MÉRIEUX FOUNDATION EVENT

Vaccinology 2018: 11th International Symposium for Latin America experts

October 17 - 19, 2018 - Panama City (Panama)

Country representatives from national immunization programs Uruguay

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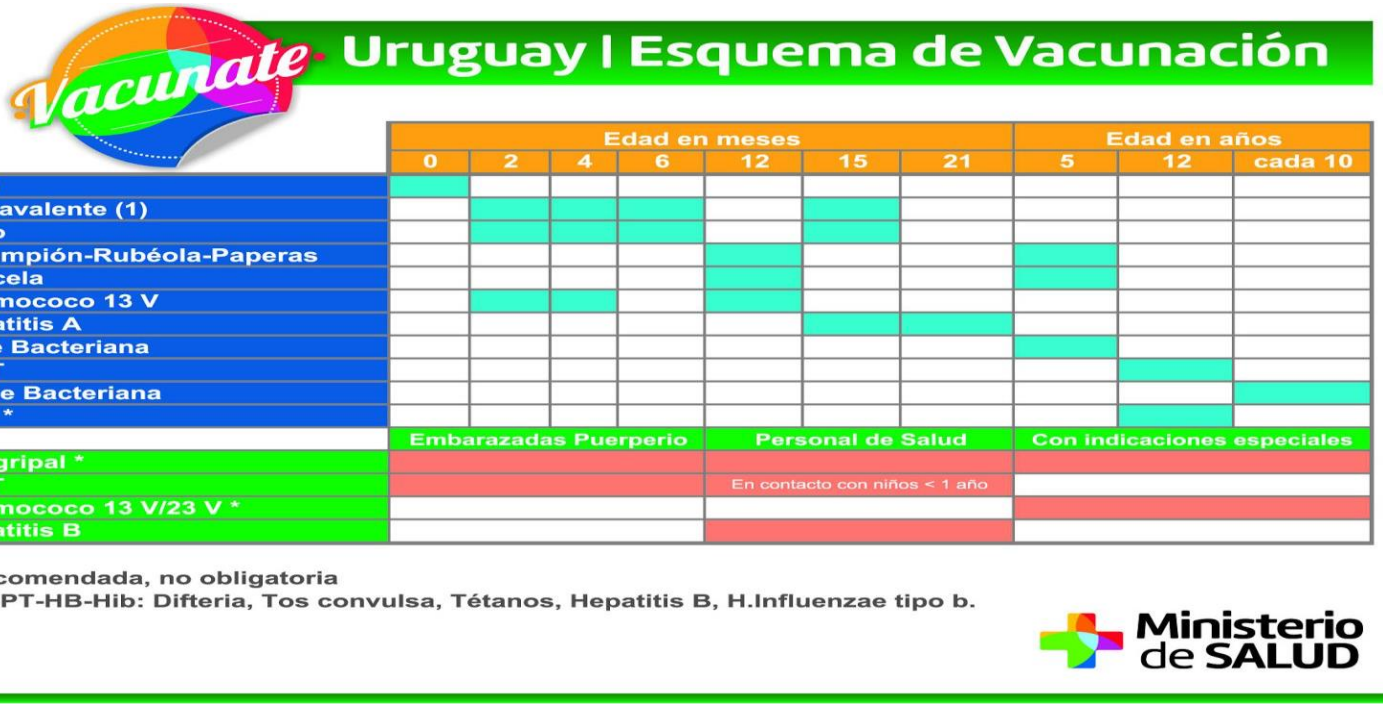
Uruguayan Vaccination Schedule. National Immunization Program

Esquema Nacional de Vacunación
URUGUAY
2017



Unidad de Inmunizaciones
Dirección General de la Salud
Ministerio de Salud

- ✓ **Universal, mandatory and free of charge for the family.** www.yahoo.com
- ✓ **National coverage for the vaccines of the NIP: around 94 %**

The population can received the vaccines in public or private heath provider

Vaccine coverage for children 1 to 5 years of age.Uruguay

Uruguay: Coberturas de Vacunación

Edad	1 Año			12 a 24 Meses			24 a 36 Meses	5 a 6 Años		
Vacuna	Coberturas de Vacunación (en porcentaje)									
	BCG	DPT-HB-Hib 3	VPI 3	PnC13V 3	SRP 1	Varicela 1	HA 2	SRP 2	Varicela 2	DPT
Departamento										
Artigas	90	88	88	93	94	94	89	92	80	92
Canelones	98	92	92	92	93	93	88	90	87	90
Cerro Largo	99	95	95	97	97	97	95	97	68	96
Colonia	99	98	98	98	98	98	97	95	93	95
Durazno	100	97	97	97	98	98	92	95	92	94
Flores	95	95	95	87	88	88	86	84	63	84
Florida	99	95	95	94	95	95	90	90	90	89
Lavalleja	100	99	99	97	97	97	96	98	97	98
Maldonado	99	96	96	95	96	96	88	93	89	91
Montevideo	98	92	92	93	94	94	88	91	90	89
Paysandú	99	96	96	94	94	94	87	93	91	92
Río Negro	100	94	94	94	94	94	88	93	81	92
Rivera	95	90	90	94	95	95	89	94	69	93
Rocha	98	94	94	92	93	93	89	94	92	93
Salto	99	95	95	94	95	95	91	93	93	92
San José	100	97	97	96	97	97	93	93	93	93
Soriano	100	96	96	97	98	98	92	90	79	89
Tacuarembó	98	96	95	95	96	96	94	94	70	95
Treinta y Tres	99	96	96	98	98	98	95	92	70	92
Sin dato	100	92	92	89	90	90	89	82	82	82
Total País	**98**	**94**	**94**	**94**	**95**	**95**	**90**	**92**	**87**	**91**

