Epidemiological Update Pertussis (Whooping Cough) in the Americas Region

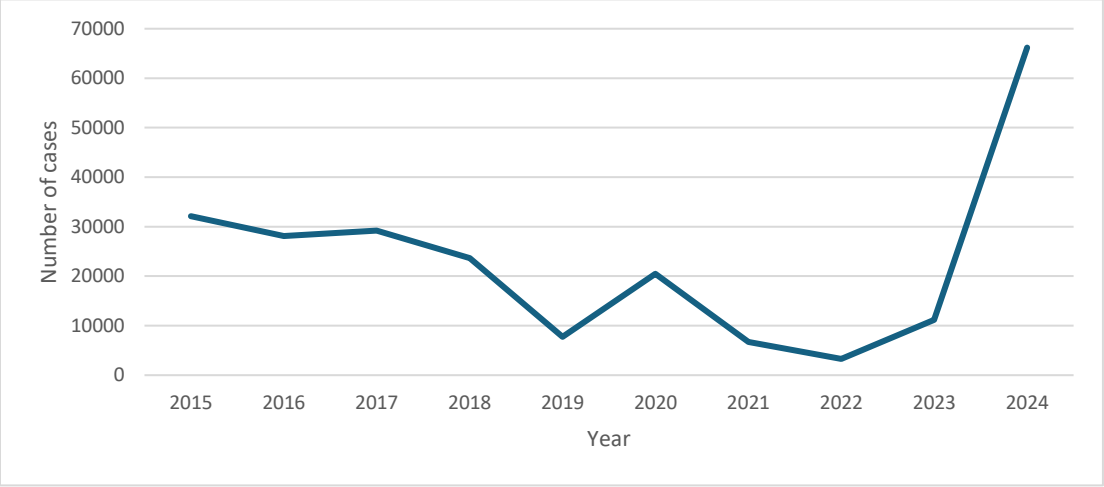
8 December 2025

Summary of the situation

Globally, 977,000 cases of pertussis (whooping cough) were reported to the World Health Organization (WHO) in 2024, representing a 5.8-fold increase compared with the number of cases reported in 2023 (n= 167,407 cases) *(1, 2)*. The highest proportion of cases was recorded in the WHO Regions of the Western Pacific (n= 591,193 cases) and Europe (n= 296,543 cases) *(1)*.

In the Americas Region, there was an overall decline in the number of cases reported annually between 2015 and 2019, and again in 2021-2022, when cases reached its lowest point with 3,284 cases. Subsequently, there was a significant increase in cases between 2023 (n= 11,202 cases) and 2024 (n= 66,184 cases) (**Figure 1**) *(1, 2)*.

Figure 1. Reported cases of pertussis in the Americas Region, 2015 to 2024.



Source: Adapted from the World Health Organization, Immunization data. Pertussis reported cases and incidence. Geneva: WHO; 2025. Available from: https://immunizationdata.who.int/global/wiise-detail-page/pertussis-reported-cases-and-incidence?CODE=Global&YEAR=..

Vaccination coverage in the Americas Region

Vaccination coverage for the first and third doses of the diphtheria, tetanus, and pertussis vaccine (DTP1 and DTP3) are commonly used as indicators for the performance of national immunization programs, both regionally and globally, and are essential benchmarks for assessing the strength and accessibility of these programs *(3)*. During the COVID-19 pandemic, there was a significant decline in coverage of these vaccines. In 2021, the Americas Region reached its lowest level in two decades, with coverage rates of 87% for DTP1 and 81% for DTP3. Coverage rates showed a partial recovery in 2024, with 89% for DTP1 and

Suggested citation: Pan American Health Organization/World Health Organization. Epidemiological Update: Pertussis (Whooping Cough) in the Americas Region. 8 December 2025. Washington, D.C.: PAHO/WHO; 2025

87% for DTP3. It is important to note that there are significant disparities both between countries and within countries at the subnational level *(3)*.

