



Situation Summary

Between 1 January and 10 April 2020, 7 countries have reported 1,104 confirmed cases in the Region of the Americas: Argentina (54 cases, including 1 death), Brazil (909 cases, including 4 deaths), Canada (1 case), Chile (2 cases), Mexico (124 cases), the United States of America (12 cases), and Uruguay (2 cases).

The following is a summary of the epidemiological situation of measles for countries that have reported confirmed measles cases since the last PAHO/WHO Epidemiological Update on measles was published.¹

In **Argentina**, a total of 106² confirmed measles cases had rash onset in 2019 and 54 confirmed cases had rash onset in 2020 (**Figure 1**).

Between epidemiological week (EW) 35 of 2019 and EW 14 of 2020, there have been 153 confirmed measles cases reported, including one death. Of the 153 confirmed cases, the origin could not be established for 144 cases, and they are part of the same outbreak. The remaining 9 cases were imported, 3 from the United States and 6 from Brazil.

With respect to the distribution of cases by place of residence, one case is a resident of Córdoba Province (with travel history to Brazil), 124 cases (81%) are residents of Buenos Aires Province (including 3 imported cases), and 28 cases (18%) are residents of the city of Buenos Aires (including 5 imported cases).

Among the 153 confirmed cases, 119 (78%) were unvaccinated, 17 (11%) were vaccinated with one dose, and 11 (7%) were vaccinated with two doses.³ For 6 cases (4%), no information regarding vaccination status was available.

The highest incidence rates are all among children aged less than 5 years: among under 1-year-olds (4.6 cases per 100,000 population); 1-year-olds (2.15 cases per 100,000 population); and 2 to 4-year-olds (0.76 cases per 100,000 population).

¹ PAHO/WHO Epidemiological Update: Measles. 28 February 2020, Washington, D.C.: PAHO/WHO; 2020, Available at: <https://bit.ly/2yoarsq>

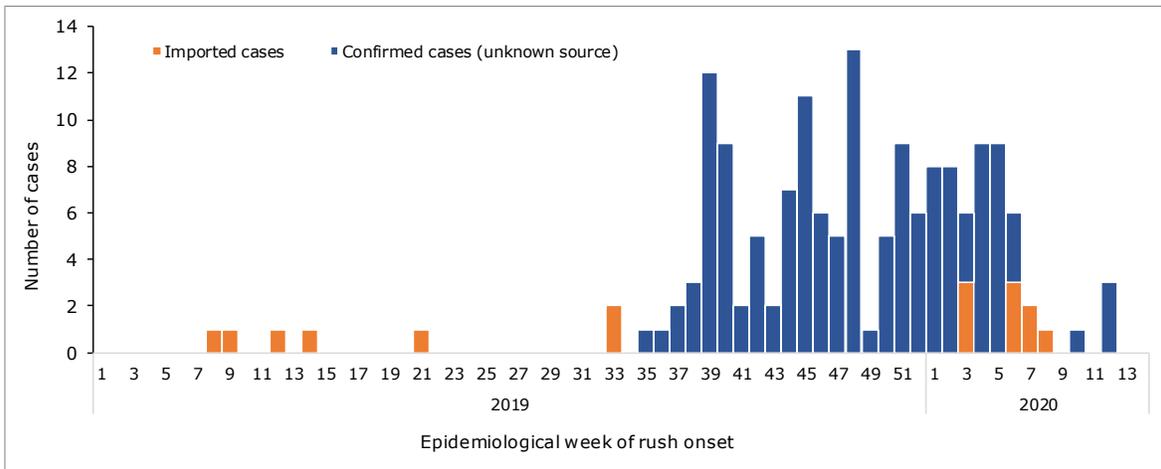
² One case with rash on 31 December 2019 was reclassified as corresponding to EW 1 of 2020, and two cases were diagnosed in Spain, accordingly these cases are not counted within the cases reported in 2019.

³ Three vaccinated patients were immunocompromised.

Genotype D8, lineage MVs/Gir Somnath.IND/42.16/, has been identified in this outbreak.

Onset of rash for the most recent confirmed case was 19 March 2020, in the Ezeiza Municipality, Buenos Aires Province.

Figure 1. Confirmed measles cases by epidemiological week (EW) of rash onset. Argentina. EW 1 of 2019 to EW 14 of 2020.