Fuente: Dpto. Inmunizaciones CHLA-EP www.chlaep.org.uy 30/03/2017

Nominal Registration

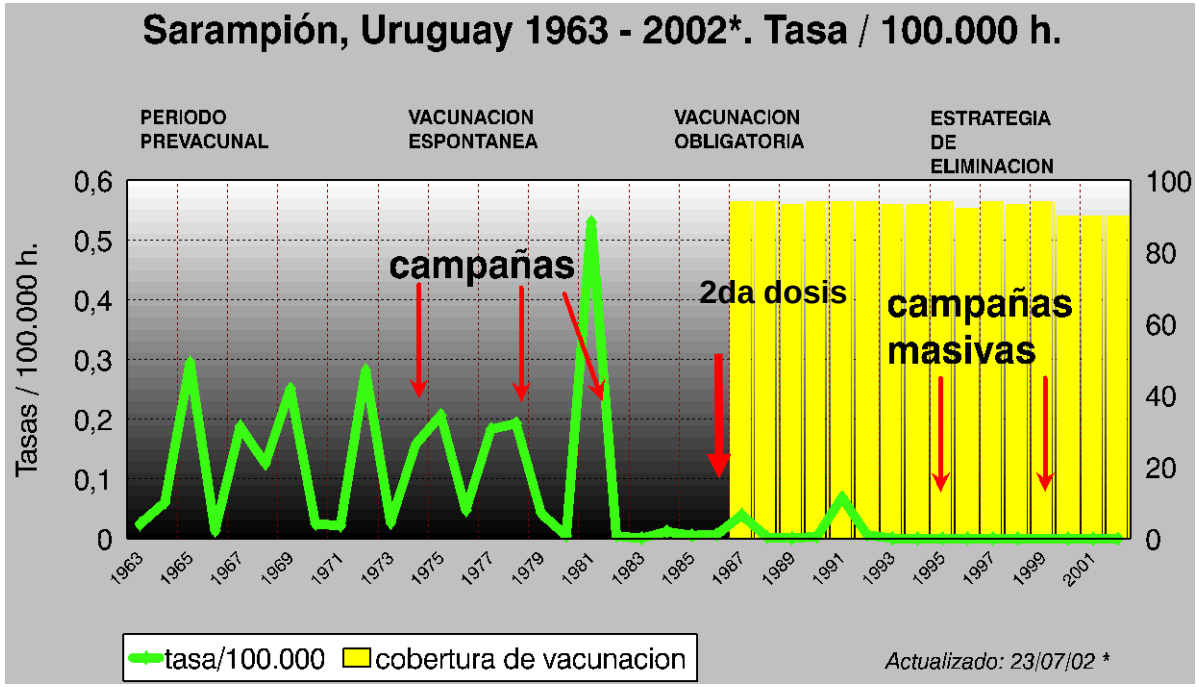
www.CHLA-EP.org.uy

	MMR	Hepatitis B	Influenza	Varicella	Polio	VHA	HPV4v
1982	12 m				VPO: 2,4,6, y 12 m		
1986		New born o f mother AgHBs +					
1992	2da dose 5 y of age						
1996			Campain RF				
1999	Campain “Chau Sarampión”	Pentavalent 3 + 1 Catch up at 12 years		12 m			
2005			6 m a 24 m			Control Brote	
2007			6 m a 5 años Pregnant woman			1-5 años Riesgo	
2008						15 y 21 m	
2012		Finish Catch up			IPV		
2013							Offer
2014	Campain > 5y			12m, 5 a			
2015							Recom.
2017					2,4,6 m and 5 y		

	DPT	dpaT	*Haemophilus influenzae* tipo b	PCV 7v	PCV 13v
1982	**2,4,6 ,12 m and 5 y**				
1999	**Pentavalente dT c/10 y**		**Pentavalente : 3+ 1 (2,4,6 y 12 m)**		
2008			**Pentavalent: 2,4,6 and 15 m**	**2 + 1 (2,4 and 12m)**	
2010					**2 + 1 (2,4 and 12m)**
2013		**12 y**			
2014					
2015		**Pregnant women**			

PPV 23 valent, RF
PCV13 + PPV23 high RF

m= meses, a= años, DPT= difteria, pertussis, tetanos, dpaT = difteria, pertussis acelular, tetanos
PCV = Pneumococcal conjugate vaccine PPV23 = pneumococcal polisacarid vaccine 23v RF =risk factor



