



# Immunization Newsletter

Pan American Health Organization

VOLUME XXX, NUMBER 4 ► AUGUST 2008

- 1 Comprehensive Cervical Cancer Prevention and Control
- 1 Vaccine Laws in the Americas
- 3 WHO HPV LabNet Meeting
- 4 Community Participation in Vaccination Campaigns in Nicaragua
- 7 Report of Selected Diseases, 2006-2007
- 8 Mexico Declaration on Cervical Cancer

## Towards Comprehensive Cervical Cancer Prevention and Control: The Mexico City Declaration

### Background

As part of the World Health Organization (WHO) Immunization, Vaccines and Biologicals program initiative regarding new human papillomavirus (HPV) vaccines, a series of world wide regional meetings have been organized to consult stakeholders on issues related to HPV vaccine introduction and strengthening programs for cervical cancer prevention and control. It is expected that the outputs from each of these regional meetings will provide support to WHO for the prequalification of the HPV vaccine, as well as guidance for planning technical cooperation to Member States on strengthening cervical cancer programs.

In the Region of the Americas, the stakeholders meeting was organized by WHO, the Pan American Health Organization (PAHO), the Sabin Vaccine Institute, and the U.S. Centers for Disease Control and Prevention (CDC), and convened in Mexico City from 12-14 May 2008. Entitled *Towards Comprehensive Cervical Cancer Prevention and Control*, it was a unique opportunity to unite a diverse range of stakeholders. Over 160 participants from 24 countries participated in the meeting, representing Ministry of Health programs on immunization, adolescent health, sexual and reproductive health, and cancer. Representatives from industry, academia, non-governmental organizations, and collaborating institutions (PATH, International Union Against Cancer and International AIDS Vaccine Initiative) were also present.

The objectives of the meeting were to discuss the current evidence regarding HPV vaccines and cervical

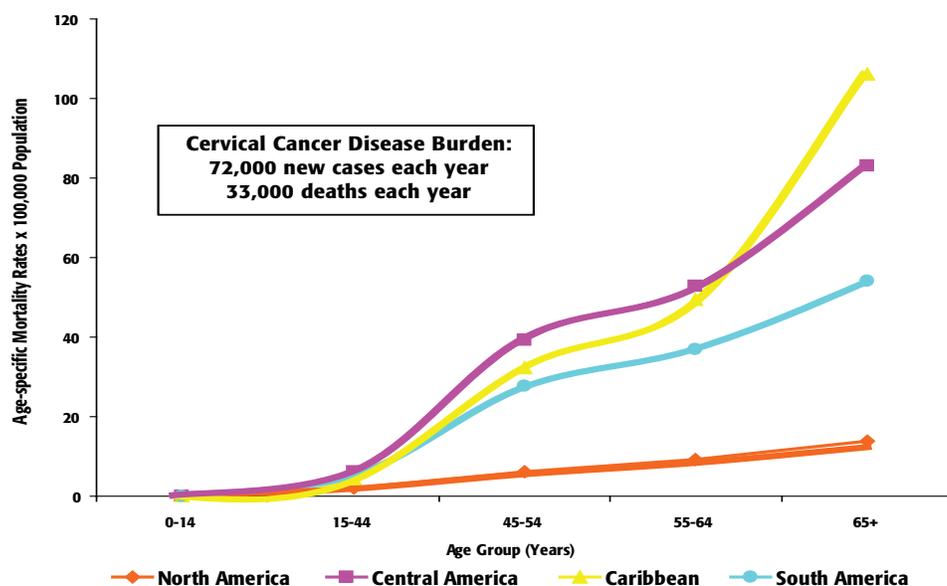
### Analysis of Vaccine Laws in the Americas: Achieving Equity and Access for All

Although countries of Latin America and the Caribbean have relatively high vaccination rates, the improvement in vaccine coverage has slowed in recent years, and there are issues regarding the equity of access to vaccines as well as the long-term sustainability of vaccine programs in the Region.

Traditionally, vaccine laws in Latin America and the Caribbean have been used to guarantee the sustainability of immunization programs. A previous analysis of vaccine laws in the Region identified a wide variability in both the types of laws and their efficacy. Because one of the greatest challenges in improving vaccine coverage relates to the financing and procurement of vaccines, the Comprehensive Family Immunization Project (IM) of the Pan American Health Organization (PAHO), which is dedicated to improving vaccination rates in the Region, has a particular interest in assuring vaccine laws use best practices.

