source: Country reports.
Note: Argentina and Uruguay did not present data.

Poliomyelitis eradication

Discussions emphasized the status of indicators of surveillance of cases of acute flaccid paralysis and the criteria established by the International Commission of the Certification of Eradication. The following points were noted:

With the exception of Uruguay and Argentina, all the countries participating in the meeting had acute flaccid paralysis rates above 1 per 100 000 children under 15 years of age.

All countries, save Uruguay and Argentina, have weekly negative reporting rates above 70%.

More than 80% of the cases reported by all countries, are investigated within 48 hours of the report.

Argentina, Brazil and Chile show follow-up rates for less than 60% of the cases within the 60 to 70 day target time period.

Only 50 to 60% of the cases in Uruguay and Argentina are reported within 15 days of onset of paralysis, whereas in the other countries, the rates are above 80%.

The low proportion of cases with two adequate stool samples taken within 15 days of onset of symptoms is troublesome. Even though progress is noted, the majority of countries have not yet reached 60%.

Brazil presented some innovative initiatives which seek to involve the Rotary Clubs in epidemiological surveillance of flaccid paralysis. They also presented preliminary results of environmental studies of sewage sampling that have so far yielded negative for wild poliovirus. These analyses of sewage samples could be extended to other countries in the Region once their usefulness as complements to surveillance is established (see page 1). These studies are accompanied by the analysis of stool samples from samples of children residing in areas at risk. To date there are results of analysis of some 200 samples that have been found to be negative for wild poliovirus.

Measles control

Immunization coverages with measles vaccine in 1991, vary from very high in Chile (98%), to very low in Bolivia (53%). Nevertheless, countries with low rates, such as Bolivia, Paraguay, and Brazil, have shown important improvement between 1989 and 1990. The analysis of coverage rates by county has also allowed, in this instance, for the identification of populations at risk (Figure 2).

Periodic epidemic outbreaks can be observed in countries with rates above 90%, with the exception that the inter-epidemic periods are longer than when the coverages were lower. One can also observe that in these countries (Chile, Argentina, and Uruguay), the proportion of cases among vaccinated populations has increased. In Brazil, Argentina, and Uruguay, a notable increase in the number of cases reported in 1991, compared with 1991, can be observed.

The impact of immunization campaigns over measles transmission was discussed, using data from the programs in Cuba and the English-Speaking Caribbean.

Neonatal Tetanus Elimination

This was the first time that the countries presented analyses of the counties or districts at high risk for neonatal

Reported Cases of EPI Diseases

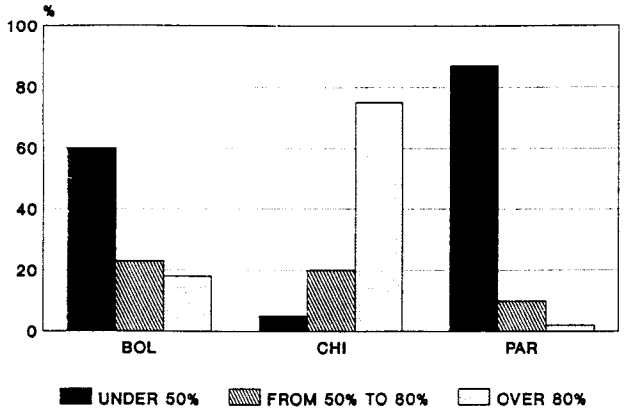
Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1991 to date of last report, and for same epidemiological period in 1990, by country.

