EPI Newsletter

Expanded Program on Immunization in the Americas

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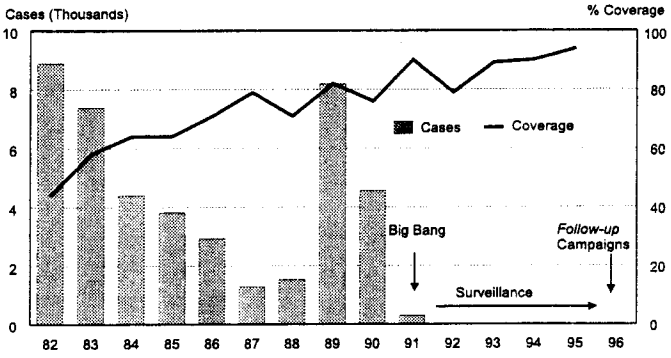
Record Five Years Measles-Free!

The Thirteenth Meeting of the Caribbean EPI Managers held in Miami Beach, Florida from 4-6 November, brought together over 65 health officials from 19 countries of the English-speaking Caribbean and Suriname, representatives from the French Departments of Guadeloupe and Martinique and from The Netherlands Antilles. Present were also health officials from Haiti, Canada's Laboratory Center for Disease Control, England's Department of Health, the United States' Centers for Disease Control and Prevention, Los Angeles and Dade Counties' Departments of Health, the Caribbean Epidemiology Center (CAREC), UNICEF, as well as technical staff from SVI/PAHO.

The English-speaking Caribbean continues to hold the longest record in the Western Hemisphere of five years without measles. Discussions focused on the build-up of susceptibles and actions needed to prevent the re-introduction of the disease. Considerable time was also devoted to assessing the current situation of rubella virus circulation and congenital rubella syndrome (CRS) in the Caribbean. There was a consensus among participants on the need to raise awareness, particularly among women and the countries' government officials, on the seriousness of this disease. Emphasis was placed on determining the critical elements for an effective strategy to control/eliminate rubella and CRS. As part of this effort, each country performed its own cost-benefit analysis of the immediate elimination of rubella/CRS by a mass campaign with rubella-containing vaccine. This analysis should serve as a baseline for further refinement at the country level.

Measles cases, 1982-1996
English-speaking Caribbean



Source: Country Reports to CAREC
BIG BANG - 1991 Mass Vaccination Campaign, 9 mo.-14 yrs.
Follow-up Campaign: 1-5 yrs.

Measles Eradication

During the 1992-1996 period, there has been no laboratory confirmed indigenous measles transmission, despite intensive surveillance and the investigation of 1,453 suspected measles cases. The level of measles vaccination coverage ranged from 75-86%. The last two confirmed cases were reported from Barbados in August of 1991. Over 270 cases have been discarded as rubella, 58 as dengue, and 1,125 have been discarded with other diagnoses. CAREC's Laboratory investigated 334 suspected measles cases in 1995, reported from 16 CAREC member countries. Jamaica had the highest number of suspected measles cases in 1995 due to a rubella epidemic. Dominica and Turks & Caicos also had relatively high numbers of cases due to a dengue epidemic.

Virtually all countries in the sub-region have already implemented PAHO's three-step strategy for measles eradication. *Follow-up* campaigns have been carried out in 14 of the 19 countries. Five countries have not implemented the *follow-up* campaign as yet. Suriname is waiting for vaccines and plans to conduct a *follow-up* campaign in 1997. Trinidad & Tobago has decided to conduct a *mop-up* campaign for low-coverage and hard-to-reach areas, and the need for a *follow-up* campaign is being evaluated. Bermuda, Bahamas and Cayman Islands are not planning a *follow-up* campaign at this time. Countries continued to work toward reaching the measles eradication target of 95% measles vaccination coverage.

In this issue:

The English-speaking Caribbean is committed to sustaining the region's measles-free status!

- The measles *catch-up* campaign has been implemented by 18 of the 19 countries.
- Routine vaccination programs have maintained coverage levels over 80%.
- *Follow-up* campaigns have been implemented or are being implemented in 14 of the 19 countries.
- Efforts continue at the same pace, even after five years since the *Big Bang* mass vaccination campaign.
- Governments are covering over 80% of recurrent immunization costs.
- Commitment is deeply entrenched among people at various levels–politicians, chief medical officers, program managers, public health staff, laboratory staff, among others.