Figure 2 shows the trend in DTP1 coverage between 2015 and 2024 in the countries and territories of the Americas Region. Twenty-one countries/territories reported coverage equal to or greater than 95%; ten countries reported coverage between 90% and 94%; ten countries reported coverage between 80% and 89%; and four countries reported coverage below 80% *(3)*.

Figure 2. DTP1 vaccination coverage between 2015 and 2024 in countries and territories of the Americas Region.

Country/Territory	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Anguilla	90	100	89	88	71	79	89	93		
Antigua and Barbuda	99	99	97	93	95	100	100	96	88	100
Argentina	80	77	90	88	79	87	91	94	88	94
Aruba	97	98	97	98		99	99	99		
Bahamas	98	99	98	91	97	91	94	98	95	100
Barbados	94	91	87	83	86	92	96	90	100	96
Belize	89	85	91	80	79	99	97	89	94	97
Bermuda	98	99	90	96	93	100	91	92		
Bolivia (Plurinational State of)	65	72	75	75	79	81	89	91	93	97
Bonaire	98									
Brazil	90	84	84	74	88	79	87	92	95	97
British Virgin Islands	90	92	99	84	85	94	94	71		
Canada	91	91	91	91	91	87	87	94	87	95
Cayman Islands	100	99	97	100	96		97	97		
Chile	98	99	99	99	98	99	99	98	99	97
Colombia	88	90	91	91	92	95	92	94	93	93
Costa Rica	98	97	94	88	100	96	95	99	96	93
Cuba	100	99	100	100	99	100	100	100	100	100
Curaçao						100	96	90		
Dominica	96	99	96	95	100	100	99	98	100	100
Dominican Republic	97	100	100	99	95	100	100	99	98	99
Ecuador	87	99	74	78	74	85	86	84	82	80
El Salvador	98	96	96	95	98	96	82	83	90	93
Grenada	93	92	79	84	79	100	96	77	91	94
Guatemala	86	99	94	91	100	96	94	98	99	99
Guyana	100	100	100	98	100	100	99	97	97	96
Haiti	89	100	83	90	100	98	100	92	92	97
Honduras	74	74	80	82	85	89	93	92	100	100
Jamaica	94	98	97	93	94	97	95	95	97	88
Mexico	83	89	93	83	92	84	90	93	96	100
Montserrat	100	86	83	96		100	100	98		
Nicaragua	88	97	100	97	100	100	100	100	100	100
Panama	91	91	98	98	97	100	100	100	100	97
Paraguay	82	100	70	67	72	76	79	83	82	84
Peru	100	92	93	90	93	97	100	85	96	97
Saba	100									
Saint Kitts and Nevis	97	98	96	97	100	97	99	90	92	92
Saint Lucia	93	96	92	89	90	100	100	89	95	100
Saint Vincent and the Grenadines	100	92	99	91	100	99	100	95	98	100
Sint Eustatius	57									
Sint Maarten (Dutch part)							91	91		
Suriname	87	94	95	93	72	93	95	90	92	90
Trinidad and Tobago	90	99	92	95	92	91	100	87	97	91
Turks and Caicos Islands	100	100	99	92	84	92	91	86		
United States of America	97	98	98	97	97	97	97	97	98	98
Uruguay	97	98	100	98	98	100	96		97	99
Venezuela (Bolivarian Republic of)	67	65	56	73	73	85	84	95	100	98

<80% 80-89% 90-94% >=95%

Source: Adapted from the Pan American Health Organization. Immunization coverage throughout the life course in the Americas. Washington, D.C.: WHO; 2025 [cited 2 December 2025]. Available from: https://paho-cim.shinyapps.io/immunization-dashboard/.

Figure 3 shows DTP3 coverage between 2015 and 2024 for each country and territory in the Americas Region. Seventeen countries/territories reported DTP3 coverage equal to or greater than 95%; nine countries reported coverage between 90% and 94%; 12 countries reported coverage between 80% and 89%; and seven countries reported coverage below 80% *(3)*.

