

EPI Newsletter

Expanded Program on Immunization in the Americas

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IMMUNIZE AND PROTECT YOUR CHILDREN

June 1998

USA Interrupts Measles Transmission

During 1997, a provisional total of 138 confirmed measles cases was reported to the Centers for Disease Control and Prevention (CDC) by local and state health departments, the lowest number of measles cases ever reported in 1 year and a 55% decrease from the previous record low of 309 cases reported in 1995 (Figure 1). This report describes the epidemiology of measles in the United States in 1997, which suggests that no endemic measles virus is circulating.

Case Classification

Reported measles cases are classified as imported or indigenous based on where transmission of measles virus is likely to have occurred. Cases in persons who traveled outside the United States within 18 days before rash onset are classified as international importations. Indigenous measles cases are classified into three groups: 1) cases linked epidemiologically to a known international importation, 2) cases in which a measles virus strain is isolated that has been associated with other countries, and 3) all other cases in which no association to an importation was detected.

Of the 138 cases reported in 1997, a total of 57 (41%) were international importations. Thirty-six (63%) occurred in visitors traveling to the United States from other countries. The remaining 21 imported cases occurred in U.S. residents who were abroad during the exposure period. The countries from which measles was most frequently imported were Germany (nine cases), Italy (nine), Switzerland (five), Brazil (five), and Japan (four).

Of the 81 indigenous cases, 17 (21%) cases were linked epidemiologically to international importations. The maximum number of cases epidemiologically linked to a single imported case was four. The longest reported chain of measles transmission following an imported case lasted 5 weeks. Measles virus was isolated from two chains of transmission that included seven (9%) of the 81 indigenous cases; the isolated measles strains have been associated with

disease in other countries. There was no epidemiologic link or virologic evidence suggesting importation for the remaining 57 (70%) of the 81 indigenous cases. In 1997, there was epidemiologic or virologic evidence of an international source for 81 (59%) of the 138 cases reported to CDC, compared with 15% in 1995 and 28% in 1996.

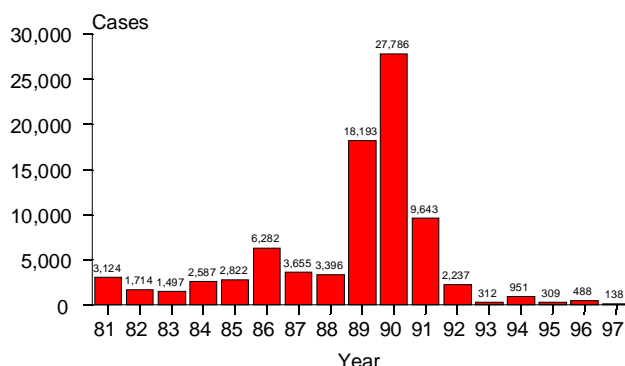
Geographic Distribution

In 21 states, no measles cases were reported for 1997, and in 20 states and the District of Columbia, fewer than five cases were reported. Nine states (Arizona, California, Florida, Massachusetts, Minnesota, New York, Pennsylvania, South Dakota, and Texas) accounted for 64% of total cases and 56% of imported cases.

Temporal Patterns of Transmission

The maximum number of reported cases occurring in a single week was 11, and the median number of cases per week was two. In 9 weeks, no reported cases occurred, and in 21 weeks, all reported cases were associated with imported cases.

**Figure 1
Measles in the United
States
1981-1997**



Source: National Immunization Program, CDC
Data as of 18 April 1998.

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Age and Vaccination Status

The predominant age groups with confirmed measles were preschool-aged children (1-4 years) (40 [29%] cases), followed by persons aged 5-19 years (39 [28%] cases), and persons aged 20-39 years (36 [26%] cases). Of the 138 patients, 32 (23%) had a documented history of vaccination with measles-containing vaccine (either measles, measles-rubella or measles-mumps-rubella): 25 (18%) patients had received one dose, and seven (5%) had received two doses. The remaining 106 (77%) patients reported being unvaccinated. For all persons with reported measles in age groups for which vaccine is recommended, 62% were unvaccinated.

