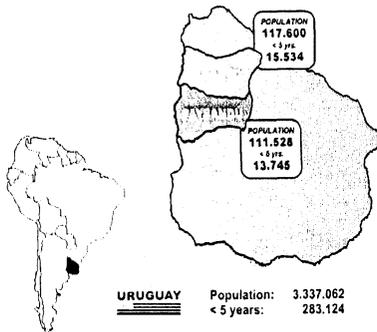


# A population-based assessment of disease burden from consolidated pneumonias in hospitalized children.

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Twelve-years of SIREVA surveillance on invasive diseases provided in Uruguay information on frequency of *S. pneumoniae* serotypes and antibiotic susceptibility.

Nevertheless the spectrum of pneumococcal pneumonia preventable by vaccination was poorly defined.

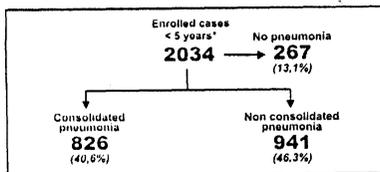
To overcome the difficulty in estimating the burden of pneumococcal pneumonia in children WHO recommended the standardized chest X-ray interpretation.

## Aim

Perform a population-based study in Paysandú /Salto (Uruguay) to assess the consolidated pneumonia burden for hospitalized children under 5 years of age.

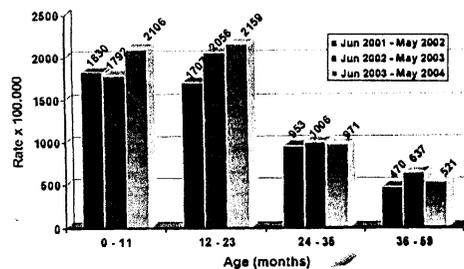
## RESULTS

Paysandú and Salto Surveillance  
June 2001 - May 2004

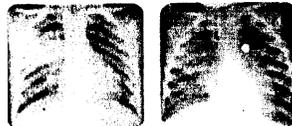


\*Maurer, Jru. 1,2 69.9% < 23 months.

Incidence rates of consolidated pneumonia cases by age and years of surveillance



According to standardized X-rays



	Consolidated pneumonia (n = 826)		Non consolidated pneumonia (n = 941)	
Severity of cases				
Hospitalization <sup>1</sup>	317	38,4%	291	30,9%
Intensive care <sup>1</sup>	16	1,9%	10	1,1%
WBC counts <sup>3</sup>	346	41,9%	209	22,2%*
2 <sup>nd</sup> choice <sup>4</sup> ATB	60	7,3%	16	1,7%*
Fatalities	5	0,6%	1	0,1%

### Bacterial Etiology

Invasive <i>S. pneumoniae</i>	18 / 273	6,6%	2 / 189	1,1%
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### Viral Etiology

	(n NPA = 228)		(n NPA = 228)	
Syncytial respiratory	38		36	
Influenza A	3		0	
Influenza B	1		1	
Parainfluenza 3	0		2	
Total (+)	42	(18,4%)	39	(17,1%)

<sup>1</sup> < 6 days stay, <sup>2</sup> < 6 days stay, <sup>3</sup> > 15 000 - 3<sup>4</sup> Geni caprolisporin / vancomycin. \*p < 0,05.

### Most-frequent invasive *S. pneumoniae* serotypes

Serotype	n	%	accumulated %
14	160	30,8	30,8
5	98	18,9	49,7
1	75	14,4	64,1
7F	27	5,2	69,3
3	21	4,0	73,3
6B	18	3,4	76,7
19A	18	3,4	80,1
23F	16	3,1	83,2

### *S. pneumoniae* invasive serotypes in pneumonia isolates vs. vaccine percent coverage by age

	3 months	4 - 11 months	1 year	2 - 5 years
7-valent*	50	75	67	46
9-valent*	63	85	91	92
11-valent*	100	96	98	99

\* Including cross reactions.

Ref. Vaccine 2003

## CONCLUSIONS

- Incidence rates of consolidated pneumonias in hospitalized children under 5 years were assessed for the first time in Uruguay.
- The highest rates were recorded among patients less than 23 months, which are the main candidates for *S pneumoniae* conjugated vaccines.
- X-rays were adequate epidemiological tools to estimate pneumonias preventable by pneumococcal vaccines.