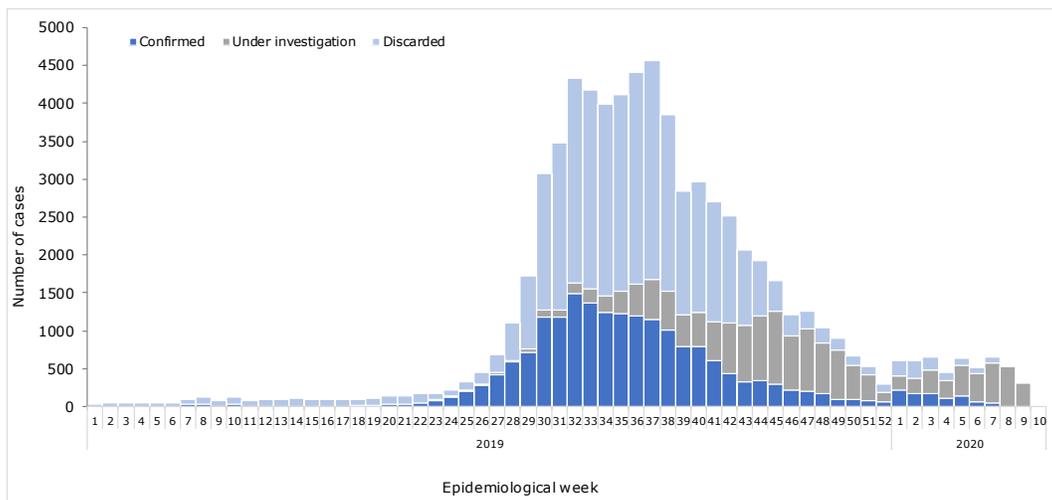


Source: Data provided by the Argentina International Health Regulations National Focal Point and reproduced by PAHO/WHO.

In **Brazil**, between EW 1 and EW 10 of 2020, 4,971 suspected cases have been reported, of which 909 were confirmed (including 4 deaths), 943 were discarded, and 3,119 remain under investigation. The predominant genotype and lineage in 2020 continue to be D8, lineage MVs/Gir Somnath.IND/42.16/.

The epidemic curve shows a sustained increase as of EW 23 of 2019, reaching a peak in confirmed cases in EW 37 of 2019, followed by a gradual decrease (**Figure 2**).

Figure 2. Reported cases of measles by epidemiological week (EW) of rash onset. Brazil. EW 1 of 2019 to EW 10 of 2020.



Source: Data provided by the Brazil International Health Regulations National Focal Point and reproduced by PAHO/WHO.

The 9 federal units with active outbreaks⁴ in 2020 are: São Paulo with 280 cases (30.8%), Rio de Janeiro with 230 cases (25.3%), Pará with 192 cases (21.1%), Paraná with 113 cases (12.4%), Santa Catarina with 48 cases (5.3%), Rio Grande do Sul with 21 cases (2.3%), Pernambuco with 18 cases (2%), Alagoas with 4 cases (0.4%), and Minas Gerais with 3 cases (0.3%). The genotype identified in the federal units with active outbreaks is D8, lineage MVs/Gir Somnath.IND/42.16/.

Table 1 shows the number of confirmed cases in 2020, incidence rates, and EW of rash onset for the most recent confirmed case, by federal unit.

Table 1. Federal units reporting confirmed cases in Brazil, EW 1 to EW 10 of 2020.

Federal Unit	Confirmed cases in 2020	Incidence rate* per 100,000 population	EW of rash onset for the most recent confirmed case
São Paulo	280	1.20	2
Rio de Janeiro	230	2.12	3
Pará	192	4.85	1
Paraná	113	2.88	2
Santa Catarina	48	2.57	3
Rio Grande do Sul	21	0.95	5
Pernambuco	18	0.53	5
Alagoas	4	0.21	3
Minas Gerais	3	0.10	3

*The incidence rates were calculated considering the population of the municipalities of residence of the confirmed cases.

Source: Data provided by the Brazil International Health Regulations National Focal Point and reproduced by PAHO/WHO.

The federal units with the largest proportion of measles cases in Brazil are: São Paulo (30.8%), Rio de Janeiro (25.3%), Pará (21.1%), and Paraná (12.4%). The following is a summary of the epidemiological situation of these federal units.

In *São Paulo State*, between EW 1 and EW 10 of 2020, there were 1,596 suspected measles cases reported, of which 280 were confirmed (including 1 death), 568 were discarded, and 748 remain under investigation. The highest incidence rates by age group are among the under 5-year-olds (4.70 cases per 100,000 population), followed by the 20 to 49-year-olds (1.32 cases per 100,000 population), 5 to 19-year-olds (0.96 cases per 100,000 population), and 50 year-olds and older (0.12 cases per 100,000 population).