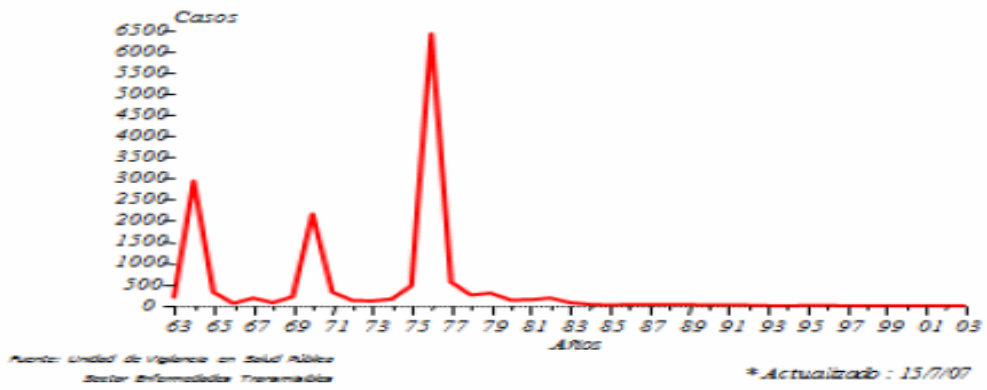
Elimination: Polio
Since 2012 full IPV

- ✓ **Interruption of endemic transmission of measles. Measles(last case 1998)**
- ✓ **Objective: avoid the re-entry of measles to Uruguay.**
- ✓ Children: High coverage 2 doses (1 and 5 y).

Travelers to areas with measles circulation:

-≥ 5 years: 2 doses MMR.
- 1 to 4 years: administration of the 2d. in advanced.
- In one year, a dose 0 (0-1 -5 years) .

Grafico Nº 2. Distribución de casos de Rubéola según año. Uruguay 1963 – 2003.



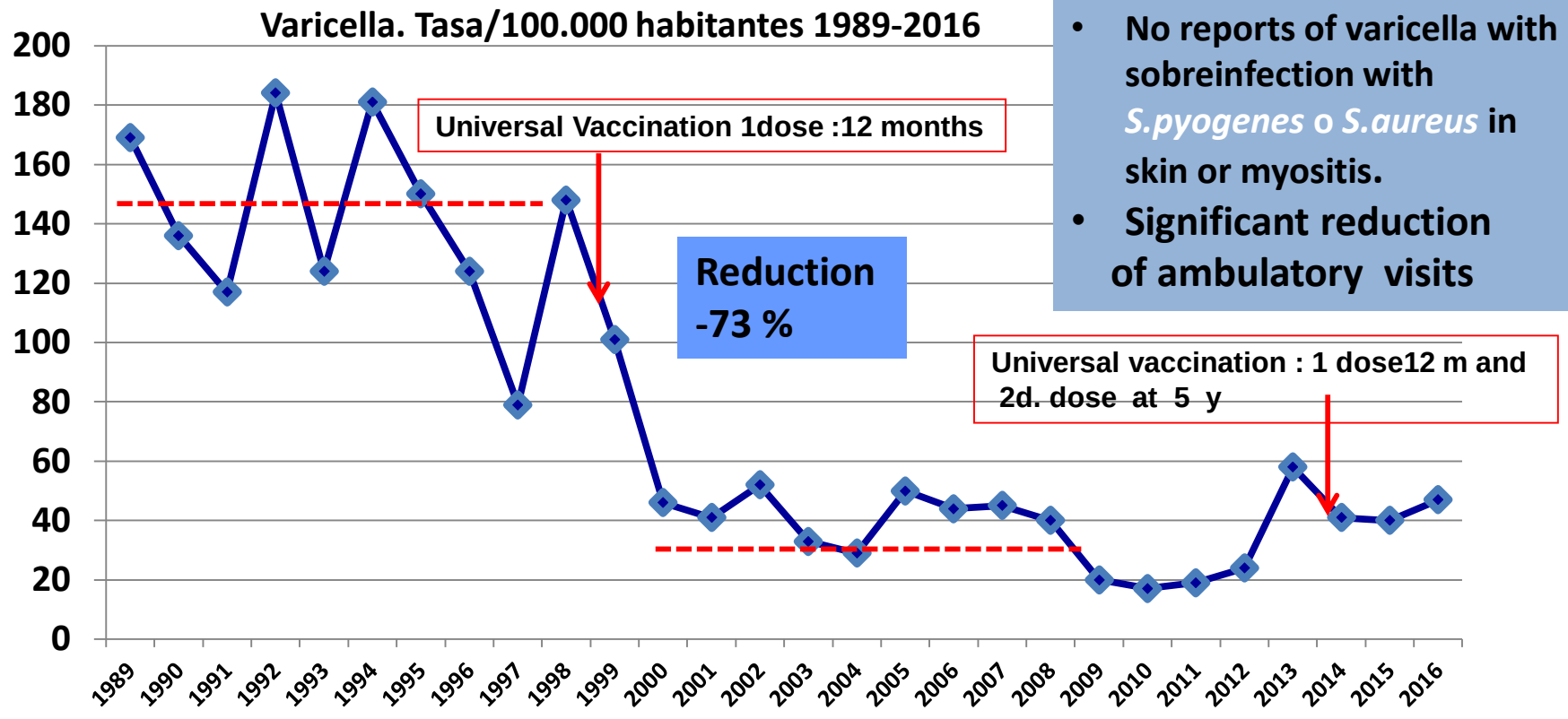
Elimination:
- **Rubella**
- Rubella Congenital Syndrom

Varicella Incidence Pre and Post vaccination. 1989 to 2016

Before 1999: 4,500 cases per year
-Death 3% y 4% , in age group 1 a 4 y

- **Hospitalizaciónes: signiticant reduction: . 81% in < 15 y and -94 % the gruoup 1 a 4 y**
- **Significat reduction intensive care admission.**
- **No reports of varicella with sobreinfection with *S.pyogenes* o *S.aureus* in skin or myositis.**
- **Significant reduction of ambulatory visits**