The vaccine procurement laws assessed in this study include laws creating a tax exemption for the importation of vaccines, laws creating health or vaccine funds, and laws creating legal commitment to purchase vaccines through the PAHO Revolving Fund. The objective of this study was to attempt to identify characteristics of these vaccine laws

Figure 1. Cervical Cancer: Age-specific Mortality Rates by Sub-region, the Americas



Source: International Agency for Research on Cancer (IARC), 2004.

**VACCINE LAWS** from page 1

that correlated with health outcomes, such as improved vaccination coverage rates, equity of vaccine coverage, and effective management of resources. Other considerations included the needs and concerns of the various stakeholders: multinational and domestic vaccine producers, and the PAHO Member States enacting the proposed laws.

When each of the laws were compared on the basis of these criteria, it became clear that the legal commitment to purchase vaccines through

the Revolving Fund produced results most in line with improved vaccination coverage and other health benefits. The enactment of laws committing to purchase vaccines through the Revolving Fund and laws creating a tax exemption for imported vaccines both suggested improvements in vaccine coverage and the effective management of resources, and were able to do so with significant cost-savings.

Over time, the legal commitment to purchase vaccines through the Revolving Fund may lead to more equitable vaccination coverage. Such laws are politically feasible, and provide a cost-

effective way to increase access to vaccines and the sustainability of vaccination programs. PAHO will continue to work towards developing model legislation that will better ensure the sustainability of national immunization programs, while improving vaccination coverage, program performance, and the introduction of new vaccines. ■

**Editorial Note:** The Editors would like to thank Erin Estes, graduate student at the University of George Washington School of Law and School of Public Health and Health Services for her excellent work on this project.

cancer screening; to review the state of cervical cancer prevention programs in the Americas; and to make recommendations regarding strengthening cervical cancer prevention and control programs.

## Summary of Topics Discussed

The meeting consisted of a series of plenary presentations over two days, followed by a one-day working group session exclusively for Ministry of Health participants to discuss country recommendations. The following is a summary of the topics presented and discussed.

### 1. Epidemiology and burden of disease:

- In the Americas, an estimated 72,000 new cases and 33,000 deaths occur each year from cervical cancer. It is the leading cause of cancer death in women in most countries in the Region (Figure 1).
- Cervical cancer is a disease that affects women in the prime of their lives, and it is estimated that in Latin America and the Caribbean (LAC) cervical cancer is responsible for 2.5 million years life lost.
- The overall HPV prevalence in the Americas is 15.6%; 11% in North America and 20% in Central and South America and the Caribbean.
- HPV types 16 & 17 account for 70% of HPV types, and there is very little variation between countries.
- A significant increase in cervical cancer incidence is projected for 2020: 74% increase in Central America; 55% increase in South America; 36% increase in the Caribbean.

### 2. Cervical cancer prevention and screening:

- Considering that HPV infection is acquired in the adolescent period, preventing HPV infection among adolescents is an integral part of cervical cancer programs.

- Primary prevention strategies include promoting healthy sexual behavior, delayed sexual initiation, reduction in number of sexual partners, and condom use.
- To be effective, cervical cancer screening programs require high coverage of women at risk, assured treatment for all women with abnormal screening test results, and high quality testing. In LAC, programs have had no or little impact on mortality rates because of the difficulties in achieving these three indicators.
- The Pap test has faced significant challenges in LAC due to the infrastructure needs, limited number of cytotechnicians, and requirements for quality assurance.
- Alternative screening tests, namely visual inspection with acetic acid (VIA) and HPV DNA test (Hybrid Capture II) are now available as alternatives to the Pap test.
- A low-cost, rapid result HPV test named CareHPV is in development and expected to be commercialized in 2009. This test has tremendous potential to improve the quality and effectiveness of screening programs and is expected to be an affordable alternative to the currently higher priced HPV test.

