



# Immunization Newsletter

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## Changing Lives: Newborn Hearing Screening in Costa Rica

During rubella immunization activities, conversations between Dr. María Luisa Ávila, then Director of Infectious Diseases at the National Children's Hospital and now Minister of Health, PAHO Advisor Dr. Louis Z. Cooper, and Drs. Carlos Castillo-Solórzano and Jon Andrus from the PAHO Immunization Unit, focused on the possibility of implementing an Early Hearing Detection and Intervention (EHDI) demonstration program in Costa Rica. Since congenital hearing loss is the most frequent manifestation of congenital rubella syndrome (CRS), an EHDI program would have the combined advantage of serving as an excellent surveillance instrument for CRS and for changing the lives of children found to be congenitally hearing-impaired, based on the new technologies for hearing testing and amplification, and early education.

Babies rely on hearing to develop spoken language. An infant's auditory system and brain are shaped by sound and by caregivers' voices long before a first word is spoken. However, because hearing loss is an "invisible" condition even trained health care professionals cannot reliably identify young children with hearing loss through observation alone. And when hearing loss goes undetected, early language learning is impeded and subsequent reading, academic, and social skills can also be severely compromised. This severe morbidity can now be prevented by EHDI, changing the lives of children and their families, and providing cost-saving benefits over their lifespan.

In the United States, 95% of infants are screened for hearing loss before hospital discharge or shortly thereafter. This represents a dramatic increase from fifteen years ago when only 3% of newborns received such screening. Due to advances in technology, screening for hearing has become the standard of care.

The Ministry of Health (MOH) of Costa Rica, PAHO, the American Academy of Pediatrics, the Costa Rican Pediatric/Neonatology Academy, and the US National Center for Hearing Assessment and Management (NCHAM,



*Dr. Karen Muñoz teaching newborn hearing screening.*

## XIX Meeting of the Central American Region, Mexico, and the Latin Caribbean

The XIX Meeting of the Central American Region, Mexico, and the Latin Caribbean on vaccine-preventable diseases took place in Santo Domingo, Dominican Republic, from 6-8 June 2007. Delegations from Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, and Panama participated in the meeting.

During the opening ceremony, Dr. Gina Tambini, Area Manager, Family and Community Health, PAHO, spoke of the need for countries to focus on completing the unfinished agenda in immunization. Representatives of the Centers for Disease Control and Prevention of the U.S. (CDC), the U.S. Agency for International Development (USAID), the Church of Jesus Christ of Latter-day Saints, and UNICEF also were in attendance.

In a special session, PAHO presented the President of the Republic, Dr. Leonel Fernández, and the Secretary of Public Health, Dr. Bautista Rojas Gómez, awards for their commitment to the National Immunization Days conducted from 30 October to 10 December 2006. The awards were intended to recognize the hard work of vaccinations teams and the excellent coverage rates obtained following the country's intense efforts to eliminate rubella and congenital rubella syndrome (CRS), and maintain measles elimination.

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located at Utah State University), have collaborated to provide newborn hearing screening and follow-up services to better serve children born with hearing loss. The MOH is leading a movement to identify hearing loss early through a comprehensive screening and management program. A needs assessment brought Dr. Karl White, the NCHAM director, Dr. Karen Muñoz, an audiologist, and Dr. Cooper to work with the MOH in September of 2006. The team visited hospitals and intervention programs to learn about current services. Screening procedures were also demonstrated.

Six Costa Rican physicians representing pediat-

For more information on newborn hearing screening and management visit these websites:

- [www.babyhearing.org](http://www.babyhearing.org)
- [www.infanthearing.org](http://www.infanthearing.org)
- [www.medicalhomeinfo.org/screening/hearing.html](http://www.medicalhomeinfo.org/screening/hearing.html)
- [www.cdc.gov/ncbddd/ehdi/](http://www.cdc.gov/ncbddd/ehdi/)

To view a 6-minute video explaining more about the hearing screening process, go to <http://www.infanthearing.org/videos/index.html> and select the Sound Beginnings (new) video.

rics, audiology, otolaryngology, and the MOH then came to St. Louis, Missouri, in February 2007 to learn more about screening, diagnosis, and intervention procedures. This was an opportunity to observe programs "in action" and

discuss next steps for Costa Rica.

