



**Pan American
Health
Organization**



*Regional Office of the
World Health Organization*

Hepatitis Vaccination in the Americas

Santa Fe de Bogota, March 1, 2012

**Comprehensive Family
Immunization Project
(FCH/IM)**



PAHO's Technical Advisory Group and Hepatitis B Vaccination , 1990-2011

- 1990: Hepatitis first introduced in the agenda— assessment of the feasibility of establishing HepB programs within EPI
- 1991: Given high cost of vaccine, use was not recommended in regular schedules except in select areas of the countries experiencing high endemicity and in healthcare workers
- Countries should estimate impact of hepatitis B vaccination.

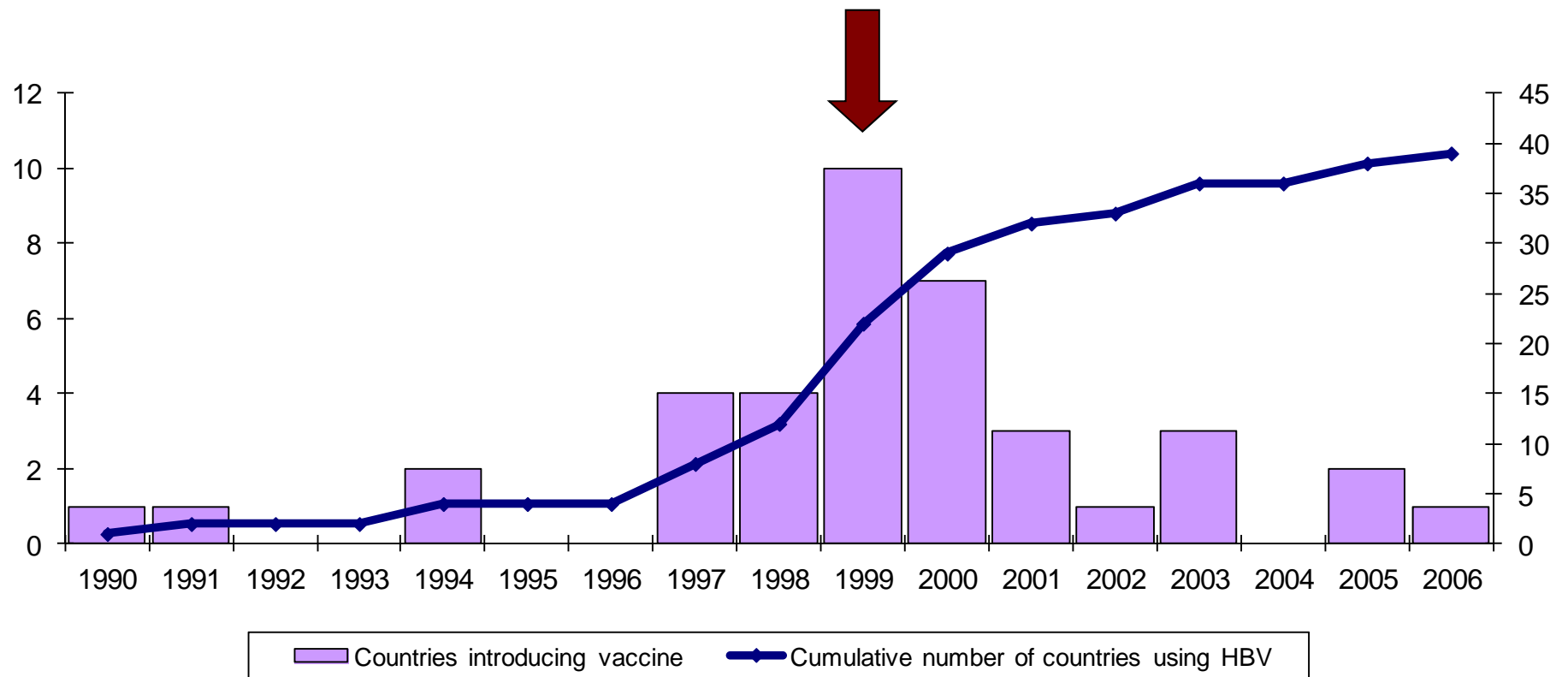
PAHO's Technical Advisory Group and Hepatitis B Vaccination

- 1997: Recommendation for all children in Amazon basin and other areas with high endemicity (threshold established as HbAg prevalence $\geq 7\%$) and for healthcare workers and high risk populations
- 1999: Routine universal infant immunization recommended and countries asked to consider introducing tetravalent or pentavalent vaccines

PAHO's Technical Advisory Group and Hepatitis B Vaccination (2011)

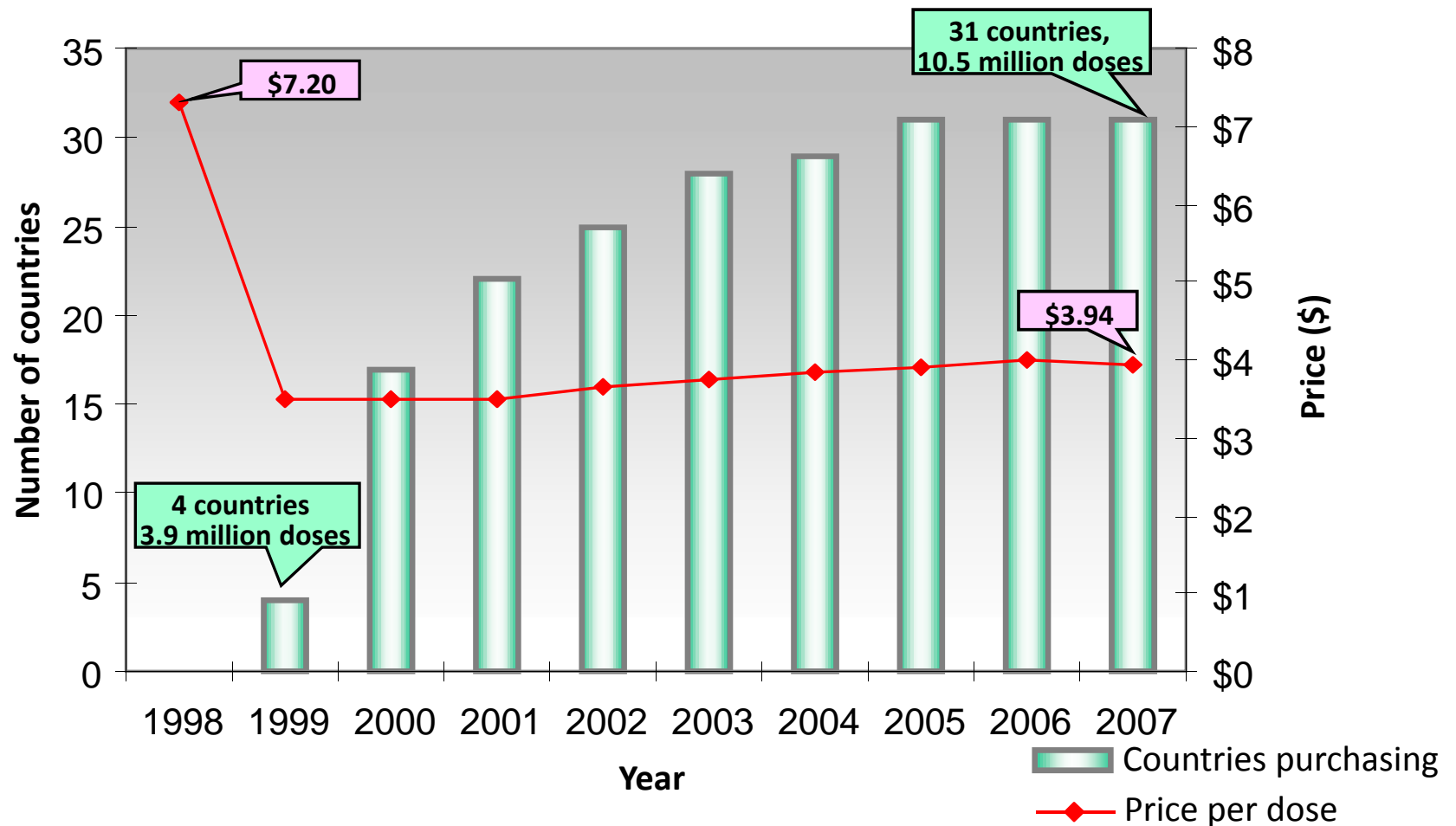
- Countries encouraged to maintain high Hep B vaccine coverage and adhere to the 2009 WHO recommendation of using a ***Hep-B birth dose*** of the vaccine (2011).
- Countries urged to join the celebration of the Global Hepatitis Day to commemorate accomplishments and advocate further efforts.