Outbreaks

A total of 13 outbreaks, defined as three or more epidemiologically linked cases, were reported to CDC by 11 states. Outbreak-related cases accounted for 44% of all cases. The largest outbreak involved eight cases (median: four; range: three to eight cases). Adult/postschool-related and preschool-related outbreaks were the most common, with four outbreaks each, and three outbreaks involved persons with philosophic or religious objections to vaccination. One school-related and one college-related outbreak also were reported. Five (38%) of the 13 outbreaks had known international sources.

Reported by: State and local health depts. Measles Virus Section, Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Measles Elimination Activity, Child Vaccine Preventable Disease Br, Epidemiology and Surveillance Div, National Immunization Program, CDC.

Source: MMWR, 47(14); 273-276; April 17, 1998.

Editorial Note: The United States has made remarkable progress towards eradicating measles. The provisional total of 138 measles cases reported for 1997 is the lowest in history of the country. When compared to the 27,000 plus reported cases during the resurgence of measles in 1990, this represents a 99.5% reduction. Available data strongly suggest that measles virus transmission has been interrupted in the United States and most cases are now due to imported measles virus.

Over half of the reported cases in the United States during 1997 had epidemiologic or virologic evidence of having an international source of infection. It is noteworthy that of the 57 measles cases that acquired infection in another country, only 5 (8.8%) were from other countries in the Americas. European countries and Japan were responsible for the majority of imported cases to the United States. Combined with regional measles surveillance data, this information further confirms the progress made towards measles eradication in the Americas.

Moreover, these data demonstrate the interdependence of the countries of the Region for measles eradication. When measles virus circulates in any country of the Americas, other countries of the Region will be at increased risk for importations. On the other hand, when measles virus circulation has been interrupted in the Region, the risk of importations from neighboring countries will evidently decrease.

In addition to benefiting from fewer international importations, the United States has been successful in increasing population immunity among preschool-aged and school-aged children. In 1996, measles vaccine coverage among children 19-35 months was estimated to be 91%, compared to an estimated 80% in 1992. Moreover, approximately 70% of school-aged children have received two doses of measles vaccine. The achievement and maintenance of high population immunity in the 1-20 years age group should prevent sustained measles transmission when the virus is imported.

Similar to the countries of Latin America and the Caribbean, great progress has been made in the United States towards eradicating measles. However, the maintenance of a measles-free status over a period of many years can be difficult to sustain, especially when measles virus continues to circulate in other regions of the world. The United States and other countries of the Americas must work hard to maintain high levels of population immunity. Increased efforts are urgently needed to eradicate measles from other regions of the world. Only global eradication will assure the absence of measles importations to the Americas.

Measles Outbreak in Ñuble Province, Chile

Between July and September of 1997, nineteen measles cases were reported from the province of Ñuble, a predominantly rural area in southern Chile. The index case was strongly suspected to be a tourist from Sao Paulo, Brazil who visited a ski resort in the city of Chillan during the first two weeks of July. During his stay he developed a fever and rash illness, but apparently did not seek medical attention.

During his illness, the tourist from Sao Paulo came into contact with a local ski instructor. Approximately two weeks later, the ski instructor developed a febrile rash illness and was diagnosed as suspected measles at a local

clinic. A blood specimen was collected and provincial and national health authorities were immediately notified. The specimen tested positive for anti-measles IgM antibodies at the National Institute of Health laboratory in Santiago, Chile. During the months of August and September, an additional 18 laboratory-confirmed cases were reported in the province of Ñuble.

Persons with confirmed measles cases ranged in age from 3 months to 36 years. Of the 19 total confirmed measles cases, 3 (15.7%) were in infants < 1 year of age, 2 (10.5%) were in persons 15-19 years of age, 10 (52.6%) were in persons 20-29 years of age, and 4 (21.0%) were in

persons 30-39 years of age. Nine (47.4%) cases occurred in employees of the ski resort in Chillan. None of the persons had received measles vaccine during their childhood. Three (15.7%) cases reported receiving measles vaccine during the national *follow-up* campaign in 1997.

Of the total cases, 10 (52.6%) persons acquired measles infection in the ski resort, 5 (26.3%) acquired measles in the neighboring community, and 4 (21.1%) acquired measles in the household from a family member.

Two patients with measles were hospitalized; both were less than 1 year of age. All patients recovered and no major complications were reported.

