

Immunization in the Americas

2019 Summary

**Comprehensive Family Immunization
Family, Health Promotion, and Life Course**



**Pan American
Health
Organization**



**World Health
Organization**

**REGIONAL OFFICE FOR THE
Americas**

preface

Since the Expanded Program on Immunization (EPI) was established in the Region of the Americas in 1977, its longevity and success can be attributed to the consistent, dedicated and relentless responses to challenges faced by the program throughout the years, and to an unwavering commitment to Pan-Americanism in the Region. These have come together to create the resilient fabric upon which the immunization program has been built and continues to grow. We have been a global leader in eliminating vaccine-preventable diseases (VPDs), like smallpox (1971), rubella and congenital rubella syndrome (2015), and neonatal tetanus (2017). This year also marks the 25th year since the certification of polio elimination from the Region in 1994.

While the regional immunization program has celebrated many successes, 2019 has been a challenging year. Measles and diphtheria outbreaks have been ongoing in the Region, due to low coverage with the measles, mumps, rubella (MMR) vaccine and the third dose of the vaccine against diphtheria, tetanus and pertussis (DTP3). We are nonetheless confident that the Region will overcome these challenges given our history of successes. Our experiences over the years demonstrate that we will, as the Americas has led the way towards the accelerated and equitable introduction of the rotavirus (22 countries and territories), pneumococcal (37 countries and territories), seasonal influenza (39 countries and territories), and human papillomavirus (40 countries and territories) vaccines. Additionally, the annual regional Vaccination Week in the Americas celebrated its 17th year in 2019 and has reached 740 million people since its inception.

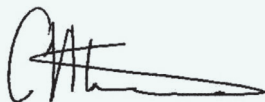
Countries have faced other challenges as well, including maintaining immunization as a political priority, fiscal constraints, economic and social crises, multiple barriers for immunization delivery, limited health service hours, geographical barriers, challenges regarding human resources, vaccine availability, information systems and communication, among others. Communication has been complicated by a lack of awareness of the risk and seriousness of VPDs in the community, as well as dissemination of fake news on social media regarding the safety and effectiveness of vaccines.

Strengthening the health system and achieving universal health are essential prerequisites for addressing these challenges. These actions will serve as a vehicle to increase immunization coverage, as well as other primary health services, in an equitable manner. We must work to maintain government commitment to immunization as a top priority through the establishment of vaccine laws and support for national budgets that not only include vaccines, but all operational aspects of immunization programs as well.

Additionally, reliable measures to better understand why people are not being vaccinated are needed to ensure that evidence informs the design and evaluation of more tailored and targeted interventions to increase vaccine uptake. Standardized, validated measures to assess reasons for under-vaccination will also facilitate future comparisons across and within countries/regions and trend monitoring.

Finally, communication should be strengthened and utilized as an essential tool. Governments in the Region must learn how to communicate the importance and safety of vaccines using scientific evidence to respond to misinformation. They must also adopt integrated communication strategies focused on each population group to strengthen messages about the trustworthiness, safety, and efficacy of vaccines.

These are the ways we know will address and overcome the challenges we face and maintain the successes we have had in the control and elimination of vaccine-preventable diseases in the Region of the Americas. We can respond to any challenge in a way that defines our accomplishments as a Region and provides a roadmap for future challenges.



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For this publication:

- Latin America is composed of Mexico, Central America, Latin Caribbean, Andean Area, Brazil, and Southern Cone.
- Latin America & Caribbean is composed of Latin America and Non-Latin Caribbean.
- Because of their population size, Brazil and Mexico are shown separately.

The data published in the brochure "Immunization in the Americas" may have been updated by the countries, after publication. To see the most up-to-date data, please visit: www.paho.org/immunization/Data.