Since launching the Measles Elimination Surveillance System (MESS) on September 28, 1991, through December 31, 1995, there had been 223 weeks of reporting. During that time, most countries exceeded the target of 80% completeness for weekly reports.

Responding to the feedback received from the recent measles surveillance evaluations in the Americas, the English-speaking Caribbean has analyzed the quality of the case reporting forms. While performing generally well, areas to be strengthened included: more detailed information regarding the presence or absence of conjunctivitis, coryza or cough, vaccination history, dates of the last vaccination and the patient's address.

In the absence of measles cases, key indicators of population susceptibility are vaccination coverage and the accumulation of susceptibles, who either were not vaccinated or who have experienced primary vaccine failure.

Importations are the only way measles can re-emerge in the region. Given the high volume of tourists every year, there is concern that if *follow-up* campaigns are not conducted, particularly in Trinidad & Tobago, there is a high risk of an outbreak, which could threaten the other countries as well. A *follow-up* campaign was strongly recommended for that country.

Polio Eradication

During 1996, seven countries reported 18 cases of acute flaccid paralysis (AFP) - Jamaica, Trinidad & Tobago, Guyana, Suriname, Barbados, Bahamas and Antigua. Bahamas and Antigua met all the AFP surveillance indicators, Guyana met three indicators, Trinidad & Tobago and Barbados met two indicators, and Jamaica met one indicator. Twelve countries did not report any AFP cases. Eighteen out of 19 countries met the indicator of > 80% weekly reporting units.

Reported breakdowns of the surveillance system for AFP in the region have prompted countries to take remedial steps. These have included refresher courses in record-keeping and networking, as well as updating AFP surveillance manuals and guidelines.

Health officials at the meeting were reminded of the need to mobilize health workers to actively search and investigate every case of AFP. Re-sensitization of clinicians and public health staff about the importance of prompt investigation reporting and active surveillance will be key until global polio eradication is achieved. Similar to measles surveillance, efforts to incorporate new reporting sources, such as non-governmental organizations, private physicians and community groups will further strengthen surveillance.

Immunization coverage

Immunization coverage was maintained at previous high levels. However, it was reported that in some countries coverage had either dropped or remained stationary under the 90% mark. When coverage is less than 95%, there is a considerable number of unvaccinated children. Measures should be taken to trace these children and ensure that they receive the needed vaccines.

Introduction of New Vaccines

The introduction of new vaccines into national immunization programs should follow the careful investigation of the epidemiological relevance of the vaccine. Also, whenever possible, evidence should be presented that introduction of the vaccine into immunization programs would be a cost-effective use of resources. Once that case has been made and resources identified, an introduction/implementation plan needs to be developed. Topics to be considered include: vaccine studies, disease surveillance, supply arrangements, immunization scheduling, coverage measurements, communications strategies, professional training materials, and surveillance for impact assessment. The implementation of new vaccines is a complex, multi-faceted task that requires the coordination of policy makers, program managers, public health experts, advertising and marketing experts, researchers, manufacturers, regulators, parents and health professionals. The extensive experience in the Caribbean with the implementation of immunization campaigns will be valuable in the successful introduction of new vaccines into routine programs.

Rubella Control and Elimination Strategies

Rubella virus causes most of its damage to the human fetus by infecting women during the first trimester of pregnancy. Adverse outcomes from congenital rubella virus infection include miscarriage, stillbirth, congenital rubella syndrome (neonatal and post neonatal) and therapeutic abortions. Data obtained from the region indicate widespread circulation of rubella and congenital rubella syndrome (CRS):

- Rubella virus is circulating on an ongoing basis in the larger countries. Jamaica, Guyana, Belize, and Suriname have had laboratory-documented rubella circulation in at least 4 of the last 5 years. Trinidad (2 years) and Barbados (3 years) have also had laboratory-documented rubella within the last 5 years.
- The magnitude of rubella circulation in the larger countries seems to be significant. In Jamaica, Trinidad & Tobago, Guyana and Belize, the percentage of suspected

measles cases which tested positive for rubella range from 38% to 60%.