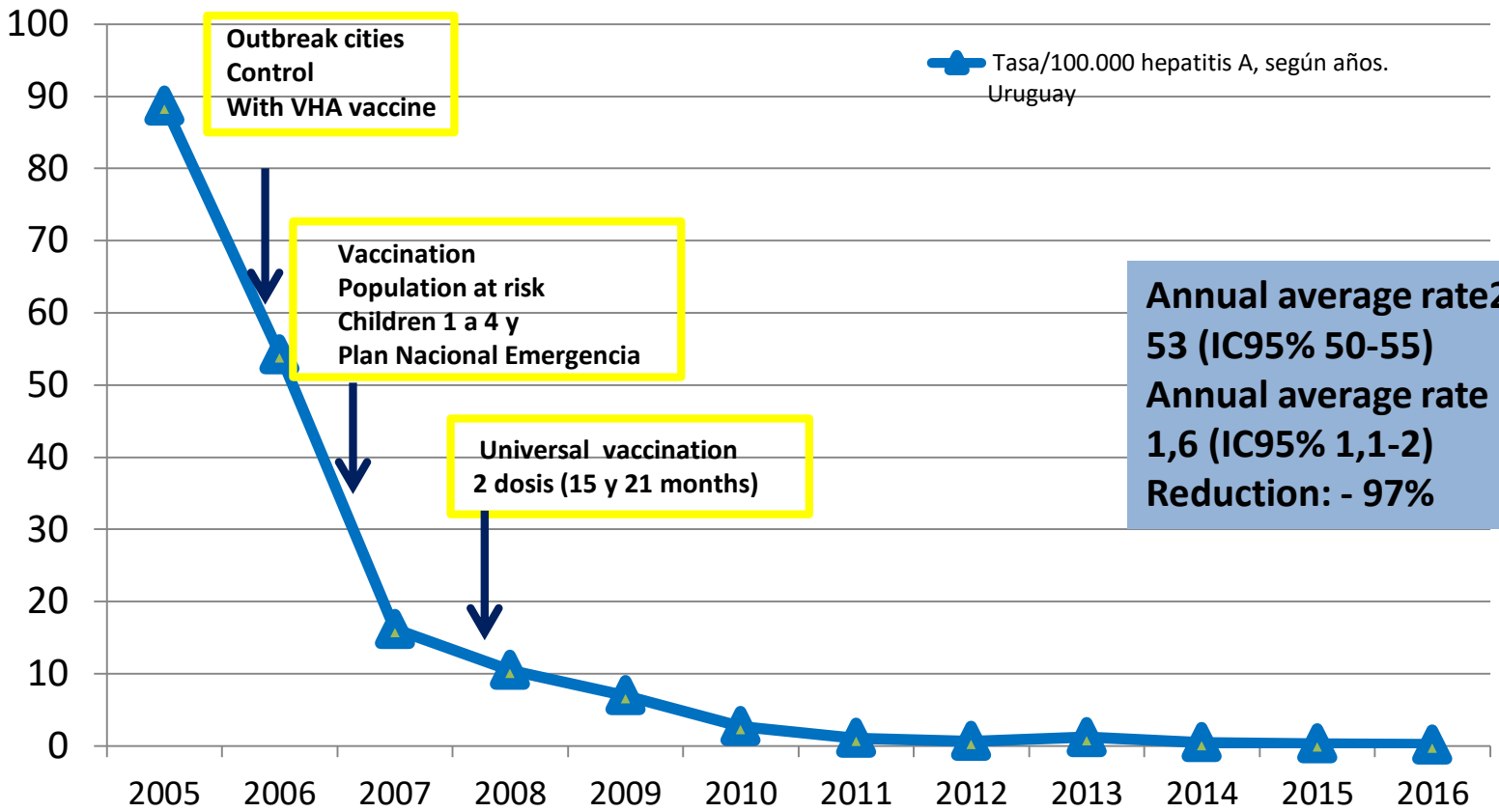
Ministerio de SALUD
DIRECCIÓN GENERAL DE LA SALUD
DIVISION EPIDEMIOLOGIA



Quian J el at Arch .Dis. Child 2008; 93:845-850
Dall'Orso P et al. Arch Pediatr Urug 2013; 84(2): 116-122, Amorin B et al. Rev Med Urug 2008, 24:230-237
Vomero A. et al Revista Chilena Infectologia 2014. ***Prevención de Varicela en América Latina y el Caribe*** *Papel de Posición de SLIPE 2016*
Boletín Epidemiológico Agosto 2016. División Epidemiología Dirección General de la Salud Ministerio de Salud
Actualización de enfermedades de notificación obligatoria http://www.msp.gub.uy/sites/default/files/archivos_adjuntos/Bolet%C3%ADn%20epidemiol%C3%B3gico.%2010%20de%20agosto%202016..pdf