demographic and socioeconomic data

| | 1 | 2 | 3 | 4 | | | 5 | 6 | | 7 | 8 | 9 | | 10 |
|----------------------------------|------------------------------------|---|--|--|-----------------|---------|--|--|---------------------|-------------------|---------------|---|---------|----|
| | total population (thousands) | population <1 year old (thousands) | population 1 year old (thousands) | infant mortality rate (1,000 lb) or number of deaths (N) | | | women of childbearing age (thousands) | gross national income (US\$ per capita) | | | Gini index | national health expenditure as a % of GDP | | |
| | | | | | | | | current value | ppp value | | | public | private | |
| | 2018 | 2018 | 2018 | rate | (N) | year | 2018 | 2018 | 2018 | 2017 | | 2016 | 2016 | |
| The Americas | 1,006,302 | 14,678.1 | 14,717.3 | 12.2 | 139,852 | | 508,251 | 27,677 | 32,789 | 45.1 | | 7.2 | 3.3 | |
| North America | 364,242 | 4,252.5 | 4,293.1 | 5.7 | 24,036 | | 168,166 | 61,027 | 61,751 | 40.7 | | 13.3 | 3.1 | |
| Bermuda | 71 | 0.8 | 0.8 | 1.9 | 1 | 2018 | 29 | 106,140 ^H | 66,810 ^H | ... | | ... | ... | |
| Canada | 37,075 | 387.4 | 393.7 | 4.5 | 1,700 | 2017 | 17,036 | 44,860 | 47,280 | 34.0 ^H | | 7.7 | 2.8 | |
| United States of America | 327,096 | 3,864.3 | 3,898.6 | 5.8 | 22,335 | 2017 | 151,102 | 62,850 | 63,390 | 41.5 ^L | | 14.0 | 3.1 | |
| Latin America and the Caribbean | 642,060 | 10,425.7 | 10,424.2 | 14.8 | 115,816 | | 340,085 | 8,722 | 16,035 | 47.7 | | 3.7 | 3.4 | |
| Latin America | 634,598 | 10,312.9 | 10,310.7 | 14.8 | 114,130 | | 336,221 | 8,706 | 16,022 | 47.7 | | 3.7 | 3.4 | |
| Mexico | 126,191 | 2,200.7 | 2,211.8 | 12.1 ^A | 26,995 | 2017 | 67,158 | 9,180 | 19,440 | 43.4 ^L | | 2.9 | 2.6 | |
| Central America | 49,281 | 1,029.4 | 1,019.9 | 17.0 | 12,063 | | 26,262 | 5,183 | 9,316 | 47.2 | | 3.8 | 3.2 | |
| Belize | 383 | 7.9 | 7.9 | 12.6 | 98 | 2018 | 210 | 4,720 | 8,200 | ... | | 4.1 | 1.8 | |
| Costa Rica | 4,999 | 69.3 | 70.3 | 8.4 ^B | 573 | 2018 | 2,643 | 11,510 | 16,670 | 48.3 | | 5.6 | 1.9 | |
| El Salvador | 6,421 | 116.3 | 116.0 | 9.2 ^D | 1,029 | 2018 | 3,385 | 3,820 | 7,850 | 38.0 | | 4.5 | 2.3 | |
| Guatemala | 17,248 | 420.6 | 412.7 | 20.0 | 7,626 | 2017 | 9,121 | 4,410 | 8,310 | 48.3 ^J | | 2.2 | 3.6 | |
| Honduras | 9,588 | 205.9 | 202.5 | 22.8 ^D | ... | 2016 | 5,246 | 2,330 | 4,780 | 50.5 | | 3.9 | 4.3 | |
| Nicaragua | 6,466 | 131.6 | 132.7 | 12.2 ^B | 1,674 | 2018 | 3,503 | 2,030 | 5,390 | 46.2 ^J | | 5.4 | 3.0 | |
| Panama | 4,177 | 77.7 | 77.9 | 14.0 | 1,063 | 2017 | 2,153 | 14,370 | 23,510 | 49.9 | | 4.8 | 2.4 | |
| Latin Caribbean | 37,187 | 603.2 | 608.4 | 34.0 | 5,240 | | 18,549 | 6,458 | 11,366 | 43.3 | | 4.9 | 2.3 | |
| Cuba | 11,338 | 113.4 | 117.8 | 4.0 | 461 | 2018 | 5,335 | 7,230 ^G | ... | ... | | 10.9 | 1.3 | |
| Dominican Republic | 10,627 | 202.7 | 202.1 | 22.8 | 4,420 | 2018 | 5,566 | 7,370 | 16,960 | 45.7 ^L | | 2.8 | 3.3 | |
| French Guiana | 283 | 7.3 | 6.9 | 7.9 | 56 ^G | 2013-15 | 143 | ... | ... | ... | | ... | ... | |
| Guadeloupe | 400 | 4.8 | 4.5 | 8.9 | 43 ^G | 2013-15 | 162 | ... | ... | ... | | ... | ... | |
| Haiti | 11,123 | 256.1 | 254.8 | 59.0 ^C | ... | 2016-17 | 5,839 | 800 | 1,870 | 41.1 ^M | | 0.8 | 2.5 | |
| Martinique | 376 | 3.8 | 3.6 | 7.3 | 88 | 2014-16 | 148 | ... | ... | ... | | ... | ... | |
| Puerto Rico | 3,040 | 15.1 | 18.6 | 7.1 ^B | 172 | 2017 | 1,356 | 21,100 | 26,560 | ... | | ... | ... | |
| Andean Area | 138,975 | 2,371.2 | 2,372.4 | 15.8 | 19,537 | | 73,289 | 7,461 | 14,107 | 46.5 | | 3.1 | 2.4 | |