- During the 1996 Barbados outbreak, 52% of the 229 reported rubella cases were among women between the ages of 15-44 years.

- Although only half of the countries had laboratory-documented rubella circulation in the past four years (1992-1996), all countries with a pool of susceptible adults or children are at risk of an outbreak. Several smaller island countries had indications of rubella virus circulation (patients with positive laboratory tests) in the last four years — Cayman Islands, St. Kitts and Nevis, Dominica, and St. Lucia.

- As awareness of CRS increases, cases are increasingly being detected. So far, congenital rubella syndrome cases have been detected in Jamaica (6), Barbados (2), and Trinidad & Tobago (1). In one CAREC country, 15 pregnant women have had laboratory-confirmed rubella infection.

Rubella/CRS Surveillance

CAREC has proposed a set of case definitions for CRS, a CRS case reporting form, and guidelines for CRS surveillance. These have been distributed to member countries for comments and feedback. The guidelines include the creation of a registry of pregnant women with laboratory-confirmed rubella, who's infants need to be followed through the neonatal and postnatal period, to detect possible defects due to rubella virus. CRS should be made a notifiable disease. In countries where therapeutic abortions are available, monitoring of therapeutic abortions related to rubella virus infection may be a sensitive indicator of congenital rubella infection. Countries were also encouraged to strengthen the current surveillance system put in place for measles elimination, in order to improve rubella surveillance.

Rubella/CRS Prevention

Infant immunization is not expected to have a major impact on CRS cases for 20 years. Most countries in the Caribbean have a pool of susceptibles, which will sustain rubella outbreaks if rubella virus is re-introduced. To attain rapid control or elimination of rubella and CRS cases, these large pools of susceptibles must be eliminated.

Twelve countries used the measles, mumps and rubella vaccine (MMR) among 1-14 year old children during the 1991 *catch-up* mass vaccination campaign, which means that most of the persons under 20 years old are now immune. Ten countries used MMR in the 1996 *follow-up* campaign. All of the English-speaking countries are now using MMR vaccine in infant immunization schedules.

Rubella/CRS Cost-Benefit Analysis

Preliminary data generated by a costing exercise performed by each country's delegation at the Miami meeting indicate that mass campaigns with rubella-containing vaccine to eliminate rubella virus and CRS would be highly cost-effective in most of the Caribbean countries. It was estimated that even with the strategies now in place in some of the countries, a total of 1,500 cases of CRS would occur over the next 15 years, during which time those countries already using rubella-containing vaccine will see limited impact from their existing strategies. Expenditures with rehabilitation and care of these cases, without counting the human suffering, is estimated at over US$ 60,000,000 for the same period of time.

The implementation of a strategy to interrupt rubella transmission, hence eliminate the possibility of CRS occurrence over this period, would entail vaccination of all the population (male and female) between 1-30 years of age (with variations among countries to take into account their present strategy, including whether MMR was used among 1-14 year old children in the 1991 *catch-up* campaign) and would cost approximately US$ 4,500,000. The cost-effectiveness of the mass campaigns is estimated to average US$ 2,900 per case of CRS prevented. These estimations assume the use of MMR vaccine for children 1-14 years old and rubella vaccine for the population 15-30 years of age.

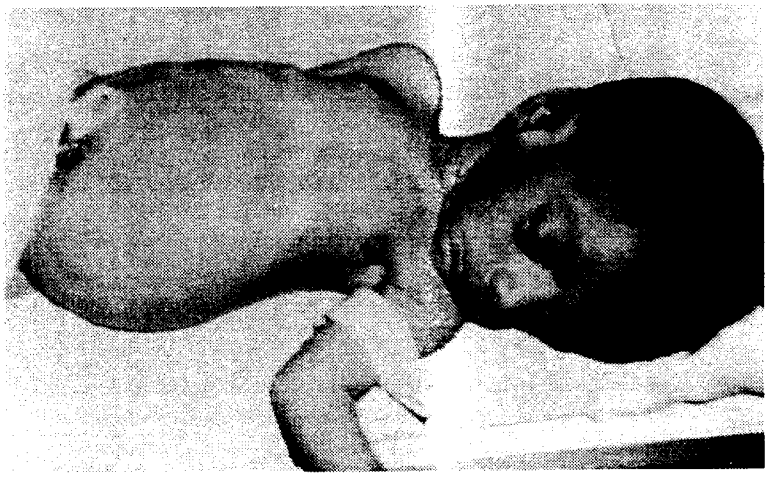
Recommendations:

- In 1997, all countries should discuss with senior health officials at the Ministries of Health and political leaders the elimination of pools of susceptible persons by means of mass campaigns or other effective strategies.

