

EPI Newsletter

Expanded Program on Immunization in the Americas

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October 1999

Bolivia: All out Fight Against Measles!

Since May of 1998, Bolivia has been affected by a measles outbreak, which began in the municipality of Yacuiba, within the department of Tarija (see EPINewsletter, August 1999). Bolivia reported 1,004 confirmed measles in 1998, and during the first 40 weeks of 1999, there have been 1,218 confirmed cases. Fifty one percent of the total measles cases for 1999 in the Region have been reported in Bolivia.

In response to this situation, the Ministry of Health of Bolivia has prepared a special plan of action and issued a Ministerial Resolution on October 26, aimed at ending the outbreak and interrupting virus transmission. The objective is to vaccinate at least 95% of all children between the ages of 6 months and 4 years (1,071,723 children) in a National Measles Vaccination Campaign, to be held between 28 November and 17 December in each municipality. This decision of the Ministry of Health indicates the high-level commitment of national authorities to the health of the population, and it is an excellent example of Panamericanism in action.

Ministerial Resolution

Considering,

That, the Bolivian Government, together with other governments of the Americas, has made the commitment to eradicate measles from the Western Hemisphere by the year 2000.

That, the measles outbreak, which began in Brazil in 1997, has spread to our territory.

That, it is necessary that the Ministry of Health and Social Welfare take the necessary measures to protect the health and life of all their people, especially that of children.

Therefore,

Resolves,

First Article. Declares of national priority the implementation of a National Campaign against Measles, to be scheduled between November 28 and December 17 of the present year, during which at least 95% of the children between the ages of 6 months and 4 years of age should be vaccinated, in order to interrupt the transmission of the disease.

Second Article. Charge the Directorate General of Epidemiology to manage the implementation of the technical and resource mobilization aspects, and the allocation to the departmental health services of vaccines, syringes, registration material, national and international financial resources, as well as follow-up and evaluation of the campaign.

Third Article. The Departmental Health Services should assume the responsibility of local planning, promotion and implementation, and the accomplishment of 95% coverage of measles vaccination at the departmental level. Towards this end, maximum priority should be assigned and human material and financial resources allocated to successfully reach this goal.

Fourth Article. The Departmental Health Services should summon health providers from the social services, non-governmental organizations and health services of the Church to join this national task. The Departmental Health Services will provide vaccines, syringes and registration material.

Fifth Article. During the preparation and implementation of the Campaign, all activities that could jeopardize its implementation will be suspended. Furthermore, vacations and permission of the management and operational staff involved in the Campaign will be suspended.

Sixth Article. The Departmental Health Services that do not reach the target of 95% measles vaccination for children between 6 months and 4 years of age, will be subject to sanctions as stipulated in their management performance agreements.

Responsible for the fulfillment of this resolution are the Heads of the Departmental Health Services and the Directorate General of Epidemiology.

Register, make this known, and archive this document. October 26, 1999

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Measles in the United States

Since the measles epidemic which spread across the Western Hemisphere in 1989-1991, measles vaccination activities have accelerated in the United States, resulting in record low incidence levels over the past 6 years. Accelerated vaccination activities in other PAHO member countries have also contributed substantially to the reduction of measles incidence in the United States. The United States shares the PAHO goal of measles elimination by the year 2000. The target for the United States is the elimination of measles as an indigenous disease (no continuous indigenous chain of measles transmission.) Limited indigenous transmission is expected to occur as a result of imported measles cases.

The Measles Elimination Strategy for the United States has four components: 1) maximize population immunity to measles by delivering the first dose of measles-mumps-rubella vaccine on time (at 12-15 months of age) and giving a second dose to children at school entry, 2) ensure adequate surveillance, 3) respond rapidly to outbreaks and 4) work with other countries to improve measles control.

First dose has been at 90% for two-year old children since 1996. First dose coverage among all school children exceeds 97% because of long standing, well enforced, school requirements for vaccination. School requirements in the states

have been gradually modified to include a mandatory two doses of measles vaccine. As of the 1998-99 school year two doses of measles vaccine were required for 57% of school children in the United States (two doses are recommended for all school children).