| Bolivia | 11,353 | 238.6 | 238.1 | 24.0 ^A | ... | 2011-16 | 5,852 | 3,370 | 7,670 | 44.0 | | 4.5 | 2.1 | |
| Colombia | 49,661 | 762.4 | 748.6 | 16.8 ^E | 7,220 | 2016 | 26,722 | 6,190 | 14,490 | 49.7 | | 3.7 | 2.1 | |
| Ecuador | 17,084 | 335.9 | 333.1 | 9.7 ^D | 3,252 | 2017 | 9,004 | 6,120 | 11,410 | 44.7 | | 4.3 | 4.1 | |
| Peru | 31,989 | 581.8 | 568.2 | 15.0 ^C | ... | 2017 | 16,941 | 6,530 | 13,810 | 43.3 | | 3.3 | 1.8 | |
| Venezuela | 28,887 | 452.5 | 484.5 | 15.2 | 9,065 | 2014 | 14,770 | 13,080 ^J | 17,900 ^J | ... | | 0.8 | 2.4 | |
| Brazil | 209,469 | 2,946.4 | 2,926.3 | 13.4 ^E | 40,425 | 2,017 | 113,646 | 9,140 | 15,820 | 53.3 | | 3.9 | 5.2 | |
| Southern Cone | 73,496 | 1,162.1 | 1,171.8 | 9.2 | 9,870 | | 37,317 | 12,477 | 20,418 | 42.9 | | 5.4 | 2.5 | |
| Argentina | 44,361 | 749.8 | 749.6 | 9.3 | 6,579 | 2017 | 22,294 | 12,370 | 19,820 | 40.6 | | 5.6 | 1.9 | |
| Chile | 18,729 | 224.3 | 234.8 | 7.1 | 1,557 | 2017 | 9,641 | 14,670 | 24,250 | 46.6 | | 5.0 | 3.5 | |
| Paraguay | 6,956 | 140.1 | 139.7 | 12.6 ^D | 1,461 | 2017 | 3,716 | 5,680 | 13,180 | 48.8 | | 4.1 | 3.9 | |
| Uruguay | 3,449 | 47.9 | 47.7 | 6.8 | 273 | 2018 | 1,666 | 15,650 | 21,900 | 39.5 | | 6.5 | 2.6 | |
| Non-Latin Caribbean | 7,462 | 112.7 | 113.5 | 17.5 | 1,686 | | 3,864 | 10,079 | 17,095 | ... | | 3.4 | 2.4 | |
| Anguilla | 17 | 0.2 | 0.3 | 20.7 | 3 | 2017 | 9 | ... | ... | ... | | ... | ... | |
| Antigua and Barbuda | 96 | 1.5 | 1.5 | 18.0 | 20 | 2017 | 50 | 15,810 | 25,160 | ... | | 2.6 | 1.7 | |
| Aruba | 106 | 1.2 | 1.2 | 2.5 | 3 | 2017 | 48 | 23,630 ^K | 36,960 ^K | ... | | ... | ... | |
| Bahamas | 386 | 5.4 | 5.3 | 16.0 | 70 | 2016 | 208 | 30,210 ^K | 30,920 ^K | ... | | 3.2 | 3.2 | |
| Barbados | 287 | 3.1 | 3.0 | 14.2 | 37 | 2016 | 134 | 15,240 ^K | 17,640 ^K | ... | | 3.2 | 3.7 | |
| BES* | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | ... | ... | |
| British Virgin Islands | 36 | 0.4 | 0.4 | 16.5 | 4 | 2017 | 19 | ... | ... | ... | | ... | ... | |
| Cayman Islands | 60 | 0.7 | 0.7 | 9.4 | 6 | 2017 | 28 | ... | 50,510 ^L | ... | | ... | ... | |
| Curaçao | 163 | 1.8 | 1.8 | 10.3 | 16 | 2017 | 69 | 19,070 ^K | 27,820 ^K | ... | | ... | ... | |
| Dominica | 74 | 1.1 | 1.1 | 13.8 ^B | 10 | 2018 | 37 | 7,210 | 10,680 | ... | | 3.4 | 1.6 | |
| Grenada | 111 | 1.8 | 1.8 | 12.5 | 19 | 2018 | 57 | 9,780 | 14,270 | ... | | 2.2 | 3.0 | |
| Guyana | 779 | 15.1 | 15.0 | 18.9 ^D | 290 | 2018 | 404 | 4,760 | 8,570 | ... | | 2.5 | 1.5 | |
| Jamaica | 2,935 | 46.6 | 46.9 | 20.9 ^D | 756 | 2016 | 1,556 | 4,990 | 8,930 | ... | | 3.7 | 2.3 | |
| Montserrat | 5 | 0.1 | 0.1 | 0.0 | 0 | 2017 | 3 | ... | ... | ... | | ... | ... | |
| Saint Kitts & Nevis | 53 | 0.7 | 0.7 | 27.0 | 16 | 2018 | 27 | 18,640 | 30,120 | ... | | 2.4 | 3.2 | |
| Saint Lucia | 182 | 2.2 | 2.2 | 31.7 | 59 | 2017 | 100 | 9,460 | 12,970 | 51.2 ^L | | 2.2 | 2.9 | |
| Saint Vincent and the Grenadines | 110 | 1.5 | 1.6 | 16.6 | 29 | 2016 | 56 | 7,940 | 13,210 | ... | | 2.7 | 0.8 | |
| Sint Maarten (Dutch part) | 43 | 0.5 | 0.5 | 14.6 | 6 | 2018 | 19 | ... | 33,320 ^L | ... | | ... | ... | |
| Suriname | 576 | 10.5 | 10.5 | 14.0 ^D | 137 | 2017 | 298 | 4,990 | 13,420 | ... | | 4.2 | 1.8 | |
| Trinidad and Tobago | 1,390 | 17.5 | 18.1 | 11.4 ^{B,D,F} | 190 | 2017 | 707 | 16,240 | 32,060 | ... | | 3.4 | 3.1 | |
| Turks and Caicos Islands | 54 | 0.8 | 0.8 | 11.0 | 5 | 2018 | 33 | 26,740 | 24,540 | ... | | ... | ... | |

