



21 June 2019

Given the risk of importation and reintroduction of the rubella virus in the Region of the Americas, The Pan American Health Organization/World Health Organization (PAHO/WHO) encourages Member States to strengthen surveillance and intensify vaccination activities to achieve a coverage higher than 95% for all children under 5 years of age, and to promptly respond to imported cases.

### Situation summary in the Americas

During 2009, in the Region of the Americas, the last endemic rubella cases were reported in Argentina and Brazil (1). In the same year, Canada and the United States reported imported and import-related cases of rubella (2).

Between 2010 and 2019, 84 confirmed cases of rubella have been reported in eight countries of the Region of the Americas, and 16 cases of congenital rubella syndrome have been reported in the same period, three in Canada (one in 2011, one in 2015 and one in 2018) and 13 in the United States of America (three in 2012; three between 2013 and 2015, one each year; two in 2016 and 5 in 2017). All cases were imported or import-related (3) (**Figure 1**).

In 2015, the Region of the Americas was the first Region of the World Health Organization (WHO) to be declared free of the endemic transmission of rubella virus by the International Expert Committee (IEC) for Documenting and Verifying Measles, Rubella and the Congenital Rubella Syndrome in the Americas (4, 5, 6). Nevertheless, maintaining the Region free of rubella is an ongoing challenge due to the permanent risk of importation and reintroduction of the virus.

### Rubella

Rubella is an acute, generally mild viral disease that occurs more often in children and susceptible young adults and is considered of public health importance due to the teratogenic potential of the virus. It is caused by the rubella virus that belongs to the *Rubivirus* genus (*Togavirus* family).

It is transmitted through contact with nasopharyngeal secretions of infected people (droplets spread when infected people sneeze or cough).

Infection during pregnancy can result in miscarriage, fetal death or congenital malformations in the form of congenital rubella syndrome (CRS) (7).

The incubation period varies from 14 to 21 days (7, 8).

Clinical presentation during the first days consists of a nonspecific febrile condition characterized by fever, headache, malaise, mild coryza, and conjunctivitis. Postauricular, occipital, and posterior cervical lymphadenopathy is the most characteristic clinical feature and precedes the rash by 5 to 10 days. It is characterized by a diffuse punctate and maculopapular rash. A substantial proportion of infections include complications such as arthralgia and arthritis, particularly among adult females. Encephalitis is seen in 1 out of 6,000 cases and is most common in adults. Up to 50% of rubella infections are either without rash or subclinical (7).

**Suggested citation:** Pan American Health Organization / World Health Organization. Epidemiological Update: Rubella. 21 June 2019, Washington, D.C.: PAHO/WHO; 2019

In 2016, 2 confirmed imported cases of rubella were reported, one in Canada and one in the United States of America. No confirmed cases of congenital rubella syndrome were reported (9).

In 2017, 8 confirmed imported cases of rubella were reported, 1 case in Mexico and 7 cases in the United States of America. Additionally, two confirmed cases of congenital rubella syndrome were reported in the United States of America (10, 17).

In 2018, 4 confirmed import-related cases of rubella were reported, 2 cases in Mexico and 2 cases in the United States of America. Additionally, one confirmed case of congenital rubella syndrome was reported in Canada (11).

In 2019, Argentina and Chile have reported confirmed cases of rubella.

