



EPI Newsletter

Expanded Program on Immunization in the Americas

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IMMUNIZE AND PROTECT YOUR CHILDREN

October 2003

Sustaining Immunization Programs – Elimination of Rubella and Congenital Rubella Syndrome

Background

Important breakthroughs in the fight against vaccine-preventable infectious diseases have occurred in the past 25 years. The proven impact of vaccination programs in the Americas has placed immunization at the center stage in the global agenda for sustainable economic growth and poverty reduction. The Region has had no indigenous measles transmission since November 2002. Advances have been reported in reaching the goal of uniform high quality immunization in all municipalities.

At the same time, fluctuations in the allocation of resources as a result of economic downturns and uneven management of health reform and decentralization processes are jeopardizing the implementation of national immunization programs, potentially opening the way for higher costs in case of an outbreak of a vaccine-preventable disease. Another key challenge has been the development of a level of complacency by some Member States because of the absence of circulation of some vaccine-preventable diseases.

PAHO Resolution CD44.R1

The 44th Directing Council of the Pan American Health Organization took place in Washington, D.C. during 22-26 September 2003. The Directing Council adopted the following Resolution:

THE 44th DIRECTING COUNCIL,

Having seen the progress report of the Director on sustaining immunization programs (Document CD44/11);

Recognizing the important breakthroughs in the fight against vaccine-preventable diseases to protect the children of the Region made possible through the close partnership of the Member States and the international development community;

Noting with great pride the sustained collective efforts by the Member States in fulfilling the goal of interruption of indigenous measles transmission in the Western Hemisphere;

Considering the remarkable progress and experience gained by the Member States in the accelerated control of rubella and the prevention of congenital rubella syndrome (CRS) initiatives, which seek to achieve a more rapid decrease of rubella cases and infants born with CRS;

Taking note of the spirit of solidarity and Pan Americanism in the implementation of the first *Vaccination Week* in the Americas that targeted immunization services to high-risk and underserved areas;

Concerned with the fluctuations in the allocation of resources in public budgets to these activities at the national level, mainly due to economic downturns; and

Cognizant of the potential negative impacts of certain health sector reform and decentralization processes on the implementation of national immunization programs, including disease surveillance activities,

RESOLVES:

1. To urge Member States to:
 - (a) encourage the establishment of a specific line item for immunization in their national budgets and the timely allocation of financial resources towards vaccines, supplies, and operational costs;
 - (b) inform the finance ministers and senior budgetary decision-makers about the benefits of sustaining immunization programs and the risk resulting from pockets of low immunization coverage;
 - (c) implement health sector reform and decentralization policies and programs in a manner that safeguards the achievements made in immunization;
 - (d) support the implementation of an annual hemispheric Vaccination Week, to be held in April, targeting high-risk population groups and underserved areas;

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- (e) maintain the Region free of indigenous measles through high, routine (>95%) measles vaccination coverage by municipality or district, and follow-up measles vaccination campaigns at least every four years, timely surveillance, and outbreak investigation and control;
 - (f) maintain high (95%) and homogenous vaccination coverage by municipality or district for all antigens;
 - (g) eliminate rubella and congenital rubella syndrome (CRS) from their countries by the year 2010; to accomplish this, they are requested to draft the respective national plans of action within one year.
2. To request the Director to:
- (a) elaborate a regional plan of action and mobilize resources in support of a rubella/CRS elimination goal for 2010;
 - (b) continue advocating for an active mobilization of national and international resources to sustain and expand the investments made in immunization programs by the Member States;
 - (c) foster joint action by the International Monetary Fund, the World Bank, and the Inter-American Development Bank and Member States, ministries of health and finance, to establish provision within the public budgets that ensure the uninterrupted allocation of funds to national immunizations programs;
 - (d) promote the annual hemispheric Vaccination Week to improve equity in immunization.

Andean and Southern Cone Sub-Regional Meetings on Vaccine-Preventable Diseases, 1-3 September 2003

The XIII Meeting of the Andean Region countries and the XVII Meeting of the Southern Cone countries on Vaccine-Preventable Diseases were held as a joint event in Lima, Peru during 1-3 September 2003. PAHO has been promoting these sub-regional meetings for two decades to evaluate progress in controlling vaccine-preventable diseases. This article summarizes the final report and recommendations regarding the following topics: elimination of measles, laboratory indicators for measles diagnosis, immunization safety, elimination of rubella and congenital rubella syndrome, and acute flaccid paralysis surveillance.