### 3. Immunization and HPV vaccines:

- Through the ProVac Initiative, PAHO is providing technical assistance to several countries with regards to making evidence-based decisions on new vaccines introduction (rotavirus, HPV, pneumococcus).
- The biggest challenge is the high price of the vaccine; price reduction to assure its sustainability is required to reduce the delay in introducing HPV vaccines in developing countries.
- The available vaccines include *Gardasil*, a quadrivalent vaccine containing HPV types 6, 11, 16, and 18, and *Cervarix*, a bivalent vaccine containing HPV types 16 and 18.
- Both vaccines are almost 100% effective in preventing HPV infection and pre-cancerous

lesions caused by the genotypes 16 and 18. Both vaccines have demonstrated a duration of protection of at least five years (latest published data) and some cross-protection against other oncogenic HPV types.

### 4. Cost effectiveness of screening and vaccination:

- Mathematical modeling for cost-effective evaluation has shown that HPV vaccination in pre-adolescent girls coupled with screening women is more cost-effective than either strategy alone.
- These models have also shown that the price of the vaccine needs to be less than \$19.50 in order to be cost-effective; and that a vaccine price of \$5 would be cost-savings.

### 5. Country experiences with alternative screening methods and HPV vaccines:

- Representatives from Colombia and Peru formally presented results from their experiences using VIA and HPV tests in their programs. Colombia will be revising its national norms to include the use of alternative methods, and Peru is scaling up the use of VIA in those areas with poor health service access. Representatives from Costa Rica, Guatemala, and Nicaragua also shared their experiences with the incorporation of alternative screening methods in their programs.
- Mexico presented its plans to introduce the HPV vaccine in the poorest 125 municipalities, beginning in September 2008, and described its experiences with testing the HPV DNA screening test. Mexico is adopting a national policy for comprehensive cervical cancer control that includes integrating the program horizontally across the adolescent health, sexual and reproductive health and immunization programs. The policy will include vaccination for girls aged 12-16 years through schools and communities, screening with the Pap test for women aged 24-34 years, and screening with

HPV test for women aged >35 years.

- In Canada, a multi-disciplinary expert advisory group evaluated the introduction of the HPV vaccine, and the country adopted a policy to introduce the vaccine into its school program. The target is to vaccinate one cohort of girls in grades 4-8. The Canadian Federal government provided provinces with \$300 million over three years to implement the HPV vaccine. To date, 8 provinces have initiated screening and coverage has ranged from 50%-80%.
- The USA licensed *Gardasil* two years ago and, based on a recommendation from ACIP,<sup>1</sup> the HPV vaccine has been incorporated into routine vaccination for females aged 11-12 years, with catch-up vaccination for females aged 13-26 years. All states have begun purchasing the vaccine and funding has been made available through the Vaccines for Children program. To date, 15.7 million doses have been distributed and vaccine delivery is through primary health care services. The acceptance

of the vaccine has been very positive among parents and girls. Major challenges have been in the delivery of the vaccine, as there is no established school-based vaccine program in the USA..

- In the Caribbean, HPV vaccination is of paramount importance and will be used as a catalyst to improve cervical cancer screening and treatment. A stakeholders meeting was convened in 2007 to discuss the issues and challenges with HPV vaccine introduction. The meeting recommendation was the vaccine should be introduced in national EPI programs, provided that a series of technical, financial, and operational considerations are addressed by governments.

## Conclusions

Country representatives adopted a declaration for enhancing comprehensive cervical cancer prevention and control in the Americas (see page 8). The declaration calls for increased action to improve the quality and coverage of screening

programs, support PAHO's Revolving Fund to negotiate affordable vaccine prices, and facilitate the introduction of the HPV vaccine into national immunization programs as soon as possible.

Countries had an opportunity to discuss the following: challenges facing their cervical cancer programs; their willingness and requirements to introduce alternative screening methods and the HPV vaccine; how strengthening cervical cancer programs can bolster adolescent health and sexual and reproductive health programs; and how PAHO/WHO can support Member States.

All countries indicated that they would introduce the HPV vaccine into their programs if the price was affordable, financing available to ensure its sustainability, and all the criteria for new vaccine introduction were satisfied. Additionally, almost all countries expressed that while they will continue to utilize the Pap test, they are willing to introduce alternative screening approaches, particularly in settings where the effectiveness of the Pap test has been limited. ■

<sup>1</sup> Advisory Committee on Immunization Practices.