Hepatitis B Vaccine Introduction in the Americas

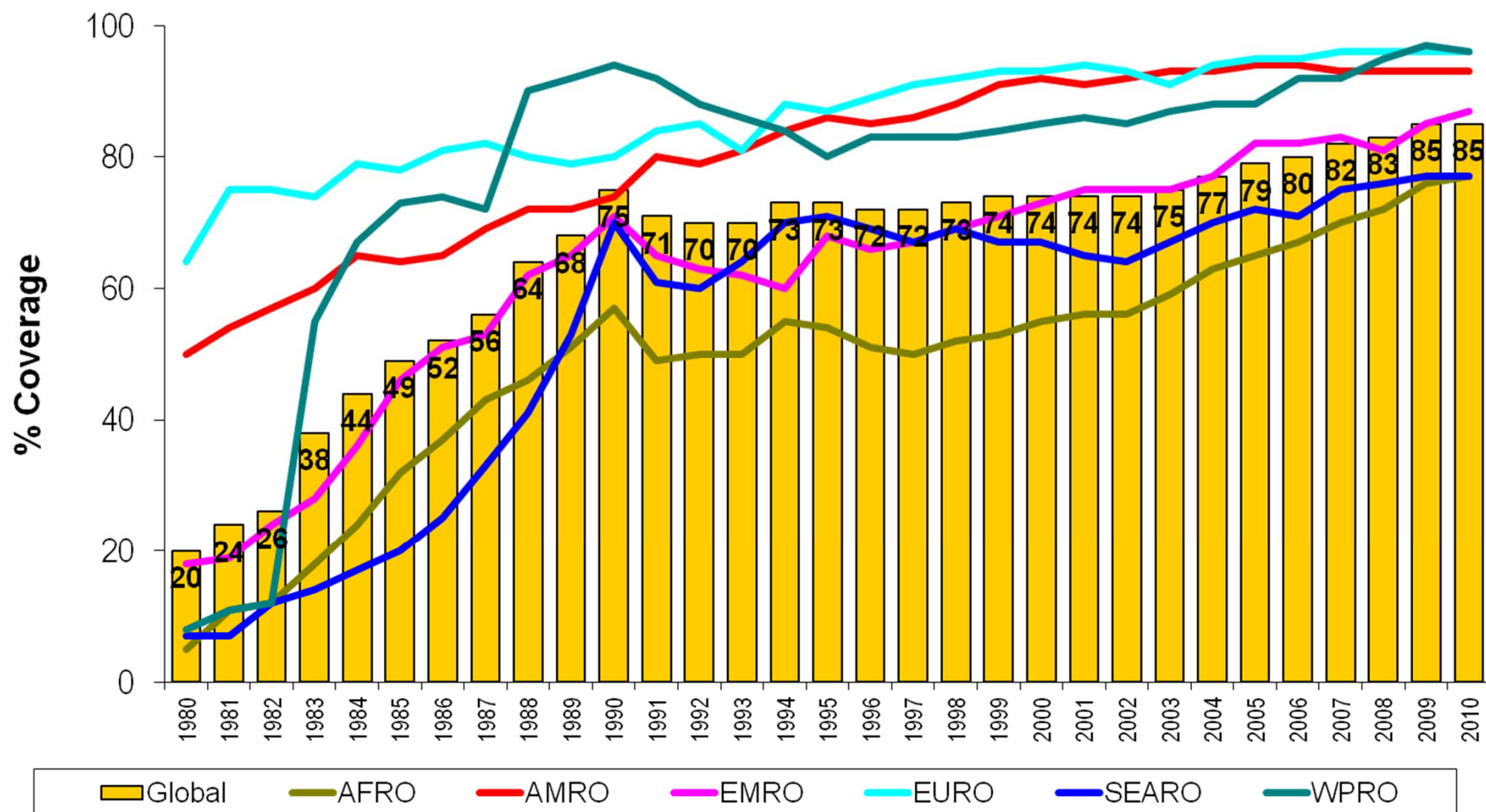


39 out of 40 countries and territories using vaccine*
Haiti pending introduction (March 2012)
(*not including French or Dutch territories)