Measles in the Americas

Currently, indigenous measles transmission is interrupted in every country in the Hemisphere. In 2002, there were 2,583 confirmed cases in the Region, most occurring in an outbreak in Venezuela (n=2,392 cases) and Colombia (n=139 cases). The last confirmed case of this outbreak occurred in Venezuela during week 47 of 2002. The viral strain isolated in this outbreak was D9, an import from Germany. Since then, no indigenous measles circulation has occurred in the Region. In 2003, up to epidemiological week 34, four countries in the Region reported confirmed cases of measles: Mexico (40), the United States (34), Canada (12), and Chile (1), with all cases related to imported strains.

Measles Vaccination in the Andean and Southern Cone Sub-Regions

All of the countries in the Andean and Southern Cone Sub-Regions currently use the MMR (measles-mumps-rubella) vaccine in their routine immunization programs. In 2002, all of the Andean and Southern Cone countries achieved over 90% coverage with measles-containing vaccine (MCV), except for Paraguay, Ecuador, and Venezuela (Table 1). In the first semester of 2003, Venezuela achieved 100% coverage.

Of concern in 2002 was the percentage of municipalities in each country with MCV coverage $\leq 95\%$ in children aged

1 year. It ranged from 19% in Ecuador to 64% in Bolivia; Uruguay achieved 94% coverage (Table 2). Low coverage poses a serious risk for widespread transmission in the event of an imported case.

Using the estimation of number of susceptibles, most of the countries have appropriately scheduled their follow-up campaigns for 2005 and 2006 (Table 3). Brazil has scheduled its next follow-up campaign for 2004.

All of the countries carried out rapid coverage monitoring (RCM) during the June Vaccination Week in the Americas (VWA). However, most countries have not yet mandated that this be a routine supervisory activity.

Epidemiological Surveillance

The Andean and Southern Cone countries have integrated measles and rubella surveillance. Emphasis is placed to ensure speedy and adequate investigation of suspected cases and conduct active case-finding. However, a decline in the number of reported suspected measles cases has been observed.

Surveillance indicators show that all of the countries have met the target for the proportion of cases with adequate samples. All of the countries, but Venezuela, have met the target for the proportion of samples with results in ≤ 4 days (Table 4). However, several countries did not achieve the 80% target for the following three indicators: (1) proportion of units reporting weekly (Uruguay and Bolivia); (2) proportion of suspected cases investigated in ≤ 48 hours (Argentina, Chile, Paraguay, Colombia, and Ecuador); and (3) proportion of cases with samples reaching the laboratory in ≤ 5 days (Brazil, Paraguay, Colombia, Peru, and Venezuela).

Recommendations

The last confirmed case of indigenous measles occurred approximately one year ago. However, the potential for importation remains a constant threat, since circulation of the virus has still not been interrupted on other continents. Thus, the

Table 1. Vaccination coverage in the Andean and Southern Cone Sub-Regions - 2002

COUNTRY	OPV3	DPT3	MEASLES	BCG
ARGENTINA	93.7	92.5	95	100
BRAZIL*	97.0	96	93.2	100
CHILE	95.8	95.4	95.6	94.2
PARAGUAY	87.0	87.0	86.0	83.0
URUGUAY	93	93	93	99
BOLIVIA	100	98	100	100
COLOMBIA	82.8	80.4	93.3	87.2
ECUADOR	90	89	80	100
PERU	94.5	94.8	95.2	92.1
VENEZUELA	77	63	78	90

* In Brazil, YF coverage = 98.4%, Hib=90.1% and HepB = 88.8%

following activities are critical to prevent its reintroduction and/or resumption of indigenous circulation in the Region:

- Countries should maintain uniformly high levels of routine vaccination coverage ($\geq 95\%$) in the health services.
- Timely national follow-up campaigns should be conducted based on an analysis of the number of susceptibles.
- Local epidemiological surveillance should be improved by strengthening active case-finding activities to permit the timely identification and investigation of suspected cases.
- Countries should identify high-risk municipalities, considering certain parameters such as $< 95\%$ coverage, presence of indigenous and migrant populations, border areas, hard-to-reach areas, and areas with high population density or tourism.
- Rapid coverage monitoring should become a regular supervisory activity, emphasizing epidemiologically silent and high-risk municipalities.
- Information systems and data quality should be upgraded at all levels.
- Populations at risk should be vaccinated, including health workers, people employed in tourism, teachers, military personnel in barracks, and prison inmates.
- Countries should guarantee regular and timely delivery of vaccines and other supplies that will make ongoing vaccination activities possible.
- Supervision and monitoring should be strengthened at all levels, making high-risk municipalities a priority.
- Countries should implement an ongoing information, education, and communication (IEC) strategy to strengthen the regular EPI.
- Countries should promote greater coordination of cross-border activities.
- Operational personnel should be kept informed about surveillance, vaccination norms and procedures.
- Countries should maintain integrated measles and rubella surveillance.

Laboratory Indicators for Measles Diagnosis

In 2003 (as of epidemiological week 33), all of the coun-

Table 2. Number and percentage of municipalities by coverage level with measles vaccine in children aged 1 year – 2002

COUNTRY	Coverage $< 95\%$		Coverage $\geq 95\%$	
	Number	Percentage	Number	Percentage
ARGENTINA	273	49	282	51
BRAZIL	3057	55	2503	45
CHILE	158	46.3	183	53.7
PARAGUAY	167	72	63	28.0
URUGUAY	16	6	253	94
BOLIVIA	113	36	201	64
COLOMBIA	732	65.7	383	34.3
ECUADOR	135	81	32	19
PERU	944	51.6	884	48.4
VENEZUELA	209	57.3	156	42.7

tries of the Region had higher proportions of suspected cases with adequate samples and timely laboratory response compared to the same period of 2002. The two exceptions were Colombia and Venezuela, where slightly lower values were reported in 2003.

A recurring problem in all of South America is the low proportion of samples reaching the laboratory within 5 days of collection, which ranged from 56% (Peru) to 100% (Uruguay) during weeks 1-33 of 2003 (Table 4). Of the ten countries in the Andean and Southern Cone Sub-Regions, 5 achieved $\geq 80\%$ for this indicator.

Recommendations

- The indicator for samples reaching the laboratory should be adopted as a measure for monitoring the quality of the surveillance system in each country since it is directly related to the efficiency of the surveillance system, not to laboratory performance.
- Laboratories should continue to participate in the external quality control programs of the Centers for Disease Control and Prevention (CDC) in Atlanta; it is proposed that a panel of 5 samples be sent once a year to each laboratory. The results of the external quality control should be analyzed to prioritize training and supervision needs in the laboratories.
- Countries should continue to collect samples for viral isolation (urine, nasopharyngeal swab) in all outbreaks of febrile rash illness, from every clinical case with a high suspicion of measles and/or rubella and from IgM-positive cases.
- In cases found to be IgM-positive for measles, a thorough epidemiological investigation should be conducted; in cases in which the diagnosis is uncertain, a second serum sample should be collected two to three weeks after the first. These samples (first and second) should be assayed for IgM and IgG measles antibodies. They may also be assayed for other viral infections in network laboratories. All cases should be documented and presented at the next meeting of the Technical Advisory Group (TAG).
- Countries should promote the formation of *ad hoc* groups to document cases that are IgM-positive for measles; the documentation will be gathered by the surveillance system

Table 3. Follow-up vaccination campaigns

COUNTRY	Year of last mass campaign	Coverage (%)	Date of next campaign
ARGENTINA	2002	87	2005
BRAZIL	2000	100	2004
CHILE	2001	100	2005
PARAGUAY	2003	93	2006
URUGUAY	2003	95	2007
BOLIVIA	2003	95	2007
COLOMBIA	2002	94.5	2006
ECUADOR	2002	100	2006
PERU	2001	97	2005
VENEZUELA	2001	98	2005

of each country for subsequent presentation at the TAG meeting.