## HPV Meeting in Mexico City Summary of Needs Expressed by Member States for Support from PAHO/WHO

- **Advocacy** to raise political support for strengthening comprehensive cervical cancer prevention and control programs, and to make vaccine prices affordable.
- **Technical assistance**, particularly for norms and guidelines, action plans, strengthening laboratories, information systems and evaluation indicators, and integrating cervical cancer into existing adolescent health and sexual and reproductive health programs.
- **Operational research** for HPV vaccine introduction (e.g., acceptability studies, cost-effective evaluations, etc.) and alternative screening methods (e.g., demonstration projects on VIA screening).
- **Information, Education, and Communication strategy and materials** for the public and for health professionals to raise awareness and address some of the social, cultural, and scientific barriers regarding cervical cancer, including HPV vaccines and alternative screening methods.
- **Training and capacity-building** for cervical cancer program management, as well as technical aspects, such as screening procedures and laboratory methods.
- **Information-sharing** through the establishment of a virtual community of practice, distribution of newsletters, publications, and exchange of best practices and lessons learned between countries.
- **Negotiations with vaccine manufacturers** for an affordable price and for vaccine presentation/packaging suitable for countries.
- **Purchase the HPV vaccine** through the PAHO Revolving Fund.
- **Creation of an HPV/cervical cancer prevention laboratory network.**

## WHO Meeting on the Standardization of HPV Assays and the Role of WHO HPV LabNet in Supporting Vaccine Introduction

The WHO global human papillomavirus (HPV) laboratory network (LabNet) was established in 2006, in anticipation of the implementation of new prophylactic HPV vaccines. Its mission is to contribute to improving the quality of laboratory services for effective surveillance and monitoring

of HPV vaccination impact through enhanced, state-of-the-art laboratory support. To date, two Global Reference Laboratories and seven Regional Reference Laboratories have been assigned to the WHO HPV LabNet.

On 23-25 January 2008, WHO convened a meet-

ing in Geneva to review the activities of the HPV LabNet in its first year and to plan for the future demands of vaccination programs. The meeting placed particular emphasis on the harmonization of HPV LabNet practices and standardization of HPV assays.

The specific objectives were to review the activities of the LabNet over the past year; address critical issues and gaps within the LabNet; promote communications between LabNet members and with the WHO Regions; and assist in developing the work plan for the WHO HPV LabNet so that

it functions efficiently and prioritizes its activities effectively. Other specific critical issues reviewed included the following:

- Presenting WHO strategic programs in supporting HPV vaccine introduction;
- Reviewing the current status of standardization in HPV testing and experiences from industry about laboratory methodologies for clinical evaluation of HPV vaccines;
- Reviewing progress in development of International Standards and identifying potential needs for additional standards and reference reagents;
- Discussing ways of building the capacity of the global WHO HPV LabNet;
- Seeking perspectives from the WHO Regions and the other organizations about the role and function of the LabNet in supporting HPV vaccine implementation; and

- Reviewing a draft Global HPV Laboratory Manual.

PAHO presented the perspectives and needs from the Region of the Americas, where cervical cancer persists as a significant public health problem despite the long standing availability and application of Pap smear screening in most Member States. Sentinel surveillance strategies for HPV prevalence among women should be implemented in some countries of the Americas in order to (1) estimate the incidence and prevalence of HPV types by geographic location in both pre- and post-vaccination eras; (2) be supported by the WHO HPV LabNet with standardized procedures and quality control guidance; (3) gather baseline data for assessing the pre-vaccine HPV prevalence and compiling evidence for vaccine introduction and informing decision-makers on cancer prevention activities; (4) monitor the

impact and effectiveness of HPV vaccine introduction; and (5) provide evidence to determine whether or not policy changes may be indicated.

Within the Region of the Americas, the U.S. Centers for Disease Control and Prevention (CDC) has been appointed as a Global Reference Laboratory. It is anticipated that two PAHO regional laboratories will be nominated along with 6 to 8 national laboratories. PAHO will facilitate the activities of the laboratory network by assuring data quality; assisting laboratories in accreditation; supporting meetings, training, and courses; promoting research and test validation; and identifying and preparing funding proposals to mobilize financial resources in support of national and regional plans. ■

**Note:** For further information on the WHO HPV LabNet and for a full copy of the report, please consult [http://www.who.int/biologicals/areas/human\\_papillomavirus/WHO\\_HPV\\_LabNet/en/index.html](http://www.who.int/biologicals/areas/human_papillomavirus/WHO_HPV_LabNet/en/index.html).