Outbreak control efforts focused on providing measles vaccination in a timely manner to contacts of suspected measles cases, especially infants under 1 year of age, and persons 20-40 years of age. Based on the epidemiologic data available, persons in these age-groups were felt to be at highest risk. Moreover, efforts were made to vaccinate employees at the ski resort and health care workers between 20 and 40 years of age. Finally, a community-wide vaccination campaign for persons < 1 year and 20-40 years of age was carried out in the area near the ski resort.

Source: Muñoz, C.; Parra, M.; Orrego, M.; Rivera, L.; Campos, K.; Zambrano, O.; *Revista Chilena de Infectología*, 1997; 14(2): 110-118.

Editorial Note: This outbreak clearly demonstrates the extreme infectiousness of measles and its ability to affect susceptible persons, even in countries which have achieved and maintained high vaccination coverage in their routine vaccination programs. The outbreak investigation

strongly suggests that measles virus was introduced into the ski resort area from a visitor from Sao Paulo, Brazil. During 1997, Sao Paulo experienced a large measles outbreak, with over 57,000 suspected cases and approximately 21,000 confirmed cases.

The majority of the measles cases in Ñuble occurred in young adults outside the age-group targeted for measles vaccination in Chile. These persons were born too early to have received measles vaccines, but born too late to have been exposed to naturally circulating measles virus. Furthermore, most infected persons had been born and raised in rural areas, thus decreasing their risk of exposure to measles virus.

Measles transmission was extremely limited in this outbreak. This is a result of the high population immunity which exists in the population 1-20 years of age, due to Chile's measles eradication efforts. Moreover, the combination of careful and timely surveillance followed by an aggressive outbreak response with contact vaccination likely helped to limit the virus's spread.

Similar to the Sao Paulo experience (see **EPI Newsletters**, June 1997 and February 1998 issues), this outbreak clearly demonstrates that there is a certain percentage of young adults in Chile and probably most countries of the Americas who remain susceptible to measles. Efforts to provide vaccination to populations of young adults at highest risk for being exposed to measles virus are also required. Groups of young adults that should be targeted for ongoing vaccination include: healthcare workers, university students, military recruits, and international travelers to measles endemic areas.

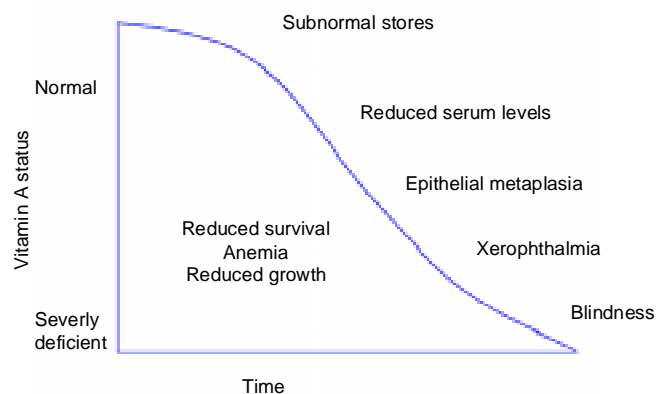
Increasing the Coverage of Vitamin A Supplementation through Immunization Contacts

Vitamin A deficiency (VAD) is the single most important cause of childhood blindness in developing countries. It also contributes significantly, even at subclinical levels, to morbidity and mortality from common childhood infections. Heightened awareness of the role of vitamin A in human health has led to an international effort to eliminate VAD and its consequences as a public health problem by the year 2000¹.

Vitamin A is an essential nutrient needed in small amounts for the normal functioning of the visual system, for growth and development, for the maintenance of epithelial cellular integrity, immune function, and reproduction. Vitamin A helps to decrease the severity of many infections, such as diarrhea and measles, and increases the likelihood for young children to survive infections. The body does not produce vitamin A, but it can be found in foods such as whole milk, breast milk, butter, and liver. Also, a substance that can be converted to become vitamin A is present in red palm oil, yellow and orange fruits and vegetables, and dark green leafy vegetables. VAD, therefore, occurs when body stores are depleted to the extent that physiological functions

are impaired, even though clinical eye signs may not be evident (see Figure 1).

Figure 1
Manifestations of Vitamin A Deficiency



Source: Vitamin A deficiency and its consequences. WHO, Geneva, 1995 (3rd Edition).