- PAHO should continue providing measles and rubella reagent kits to the regional laboratory network.
- The laboratory network should collect and disseminate pertinent scientific information about the possibility of obtaining another laboratory test for measles IgM, with a view to optimizing laboratory diagnosis of sporadic IgM-positive cases.
- In accrediting measles laboratories, an initial assessment of conditions in the laboratories should be performed to identify support and training needs.

Immunization Safety

Many countries in the Andean and Southern Cone Sub-Regions have increased vaccination coverage levels to $\geq 90\%$ with different antigens, especially with MMR, and some are introducing new vaccines into their programs. While all of the programs have been very well accepted, there is always the risk of losing this well-earned trust if an event supposedly attributable to vaccination or immunization (ESAVI) is handled poorly. As a result, in addition to strengthening vaccination coverage, programs should strive to improve program management and develop systems to monitor ESAVIs. Monitoring the implementation and integration of activities to ensure immunization safety and to monitor ESAVIs is the shared responsibility of the immunization program, the National Regulatory Authority, the quality control laboratory, and all health workers. To ensure effective coordination, country professionals need to be trained in managerial, as well as technical aspects, to enable them to conduct rapid, exhaustive, and informative investigations for the public involved. Advocacy skills should also be developed to help them secure the necessary political support to ensure the safety of vaccines.

Recommendations

- Advocacy efforts should continue to promote immunization safety in the countries.
- Each country should develop and execute a plan of action to promote immunization safety, allocating sufficient resources to guarantee an adequate supply of vaccines, syringes, safety boxes, and equipment suitable for the final disposal of materials used in vaccination.

Table 4. Measles surveillance indicators – 2003*

CRITERIA	ARG	BRA	CHI	PAR	URU	BOL	COL	ECU	PER	VEN
% units reporting weekly	94	83	95	88	17	N/D	88	85	99	80
% suspected cases investigated ≤ 48 hours	40	81	63	61	100	100	51	42	100	96
% cases with adequate sample	94	80	100	100	100	100	95	99	98	99
% cases with sample arriving in lab ≤ 5 days	80	65	86	79	100	80	69	89	56	60
% samples with results ≤ 4 days	82	82	98	100	100	80	80	91	88	70

* Up to E.W. 35 - N/D: No data
Note: Acceptable percentages are $\geq 80\%$ for each indicator

- Progress in immunization safety should be monitored through the following indicators:
 - % of ESAVI cases investigated within the first 24 hours (target: 80%);
 - % of investigations concluded (target: 80%);
 - Rate of ESAVI cases reported during campaigns (to decide which events to monitor);
 - % of ESAVI cases reported as a result of hospital surveillance;
 - % of ESAVI cases classified as program errors.
- All countries should develop and implement systems to monitor ESAVIs, complete the investigation of severe events and clusters of events, and share the information with the countries of the Region.
- Program training activities should be conducted for all health workers. Training should include the development and dissemination of materials at all levels of the health system to ensure uniform knowledge of the guidelines for preventing, detecting, and evaluating ESAVIs.
- Training should be provided to promote immunization safety practices--in particular, to modify behaviors such as recapping used needles.
- Efforts should continue to forge partnerships with the media and have a plan in place for handling ESAVIs.
- Evaluations of the immunization program should include a component on immunization safety.

Elimination of Rubella and Congenital Rubella Syndrome

Since the introduction of the rubella vaccine in the Region and the implementation of the strategy for accelerated rubella control and the prevention of congenital rubella syndrome (CRS), rubella virus circulation has decreased. Forty-two of the Hemisphere's 44 countries and territories currently include the rubella vaccine in their national vaccination schedule. Every country in the Andean and Southern Cone Sub-Regions includes the MMR vaccine in its national schedule and the MR vaccine in follow-up campaigns to maintain measles elimination.

The main reason for adopting the accelerated vaccination strategy for rubella is to reduce the time required to interrupt the circulation of rubella and prevent CRS. With the introduction of the rubella vaccine alone, it would take more than 20 years to achieve what has already been achieved in countries such as Uruguay. According to the data sent by the countries, major cohorts of women of childbearing age (WCBA) are susceptible to rubella.

Vaccination activities that target adults are yielding information that is key to developing successful, sustainable vaccination strategies in this age group--strategies that will help boost coverage levels to $\geq 90\%$. Brazil and Chile have conducted mass vaccination campaigns that target adult women to accelerate CRS prevention. Likewise, Ecuador has begun the first phase of its strategy, vaccinating children of both sexes aged < 15 years.