## Main Areas of Work for the HPV Laboratory Network

The HPV laboratory network will ensure the availability of competent laboratory services worldwide. Its structure will be based on three responsibility levels which will be assumed voluntarily by institutions included in the network, namely: global reference laboratories; regional and sub-regional laboratories; and national/local laboratories. Initially at least one HPV regional laboratory for each continent/WHO Region will be established. Each laboratory is expected to be active in the following four areas:

**Scientific and technical advice:** providing scientific advice to the HPV laboratory network in its region, in virological and serological surveillance of HPV infections; collaborating with local and regional public health and research institutions, as well as with WHO and other international agencies, on monitoring HPV vaccination; and disseminating knowledge on, and the use of, HPV international standard reagents to improve accuracy of genotyping, and serological measurements and derived information.

**Quality assurance:** participating in the development of guidelines and Standard Operational Procedures for establishing a regional laboratory-based quality control program; serving as a resource for storage and distribution of standardized reagents, proficiency panels and cell lines to other laboratories as required; ensuring that all HPV assays perform at acceptable levels of sensitivity, specificity and reproducibility; validation of critical test reagents used in WHO studies by the relevant WHO reference laboratory prior to utilization; participating in on-site visits to other countries/provinces as part of the WHO evaluation team, if requested; and performing confirmatory testing on samples from other laboratories in the project area, if necessary.

**Training:** contributing to developing training materials for HPV laboratory research and surveillance within its respective region; coordinating and participating in WHO laboratory training workshops for staff within the laboratory network, as required by WHO; assuring that sufficiently

trained and qualified personnel are available to fulfill the tasks related to HPV detection and serology; and provide training on the appropriate collection of clinical samples for HPV typing.

**Communication:** promoting and participating in the exchange of information between national, regional, and reference laboratories, and the HPV laboratory network; raising funds, in consultation with the WHO laboratory focal point, for specific activities related to the network; and providing information, within determined timelines, to WHO on laboratory activities and an annual compilation of virological and serological surveillance.

**Reference:**

WHO technical workshop on the role of the laboratory detection of human papillomavirus in global disease prevention and control. WHO/IVB/06.04. World Health Organization. Accessible at [http://whqlibdoc.who.int/hq/2006/WHO\\_IVB\\_06.04\\_eng.pdf](http://whqlibdoc.who.int/hq/2006/WHO_IVB_06.04_eng.pdf).

## Nicaragua: National Vaccination Campaigns and Community Participation

The Ministry of Health (MOH) of Nicaragua has long prioritized community participation in all immunization activities. Community leaders, brigades, volunteers, midwives, and youth, have united repeatedly with great enthusiasm in multiple education, prevention, and mobilization

activities, such as the national health campaigns. National health campaigns are activities promoted and organized by the MOH and the National Health Council (representing community organizations) in the areas of education and early prevention. The goal of the activities is to im-

prove the health of all citizens. Over the years, the MOH has launched hygiene and sanitation campaigns to improve environmental conditions; to reduce the presence of the mosquito responsible for yellow fever, a significant public health threat; to prevent outbreaks of dengue, leptospirosis, diarrhea, and malaria; and to promote national vaccination campaigns, the campaigns with the most visibility.

## Vaccination Campaigns

In 1980, shortly after creating the national health system, the Nicaraguan government decided to conduct national health campaigns each year. Illiteracy levels among the population were high and health services in rural communities were practically nonexistent. The national health authorities built many new health centers and assigned doctors and nurses to communities that had never received health services. The availability of preventive and curative programs greatly improved, leading to the implementation of three national vaccination campaigns per year during the dry season (first half of the year), usually in February, March, April, and May. The campaigns resulted in the vaccination of 600,000 children (per year?) aged <5 years with OPV, DTP, and measles vaccines. Consequently, poliomyelitis was eliminated in 1981, and the occurrence of diphtheria, whooping cough, and tetanus was drastically reduced.

In 1992, the health authorities decided to reduce the number of national health campaigns to two per year. By then, vaccination coverage levels were much higher than in 1980 (DTP3 reported

coverage was 15% in 1980, compared to 74% in 1992) and the health education among the population had greatly improved. In accordance with the new model of integral health care adopted by Nicaragua at the time, the health authorities were looking to consolidate routine vaccination. Therefore, the MOH decided to conduct only two campaigns per year and analyze the behavior of parents, who were responsible for bringing their children to vaccination posts.