VAD is a very serious public health problem in the Region of the Americas. Approximately 15 million children under the 5 years of age suffer from some degree of vitamin A deficiency. The Pan American Health Organization (PAHO) and the World Health Organization (WHO) recognize the need to ensure the availability of vitamin A to the entire population, i.e. children and pregnant and lactating women. Three main intervention strategies exist to provide for this need: food fortification, supplementation and dietary diversification. PAHO plans to continue providing technical cooperation in a joint effort with other international organizations – in particular, UNICEF and USAID – to enable more countries to develop and implement plans toward the elimination of vitamin A deficiency by using one or more of the above strategies.

Within this context, the Micronutrient Initiative sponsored by Canada's International Development Research Center has provided PAHO with grant support and the supply of vitamin A capsules, to execute a project that combats vitamin A deficiency through supplementation. PAHO's Food and Nutrition Program and the Special Program for Vaccines and Immunization are embarking on a joint two-year project to provide vitamin A supplements to children 6-24 months of age and to mothers up to six weeks postpartum through immunization contacts. Brazil, Dominican Republic, El Salvador, Haiti, Nicaragua, and Peru have been targeted for this project due to their severe VAD

that characterize them as priority countries and/or based on the strong vaccination coverage obtained through routine immunization services.

This collaborative effort has the dual objective of ensuring maximum vitamin A coverage of the target population, as well as further enhancing vaccination coverage. Given EPI's 90% coverage for DPT-1 vaccines in the Region, national immunization programs provide reliable routine contacts with health services for mothers and children. The strategy for this project, therefore, is to integrate vitamin A supplementation into immunization services, to expand its coverage. Supplementation, consisting of two doses (100,000 IU per dose) of vitamin A to children between six and 12 months of age and two doses (200,000 IU per dose) of vitamin A to children between 13 and 24 months of age, will be provided through immunization contacts, i.e. National Immunization Days (NID) and routine immunization services. Post-natal supplementation for women up to six weeks after delivery at a single dose of 200,000 IU will be offered through maternal and child health service contacts.

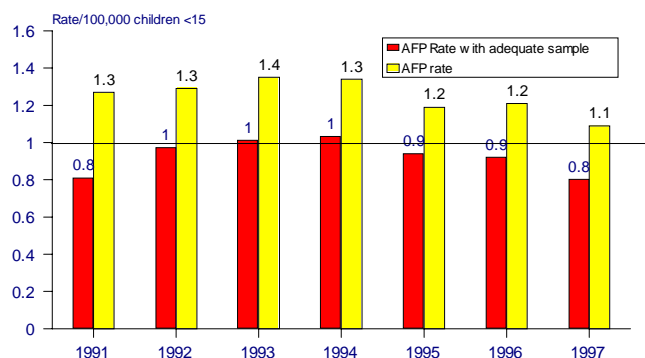
Source: The Food and Nutrition Program, Division of Health Promotion and Protection, Pan American Health Organization.

Reference:

¹WHO. **Global Prevalence of Vitamin A Deficiency.** Micronutrient Deficiency Information System [MDIS] Working Paper #2. Geneva, Switzerland. WHO, 1995.

Polio Surveillance

Figure 1
AFP rate per 100,000 children < 15 years of age and rate of AFP cases with at least 1 adequate stool sample taken Latin America and Caribbean, 1991-1997



Source: SVI/PAHO (PESS)

As of epidemiological week 19 (May 16) of 1998, countries in the Region of the Americas continued to comply satisfactorily with only two of the four key poliomyelitis surveillance indicators: percentage of cases of acute flaccid paralysis (AFP) investigated within 48 hours from the reporting date and the percentage of units reporting in a timely manner. The sensitivity of the AFP surveillance system is measured by the rate of AFP per 100,000 children under 15 years of age, and the sensitivity of the surveillance system for poliovirus is measured through the indicator tracking the timely collection of 1 stool sample. Figure 1 above presents an analysis combining the indicators of AFP

rate and the timely collection of 1 stool sample. As seen in Figure 1, following the certification of poliomyelitis eradication in the Western Hemisphere in 1994, there has been a declining trend in the compliance with these indicators. Data from AFP surveillance in 1998 continue to show the same trend. Countries need to identify major problems within their surveillance, in order to implement the necessary corrective actions immediately! Strengthening notification of all AFP cases in children under 15 years of age, primarily by pediatricians and neurologists, and the collection of one stool specimen from every such case is critical.