Infants who are found to have a hearing loss benefit the most when they are enrolled in early intervention programs prior to 6 months of age. To reach this goal, health care providers play a central role. Ensuring that every child with hearing loss is identified and is provided necessary services as early as possible requires a systematic approach to screening and follow-up. That is what the collaboration is establishing in Costa Rica. Since the critical periods for language development are so time-sensitive, the goals will include screening by age one month, diagnosis by age three months, and intervention, including amplification and educational intervention, by age six months.

Early hearing detection and intervention presents many challenges. But the benefits obtained from implementing such programs may prove to be as significant as what has been found elsewhere. In the final analysis, the EHDI demonstration program in Costa Rica is another example where rubella and CRS elimination strategies serve to promote excellence in primary health care. ■



*Nurse in Hospital México in San José, Costa Rica learning hearing screening, helped by Dr. Roger Gonzalez, neonatologist.*

**MEETING** from page 1

## Meeting Objectives

- Review the progress of countries with regards to rubella, CRS, and measles elimination, and documenting the interruption of endemic transmission.
- Discuss the activities countries should implement to limit the accumulation of susceptibles and timely detect imported measles and rubella cases.
- Discuss the surveillance of acute flaccid paralysis.
- Analyze the current status of seasonal influenza vaccination and considerations for vaccination in case of a pandemic.
- Analyze the situation and perspectives for new vaccine introduction.
- Discuss the pertussis situation in the sub-region.

- Discuss the evaluation, monitoring, and supervision of immunization programs.
- Review aspects of program management, such as the status of the PAHO Revolving Fund for vaccine procurement and quality control of syringes.

## Rubella and Measles

Countries of the Region have demonstrated progress in effectively interrupting endemic rubella transmission<sup>1</sup>. In addition, mass vaccination campaigns conducted in the Region have been essential to sustain measles elimination. All but one of the 345 measles cases reported in the Americas since 2005 have been in countries that still had not conducted or concluded a mass vaccination campaign against measles and rubella in adolescents and adults.

Integrated and quality epidemiological surveillance of measles and rubella, including case confirmation through laboratory tests, is a fundamental element to document the rubella and measles elimination in the Americas. Furthermore, molecular epidemiological data can be used to confirm rubella elimination. Finally, CRS surveillance is recommended to identify infants in whom this syndrome is suspected.

### Recommendations:<sup>2</sup>

- The Dominican Republic and Guatemala should be congratulated for the excellent coverage obtained during their national vaccination campaigns to eliminate rubella and CRS. Both countries should document and publish the lessons learned.
- Haiti and Mexico should be congratulated on their decision to program mass vaccination

1 Pan American Health Organization. Special Rubella Issue. *Immunization Newsletter* 2007;29(3).

2 The complete recommendations can be obtained from the Immunization Unit ([fch-im@paho.org](mailto:fch-im@paho.org)).

campaigns targeting men and women (adolescents and adults) with the MR (measles-rubella) vaccine in the second 2007 semester and the first 2008 semester, respectively. El Salvador should also be congratulated for implementing a follow-up campaign for measles and rubella elimination in 2007.

- The accumulation of measles susceptibles should continue to be monitored. A high quality follow-up campaign (coverage >95% in every municipality) is necessary whenever there is evidence of an accumulation of susceptibles.
- Countries should identify municipalities with MMR coverage <95% and design strategies to achieve and maintain 95%-100% coverage in all municipalities.
- Countries should ensure that all residents of the Americas that travel to endemic measles and/or rubella areas are immune to measles and rubella before their departure.
- Countries should develop plans to deal with importations, ensuring that a dedicated team is on hand and available funds can be rapidly released.
- Countries should maintain active epidemiological surveillance of measles and rubella in all the municipalities, with a sensitivity of at least 2 suspect cases per 100,000 inhabitants and at least 1 suspect case in municipalities with <100,000 inhabitants, and conduct active case-finding in high-risk municipalities and silent areas. Furthermore, rapid investigation should be the norm (before serology results are available) and include representative samples for viral detection.
- Experience in the Region has proven that CRS surveillance presents many challenges. Since CRS clinical manifestations during the first year of life are not specific and vary widely, it can be difficult to suspect and diagnose this syndrome. Creative methods should be investigated to improve the sensitivity and quality of the surveillance system, strengthen report through sentinel sites, and encourage the use of TORCHS<sup>3</sup> as part of the surveillance system.
- While investigating sporadic suspect cases during the last stages of measles and rubella elimination, a second sample should be collected for serology and an epidemiological analysis conducted when the laboratory result is not clear. Also, samples should be collected for viral isolation or detection by molecular method.