Figure 3. DTP3 vaccination coverage between 2015 and 2024 in countries and territories of the Americas Region.

Country/Territory	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Anguilla	86	90	88	79	86	77	91	89		
Antigua and Barbuda	97	97	99	92	96	99	95	95	92	100
Argentina	75	66	84	81	74	83	86	88	92	94
Aruba	95	96	94	93		96	96	97		
Bahamas	90	87	87	86	83	89	90	94	94	100
Barbados	97	85	86	82	85	90	95	90	97	96
Belize	88	85	84	83	79	98	96	88	95	97
Bermuda	90	96	90	100	89	98	95	79		
Bolivia (Plurinational State of)	59	67	69	70	68	75	83	84	87	97
Bonaire	85									
Brazil	91	90	77	68	86	70	87	83	89	97
British Virgin Islands	100	87	100	84	87	88	92	82		
Canada	92	92	92	92	92	91	91	91	91	95
Cayman Islands	93	96	99	92	85		93	95		
Chile	95	96	96	95	93	96	95	93	95	97
Colombia	89	90	87	87	88	94	92	92	91	93
Costa Rica	99	99	95	93	97	95	94	96	97	93
Cuba	100	99	100	100	99	99	99	100	100	100
Curaçao						98	92	85		
Dominica	90	56	82	92	96	99	94	91	99	100
Dominican Republic	87	90	88	84	82	89	94	84	87	99
Ecuador	87	96	70	72	70	85	85	85	83	80
El Salvador	95	96	95	97	89	96	81	85	93	93
Grenada	93	86	77	77	72	92	95	83	96	94
Guatemala	81	88	81	80	90	88	85	91	83	99
Guyana	100	100	100	98	100	99	95	97	97	96
Haiti	85	96	73	73	83	79	94	85	84	97
Honduras	75	73	78	77	80	88	91	90	100	100
Jamaica	99	100	98	90	96	96	97	93	99	88
Mexico	78	85	83	78	86	82	88	85	93	100
Montserrat	100	100	98	100		100	87	100		
Nicaragua	95	100	100	100	100	100	100	100	100	100
Panama	72	71	82	87	74	88	88	81	86	97
Paraguay	80	89	57	58	67	74	76	79	80	84
Peru	99	84	82	82	72	88	97	79	90	97
Saba	87									
Saint Kitts and Nevis	97	96	96	96	99	97	98	98	98	92
Saint Lucia	100	74	81	80	86	92	95	80	95	100
Saint Vincent and the Grenadines	100	94	99	92	100	100	97	100	100	100
Sint Eustatius	19									
Sint Maarten (Dutch part)							89	100		
Suriname	83	86	91	86	65	91	95	81	91	90
Trinidad and Tobago	92	96	93	94	96	93	100	89	97	91
Turks and Caicos Islands	89	100	99	92	84	93	93	93		
United States of America	95	94	94	94	93	94	94	94	95	98
Uruguay	94	95	94	91	92	94	91		95	99
Venezuela (Bolivarian Republic of)	62	54	43	56	54	64	60	66	84	98

<80% 80-89% 90-94% >=95%

Source: Adapted from the Pan American Health Organization. Immunization coverage throughout the life course in the Americas. Washington, D.C.: WHO; 2025 [cited 2 December 2025]. Available from: https://paho-cim.shinyapps.io/immunization-dashboard.

Situation summary in select countries in the Americas Region

The following is a summary of the situation in ten select countries in the Americas Region that reported an increase in pertussis cases during 2025 compared to previous years, listed in alphabetical order.