- For countries with the political commitment due to recent outbreaks of rubella and CRS cases, mass campaigns to eliminate rubella virus and CRS cases are encouraged.

- In 1997, CRS case surveillance along with a registry of pregnant women with laboratory-confirmed rubella should be introduced. Where feasible, considerations should be given to monitoring therapeutic abortions related to rubella infection.

For a copy of the complete Report, please contact SVI.



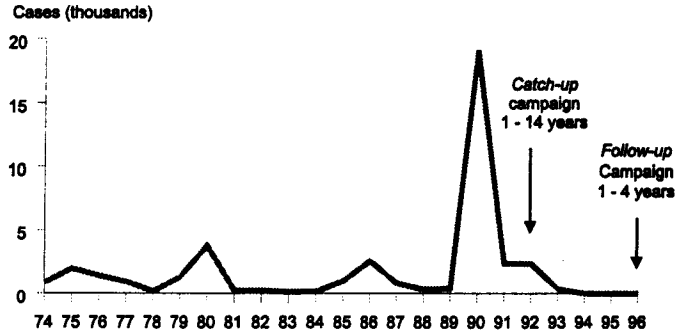
Major sequelae of CRS include: mental retardation, deafness, blindness, heart defects and death.
Source: CAREC

Measles Surveillance: Nicaragua

The evaluation of the measles epidemiological surveillance system in Nicaragua was led by a team from the Ministry of Health, with the support of PAHO/SVI. The methodology developed by PAHO/SVI for rapid analysis of measles surveillance systems was utilized to determine the capacity of Nicaragua's surveillance system to effectively detect the circulation of measles virus in all parts of the country.

During the month of August, 1996, four groups organized visits and conducted structured interviews with health teams at the various levels—national, SILAIS*, and municipal—placing priority on high-risk areas. The evaluation team conducted visits to the National Office of the EPI (Ministry of Health), the National Office for Epidemiological Surveillance (Ministry of Health), the National Diagnostics and Reference Center, two national reference hospitals, 17 directing teams at the SILAIS, 16 departmental hospitals, and 29 municipal health units. The evaluation focused on aspects of management, the surveillance process, and intensive surveillance in high-risk areas.

Confirmed Measles Cases by Year
Nicaragua, 1974-1996*



Source: EPI/Ministry of Health
* Data as of 3 August

Results

In 1995, Nicaragua reported 195 suspected measles cases. Of these, 190 were discarded and five were clinically confirmed, indicating a failure of the surveillance system. In 1996, as of epidemiological week No. 31 (week ending 3 August), 194 suspected cases of measles had been reported, 193 of which were discarded. The number of reported suspected cases varied by SILAIS.

The distribution of suspected cases by age group is as follows: thirty-eight percent less than 1 year of age, 28% from 1 to 4 years, 21% from 5 to 14 years, and 12% over 15 years of age. The vaccination history of the 194 suspected cases is as follows: twenty percent had received one dose of measles vaccine, 30% two or more doses, 43% were not vaccinated, and in 7% of the cases the history was not known. Regarding the group that had not been vaccinated, 87% were under the age for vaccination.

The evaluation included an active search for suspected measles cases, which involved reviewing a total of 77,934 diagnoses and patient registers from medical consultations and emergency services in different hospitals and health centers for the period from January to August 1996, as well as the investigation forms for suspected measles cases available at the units visited. Of these, only 95 case files merited further analysis to determine whether they were suspected measles cases not detected by the surveillance system. Only three were considered cases that should have entered the system; they are being investigated at this time.

The National Immunization Program has a computerized database (Measles Elimination Surveillance System) for suspected measles cases which evaluates the following surveillance indicators:

- **Percentage of units with weekly negative notification: 98%**

  The epidemiological surveillance network is made up of 175 reporting units, 23 hospitals and 152 health centers. The weekly negative notification reports are transmitted by a communication network that allows for a fast flow of information among the local level, the SILAIS, and the central level.