In 2003, the health authorities decided to conduct only one national health campaign per year. Their original intent was to completely eliminate the campaigns due to economic reasons, since the savings generated could have been diverted to other activities. However, after consultation with SILAIS<sup>1</sup> health directors, the case was made that some territories, mainly the Center and Atlantic regions, would not achieve coverage beyond 80% and 60%, respectively, without the national health campaigns. In practical terms, national health campaigns represent a crucial complement to routine vaccination, allowing for a high and universal coverage to be reached (see shaded box).

Since 2003, the Pan American Health Organization has promoted Vaccination Week in the Americas (VWA), held in April throughout the region

1 Sistemas Locales de Atención Integral en Salud: Local Systems for Integrated Health Care.

including Nicaragua. The initiative carries high political and technical significance and serves as a catalyst for promoting vaccination activities and educating populations regarding health matters in the Region of the Americas.

The national health campaigns currently offer all children an immunization package that includes OPV, pentavalent, MMR, DT, TT, and rotavirus vaccines. Since 1994, vitamin A supplements, antiparasitics, oral rehydration salts, iron salts, and educational activities are also provided.

## Community Participation

Since 1980, the Nicaraguan government has strongly encouraged community participation in national health campaigns in an effort to promote health education. The population has responded with much enthusiasm and demonstrated extraordinary commitment, in urban and rural areas alike and even in areas of armed conflict. The National Popular Health Council, regional health councils, municipal organizations, and health centers were key organizations that ensured the participation of thousands of youth, students, teachers, community leaders, and health workers in the fight to achieve better health for everyone, especially children and women.

A powerful tool to conduct immunization activities has been the health brigades. Brigade members are predominantly women across all age



Photos 1 and 2. Courtesy Dr. Juan José Amador.

groups. Being a health brigade member has become a tradition passed down with much pride from parents to children. People feel motivated to belong to a health brigade because they know their communities will benefit. In recent years, 50,000 members (i.e., 1% of the national population) have participated in brigade activities. All are volunteers who receive no monetary compensation for their services: they are anonymous heroes working for the well being of the country. Civic participation in the national vaccination campaigns is essential: approximately 10,000 vaccination posts are set up in one weekend throughout the national territory. Each post is staffed with one MOH representative and at least five community brigade members. The vaccination post is usually the house of a community member or health leader, a community center, or a school. Health personnel, mostly nurses, bring vaccines to vaccination posts in cold boxes. Vaccine doses, corresponding to the number of children served by the post, are delivered with all the necessary immunization materials, especially disposable syringes.

One brigade member is in charge of census data and vaccination paperwork. The health professional applies the vaccines, taking into consideration the age of the child and his or her vaccination record. Additionally, vitamin A and an oral anthelmintic are administered, at ages 6 months and 2 years or older. The other brigade workers record all the vaccines administered on the vaccination card. They also raise awareness in the neighborhoods by organizing

other activities, such as games for the children, and providing a festive, colorful atmosphere. The private sector and other governmental institutions lend support by providing vehicles and gas to help with the transportation of health personnel throughout the country.

At day's end on Saturday and Sunday, a report of vaccinated children is prepared, so that, on Monday, the MOH can announce the results throughout Nicaraguan.

Goals are usually met with more than 90% of children visiting national health campaign vaccination posts. Oral polio vaccine is administered to all children, regardless of the number of doses received previously. Other vaccines are administered based on individual necessity, as reflected in the child's vaccination card. In Nicaragua, close to 35% of vaccine doses applied in one year are administered during campaigns, while the remaining 65% are administered during routine vaccination activities.

## Conclusion

The promotion of community participation in health activities is a significant accomplishment



Photo 3. Courtesy Dr. Juan José Amador.

of Nicaragua's health system. A total of 25,000 health workers, especially primary care workers promoting community participation, interact with the population on a daily basis. This long standing interaction between health workers and health brigade members has resulted in a remarkable model of community work, benefiting the health of all Nicaraguans, but especially the country's most precious resource: its children. ■

**Contributed by:** Dr. Juan José Amador, former General Health Director (1991-2007), Ministry of Health, Nicaragua and current Director, Health Systems and Technology, PATH-Nicaragua.