**Argentina** has reported 3 confirmed cases of rubella.

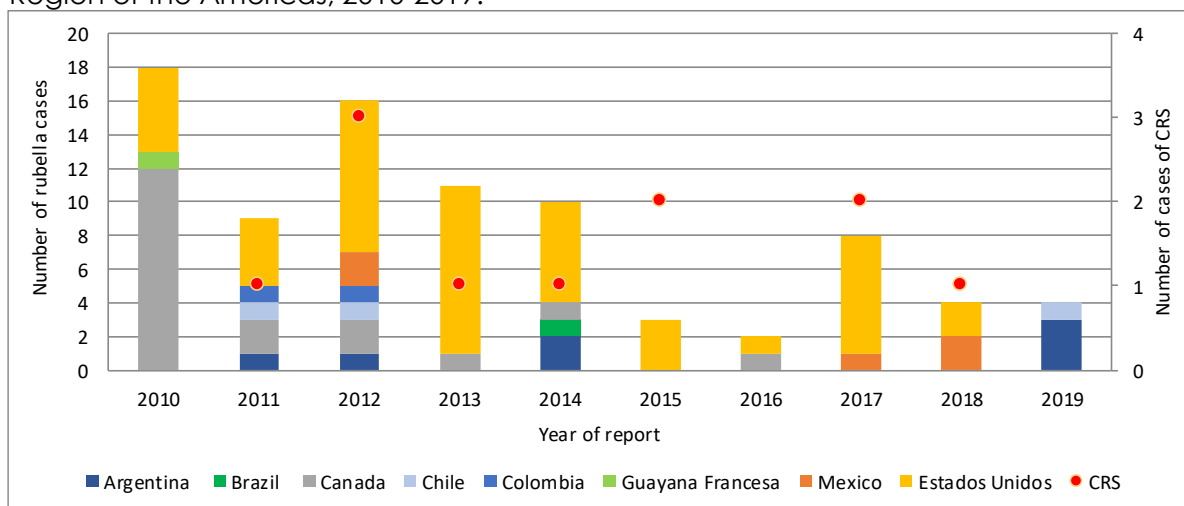
The first case, classified as imported, has been reported in a 27-year-old foreign male, resident of the province of Córdoba for 3 years, with unknown vaccination history. Rash onset was on 19 April and has travel history to Fujian province, People's Republic of China, from where he returned on 9 April. The genotype identified in this case was 1E.

The second and third cases were two Argentinian siblings, aged 7 and 11-years-old, residing in the city of Buenos Aires, with no history of vaccination or travel. Rash onset was 8 and 16 May, respectively. The probable source of infection of these cases was a family contact with travel history to India.

The most recent autochthonous confirmed case of rubella in Argentina was reported in the province of Buenos Aires in 2009 and the genotype identified was 2B.

**Chile** has reported one confirmed imported case of rubella. The case is a 34-year-old female from India, resident of the city of Santiago for 5 years, with unknown history of vaccination. Rash onset was on 6 April, and she has a travel history to India, from where she returned on 26 March.

**Figure 1.** Distribution of confirmed cases of rubella and congenital rubella syndrome (CRS) in the Region of the Americas, 2010-2019.



**Source:** Integrated Surveillance Information System for Vaccine-Preventable Diseases (ISIS), Measles Elimination Surveillance System (MESS) and reports of countries to PAHO/WHO.

## Advice to national authorities

Given the risk of importation and reintroduction of the rubella virus in the Region of the Americas, the Pan American Health Organization/World Health Organization (PAHO/WHO) recommends to all Member States to:

- Strengthen the efforts to implement the “**Plan of Action for the Sustainability of Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas 2018-2023**”, in its four strategic lines: 1) guarantee universal access to vaccination services; 2) strengthen the capacity of epidemiological surveillance systems for measles, rubella, and congenital rubella syndrome; 3) develop national operational capacity to maintain the elimination status; 4) establish standard mechanisms for rapid response to imported measles, rubella, and congenital rubella syndrome cases in order to prevent the re-establishment of endemic transmission in the countries (4).
- **Maintain homogeneous coverage of 95%** with the first and second doses of the measles, mumps, and rubella (MMR) vaccine in all municipalities.
- **Vaccinate at-risk populations** (without proof of vaccination or immunity against measles and rubella), such as healthcare workers, persons working in tourism and transportation (hotels, airports, border crossings, mass transportation, and others), as well as international travelers.
- **Maintain a stock of the** measles-rubella (MR) and/or measles, mumps, rubella (MMR) **vaccine, and syringes/supplies** for control actions of imported cases.
- **Facilitate the access to vaccination services according to the national scheme** to foreigners or people from the same country who perform temporary activities in countries with ongoing outbreaks; displaced populations; indigenous populations, or other vulnerable populations.
- Implement a **plan to immunize migrant populations** in high traffic border areas, prioritizing those considered at-risk, including both migrants and local residents, in these municipalities.
- **Increase vaccination coverage** in order to increase population immunity.
- **Strengthen integrated epidemiological surveillance** of measles and rubella in order to achieve timely detection of all suspected cases in public, private, and social security healthcare facilities, with a focus on internal medicine, and obstetrics and gynecology services, in order to provide information to pregnant women on signs and symptoms compatible with rubella and the subsequent immediate reporting to the healthcare provider for risk containment through timely public health actions, and ensure that samples are received by laboratories within 5 days after sample collection and laboratory results are available in a timely manner.
- **Strengthen the surveillance of congenital rubella syndrome** in public, private, and social security healthcare facilities, with a focus on pediatrics, neonatology, ophthalmology, cardiology, and otorhinolaryngology services, hearing screening clinics, and clinics that treat congenital malformations.
- Strengthen **epidemiological surveillance in high traffic border areas** to rapidly detect and respond to highly suspected rubella cases.
- Provide a **rapid response** to imported rubella cases to avoid the re-establishment of endemic transmission through the activation of rapid response teams trained for this purpose, and by implementing national rapid response protocols when there are imported

cases. Once a rapid response team has been activated, continued coordination between the national, sub-national and local levels must be ensured, with permanent and fluid communication channels between all levels.

