## Abstract

The effectiveness of PCV13 vaccine to prevent consolidated pneumonia was evaluated in children under 5 years of age in Pilar Department, Argentina. A significant reduction in hospitalization due to pneumococcal pneumonia was observed after the introduction of PCV13 in the National Immunization Program of Argentina in 2012.

## Methods

### Study Design

Population-based study.

### Inclusion Criteria

- All outpatient and inpatient <5 years with clinical signs of pneumonia living in Pilar Department.
- Assisted at the referral hospitals, between January 2012 and December 2014.

### Statistical methods

Software Epidata v.6.04 and Epitab v.3.1 were used for data analysis. The results were expressed as mean ± SD, median (range) and percentage of patients characteristics. The Cochran test was used for evaluating the differences between the periods compared. A P-value less than 0.05 was assumed to indicate statistical significance.

### Consolidated Pneumonia Incidence by Age

The Consolidated Pneumonia Incidence by Age in Children under 5 years of age is shown in the figure. The incidence was significantly lower in the post-PCV13 period compared to the pre-PCV13 period.

## Results

### Comparison of Pre and Post PCV13 Vaccine Introduction Periods

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<thead>
<tr>
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<tbody>
<tr>
<td>Total of clinical pneumonia cases</td>
<td>1220</td>
<td>100.0</td>
<td>897</td>
</tr>
<tr>
<td>Pneumococcal pneumonia cases</td>
<td>410</td>
<td>45.9</td>
<td>45.9</td>
</tr>
<tr>
<td>Pneumococcal consolidated pneumonia</td>
<td>7</td>
<td>1.2</td>
<td>5</td>
</tr>
</tbody>
</table>

### Consolidated Pneumonia Population

The number of cases of consolidated pneumonia before and after the introduction of PCV13 is shown in the table. The number of cases decreased significantly after the introduction of PCV13.

## Conclusions

The PCV13 effectiveness was evident in:

- Infants <1 year of age in 2012:
- <2 years old in 2013:
- Older ages in the 3rd year of vaccine introduction.

The surveillance of the burden of disease and serotype distribution is crucial to evaluate the local impact.