



Pan American Health Organization



Regional Office of the
World Health Organization

<http://www.paho.org>

The Unfinished Agenda of Immunizations: Lessons Learned with Seasonal Influenza Vaccination



Objectives

- **Unfinished Agenda of Immunization in the Americas**
- **Uptake of Seasonal Influenza**
- **Lessons Learned**



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Specific Program Strategies

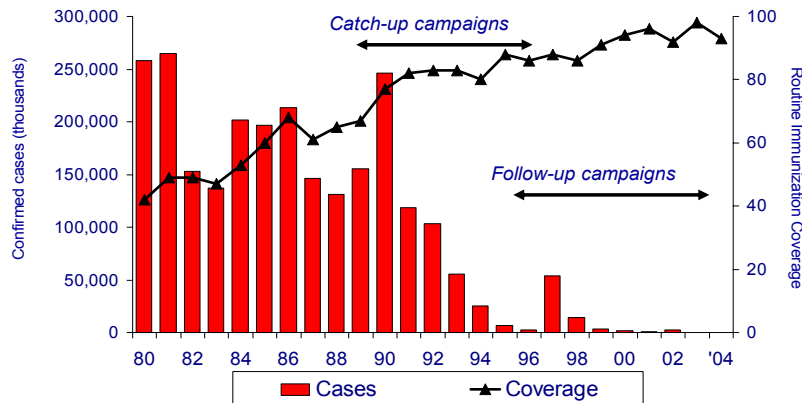
- **Eliminate rubella and congenital rubella syndrome**
- **Sustain progress of measles elimination**
- **Sustain progress in polio eradication**
- **Strengthen information management**
- **Introduce new and underutilized vaccines**



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Umbrella of Protection in the Americas

Immunization Coverage & Number of Reported Measles Cases - Region of the Americas, 1980-2004**

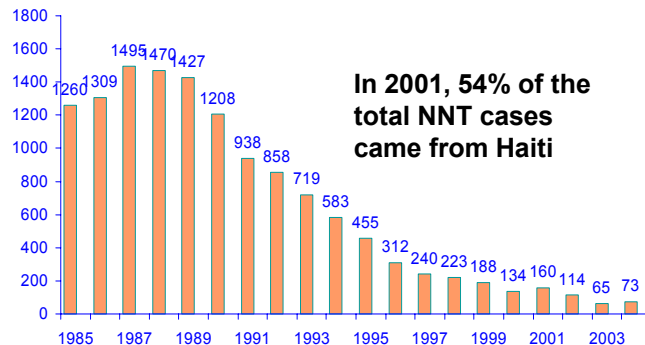


* 2003 - 105 confirmed cases

Coverage data for children <1 year of age, coverage data is provisional

Neonatal Tetanus in Latin America 1985 - 2004

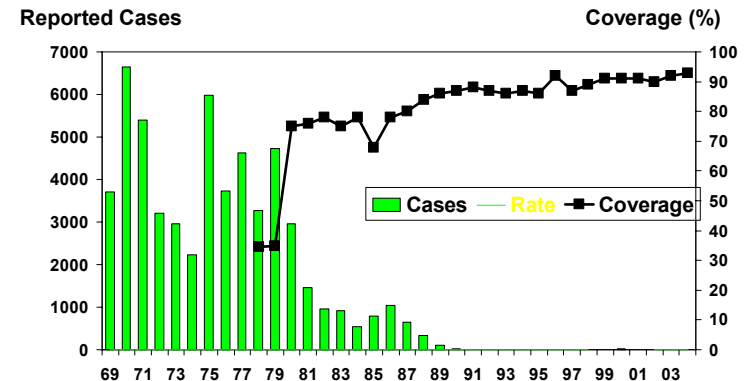
Number of cases



In 2001, 54% of the total NNT cases came from Haiti

Countries with cases in the last 3 years: Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, & Venezuela

