Measles and Rubella Elimination in Countries of Latin America and the Caribbean

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Measles Elimination Goals in the Americas

- USA establishes the goal in 1982.
- Cuba sets the goal for 1990.
- English-speaking Caribbean sets the goal for 1995.

Despite these efforts, some countries with coverage >70% continued to report outbreaks.
1994 Pan American Sanitary Conference

Resolves:

(4) “to establish the regional goal of elimination of measles by the year 2000 and urges Member governments to make every effort to achieve this goal”;

PAHO’s VALUES:
Equity and Social Inclusion; Solidarity; Pan-Americanism
Setting a Measles Elimination Goal: Enabling Factors, PAHO

- Regional experience with smallpox and polio
- Experience of pioneering countries
- Evolving best practices in outbreak response
- Sub-regional initiatives targeting elimination with demonstrated impact on lowering disease incidence
- Political commitment
Definition of Measles Elimination in the Americas

Interruption of endemic measles virus transmission in all the countries of the Americas for \( \geq 12 \) months, in the presence of high-quality surveillance.

Source: PAHO. 16th Meeting of the PAHO Technical Advisory Group on Vaccine Preventable Diseases.
Strategies for Measles Elimination

1. Vaccination

✓ “Catch-up” vaccination campaign from 1 – 14 years.

✓ High (>95%) MMR routine coverage at 12 months of age (“Keep up”) (All countries of the region administer measles-rubella containing vaccine at 1 yr. of age).*

✓ “Follow-up” MR campaigns targeting children aged 1-4 years.*

2. Measles Surveillance

3. Serological diagnosis, viral detection and isolation

*Beginning in 1998 countries gradually incorporated measles-rubella containing vaccines (MR/MMR).
During the period 2000-2020, the measles elimination program in the Americas will have prevented 3.2 million cases of measles and 16,000 deaths, saving US$ 208 million in treatment costs.

*Data until EW 52/2009. **Prior to 1995, reported cases.
Source: Country reports to PAHO.
Measles Elimination, the Americas, 2001-2009

- Importations cause limited outbreaks
- Genotypes do not continue

Source: Country reports to FCH/IM. Global Measles Laboratory.
Provisional data as of EW 52/2009.

** Canada cases from 2008 (D8 genotype) linked to a case or transmission chain where the source of index case is unknown.
Congenital Rubella Syndrome
Reported Measles and Rubella Cases, The Americas, 1980-2010*

*Data until EW 27/2010. Aruba and Netherland Antilles not reporting.

Source: EPI tables (1999-2003) and country reports to PAHO/WHO (since 2004).
Rubella Elimination: Cost Savings

- Elimination of rubella and congenital rubella syndrome (CRS) costs 7% of what it would take the health systems of countries to care and provide rehabilitative services for babies born with CRS.

- Not all immunization interventions are cost-saving e.g. rotavirus vaccine at current prices.

## Alignment of Measles and Rubella Elimination Strategies

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Surveillance</th>
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<tbody>
<tr>
<td>• “Catch-up” campaign; children aged 1 to 14 years.</td>
<td>1. Integrated measles/rubella surveillance</td>
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<tr>
<td>• “Keep-up” activities to maintain coverage ≥95% in the routine program; children aged 1 year.</td>
<td>2. CRS surveillance</td>
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<tr>
<td>• “Follow-up” campaign; preschool-aged children</td>
<td>3. Laboratory activities</td>
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<tr>
<td>• Introduction of MMR or MR in routine program; children aged 1 year.</td>
<td>• Serological diagnosis.</td>
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<tr>
<td>• “Speed-up” campaign in adolescents and adults.</td>
<td>• Viral detection/isolation</td>
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<td><em>(The age group of men and women to be vaccinated depends on the year of vaccine introduction, follow-up campaigns, epidemiology, and fertility rates in the countries).</em></td>
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Vaccination in women and high risk men population

Source: Country reports to PAHO

*Vaccination in women and high risk men population

Total: 170 million vaccinated
Rubella Elimination in the Americas, 1982-2009

Over the 15 year period from 2001-2016, the rubella and CRS initiative will have saved an estimated US $3 B by preventing more than 112,500 CRS cases in countries of LAC.

Source: Country reports to PAHO/WHO. Data until EW 52/2009.
Rubella Elimination: A Catalyst for Maintaining Measles Elimination

• “Speed-up” campaigns deliver combined MR vaccine to adolescent and adult populations (male and female)
  – Greatly diminishes the risk of the reestablishment of endemic virus transmission after importations

• Facilitated countries to switch from single antigen measles to MMR vaccine in routine program, while maintaining high coverage

• Integration of MR surveillance resulted in improved case investigation and strengthened laboratory capacity
Impact of Rubella Elimination Strategies, the Americas, 1998–2009

>18 months without confirmed endemic rubella cases

Last endemic rubella cases 3 Feb 2009

Close monitoring of...
✓ Surveillance performance
✓ Virus excretion from confirmed CRS cases

Rubella cases: 135,947
The Americas, 1998

Rubella cases: 11
- Endemic: 3 (ARG)
- Imported: 8 (CAN and USA)
17 CRS cases and 8 CRI

1 dot = 1 case

Source: Country reports to PAHO
Data until EW 52/2009.
Conclusions

• Combining both measles and rubella elimination, is feasible, practical, and mutually sustainable if done together. Rubella elimination definitely contributed to sustaining measles elimination.

• Partnership is essential
  – CDC, CIDA, SII, Sabin, UNICEF, March of Dimes, Spain, pediatric and obstetrical associations

• Both measles and rubella elimination require commitment from the highest political level.

• Measles vaccination campaigns without rubella antigen are missed opportunities and raise serious ethical concerns.

• Regions acting alone will unlikely be able to sustain the achievements of measles elimination. Sustaining achievements will require global vision and solidarity.