In **Argentina**, between epidemiological week (EW) 1 and EW 47 of 2025, 688 confirmed cases of pertussis were reported, including seven deaths *(4)*. Of the total number of confirmed cases, 586 were laboratory-confirmed. The cumulative incidence is 1.45 cases per 100,000 population. The number of confirmed cases in 2025 exceeds the figures reported for the same period annually since 2020. Confirmed cases were reported in 20 jurisdictions across the country. The highest concentration of cases has been reported in the Central Region (n= 515 cases), with a predominance in the province of Buenos Aires (n= 342 cases) and in the Autonomous City of Buenos Aires (n= 67 cases) *(4)*. In the Southern Region, 145 cases were confirmed, mainly linked to an ongoing outbreak in Tierra del Fuego. The most affected age group is children under one year of age (n= 252 cases) with 36.7% of cases, followed by the 1 to 4-year age group (n= 116 cases) with 16.9%. The distribution by sex indicates that females account for the highest proportion of cases, with 52% (n= 359 cases) *(4)*.

In **Brazil**, between EW 1 and EW 46 of 2025, 2,485 confirmed cases of pertussis were reported by the Notifiable Diseases Information System (SINAN, per its acronym in Portuguese), including 11 deaths *(5, 6)*. This year had the second highest number of reported cases in the country since 2019, with 2024 having the highest number of cases *(1)*. Among the states with confirmed cases of pertussis, the highest number of cases was recorded in Minas Gerais (n= 522 cases, including one death), followed by São Paulo (n= 425 cases, including two deaths), Rio Grande do Sul (n= 292 cases, including one death), and Paraná (n= 288 cases). The most affected age group has been children under one year of age, with 29.5% of cases (n= 733 cases), of which 61% (n= 454 cases) correspond to children under 6 months of age *(5, 6)*. The second most affected age group has been the 1 to 4-year age group, with 23.6% of cases (n= 588 cases). The distribution by sex indicates that females account for the highest proportion of cases, with 55% (n= 1,369 cases) *(5, 6)*.

In **Chile**, during 2025 as of EW 47, 2,424 cases of pertussis have been confirmed, with a cumulative incidence rate of 12 cases per 100,000 population *(7)*. Cases have been reported in all regions of the country, with higher incidence rates observed in the southern regions. The Los Lagos Region stands out, with a rate of 43.2 per 100,000 population, followed by the Biobío Region (24.2 per 100,000) and the Metropolitan Region (12.9 per 100,000). The rest of the regions have had rates similar to or lower than the national rate. The most affected age groups are children aged 1 to 4 years, with 32% of cases (n= 783), followed by the 5 to 9-year age group, with 31% (n= 751). Regarding case characteristics, 56% of cases correspond to females *(7)*.

In **Colombia**, between EW 1 and EW 47 of 2025, 919 confirmed cases of pertussis were reported, including 16 deaths, with a national incidence of 1.73 cases per 100,000 population, marking 2025 as the year with the highest number of reported cases in Colombia since 2019 *(8)*. Among the departments and districts with confirmed cases of pertussis, those with the highest numbers are the capital district Bogotá (n= 290 cases, including four deaths) and Antioquia (n= 222 cases, including six deaths) with incidences of 3.65 and 3.19 cases per 100,000 population, respectively. The most affected age group is children under one year of age, with 37.5% of cases (n= 345 cases), followed by the 1 to 4-year age group with 17.6% (n=

162 cases). The distribution by sex indicates that females account for the highest proportion of cases, with 50.5% (n= 465 cases) *(8)*.

During 2025, 106 cases of pertussis have been confirmed in the indigenous populations, distributed across 25 municipalities in 12 departments and districts with Urrao (Antioquia) being the municipality with the highest number of cases (n= 29), followed by Bagadó (Chocó) (n= 15) and the capital district Bogotá (n= 6*) (8)*.

In **Ecuador**, between EW 1 and EW 47 of 2025, a total of 2,751 cases of pertussis have been reported, including 48 deaths *(9, 10)*. The highest number of confirmed cases was recorded in the province of Manabí (n= 908 cases), followed by Pichincha (n= 452 cases) and Guayas (n= 370 cases). The most affected age group is children under one year of age, with 33.5% of cases (n= 934 cases), followed by the 1-to 4-year age group, with 19.3% (n= 533 cases). The distribution by sex indicates that females account for the highest proportion of cases, with 51% (n= 1,393 cases) *(9, 10)*.