The sensitivity of the United States Measles surveillance system is shown by its ability to consistently detect internationally imported measles cases. In addition to rapid detection of cases and prevention of spread, the surveillance system focuses on linking cases to international importation of measles virus. Internationally imported cases, cases epi-linked to importation, and imported virus cases (cases in a chain of transmission from which an imported measles virus strain was isolated but a link to an internationally imported case was not identified) are all considered importation-associated cases. Of the record low 100 cases reported in 1998, 26 were internationally imported, 45 were importation-associated, and 29 were not importation-associated. The proportion of cases not associated with importation has declined from 85% in 1995 to 72% in 1996, 41% in 1997, to 29% in 1998.

The 26 internationally imported cases reported in 1998 represent the lowest number of imported cases since the recording of importation status began in 1983. Imported cases from the Americas remained at very low levels with one imported case from Argentina and one from Canada. Imported cases from Europe and Asia declined compared with the previous 4 years (Figure 1). Of 26 imported cases, 14 occurred among international visitors and 12 occurred among U.S. residents exposed to measles while traveling abroad.

Viral genomic sequencing of specimens in 1998 allowed genotype classification of measles virus strains from

Figure 1 Source of measles importations, United States, 1994-1998 Asia/Oceania □ Africa 70 Europe 60 Americas 50 Imported Cases 40 30 20 10 0 1994 1995 1996 1997 1998 Year

seven chains of transmission. Virus strains isolated from cases in New York. Vermont, California, Massachusetts, and Washington matched viral genotypes from epi-linked source countries Germany, Cyprus, Japan, China, and respectively. Croatia. Measles virus was isolated from an outbreak in Indiana but genotype information was unavailable from Zimbabwe, the source country of the imported case. Measles virus isolated from the Alaska outbreak matched the virus circulating in Japan, the source country of the imported case which occurred four weeks before the outbreak, but no

definitive epi-link could be discovered between the imported case and the outbreak.

During 1998, 28 states and the District of Columbia reported no confirmed measles cases, compared with 21 states in 1997. Eight states accounted for 82% of cases: Alaska (33 cases), Arizona (11), Michigan (10), California (nine), New Jersey (eight), New York (four), Pennsylvania (four), and Indiana (three). In the remaining 14 states, two or fewer cases were reported. During 35 weeks, all reported measles cases were importation-associated, including 21 consecutive weeks (weeks 24-44) (Figure 2).

The age distribution and vaccination status of U.S. residents with measles differed from those of international visitors. Most U.S. residents (53%) with measles had been vaccinated with one or more doses of measles vaccine, compared to 14% of international visitors.

Six measles outbreaks (\geq 3 linked cases) were reported in 1998, the fewest ever reported to the CDC. The 65 measles cases reported from these six outbreaks represented 65% of all cases reported during 1998. The largest measles outbreak reported since 1996 occurred in a high school in Anchorage, Alaska, where high school students were not required to have two doses of measles vaccine (30 of the 33 cases had received one dose of measles vaccine). The total duration of the outbreak was 15 weeks. Following the onset of the outbreak, all students in Alaska were required to have two doses of measles vaccine. Three outbreaks (Arizona, Indiana, and Pennsylvania) were

epi-linked to an imported measles case, and two outbreaks (Michigan and New Jersey) were not importation-associated.

Provisional data for 1999 show 73 confirmed measles cases reported from 15 states as of week 41 (October 16), compared to 76 cases for the same time in 1998. Of these provisionally reported cases, 23 (32%) were internationally imported cases, 20 (27%) were importation associated, and 30(41%) were not associated with importation. Currently 10 cases are under investigation. Of the 9 outbreaks reported to date for 1999, six had an international source. The larg-



States. Most cases reported in 1998 were associated with importation, including the short chains of indigenous transmission of measles that occurred following international importation of measles.

Cases not associated with importation were insufficient to represent a continuous indigenous chain of measles transmission. Some cases may spread from undetected imported cases of measles. Detecting imported cases is difficult as international visitors with measles may leave the country

> before the rash appears or before they seek medical care. Even when the imported case is detected, it is difficult to detect every case in the chain of transmission, as was seen in the outbreak in Alaska. This highlights the need to obtain viral specimens from every chain of transmission to supplement epidemiologic information.

> The United States appears to have eliminated measles as an indigenous disease. High measles vaccination coverage and strong surveillance remain critical to preventing international imported measles cases from causing a resurgence of

est outbreak occurred in Virginia, with a provisional total of 9 cases.

Editorial Note: Epidemiologic data for 1998 suggests measles is no longer an indigenous disease in the United

measles in the United States.

Source: Dr. Mark Papania, Acting Chief, Measles Branch, Centers for Disease Control and Prevention, and *Epidemiology of Measles – United States*, 1998, MMWR, September 3, 1999, Vol. 48, No. 34, pages 749-753.