*Bonaire, St. Eustatius, and Saba.

(A) study; (B) preliminary; (C) survey; (D) data have one or more of the following limitations: coverage of maternal deaths and live births, differences in the maternal death definition, different denominators used, the analysis of only confirmed maternal deaths, and coverage of infant and neonatal deaths; (E) estimate; (F) public sector only; (G) value 2015; (H) valor2013; (J) value 2014; (K) value 2017; (L) value 2016; (M) value 2012.

reported immunization coverage

| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---------------------------------------|------------------------|------------|------------------|------------------|------------------------|------------------------|---------------------|------------------|------------------|-----------------|------------------|---------------------|
| | percentage of coverage | | | | | | | | | | | |
| | <1 year of age | | | | | | | | | 1 year of age | | |
| | BCG | HepB Birth | IPV1 | polio3 | DTP1-vc ^(B) | DTP3-vc ^(B) | DTP1-3 dropout rate | rotavirus | PCV3 | DTP4 | MMR1 | MMR2 ^(A) |
| | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 |
| The Americas | 93 | 74 | 90 | 87 | 92 | 89 | 4 | 79 | 87 | 78 | 91 | 83 |
| North America | NA | 66 | 96 | 93 | 97 | 94 | -4 | 74 | 91 | 82 | 92 | 93 |
| Bermuda | NA | ... | 91 | 95 | 91 | 95 | -4 | 75 | 94 | 76 | 87 | 70 |
| Canada ^A | NA | ... | 95 | 91 | 94 | 91 | ... | 79 | 81 | 76 | 90 | 87 |
| United States of America ^B | NA | 66 | 96 | 93 | 97 | 94 | ... | 73 | 92 | 83 | 92 | 94 |
| Latin America and the Caribbean | 93 | 79 | 88 | 84 | 90 | 85 | 4 | 82 | 84 | 76 | 89 | 78 |
| Latin America | 93 | 79 | 88 | 84 | 90 | 85 | 4 | 82 | 85 | 76 | 89 | 78 |
| Mexico | 96 | ... | 90 | 88 | 90 | 88 | 2 | 77 | 88 | 82 | 97 | 99 |
| Central America | 91 | 66 | 94 | 89 | 94 | 89 | 5 | 90 | 89 | 85 | 90 | 87 |
| Belize | 99 | 55 | 97 | 96 | 97 | 96 | 1 | ... | ... | 80 | 97 | 91 ^C |
| Costa Rica | 92 | 90 | 95 | 94 | 95 | 94 | 1 | ... | 96 | 95 | 94 | 100 |
| El Salvador | 81 | 77 | 81 | 83 | 82 | 81 | 1 | 82 | 75 | 81 | 81 | 85 |
| Guatemala | 88 | 48 | 94 | 85 | 94 | 86 | 9 | 87 | 85 | 77 | 87 | 76 |
| Honduras | 93 | 82 | 93 | 91 | 93 | 91 | 2 | 92 | 91 | 92 | 91 | 94 |
| Nicaragua | 100 ^C | NA | 100 ^C | 100 ^C | 100 ^C | 100 ^C | 0 | 100 ^C | 100 ^C | 99 | 100 ^C | 95 |
| Panama | 100 | 85 | 100 ^C | 88 | 100 ^C | 88 | 14 | 95 | 92 | 88 | 100 ^C | 100 |
| Latin Caribbean | 90 | 87 | 90 | 81 | 96 | 89 | 10 | 77 | 38 | 62 | 87 | -49 |
| Cuba | 100 | 100 | 100 | 99 | 100 | 99 | 0 | NA | NA | 99 | 100 | 100 |
| Dominican Republic | 100 ^C | 80 | 100 ^C | 89 | 100 ^C | 94 | 12 | 82 | 70 | 85 ^E | 95 | 31 ^F |
| French Guiana | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Guadeloupe | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Haiti | 76 | ... | 78 | 66 | 91 | 79 | 13 | 73 | 12 | 24 ^E | 74 ^F | 38 ^E |
| Martinique | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Puerto Rico | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Andean Area | 88 | 70 | 79 | 79 | 89 | 81 | 8 | 87 | 87 | 65 | 85 | 65 |
| Bolivia | 90 | ... | 89 | 83 | 89 | 83 | 7 | 87 | 83 | ... | 89 | 38 |
| Colombia | 89 | 77 | 93 | 92 | 92 | 92 | 0 | 90 | 94 | 85 | 95 | 88 |
| Ecuador | 90 | 70 | 86 ^H | 85 | 86 | 85 | 1 | 85 | 85 | 76 | 83 | 74 |
| Peru | 81 | 73 | 89 | 83 | 90 | 84 | 6 | 85 | 82 | 69 | 85 | 66 |
| Venezuela | 92 | 55 | 32 | 53 | 84 | 60 | 28 | ... | ... | 31 | 74 | 39 |
| Brazil | 98 | 87 | 88 | 85 | 87 | 87 | -1 | 80 | ... | 77 | 92 | 76 |
| Southern Cone | 92 | 82 | 91 | 85 | 91 | 87 | 5 | 80 | 88 | 81 | 92 | 95 ^C |
| Argentina | 93 | 82 | 90 | 84 | 91 | 86 | 6 | 80 | 88 | 80 | 94 | 100 |
| Chile | 96 | ... | 98 | 95 | 99 | 95 | 5 | ... | 93 | 89 | 93 | 93 |
| Paraguay | 79 | ... | 80 | 75 | 79 | 76 | 4 | 79 | 79 | 67 | 81 | 71 |
| Uruguay | 98 | NA | 96 | 91 | 96 | 91 | 4 | NA | 93 | 93 | 97 | 91 |
| Non-Latin Caribbean | 95 | 83 | 96 | 97 | 97 | 96 | 1 | 85 | 69 | 81 | 91 | 78 |
| Anguilla | 89 | ... | 89 | 91 | 89 | 91 | 5 | ... | 91 | 70 | 81 | 73 |
| Antigua and Barbuda | NA | NA | 100 | 94 | 100 | 95 | 5 | NA | ... | 92 | 96 | 95 |
| Aruba | NA | ... | 99 | 96 | 99 | 96 | 3 | ... | 94 | 93 | 97 | 83 |
| Bahamas | NA | ... | 94 | 90 | 94 | 90 | 4 | 70 | 90 | 67 | 89 | 69 |
| Barbados | NA | ... | 95 | 94 | 96 | 95 | 1 | ... | 89 | 73 | 85 | 74 |
| BES* | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| British Virgin Islands | NA | 98 | 86 | 92 | 94 | 92 | 2 | ... | ... | 90 | 94 | 83 |
| Cayman Islands | 82 | ... | 97 | 93 | 97 | 93 | 6 | 80 | 91 | 89 | 90 | 70 |
| Curaçao | NA | 46 | 96 | 91 | 96 | 92 | 5 | ... | 86 | 82 | 89 | 66 |
| Dominica | 95 | 95 | 99 | 94 | 99 | 94 | 7 | ... | ... | 83 | 84 | 81 |
| Grenada | NA | ... | 96 | 96 | 96 | 95 | 1 | ... | ... | 75 ^E | 84 | 74 |
| Guyana | 100 | ... | 97 | 94 | 99 | 95 | 3 | 91 | 91 | ... | 98 | 84 |
| Jamaica | 93 ^C | 96 | 95 ^C | 98 | 95 ^C | 97 | -2 | ... | 44 | 81 | 89 | 82 |
| Montserrat | 100 | 96 | 100 | 96 | 100 | 96 | 15 | ... | 85 | 94 | 96 | 79 |
| Saint Kitts & Nevis | 97 ^C | 95 | 99 ^C | 98 | 99 ^C | 98 | -1 | ... | ... | 97 | 96 | 96 ^C |
| Saint Lucia | 100 | 97 | 100 | 95 ^C | 100 ^C | 95 | 8 | ... | ... | 74 | 86 ^C | 68 |
| Saint Vincent and the Grenadines | 100 | ... | 84 | 100 | 100 | 97 | 7 | ... | ... | 89 | 100 | 100 |
| Sint Maarten (Dutch part) | NA | 79 | 91 | 89 | 91 | 89 | 2 | ... | 91 | 86 | 90 | ... |
| Suriname | NA | ... | 93 | 95 | 95 | 95 | 0 | ... | ... | 60 | 98 | 39 |
| Trinidad and Tobago | NA | ... | 100 | 100 | 100 | 100 | 0 | ... | 100 | 94 | 90 | 92 |
| Turks and Caicos Islands | 100 | 98 | 91 | 93 | 91 | 93 | -2 | ... | ... | 85 | 92 | 83 |

*Bonaire, St. Eustatius, and Saba.

(A) <2years of age; (B) children aged 19-35; (C) reported coverage >100%; (D) diphtheria-tetanus-pertussis containing vaccine; (E) no data but in schedule; (F) coverage report for measles-rubella vaccine in children <1 year of age; (G) target age groups vary by country; (H) fractional dose.