In **Mexico**, between EW 1 and EW 48 of 2025, 1,561 confirmed cases of pertussis were reported, including 71 deaths, with cases recorded in 31 federal jurisdictions across the country. The cumulative incidence is 1.17 cases per 100,000 population. The cases reported in 2025 exceed the figures reported annually in the country during the last ten years *(11)*. The federal jurisdictions with the highest number of confirmed cases are Mexico City (n= 154 cases, including ten deaths), Chihuahua (n= 146 cases, including seven deaths), Nuevo León (n= 141 cases, including seven deaths), and Aguascalientes (n= 102 cases, including two deaths). The most affected age group is children under one year of age, with 32.5% of cases (n= 507 cases), followed by the 1 to 4-year age group, with 9% (n= 140 cases). The distribution by sex indicates that females account for the highest proportion of cases, with 57% of cases (n= 895 cases) *(11)*.

In **Panama**, between EW 1 and EW 46 of 2025, 30 confirmed cases of pertussis were reported, including one death. Of the total confirmed cases, 29 cases were confirmed by laboratory testing, and one was confirmed by epidemiological link *(12)*. The cumulative incidence is 0.6 cases per 100,000 population. The number of reported cases in 2025 exceeds the figures reported annually in the country since 2019 *(12)*. The cases were reported in three provinces and one indigenous region. The provinces and regions with confirmed cases are Ngäbe Buglé (n= 16 cases, including one death), Panama (n= 12 cases), West Panama (n= 1 case), and Colón (n= 1 case). The most affected age groups are children aged 1 to 4 years, with 33.3% of cases (n= 10 cases), followed by the 15 years and older group, with 26.7% (n= 8 cases), and children under one year of age, with 16.7% (n= 5 cases). The distribution by sex indicates that females account for the highest proportion of cases, with 63% (n= 19 cases) *(12)*.

The cases recorded in the Ngäbe Buglé region correspond mainly to an outbreak in the townships of Soloy, Emplanada de Chorcha, and Boca de Balsa in the district of Besikó *(12)*. Within this outbreak, the most affected age group is children aged 1 to 4 years, with 43.8% of cases (n= 7 cases), followed by the 5 to 9-year age group with 18.7% (n= 3 cases) *(12)*.

In **Paraguay**, between EW 1 and EW 46 of 2025, 70 confirmed cases of pertussis were reported, including six deaths, with a case-fatality rate of 9% and an infant mortality rate of 0.062 per 1,000 live births. Of the total cases, 65 were confirmed by laboratory testing and five by epidemiological link *(13, 14)*. The cumulative incidence is 1.09 cases per 100,000 population. Of the 70 confirmed cases, 59% (n= 41) required hospitalization. The number of reported cases

in 2025 exceeds the figures reported annually in the country since 2018. Cases have been reported in 11 departments and in the capital, Asunción. Among the departments and the capital district, the highest number of confirmed cases were recorded in Central Department (n= 32 cases, including two deaths), Asunción-Capital (n= 13 cases), Alto Paraná Department (n= 9 cases), Paraguarí Department (n= 3 cases), and San Pedro Norte Department (n= 3 cases, including one death). The most affected age group is children under 1 year of age, with 44% of cases (n= 31 cases, including six deaths), followed by the 1 to 4-year age group, with 21% (n= 15 cases). The distribution is equal in terms of sex *(13, 14)*.

