

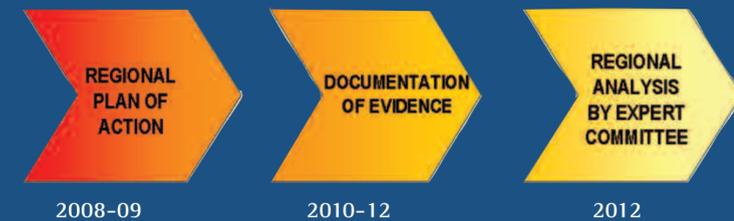


"TO URGE MEMBER STATES TO ELIMINATE RUBELLA AND CONGENITAL RUBELLA SYNDROME (CRS) FROM THEIR COUNTRIES BY THE YEAR 2010

*RESOLUTION CD44.RI, 2003*

"TO URGE ALL MEMBER STATES TO ESTABLISH NATIONAL COMMISSIONS TO COMPILE AND ANALYZE DATA TO DOCUMENT AND VERIFY MEASLES, RUBELLA AND CRS ELIMINATION"

*RESOLUTION CSP27.R2, 2007*



## CHARACTERISTICS OF VACCINATION CAMPAIGNS FOR RUBELLA AND CRS ELIMINATION

1. Non-traditional groups vaccinated
  - Adolescents and adults: men and women
2. Large proportion of population to be vaccinated
  - Between 40-70% of the total population
3. Broad and timely social mobilization
  - Political commitment and partner participation at all levels
4. Detailed plans of action with follow-up in the field
  - Requires ≥ 95% coverage
5. Short time period
  - Intense: 6 weeks

## KEYS TO SUCCESS IN VACCINATION CAMPAIGNS

1. Political commitment and participation at the highest level.
2. Establish alliances with scientific societies, churches, the media, and other social actors.
3. Strong presence in the mass media and intense social mobilization.
4. Microprogramming at the local level according to local realities.
5. Organization, planning, and available resources.
6. Practical and timely information system.
7. Vaccination safety plan.
8. Coverage monitoring and verification.

## CHALLENGES FOR MAINTAINING MEASLES, RUBELLA, AND CRS ELIMINATION IN THE AMERICAS

1. Risk of virus importations from other regions.
2. Appearance of cases secondary to importation.
3. Prevention and rapid response to outbreaks.
4. Reach susceptibles through a second opportunity (high-quality follow-up campaigns).
5. Strengthening integrated measles/rubella surveillance and CRS surveillance.
6. Strengthening the role of the private sector.
7. False positive/negative results and limited specimens for virus detection/isolation.

T I M E L I N E

# CRONOLOGICAL HISTORY OF RUBELLA ELIMINATION IN THE REGION OF THE AMERICAS

“Blindness separates us from things, but deafness separates us from people.”

*Helen Keller*

“Whatever measles vaccination campaign that does not include the rubella vaccine is a missed opportunity”

*Ciro de Quadros*





The English physician, Henry Veale, coins the term rubella, meaning "little red", after an outbreak occurred in India. His findings are published in the *Edinburgh Medical Journal*.

1866



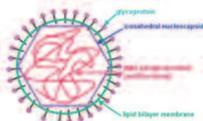
In 1904, the newspaper *San Francisco Call* reports that members of British royalty would not attend an event due to recent illness with rubella.

In the early 1900s preventive measures, such as quarantine, were taken to reduce the transmission of rubella.

1910



Rubella Virus



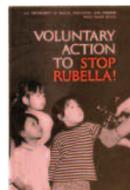
The rubella virus is isolated for the first time in the United States, by the teams of Parkman and Meyer and by Weller and Neva. They developed neutralization tests for diagnosis.

1962



HPV-77 (two versions) and Cendehill rubella vaccines are licensed in the United States. Additionally, the RA 27/3 vaccine is developed in the country and the license is granted in several European countries.

1969-1970



Ongoing efforts are made in the U.S. to promote rubella vaccination.

RA 27/3 vaccine is licensed in the United States, becoming the only rubella-containing vaccine available in the country.

1979



In response to an increase in the incidence of rubella, European countries intensify efforts to prevent rubella and CRS.

1984



Rubella surveillance is strengthened in the Region of the Americas by establishing the measles elimination goal (Resolution CSP24.R16, 24th Pan American Sanitary Conference).

1994

TAG Recommendations, 1997  
Rubella and CRS

1. Countries wishing to prevent and control CRS promptly should carry out a one time mass campaign to vaccinate all females 5-39 years of age with rubella or MR vaccine.
2. Countries wishing to prevent and control both rubella and CRS promptly should carry out a one time mass campaign to vaccinate both males and females 5-39 years of age with rubella or MR vaccine.