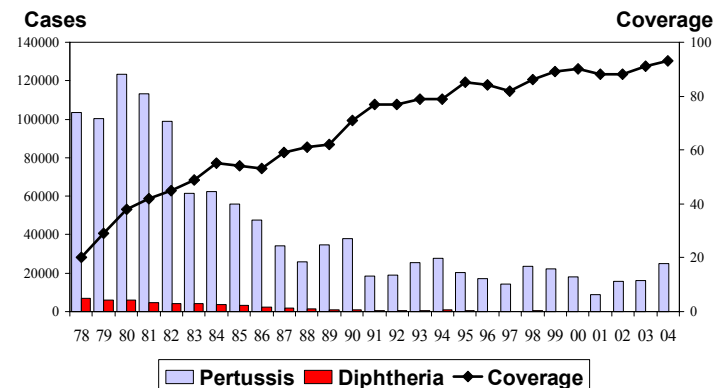
Immunization Coverage in OPV3 and Paralytic Poliomyelitis Incidence. Region of the Americas, 1969-2004*



Type-1 vaccine-derived virus in 2000 and 2001

* Coverage data for children <1 year-old, coverage data is provisional

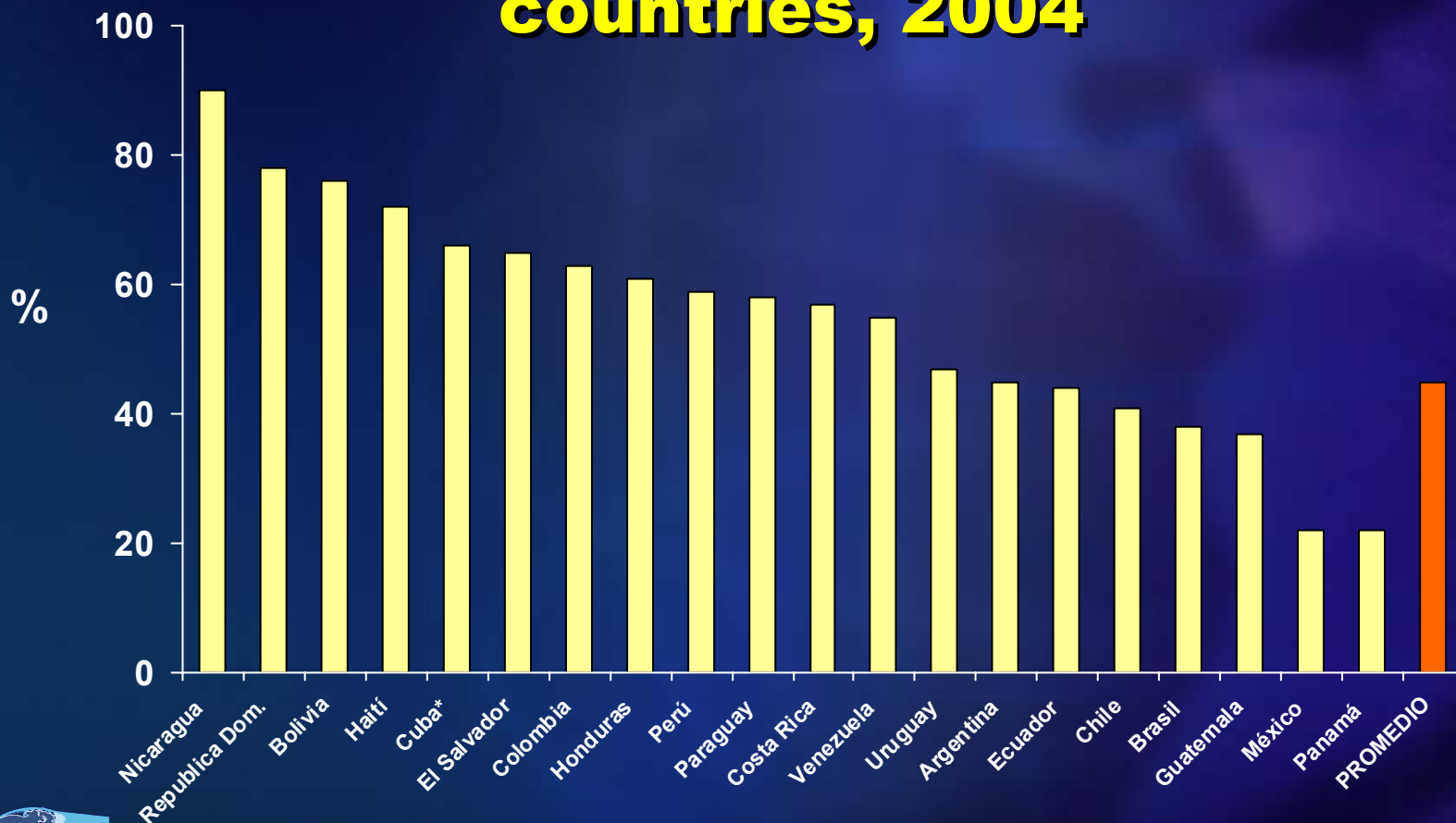
Number of Reported Diphtheria and Pertussis Cases and DPT3 Coverage in Children <1 year-old Region of the Americas, 1978-2004**