Measles in Canada

The Laboratory Centre for Disease Control (LCDC), Health Canada, in collaboration with the provincial/territorial public health officials, has introduced an enhanced surveillance system to monitor measles on a more timely basis towards achieving the measles elimination goal. All measles cases, confirmed or clinical (according to the national standard case definitions), are reported electronically by provincial/territorial health departments to LCDC on a weekly basis. Every attempt is made to further investigate all cases using a protocol developed by the National Working Group on Measles Elimination in Canada (WGMEC). Figure 1 shows reported cases of measles in Canada, by month, for 1998 and 1999 (as of September).

In 1998, a total of 12 laboratory-confirmed sporadic cases was reported, the lowest annual number ever recorded

in Canada. This compares to 581 cases reported in 1997 and an estimated 300,000 to 400,000 cases occurring annually in the pre-vaccine era. All the 12 reported cases were laboratory confirmed for measles-specific IgM antibodies and verified by the WGMEC. Ages ranged from 9 months to 33 years of age, with a median of 5 years. Two cases required hospitalization. Vaccination histories were available for nine of the cases: seven had at least one dose of measles vaccine, and two cases had none (one due to a medical contraindication and the other because of a 'missed opportunity'). Of the seven vaccinated cases, two were vaccinated *before their first birthday* (while living outside Canada); four had received one dose, and one had received two doses of measles vaccine. Five (42%) of the confirmed cases had exposure histories outside Canada; exposures occurred in the Bahamas, Pakistan, Uganda and the United States.

Figure 1 Reported Cases by Month, Canada , 1998-1999 (as of September)



In 1999, as of October 1, a provisional total of 10 confirmed cases were reported: 7 laboratory-confirmed and 3 epidemiologically linked to a laboratory-confirmed case in Canada. Nine cases were Canadian residents, and one (index case) was an unimmunized 20-year-old visitor from the Netherlands. This case, with epidemiologic link to an outbreak in the Netherlands in June 1999, developed symptoms while visiting relatives in Canada. Three secondary cases (a 21-year-old sister of the index case and her two children aged 23 months and 11 months) were reported in the host family. All three secondary cases were unimmunized and belonged to a community with known religious objections to immunization. Seven of the 10 cases had exposure to measles outside Canada (India, Indonesia, Japan, the Netherlands, Pakistan, and the Philippines). Five cases were infants less than one year of age who were not eligible for measles vaccination in Canada.

Editorial: In 1995, the National Advisory Committee on Immunization reaffirmed its commitment to the goal of eliminating measles, a goal that is shared by all countries of the Americas. Following this, Health Canada in collaboration with the provincial/territorial governments encouraged a mass catch-up vaccination campaign followed by routine 2-dose immunization. This took place during 1996-1997. The campaign targeted 90% of all school-aged children (5 million) in this country and approximately 4 million children have been immunized with a second dose.

The measles experience in Canada in the past 2 years suggests that the 2-dose universal program and the catch-up program introduced in 1996-1997, had a significant impact in the decline of measles incidence, and in the interruption of measles virus transmission in the Canadian population. Most of the cases reported in Canada since 1998 have been imported or import-related.

This achievement is undoubtedly due to the ongoing efforts, vigilance and commitment of health care and public health communities across Canada to increase vaccine coverage rates among children. In addition, the measles elimination effort is supported by an enhanced measles surveillance system, active epidemiological follow-up of cases and contacts, and laboratory support that includes not only confirmatory diagnosis but also molecular characterization of virus isolates, whenever possible.

The proportion of the Canadian population who do not get immunized due to religious, medical, or philosophic reasons is considered to be very low (1%).

Source: Dr. Paul Varughese, Division of Immunization, Bureau of Infectious Diseases, Laboratory Centre for Disease Control (LCDC) Health Canada.

First Ladies Meet in Canada

The Spouses of Heads of State and Government of the Americas and Government Delegates gathered in Ottawa, Canada, from September 29 to October 1, 1999 for the Ninth Conference of the First Ladies of the Americas with the theme of *Women of the Americas: Agents of Change*. These conferences originated in 1980, when the First Spouses of the Central American countries met to exchange experiences and establish mechanisms for action and cooperation among their countries. By 1991 in Venezuela, the conferences had become an annual gathering, and later turned into a hemispheric event in 1994, when Canada and the United States participated for the first time.