AFP Surveillance Indicators, 1998

Country	80% weekly reporting units	80% of cases investigated within 48 hours	80% of cases with 1 adequate stool sample taken	AFP Rate \geq 1:100,000 in children < 15 years
El Salvador				
Bolivia				
Chile				
Colombia				
Cuba				
Ecuador				
Honduras				
Nicaragua				
Venezuela				
Brazil				
Dominican Republic				
Haiti				
Panama				
Peru				
Costa Rica				
Guatemala				
Mexico				
Paraguay				
Uruguay				
Argentina				

■ - Meet criteria

* Data as of 16 May 1998

Source: SVI/PAHO (PESS)

Caribbean Community Establishes Rubella Elimination Goal

Resolution on the Elimination of Rubella

The Council for Human and Social Development:

Recognizing the importance of human resources to the continued development of the Caribbean Community;

Conscious that rubella in pregnancy gives rise to miscarriage and stillbirths while Congenital Rubella Syndrome gives rise to children with severe birth defects such as congenital heart disease, cataracts, deafness, mental retardation and micro-cephaly;

Further conscious of the continued transmission of rubella resulting in cases of Congenital Rubella Syndrome within the community with the concomitant costs for the care and rehabilitation of children with Congenital Rubella Syndrome;

Aware that cost-benefit studies in several Caribbean countries clearly indicate that the investment in Rubella elimination will bring tangible benefits within five years, given the high cost of care and rehabilitation of children with Congenital Rubella Syndrome;

Noting that, should an elimination program not be implemented, there could be a substantial number of cases of Congenital Rubella Syndrome over a 15-year period;

Further noting that the cost of the elimination program is estimated at seven per cent of the cost of providing care and rehabilitation for those cases;

Resolves that every effort will be made to eliminate Rubella and prevent the occurrence of new cases of Congenital Rubella Syndrome in the Caribbean Community by the end of the year 2000;

Urges PAHO to coordinate the mobilization of resources and technical support toward this end.

Kingston, Jamaica

21 April 1998

Editorial Note: In 1988, the Caucus of CARICOM Ministers Responsible for Health unanimously established the goal of measles eradication from the Caribbean by the year 1995. Adopting the vaccination strategy recommended by PAHO to eradicate measles, the Caribbean countries have achieved and maintained high levels of measles population immunity in preschool-age and school-age children. As a result, no laboratory-confirmed cases of indigenous measles have been reported in the English-speaking Caribbean since 1992.

To monitor progress towards achieving the goal of measles eradication, the countries of the English-speaking Caribbean and Suriname established measles surveillance throughout the Region. Data from this surveillance system have confirmed the absence of measles virus circulation, but have reported wide circulation of rubella virus in many countries. Between 1992-1997, twelve countries reported confirmed cases of rubella.

Limited surveillance data were available concerning the prevalence of Congenital Rubella Syndrome (CRS). Since late 1996, several countries, including Barbados, Belize, Guyana, Jamaica, and Trinidad & Tobago have implemented CRS surveillance systems, which have confirmed over 30 CRS cases, with an equal amount under

investigation. Since there are likely to be many undetected and unreported cases, these CRS cases can merely be considered the tip of the iceberg. The estimated average cost for rehabilitation and care of an infant with CRS is over \$40,000. Rubella is clearly a major public health problem in the Caribbean and Latin American countries.

As a first step, PAHO is working with countries in developing surveillance case definitions and guidelines, to accurately define disease burden. Once the magnitude of the rubella and CRS problem is known and persons at risk for the disease are identified, countries can develop appropriate vaccination strategies.

In the near future, the 1998 CARICOM resolution for rubella eradication by the year 2000 will be seen as a milestone in the history of public health in the Americas. The countries of the English-speaking Caribbean and Suriname will work together to develop and implement effective strategies to halt rubella circulation and prevent CRS cases. Similar to the measles eradication experience, once again the countries of the English-speaking Caribbean and Suriname will lead the way for rubella eradication. The lessons-learned from these countries will pave the way for the eradication of rubella and CRS from the Americas.

Update : Hib Vaccination in the Americas

Colombia

Starting in 1998, Colombia recently introduced vaccination against *Haemophilus influenzae* type b (Hib) in the country's routine vaccination program, in an effort to guarantee immunization from now on for every birth cohort (1,018,000).