In *Rio de Janeiro State*, between EW 1 and EW 10 of 2020, there were 1,420 suspected measles cases reported, of which 230 were confirmed (including 1 death), 52 were discarded, and 1,138 remain under investigation. The highest incidence rates by age group are among the under 5-year-olds (14.28 cases per 100,000 population), followed by 5 to 19-year-olds (1.82 cases per 100,000 population), 20 to 49-year-olds (1.64 cases per 100,000 population), and 50 year-olds and older (0.26 cases per 100,000 population).

In *Pará State*, between EW 1 and EW 10 of 2020, there were 860 suspected measles cases reported, of which 192 were confirmed (including 2 deaths), 50 were discarded, and 618 remain under

⁴ Federal units that have reported confirmed cases in the last 90 days.

investigation. The highest incidence rates by age group are among the under 5-year-olds (18.45 cases per 100,000 population), followed by 5 to 19-year-olds (4.93 cases per 100,000 population), 20 to 49-year-olds (3.64 cases per 100,000 population); and 50 year-olds and older (0.73 cases per 100,000 population).

In *Paraná State*, between EW 1 and EW 10 of 2020, there were 480 suspected measles cases reported, of which 113 were confirmed, 20 were discarded, and 350 remain under investigation. The highest incidence rates by age group are among the 20 to 49-year-olds (3.97 cases per 100,000 population) followed by 5 to 19-year-olds (3.11 cases per 100,000 population); under 5-year-olds (2.60 cases per 100,000 population), and 50 year-olds and older (0.13 cases per 100,000 population).

In **Mexico**, between EW 7 and EW 14 of 2020, a total of 1,443 probable⁵ measles cases have been reported, of which 124 were confirmed 991 were discarded and 328 remain under investigation. At the national level the ages of the confirmed measles cases range between 3 months and 68 years-old (median: 20-years-old), and 59% of the cases are male. Of the confirmed cases, 22 (17%) were vaccinated. The rash onset dates of the confirmed cases in Mexico were between 12 February and 2 April 2020.

Of the 124 confirmed cases, 105 are in Mexico City, 18 in Mexico State, and 1 in Campeche State; the following is a summary of the epidemiological situation in each:

In *Mexico City*, 427 probable cases were reported, of which 105 were laboratory confirmed and 83 remain under investigation. Confirmed cases have been reported in 14 town halls: Gustavo A. Madero (53 cases), Miguel Hidalgo (14 cases), Iztapalapa (9 cases), Cuajimalpa de Morelos (8 cases), Alvaro Obregon (7 cases), Xochimilco (4 cases), Cuauhtémoc (2 cases), Tlahuac (2 cases), Tlalpan (2 cases), Coyoacán (1 case), Azcapotzalco (1 case), Milpa Alta (1 case), Venustiano, and Carranza (1 case). Of the 105 confirmed cases in Mexico City, all are Mexican citizens and 60% are male. The highest proportion of confirmed cases among age groups is reported in 20 to 29-year-olds (28%), followed by 2 to 9-year-olds (17%), 30 to 39-year-olds (14%), 1-year-olds (11%), the under 1-year-olds (11%), 10 to 19-year-olds (10%), and 40-year-olds and older (9%). Only 14% of the confirmed cases have a proven history of vaccination. The most recent confirmed case had rash onset on 2 April 2020 and was reported in the Gustavo A. Madero Town hall.

In *Mexico State*, 162 probable cases were reported, of which 18 were laboratory confirmed and 65 remain under investigation. Confirmed cases were reported in 8 municipalities of Mexico State: Tlalnepantla (5 cases), Ecatepec de Morelos (4 cases), Nezahualcóyotl (2 cases), Tecámac (2 cases), Toluca (2 cases), Atizapán de Zaragoza (1 case), Chimalhuacán (1 case), and Naucalpan (1 case). The 18 confirmed cases are all Mexican citizens and 55.6% are male. The highest proportion of confirmed cases among age groups was reported in 20 to 29-year-olds (22%), followed by 1-year-olds (17%), 2 to 9-year-olds (17%), 30 to 39-year-olds (17%), the under 1-year-olds (11%), 10 to 19-year-olds (11%), and 40-year-olds and older (5%). Of the confirmed cases, 33% have a proven history of vaccination. The most recent confirmed case in the State of Mexico had rash onset on 27 March and lives in the Tlalnepantla de Baz municipality.