## Transitioning from Outreach to Fixed-post Vaccination in Nicaragua

Since 1980, the MOH has organized and conducted 65 national vaccination campaigns, also known as national health campaigns. Based on information and data gathered over time, the Nicaraguan health authorities have developed seasoned strategies to conduct these mass activities. However, outreach activities during national health campaigns naturally compete with fixed-post vaccination.

There are many advantages to vaccination campaigns:

- The mass application of a vaccine in a short period of time is a well-known tactic to block the transmission of a particular pathogen;
- The advertisement of campaign activities in the media ultimately serves the promotion of overall immunization;
- Educational activities among brigade mem-

bers (training workshops, coordination meetings) will also serve to increase health education among the general population;

- Campaigns foster positive interaction between health personnel and the community;
- Campaigns allow the capture of children with incomplete schedules; and
- Campaigns offer a way to access hard-to-reach areas where there are no permanent health personnel.

Campaigns, however, have two major shortcomings. First, health personnel almost exclusively dedicate themselves to the campaign (lasting approximately 4 weeks), the delivery of other health care services might suffer during that time. Therefore, a balance must be found so that national vaccination campaigns do not af-

fect the productivity of routine vaccination at a time when health authorities are seeking to strengthen their regular immunization program. Second, campaigns require additional budgetary funds. In Nicaragua's case, for example, it is estimated that approximately one US dollar is required for each child aged <5 years for operational costs only (gas, stipends, social communication). Top level decision-makers would rather not invest in vaccination campaigns since, in their opinion, routine vaccination should provide an adequate response to the needs of the population. Based on these two shortcomings, Nicaraguan health authorities have come to the conclusion that vaccination campaigns should be reduced from three to one per year.

## Reported Cases of Selected Diseases, 2006-2007

### Number of reported cases of pertussis, diphtheria, tetanus, neonatal tetanus (NNT), and mumps

Country	Pertussis		Diphtheria		Tetanus (Non-NNT)		Neonatal Tetanus		Mumps	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
Anguilla	0	0	0	0	0	0	0	0	0	0
Antigua & Barbuda	0	0	0	0	0	0	0	0	0	...
Argentina	1,607	2,587	0	0	5	6	0	0	11,461	11,575
Aruba	...	...	...	...	...	...	...	...	...	...
Bahamas	0	0	0	0	0	1	0	0	0	0
Barbados	0	0	0	0	0	2	0	0	0	0
Belize	0	0	0	0	1	0	0	0	24	0
Bermuda	0	0	0	0	0	0	0	0	0	0
Bolivia	6	0	0	0	8	9	2	1	...	...
Brazil	797	596	9	0	444	281	8	5	...	...
Canada	1,945	1,472	0	5	2	5	0	0	37	1,108
Cayman Islands	0	0	0	0	0	0	0	0	1	1
Chile	1,285	1,030	0	0	7	3	0	0	1,494	1,387
Colombia	233	125	0	0	59	65	4	4	2,243	2,294
Costa Rica	1,037	2,024	0	0	1	1	0	0	...	0
Cuba	0	0	0	0	3	0	0	0	882	267
Dominica	0	0	0	0	0	0	0	0	0	0
Dominican Republic	17	10	16	4	65	64	4	2	...	...
Ecuador	23	84	0	0	43	15	4	2	935	11
El Salvador	5	2	0	0	5	6	0	0	979	329
French Guiana	...	...	...	...	...	...	...	...	...	...
Grenada	0	0	0	0	0	1	0	0	0	0
Guadeloupe	...	...	...	...	...	...	...	...	...	...
Guatemala	48	97	0	0	6	3	2	2	1	2
Guyana	0	3	0	0	0	0	0	0	0	0
Haiti	...	824	260	94	47	92	53	38	...	...
Honduras	138	71	0	0	18	13	0	0	456	233
Jamaica	1	0	0	0	9	10	0	0	2	0
Martinique	...	...	...	...	...	...	...	...	...	...
Mexico	171	164	0	0	50	45	4	4	8,336	7,880
Montserrat	0	0	0	0	0	0	0	0	0	0
Netherland Antilles	...	0	...	0	...	0	...	0	...	0
Nicaragua	148	51	0	0	6	4	0	0	151	141
Panama	132	78	0	0	3	2	0	0	205	207
Paraguay	6	8	0	0	9	10	2	0	234	140
Peru	84	47	0	0	28	55	4	4	0	...
Puerto Rico	...	...	...	...	...	...	...	...	...	...
Saint-Kitts & Nevis	0	0	0	0	0	0	0	0	0	0
Saint-Lucia	0	0	0	0	0	0	0	0	1	0
Saint-Vincent & the Grenadines	0	0	0	0	0	0	0	0	0	...
Suriname	0	0	0	0	0	2	2	0	...	...
Trinidad & Tobago	0	0	0	0	0	0	0	0	13	...
Turks & Caicos Islands	0	0	0	0	0	0	0	0	0	0
United States*	15,632	7,862	0	0	41	28	0	0	6,584	800
Uruguay	15	26	0	0	2	0	0	0	1,646	2,069
Venezuela	1,183	...	0	...	34	...	4	1	2,935	19,118
Virgin Islands (UK)	0	0	0	0	0	0	0	0	0	0
Virgin Islands (US)	...	...	...	...	...	...	...	...	...	...
<b>Total</b>	<b>24,513</b>	<b>17,161</b>	<b>285</b>	<b>103</b>	<b>896</b>	<b>723</b>	<b>93</b>	<b>63</b>	<b>38,620</b>	<b>47,562</b>