The Ministry of Health launched the vaccine through a national campaign carried out 16 May 1998, and succeeded in vaccinating 600,000 children (60% of the target population). The Ministry of Health will continue post-campaign vaccination until the entire target population has been reached. During the campaign, health workers also administered polio vaccine to 2 million children under 5 years of age and diphtheria-toxoid vaccine to 550,000 women of childbearing age in municipalities carrying out intensive vaccination programs for neonatal tetanus (Attack Phase).

The vaccine is purchased by Colombia's General System of Social Security and is given free of charge to the population, without co-payment charges, quota moderators or cost recovery quotas. The application of second and third doses is assured, depending on the age of the child and according to the vaccination program. The inclusion of this new vaccine in the routine immunization schedule is considered a stimulus to increase coverage with all vaccines.

This recent initiative has highlighted the key role played by mayors today in guaranteeing the health of the population within their municipality. Mayors are now active in reporting where and how to obtain vaccination services and in making sure that all children and women of childbearing age are vaccinated.

Obstacles presented during the national vaccination campaign included:

- Departments reporting less than 50% faced difficulties such as civil unrest, weather (rainy season), and limited access to remote populations. These departments continue with post-campaign vaccination until obtaining the proposed goal.
- A national hospital strike which occurred during the week prior to the campaign. This became, however, an

important point for negotiation, which resulted in linking the unions to the campaign.

Brazil: Municipality of Curitiba

Following an analysis of the epidemiological situation of *Haemophilus influenzae* type b (Hib) in the municipality of Curitiba of the State of Parana, Brazil a vaccination strategy was developed. The strategy calls for routine Hib vaccination of children aged 2-24 months. Routine immunization began on 17 September 1996, and the vaccine is available in all 98 Health Units of the municipality, as well as in licensed vaccination posts.

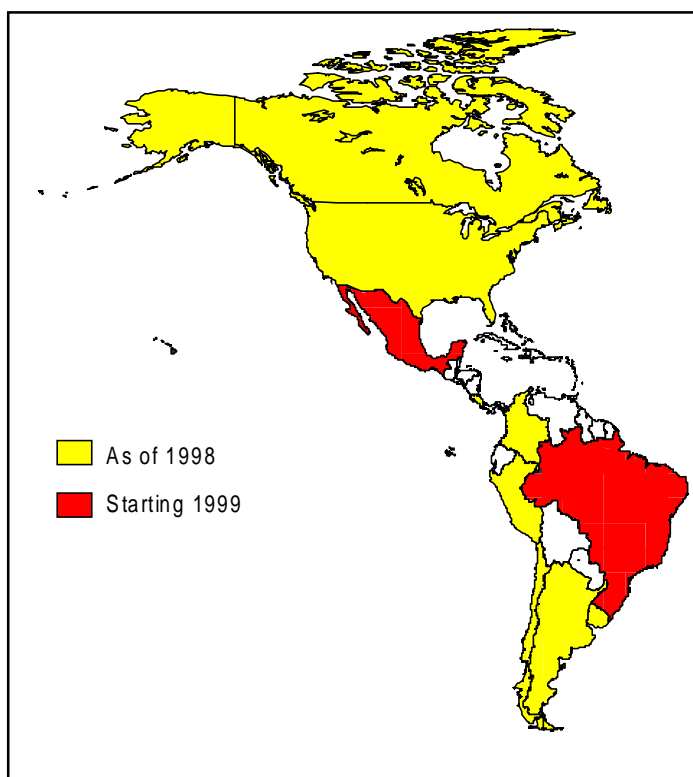
In 1996, prior to the introduction of the vaccine, *Haemophilus influenzae* type b was responsible for approximately 16% of the bacterial meningitis cases reported in Curitiba. Forty percent of the cases occurred in children under 1 year of age, 70% in children under 2 years of age, and 88% in children under 5 years of age. Twelve percent of cases affected persons outside of the high-risk age-group for the disease.

In 1997, there was a significant reduction in Hib incidence among children under 5 years of age in Curitiba, from 35.5/100,000 in 1996 to 9.7/100,000 in 1997. There were no reported deaths due to Hib in 1997. Investigations of Hib meningitis cases from September 1996 to the present, have revealed that these cases have only occurred among unvaccinated persons. If Hib vaccination is maintained through routine programs, the disease could be eradicated within a few years in the municipality of Curitiba.