* Provisional data

Coverage data for children <1 year-old

Unfinished Agenda: Proportion of Municipalities with DPT3 Coverage <95% in Children <1 yr, selected countries, 2004



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Source: Countries reporting to PAHO/WHO/UNICEF using the joint notification form
 * Cuba experienced a DPT vaccine shortage in 2003-2004. Prior to the shortage, in 2002, only 6% of municipalities had coverages below 95%



Inmunización

Introduction of Influenza vaccine in the Americas, 1975-06



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Seasonal Influenza Vaccination

- **PAHO's Technical Advisory Group on Vaccine Preventable Diseases (TAG – 2004) recommended yearly seasonal influenza vaccination for:**
 - Population aged 60 years and over
 - Chronically ill individuals,
 - Immunodeficient populations
 - Health professionals
 - Pregnant women
- **PAHO encourages countries to introduce yearly seasonal vaccination in routine programs for children from 6-23 months of age**
- **PAHO also supports economic studies of seasonal vaccination: e.g. Costa Rica**



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EPI Newsletter

Expanded Program on Immunization in the Americas

Volume XXVI, Number 3

IMMUNIZE AND PROTECT YOUR CHILDREN

June 2004

Influenza Vaccination among Risk Groups in Costa Rica: An Evidence-based Decision

Influenza is a highly infectious viral disease characterized by seasonal outbreaks. Attack rates are usually high, resulting in an increase in doctor visits and hospitalizations that can be quite concerning in view of the threat of a pandemic. Influenza mortality refers not only to the disease caused by the virus, but also to the complications it can cause among people suffering from chronic diseases and among demographic groups at risk¹.

Following an analysis of the epidemiology of influenza and its complications, the health authorities of Costa Rica officially introduced a plan of action aimed at strengthening surveillance for influenza virus through the development of a network of sentinel sites in Costa Rica. The three components of the plan of action were²:

1. Strengthening surveillance for influenza and other respiratory viruses;
2. Vaccinating high-risk groups against influenza; and
3. Standardizing protocols for clinical management of respiratory infections.

The implementation of this plan has helped define more accurately the burden of influenza in the country, allowed for the identification of seasonal trends, and supported international virus surveillance for development of an effective influenza vaccine. In addition, the treatment protocols for respiratory infections have been updated, and influenza vaccination of high-risk groups has been added to Costa Rica's official immunization schedule.

Surveillance of respiratory
infections

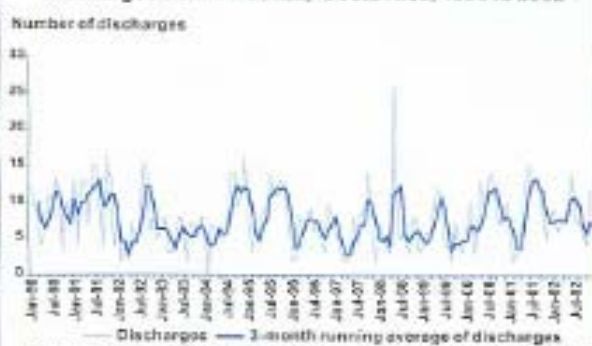
month running averages to smooth the curve, show two annual peaks of infection of different magnitude. A major peak occurs during the months of May through July, and a second peak occurs during September to November (Figure 1).