morbidity data

| | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---------------------------------------|---------------------|--------------------|----------------|------------------|----------|--------------------------|---------|-----------|------------|--------|-----------------|------------|
| | | | | | | number of reported cases | | | | | | |
| | confirmed cases | | | | neonatal | yellow | total | pertussis | diphtheria | mumps | Hib | meningitis |
| | VDPV ^(A) | measles | rubella | CRS | tetanus | fever | tetanus | | | | meningitis | pneumo- |
| | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | cocco |
| | | | | | | | | | | | | 2018 |
| The Americas | 2 | 16,823 | 4 | 0 | 10 | 1,326 | 451 | 21,364 | 894 | 67,890 | 97 | 1,650 |
| North America | 0 | 400 | 2 | 0 | 0 | 0 | 21 | 15,120 | 4 | 3,038 | 49 | 1 |
| Bermuda | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| Canada | 0 | 28 | 0 | 0 | 0 | 0 | 1 | 1,679 | 4 | 787 | 23 | ... |
| United States of America ^B | 0 | 372 ^C | 2 ^C | ... ^C | ... | 0 | 20 | 13,439 | 0 | 2,251 | 26 ^E | ... |
| Latin America and the Caribbean | 2 | 16,423 | 2 | 0 | 10 | 1,326 | 430 | 6,244 | 890 | 64,852 | 48 | 1,649 |
| Latin America | 2 | 16,422 | 2 | 0 | 10 | 1,326 | 429 | 6,243 | 890 | 64,837 | 48 | 1,648 |
| Mexico | 0 | 5 | 2 | 0 | 0 | 0 | 23 | 783 | 0 | ... | 0 | 7 |
| Central America | 0 | 1 | 0 | 0 | 1 | 0 | 24 | 263 | 0 | 15,574 | 1 | 26 |
| Belize | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 11 | 0 | ... |
| Costa Rica | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 127 | 0 | ... |
| El Salvador | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 11 | 0 | 232 | 1 | 21 |
| Guatemala | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 440 | ... | 4 |
| Honduras | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 74 | 0 | 14,761 | 0 | 1 |
| Nicaragua | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 53 | 0 | 3 | 0 | 0 |
| Panama | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 20 | 0 | ... | ... | ... |
| Latin Caribbean | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 156 | 106 | 1,572 | 10 | 95 |
| Cuba | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 84 |
| Dominican Republic | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 147 | 1 | 1,572 | ... | 1 |
| French Guiana | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Guadeloupe | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Haiti | 0 | 0 | 0 | 0 | 3 | ... | ... | 9 | 105 | ... | 0 | 10 |
| Martinique | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Puerto Rico | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Andean Area | 1 | 6,048 | 0 | 0 | 6 | 12 | 126 | 1,094 | 783 | 21,840 | 10 | 208 |
| Bolivia | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 21 | 0 | 36 | 1 | 6 |
| Colombia | 1 | 208 | 0 | 0 | 5 | 1 | 33 | 416 | 8 | 19,105 | 9 | 199 |
| Ecuador | 0 | 19 | 0 | 0 | 0 | 0 | 59 | 30 | 0 | 2,699 | 0 | 0 |
| Peru | 0 | 42 | 0 | 0 | 1 | 10 | 23 | 483 | 0 | 0 | 0 | 3 |
| Venezuela | 0 | 5,779 ^D | 0 | 0 | 0 | 0 | 11 | 144 | 775 | ... | ... | ... |
| Brazil | 0 | 10,330 | 0 | 0 | 0 | 1,307 | 198 | 2,125 | 1 | ... | ... | 1,031 |
| Southern Cone | 1 | 38 | 0 | 0 | 0 | 7 | 14 | 1,822 | 0 | 25,851 | 27 | 281 |
| Argentina | 1 | 14 | 0 | 0 | 0 | 7 | 6 | 900 | 0 | 7,715 | 23 | 56 |
| Chile | 0 | 24 | 0 | 0 | 0 | 0 | 3 | 682 | 0 | 14,865 | 0 | 165 |
| Paraguay | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 53 | 0 | 1,626 | 2 | 38 |
| Uruguay | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 1,645 | 2 | 22 |
| Non-Latin Caribbean | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 15 | 0 | 1 |
| Anguilla | 0 | 0 | 0 | 0 | 0 | 0 | ... | 0 | 0 | ... | 0 | ... |
| Antigua and Barbuda | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aruba | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 |
| Bahamas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... |
| Barbados | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... | 0 |
| BES* | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| British Virgin Islands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cayman Islands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Curaçao | 0 | 0 | 0 | 0 | 0 | 0 | ... | ... | 0 | ... | ... | ... |
| Dominica | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grenada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... |
| Guyana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jamaica | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Montserrat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ... |
| Saint Kitts & Nevis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Saint Lucia | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Saint Vincent and the Grenadines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sint Maarten (Dutch part) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Suriname | 0 | 0 | 0 | 0 | 0 | 0 | ... | ... | 0 | 9 | ... | ... |
| Trinidad and Tobago | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turks and Caicos Islands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*Bonaire, St. Eustatius, and Saba.

(A) no countries reported wildpolio virus in the Americas; (B) Morbidity and Mortality Weekly Report (MMWR), National Notifiable Diseases Surveillance Systems (NNDSS), provisional data as of epidemiological week 33 (August 2019); (C) Measles/Rubella Weekly Surveillance Bulletin, 2018;

(D) re-establishment of endemic transmission; (E) invasive disease, age <5 years.