- A second sample for rubella IgM testing should be collected in pregnant women from whom a serum sample was collected in the five days following disease onset, regardless of a positive or negative result.
- Meetings among EPI epidemiologists and laboratory staff must be held as a crucial step toward promoting coordination and exchange of information.
- Countries should start documenting the interruption of measles and rubella endemic transmission based on the following components: a) epidemiological information on measles, rubella, and CRS (vaccination impact); b) vaccination coverage and analysis of protection; c) quality of the surveillance system; d) data on molecular epidemiology of measles and rubella virus; and e) data from available seroprevalence studies.

### Poliomyelitis

Globally, four countries reported endemic circulation of the poliovirus in 2006 compared with 125 in 1988. Between 2003 and 2006, there were 71 importations of wild poliovirus to 25 countries that had already eliminated the disease. This is proof of a substantial risk countries of the Americas continue to face after having eliminated polio from the continent.

The countries participating at the meeting, except Haiti and the Dominican Republic, fulfill the AFP surveillance indicators currently required by the Global Commission for the Certification of

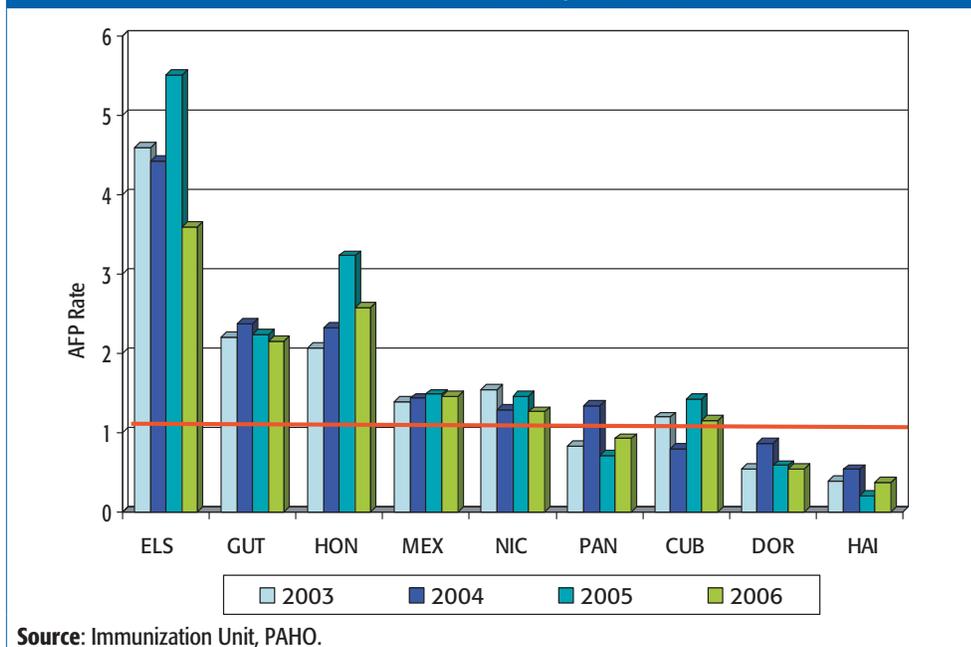
Eradication (Figure 1). However, the rate of samples collected adequately in the last two years remains low, resulting in a reduction in the isolation rate of poliovirus and non-polio enterovirus throughout the Region (Figure 2).

Country progress toward completion of phase I of the plan for wild poliovirus containment in laboratories was reviewed, including inventory of poliovirus samples and potentially infected material held by laboratories.