Strengthening of laboratory surveillance

From 1998, the National Hospital of Children (HNN - *Hospital Nacional de Niños*) started diagnosing respiratory viral infections and collecting samples from hospitalized children. The HNN clinical samples with positive results were sent to the virology laboratory of the School of Microbiology of the University of Costa Rica (UCR), where, in collaboration with the Centers for Disease Control and Prevention (CDC) in Atlanta, viral isolation, molecular typing, and study of the influenza virus were performed. Results showed that the A/Sydney/05/97(H3N2) influenza strain circulated from 1998 through 2000, the A/New Caledonia/20/99(H1N1) strain circulated in September 2000, and the A/Panama/2007/99(H3N2) strain circulated in July 2001. In 1999 and 2001, several influenza B strains were also isolated.

In 2002, the sentinel surveillance network for influenza and other respiratory viruses was implemented (Figure 2). Protocols were established for the proper management and study of samples from two sentinel sites: the HNN and the National Hospital of Geriatrics. These centers systematically send to the National Reference Laboratory (INCIENSA) viral samples from suspected influenza cases reported by inpatient and outpatient services, including emergency rooms. Results are published weekly for users of the network and monthly for other users.

Figure 1. Discharges and three month running averages of discharges from influenza, Costa Rica, 1990 to 2002



Source: Database of hospital discharges, Caja Costarricense de Seguro Social (1990-2002)



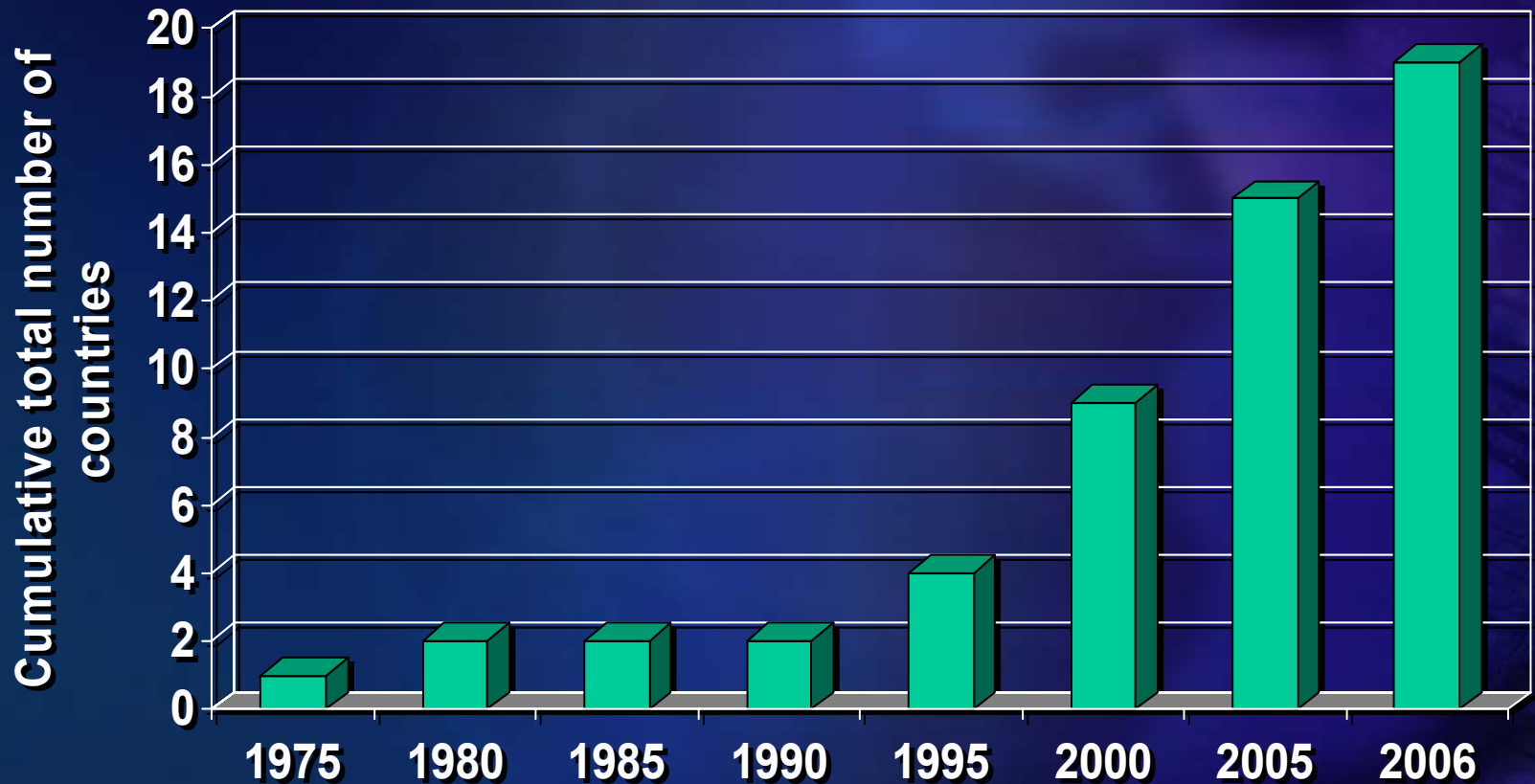
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Results of PAHO Survey on Seasonal Influenza Vaccine Use, Nov 2004