Editorial Note: In May 4-8, 1998, PAHO coordinated a meeting in Colombia, aimed at standardizing laboratory

methodologies for *H. influenzae* and *S. pneumoniae*, with the participation of public health laboratories in Bolivia, Ecuador, Paraguay and Peru. The objective of the meeting was to establish a regional epidemiological surveillance system for meningitis and pneumonia due *H. influenzae* and *S. pneumoniae* in children under 5 years of age. The Caribbean Epidemiology Center and SVI are also organizing this surveillance system in the English-speaking Caribbean, with the initial participation of Trinidad, Jamaica, Barbados and St. Vincent.

Figure 1
Countries using Hib Vaccine



Reported Cases of Selected Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1998 to date of last report, and the same epidemiological period in 1997, by country.

Country/Territory	Date of last report	Measles				Polio		Tetanus				Diphtheria		Whooping Cough	
		Confirmed 1998			Confir- med* 1997			Non Neonatal		Neonatal					
		Labo- ratory	Clini- cally	Total		1998	1997					1998	1997	1998	1997
Anguilla	16 May	0	0	0	0	0	0	...	...	0	0	0	0	0	0
Antigua & Barbuda	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Argentina	16 May	275	3	278	11	0	0	9	11	0	2	1	...	29	161
Bahamas	16 May	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Barbados	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Belize	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Bermuda	16 May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bolivia	16 May	0	0	0	1	0	0	1	0	1	3	5	0	18	22
Brazil	16 May	620	34	654	219	0	0	...	58	...	13	...	32	...	101
British Virgin Islands	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Canada	16 May	7	—	7	504	0	0	...	...	...	...	...	...	...	...
Cayman Islands	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Chile	16 May	0	0	0	0	0	0	...	1	...	0	...	0	...	117
Colombia	16 May	1	7	8	37	0	0	0	1	3	9	2	2	81	88
Costa Rica	16 May	0	0	0	0	0	0	...	...	...	...	...	...	...	...
Cuba	16 May	0	0	0	0	0	0	...	...	...	...	...	...	...	...
Dominica	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Dominican Republic	16 May	0	0	0	0	0	0	5	9	0	0	3	12	7	2
Ecuador	16 May	0	0	0	0	0	0	10	21	9	11	16	12	115	83
El Salvador	16 May	0	0	0	0	0	0	...	...	...	1	...	0	...	0
French Guiana	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Grenada	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Guadeloupe	16 May	0	0	0	72	0	0	...	...	...	...	...	...	...	...
Guatemala	16 May	0	0	0	6	0	0	0	...	1	1	0	...	377	50
Guyana	16 May	0	0	0	0	0	0	...	...	0	0	0	0	0	0
Haiti	21 Mar	...	...	...	0	0	0	0	...	12	17	0	...	...	...
Honduras	16 May	0	0	0	4	0	0	4	0	2	0	0	0	18	3
Jamaica	16 May	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Martinique	...	0	0	0	...	0	0	...	...	...	...	...	...	...	...
Mexico	16 May	0	0	0	0	0	0	37	41	8	10	0	...	52	4
Montserrat	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Netherlands Antilles	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Nicaragua	16 May	0	0	0	0	0	0	1	4	0	0	0	0	25	0
Panama	16 May	0	0	0	0	0	0	0	0	0	0	0	0	69	4
Paraguay	16 May	2	0	2	1	0	0	...	26	...	10	...	...	...	19
Peru	16 May	1	0	1	24	0	0	18	14	4	8	1	1	229	182
Puerto Rico	16 May	0	—	0	0	0	0	...	...	...	...	...	...	...	...
St Vincent/Grenadines	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
St. Kitts/Nevis	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
St. Lucia	16 May	0	0	0	0	0	0	...	0	0	0	0	0	0	0
Suriname	16 May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	16 May	0	0	0	1	0	0	...	0	0	0	0	0	0	0
Turks & Caicos	16 May	0	0	0	0	0	0	...	1	0	0	0	0	0	0
United States	16 May	16	—	16	43	0	0	...	...	...	...	...	...	...	...
Uruguay	16 May	0	0	0	0	0	0	...	...	...	...	...	...	...	...
Venezuela	16 May	0	2	2	15	0	0	5	4	1	2	0	0	165	55
TOTAL		922	46	968	939	0	0	93	191	41	87	28	59	1,185	891

... Data not available.