Introduction of Pentavalent Vaccine in the Americas

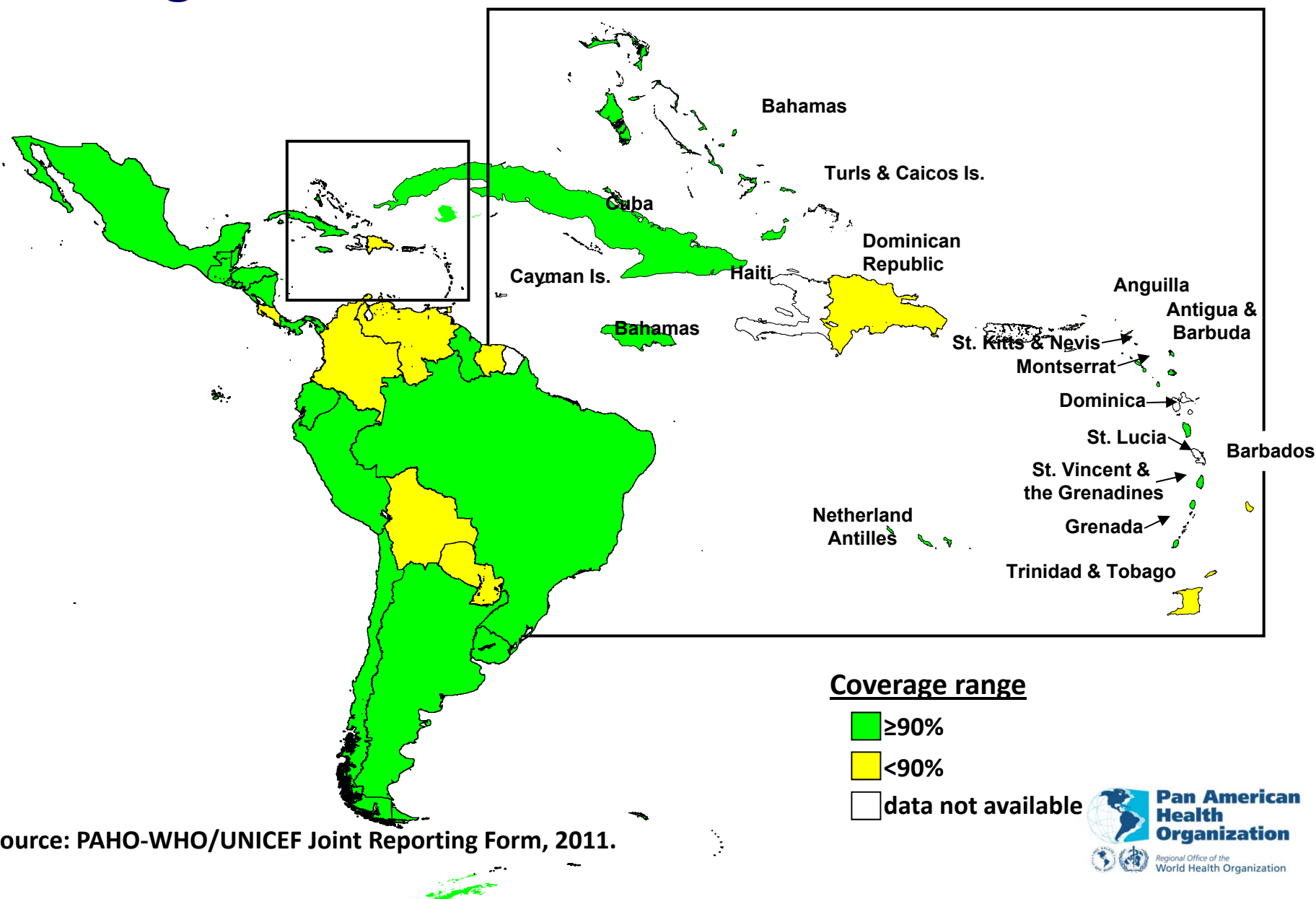


Global Immunization, DTP3/Penta Coverage 1980-2010

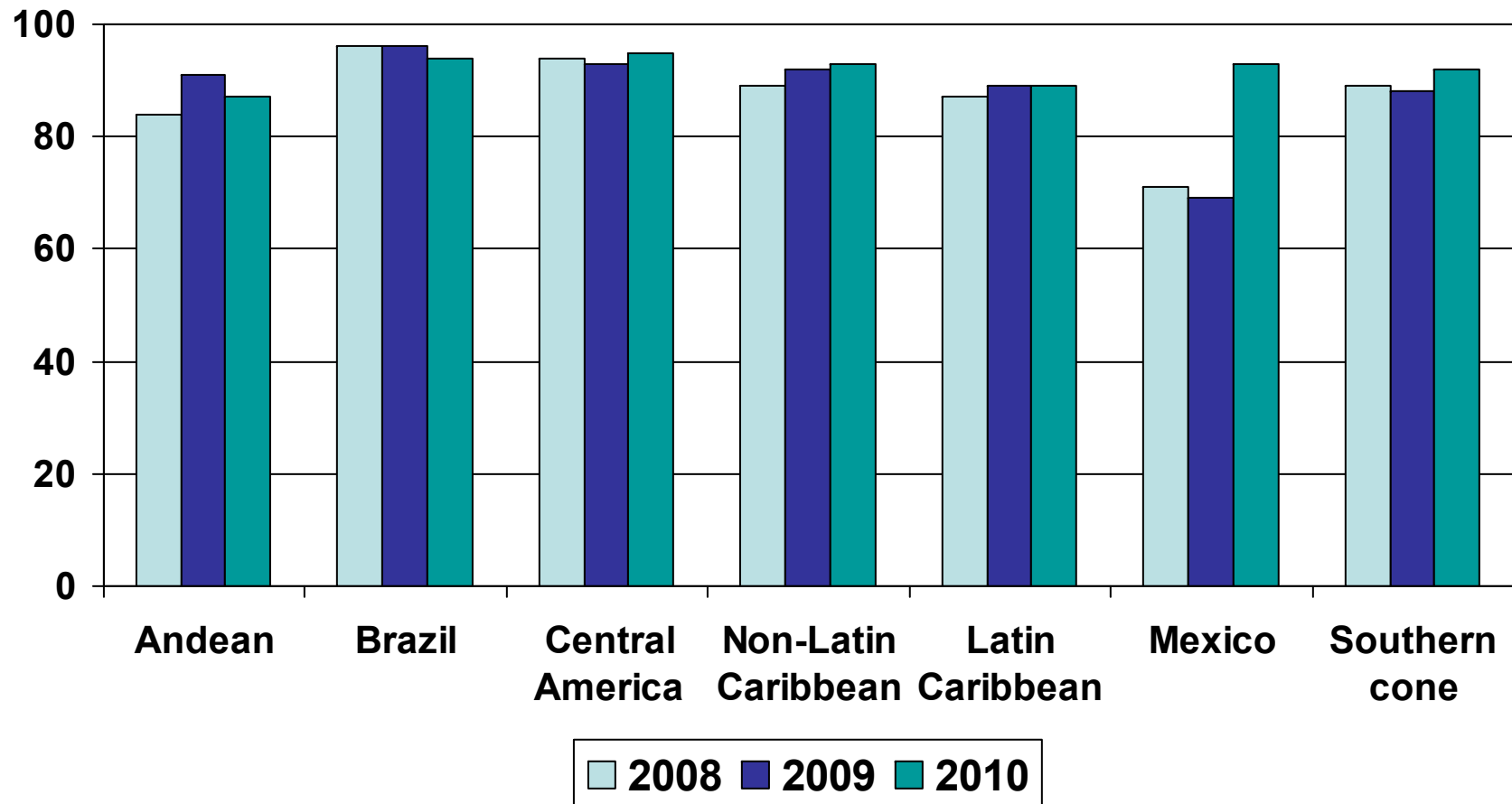


Source: WHO/UNICEF coverage estimates 2010 revision. July 2011; 193 WHO Member States. Date of slide: 29 July 2011