- **Percentage of cases reported within 7 days of rash onset: 90%**

  Sixty-one percent of the cases are reported within three days of rash onset, and 29% between the fourth and seventh days.

- **Percentage of cases investigated within 48 hours of notification: 92%**

  Of the 17 SILAIS, 15 investigate more than 90% of their cases in the first 48 hours.

- **Percentage of cases with complete investigation and adequate sample taken: 100%**

  For each case an investigation form is filled out. In 100% of the cases the following information is shown: name, age, SILAIS, municipality, date of rash onset, type of rash, fever, date samples taken, final diagnosis, and vaccination history. Seventy-four percent of the samples are taken in the first seven days following rash onset, 18% from the eighth to fifteenth day, and 8% after 15 days.

- **Percentage of cases with laboratory results within 7 days: 36%**

  On average, the results are reported 34 days after they are received. Of the samples, 60% are received in the laboratory within the first seven days after they are taken, and 21% between seven and 14 days. In addition, the national laboratory exercises quality control over the samples, evaluating the quantity, conservation, labeling, and information on the case investigation form.

Surveillance

The reporting system and communication network are optimal, and active local epidemiological surveillance exists through field visits. The database of the National Immunization Program is also used for periodic analysis for the

identification of risk areas. Health staff know how to identify measles cases and understand the importance of immediate notification of a suspected measles case.

More than 90% of cases entering the surveillance system have been investigated in a timely fashion. There is a simplified case investigation form and a standardized format for documenting actions taken. There is a timely response to the detection of suspected measles cases.

The national laboratory has the resources and technical competence to perform the diagnoses. There is good coordination between the laboratory and the program at the central level. The system for collecting, conserving and sending samples is adequate at all levels, and the coordination between the national laboratory and the Regional Reference Laboratory of the Gorgas Commemorative Center has improved substantially.

Recommendations

- Strengthen and promote the clinical aspects for differential diagnosis of measles in training activities.
- Include alternative sources of reporting (schools, nongovernmental organizations [NGOs] and private physicians) at all levels, registering them in the case investigation form.
- Promote and disseminate nationwide simplified standards for epidemiological surveillance.
- Do not exclude cases without samples from the surveillance system.
- The SILAIS should ensure adequate recording of basic information on the case investigation form.
- Document and strengthen the investigation of the source of infection.
- Take one blood sample at first contact with each suspected measles case.
- Review procedures and actions for responding to the presence of suspected measles cases.
- Each case should have a final classification within four weeks of being reported.
- A computer system should be installed at the central laboratory to facilitate case analysis.
- Establish a flow for timely and complete forwarding of the laboratory results to the SILAIS.
- Computerize the surveillance database at the SILAIS.
- Perform integrated analyses of available information on surveillance, coverage and quality control at the SILAIS.
- Perform monthly monitoring of the surveillance indicators in each SILAIS.
- Publish and distribute the EPI epidemiological bulletin.
- Properly apply criteria for identifying risk areas based on local conditions, and strengthen surveillance in these areas.

Management

At all levels the political commitment is well-documented and the program is recognized as a health priority. Efforts have been made to increase and maintain high measles immunization coverage. There is active support from the Inter-agency Coordinating Committee (ICC) and the process of incorporating the private sector into surveillance and immunization activities has begun at the central level. The program has sufficient human and material resources, and health staff are motivated toward reaching the goal of measles eradication. Regular training and supervisory activities are well underway at all levels. The goal and strategies for measles eradication are known, and there are appropriate standards and technical documents for measles surveillance.

Recommendations

- Strengthen the managerial capacity for epidemiological surveillance in the various SILAIS and municipalities.
- Form a National Commission for Epidemiological Surveillance.
- Strengthen inter-institutional coordination with NGOs and private physicians in the SILAIS and municipalities.
- Seek mechanisms to further involve the national level, SILAIS, hospitals, and municipalities in the measles eradication initiative.
- Designate a person on a full-time basis to monitor the initiative's progress in all the SILAIS and municipalities.
- Allocate resources for transportation to ensure measles surveillance activities at all levels.
- Review the management and maintenance of the cold chain at the national level and in the SILAIS.
- Establish a system for merit recognition to keep staff motivated.
- Review the training methodology for the measles eradication effort and adapt it to municipal needs.
- Involve health workers from hospitals, the private sector, and community organizations in training.
- Provide education and training on information analysis and quality control.
- Systematize and document supervisory activities for follow-up at all levels as a form of in-service training.