— Clinically confirmed cases are not reported.

* Laboratory and clinically confirmed cases.

The Americas play to win the fight against measles!

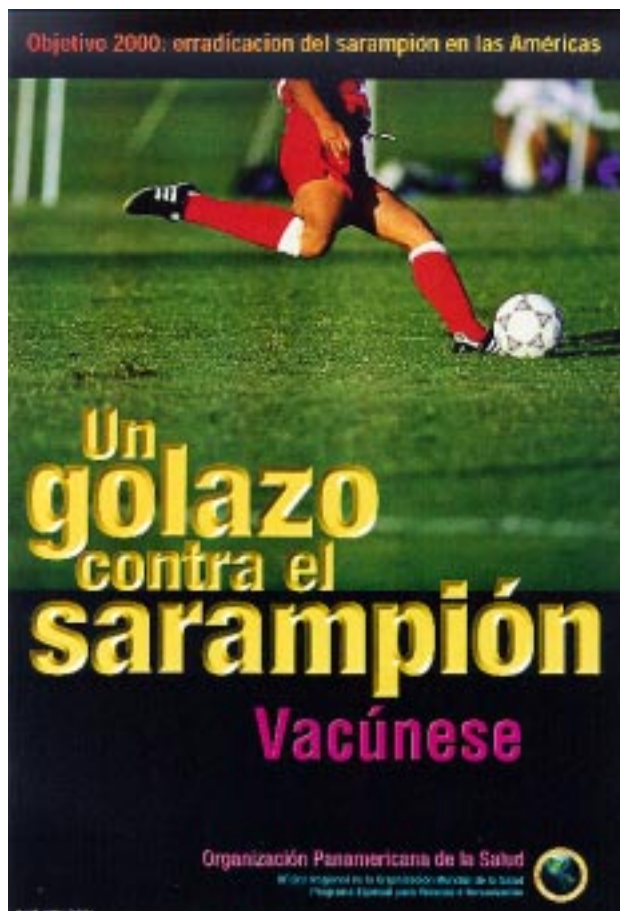
From June 10 to July 12, the 1998 World Cup Soccer Championship will be held in France. For a little over a month, soccer teams representing 32 nations will play their best games in the hope of winning the coveted gold cup. The Americas will cheer on the eight teams representing our Region: Argentina, Brazil, Chile, Colombia, Jamaica, Mexico, Paraguay and the United States. There is no other event that grabs people's attention with the same intensity as the World Cup. Since the first World Cup in Montevideo, Uruguay in 1930, people from different nationalities have shared during the entire month the fervor of each game and witnessed the determination of players to reach their objective: winning the gold cup.

The teams from the Region of the Americas have an excellent opportunity to be among the winners of the World Cup. Likewise, all countries in the Americas can be winners by eradicating measles from the Region by the year 2000. In the spirit of this global event, we should all unite and give measles its final blow! The Americas has already shown the world how to effectively mobilize support from all sectors of society in the campaign to eradicate poliomyelitis in 1991. The same commitment is needed to overcome the obstacles, and make measles eradication a reality. Following a record low num-

ber of cases in 1996, measles resurfaced in Brazil late 1997, affecting primarily young adults and unvaccinated population in the state of Sao Paulo. This outbreak produced approximately 30,000 confirmed cases and spread to several countries in the Region.

Measles is a highly infectious disease! In order to eradicate it, countries need to:

- Assign sufficient resources to have adequate supplies of measles vaccines.
- Place high priority on measles surveillance. Mobilize the support of communities to ensure widespread notification of suspected measles cases.
- Guarantee high coverage levels of measles vaccination (above 95%) for infants at their first birthday in all areas of a country.
- Carry out *follow-up* measles vaccination at least every 4 years to assure the highest possible level of measles population immunity.
- Prevent outbreaks by targeting for vaccination young adults at risk of contracting the disease. Groups considered at risk include: health workers, military personnel, university students, construction workers and young adults that emigrate from rural areas to large urban centers. Vaccination of these groups should be ongoing.



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