CRS is now recognized as a serious public health problem. However, the limited information obtained through epidemiological surveillance gives only a partial understanding of the actual burden of the condition and the success of the initiatives to combat it. Peru has conducted studies indicating that CRS is a public health problem and that 12.8% of pregnant women are susceptible; this year, the country initiated vaccination with MMR.

Few clinical cases of rubella are laboratory-confirmed, and very few viral samples are sent for molecular typing. This may be due in part to inadequate coordination and communication among clinicians, epidemiologists, and laboratory workers. Nevertheless, it is critical to isolate the virus to identify genotypes and evaluate the strategy for the post-elimination phase.

Furthermore, the data presented indicate the need for additional work to monitor pregnant women who have contracted rubella.

Recommendations

- Once the goal of eliminating rubella and CRS has been set, each country should draw up a plan of action for elimination, and if total implementation of the plan is not immediately feasible, it should be done in stages, always vaccinating both sexes.
- Programs should plan carefully to guarantee a timely supply of vaccines needed for adult vaccination campaigns.
- Countries should continue efforts to implement vaccination strategies to reduce the number of rubella susceptibles and improve surveillance in preparation for the major challenges posed by the elimination of rubella and CRS, among them:
 1. Rubella surveillance should be fully integrated with measles surveillance; this will enable countries that are just beginning to implement the elimination strategy to know where the virus is circulating and allow countries that have already implemented the strategy to detect and confirm every case. In outbreaks, the first five cases in each chain of transmission should be laboratory-confirmed.

2. Vaccination strategies to prevent circulation of the rubella virus should continue to be implemented. This will lead to a reduction in CRS through a single mass campaign in which both men and women are vaccinated. Ecuador should complete the second stage of this strategy.
 3. Age groups to vaccinate should be determined by the epidemiology of rubella in the country. Nevertheless, the target groups should include boys and girls who have not been vaccinated as part of the routine program--that is, children aged > 5 years and adults of both sexes. The upper age limit should be based on documented fertility patterns and the expected susceptibility.
 4. Countries should investigate and follow all women infected with rubella during pregnancy, providing thorough periodic evaluations of their newborns.
- Program managers should ensure that all sera from suspected cases of measles that are negative for IgM measles antibodies are assayed for IgM rubella antibodies and vice versa.
 - Greater emphasis should be placed on developing the logistics to guarantee the collection of samples for viral isolation as well as the adequacy and proper shipping of the samples.
 - CRS surveillance should be improved in all of the countries of the Region, identifying hospitals that have been using the Perinatal Information System (IAPA 2000) of the Latin-American Center for Perinatology and Human Development (CLAP) and the Latin American Collaborative Study on Congenital Malformations (ECLAMC) to facilitate implementation.

Acute Flaccid Paralysis Surveillance

The Hemisphere, which was certified as polio-free in 1994 and whose last case of poliomyelitis caused by the wild poliovirus occurred in 1991, is now faced with the threat of imports of wild poliovirus from other parts of the world and of outbreaks caused by the virus derived from the Sabin vaccine, such as those that occurred in the Dominican Republic and Haiti in 2000 and 2001.

To confront these threats, the Region has continued to ensure that the targets for surveillance indicators for acute flaccid paralysis (AFP) are met. In 2002, the Region achieved an AFP rate of 1.29 per 100,000 children aged < 15 years, and adequate stool samples were obtained from 79% of reported AFP cases; vaccination coverage with 3 doses of OPV in children aged < 1 year was 87% in 2002. Although acceptable at the regional level, several aspects must be improved, such as:

- a. Each year nearly 6 million children are born in Latin American municipalities with coverage $< 95\%$ with 3 doses of OPV in children aged < 1 year.
- b. Approximately 20% of AFP cases are ruled out without collecting adequate stool samples.
- c. Cases consistent with polio account for only 1-3% of all cases ruled out without adequate samples.

- d. For the last 52 weeks (between weeks 34 of 2002 and 33 of 2003), Brazil, Colombia, Paraguay, Peru, and Uruguay have not achieved the AFP rate of at least 1 case per 100,000 children under 15; furthermore, Argentina, Bolivia, Brazil, Colombia, Paraguay, and Uruguay collected adequate stool samples less than 80% of the time.

