

# Rubella Campaign in Chile\*

## Background

In 1990, Chile began immunizing children 1 year of age with measles, mumps and rubella (MMR) vaccine, adding a booster dose in 1993 for children 6 years of age. Between 1992 and 1996 a decline of rubella incidence was observed, but in 1997 and 1998 outbreaks (Figure 1) were reported in various health services of the country. These outbreaks showed a shift in the age groups being affected with rubella cases towards adolescents and young adults, with an increase in the incidence of the disease beginning at the age of 10 and 11 years. In order to prevent the occurrence of congenital rubella syndrome (CRS) cases, the Ministry of Health in Chile designed in 1999 a strategy of three components: a) a mass vaccination campaign aimed at women between the ages 10 and 29 years; b) strengthening Chile's laboratory diagnostic capabilities for rubella; and c) the establishment of a surveillance system for congenital rubella syndrome.

## Mass Rubella Campaign

A national mass vaccination campaign was carried out between August and September 1999, with the participation of the country's 28 health services, private health institutions, and the Armed Forces. The target population of the 30-day campaign was non-pregnant women between 10-29 years. Chilean Health authorities decided to target the 10-29 age group based on data showing that rubella outbreaks were affecting primarily adolescent and young adult women in their childbearing age. During the 1997 and 1998 rubella outbreaks, over 70% of cases corresponded to people between 10 and 29 years (74% in 1997 and 78% in 1998), half of these were women. Women in the 10-29 age group were considered to be at highest risk for rubella infection that could result in a CRS outcome of their newborn infants. The campaign sought to immediately control the problem of CRS, by dramatically reducing the number of women of childbearing age likely to become infected. Younger cohorts were already covered by vaccination efforts at 1 year of age and older cohorts had natural immunity. This was reflected by the low incidence rates of rubella shown in these two cohorts, as well as by the low number of susceptible population.

The campaign was divided into two phases. The second was added to reach women within the target age group (6%)

that were pregnant at the time of the campaign. This group was vaccinated post-partum, and the second phase is still underway.

The national reference laboratory carried out a differential diagnosis of rubella for the remaining reported rashes. A surveillance system for CRS began operating mid-September 1999, at hospitals and selected reference centers and was evaluated at the end of 1999.

The campaign utilized the monovalent rubella vaccine (vaccine strain Wistar AR 27/3M). There were approximately 6,000 vaccinators, working from 4,000 vaccination posts, as well as from private posts and those organized by the Armed Forces. An intensive communications campaign through radio, television and the press was carried prior to the campaign.

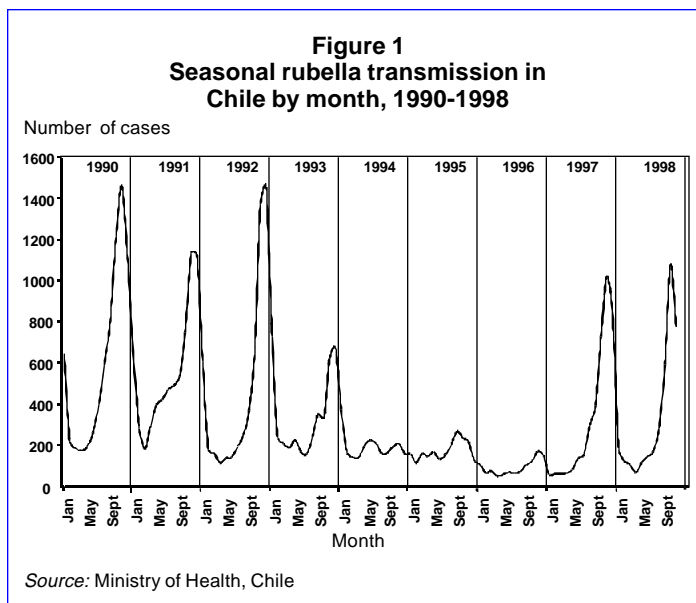
Current data indicate that the use of rubella vaccine during pregnancy is safe, presenting no risk of CRS for the fetus. However, Chile's rubella campaign followed international recommendations and decided that pregnant women would not be vaccinated. (Refer to *EPI Newsletter* of June 1999, pg. 3, for recommendations of PAHO's Technical

Advisory Group on Vaccine-Preventable Diseases on rubella vaccination during pregnancy).

## Results

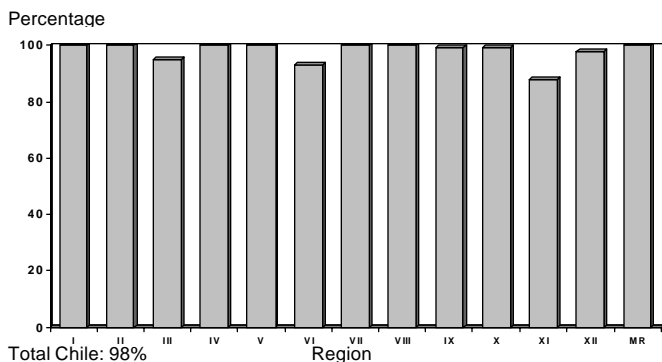
The estimated target population for the whole campaign was 2,507,448 women between the ages of 10 and 29 years. For the second phase, the target population is 153,173 women, who are to be vaccinated during the nine months following the mass campaign. Results obtained are based on data received from Chile's Epidemiology Department of women vaccinated through September 17. The mass campaign was finished by September 10 in most health areas, except in two health services where it took an extra week due to bad weather conditions.