... Not available

Updated: 27 October 2008

Source: 2008 PAHO-WHO/UNICEF Joint Reporting Forms (JRF) and country reports to FCH-IM/PAHO;  
 (\*) Morbidity and Mortality Weekly Report (MMWR), Vol. 57/No.42.

## MEXICO CITY DECLARATION

By Participants to the Meeting for Comprehensive Cervical Cancer Prevention and Control

### Recognizing:

That cervical cancer is one of the main causes of death in women of Latin American and the Caribbean;

That, each year, 33,000 women die in Latin America and the Caribbean due to cervical cancer;

That, should the trend continue, the number of deaths due to cervical cancer could double by 2030;

That cervical cancer mainly affects vulnerable populations, such as poor women or indigenous groups, and that the high burden of this disease in the Region, which has the highest mortality rates of cervical cancer in the world, and its economic impact in Latin America and the Caribbean are deeply concerning;

That it is now known that the human papillomavirus (HPV) is the cause of almost 100% of cervical cancer cases;

That HPV vaccines are currently available that offer great hope for preventing 70% of deaths due to the disease;

That the principal limitation to their use is their high price;

That the HPV vaccine does not replace screening, diagnosis, and treatment programs; and

That they have an opportunity to strengthen comprehensive prevention and control with the introduction of the vaccine, improving screening coverage and quality as well as diagnosis and treatment services,

### The Participants resolve:

1. To promote the programmatic integration of immunization, cancer control and prevention, adolescent health, and reproductive health in order to join forces to prevent and control cervical cancer;
2. To seize the opportunity of HPV vaccine introduction to strengthen the program for prevention and control of cervical cancer, as well as sexual and reproductive health, staff training, and screening, diagnostic, and treatment services;
3. To keep considering the immunization program as a Regional public good with high priority;
4. To consider introducing the HPV vaccine, on the basis of national technical, programmatic, operational, and financial criteria, and taking into account the need to strengthen the cold chain, epidemiological surveillance systems, and the laboratory network at national level;
5. To work with the Revolving Fund of the Pan American Health Organization to achieve affordable HPV vaccine prices so that all countries in the Region can introduce it in their national immunization programs as soon as possible;
6. To generate negotiating mechanisms and processes with high-level budget authorities to ensure the sustainability of immunization and cancer prevention and control programs.

Mexico City, Mexico, 12-13 May 2008

Signed by Argentina, Barbados, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, United States, and Venezuela.

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.

ISSN 1814-6244

Volume XXX, Number 4 • August 2008

Editor: Jon Andrus

Associate Editors: Béatrice Carpano and Carolina Danovaro



**Pan American  
Health  
Organization**



Regional Office of the  
World Health Organization

### Immunization Unit

525 Twenty-third Street, N.W.

Washington, D.C. 20037 U.S.A.

<http://www.paho.org/immunization>