In **Peru**, between EW 1 and EW 47 of 2025, 3,200 confirmed cases of pertussis were reported, including 49 deaths *(15)*. The cumulative incidence is 9.41 cases per 100,000 population. The number of reported cases in 2025 exceeds the figures reported annually in the country since 2013 *(15)*. Cases were reported in 21 departments of the country, with the highest numbers reported in the departments of Loreto (n= 2,574 cases, including 36 deaths), Lima (n= 183 cases, including five deaths), Puno (n= 78 cases, including one death), Cajamarca (n= 47 cases, including two deaths), and Arequipa (n= 43 cases). The cases reported in Loreto Department correspond mainly to an outbreak in indigenous communities in Datem del Marañón Province *(15)*. The distribution by age group at the national level shows that 31% of cases (n= 983 cases) correspond to the 1 to 4-year age group, 28% (n= 907 cases) to the 5 to 11-year age group, and 15% (n= 482 cases) to children under one year of age. Females accounted for 50.5% (n= 1,617) of all cases *(15)*.

In the **United States of America**, between EW 1 and EW 46 of 2025, 25,057 confirmed and probable cases of pertussis, including 13 deaths, were reported (*16, 17*). Pertussis activity increased sharply in 2024, with the highest number of cases recorded since 2012. Cases peaked nationally in November 2024 but have remained elevated in 2025 compared to pre-pandemic levels. The states with the highest numbers of confirmed and probable cases of pertussis in 2025 are Washington (n= 2,003 cases), California (n= 1,585 cases), and Florida (n= 1,422 cases) (*17*). The most affected age groups are 11 to 19-year olds, with 27% of cases, and 1 to 6-year olds, with 26%. Deaths were reported mainly among children under 1 year of age (n= 9 deaths) (*16*).

Recommendations

PAHO/WHO reminds Member States of the key recommendations for pertussis in regards to surveillance, diagnosis and laboratory testing, vaccination, clinical management and treatment, and risk communication:

Surveillance

Strengthen surveillance to monitor disease trends, identify outbreaks, and conduct contact tracing; to control the burden of disease; and to evaluate the impact of the vaccination strategy and control measures being implemented. Additionally, countries are encouraged to strengthen their laboratory diagnostic capabilities, which will improve the reporting and characterization of pertussis outbreaks in the Americas Region. Each pertussis outbreak should be carefully studied to improve understanding of the epidemiology of the disease in the Americas Region. Member States are advised to intensify surveillance efforts for hospitalized children under one year of age.

Laboratory diagnosis

Laboratory confirmation is essential to ensure accurate diagnosis and appropriate treatment. The diagnostic tests used in the laboratory to detect *Bordetella pertussis* infection are culture, polymerase chain reaction (PCR), and serology *(18)*. The gold standard for etiological diagnosis is the culture of *B. pertussis* from nasopharyngeal samples collected during the catarrhal and early cough phases. It is a highly specific test (100%), but not very sensitive (up to 60%), and requires selective media. Culture positivity is higher in samples obtained during the first two weeks after the onset of cough. PCR for *Bordetella* is a more sensitive test and can be performed on the same types of samples used for culture. PCR is more sensitive in samples obtained within the first three to four weeks after the onset of cough.

Serological diagnosis is based on the detection of a significant increase in the concentration of specific antibodies in paired samples (catarrhal phase and convalescent phase) from infected individuals. Serological testing is not recommended in children under one year of age due to possible interference from maternal antibodies, an immature immune system, or interference with antibodies generated by recent vaccination. This test cannot be used for diagnosis during one year following vaccination. However, it is used during investigations for outbreaks, when the diagnosis is established retrospectively, and also for the detection of cases in adolescents and adults who have had a cough for more than two weeks *(19)*.

In resource-limited settings and in more extensive outbreaks, collecting samples from a subset of initial cases (e.g., the first 5 to 10) may be sufficient to confirm the outbreak. Additional cases can be linked through epidemiological analysis. After one or two months, re-confirmation may be necessary to determine whether the outbreak is continuing *(20)*.

Vaccination

Pertussis vaccines are available in combination with other antigens, including DTP (diphtheria, tetanus, and pertussis), Tdap, hepatitis B, *Haemophilus influenzae* type b (Hib), and poliovirus. DTP-containing vaccines can be administered from six weeks of age, and three doses are required in the primary series. Booster doses are required to maintain immunity levels against the disease (**Table 1**) *(21)*.

