

# Vaccination Week in the Americas: An Opportunity to Integrate Other Health Services With Immunization

Alba Maria Ropero-Álvarez,<sup>1</sup> Hannah J. Kurtis,<sup>1</sup> M. Carolina Danovaro-Holliday,<sup>1</sup> Cuauhtémoc Ruiz-Matus,<sup>1</sup> and Gina Tambini<sup>2</sup>

<sup>1</sup>Comprehensive Family Immunization, and <sup>2</sup>Family and Community Health (FCH), Pan American Health Organization, Washington, DC

Vaccination Week in the Americas (VWA) is an initiative of the countries and territories of the Americas that works to advance equity and access to vaccination. The initiative focuses on reaching populations with limited access to regular health services and promotes solidarity among countries. As the Expanded Program on Immunization is one of the world's best-established health programs, integrating other interventions with immunization services has been highly promoted. Using data available from the Pan American Health Organization, we explored the extent of integration of other interventions with immunization in Latin American and Caribbean (LAC) countries as part of VWA. At least 14 countries or territories have integrated other interventions with immunization during VWA. The most common integrated intervention is vitamin A supplementation, followed by deworming. However, a variety of other interventions have been integrated, such as educational activities, supplementation with vitamins and minerals, and provision of health services. Data on coverage of integrated interventions are limited. Integration of other interventions with immunization in LAC countries is widespread, and its impact and lessons learned merit further examination.

Immunization programs in the Americas have made enormous strides in reducing morbidity and mortality caused by vaccine-preventable diseases. It has been estimated that more than half of the reductions in child mortality in Latin American and Caribbean (LAC) countries are attributable to immunization [1]. National coverage levels for the basic childhood vaccines are generally >90%; polio was eradicated in 1991, endemic measles transmission was interrupted in 2002, and rubella circulation was probably interrupted in 2009 [2–5]. Despite these gains and the high coverage levels achieved by most countries, gaps in vaccination exist. Of the ~15 000 municipalities in LAC countries (third administrative level, country being first), >20% reported coverage levels

<80% in 2009, and outreach activities remain a key strategy to reach all children, particularly those with limited access to health services.

In response to the last indigenous measles outbreak in the Americas, which occurred in Colombia and Venezuela in 2002, the ministers of health of the Andean region (Bolivia, Colombia, Ecuador, Peru, and Venezuela) and Chile proposed the establishment of an annual multinational coordinated vaccination effort [6]. In 2003, the first Vaccination Week in the Americas (VWA) was celebrated with the involvement of 19 countries and territories. In the same year, all countries of the Americas approved a resolution to formally establish VWA as an initiative of the countries and territories of the region to advance equity and access to vaccination and promote solidarity among countries, or “Pan-Americanism” [7]. The initiative's overarching objective is to target populations with limited access to regular health services, thereby working to close the gaps in immunization and strengthen the Expanded Program on Immunization (EPI) in the Americas [8].

During the last 9 years, VWA has grown to become the largest multicountry health effort in the Western

Correspondence: Alba Maria Ropero-Álvarez, MPH, Pan American Health Organization, IM/FCH, 525 23rd St NW, Washington, DC 20037 (roperoal@paho.org)

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Hemisphere, with the participation of all countries and territories in the Americas and more than 350 million individuals vaccinated under the initiative's framework. Country participation in VWA is flexible, and national authorities choose activities based on current vaccination priorities. Drawing on the experiences of the Americas, other regions of the World Health Organization have developed sister initiatives; the European Region celebrated its first Immunization Week in 2005, the Eastern Mediterranean Region celebrated their first Vaccination Week in 2010, and the African and Western Pacific regions came on board with initiatives in 2011 [9–12]. All initiatives globally take place in late April.

The potential benefits of integrating other health interventions with immunization delivery have been widely discussed. The 2006–2015 Global Immunization Vision and Strategy, published by the World Health Organization and the United Nations Children's Fund (UNICEF), includes integration as a key strategic area of work [13]. Even though VWA was established as an initiative to target vulnerable populations for vaccination and guidelines on integration of other services were never produced, several LAC countries have taken advantage of the platform created by VWA to provide other health interventions along with their vaccination activities. In this article, we review VWA reports from LAC countries to the Pan American Health Organization (PAHO) to assess the extent to which integration is occurring in LAC countries as a part of this initiative.