### Recommendations:

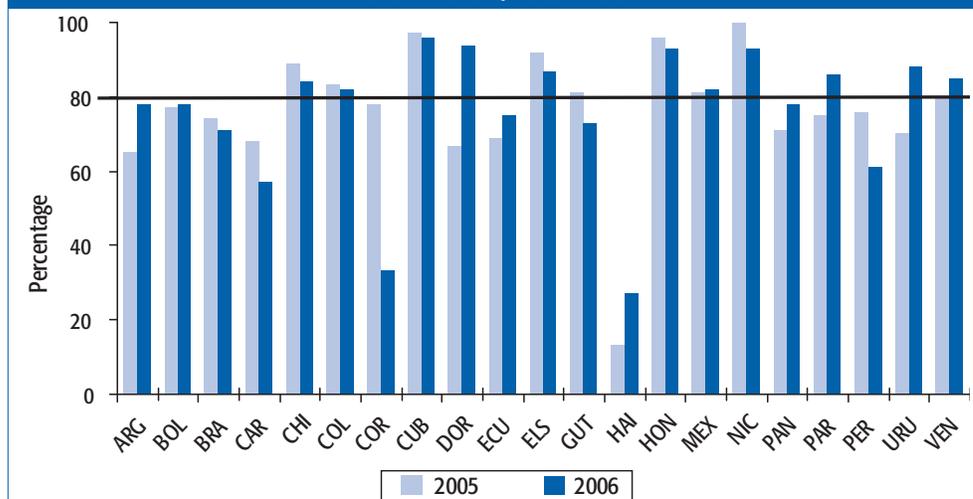
- Since the Region continues to be at risk of wild poliovirus importations, countries that do not achieve OPV coverage >95% in every municipality must conduct annual OPV immunization campaigns for children aged <5 five years, regardless of their vaccination status. They should also maintain adequate AFP surveillance.
- PAHO should not consider any change in the current policy for OPV use in the Region before the world has been certified as polio-free.
- Considering the risk presented by vaccine-derived viruses, it is essential that all the poliovirus samples isolated in the Region be sequenced.
- To support the efforts of laboratories, epidemiologists should ensure that adequate samples are collected for each AFP case, are properly kept in the cold chain, and immediately sent to the laboratory.
- All countries should complete phase I of wild polio virus containment in laboratories.

Figure 1. Acute Flaccid Paralysis Rate per 100,000 Children Aged <15 Years, Selected Latin American Countries, 2003-2006



Source: Immunization Unit, PAHO.

3 TORCHS stands for Toxoplasma gondii; other viruses (HIV and more); rubella (German measles); cytomegalovirus; herpes simplex; and syphilis.

**Figure 2. Acute Flaccid Paralysis Cases with Adequate Samples by Country, the Americas, 2005-2006**

Source: Country reports to the Poliomyelitis Eradication Surveillance Systems (PESS).

## Influenza

Influenza has a high burden of disease due to the seasonal epidemics it causes every year. It can also produce pandemics with major social disruption and economic losses.

In light of the imminence of a pandemic, probably due to the A/H5N1 strain, WHO has developed technical guidelines for the preparation of national preparedness plans for an influenza pandemic. In case of a pandemic, vaccination is one of the most effective control interventions; however, the availability of a pandemic vaccine will be very limited during the first wave of the pandemic, even more so for developing countries.

### Recommendations:

- The recommendation from the Technical Advisory Group (TAG) on Vaccine-preventable Diseases urging countries to establish and strengthen epidemiological influenza surveillance to determine the characteristics of the circulating virus, particularly in tropical areas, should be reiterated. EPI managers should actively participate in the implementation of the new PAHO-CDC epidemiological surveillance protocol.
- At-risk groups, such as the elderly, patients with chronic diseases, immunodeficient populations, health professionals, pregnant women, and children aged 6-23 months, should be vaccinated. For 2006 status, see Table 1.
- Countries with no national immunization policies should evaluate the burden of disease and

the economic impact of annual influenza epidemics. The results of this analysis should help to modify policy. Economic study tools provided by the Pro-Vac initiative should be used.

- Countries should commit to keeping their preparedness plans against the pandemic up-to-date. These plans should prioritize the population groups considered at greater risk and needing vaccination.

## New Vaccine Introduction

In the last decade, several new vaccines have been developed, while others are being developed and will probably be accessible soon. Therefore, when appropriate, countries are facing the challenge of incorporating these vaccines into their national immunization programs.

Among the vaccines already available, WHO has identified as priority vaccines those against pneumococcus, rotavirus, and human papilloma virus (HPV). However, the decisions regarding introduction should be based on scientific evidence, cost-effectiveness analysis, and the operational and financial sustainability of the national immunization programs.

### a. General Recommendation:

- Countries should seek and expand financial support for national immunization programs to bridge the time lag between development of new vaccines that save lives and access to populations that need them most.