In *Campeche State*, 8 probable cases were reported, of which 1 was confirmed and 7 remain under investigation. The confirmed case is a 5-year-old female resident of Champoton Municipality.

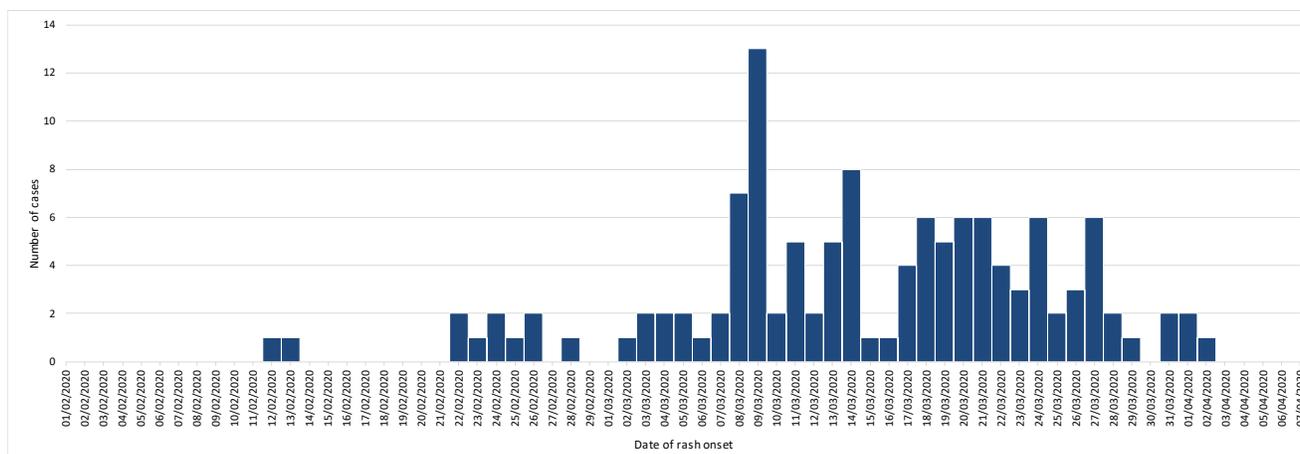
⁵ Mexico probable measles/rubella case definition: Any person of any age with fever and maculopapular rash, and one or more of the following signs and symptoms: cough, coryza, conjunctivitis, or adenomegaly (retroauricular, occipital, or cervical). Available at: <https://bit.ly/2VgsoBN>

Rash onset was on 21 March 2020. The case has a proven vaccination history. The probable place of exposure was the Mérida City, Yucatán State.

Analysis conducted by the National Reference Laboratory (InDRE) identified the genotype D8, lineage Mvs/GirSomnath.IND/42.16/ for 17 of the confirmed cases.

Figure 3 shows the increasing trend in measles cases in Mexico; an exponential increase of confirmed cases may be seen in the coming weeks.

Figure 3. Reported measles cases by rash onset date. Mexico, EW 1 to EW 14 of 2020.



Source: Data published by the Mexico Department of Health and reproduced by PAHO/WHO.

In the **United States**, between 1 January and 31 December 2019, a total of 1,282⁶ confirmed measles cases were reported.

In 2020, as of 5 April, there were 12 confirmed measles cases reported in 7 states.

This information is regularly updated on the United States Centers for Disease Control and Prevention (CDC) website, available at: <https://bit.ly/2Nzal4C>

Advice to national authorities

In light of the current COVID-19 pandemic, the Pan American Health Organization/World Health Organization PAHO/WHO has issued guiding principles for immunization activities during the COVID-19 pandemic, March 26 2020, available at <https://bit.ly/2VALMsi> with the support of the in consultation with the members of the PAHO/WHO Technical Advisory Group (TAG) for vaccine-preventable diseases (VPD), and aligned with the recommendations of the WHO's Strategic Advisory Group of Experts on Immunization (SAGE).