The Technical Advisory Group on Vaccine-preventable Diseases (TAG) recommends the implementation of a strategy to accelerate rubella control and prevent CRS in the Americas.

1997



Adult vaccination campaigns begin: English-speaking Caribbean implements a vaccination campaign for men and women (1998); Chile carries out a vaccination campaign for women (1999); Costa Rica conducts mass vaccination of men and women (2001); Brazil implements a vaccination campaign for women (between 2001-2002); and Honduras conducts a vaccination campaign for men and women (2002).

1998-2002



Dr. Mirta Roses Periago, PAHO Director, 2003-present

The 44th PAHO Directing Council adopts the Resolution to achieve the rubella and CRS elimination goal in the countries of the Region by 2010.

2003



The Meeting of an Ad-hoc Panel of Experts on Rubella and Measles is held in Washington, D.C. to discuss rubella and CRS elimination strategies, review surveillance indicators, and evaluate rubella elimination definitions.

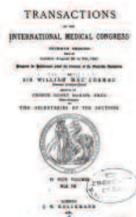
2004

PAHO develops a comprehensive plan of action to eliminate rubella and CRS from the Americas by 2010.



1881

The International Medical Congress recognizes "rubella" as a distinct febrile rash illness.



*On the Existence of Two Distinct Forms of Eruptive Fever, usually included under the head of Measles, and the Relation to them of so-called Rubella or Röteln.*  
Dr. W. B. CHANCE, London.  
One of the main points held down as distinctive of the group of eruptive exanthemata, from the time of Cullen downwards, is that each disease occurs in the same individual but never in a lifetime—that is, that one attack of any of these eruptive fevers confers on the individual who suffers it immunity from a second; and the rule has been found to hold good, not, indeed, as absolutely invariable, but with exceptions so few and rare as not seriously to invalidate the general law.

1941

The ophthalmologist Norman Gregg recognizes the teratogenic effect of the rubella virus upon establishing the association between infection during pregnancy and an epidemic of congenital cataracts in Australia.



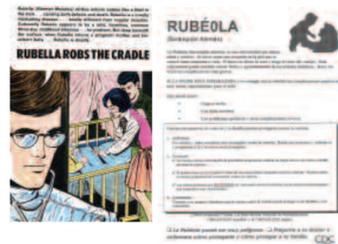
Group of deaf children, 1948. Four of the students would participate in CRS studies conducted by Gregg.

1963-1964

An extensive rubella epidemic occurs in Europe and the United States: 12.5 million rubella cases, 11,000 fetal deaths and 20,000 CRS cases in the United States. The epidemic is described by Dr. Louis Cooper in his groundbreaking article.



Dr. Louis Z. Cooper, MD



Propaganda used in the United States raises awareness about rubella and the devastating consequences of infection by the rubella virus during pregnancy.

1971

Combined measles-mumps-rubella (MMR) vaccine is licensed in the United States.



The demand for the combined MMR vaccine is high during the 1970s.



The United States uses billboards to promote rubella vaccination.

1969-1984

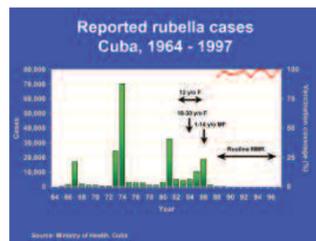
Countries such as Canada, Costa Rica, Cuba, Panama, the United States, and Uruguay initiate rubella vaccination in select population groups.



United States of America

1982-1986

Cuba implements mass rubella vaccination campaigns targeting women, children and adolescents (males and females).



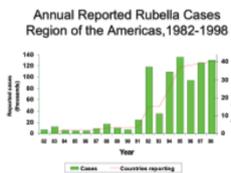
1995

On World Health Day, Hillary Clinton, First Lady of United States, announces an \$8 million donation to support PAHO's efforts to eliminate measles in the Americas by 2000. Strengthened measles elimination efforts lead to the identification of widespread rubella virus circulation in the Region.



1992-1998

Rubella is endemic in several countries of the Region of the Americas: more than 750,000 cases are reported between 1992-1998.



The Council for Human and Social Development of the Caribbean Community sets the rubella elimination goal for the end of 2000.