Conclusions

1. There is an active epidemiological surveillance system at the national level capable of detecting suspected measles cases or outbreaks on a timely basis.
2. The lack of laboratory confirmed cases is an indicator of the effectiveness of the vaccination strategies used by the country to eradicate measles, and of the optimal levels of coverage attained.
3. There is no evidence of measles virus circulating in the country.
4. In order to maintain the successes attained, it will be necessary to involve other public and private sector institutions, schools, and community organizations.

*SILAIS: local health systems.

Impact of Uruguay's Introduction of the *Haemophilus influenzae* type b (Hib) Vaccine

In August 1994, the National Advisory Commission for Vaccination of Uruguay recommended the incorporation of the vaccine against *Haemophilus influenzae* type b in the country's Expanded Program of Immunization vaccination schedule. The vaccine was aimed at children between the ages of two months and four years as follows:

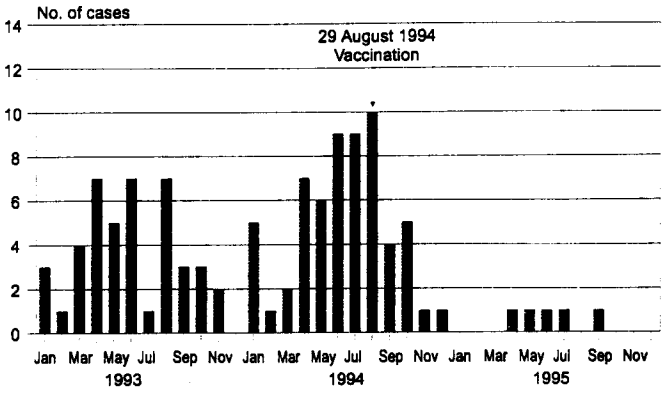
- For newborns, the first dose at two months, followed by doses at four and six months administered simultaneously with the DPT and OPV vaccines, plus a booster shot between 12 and 15 months;
- For children between the ages of 7 and 11 months, two doses with intervals of at least two months, plus a booster shot between 12 and 15 months, but not before 2 months of the last dose.
- For children 12 months and older, one dose only.

During the months of August 1994 and January 1995, over 90,000 doses of the vaccine were administered to children less than 1 year old (the cohort is approximately 50,000 children), and 130,000 doses for children between the ages of 1 and 4 years of age. The vaccination strategy against this disease resulted in a 100% reduction in the number of meningitis cases caused by *Haemophilus influenzae* type b (Hib) in 1996.

During 1995, in only five reported cases of meningitis was *H. influenzae* isolated. Of these five, one had been adequately vaccinated with three doses of Hib vaccine. During 1996, only one case was reported in a child that had not been immunized.

A 1996 epidemiological surveillance study of respiratory infections among children under 5 years of age conduced at two reference hospitals in Montevideo showed no isolation of *Haemophilus* in 520 reported cases that had a complete bacteriological study (blood culture and/or pleue, fluid).