Among the recommendations for countries with measles outbreaks, the following are highlighted:

Vaccination

- Involve the National Immunizations Technical Advisory Group (NITAG) in decision-making on the continuity of vaccination services.
- In health care facilities where vaccination activities are carried out, it is essential that health care workers are alert to signs and symptoms of respiratory diseases and offer patients with flu-like symptoms a surgical mask and refer them for medical evaluation, in accordance with local protocols for initial triage of suspected COVID-19 patients.
- Although there are currently no known medical contraindications to vaccination of a person who has had contact with a case of COVID-19, it is recommended to defer vaccination until quarantine has been completed (14 days after the last exposure).
- Under circumstances of a VPD outbreak, the decision to conduct outbreak response mass vaccination campaigns will require a risk-benefit assessment on a case by case basis and must factor in the health system's capacity to effectively conduct a safe and high-quality mass campaign in the context of the COVID-19 pandemic. The assessment should evaluate the risks of a delayed response against the risks associated with an immediate response, both in terms of morbidity and mortality for the VPD and the potential impact of further transmission of the COVID-19 virus.
- If an outbreak of a vaccine preventable disease (VPD) occurs, the risk-benefit of carrying out an outbreak-response vaccination campaign should be assessed taking into account the health system's capacity to effectively conduct a safe and high-quality mass campaign in the context of the COVID-19 pandemic. The assessment should evaluate the risks of a delayed response against the risks associated with an immediate response, both in terms of morbidity and mortality for the VPD and the potential impact of further transmission of the COVID-19 virus. Should an outbreak response vaccination campaign be pursued, stringent measures are required to uphold standard and COVID-19 infection prevention and control, adequately handle injection waste, protect health workers and safeguard the public. Should an outbreak response vaccination campaign be delayed, a periodic assessment based on local VPD morbidity and mortality, will be required to evaluate risk of further delay.
- Immunization services should be resumed when the risk of transmission of SARS-CoV-2 has been reduced and the capacity of the health system has recovered sufficiently to resume these activities. It is likely that some level of SARS-CoV-2 transmission will still be in progress when services resume. Stricter infection prevention and control measures and social distancing practices are likely to still be needed in the early stages of resuming the vaccination service. NITAG should advise the country on how to resume service and which populations should be prioritized.
- Vaccinate at-risk populations residing in areas where the measles virus is circulating that do not have proof of vaccination or immunity against measles and rubella, such as health personnel, people working in essential services companies, institutions with a captive population and transportation (hospitals, airports, jails, hostels, border crossings, urban mass transportation and others), as well as international travelers.
- 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 urban transportation, and others), and international travelers.

- Maintain a vaccine stock of the measles-rubella (MR) and/or MMR vaccine and syringes/supplies for prevention and control actions of imported cases.

Epidemiological surveillance

- Surveillance systems must continue to carry out early detection and the management of VPD cases, at a minimum for diseases with global surveillance mandates and elimination objectives such as measles and rubella, among others.
- During an outbreak and when it is not possible to confirm the suspected cases by laboratory, classifications of a confirmed case may be based on clinical criteria (fever, rash, cough, coryza and conjunctivitis) and epidemiological link, in order to not delay the response actions.
- Routine surveillance for other VPD should continue as long as possible; when laboratory testing is not possible, samples should be stored appropriately for confirmation when laboratory capacity permits testing. Countries should ensure sufficient sample storage capacity at the provincial and central levels and this should be monitored regularly.
- Strengthen epidemiological surveillance in border areas to rapidly detect and respond to highly suspected cases of measles.

Rapid response

- Provide a rapid response to imported measles 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 and local levels must be ensured, with permanent and fluid communication channels between all levels (national, sub-national, and local).
- During outbreaks, establish adequate hospital case management 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 advise all travelers aged 6 months⁷ and older who cannot show proof of vaccination or immunity to **receive the measles and rubella vaccine**, preferably the triple viral vaccine (MMR), **at least two weeks prior traveling to areas where measles transmission has been documented**. PAHO/WHO recommendations regarding advice for travelers are available in the 27 October 2017 PAHO/WHO Epidemiological Update on Measles⁸.

⁷ The dose of the MMR or MR vaccine given to children aged 6 to 11 months does not replace the first dose of the recommended schedule at 12 months of age.

⁸ Information available in the Epidemiological Update on Measles of 27 October 2017, Washington, D.C. PAHO/WHO. 2017. Available at: <https://bit.ly/2I3gCSi>

Sources of information

1. **Argentina** International Health Regulations (IHR) National Focal Point (NFP) report received by PAHO/WHO via email.
2. **Brazil** International Health Regulations (IHR) National Focal Point (NFP) report received by PAHO/WHO via email.
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7. WHO. Guiding principles for immunization activities during the COVID-19 pandemic. Interim guidance. 26 March 2020. Available at: <https://bit.ly/34sfun8>
8. WHO. COVID-19: Operational guidance for maintaining essential health services during an outbreak. Interim guidance. 25 March 2020. Available at: <https://bit.ly/2xaOa0P>

Related link:

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