2 cohorts with 2 doses

Hepatitis A. Annual incidence, 2005 to 2016. Vaccination strategies. Uruguay



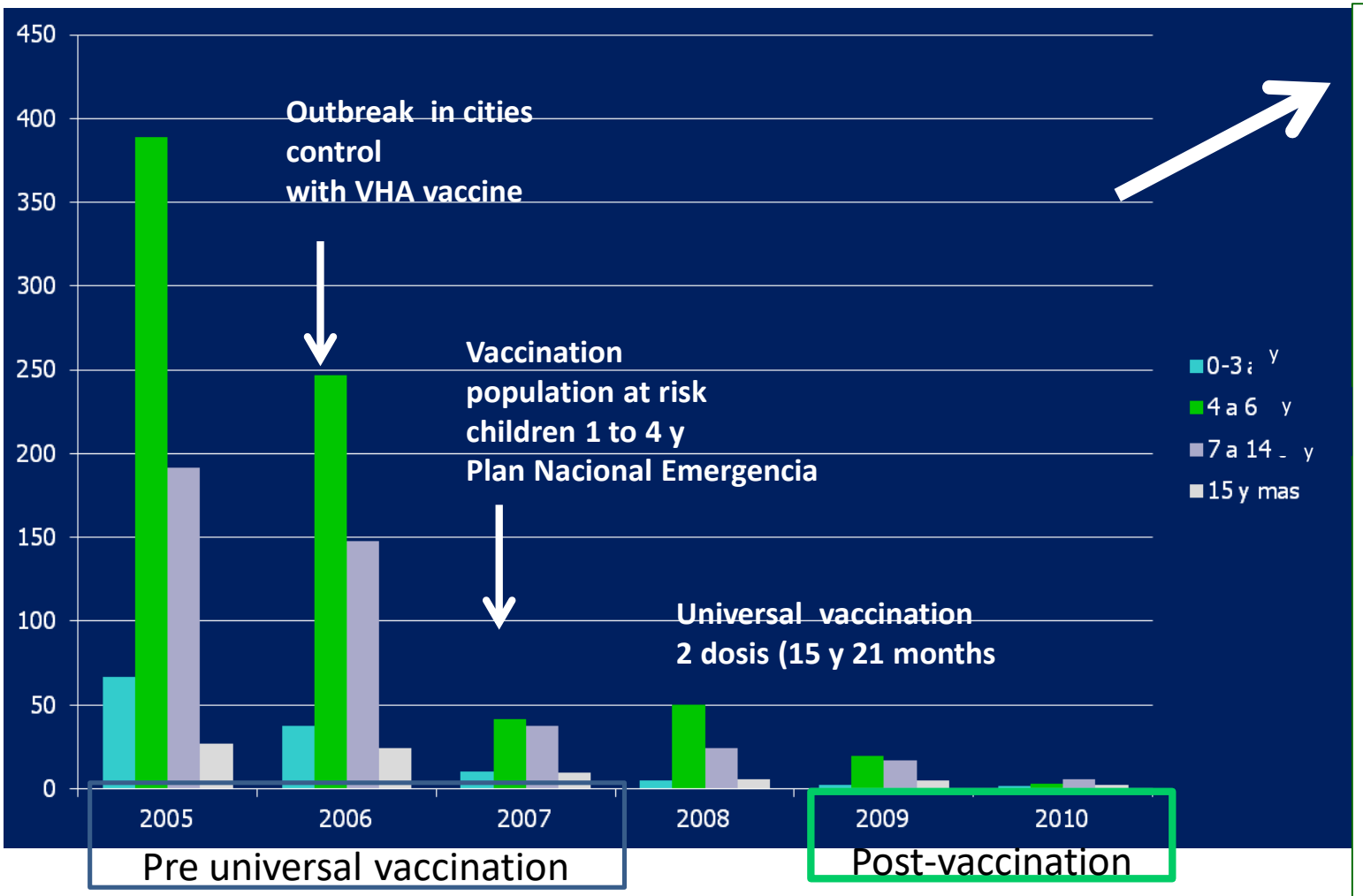
Annual average rate2005-2007
53 (IC95% 50-55)
Annual average rate 2009-2016
1,6 (IC95% 1,1-2)
Reduction: - 97%

-Cases: 2877
-Rate 88,70
-Outbreaks in cities: 11

-Cases: 9
-Rate: 0,2
-Brotes: 0 en ciudades

Romero C y col Rev Méd Urug 2012; 28(2): 115-122 Romero C y col II Congeso Uruguay Infectología Pediátrica 2018 Montevideo

Hepatitis A. Annual incidence, by age group and vaccination strategies. 2005 to 2010 Uruguay



✓ **HERD EFFECT**

✓ Liver transplant for hepatic failure VHA: **After 2008 0**

Before: 1994 to 2007: **7**

Romero C y col Rev Méd Urug 2012; 28(2): 115-122

OPEN ACCESS Freely available online

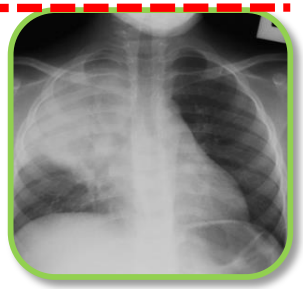
PLOS ONE

Effect of Pneumococcal Conjugate Vaccination in Uruguay, a Middle-Income Country

Garcia-Gabarrot G et al PLoS One. 2014; 9(11):e112337.