- During outbreaks, **establish adequate hospital case management** in order to avoid nosocomial transmission, with appropriate referral of patients to isolation rooms (for any level of care) and avoiding contact with other patients in waiting rooms and/or other hospital rooms.

Additionally, PAHO/WHO recommends that Member States should advise all travelers aged 6 months<sup>1</sup> or older who cannot show proof of vaccination or immunity, **receive the measles and rubella vaccine**, preferably the triple viral vaccine (MMR), **at least two weeks prior to travelling to areas where measles and rubella transmission has been documented.**

The recommendations of PAHO/WHO in relation to advice for travelers are available in the 27 October 2017 PAHO/WHO Epidemiological Update on Measles (17).

---

<sup>1</sup> The dose of the MMR or MR vaccine given to children aged 6 to 11 months do not replace the first dose of the recommended schedule at 12 months of age.

## Sources of information

1. Immunization Newsletter [Internet]. Washington (DC): Pan American Health Organization. Vol. XXXVII, No. 2, June 2015 [accessed on 8 February 2017]. Available at: <https://bit.ly/2KvGYRL>
2. Measles / Rubella Weekly Bulletin, 17 October 2009. Available at: <https://bit.ly/2F45kxE>
3. Integrated Surveillance Information System for Vaccine-Preventable Diseases (ISIS)
4. Plan of Action for the Sustainability of Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas 2018-2023. Available at: <https://bit.ly/2Y5WJC0>
5. Immunization Newsletter. Washington (DC): Pan American Health Organization. Vol. XXXVII, No. 2, June 2015. Available at: <https://bit.ly/2KvGYRL>
6. Immunization Newsletter. Washington (DC): Pan American Health Organization. Vol. XXXVII, No. 3, September 2016. Available at: <https://bit.ly/2L6ABnB>
7. Control of Communicable Diseases. 20<sup>th</sup> Edition. Dr David Heymann, Editor. 2015. American Public Health Association.
8. Epidemiology and Prevention of Vaccine-Preventable Diseases. Centers for Disease Control and Prevention of United States. Available at: <https://bit.ly/31mFH4L>
9. Measles/Rubella Weekly Bulletin, 31 December 2016. Available at: <https://bit.ly/2L5MZEh>
10. Measles/Rubella Weekly Bulletin, 30 December 2017. Available at: <https://bit.ly/2L7sTfI>
11. Measles/Rubella Weekly Bulletin, 29 December 2018. Available at: <https://bit.ly/2RtjSM8>
12. **Argentina** International Health Regulations (IHR) National Focal Points (NFP) Report to PAHO/WHO received by email.
13. **Chile** International Health Regulations (IHR) National Focal Points (NFP) Report to PAHO/WHO received by email.
14. Final Report of the 4th Ad-Hoc Meeting of the TAG. Ad-hoc Virtual Meeting, 10 July 2018. Available at: <https://bit.ly/2XL3GrW>
15. Carlos Castillo-Solórzano, Christina Marsigli, Pamela Bravo-Alcántara, Brendan Flannery, Cuauhtémoc Ruiz Matus, Gina Tambini, Socorro Gross-Galiano, Jon Kim Andrus, Elimination of Rubella and Congenital Rubella Syndrome in the Americas, *The Journal of Infectious Diseases*, Volume 204, Issue suppl\_2, 1 September 2011, Pages S571–S578, <https://doi.org/10.1093/infdis/jir472>. Available at: <https://bit.ly/2wMEbLb>
16. Rubella Vaccines. WHO Position Paper. Weekly Epidemiological Report. 15 July 2011. Available at: <http://www.who.int/wer>
17. Epidemiological Update, Measles. 27 October 2017, Washington, D.C. PAHO/WHO. 2017. Available at: <https://bit.ly/2L0SoMW>

## Related link:

- PAHO/WHO – Vaccine-Preventable Diseases. Available at: <https://bit.ly/2Ksx97m>