## METHODS

We reviewed all available VWA country reports to PAHO from 2004 to 2009 (electronic and paper versions). Each year after VWA, countries are asked to report disaggregated data, when available, related to the achievement of their preestablished VWA vaccination goals, to describe vaccination activities and other integrated public health activities and trainings carried out, to analyze defined indicators (when applicable), and to report on resource mobilization, launching events, and communication efforts. Each year a small percentage of countries do not submit reports and the completeness of the country reports submitted varies considerably. To fill information gaps, we used other sources of information, such as email, phone, and travel reports. We did not include data from 2003, because this was the pilot year of VWA and limited information was available at PAHO. Although VWA is officially only 1 week long, most countries extend their vaccination activities, particularly campaigns, over the course of several weeks. As a point of reference, we consolidated VWA vaccination and communication activities into broad categories and listed them by country per year (Supplementary Tables 1 and 2). To summarize the integration of other preventative health interventions with vaccination during VWA, we identified all other interventions implemented and grouped countries by intervention and year, listing target populations (Table 1).

## RESULTS

The percentage of countries and territories participating in VWA has varied from a low of 40% (19 countries and territories) in 2003 to a high of 96% (45 countries and territories) in 2007 and 2008. There are 47 countries and territories in the Region of the Americas: 35 countries, 6 UK overseas territories, 3 constituent countries of the Kingdom of the Netherlands, and 3 public bodies within the country of the Netherlands. The French Overseas Departments are not included as part of this tally.

A wide range of vaccination activities have been implemented under the umbrella of VWA and include intensification of the routine program to complete vaccination schedules; polio eradication campaigns for young children; measles-rubella elimination campaigns; vaccination against seasonal influenza, in the Southern Hemisphere; tetanus-diphtheria vaccination, targeting women of childbearing age and young adults of both sexes; campaigns targeting occupational risk groups such as healthcare workers, farmers, and fishermen; introduction of new vaccines; and information, education, and communication activities related to vaccination for healthcare workers and/or the general public, among others (Supplementary Table 1).

The most common intervention integrated with vaccination during VWA was vitamin A supplementation. Eight LAC countries have provided vitamin A supplements as a part of VWA; 7 countries have done so for  $\geq 3$  years, and 2 countries have done so over the entire period examined. The provision of deworming tablets was the second most common integrated intervention. Three countries have distributed deworming tablets for  $\geq 1$  year of VWA, and 2 have done so during the entire period examined. Other integrated interventions included educational activities about health topics other than immunization; supplementation with iron, folic acid, and other vitamins and minerals; distribution of oral rehydration solution; provision of health and dental care in remote areas; identification of children not included in the civil registry of persons of one particular country; promotion of eye tumor screening for children; and other health screenings (Pap smears, hypertension, diabetes, and tuberculosis) (Table 1). Although the number of vaccine doses and, in most cases, coverage data are available for most countries and territories participating in VWA, data on the results of integrated interventions are limited.

## DISCUSSION

VWA has been a successful initiative for LAC countries to conduct supplementary immunization activities, target hard-to-reach groups, introduce new vaccines, and maintain immunization on the political agenda. Although the integration of other preventative interventions with VWA was never put forth as part of the framework of this initiative at the regional level, it has become clear that many LAC countries have chosen to take advantage of VWA as a platform for such activities.