PRESENTING EVIDENCE AND SHARING BEST PRACTICES FOR ELIMINATION INITIATIVES



Carlos Castillo-Solorzano, MD, MPH  
Immunization Advisor  
Pan American Health Organization

The best way to understand how a disease can be eliminated is to observe the actions of those who worked to eliminate it and read what they wrote about it. This compendium of rubella and congenital rubella syndrome (CRS) articles is a collection of articles on evidence and best practices in measles, rubella, and CRS elimination, written by the health workers themselves. Since 1979, the *EPI Newsletter*—today known as the *Immunization Newsletter*—has published lessons learned, critical evaluations of the results achieved by the interventions and of the data obtained, and investigation findings. An essential aspect of the *Immunization Newsletter* is that it has allowed the dissemination of experiences to other countries and future generations. This is of prime importance because without being written about and disseminated, those experiences would have been in vain.

Over the fifteen-year period of the measles and rubella elimination process, while recommended strategies were implemented in a time of rapid and dramatic changes, all the countries had to be tuned in the same frequency. It was an ever growing challenge in light of the

cultural, religious, and social diversity in the Region, but the daily and steady advances of the disease elimination initiatives were a means to unite us all. In addition, countries worked hand-in-hand in a show of Pan-Americanism: a close bond and a tight solidarity between a brotherhood of countries. The book provides a response to questions regarding development and implementation of strategies, alternatives considered, challenges, and results.

The importation of measles and rubella cases will continue to pose a threat to elimination programs. Although extraordinary efforts are being made, virus importations will continue. They will only be stopped when countries of the other regions of the world conduct similar efforts. Today, as we reach the end of the 21st century's first decade, the feasibility of global measles eradication is being discussed. It will only become possible if appropriate strategies are implemented. With this in mind, this publication will represent a precious source of knowledge for other regions of the world.

We cannot write about disease elimination without mentioning the impact these initiatives have on renovating and strengthening primary health care. The need to achieve universal coverage in order to attain measles and rubella elimination contributes to the promotion of universal access to immunization. In the process, the inequities, the exclusion, and the health inequalities that still persist, and result from economic, linguistic, cultural, and gender barriers, are reduced.

Elimination strategies also strive to expand the offer of services to overcome the gap in coverage that remains a reality for many countries where large portions of the population continue to be neglected. These strategies also place the individual at the center of health care services and offer efficiencies of scale, since comprehensive care and integration of health interventions are the only viable options when countries are facing concurrent problems, such as disasters or outbreaks.

The strengthening of inclusive leadership, one that permits strong consensus-building among various stakeholders prior to strategy implementation, has been essential to measles, rubella, and CRS elimination. The leadership has allowed for the elimination initiative to count on the involvement of scientific societies, public, private, and

community organizations, and churches. It has drawn cooperation from all sectors of society and has promoted new models of collaboration.

By taking advantage of the impetus of disease elimination initiatives, we can accelerate health system transformation and renovate primary health care, while drawing on the principles of universal access, equity, and social justice.

This compendium of lessons learned and best practices seeks to promote the sharing of experiences between countries. It can provide an example to follow in the global health arena, as it highlights the benefits of uniting in collective action and calls for comprehensive and universal care, while identifying various financial mechanisms in support of global solidarity.

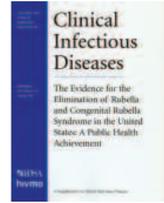
If the world is a book, then this compendium is one of its chapters: a new way to tell history and provide a testimony regarding a major milestone in global public health. We hope that this compendium will be a useful tool and that you will visit [www.paho.org/immunization](http://www.paho.org/immunization) to learn more about the measles, rubella, and CRS initiatives in the Americas.



Ecuador and El Salvador carry out adolescent and adult (men and women) rubella vaccination campaigns reaching >95% coverage. \*\*



Colombia, Nicaragua, Paraguay and Venezuela (first phase) implement national rubella campaigns in men and women.



An independent panel comprised of internationally recognized authorities assesses progress toward rubella and CRS elimination and declares rubella eliminated in the United States.



The Sabin Vaccine Institute (SVI) and PAHO sign an agreement for a second year of partnership to eliminate rubella and CRS from the Americas.



The Meeting of Experts on Congenital Rubella Syndrome takes place in Washington, D.C. to highlight lessons learned and define best practices in public health to improve CRS surveillance in the Region.



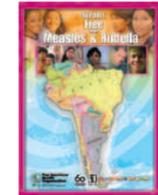
Vaccination campaigns for rubella and CRS elimination are implemented in Bolivia (second phase), Chile (men only), Cuba, Guatemala, Haiti and Venezuela.



The 27th Pan American Sanitary Conference adopts Resolution CSP27.R2 for the documentation and verification of measles, rubella and CRS elimination, which will be analyzed by an expert committee.