In the 19 point Declaration of Ottawa, the First Ladies reaffirmed their will and determination to contribute to the wellbeing of the people in the Americas. The First Ladies noted that given the existing global and hemispheric consensus on social development goals, the time was propitious to pursue and consolidate these goals, giving priority to human groups most in need of support and to the problems and social services that require further attention.

In point 8 of their Declaration, the First Ladies made reference to the Regional initiative to eradicate indigenous transmission of measles virus by the year 2000: "We continue to strive toward the promotion of better health through preventive measures, the reduction of violence, and more equitable access to health care services. We praise the achievement of those countries that have successfully eliminated measles and other preventable diseases within their borders and encourage the continued effort of others to meet our common goal of eradicating measles throughout the Americas by the year 2000."

Final Ottawa Declaration - September 29-October 1, 1999, Ottawa, Canada.

Ensuring Quality Vaccines

One of the priorities of PAHO's Division of Vaccines and Immunization is to support the implementation and strengthening of National Regulatory Authorities in all the Region.

All countries should have a National Regulatory Authority capable of : a) performing the registration and licensing of all imported and locally produced biologicals, b) carrying out post-registration surveillance, c) performing the control and liberation of each lot of vaccine utilized in the country including those used in the national immunization programs, d) having access to a certified Control Laboratory for those cases that require an analytical evaluation; e) inspecting vaccine-producing laboratories as well as distributors of imported vaccines, and f) evaluating and monitoring the development and implementation of clinical trials. These functions are critical given that only on a single National Vaccination Day, the same lot of vaccines can be administered to several hundred of thousands of children. Experience in the Americas has also shown that the adequate performance of National Regulatory Authorities is closely tied to the availability of legislation which supports their activities and enforces them among vaccine-producing laboratories and distributors.

The following is a list of recent activities coordinated by PAHO throughout the Region:

- First International Course for Non- producing Countries on the Registration and Release of Vaccines, carried out between 3 to 7 May, in the City of Havana, Cuba.
- First International Course for Non-producing Countries on Good Manufacturing Practices, carried out between 10 to 15 May, in the City of Havana, Cuba.
- **Registration and Release of each Lot of Vaccines:** A software program, named LIBLOTES was developed and distributed among countries in the Region. This program will facilitate the registration of data of each vaccine lot utilized in the Region, as well as enhance the exchange of information among countries.
- Harmonization of Regulatory Activities: Efforts have also been geared towards gathering information related to regulatory activities throughout the Region, with the purpose of elaborating a summary of requirements and procedures that will aid in the harmonization of requirements and regulatory functions.

National Control Laboratories

The activities of the Regional Network of National Vaccine Quality Control Laboratories are aimed at guaranteeing the quality of vaccines utilized in national immunization programs, among which there are:

- Program for the Establishment and Distribution of Regional Standards of Vaccines: To determine the potency of a vaccine and evaluate the validity of tests, in terms of Quality Assurance, it is important that all quality control laboratories have reference vaccines. One of the main objectives of the Network is the development and implementation of reference standards, such as for whooping cough vaccine, challenge strain of Bordetella pertussis, tetanus antitoxin, diphtheria antitoxin, BCG vaccine, Hepatitis B recombinant vaccine, polio vaccine and rabies vaccine. These standards are available to National Ouality Control Laboratories and vaccine-producing laboratories. The later should channel their requests through their National Regulatory Authority. Soon, the standards for measles and yellow fever vaccines will be available once the ongoing collaborative studies are finalized.
- Accreditation of National Quality Control Laboratories: It ensures the availability of Reference Laboratories in the Region that can implement quality control tests. This is critical, for example, in situations of problems in the cold chain. Through this initiative, the in-house capabilities of a laboratory can be determined, in accordance with international requirements. National Control Laboratories or designated laboratories can request their accreditation to PAHO, following the approval of their respective National Regulatory Authority. In the evaluation, a group of experts will analyze all aspects related to quality control of vaccines, including the organization and structure of the laboratory, facilities, installations and equipment, technical documents, personnel, and other aspects related to the quality system.
- Implementation of *in vitro* techniques for the quality control of vaccines: Traditional methods for the analysis of vaccines require significant utilization of experimentation animals. These methods have a series of drawbacks, which include the biological variability that affects the results, time and cost of analyses, as well as concern from the Animal Protection Groups at the local and international level and of the population in general. The development and implementation of in vitro techniques through the utilization of cell cultures or immunochemical tests, emerge as an alternative. In April, a workshop on in vitro techniques was carried out for potency determination of diphtheria and tetanus vaccines and its combinations, in the Public Health Laboratories of the Netherlands (RIVM), with the participation of Brazil, Chile, Cuba, Mexico, and Venezuela. This workshop gave rise to a collaborative study that will culminate in December, and may provide the necessary data for implementing in vitro techniques as a routine control test for tetanus vaccine, DT, and its combinations with pertussis vaccine (DTP) or other antigens.