program management and financing

| | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|----------------------------------|---|--------------------------|---|--|--|--|-------------------------------------|---|--|-----------------------------------|
| | years covered by multi-year plan for immunization | number of NITAG meetings | total number of districts/ municipalities | % of municipalities w/ coverage level ≥95% DTP3 2018 | % of children in municipalities w/ coverage level ≥95% DTP3 2018 | plan for immunization injection safety | number of “serious” ESAVIs reported | spending on routine immunization financed using gov’t funds (%) | spending on vaccine purchases financed using gov’t funds (%) | budget line for vaccine purchases |
| | | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 | 2018 |
| The Americas | | 140 | 14,956 | 45 | 28 | | | | | |
| North America | | 8 | 65 | | | | | | | |
| Bermuda | no | 2 | 1 | 100 | 100 | yes | 1 | 100 | 100 | yes |
| Canada | ... | 3 | 13 ^A | 8 | ... | no | 225 | ... | ... | ... |
| United States of America | ... | 3 | 51 ^B | ... | ... | yes | 3,004 | ... | ... | yes |
| Latin America and the Caribbean | | 132 | 14,891 | 45 | 28 | | | | | |
| Latin America | | 92 | 14,735 | 45 | 28 | | | | | |
| Mexico | 2013–2018 | 3 | 2,463 | 40 | 30 | no | 199 | 100 | 100 | yes |
| Central America | | 41 | 1,216 | 40 | 37 | | | | | |
| Belize | no | 2 | 6 | 67 | 63 | yes | 0 | 77 | 100 | yes |
| Costa Rica | 2015–2020 | 11 | 81 | 47 | 38 | yes | ... | 100 | 100 | yes |
| El Salvador | 2014–2019 | 3 | 262 | 24 | 18 | yes | 28 | 99 | 100 | yes |
| Guatemala | 2018–2020 | 12 | 338 | 38 | 24 | yes | 0 | 100 | 100 | yes |
| Honduras | 2016–2020 | 3 | 298 | 37 | 39 | yes | 33 | 86 | 96 | yes |
| Nicaragua | 2016–2020 | 2 | 153 | 83 | 85 | yes | 9 | 76 | 67 | yes |
| Panama | 2020 | 8 | 78 | 27 | 37 | yes | 0 | 92 | 100 | yes |
| Latin Caribbean | | 13 | 465 | 54 | 42 | | | | | |
| Cuba | 2019–2020 | 12 | 168 | 88 | 93 | yes | 5 | 99 | 99 | yes |
| Dominican Republic | 2019–2022 | NA | 157 | 45 | 42 | yes | no | 99 | 100 | ... |
| French Guiana | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Guadeloupe | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Haiti | 2016–2020 | 1 | 140 | 24 | 21 | yes | 0 | 14 | 25 | yes |
| Martinique | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Puerto Rico | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Andean Area | | 12 | 3,891 | 42 | 25 | | | | | |
| Bolivia | 2016–2020 | 4 | 339 | 14 | 30 | yes | 0 | 91 | 100 | yes |
| Colombia | 2016–2020 | SI | 1,122 | 52 | 41 | NA | 376 | 100 | 100 | yes |
| Ecuador | no | 0 | 221 | 24 | 9 | no | 4 | 100 | 100 | yes |
| Peru | 2015–2019 | 8 | 1,874 | 48 | 25 | yes | 68 | 100 | 100 | yes |
| Venezuela | no | NA | 335 | 20 | 9 | yes | ... | ... | ... | ... |
| Brazil | 2016–2019 | 2 | 5,570 | 50 | 24 | yes | 2830 | 100 | 100 | yes |
| Southern Cone | | 21 | 1,130 | 38 | 21 | | | | | |
| Argentina | 2017–2018 | 3 | 512 | 38 | 15 | yes | 72 | 100 | 100 | yes |
| Chile | 2010–2020 | 9 | 346 | 54 | 43 | no | 126 | 100 | 100 | yes |
| Paraguay | no | 4 | 252 | 13 | 10 | yes | 22 | 100 | 100 | yes |
| Uruguay | 2015–2020 | 5 | 20 | 55 | 34 | yes | 72 | 100 | 100 | yes |
| Non-Latin Caribbean | | 40 | 156 | 56 | 66 | | | | | |
| Anguilla | no | 2 | 3 | 33 | 34 | yes | 0 | 98 | 100 | no |
| Antigua and Barbuda | no | 2 | 8 | 75 | 71 | no | 2 | 100 | 100 | yes |
| Aruba | no | 2 | 6 | 83 | 74 | yes | 0 | ... | ... | no |
| Bahamas | no | 2 | 16 | 63 | 13 | yes | 0 | 100 | 100 | no |
| Barbados | no | 2 | 10 | 40 | 29 | no | 1 | 99 | 100 | yes |
| BES* | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| British Virgin Islands | 2019–2023 | 2 | 4 | 0 | 0 | yes | 0 | 54 | 100 | no |
| Cayman Islands | no | 2 | 6 | 33 | 3 | yes | 0 | 100 | 100 | yes |
| Curaçao | 2019–2020 | 2 | 1 | 0 | 0 | no | 2 | 100 | 100 | yes |
| Dominica | no | 2 | 7 | 43 | 27 | yes | 2 | 100 | 100 | no |
| Grenada | 2016–2025 | 2 | 7 | 43 | 31 | yes | 0 | 96 | 100 | yes |
| Guyana | 2017–2021 | 2 | 13 | 46 | 54 | yes | ... | 82 | 96 | yes |
| Jamaica | no | 2 | 13 | 85 | 78 | yes | ... | 100 | 100 | yes |
| Montserrat | no | 2 | 4 | 0 | 0 | no | 0 | ... | ... | yes |
| Saint Kitts & Nevis | no | 2 | 17 | 82 | 92 | yes | 0 | ... | ... | no |
| Saint Lucia | no | 2 | 8 | 38 | 44 | yes | 0 | 97 | 100 | no |
| Saint Vincent and the Grenadines | no | 2 | 9 | 56 | 52 | no | ... | 99 | 100 | no |
| Sint Maarten (Dutch part) | no | 2 | 1 | 0 | 0 | no | ... | 100 | 100 | ... |
| Suriname | ... | 2 | 10 | 30 | 53 | yes | 2 | 98 | 100 | yes |
| Trinidad and Tobago | no | 2 | 9 | 100 | 100 | no | ... | 100 | 100 | yes |
| Turks and Caicos Islands | no | 2 | 4 | 75 | 14 | no | 0 | 100 | 100 | no |

*Bonaire, St. Eustatius, and Saba.

(A) reports number of provinces and territories; (B) reports number of states.

surveillance indicators

Acute Flaccid Paralysis (AFP), 2018*

| Country | Number of AFP cases | AFP rate (x 100,000 <15 years old) | % of cases investigated within <48 hours | % of cases with 1 adequate sample | Number of compatible cases |
|--------------------|---------------------|------------------------------------|--|-----------------------------------|----------------------------|
| Argentina | 200 | 1.82 | 35 | 80 | 0 |
| Bolivia | 45 | 1.29 | 96 | 80 | 0 |
| Brazil | 501 | 1.06 | 98 | 65 | 1 |
| Canada | 49 | 0.82 | ... | ... | 0 |
| CARPHA | 8 | 0.45 | 75 | 38 | 0 |
| Chile | 64 | 1.78 | 73 | 61 | 0 |
| Colombia | 168 | 1.45 | 51 | 85 | 0 |
| Costa Rica | 15 | 1.41 | 67 | 80 | 0 |
| Cuba | 27 | 1.48 | 81 | 96 | 0 |
| Dominican Republic | 15 | 0.48 | 33 | 93 | 0 |
| Ecuador | 57 | 1.21 | 100 | 75 | 0 |
| El Salvador | 42 | 2.58 | 31 | 93 | 0 |
| Guatemala | 59 | 0.98 | 36 | 76 | 0 |
| Haiti | 9 | 0.25 | 89 | 22 | 0 |
| Honduras | 50 | 1.55 | 60 | 92 | 0 |
| Mexico | 708 | 2.10 | 99 | 90 | 0 |
| Nicaragua | 19 | 1.05 | 100 | 100 | 0 |
| Panama | 16 | 1.49 | 81 | 81 | 0 |
| Paraguay | 36 | 1.72 | 83 | 94 | 0 |
| Peru | 77 | 0.88 | 78 | 71 | 0 |
| Uruguay | 6 | 0.82 | 100 | 50 | 0 |
| Venezuela | 85 | 0.97 | 99 | 68 | 1 |
| TOTAL/AVERAGE | 2,253 | 1.00 | 83 | 79 | 2 |

Source: Integrated Surveillance Information System, Polio Eradication Surveillance System, and country reports to FPL-IM/PAHO.