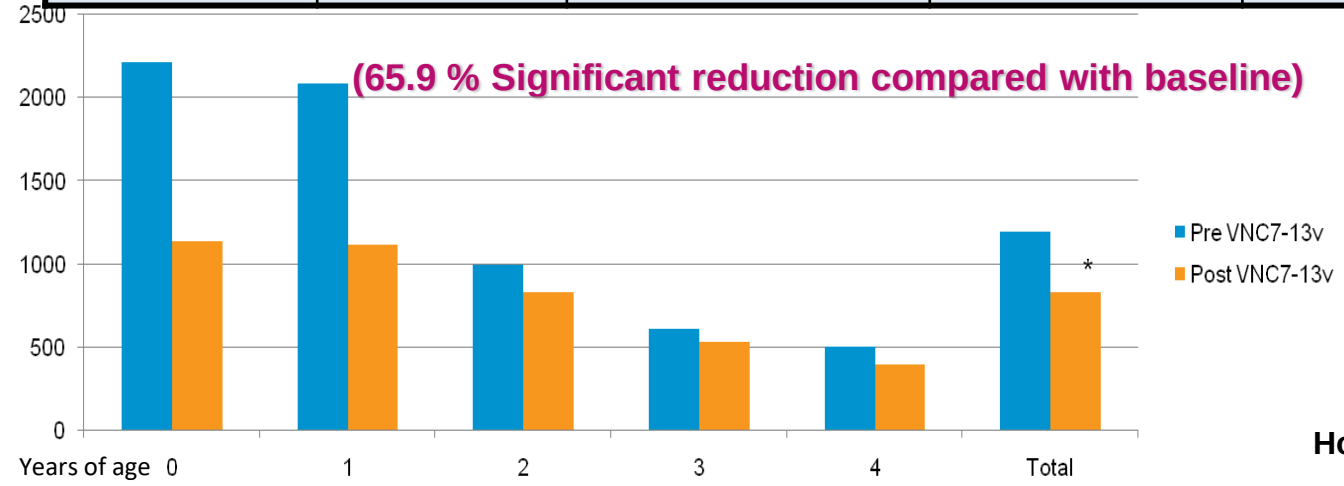
Incidence EIN: Significant reduction in <2y (IR 68.7 to IR 29.6, p <0.001) and 2 to 4 y (p <0.04
Incidene EIN patients ≥5: significant redutión for PCV7v (-95%) and 13v (83%) serotypes.

Community-acquired Pneumonia (CAP) hospitalizations before and after PCV7 and PCV13 introduction Salto y Paysandú. Uruguay



- ✓ **Prospective population-based study, June 2001 – May 2004:**
- ✓ **Population based study post vaccination April 2008 – December 2011:**

Age	Pre Vaccination 2001-2004	2008 PCV7 Introduction 2 + 1	2009 Post-PCV7 vaccination	2010 PCV13 Introduction 2 + 1	2011 Post-PCV13 vaccination
<2 years	**2.407/10^5**		**1.261/10^5**		**1.065/10^5**