Table 1. Recommended vaccination schedule for the Americas Region

	Primary			Boosters		
Vaccination schedule	1st (DTP1)	2st	3rd (DTP3)	4th	5th	6th
	2 months / 1st contact	4 months	6 months	12-23 months*	4-7 years**	9-15 years***
	With DTP	With DTP	With DTP	With DTP	Td/DT/With DTP	Td/TdaP

* Pertussis booster dose: A booster dose is recommended for children aged 1 to 6 years, preferably during the second year of life.
** For children under 7 years of age, combinations of diphtheria, tetanus, and whole-cell pertussis (DTwP) or diphtheria, tetanus, and acellular pertussis (DTaP) may be used.
*** Whole-cell pertussis vaccines are not recommended for children older than 7 years.

Source: Adapted from the Pan American Health Organization. Technical Advisory Group (TAG) on Vaccine-Preventable Diseases, TAG recommendations for Pertussis (whooping cough); Washington, D.C.: PAHO; 2019. Available from: 1999-2024-tag-recommendations-pertussis.pdf and from the Pan American Health Organization (PAHO). Control of diphtheria, pertussis, tetanus, Haemophilus influenzae type b infection, and

hepatitis B: a practical guide. Washington, D.C.: PAHO; 2006. Available from: https://iris.paho.org/items/cb2d6224-8ddb-4314-8603-686ef2285b58.

It is important to analyze vaccination coverage in children aged one year and younger than 5 years, with special emphasis on identifying population groups with low coverage. Countries should ensure that coverage with three doses of *B. pertussis* vaccines is greater than 95% in children (regional target) *(21)*.

Healthcare workers should be given a booster shot, with priority given to maternity ward staff and caregivers of newborns and children under 1 year of age, to prevent nosocomial transmission to infants and immunocompromised individuals *(21)*.

Immunizing pregnant women with the Tdap vaccine to protect newborns is an effective complementary strategy to routine primary vaccination against pertussis in children, especially in countries or settings with high infant mortality from pertussis. It is recommended that the Tdap vaccine be administered during pregnancy, during the second or third trimester, and at least 15 days before delivery. *(22)*.

Clinical management

Respiratory isolation is recommended in identified cases. Suspected and confirmed cases should be kept away from infants and young children, especially unimmunized infants, until patients have received antibiotics for at least five days. Suspected cases not receiving antibiotics should be kept in isolation for three weeks after the onset of paroxysmal coughing or until the cough resolves, whichever occurs first *(19)*.

Treatment

Antibiotics, such as macrolides (erythromycin, clarithromycin, and azithromycin), can shorten the period of transmissibility but are unlikely to reduce the severity or duration of the illness unless administered before the paroxysmal stage begins *(19)*.

Risk communication

PAHO/WHO recommends promoting the dissemination of public health messages aimed at physicians and the general population in order to improve early recognition, reporting, and early initiation of treatment of pertussis cases.

References

1. World Health Organization. Immunization data. Pertussis reported cases and incidence. Geneva: WHO; 2025 [cited 1 December 2025]. Available from: https://immunizationdata.who.int/global/wiise-detail-page/pertussis-reported-cases-and-incidence?CODE=Global&YEAR=.

2. Centers for Disease Control and Prevention. Pertussis Surveillance and Trends. Atlanta: CDC; 2025 [cited 2 December 2025]. Available from: https://www.cdc.gov/pertussis/php/surveillance/index.html.

3. Pan American Health Organization. Immunization coverage throughout the life course in the Americas. Washington, D.C.: WHO; 2025 [cited 2 December 2025]. Available from: https://paho-cim.shinyapps.io/immunization-dashboard/.