Panama Launches a "Campaign for Life"



Panama held a National Immunization Campaign Day October 9, 1999 and will carry out two additional ones in December 1999, and February 2000. With the theme: Immunization: A Campaign for Life, these campaigns are targeting children under 5 years of age, as well as women of childbearing age, in all districts reporting vaccination coverage under 95%. Target population of children under 5 years is 80,000. The October campaign was inaugurated by Mrs. Mireya Moscoso, President of Panama (seated center); Mr. Juan Jovane, Director of Social Security (seated at her left); Dr. Ciro de Quadros, Director of PAHO's Division of Vaccines and Immunization (seated at her right); and Dr. Jose Manuel Teran, Minister of Health (holding a microphone).

Polio surveillance

From September 29 to October 4, the global meeting of polio laboratories was held at the World Health Organization in Switzerland. Among the topics discussed were progress towards polio eradication in the world, as well as the need to identify and destroy all wild poliovirus currently stored in laboratories of countries where the virus is no longer circulating. During the meeting discussion also focused on the fact that while surveillance of acute flaccid paralysis was improving in almost all regions of the world (see Figure 1),

the indicators in the Americas, particularly, the AFP rate per 100,000 in children under 15 years was deteriorating.

Given the need to have a surveillance system capable of detecting importations of wild poliovirus and given the upcoming Global Certification of Polio Eradication, a call is made to all staff responsible for surveillance to take the necessary measures to ensure compliance with all AFP surveillance indicators.





Source: HVP/PAHO (PESS)

Reported Cases of Selected Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1999 to date of last report, and the same epidemiological period in 1998, by country.

	Date	Measles				Polio		Tetanus				Diphtheria		Whooping	
Country/Territory	0† Jast	Labo-	Clini-	1999 Total	Confir-			Non Ne	eonatal	Neo	natal			Co	ugh
Country/renniory	report	ratory	cally	TOTAL	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998
Anguilla	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antigua & Barbuda	4-Sep	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Argentina	4-Sep	186		186	4396	0	0	6	17	1	0	0	2	395	549
Bahamas	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barbados	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belize	4-Sep	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Bermuda	4-Sep	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Bolivia	4-Sep	879	7	886	254	0	0	1	5	1	7	1	5	6	30
Brazil	4-Sep	174	285	459	1,324	0	0					117	139	644	1,030
British Virgin Islands	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canada	4-Sep	9	0	9	11	0	0								
Cayman Islands	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	7	0
Chile	4-Sep	29	0	29	6	0	0	14	15	1	0	0	0	1,781	2,482
Colombia	4-Sep	10	25	35	50	0	0	6	5	14	13	0	2	211	191
Costa Rica	4-Sep	0	61	61	0	0	0	1	0	0	0	0	0	18	1
Cuba	4-Sep	0	0	0	0	0	0	2	1	0	0	0	0	0	0
Dominica	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominican Republic	4-Sep	111	2	113	2	0	0	17	5	1	0	12	10	13	13
Ecuador	4-Sep	0	0	0	0	0	0	25	15	6	18	2	19	150	174
El Salvador	4-Sep	0	0	0	0	0	0	5	12	1	0	0	0	4	4
French Guiana						0	0								
Grenada	4-Sep	0	0	0	0	0	0	0	1	0	0	0	0	4	0
Guadeloupe	4-Sep					0	0								
Guatemala	4-Sep	0	0	0	1	0	0	6	1	1	5	0	0	200	64
Guvana	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haiti	4-Sep	0	0	0	3	0	0			11	11	4	0	18	4
Honduras	4-Sep	0	0	0	0	0	0	6	11	0	3	0	0	19	35
Jamaica	4-Sep	0	0	0	1	0	0	5	6	0	1	0	0	8	0
Martinique		·				0	0								
Mexico	4-Sep	0	0	0	0	0	0	82	123	6	21			45	182
Montserrat	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands Antilles						0	0								
Nicaragua	4-Sep	0	0	0	0	0	0	2	4	0	0	0	0	11	0
Panama	4-Sep	0	0	0	0	0	0	3	3	1	0	0	0	119	69
Paraguay	4-Sep	0	0	0	22	0	0	11	13	6	11	0	0	16	21
Peru	4-Sep	0	2	2	2	0	0	53	71	12	14	3	2	963	1.772
Puerto Rico	4-Sep	0	-	0	0	0	0								.,
St Vincent/Grenadines	4-Sep	0		0	0	0	0		0		0		0		0
St Kitts/Nevis	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	
St. Lucia	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	
Suriname	4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	
Trinidad & Tobado	4-Sen	0	0	0	0	0	0	7	2	0	0	0	0	0	1
Turks & Caicos	4-Sen	0	0	0	0	0	0	,	0	0	0	0	0	0	<u> </u>
United States	4-Sen	56	0	56	47	0	0	20	28	v	U	2	2	3.537	3.892
	4-Sen	34		34	1	0	0	0	20	0		0	0	1	0,002
Venezuela	4-Sen		0	0	4	0	0	10	14	0	2	0	0	197	473
TOTAL	I • P	1,488	382	1,870	6.124	0	0	285	356	62	106	141	181	8,367	0.988