Recommendations

- Countries should follow the EPI TAG recommendation made last year (December 2002) in Washington, D.C.:

The TAG notes that a high number of AFP cases are being discarded that do not have an adequate evaluation or a stool sample. All countries in the Region should continue to use the recommended AFP case classification system and should

establish a National Expert Group or Commission. This Commission should closely scrutinize those cases without an adequate stool specimen in an attempt to determine the etiology of the case's paralysis.

- Each country should conduct a risk analysis for circulation of vaccine-derived poliovirus or imported wild poliovirus. This will require a country study of areas that do not meet the targets for AFP surveillance indicators and that have a high proportion of children who have not been vaccinated against poliomyelitis.
- Countries' plans of actions should include the necessary resources to sustain the quality of the investigations, reporting, and follow-up for AFP cases. They should also include resources for the work of the diagnostic laboratories.

Global Meeting for Sustainable Measles Mortality Reduction and Immunization Systems Strengthening, 15-17 October 2003, Cape Town, South Africa

International health leaders joined together in Cape Town this month under the sponsorship of the World Health Organization (WHO) and the United Nations Children Fund (UNICEF) to pledge their commitment to reduce measles deaths and describe proven strategies to sustain the prevention of these deaths.

Despite the availability of a safe, highly effective, and relatively inexpensive vaccine for over 40 years, measles claims the lives of an estimated 745,000 children each year - more than half of them in Africa. Of all the vaccine-preventable diseases, measles remains a major killer of children and causes serious complications, such as blindness, encephalitis, and pneumonia. It is the leading cause of vaccine-preventable deaths among children and the fifth leading overall cause of death among children aged <5 years.

Increasing measles vaccination is a critical factor to achieve the target set at the United Nations General Assembly Special Session (UNGASS) on Children in 2002 to reduce measles deaths by the end of 2005 by 50% compared with 1999 levels. It is also a critical indicator for the Millennium Development Goal (MDG) for reducing mortality in children aged <5 years by two-thirds by 2015. With the launch of the *Cape Town Measles Declaration* (see page 8), world health leaders are affirming their commitment to achieve this tangible public health goal.

Immunization Strategy

In May 2003, the World Health Assembly (WHA) passed a landmark resolution requesting countries to contribute actively towards achieving the UNGASS and MDG goals

without further delay. The resolution urged Member States to fully implement the WHO/UNICEF recommended immunization strategy for sustainable measles mortality reduction and to use this approach as a tool for strengthening national immunization programs.

The strategy is one of high routine vaccination coverage combined with mass campaigns and it has proven to be extremely effective.

Measles vaccination campaigns are conducted to vaccinate all children aged <15 years. Follow-up campaigns are conducted three to four years after the initial mass campaigns, targeting all children aged <5 years born after the last mass campaign. Other essential components of the strategy include establishing laboratory networks and improving measles surveillance to detect and respond to outbreaks.

Experience in the Americas

Routine immunization, periodic supplementary activities, and enhanced surveillance have proven to be very successful in Latin America. The number of deaths caused by measles was reduced to zero after vaccination campaigns during the 1990's. There have been no new cases of indigenous measles for almost a year (last case in November 2002), and all subsequent cases have been import-related. Based on the enormous success of this strategy in the Region of the Americas, supplementing routine measles vaccination with mass campaigns is now part of the recommended strategy of WHO and UNICEF for all developing countries.