### b. Recommendations on Pneumococcus:

- Based on PAHO guidelines, all countries should implement epidemiological surveillance of pneumonias and meningitis in children aged <5 years, in order to determine the burden of disease.
- Countries should strengthen the laboratory capacity of each sentinel hospital so that requirements are met for routine bacteria culture and identification through rapid testing on clinical samples, such as cerebrospinal fluid, pleural liquid, and blood.

### c. Recommendations on Rotavirus:

- Since it is essential to know which strains are circulating, countries should initiate virological surveillance for rotavirus before introducing the vaccine.
- Countries should implement standardized and highly sensitive surveillance of diarrheal diseases by rotavirus in sentinel hospitals.
- Countries should send their surveillance data on diarrheal diseases by rotavirus monthly to PAHO Regional surveillance system so they are consolidated at Regional level and feedback is provided to Member States.

**Table 1. Seasonal Influenza Vaccine Use in Central America, Mexico, and the Latin Caribbean, 2006**

Country	Children	Older Adults	Other Risk Groups			
			Health Workers	Chronic Diseases	Poultry Workers	Other
Costa Rica	6m-5y	>65y		✓		
Cuba	...	65y	✓	✓	✓	✓
Dominican Republic	...	>60y <sup>a</sup>				
El Salvador	6m-23m	>60y	✓	✓		
Honduras	...	>65y	✓		✓	
Mexico	6m-23m	50y	✓	✓		
Panama	6m-23m	>60y <sup>b</sup>	✓			

... not available; (a) in retirement homes; (b) institutionalized persons.

Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting Forms (JRF), 2007 and to FCH-IM/PAHO.

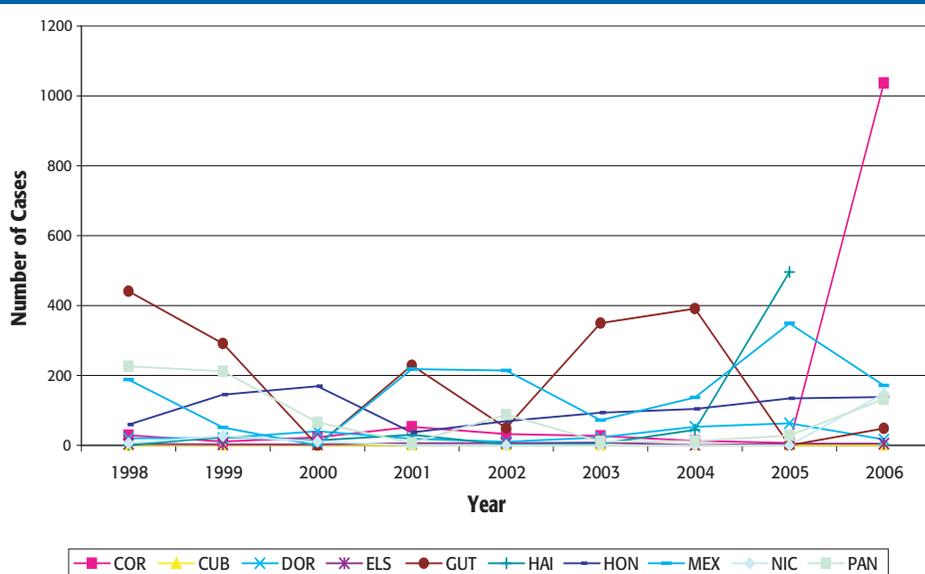
## Pertussis in Central America, Mexico, and the Latin Caribbean

Pertussis was discussed at the XIX Meeting of the Central American Region, Mexico, and the Latin Caribbean. Specifically, questions were raised on whether there has been changes in its incidence and whether it was relevant to introduce new vaccines aiming to reduce mortality in children aged <1 year and incidence in young adults and the elderly. Available information does not show a significant increase in cases over the last five years (Figure 1).

### Recommendations:

- Efforts to protect against pertussis should focus on reaching DTP3 (or equivalent) vaccination coverage >95% in each municipality.
- Pertussis surveillance should ensure that reported or confirmed cases meet case definition and have laboratory samples, and that the information required for an adequate analysis at national level is collected.
- The decision-making process regarding new vaccine introduction, including Tdap, should take into consideration all the conditions discussed in PAHO's guidelines on policies for the new vaccine introduction.