*Data as of epidemiological week 33 (August 2019).

Measles/Rubella/CRS Surveillance Indicators, 2018*

| Country | Number of suspect cases | % of cases with adequate investigation | % of cases with adequate samples | % of samples received in lab ≤5 days | % of lab samples results ≤4 days | Rate of suspected MR cases/100,000 population | Rate of suspected CRS cases/10,000 live births |
|--------------------|-------------------------|--|----------------------------------|--------------------------------------|----------------------------------|---|--|
| Argentina | 985 | 6 | 77 | 73 | 68 | 2.2 | 0.3 |
| Bolivia | 248 | 100 | 93 | 71 | 81 | 2.2 | 0.0 |
| Brazil | 30104 | 92 | 85 | 70 | 48 | 14.3 | 0.2 |
| CARPHA | 353 | 87 | 98 | 15 | 76 | 4.8 | 8.8 |
| Chile | 591 | 46 | 78 | 89 | 92 | 3.2 | 5.8 |
| Colombia | 6669 | 80 | 98 | 90 | 94 | 13.5 | 5.0 |
| Costa Rica | 66 | 42 | 67 | 92 | 77 | 1.3 | 2.8 |
| Cuba | 2596 | 100 | 100 | 100 | 100 | 22.6 | 0.0 |
| Dominican Republic | 184 | 14 | 98 | 73 | 49 | 1.7 | 0.0 |
| Ecuador | 1030 | 99 | 94 | 73 | 70 | 6.1 | 0.0 |
| El Salvador | 522 | 66 | 98 | 98 | 94 | 8.1 | 0.0 |
| Guatemala | 519 | 55 | 98 | 69 | 88 | 3.0 | 0.1 |
| Haiti | 213 | 89 | 93 | 60 | 28 | 1.9 | 0.4 |
| Honduras | 207 | 73 | 98 | 84 | 99 | 2.2 | 1.1 |
| Mexico | 4018 | 97 | 99 | 92 | 86 | 3.1 | 0.7 |
| Nicaragua | 286 | 96 | 99 | 95 | 94 | 4.6 | 4.0 |
| Panama | 69 | 87 | 91 | 64 | 90 | 1.7 | 0.4 |
| Paraguay | 901 | 78 | 95 | 88 | 94 | 12.8 | 0.0 |
| Peru | 1178 | 88 | 92 | 82 | 56 | 3.6 | 0.0 |
| Uruguay | 14 | 100 | 64 | 64 | 43 | 0.4 | 0.0 |
| Venezuela | 4121 | 99 | 46 | 35 | 33 | 12.7 | 0.0 |
| TOTAL/AVERAGE | 54,875 | 89 | 86 | 74 | 61 | 8.5 | 0.5 |

Source: Integrated Surveillance Information System, Measles Elimination Surveillance System, and country reports to FPL-IM/PAHO.

*Data as of epidemiological week 33 (August 2019).

technical notes and data sources

Main Data Sources

For detailed information on demographic data and socioeconomic indicators, please visit: www.paho.org/datastatistics.

Demographic data (Columns 1-3,5): World Population Prospects: The 2019 Revision. New York. Accessed June 27, 2019 (<http://esa.un.org/wpp/>). For countries not included in the UN World Population Prospects: U.S. Bureau of the Census. International Data Base. Accessed July 3, 2019 (<https://www.census.gov/data-tools/demo/idb/informationGateway.php>). Women of childbearing age includes women aged 15 to 49 years.

Infant mortality rate (1,000 lb) or number of deaths (N) (Column 4): PAHO/WHO. Data provided by Ministries of Health or National Health Agencies of countries. Washington D.C., 2019. As of August 2019.

Socioeconomic indicators (Columns 6-10): The World Bank (2019). World Development Indicators 2019. Washington, D.C. June 2019 Update. Accessed June 24, 2019. (<http://databank.worldbank.org/data/home.aspx>). Estimates of the national health expenditure: PAHO/WHO. Data compiled by the Department of Health Systems and Services from the Global Health Expenditure Database. Washington D.C., 2019. As of August 2019. (<http://www.who.int/health-accounts/gbed/en/>).

Immunization coverage, immunization program management, and financing information (Columns 11-22, 35-44): Annual country reports to Comprehensive Family Immunization Unit (IM)/PAHO via PAHO-WHO/UNICEF Joint Reporting Form (JRF); 2019.

Morbidity (Columns 23-34): Annual country reports to IM/PAHO via JRF, vaccine-preventable disease specific surveillance reports for measles/rubella and polio to IM/PAHO; 2018-2019.

Surveillance indicators: Vaccine-preventable-disease-specific surveillance reports for measles/rubella and acute flaccid paralysis/polio to IM/PAHO; 2018-2019.

Symbols and Abbreviations

(pop) population; (lb) live births; (NA) not applicable; (...) no data; (ppp) purchase power parity; (int'l) international; (GDP) gross domestic product; (BCG) bacille Calmette-Guérin (anti-tuberculosis vaccine); (HepB) hepatitis B; (IPV1) first dose of inactivated polio vaccine; (Polio3) third dose of polio vaccine (oral polio vaccine or inactivated polio vaccine); (DTP1) first dose of diphtheria-tetanus-pertussis vaccine (as DTP or DTP containing vaccine); (DTP3) third dose of diphtheria-tetanus-pertussis vaccine (as DTP containing vaccine); (Rotavirus) last dose of rotavirus vaccine; (PCV3) third dose of pneumococcal conjugate vaccine; (DTP4) first booster dose after the primary series consisting of three doses of diphtheria-tetanus-pertussis vaccine (as DTP or DTP containing vaccine); (MMR1) first dose of measles, mumps, rubella vaccine; (MMR2) second dose of measles, mumps, rubella vaccine (when offered in the routine program; (VDPV)

vaccine-derived poliovirus; (CRS) congenital rubella syndrome; (Hib) *Haemophilus influenzae* type b; (NITAG) national immunization technical advisory group; (ESAVI) event supposedly attributable to vaccination or immunization; (gov't) government; (CARPHA) Caribbean Public Health Agencies; (HPV) human papillomavirus; (VINUVA) *Vigilancia Centinela de Nuevas Vacunas*; (Hi) *Haemophilus influenzae*; (Spn) *Streptococcus pneumoniae*; (Nm) *Neisseria meningitidis*; (m) months; (y) years. Country codes: (ARG) Argentina; (BOL) Bolivia; (COL) Colombia; (ECU) Ecuador; (HND) Honduras; (NIC) Nicaragua; (PER) Peru; (PRY) Paraguay; (SLV) El Salvador.