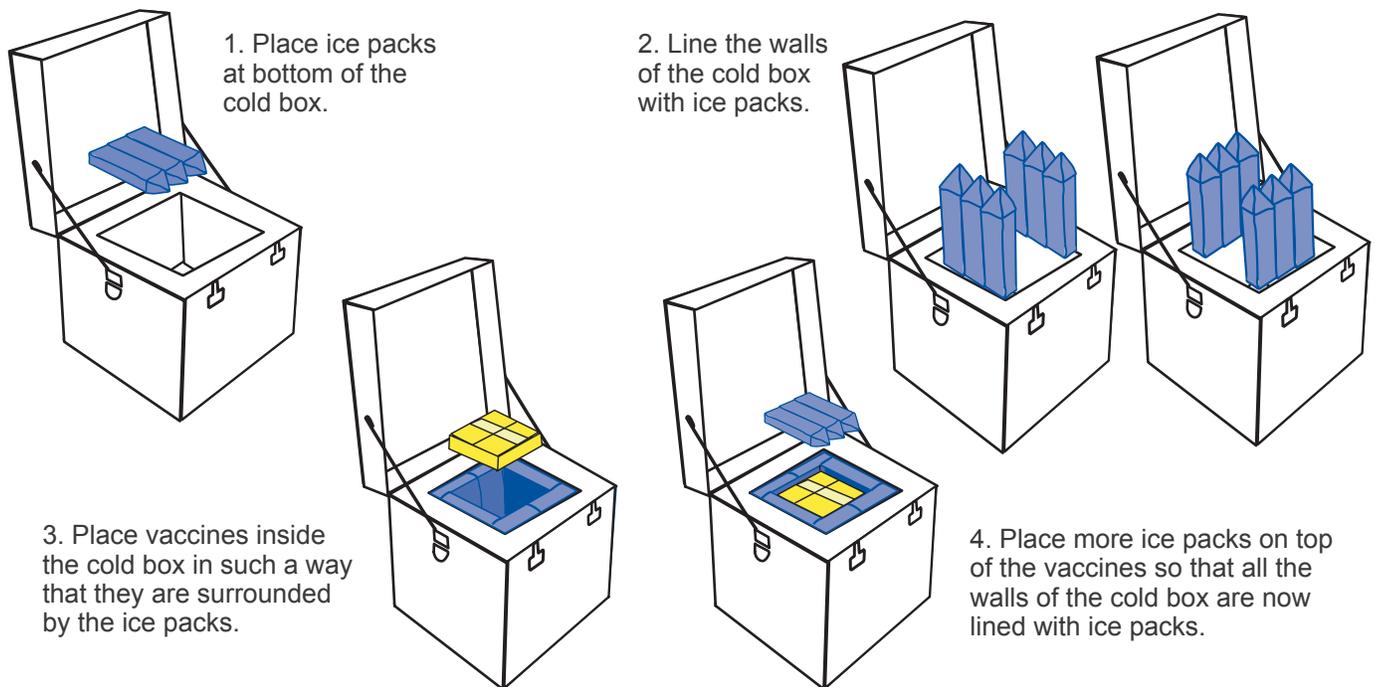
Representatives from Haiti, Mexico, and PAHO's Immunization Unit presented the achievements of the Americas

(continued on page 8)



Packaging Vaccines for Transportation in Cold Boxes and Thermoses

When transporting vaccines to the field, the walls of cold boxes and thermoses should be entirely lined with ice packs. See illustrations below:



NOTE: Extra caution should be taken to avoid accidental freezing during transport of freeze-sensitive vaccines since cold packs right out of the freezer may be very cold (-5°C . to -30°C .). The procedure is as follows:

- Leave cold packs at room temperature for a few minutes until water, or "sweat", appears on the surface of the packs. They are now at 0°C .
- Place the cold packs that are "sweating" in the cold box.
- Vaccines can now be safely placed inside the cold box.

Viral vs. bacterial vaccines:

- Viral vaccines such as MR, MMR, polio, yellow fever, and any freeze-dried vaccines may be frozen or kept at temperatures between $+2^{\circ}\text{C}$. and $+8^{\circ}\text{C}$.
- Bacterial vaccines such as DPT, Hep. B (liquid), Hib (liquid), and DT should always be kept at temperatures between $+2^{\circ}\text{C}$. and $+8^{\circ}\text{C}$.

Packing instructions:

1. Place inside the cold box a form listing the temperature of vaccines, date and time of packing, number of boxes, number of ice packs used, and signature of person responsible for packing.
2. Place outside the cold box a label with the name and phone number of individual receiving the shipment (for contact in case of emergency), date and time of packing, and timeframe for delivery.

Basic precautions during transport:

1. Avoid placing cold box in direct sunlight. If necessary, a

damp cloth can be placed over it to keep it cool.