Figure 1. Number of Pertussis Cases in Selected Countries, 1998-2006



Source: Immunization Unit, PAHO.

- Countries should use the ELISA method for rotavirus detection to ensure that diagnostic is standardized and results can be compared. To learn which serotype/genotype is circulating in a country, 20% of positive ELISA samples should be tested.
- PAHO should support the strengthening of national laboratories for the diagnosis of diarrheal diseases by rotavirus.
- Countries should evaluate the capacity of their cold chain at all levels, their immunization schedules, and the availability of human resources, while considering health worker training on vaccine use prior to rotavirus vaccine introduction.
- The system for monitoring and investigating adverse events supposedly attributable to vaccination and immunization (ESAVI) should be strengthened so possible adverse events to new vaccines can be detected early.

### d. Recommendation on HPV:

- Recognizing that the HPV vaccine poses significant operational and financial challenges for national immunization programs, countries should strengthen their processes for new vaccine introduction ensuring that decisions are evidence-based and supported by comprehensive plans for sustainable introduction.

## Strengthening of Routine Immunization Programs

To maintain the achievements of immunization programs and strengthen the program as a whole, it is critical to maintain and strengthen the **evaluation, monitoring, and systematic supervision** of the program. These processes should be standardized at all levels of the health services network and adapted to EPI goals and objectives.

### Recommendations:

- As per the recommendation from the 2006 TAG on Vaccine preventable Diseases, all countries should strengthen the supervision of immunization programs, using standardized supervision protocols encompassing all program components.
- Countries should allocate sufficient financial resources for evaluation, monitoring, and periodic supervision. National and local action plans should always include these components.
- Immunization indicators should be used to monitor the processes for integration of prevention interventions at the level of primary health care services.

**Immunization coverage** is a key measure of im-

munization program performance.

### Recommendations:

- All countries should strive to improve the validity, consistency, integrity, and timeliness of coverage data.
- The analysis and use of information and the systematic and periodic evaluation of the validity, consistency, integrity, and timeliness of data coverage should become a regular activity within immunization programs for the evaluation and supervision of their activities. Also, a work plan should be developed and implemented to follow up on the inadequacies of the monitoring system and perform periodic re-evaluations.
- Countries and PAHO should discuss the topic of denominators and census in multisectoral and international forums to strengthen the systems used for registering life events and census.
- PAHO should finalize the guidelines for coverage monitoring and data quality. These guidelines and available tools should be disseminated in the Region for local adaptation and use.

## Vaccine Legislation, Revolving Fund & Regional Syringe Plan

- Countries should use vaccine legislation establishing a budget line as a tool in the search for resources to ensure the sustainability of their national immunization programs. This type of legislation facilitates the creation of the fiscal space needed for effective program operation. Countries that do not yet have specific vaccine legislation should encourage their Congress and Ministry of Finance to collaborate for the creation of a specific budget item for vaccines.
- PAHO should evaluate the Revolving Fund to expand its role as joint in-bulk purchase mechanism, improve its effectiveness on behalf of the countries, and position it for the future in the context of new vaccine introduction.
- PAHO should implement the Regional plan for the control and safety of syringes acquired through the Fund, from procurement to final disposal.
- Countries that have already received training on how to report syringe incidents through the PAHO incident reporting website should start reporting. ■

## Solid Waste Recycling Contest in Bolivia

The Ministry of Health of Bolivia implemented a national yellow fever vaccination campaign from 15 April to 31 May 2007, targeting the population aged 2-44 years. Since vaccination campaigns generate challenges in waste management, health authorities launched an innovative initiative to encourage the recycling of solid products, such as cardboard, paper, glass, and aluminum, that can be reprocessed and reused. Other vaccination campaign waste, such as needles and syringes, were permanently disposed of, following appropriate protocols.

With support from PAHO, the Expanded Program on Immunization (EPI) organized a contest throughout the country to reward the best recycling initiatives, ultimately benefiting the environment and the health of the community. Among the contestants were health centers, municipalities, and networks.

Recycling projects took place in seven Bolivia Departments. A committee composed of PAHO and UNICEF staff selected the three best projects, and on 14 August the three institutions received awards for their hard work and innovative ideas during the campaign.