**Table 1. Summary of Integrated Interventions Carried Out During Vaccination Week in the Americas**

Integrated Intervention by Year and Country or Territory	Target Population or Topic for Informational Campaigns	Geographic Area
<b>Vitamin A</b>		
2004		
Bolivia	Age <5 years	National
Guatemala	Age <6 years	National
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Nicaragua	Age <6 years	National
2005		
Bolivia	Age 6 mo to 4 years	National
Guatemala	Age 6 mo to 4 years	National
Haiti	Age 6 mo to <5 years	Subnational
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Nicaragua	Age 6 mo to 5 years	National
2006		
Dominican Republic	Age 6 mo to 3 years	National
Guatemala	Age 6 mo to 2 years	National
Haiti	Age 6 mo to 4 years	Subnational
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Nicaragua	Age 6 mo to 5 years	National
Panama	Age 6 mo to 5 years	Subnational
2007		
Dominican Republic	Age 6 mo to <2 years	National
Haiti	Age 6 mo to 4 years	Subnational
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Nicaragua	Age 6 mo to 4 years	National
Panama	Unspecified	Subnational
2008		
Bolivia	Age <4 years	Subnational
Haiti	Age 1–5 years	National
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Nicaragua	Age 6–23 months	National
Panama	Age 6 mo to 5 years	Subnational
2009		
Haiti	Age 1–4 years	Subnational
Honduras	Age 6 mo to 4 years; postpartum women	National
Mexico	Age 6 mo to 4 years	National
Panama	Unspecified	Subnational
<b>Deworming</b>		
2004		
Mexico	Age 2–14 years	National
Nicaragua	Age <6 years	National
2005		
Mexico	Age 2–14 years	National
Nicaragua	Age 2–12 years	National
2006		
Mexico	Age 2–14 years	National
Nicaragua	Age 2–12 years	National

Table 1 continued.

Integrated Intervention by Year and Country or Territory	Target Population or Topic for Informational Campaigns	Geographic Area
2007		
Haiti	Age 5–16 years	Subnational
Mexico	Age 2–14 years	National
Nicaragua	Age 2–12 years	National
2008		
Haiti	School-aged children	National
Mexico	Age 2–14 years	National
Nicaragua	Age 2–12 years	National
2009		
Mexico	Age 2–14 years	National
Nicaragua	Age 2–12 years	National
Nonvaccination informational campaigns/educational messages		
2004–2006		
Honduras	Promotion of eye tumor screening for children	National
2007		
Honduras	Promotion of eye tumor screening for children and exclusive breast-feeding for first 6 mo of life	National
2008		
Honduras	Promotion of eye tumor screening for children	National
St Kitts and Nevis	Occupational health issues of farmers and fishermen (radio announcements)	National
2009		
Honduras	Promotion of eye tumor screening for children	National
Folic acid		
2004–2009		
Mexico	Pregnant women and women of childbearing age	National
Iron		
2004–2009		
Mexico	Children aged 6 mo to 9 years, boys and men aged 10–19 years, girls and women aged 10–44 years, and pregnant women	National
Oral rehydration therapy		
2004–2009		
Mexico	Distributed to mothers of children <5 years old	National
Vitamins and minerals		
2004–2009		
Mexico	Children aged 6 mo to 9 years, boys and men aged 10–19 years, girls and women aged 10–44 years, and pregnant women	National
Medical/dental outreach		
2007		
Guyana	Populations of remote communities	Subnational
2008		
Border, Belize, and Mexico	Border community	Subnational

Table 1 continued.

Integrated Intervention by Year and Country or Territory	Target Population or Topic for Informational Campaigns	Geographic Area
2009		
Guyana	Populations of remote communities	Subnational
Screening		
2008		
Montserrat (tuberculosis)	Sri Lankan Community	Subnational
St Maarten (diabetes)	Parents of children who attended a vaccination open house	Subnational
Border, Belize, and Mexico (Pap smear, diabetes/hypertension)	Border community	Subnational
Health fair		
2007		
Guyana	General population	Subnational
2008		
Border, Belize, and Mexico	General population	Subnational
Guyana	General population	Subnational
2009		
Bolivia	General population	Subnational
Guyana	General population	Subnational
Uruguay	General population	Subnational
Identification and registry of children in the civil registry of persons		
2009		
Nicaragua	Children and adolescents	National

Some countries have consistently integrated other preventative interventions with VWA, and others have done so more sporadically. It is likely that countries that regularly integrate interventions generally have closer coordination among health programs at the national level. Other factors that probably affect sustained integration include whether the yearly calendar of activities in both health programs coincides and whether the program to be integrated has consistent funding.