... Data not available.

Clinically confirmed cases are not reported.
* Laboratory and clinically confirmed cases.

1999 PAHO Award for Immunization

Dr. Miguel Angel Galindo Sardiñas, Chief of the National Immunization Program at the Ministry of Health in Cuba since 1981, is the fourth recipient of the PAHO Immunization Award, which recognizes outstanding technical contributions to a national immunization program and to a country's efforts in controlling and eliminating vaccine Dr. Galindo developed Cuba's program for the elimination of measles, rubella and mumps in 1988, and led the successful elimination of these three diseases in only seven years, the only country in the world to hold this record. In 1989, Cuba also eliminated two other severe complications, congenital rubella syndrome and meningo encephalitis, and

preventable diseases. The award includes a certificate and a monetary gift US\$2,000. Nominations were received from five countries.

The PAHO Award for Immunization was established in 1993, following the receipt of the Prince Mahidol Award by Dr. Ciro de Quadros, Director of PAHO's Division of Vaccines and Immunization, for his contribution to the 1991 eradication of poliomyelitis in the Western Hemisphere, the first region in the



the vaccine-preventable diseases of tetanus and whopping cough have reached levels in which they have ceased to be public health problems. Under his leadership, morbidity and mortality of meningococcal meningitis type B have been reduced to 94% and 98% respectively, and hepatitis B morbidity has also declined by 97% in children under 15 years of age. Currently, over 95% of Cuban children under 2 years of age are protected against 12 vaccine-

world to achieve this goal. A portion of the monetary component of the Prince Mahidol Award was matched with funds from PAHO to establish an annual Immunization Award. Dr. Galindo was selected by a Committee, which is integrated by the members of PAHO's Technical Advisory Group on Vaccine-Preventable Diseases (TAG).

Dr. Galindo has dedicated 37 years of his professional career to the development of immunization programs in Cuba, during which he has been responsible for managing the implementation of 48 national immunization campaigns.

A. Waak/PAHO

preventable diseases. Currently Galindo is working with provincial health authorities to implement a plan he elaborated to control *Haemophilus influenzae* type B.

Dr. Galindo is a member of Cuba's Group on Vaccine Experts and the Ministry assigned him to lead the country's Technical Advisory Group on Immunization Practices. During his distinguished career in public health, Dr. Galindo has received numerous awards, which include Cuba's 1998 Annual Health Award for Excellence and an award from the Cuban Society of Hygiene and Epidemiology.

The *EPI Newsletter* is published every two months, in Spanish and English by the Division of Vaccines and Immunization (HVP) of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). Its purpose is to facilitate the exchange of ideas and information concerning immunization programs in the Region, in order to promote greater knowledge of the problems faced and their possible solutions.

References to commercial products and the publication of signed articles in this *Newsletter* do not constitute endorsement by PAHO/WHO, nor do they necessarily represent the policy of the Organization.



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

Division of Vaccines and Immunization 525 Twenty-third Street, N.W. Washington, D.C. 20037 U.S.A. http://www.paho.org/english/hvp/hvp_home.htm

Editor:Ciro de QuadrosAssociate Editor:Monica Brana

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