4. Argentina International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Buenos Aires; 2025. Unpublished.

5. Brazil International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Brasilia; 2025. Unpublished.

6. Brazil Ministry of Health. Painel Epidemiológico - Coqueluche. Brasilia: MINSA Brazil; 2025 [cited 2 December 2025]. Available from: https://app.powerbi.com/view?r=eyJrIjoiYTU3MmI5ZjItYmMyNC00ZTVjLTk2ZTItNWZlMjUxNDQwZmVlIiwidCI6IjlhNTU0YWQzLWI1MmItNDg2Mi1hMzZmLTg0ZDg5MWU1YzcwNSJ9..

7. Chile International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Santiago, Chile; 2025. Unpublished.

8. Colombia International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Bogotá; 2025. Unpublished.

9. Ecuador International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Quito; 2025. Unpublished.

10. Ecuador Ministry of Public Health. Gacetas Inmunoprevenible 2025. Quito: MINSA Ecuador; 2025. Available from: https://www.salud.gob.ec/gacetas-inmunoprevenibles-2025/.

11. Mexico International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Mexico City; 2025. Unpublished.

12. Panama International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Panama City; 2025. Unpublished.

13. Paraguay International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Asunción; 2025. Unpublished.

14. Paraguay National Program for Vaccine-Preventable Diseases and Expanded Program on Immunization. Department of EPV/ESAVI Surveillance. Boletín Epidemiológico SE 46.

Asunción: MSPBS; 2025. Available from: https://pai.mspbs.gov.py/wp-content/uploads/2025/11/NOTIFICACION-E-INDICADORES-EPV-SE-46-2025.pdf.

15. Peru International Health Regulations (IHR) National Focal Point (NFP). Communication received on 2 December 2025, by email; Lima; 2025. Unpublished.

16. United States of America International Health Regulations (IHR) National Focal Point (NFP). Communication received on 5 December 2025, by email. Washington, D.C.; 2025. Unpublished.

17. United States Centers for Disease Control and Prevention. Center for Surveillance, Epidemiology, and Laboratory Services. National Notifiable Diseases Surveillance System. (2025). Pertussis: (Week 46) Weekly cases* of notifiable diseases, United States, U.S. Territories, and Non-U.S. Residents week ending November 15, 2025. 2025(46). Atlanta: CDC;2025. Available from: https://stacks.cdc.gov/view/cdc/250256 .

18. World Health Organization. Laboratory manual for the diagnosis of whooping cough caused by Bordetella pertussis/Bordetella para pertussis: 2014 update (WHO/IVB/14.03). Geneva: WHO; 2014. Available from: https://www.who.int/publications/i/item/laboratory-manual-for-the-diagnosis-of-whooping-cough-caused-by-bordetella-pertussis-bordetella-parapertussis.-update-2014.

19. Heymann D.L. Control of Communicable Diseases Manual: An Official Report of the American Public Health Association. 21st Edition. Pages 477-483. ISBN 978-0-87553-323-0. Washington D.C.; American Public Health Association; 2022.

20. Pan American Health Organization. Control of diphtheria, pertussis, tetanus, haemophilus influenzae type B, and Hepatitis B: field guide. Washington, D.C.: PAHO; 2006. Available from: https://iris.paho.org/items/13a22e50-51ad-4997-a9b0-55b62f8c8b8b.

21. Pan American Health Organization. Twenty-Fifth Meeting of the Technical Advisory Group (TAG) on Vaccine-preventable Diseases: Final Report, 9-11 July, 2019, Cartagena, Colombia; Washington, D.C.: PAHO; 2019. Available from: https://www.paho.org/es/documentos/informe-final-xxv-reunion-grupo-tecnico-asesor-gta-sobre-enfermedades-prevenibles-por.

22. Pan American Health Organization. Technical Advisory Group (TAG) on Vaccine-Preventable Diseases, TAG recommendations for Pertussis (whooping cough); Washington, D.C.: PAHO; 2019. Available from: 1999-2024-tag-recommendations-pertussis.pdf.