It has been discussed that linking another intervention to a strong immunization program has the possibility to quickly increase coverage and impact for the added intervention [14]. For countries doing national VWA interventions and reporting coverage for both vaccination and integrated interventions, coverage seems to be high for both, and the targets are generally comparable. For example, during VWA 2009, Mexico reported national vaccination coverage ranging from 80.5% (Measles, Mumps, Rubella [MMR] vaccine dose to first-graders) to 107% (Diphtheria, Pertussis, Tetanus, Polio, Haemophilus Influenzae Type B vaccine [DaPT+IPV+Hib]) and coverage of both vitamin A supplementation and deworming treatment of 100%, based on their predefined target goals for each. In 2008, Nicaragua reported coverage ranging from 95% (Measles, Rubella [MR] vaccine) to 116% (Diphtheria, Hepatitis B, Haemophilus Influenzae Type B vaccine [DTP-HepB-Hib]) and coverage of vitamin A supplementation and deworming treatment at 96% and 90%, respectively.

In our review, however, routine coverage levels did not seem to be a determining factor as to whether an LAC country decided to integrate another intervention with immunization during VWA. Countries with routine coverage of >95% for several years, such as Mexico, have routinely integrated other health interventions during VWA. However, Haiti, the country with the lowest performance of all LAC countries, having never reached coverage of >70%, has integrated other services as well. It is not possible to assess the impact of the integration on vaccination coverage with the available data, but this is an important area for further investigation.

It should be noted that the integration of other health interventions with routine vaccination services has occurred in several LAC countries, predating the establishment of VWA. Belize, Bolivia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Peru, and perhaps other countries have historically integrated the delivery of vitamin A supplementation into their routine vaccine delivery, as well as in other annual campaigns [15]. In Mexico, deworming efforts have been part of National Health Week since 1993; VWA occurs as part of the Second National Health Week in this country each year [16]. Additionally, Argentina, Aruba, Bahamas, Barbados, Bermuda, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Mexico, the former Netherland Antilles, Nicaragua, Panama, Paraguay, Peru, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, and Trinidad and

Tobago deliver a package of interventions, including immunization, as part of their school-based health programs, which are often integrated with oral health programs. Nevertheless, a recent systematic review on integration of immunization with other interventions in the developing world identified only 1 published article that presented data from Peru in a clinical trial integrating vitamin A supplementation into immunization services [14, 17]. Data from most of the integration activities in LAC countries are only available at the national level. The potential to further evaluate and document the lessons learned from LAC countries on the integration of other interventions with immunization is an important subject that remains to be explored.

Our article has several important limitations. First, we are using secondary data to explore the extent of integration of other interventions with vaccination as part of VWA. Although all participating countries are asked to annually report on a standardized list of items, including any integrated interventions that took place, the reporting of VWA results to PAHO varies widely by country in format, level of detail, and completeness. Thus, some integrated activities that took place may inadvertently be excluded from this analysis. Moreover, because vaccination has always been the primary focus of VWA, integrated interventions by countries are often described only superficially, without quantitative detail on coverage or other measures of impact. Such irregularities in data restrict the ability to compare data across countries and over time.

This review provides insight into the degree and type of integration that occurs during VWA in LAC countries and suggests that LAC countries are integrating other interventions with immunization to a much larger extent than was known internationally based on the peer-reviewed and gray literature. In 2010 and 2011, even more countries, particularly in the English-speaking Caribbean, integrated interventions during VWA efforts after informal encouragement by PAHO subregional offices. This summary of integration during VWA points to the need to promote better and more complete reporting of integrated activities and may serve as a baseline to plan for additional evaluations of integration practices in LAC.

## Supplementary Data

Supplementary materials are available at *The Journal of Infectious Diseases* online ([http://www.oxfordjournals.org/our\\_journals/jid/](http://www.oxfordjournals.org/our_journals/jid/)). Supplementary materials consist of data provided by the author that are published to benefit the reader. The posted materials are not copyedited. The contents of all supplementary data are the sole responsibility of the authors. Questions or messages regarding errors should be addressed to the author.

## Notes

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