Meningitis caused by *Haemophilus influenzae* by month Uruguay, 1993-1995



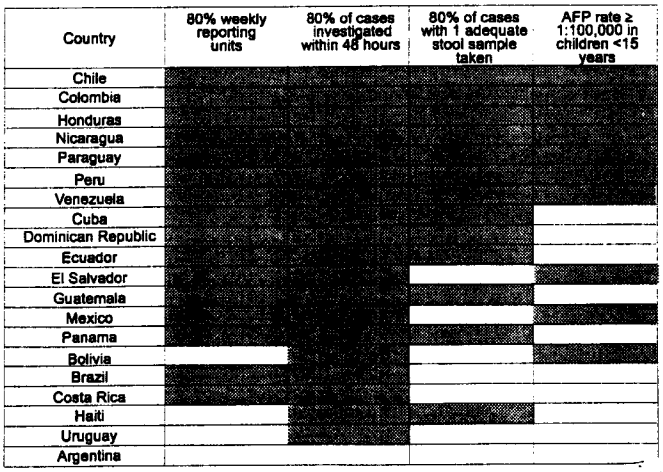
Source: Ministry of Health, Uruguay

Editorial Note: Today most of the available data on *H. influenzae* are gathered from dispersed epidemiological studies, which often are not sufficient to show the real impact of the disease. It is important that countries systematically collect data on the incidence and prevalence of the Hib disease, to accurately determine disease burden and the cost-effectiveness of introducing the vaccine into the EPI recommended schedule. SVI has been actively working with several countries in the Region to strengthen these areas. The countries' collaboration in providing up-to-date information to SVI will be critical to consolidate the information and define an effective regional vaccination strategy.

Polio Surveillance

During 1996, the AFP surveillance indicators continued to provide an accurate picture of the performance of the Region's surveillance systems. Based on the data shown by these indicators, the Americas has complied relatively well with the four indicators. It should be pointed out, however, that throughout the year, countries were less rigorous in their compliance with the indicators of 80% of cases with one adequate stool sample taken, and the one measuring the AFP Rate ≥ 1:100,000 for children <15 years of age. Along with maintaining high coverage levels for oral polio vaccine (OPV), these two indicators demonstrate our capacity for the timely identification of the circulation of wild poliovirus, so that adequate containment measures can be rapidly implemented if necessary. We must remember that the Region continues to be threatened with importations until polio is eradicated worldwide!

AFP Surveillance Indicators



Meet criteria

* Data as of 9 November 19[illegible]

Source: SVI/PAHO (PESS)

Reported Cases of Selected Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1996 to date of last report, and the same epidemiological period in 1995, by country.

Country/Territory	Date of last report	Measles				Polio		Tetanus				Diphtheria		Whooping Cough	
		Confirmed 1996			Confirmed*			Non Neonatal		Neonatal					
		Laboratory	Clinically	Total	1995	1996	1995	1996	1995	1996	1995	1996	1995	1996	1995
Anguilla	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antigua & Barbuda	09 Nov	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Argentina	28 Sep	0	38	38	135	0	0	36	28	3	5	0	2	315	1,001
Bahamas	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Barbados	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Belize	09 Nov	0	0	0	0	0	0	3	0	1	0	0	0	1	0
Bermuda	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bolivia	09 Nov	0	3	3	0	0	0	5	5	6	14	1	5	9	36
Brazil	09 Nov	19	190	209	234	0	0	500	664	51	87	108	119	805	2,727
British Virgin Islands	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canada	09 Nov	315	—	315	2,229	0	0	0	3	...	...	...	2	1,333	6,652
Cayman Islands	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chile	09 Nov	0	0	0	0	0	0	11	1	1	0	1	0	937	111
Colombia	09 Nov	4	38	42	280	0	0	...	4	25	31	0	0	81	115
Costa Rica	09 Nov	4	3	7	80	0	0	3	6	0	0	...	0	16	17
Cuba	09 Nov	0	0	0	1	0	0	...	...	...	...	...	...	...	...
Dominica	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominican Republic	09 Nov	0	0	0	0	0	0	17	22	0	0	5	2	2	0
Ecuador	09 Nov	0	20	20	872	0	0	0	70	26	36	13	123	62	157
El Salvador	09 Nov	1	0	1	0	0	0	7	3	4	3	0	0	1	4
French Guiana	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Grenada	09 Nov	0	0	0	0	0	0	0	1	0	2	0	0	0	0
Guadeloupe	26 Oct	0	1	1	...	0	0	...	...	...	...	...	...	...	...
Guatemala	09 Nov	0	0	0	26	0	0	7	...	5	4	0	0	4	20
Guyana	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haiti	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Honduras	09 Nov	0	3	3	1	0	0	15	0	4	0	0	0	67	0
Jamaica	09 Nov	0	0	0	7	0	0	11	4	0	0	0	0	16	12
Martinique	...	...	...	...	...	0	0	...	0	...	0	...	0	...	0
Mexico	09 Nov	2	50	52	45	0	0	119	93	49	53	0	0	8	16
Montserrat	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands Antilles	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Nicaragua	09 Nov	0	0	0	0	0	0	9	3	1	4	0	0	6	7
Panama	09 Nov	0	0	0	8	0	0	0	1	0	0	0	0	0	3
Paraguay	05 Oct	0	4	4	26	0	0	13	23	8	12	0	1	10	10
Peru	09 Nov	1	62	63	199	0	0	65	55	43	89	4	4	346	846
Puerto Rico	09 Nov	6	—	6	11	0	0	...	...	...	...	...	...	...	...
St Vincent/Grenadines	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Kitts/Nevis	09 Nov	0	0	0	1	0	0	1	0	0	0	0	0	0	0
St. Lucia	09 Nov	0	0	0	2	0	0	0	0	0	4	0	0	0	0
Suriname	09 Nov	0	0	0	0	0	0	1	3	1	0	0	0	0	0
Trinidad & Tobago	09 Nov	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Turks & Caicos	09 Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United States	09 Nov	460	—	460	286	0	0	...	4	...	...	...	0	775	807
Uruguay	10 Aug	0	0	0	...	0	0	1	1	0	0	0	0	12	32
Venezuela	09 Nov	4	31	35	66	0	0	...	28	8	12	0	0	230	302
Total		**816**	**443**	**1,259**	**4,510**	**0**	**0**	**824**	**1,023**	**237**	**357**	**132**	**258**	**5,037**	**12,877**