Reported HepB3 Coverage in Children <1 Year of Age, Latin America and the Caribbean, 2010

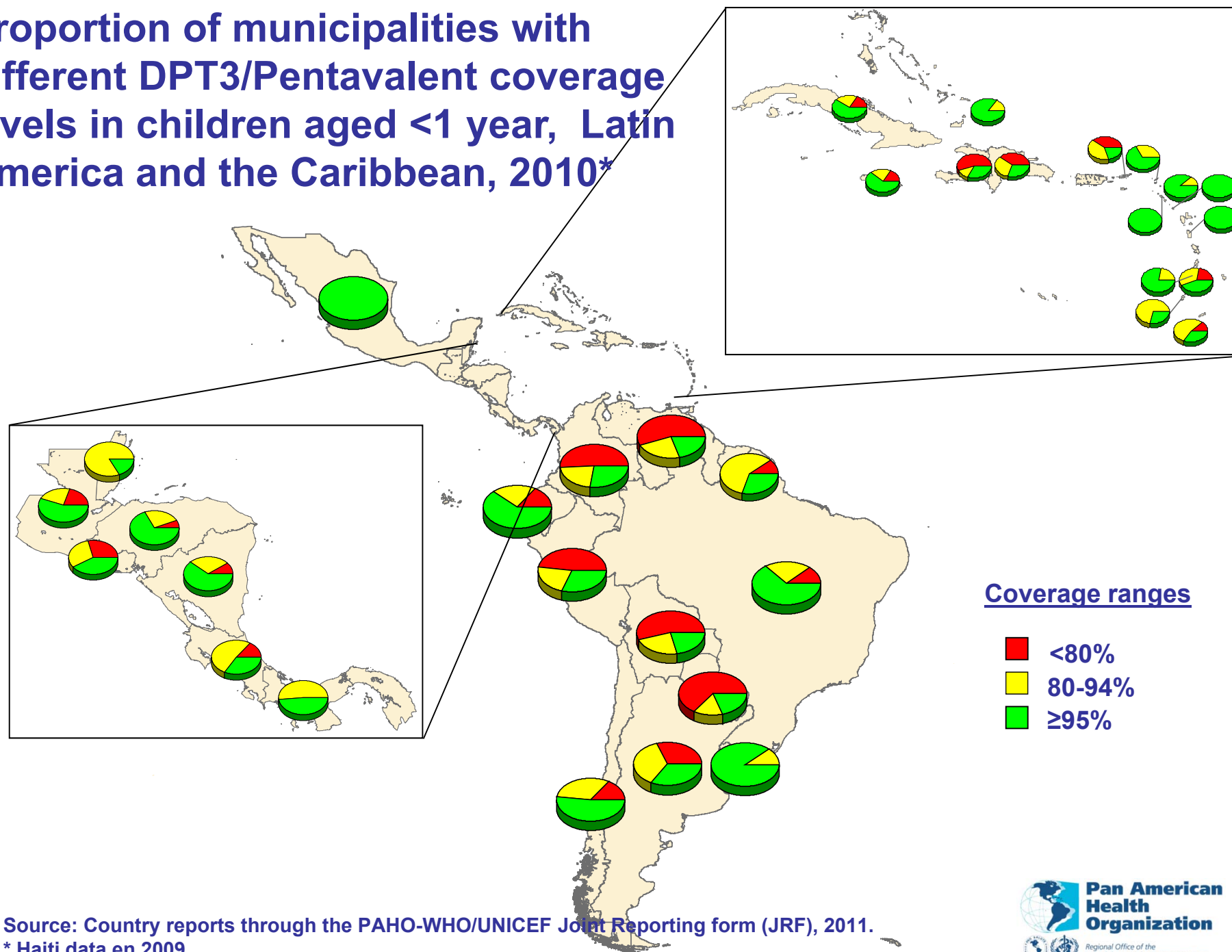


HepB3 Coverage in Children <1 Year of Age by sub region in LAC. 2008-2010



Source: PAHO-WHO/UNICEF Joint Reporting Form

Proportion of municipalities with different DPT3/Pentavalent coverage levels in children aged <1 year, Latin America and the Caribbean, 2010*



Coverage ranges

- <80%
- 80-94%
- ≥95%

Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting form (JRF), 2011.

* Haiti data en 2009.

Hepatitis B birth dose, 2009

Region	Member States	Member States with HepB in schedule*	Members States with HepB BD in schedule	Members States with HepB BD and reporting coverage	HepB_BD coverage**
African	46	45	5	4	16%
Americas	35	34	13	10	36%
Eastern Mediterranean	21	20	11	6	14%
European	53	42	28	15	19%
Southeast Asian	11	11	6	3	10%
Western Pacific	27	26	25	20	69%
Total	193	178	88	58	26%

* India and Sudan introduced HepB in part of the country

** Countries not reporting HepB birth dose coverage are excluded from the calculation

Scientific and Technical Publication No. 604



Control of Diphtheria, Pertussis, Tetanus, *Haemophilus influenzae* type b and Hepatitis B Field Guide

Hepatitis B Vaccination: 20 Years Later

- Since 1984, when vaccination against Hepatitis B began, first with a plasma-derived vaccine and later a recombinant DNA-derived vaccine(only vaccine available)
- The evidence for long-term protection of HepB by outcome is as follows:
 - High quality evidence to support effectiveness of a primary series of HepB to prevent any HBV infection at 15 years post vaccination of infants.
 - High quality evidence to support effectiveness of a primary series of HepB to prevent chronic HBV infection at 15 years post vaccination of infants
- Important changes have taken place in several aspects of this disease*:
 - the acute and chronic infection rates,
 - the mortality of fulminant Hepatitis B in infants and
 - the incidence of hepatocellular carcinoma have been effectively reduced by approximately 25%.