With the completion of mass campaigns in Argentina (men only), Brazil, Haiti and Mexico, all countries have implemented interventions to maintain measles elimination and eliminate rubella. More than 250 million adult men and women have been vaccinated with measles-rubella (MR) vaccine, leading to a reduction of 97% in the number of rubella cases since 1998. A Technical Cooperation among Countries (TCC) was signed between 10 South American countries for vaccination in border areas.



Rubella cases: 3 (2009) The Americas, 2009



Costa Rica is the first country in the Region to establish a national commission for the documentation and verification of measles, rubella and CRS elimination. President Arias signs the executive decree.



Endemic rubella virus circulation is limited to a single country in the Region of the Americas (rash onset date of last case: EW 4).

2005

2006

2007

2009

Forty-three of 44 countries and territories in the Americas have introduced the MMR vaccine in their national immunization programs.

A group of international experts meet at WHO to standardize rubella virus nomenclature, which consists of 2 clades (1 and 2) and 7 genotypes.

Regional workshops on rubella and CRS elimination are held in Bogota, Colombia and Santa Cruz, Bolivia to implement elimination strategies.

Public health experts that participated in the National Consensus Conference for Vaccine-Preventable Diseases in Canada adopt PAHO's regional rubella elimination goal by 2010.

Argentina (women only), Bolivia, the Dominican Republic, and Peru carry out mass vaccination campaigns in adolescents and adults (men and women).

The 47th PAHO Directing Council adopts Resolution CD47.R10, reaffirming that rubella elimination is a priority in the Region.

WHO updates rubella virus nomenclature, which consists of 2 clades (1 and 2) and 9 genotypes (and 4 provisional genotypes). For the countries of the Americas, training workshops on rubella virus detection are held in FIOCRUZ laboratory in Brazil and INDRÉ laboratory in Mexico.

2008\*

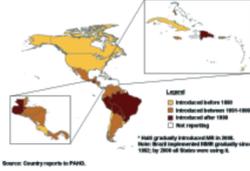
A group of experts meets to discuss the essential elements to be included in a regional plan of action to document and verify measles, rubella and CRS elimination in the Americas.

PAHO develops a strategic plan of action for 2008-2012 to support additional elimination efforts and maintain the achievements gained to date.

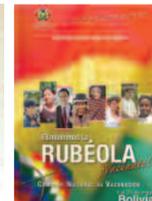
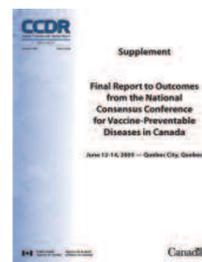
2008-2009

PAHO develops a Plan of Action for the documentation and verification of measles, rubella and CRS elimination in the countries of the Americas.

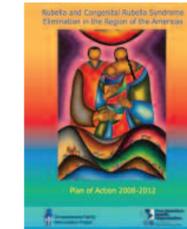
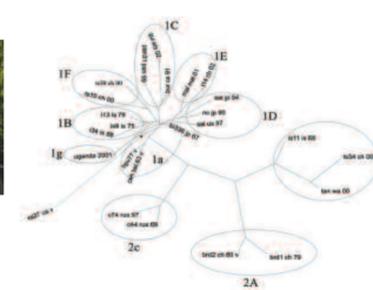
MMR vaccine introduction in the Americas\*



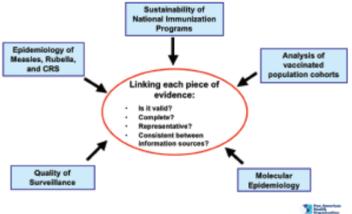
WHO Headquarters, Geneva, Switzerland



PAHO Headquarters, Washington, D.C.



Essential Components of Plan of Action to Document and Verify Measles and Rubella Elimination in the Americas



\*\*Beginning with 2004 campaigns, national professionals with vast experience and who excelled in the implementation of rubella elimination campaigns were invited to provide technical cooperation in subsequent campaigns in order to share best practices from the field. 2004-2009

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ACKNOWLEDGEMENTS

We recognize the unrelenting efforts of the legion of health workers in the Americas: who by virtue of their efforts have made it possible to collect in each of these articles the experiences and best practices accumulated by the Region to eliminate rubella and congenital rubella syndrome. We also thank the immunization team in the regional office, immunization focal points, and national immunization professionals in each country who contributed ideas, time and talent for the original production of these articles. Finally, we would like to thank all the people of the Americas for their determination in making this continent a healthier place.

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