... Data not available.
—Clinically confirmed cases are not reported.
* Laboratory and clinically confirmed cases.

Neonatal Tetanus Countdown

During 1996, evaluations of neonatal tetanus (NNT) control activities were carried out in El Salvador, Guatemala, Nicaragua, Mexico and the Dominican Republic. Findings from these five countries indicate a declining trend of women of childbearing age (WCBA) requiring intensive immunization services (Attack Phase.) In the case of the Dominican Republic, there have been five cases in the past three years, of which four originated in Haiti (women who entered the country during their last months of pregnancy).

The criteria used to define a high-risk area for neonatal tetanus vary depending on conditions within each country, however, two factors remain constant--socio-economic levels and immunization status of WCBA. While the socio-economic conditions in an area are not easily changed, the immunization status of WCBA can be affected. The table presents an analysis of WCBA in the five countries. Under the category of "High-Risk Areas", the WCBA are divided into two groups: The first group includes all the WCBA currently living in high-risk areas which have reached the maintenance phase, meaning they have achieved the WHO goal of less than 1 case of NNT per 1,000 live births per municipality. In these areas, immunization with tetanus toxoid (TT) vaccine is carried out through routine services.

Women of childbearing age (WCBA) living in high-risk areas in selected countries, 1996

Country	Total WCBA	High-Risk Areas		
		Total WCBA	Maintenance Phase	Attack Phase
El Salvador	1,154,657	1,025,025	949,335	75,690
Guatemala	2,493,041	1,047,471	517,800	529,671
Mexico	23,308,420	9,965,595	7,530,761	2,434,834
Nicaragua	1,293,099	602,166	438,032	164,134
Dominican Republic	1,737,526	1,056,224	1,056,224	0
Total	**29,986,743**	**13,696,481**	**10,492,152**	**3,204,329**
%	**100%**	**46%**	**35%**	**11%**

The second category includes WCBA living in high-risk areas which have not achieved the WHO goal for NNT elimination, and therefore more intensive immunization activities are needed. Of the 46% of women of childbearing age in high-risk areas, only 11% remain in the Attack Phase. It should be added that most of these women have already received at least two doses of the vaccine. This pattern is similar throughout the rest of the Americas. The ultimate goal is to have all women of childbearing age in a country immunized, meaning that other areas, not yet considered at high-risk, will have to be incorporated into an Attack Phase, regardless of the presence of cases.

Major recommendations of the five studies include: maintain epidemiological surveillance in the health services and further develop community surveillance; consider migration as an important factor when determining areas and populations at risk; emphasize the complete elimination of missed opportunities to vaccinate, and specially monitor protection from tetanus in mothers when children receive their first dose of DPT; standardize and disseminate criteria of high-risk areas; and train midwives to verify that their patients complete their vaccination schedule.

For a copy of these five reports, contact SVI, Washington D.C.

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