* Vildozola H: [Vaccination against Hepatitis B: 20 years later]. *Rev Gastroenterol Peru*; 2007 Jan-Mar;27(1):57-66

Hepatitis B Vaccination: 20 Years Later

- It has been proven that the Hepatitis B vaccine is one of the safest vaccines available in the world,(GACVS).
- Catch-up vaccination of children should be considered for cohorts with low coverage. The need for catch-up vaccination in older age groups, including adolescents and adults, is determined by the baseline epidemiology of HBV infection in the country.
- A good immune response through the vaccination of premature infants with low birth weight has been implemented by delaying the start of the vaccination to between 7 and 30 days after birth.

Hepatitis B Goals in Regions

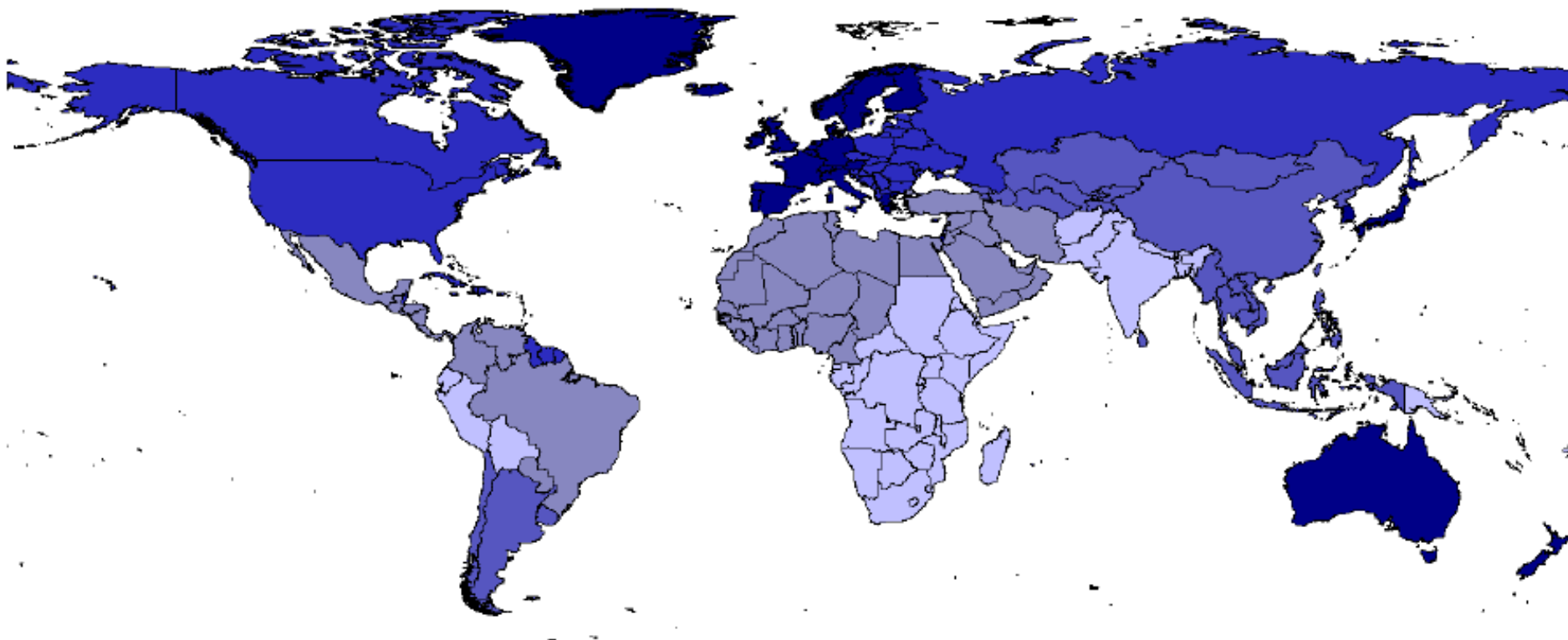
- WPR : RC goal (2005) reduce HBsAg prevalence to <2% among less than 5 yr old children by 2012
- EMR : RC goal (2009) reduce prevalence of chronic HBV infection to <1% among children >5 years by 2015
- AFR : Background paper presented to 2011 TAG, HBV control goal for consideration by RC in 2012
- PAHO: Assessment of the feasibility of establishing HepB transmission elimination in the Region

New Opportunities

- PAHO Best Practice Study: Cuba
- Elimination of HBV transmission
 - Proof of concept: Cuba, United States of America, others
 - Definitions (e.g. Cuba: by 2010, majority persons born in the previous 30 years were protected)
- Document impact of HepB through HBsAg serosurveys in children, acute and chronic HBV infection surveillance and disease registry data (cirrhosis, liver cancer)

Estimated risk of HepA

Figure 10. Estimated adult susceptibility rate. Darker shades indicate a greater proportion of at-risk adults.



*Anti-HAV age 35-44: high >40%, medium 20-39%, low-medium 10-19%, low 1-9%, very low =0%