At the national level, vaccination coverage reached 98%, ranging between 88 and 100% in the different regions (Figure 2). The success achieved can be attributed in part to the high-level consciousness of women about their own health and that of their families. Moreover, the success can also be attributed to the efficiency, effectiveness and commitment of the health teams involved in the campaign, the



clear and precise messages disseminated by the mass media.

**Figure 2**  
**Vaccination coverage of mass rubella campaign by region, Chile, 1999 (Phase I)**



MR= Metropolitan Region

The total number of women vaccinated were 2,467,924. Based on age group the numbers were as follows: between 10 and 14 years, 701,605 (102%); between 15 and 19 years 601, 853 (97%); between 20 and 24 years, 547,479 (92%); between 25 and 29 years, 616,987 (102%). Women between 20 and 24 years show the lowest vaccination coverage at the national level, with 92%. This group has the highest birth rate, therefore, a greater percentage of them would have been pregnant at the time of the first vaccination phase. This means that a greater proportion of women being vaccinated during the second phase should correspond to this age group.

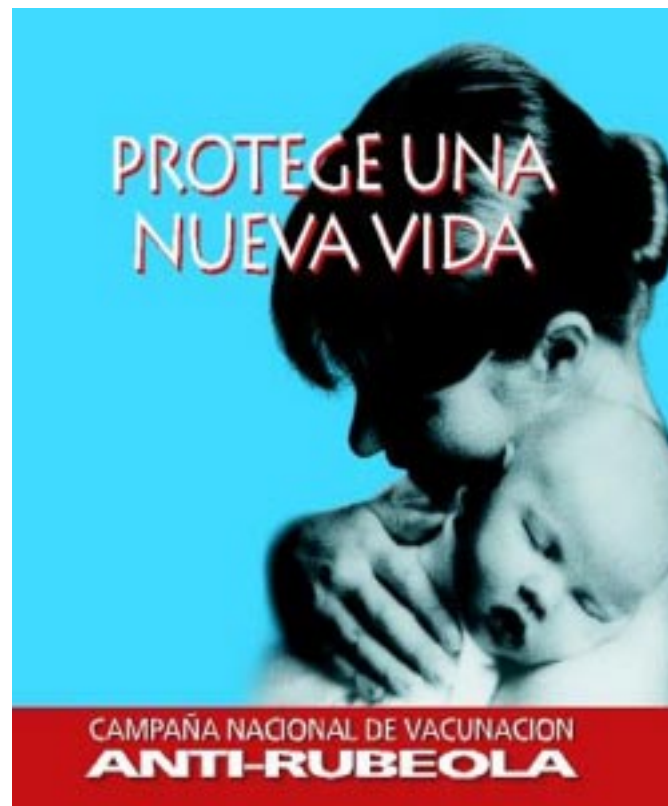
The Ministry of Health implemented a surveillance system with the following objectives: 1) to provide information on the effectiveness of the campaign and policies, to measure the impact on the occurrence of rubella and CRS. 2) to collaborate in identifying groups of people or geographical areas where additional control efforts are needed to reduce disease incidence, and 3) to evaluate the vaccine effectiveness, duration of vaccine-induced immunity, as well as other aspects related to the efficacy and safety of the vaccine.

*Source:* \*Summary of the report on the *Strategy for the Prevention of Congenital Rubella Syndrome in Chile*. For a complete version, contact: X. Aguilera; A. Guerrero; C. Gonzalez; M. Concha; A. Olea; M. Chiu; V. Sotomayor; D. Ulloa; H. Giorgi; and V. Child at the Department of Epidemiology, Ministry of Health, Mac- Iver 541, Santiago, Chile.

**Editorial Note:** PAHO congratulates the Ministry of Health in Chile for the high vaccination coverage attained in their recent mass rubella campaign and joins the Ministry in commending the great dedication, effort, and work of Chilean health care workers to reach this high coverage. PAHO as well as other Member States of the Region will monitor with great anticipation the impact of the campaign on reducing rubella virus circulation in females in child bearing age, and thereby the occurrence of CRS.

PAHO recommends that countries wishing to promptly prevent and control both rubella and CRS, should consider using a measles containing vaccine. The use of measles vaccine will also support the measles eradication efforts

underway in the Region of the Americas (refer to Final Report of Conclusions and Recommendations of PAHO's Twelfth Meeting of the Technical Advisory Group on Vaccine-Preventable Diseases, Guatemala, 1997.)



### New at the Immunization's Website

**Evaluation Tool of National Immunization Programs in the Americas.** Click under **Information Products**. The site contains the methodology developed by the Pan America Health Organization's Division of Vaccines and Immunization in 1980, for carrying out evaluations of national immunization programs. The methodology has been updated and recently implemented in Brazil, Bolivia, Ecuador, the Dominican Republic, Mexico, Paraguay Peru and Venezuela. Colombia was the first country in the Americas to carry out an evaluation in November of 1980.

These evaluations take a comprehensive look into an immunization program's strength and weaknesses, its efficiency and effectiveness, its impact on disease burden, as well as its capacity to adapt to new demands. A multidisciplinary team under the coordination of national health authorities is assembled and generally joined by a group of international experts. Following each evaluation, the team presents its findings and recommendations, and a five-year Plan of Action. In 1999, presentations of evaluation results were also done at national congresses and for Ministries of Finance and Planning.

[http://www.paho.org/english/hvp/hvp\\_home.htm](http://www.paho.org/english/hvp/hvp_home.htm)