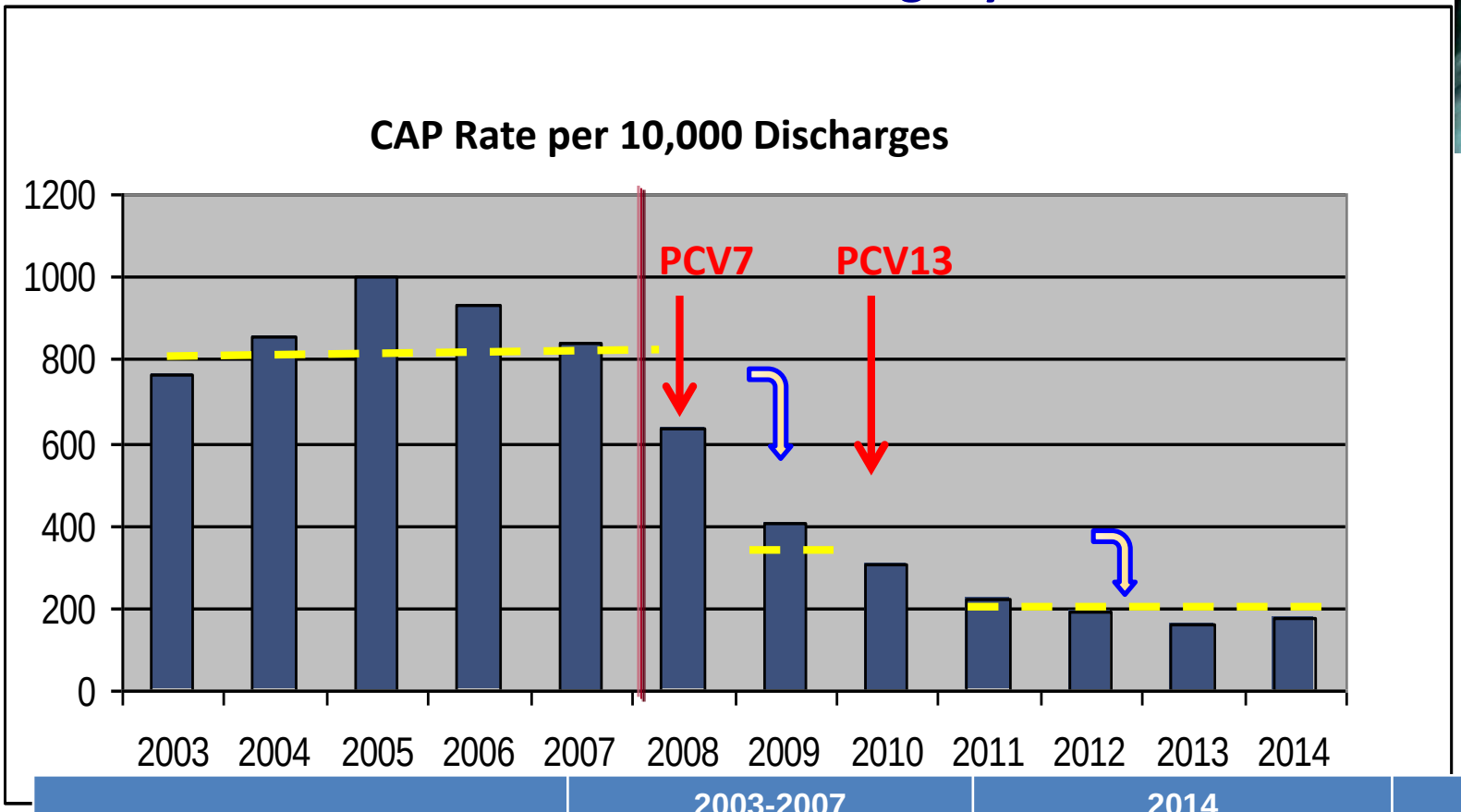


WHO definition of pneumonia
- cough or difficulty breathing AND -age-specific WHO-defined tachypnea AND - radiographically confirmed pneumonia (consolidation/pleural effusion: alveolar consolidation) OR interstitial pattern/infiltrate

Hortal M. Vaccine 2012; 30 (33): 4897-5058

Community-acquired Pneumonia Before and After PCV7/13 Children 0 to 14 years. Referral Pediatric Hospital (HP-CHPR) 2003 to 2012 in Uruguay

Consolidation in the chest-RX

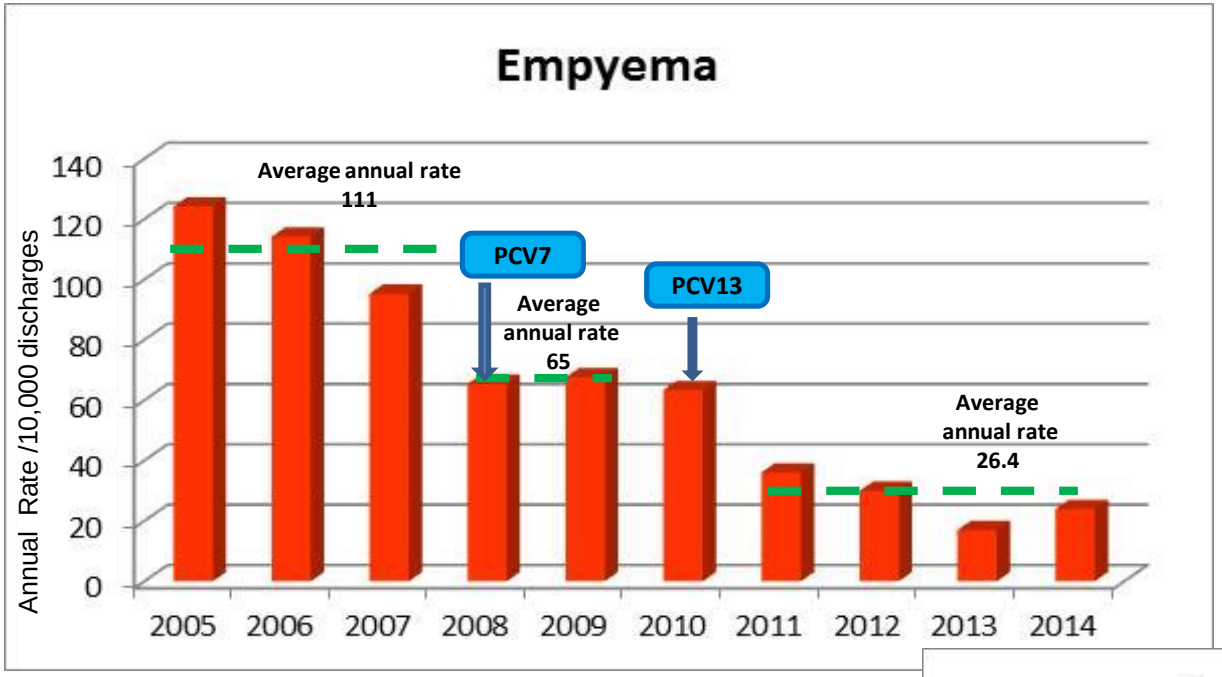


Clinical Entity	2003-2007 Before PCV7/ PCV13	2014 After PCV7/ PCV13	% Reduction
CAP	879,1 (833,4-924,7)	173(148-199)	- 80.4 ‡
Pneumococcal Pneumonia (PP)	71.8 (58.2-85.5)	7 (1.8-12.2)	-90.3‡
PP-vaccine serotype PCV13	60.8 (48.3-73.3)	4 (0-7)	- 93.5‡