First prize went to Villa Ingenio Health Center, in the city of El Alto de La Paz. The center director, Dr. Bacarreza, mentioned that the recycling contest was an interesting learning experience. *"The calling of our centers is to contribute to environmental sustainability"* he said, adding that the contest and the prize provided *"great motivation to maintain our efforts"*. He also mentioned that the center would pursue its recycling efforts during the next campaigns. Finally, he offered that recycling activities must become the norm during vaccination campaigns, referring to the

law of the four "Rs": reduce, reuse, recycle, and reprocess.

Second prize went to the management team of Tarata Health Network, in the Cochabamba Department. The theme of their recycling activities was *"Not all the waste generated by hospitals is infectious"*. As she accepted the prize, network representative Analía Almanza, expressed how crucial the recycling project was, since it was used as a way to generate revenues for staff training. In her eyes, the project represents also a step toward reaching the Millennium Development Goal calling for ensuring environmental sustainability.

Third prize went to the urban municipality of Trinidad in the Beni Department. Ana María

Bejarano, municipality representative and Trinidad's EPI Manager, shared the theme used by Trinidad: *"Vaccinated children living in a healthy environment"*. She mentioned that a major problem during the campaign was Beni having only one recycling company, thereby limiting the scope of the recycling efforts. However, Ms. Bejarano stated that interest ran high among health center staff, and suggestions were made to also recycle at home.

The recycling initiative during Bolivia's yellow fever vaccination campaign was made possible thanks to the efforts and the will of all the participating health workers. Special support was also provided by UNICEF. The success of the initiative represents an important first step toward the EPI promoting a cleaner environment. ■



Villa Ingenio Health Center, city of El Alto de la Paz: a health worker demonstrates how syringe caps are being recycled.



Vaccine refrigerators are for vaccine only. They must not be used to store drugs, serums, clinical samples, reagents, food, or beverages.

- Conventional domestic refrigerators (including the “no-frost” models) have proved to be adequate for vaccine storage if:
  - Vaccine and diluents are organized in rows spaced 3 cm apart to allow the uniform circulation of cold air;
  - The energy source is constant and permanent;
  - Temperature is monitored twice daily, at the beginning and end of the day;
  - Preventive maintenance is regularly performed;
  - They are installed in a cool and breezy place;
  - They are placed in the shade and far from any heat sources;
  - They are separated from the wall by 15-20 cm; and
  - They are placed on a straight surface (especially the absorption system).

### To Avoid Heating or Freezing of Vaccines:

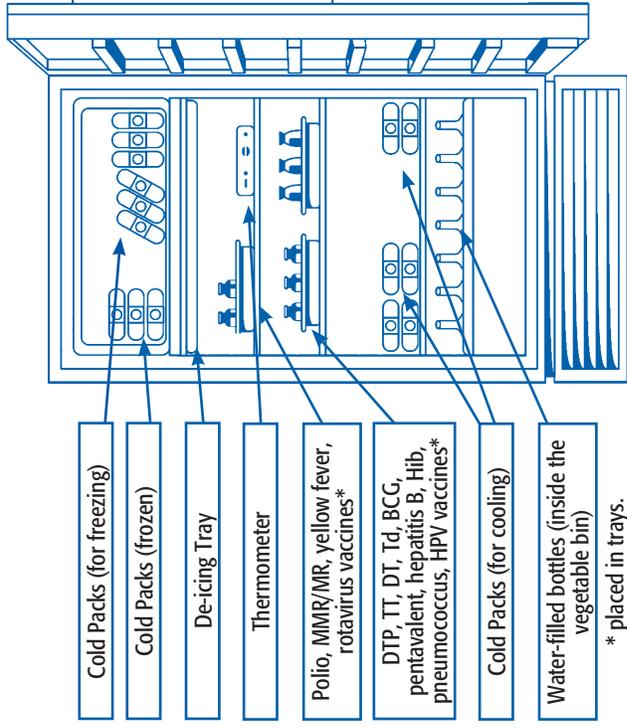
- The temperature inside the refrigerator must be maintained between 2° and 8° Celsius.
- The refrigerator door must be opened only twice a day, once in the morning and once in the afternoon.
- Written emergency or contingency plans must be available and describe the necessary steps to take if the refrigerator cannot maintain the required temperatures or because of mechanical failure.
- To avoid freezing of freeze-sensitive vaccines, the thermostat may have to be adjusted if the thermometer or other temperature device shows temperatures at or below 2 degree Celsius.