2. Periodically check vaccine temperature during extended travel time. If necessary, ice packs should be replaced with new ones.
3. Do not drop cold box so as to avoid damage to walls and content of container.
4. During air travel, special precautions should be taken when transporting bacterial vaccines: see Note above.

Other essential aspects to keep in mind:

1. It is imperative to know how many hours the container will maintain the proper temperature after adequate preparation.
2. In hot tropical climates, special cold boxes holding vaccines for 4-5 days may be needed to ensure that vaccines arrive at the proper temperature.

Adapted from: PAHO EPI Newsletter 1993; XV(1):6 and (2):5; FUNASA/Brazil. Manual de Rede de Frio, June 2001:33-37.

(from page 6)

in measles mortality reduction at the global summit. Africa is currently applying lessons learned from the Americas to reduce measles mortality.

Partnerships

Long-term immunization planning is essential for achieving the immunization targets. This includes ensuring that measles activities are fully integrated with other national health goals, establishing high quality surveillance, mobilizing necessary human and financial resources, and planning for financial sustainability of measles mortality reduction activities.

One of the purposes of the Summit was to strengthen current partnerships and engage potential new partners for reducing measles mortality. Reducing measles deaths in a sustainable manner is the objective of the Measles Initiative, a broad-based partnership consisting of the American Red Cross, the Centers for Disease Control and Prevention (CDC), the UN Foundation, UNICEF, WHO, the Canadian International Development Agency (CIDA), governments, civil society and the private sector. In 2001 and 2002, the Measles Initiative delivered measles vaccine to over 70 million children in 16 African countries. Many additional partners were present at the Cape Town meeting. Their continued commitment will be critical to ensure the success of the international efforts to reduce measles mortality from 1999 levels by 50% by 2005.

Conclusion

The WHO/UNICEF Global Measles Summit in Cape Town was a landmark meeting for intensifying the commitment of global leaders to prevent one of the leading killers of children worldwide. International health experts urged countries and donors to take immediate action and to provide political and financial support to the global effort. Such commitment will be well received in the Region of the Americas whose countries have made great strides in controlling measles and are well aware of the risk of importation of measles back into the Region whenever circulation of measles virus exists in other regions of the world.

Cape Town Measles Declaration, 17 October 2003

ALARMED that in 1999 alone an estimated 875,000 infants and children died from measles, and that measles continues to cause hundreds of thousands of child deaths each year, especially in developing countries;

STRESSING the importance of achieving the goals adopted by the United Nations General Assembly Special Session on Children in 2002 and the World Health Assembly in 2003 to reduce measles deaths by 50% compared with 1999 levels by the end of 2005, and the United Nations Millennium Declaration target to reduce the under-five child mortality rate by two-thirds by the year 2015 compared with 1990 levels;

RECOGNIZING that measles deaths are primarily due to lack of immunization with existing safe, effective and inexpensive measles vaccines and incomplete implementation of proven strategies;

NOTING the critical importance of continuing to strengthen routine immunization services, including the provision of a second opportunity for measles immunization, as the foundation of a comprehensive strategy to reduce measles deaths sustainably and the essential role of surveillance in monitoring and guiding measles control efforts;

HIGHLIGHTING the importance of developing multi-year immunization plans, the full integration of measles mortality reduction activities with other national health goals and mobilizing necessary human and financial resources for sustainable measles mortality reduction;

WELCOMING the remarkable progress that has been made by the Region of the Americas in interrupting measles virus circulation and the ongoing efforts in Africa, with strong support from the Measles Initiative to reduce measles deaths;

Those present at the Global Meeting for Sustainable Measles Mortality Reduction and Immunization Systems Strengthening declare our intent to:

SUPPORT the WHO/UNICEF Global Strategic Plan for Measles Mortality Reduction and Regional Elimination, 2001-2005 with special attention to increasing routine measles immunization coverage to at least 90 per cent coverage in all countries, combined with providing all children with a 'second opportunity' for measles immunization either through the routine immunization schedule or periodic supplemental immunization activities;

WORK TOGETHER to identify the human and financial resources to strengthen immunization and health systems and to reduce measles deaths throughout the world;

ADVOCATE to strengthen immunization systems and reduce further measles mortality according to the strengths of each partner.

The EPI Newsletter is published every two months, in Spanish, English and French by the Immunization Unit 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.

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