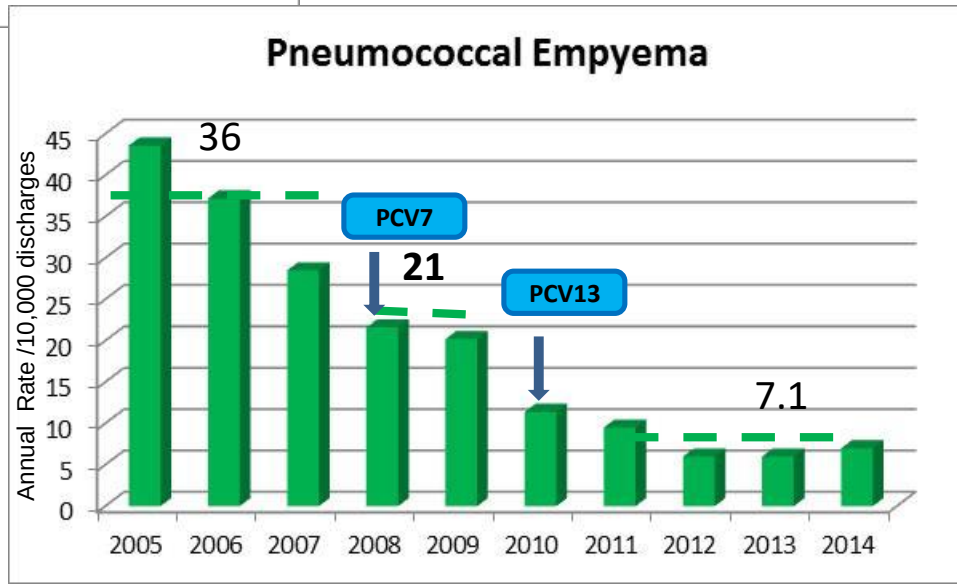
Pirez MC Pediatr Infect Dis J 2011;30:669-674. Pírez MC, et al. *Pediatr Infect Dis J* 2014;33:753-769
Machado K y col .ISPPD 10,Glasgow 2016 Postser 481

‡Statistically significant reduction, *P*<0.05

Empyema Before and After PCV7/13. Children 0 to 14 years. Referral Pediatric Hospital (HP-CHPR) 2003 to 2014 in Uruguay



- ✓ **Empyema: Significant reduction** (average annual rate)
  - after PCV7(-39%)
  - after PCV13 (-77%)
- ✓ **Pneumococcal empyema**
  (*S. pneumoniae* isolated from pleural fluid and/or blood in a child with emypema)
  Significant reduction (average annual rate)
  - after PCV7 (-42%)
  - after PCV13 (- 80%)



Pirez MC et al. *Pediatr Infect Dis J* 2014 Jul;33(7):753-9
Pirez MC et al *Pediatr Infect Dis J*. 2011;30(8):669-74 Assandri E. Empyema in vaccine era. nov 2015 Montevideo, personal communication

Comments

- ✓ The control or elimination of vaccine preventable diseases in Uruguay is based on a robust PNI.
- ✓ **Objectives:**

- **Manteining high vaccination coverage of vaccines in children (SARAMPION)**

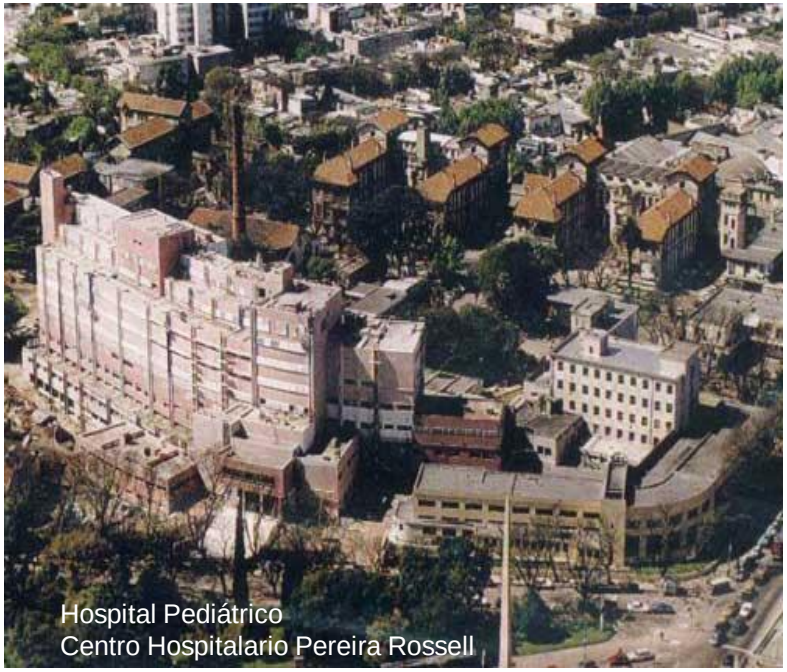
- **Improve the coverage vaccination of pregnant women (influenza, dpaT)** and population with high risk of severe disease for vaccine preventable disease.

- **Introduction of the rotavirus vaccine:**

There are information about the burden of diarrheal diseases in children and circulating genotypes (G3 P8, G1 P8).

One study estimates that the inclusion of the rotavirus vaccine in the PNI will have an impact that will decrease the burden of diarrhea in children and the costs associated with health care in hospitalization and outpatient visits in Uruguay.

Pujadas M et al Impacto económico de la diarrea por rotavirus en Uruguay. Congreso Uruguayo de Pediatría 2017
Gutierrez C y col **Genotipo Rotavirus A in hospitalized children. Uruguay** (WSPID) Congress Río, Brasil. Noviembre 2015



Hospital Pediátrico
Centro Hospitalario Pereira Rossell

Casa Pueblo
Punta del Este

Thank you

Atardecer en Salto, Río Uruguay

Puerto Buceo, Montevideo