### Organization of an Upright Refrigerator for Vaccine Storage

- Vaccines must not be stored in refrigerators for more than a month.
- Vaccines must not be stored in the refrigerator door.
- The refrigerator must be cleaned and defrosted each time the ice in the freezing compartment reaches a thickness of 5 mm.
- Bottles filled with cold water, or cold packs, must be placed in the lower part of the refrigerator.
- **Do not place the total volume of water-filled bottles at once in the refrigerator.** This will cause a rapid temperature increase in the refrigerator and it could take many hours for the temperature to return to a level adequate for vaccine storage. Place the equivalent of 2 to 4 liters of water-filled bottles or cold packs in the refrigerator at first. Then wait 24 hours before adding any more water-filled bottles or cold packs.

### Freezing of Vaccines inside the Refrigerator

The cold air that goes through the evaporator comes out at the rear of the upper shelf, where, during morning hours, temperatures are liable to fall below 0° C. Therefore, the upper shelf is only suitable for storage of vaccines able to sustain accidental freezing (oral polio, measles-mumps-rubella, and yellow fever vaccines).



### WHO References for Product Information

- The Product Information Sheets (PIS) provide general information on the choice of equipment, and specific technical and purchasing data for individual selected items. A revision of the PIS system is underway to better keep pace with global developments. The new approach is based on three key criteria: Performance, Quality and Safety (PQS). All examples of a selected product must have performance characteristics that meet the relevant specification standards, quality and reliability characteristics that are appropriate for field conditions, and cradle-to-grave safety characteristics that ensure that no harm is caused to users, patients, or to the environment over the course of the product's life cycle. Draft PQS specifications and verification protocols are available for review.
- Product Information Sheets: [http://www.who.int/immunization\\_standards/vaccine\\_quality/pis/en/index.html](http://www.who.int/immunization_standards/vaccine_quality/pis/en/index.html)
  - PQS: [http://www.who.int/immunization\\_standards/vaccine\\_quality/pqs/en/index.html](http://www.who.int/immunization_standards/vaccine_quality/pqs/en/index.html)
  - Draft PQS specifications and verification protocols: [http://www.who.int/immunization\\_standards/vaccine\\_quality/specs\\_intro/en/index.html](http://www.who.int/immunization_standards/vaccine_quality/specs_intro/en/index.html)

## In Memoriam: Gloria García Santibáñez, First National EPI Manager of Panama

Gloria García Santibáñez died on 30 July 2007 in Panama City, during open-heart surgery to replace a defective valve. She was born in Mexico in 1943, and received her nursing diploma from that country in 1964, graduating with honors. Shortly thereafter, she moved to Panama where she had a long and illustrious career in public health.

After working as a nurse for several years, Ms. García became the first national Expanded Program on Immunization (EPI) Manager of Panama and held that post from 1979 until her retirement in 1996. Starting in 1992, she was also named Director of the *Depósito Nacional de Biológicos* (National Biological Products Warehouse). She had been instrumental in planning the creation of the warehouse and seeing the project to fruition. In 1998, during a ceremony commemorating the 20<sup>th</sup> anniversary of the EPI in Panama, the government of Panama named the *Depósito Nacional de Biológicos* after Ms. García.

Ms. García was the Ad-hoc Secretary and founding member of the National Commission for the Epidemiological Surveillance of Poliomyelitis



(1989-1996) and Ad-hoc Secretary of the National Commission for the Certification of Poliomyelitis Eradication (1994). She authored several publications, among them *Epidemiological Surveillance of Poliomyelitis in Panama* (1990), *Evaluation of Measles Epidemiological Surveillance in Panama* (1999), and *Evaluation of Neonatal Tetanus Epidemiological Surveillance in Panama* (2000). On several occasions she also served as a Red Cross volunteer in Nicaragua.

Ms. García will be remembered as an intensely dedicated health worker who, early on in her career, gained respect and admiration from her peers. She never hesitated to visit hard-to-reach areas, whether on foot, by horse, or by canoe, and bring vaccination services to all. Her smile and her selflessness were her trademarks as she touched the life of so many who only knew her as "Miss Gloria". ■

The *Immunization Newsletter* is published every two months, in English, Spanish, and French by the Immunization Unit of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). The purpose of the *Immunization Newsletter* 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 possible solutions to those problems.

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.

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