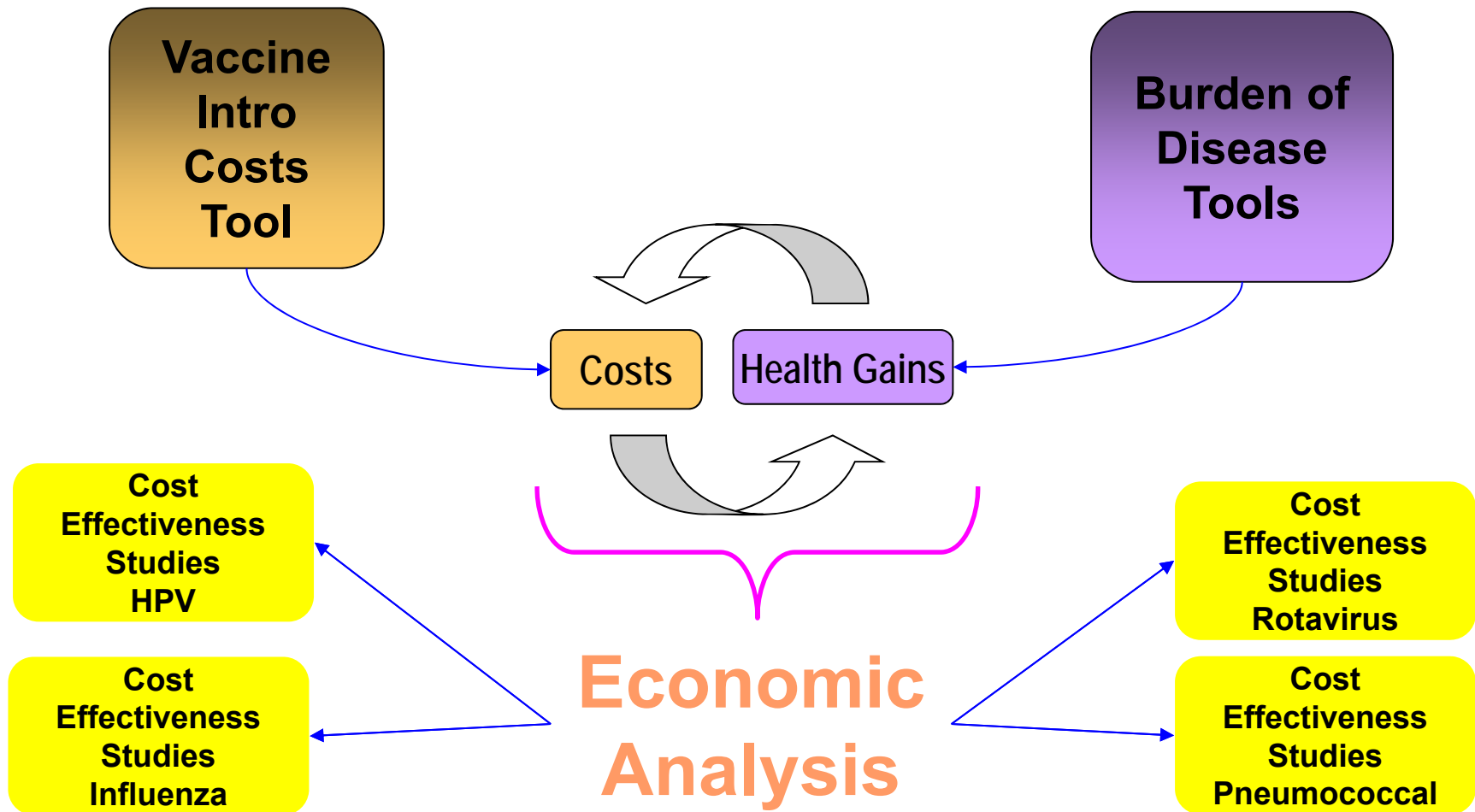


Hepatitis A vaccination in the Americas

- TAG 2011 Recommendations: Countries encouraged to conduct epidemiological and cost-effectiveness studies for introduction of hepatitis A in light of existing public health priorities.
- 4 Countries using Hepatitis A vaccine in the Region:
 - Argentina, Panama, Uruguay and the United States.
 - Some countries use the vaccine in special groups.

PROVAC

Tools for Economic Analysis



ProVac's objectives

1. Strengthen infrastructure for decision-making
2. Develop tools for economic analysis and provide training to national multidisciplinary teams
3. Collect data, conduct analysis, and gather framework of evidence
4. Advocate for evidence-based decisions
5. Effectively plan for vaccine introduction when evidence supports it

Next Steps

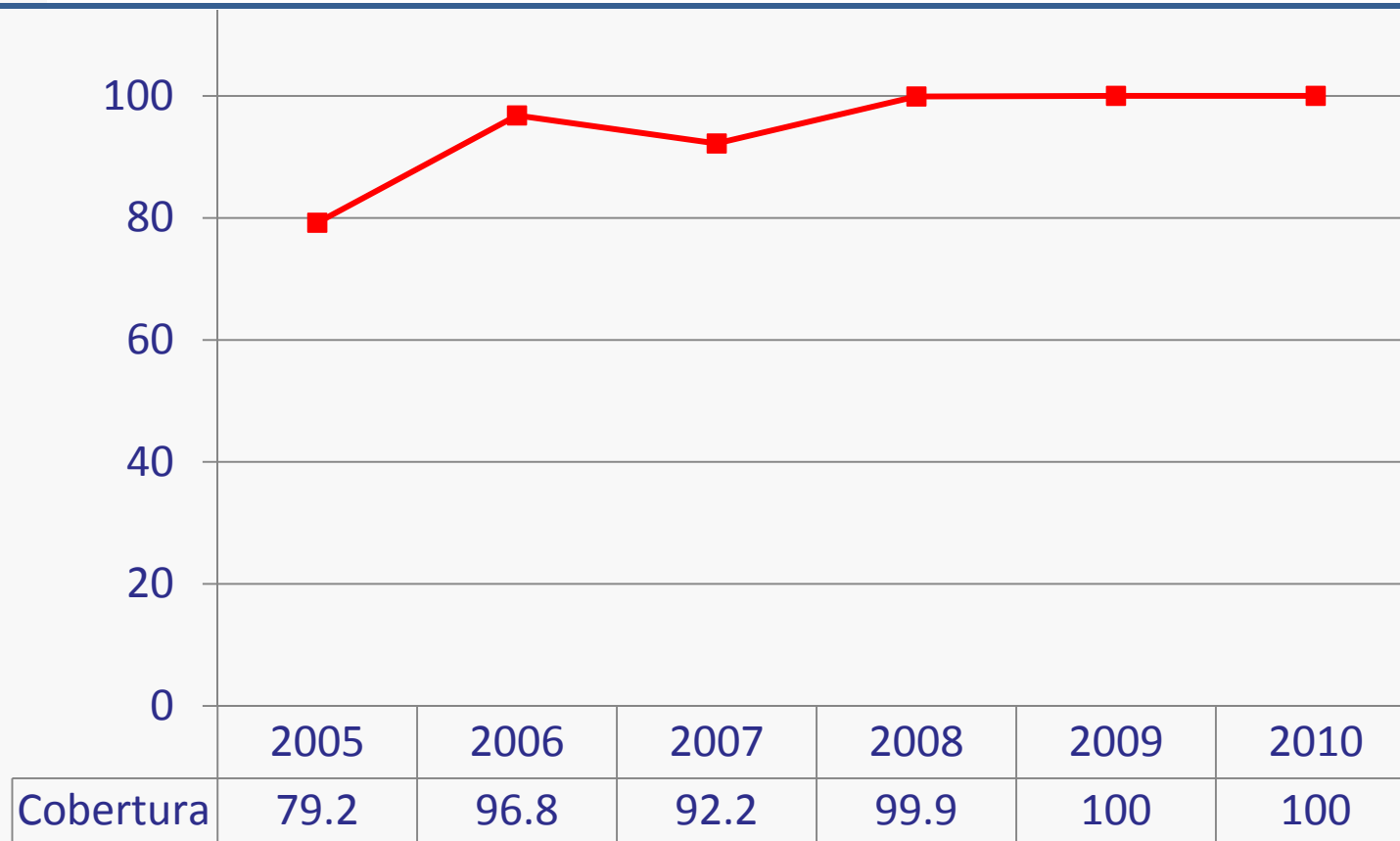
- Consolidation of successful experiences in the region in the control of hepatitis B
- Assessment of feasibility of target for elimination of transmission of Hepatitis B in the Americas
- Assessment and documentation of impact of Argentina's one-dose schedule of Hepatitis A
- Cost/effectiveness studies for Hepatitis A vaccine introduction