- **Yearly influenza vaccine is being introduced in Latin American and the Caribbean. The 2004 survey found:**
 - 13 countries have introduced the vaccine into their national immunization programs, targeting mainly persons aged 60 years or more and other high risk groups
 - 5 countries have introduced the vaccine for children from 6-24 months
- **In 2005, an additional 2 countries have introduced the vaccine targeting high risk groups and in 2006 they will be joined by 4 additional countries.**



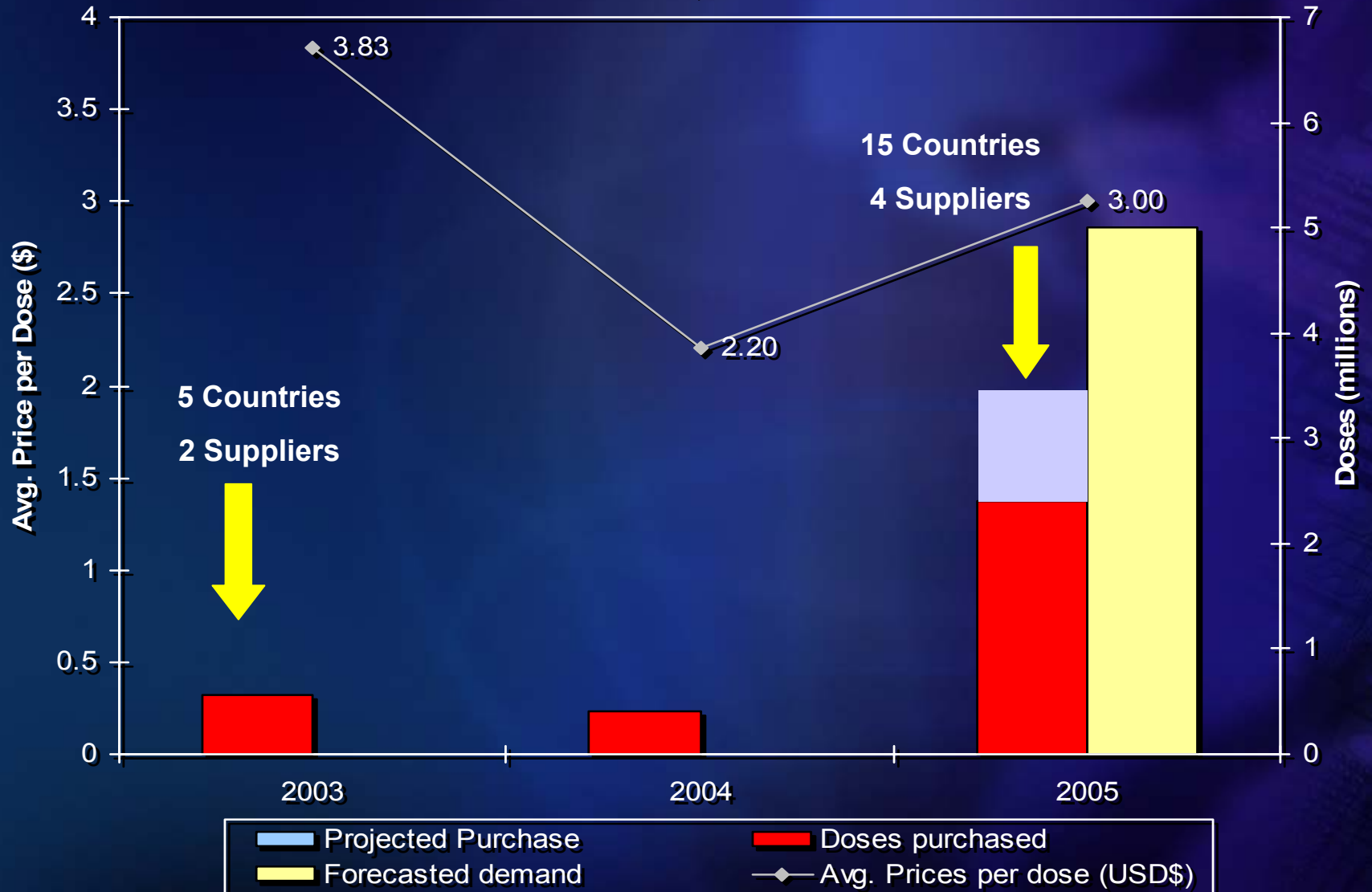
Introduction of Seasonal Influenza Vaccine in the Americas, 1975-2006



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■ Year

Seasonal Influenza: Supply Lagging Demand, 2003-05



Seasonal Influenza Requirements, 2006

	Country	Target Population		Total Doses for 2006 (est.)	VWA April 2006	Purchasing through RF
		Adult	Child			
Northern Hemisphere	Caribbean (7)	Yes	Yes	742,300		Yes
	Colombia			1,034,943		Yes
	Costa Rica	Yes	Yes	255,000		Yes
	Cuba	Yes		0		Yes
	El Salvador	Yes	Yes	1,090,000		Yes
	Honduras	Yes		234,880		Yes
	Mexico	Yes	Yes	4,700,000		
	Nicaragua			20,000		Yes
	Panama			328,199		Yes
	Venezuela			2,012,600		Yes
Southern Hemisphere	Argentina	Yes		600,000		Yes
	Brazil	Yes		19,000,000	Yes	
	Chile	Yes	Yes	2,450,000	Yes	
	Ecuador	Yes		1,550,000		Yes
	Paraguay	Yes		650,000		Yes
	Uruguay	Yes	Yes	350,000	Yes	Yes
	<i>Total</i>			35,017,922		8,867,922



Lessons Learned

- **Seasonal influenza is most under-utilized vaccine in the Region**
- **With seasonal influenza introduction in 2005 country experiences successful despite**
 - **Limited coverage data**
 - **Limited availability of vaccine supply to meet demand**
- **Strengthening national surveillance system is key to identification of vaccine strain, particularly in tropical areas.**
- **Strategic alliances and partnerships with industry are essential to improving availability of product.**
- **The priority given to Seasonal Influenza by the TAG meeting in 2004 will continue in the next TAG and ICC meetings, May 2006**



Recommendations

- **Promote continuing introduction of seasonal influenza in countries to all high risk groups**
- **Work with industry to increase capacity for seasonal influenza vaccine**



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