Subregion and country	Date of last Report	Measles		Poliomyelitis #		Tetanus				Diphtheria		Whooping Cough	
						Non Neonatal		Neonatal					
		1991	1990	1991	1990	1991	1990	1991	1990	1991	1990	1991	1990
LATIN AMERICA													
Andean Region													
Bolivia	1 Jun.	32	136	0	0	1	7	13	11	1	0	13	83
Colombia	18 May	5 345	1 471	3	1	63	22	53	8	12	0	861	198
Ecuador	27 Apr.	429	625	0	1	20	33	14	16	...	2	148	193
Peru	23 Mar.	161	4	0	2	7	6	17	16	...	...	1	...
Venezuela	25 May	7 269	3407	0	0	41	25	10	11	0	0	327	447
Southern Cone													
Argentina	28 Sept.	17 806	1 084	0	0	25	46	12	4	2	7	1 132	1 391
Chile	21 Sept.	1 020	865	0	0	9	14	1	0	17	28	28	50
Paraguay	24 Aug.	223	168	0	0	23	42	29	33	1	3	69	83
Uruguay	5 Oct.	1 055	13	0	0	3	3	0	0	0	0	41	79
Brazil	11 May	6 549	6 044	0	0	278	469	60	64	102	213	1 302	4 895
Central America													
Belize	29 Jun.	7	53	0	0	0	0	0	0	0	0	2	2
Costa Rica	*	...	...	0	0	...	...	...	...	...	...	...	...
El Salvador	27 Apr.	355	430	0	0	17	17	4	3	0	0	43	54
Guatemala	14 Sept.	138	8 632	0	1	15	35	3	4	1	2	32	41
Honduras	18 May.	53	7 216	0	0	1	18	6	8	0	0	12	19
Nicaragua	29 Jun.	2 365	17 529	0	0	36	22	5	15	0	0	19	220
Panama	5 Oct.	2 117	220	0	0	1	3	3	3	0	0	14	15
Mexico	17 Aug.	2 507	68 942	0	2	131	159	30	44	0	0	103	701
Latin Caribbean													
Cuba	28 Sept.	11	41	0	0	1	4	0	0	0	0	0	22
Haiti	*	...	...	0	0	...	...	...	...	...	...	...	...
Dominican Republic	1 Jun.	324	1 515	0	0	24	46	3	10	9	26	6	6
CARIBBEAN													
Antigua & Barbuda	8 Jun.	0	0	0	0	0	0	0	0	0	0	0	0
Bahamas	6 Jul.	0	52	0	0	1	0	0	0	0	0	0	0
Barbados	29 Jun.	0	21	0	0	4	0	0	0	0	1	0	1
Dominica	29 Jun.	2	8	0	0	1	0	0	0	0	0	0	1
Grenada	29 Jun	2	1	0	0	1	0	0	0	0	0	0	0
Guyana	29 Jun.	2	1	0	0	0	0	0	0	0	0	0	0
Jamaica	29 Jun.	280	3 577	0	0	5	4	0	0	1	0	14	1
St. Kitts/Nevis	29 Jun.	5	61	0	0	0	0	0	0	0	0	0	0
St. Vincent	29 Jun.	2	1	0	0	1	0	0	0	0	0	0	0
Saint Lucia	29 Jun.	6	23	0	0	0	0	0	0	0	0	0	0
Suriname	13 Jul.	10	14	0	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	29 Jun.	83	453	0	0	7	6	0	0	1	0	4	1
NORTH AMERICA													
Canada	31 May	763	107	0	0	0	0	0	0	0	3	756	3 886
United States	14 Sept.	8 494	21 276	0	0	34	38	0	0	2	2	1 650	2 830

Data for polio includes only confirmed cases through week 35 (ending 31 August, 1991).
... Data not available.

tetanus. In general, these areas represent about 10% of the total counties or districts in the countries, and they contain less than 20% of the total population of women of childbearing age. This agrees with the data collected in studies performed in other regions of the Americas.

Figure 2. Distribution of counties according to measles coverage among children under one Southern Cone and Bolivia, up to June, 1991.



Source: Country reports.
Note: Argentina and Uruguay did not present data.

Two countries, Chile and Uruguay, have practically eliminated the disease, even though a small focus persists in Chile where one case has occurred in 1991. Bolivia has begun control activities in some risk areas, especially in Santa Cruz de la Sierra and Beni (see page 4). Argentina, Brazil, and Paraguay are preparing national control plans for immediate implementation.

Missed Vaccination Opportunities

Following up on the recommendations made at the previous meeting, all countries have performed studies of missed vaccination opportunities.

Bolivia presented concrete interventions that have taken place to reduce missed opportunities, and Brazil presented a plan which included training of the health team, increasing the awareness of the communities and improving logistics. The group emphasized the importance of these studies, even in those countries with high coverage rates.

Laboratory

An analysis of laboratory indicators for the Malbrán Institute, revealed a need to continue to abide by the specifications that ensure adequate performance. It is important that the following activities be implemented:

Optimize the shipment of samples, regarding the presence of ice or coolant, the sealing of the containers, and the fact that the samples be accompanied by adequate epidemiological information about the cases and contacts.

Inform the laboratory of the compatible cases with negative isolation promptly , so that the samples may be analyzed by concentration techniques and shipped to two other networks laboratories as soon as possible.

Increase personnel, especially in light of the fact that when the certification stage is reached, the volume of work will increase, not only from the countries in the Southern Cone but from other regions as well.

General Conclusions

- **The need to continue inter-agency coordination is emphasized. The National Inter-Agency Coordinating Committees (ICCs) must hold meetings regularly and may also need to participate in field activities.**
- **All countries must develop five-year EPI plans of action for the period 1992-1996, using the same format used in previous plans and with the same budgetary ceilings. These plans should guarantee that adequate national resources are available to ensure not only the availability of vaccine, but also of other supplies needed by the program.**
- **The plans of action must also identify specific activities for measles control and neonatal tetanus elimination.**
- **All countries must increase advertising of the US$100 reward to the person reporting a case which is later confirmed as poliomyelitis.**
- **The initiative developed by some countries of rewarding the health establishments or districts and counties achieving high coverage rates, should be implemented by all countries.**
- **The Ministers of Health of the Southern Cone recommended at their recent meeting that a poster contest on immunization be implemented. This group agreed that this recommendation should be carried out immediately in all countries.**
- **The next meeting of the "Asunción Group" will be held in Argentina in August, 1992.**

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