Case study: Hepatitis A Vaccine use in Argentina

EDAD	BCG	Anti-hepatitis B (HB)	Cuádruple (DTP- Hib)	Sabin (OPV)	Triple viral (SRP)	Anti-hepatitis A (HA)	Triple bacteriana (DTP)	Doble bacteriana (dT)	Doble viral (SR)
Recién nacido	Única dosis [1]	1ª dosis [2]							
2 meses		2ª dosis	1ª dosis	1ª dosis					
4 meses			2ª dosis	2ª dosis					
6 meses		3ª dosis	3ª dosis	3ª dosis					
12 meses					1ª dosis	1 dosis			
18 meses			4ª dosis	4ª dosis					
6 años				Refuerzo	2ª dosis		Refuerzo		
11 años		Iniciar o completar esquema [3]			Refuerzo [4]				
16 años								Refuerzo	
Cada 10 años								Refuerzo	
Puerperio o post-aborto inmediato									1 dosis [4]

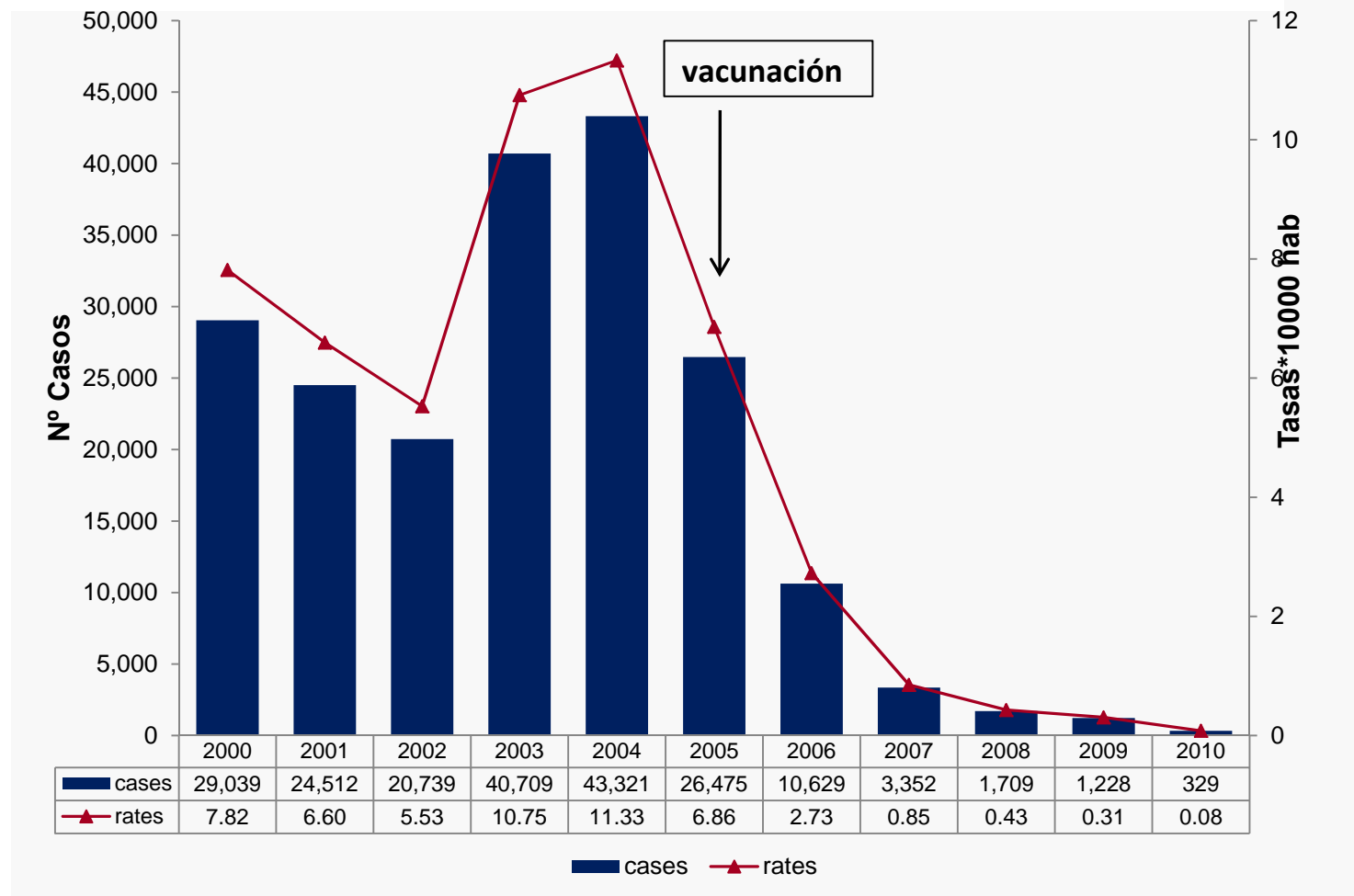
Introduction of 1-dose schedule in 2005

Hepatitis A Vaccine coverage Argentina, 2005-2010



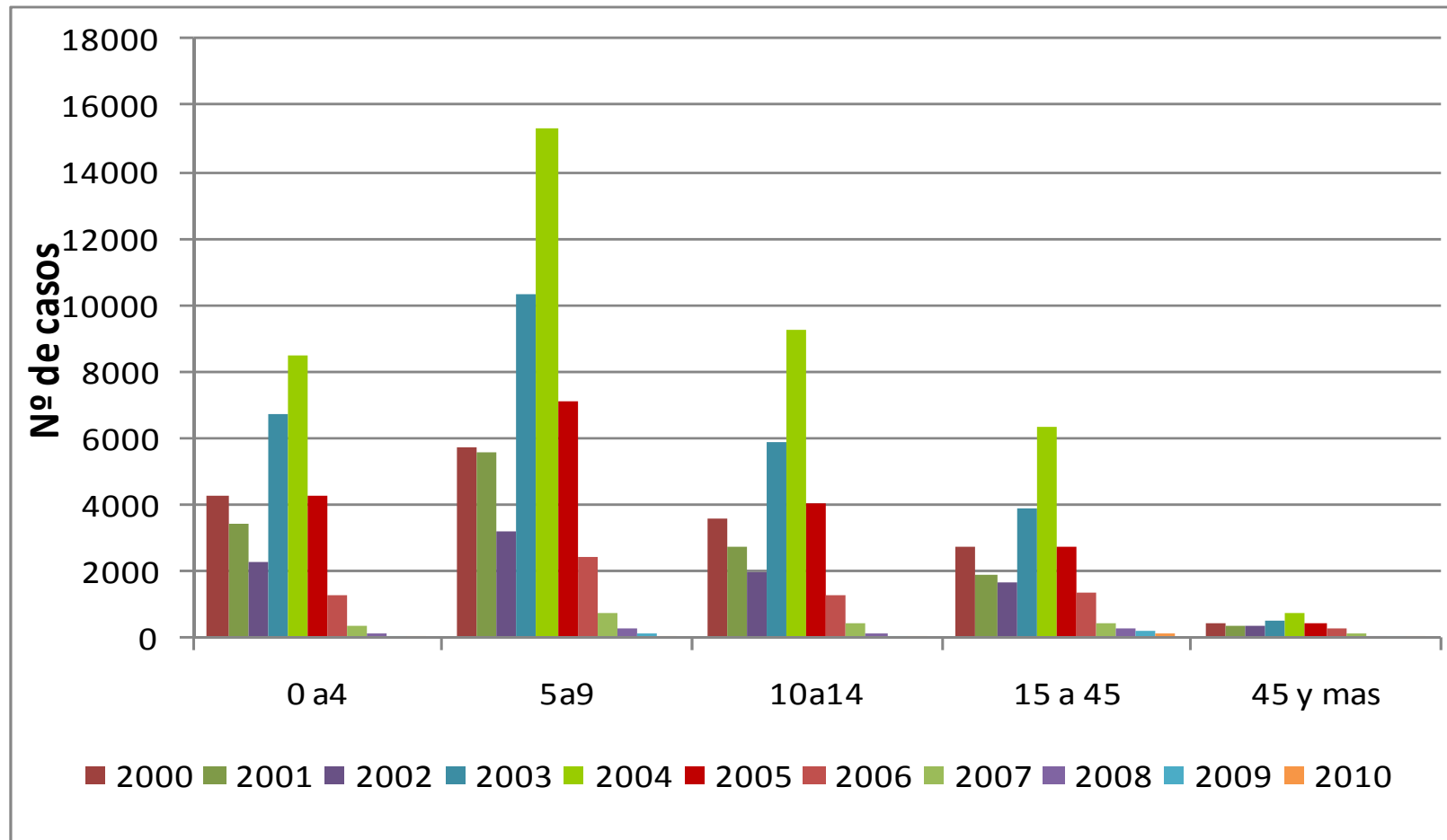
Source: MOH, Argentina

Hepatitis A– Cases and rates 2000-2010, Argentina



Source: MOH Argentina

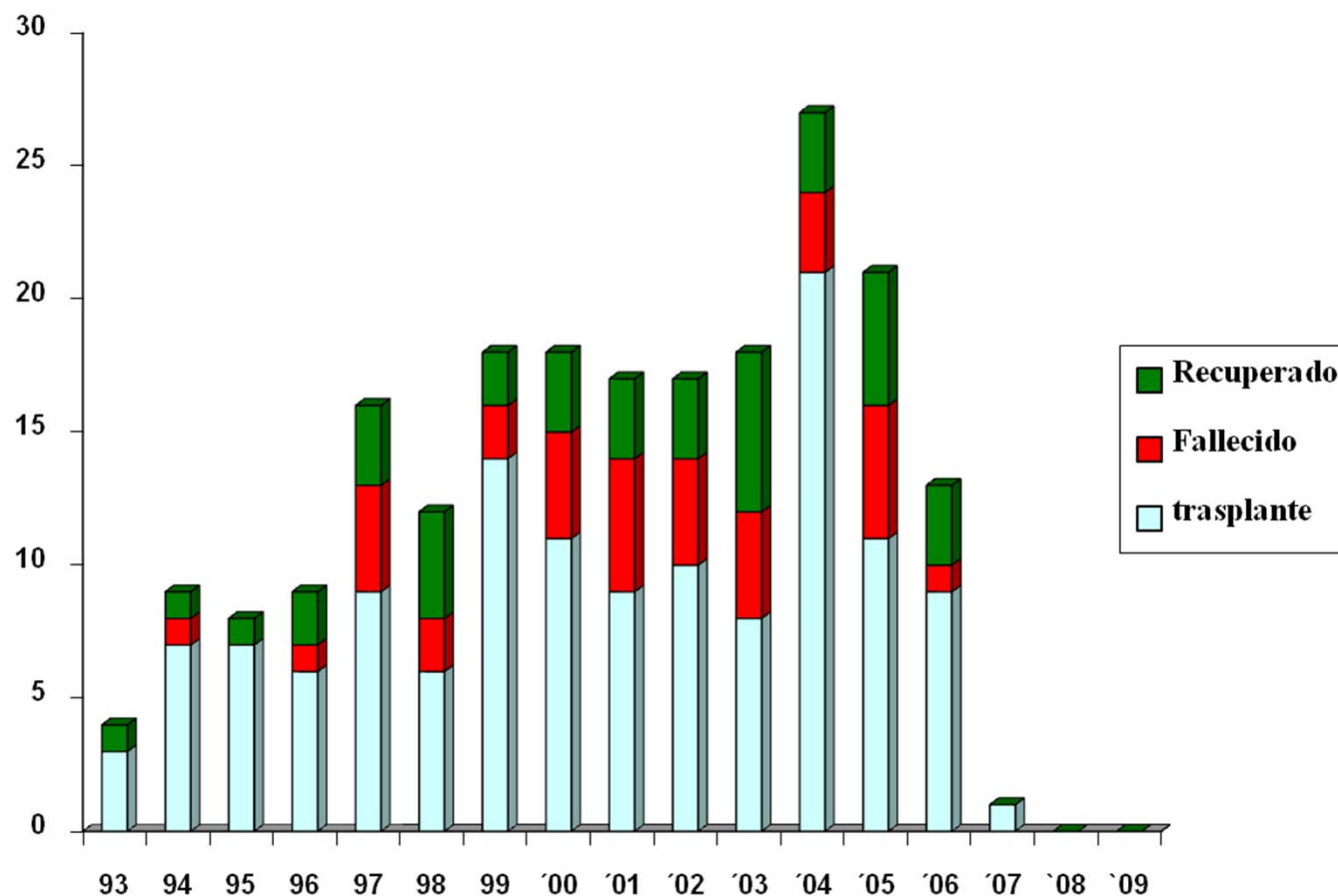
Hepatitis A cases, by age group, Argentina, 2000-2010



Fuente: SNVS, Ministerio de Salud de Nación

Liver failure due to Hepatitis A

Argentina, 1993 -2007



Fuente: SNVS, Ministerio de Salud de Nación