Technical Notes

Immunization coverage: Proportion of children aged <1 year vaccinated with one dose of BCG vaccine, hepatitis B vaccine given at birth, first dose of inactivated polio vaccine, the third dose of polio vaccine (oral polio vaccine or inactivated polio vaccine), the first dose of DTP, the third dose of DTP, and the last dose of rotavirus vaccine (2nd or 3rd dose depending on the vaccine used), respectively. Proportion of children vaccinated with the 3rd dose of PCV in children < or ≥1 year according to vaccine schedule of the country. Proportion of children aged 1 year vaccinated with the first booster of DTP vaccine, and one dose of MMR vaccine, respectively. Proportion of children vaccinated with a second dose of MMR vaccine, as targeted in countries offering a second MMR dose in the routine program. Coverage rates are expressed as a percentage of the corresponding mid-year population, as reported by the country. Reported coverage rates ≥100% are presented as 100% with a footnote. Regional and subregional aggregated data express average values weighted by population aged <1 year and 1 year, when country data is available.

Dropout rate DTP1-DTP3: Number of DTP1 doses administered minus the number of DTP3 doses administered (among children aged <1 year) divided by the number of DTP1 doses, expressed as a percentage.

Morbidity: Number of confirmed cases of VDPV, measles, rubella, CRS, neonatal tetanus, yellow fever, non-neonatal tetanus, pertussis, diphtheria, Hib meningitis, mumps, and meningitis pneumococci. Subregional aggregated data is the sum of the totals. These are not rates; hence, inter-country comparisons may not be appropriate.

Immunization program management and financing:

- Multi-year plan for immunization: Existence of an immunization strategic plan for more than one year.
- Number of NITAG meetings: Number of times the NITAG met in 2018. NITAGs provide recommendations on immunization practices, including advice on vaccines to be included into the national immunization schedule.
- Number of municipalities and number of children <1 year of age living in these municipalities reaching coverage ≥95% for DTP3: Proportion of municipalities and proportion of children <1 year of age living in these municipalities reporting coverage levels equal to or greater than 95% for

Selected Information Products from the Comprehensive Family Immunization Unit



- **Immunization Newsletter:** A quarterly publication that includes information on all aspects of program implementation, from scientific articles on vaccine-preventable diseases and vaccines to practical matters related to the day-to-day running of an immunization program. Copies of the newsletter are available online at www.paho.org/immunization/newsletter.



- **Tools for Monitoring the Coverage of Integrated Public Health Interventions:** Immunization programs in the Americas have extensive experience with methodologies and tools to monitor vaccination coverage. Countries have adopted and improved these instruments, adapting them to a range of target populations and epidemiological contexts. Moreover, the cumulative experience gained in the area of vaccine-preventable diseases (VPDs) may be applied to other programs, like deworming, which uses very effective interventions to reduce the burden of disease caused by soil-transmitted helminths. PAHO's Comprehensive Family Immunization Unit (IM) and Regional Program on Neglected Infectious Diseases (NIDs) developed this toolkit to systematize and integrate methods to monitor coverage of health interventions among preschool- and school-age populations, as well as offer strategies and opportunities for joint collaboration.
- **Measles/Rubella (MR) and Polio Bulletins:** Weekly epidemiological surveillance bulletins. Available online at www.paho.org/immunization/MeaslesRubellaBulletin and www.paho.org/immunization/PolioBulletin.

DTP3, respectively, expressed as a percentage. Municipalities are defined as the third administrative level (country level being first), unless otherwise stated.

- Plan for immunization injection safety: the existence of a plan to ensure the safety of injections, including training, supervision, and the proper use of safety boxes. This plan may be part of the annual immunization plan of action.
- Number of ESAVIs reported as “serious”: An ESAVI will be considered serious if it results in death, is life-threatening, requires in-patient hospitalization or prolongation of existing hospitalization, results in persistent or significant disability/incapacity, or is a congenital anomaly/birth defect. Other situations, such as other important medical events that may jeopardize the patient or may require intervention to prevent one of the outcomes above, should also be considered serious after applying medical and scientific judgment.
- Spending on routine immunization financed using government funds: Percentage of all recurrent immunization-specific spending that was financed using government funds (for all recurrent inputs, including vaccines, injection supplies, salaries and per-diems of health staff

- working full-time on immunization, transport, vehicles and cold chain maintenance, training, social mobilization, monitoring, and surveillance). This excludes any external financing from donors, but may include loans.
- Spending on vaccine purchases financed using government funds: Percentage of all vaccine spending that was financed using government funds. This excludes any external financing from donors, but may include loans.
 - Budget line for vaccine purchase: Specific line in the national budget for the purchase of vaccines.
- Surveillance indicators:** For measles/rubella definitions refer to PAHO. Measles Elimination: Field Guide. (Scientific and Technical Publication No. 605). Washington, DC: PAHO, 2005. For acute flaccid paralysis definitions refer to PAHO. Poliomyelitis Eradication: Field Guide. (Scientific and Technical Publication No. 607). Washington DC: PAHO, 2005. Available at http://www.paho.org/english/ad/fch/im/FieldGuide_Index.htm.







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Seasonal Influenza Vaccine Use in the Americas, 2018

| Country | Healthy Children | | Elderly Adults | | Other Risk Groups | | |
|--------------------------------|------------------|--------------------------------|-----------------|------------------|--------------------|--------------------|---------------------------------|
| | Schedule | Coverage ^(A) (%) | Schedule | Coverage (%) | Health Workers (%) | Pregnant Women (%) | Chronic Diseases ^(G) |
| Anguilla | NA | NA | ≥65y | ... ^C | yes | NA | yes |
| Antigua and Barbuda | >6m | ... | >60y | ... | yes | NA | yes |
| Argentina | 6m-24m | 70 | >65y | 100 ^E | 98 | 72 | yes |
| Aruba | NA | NA | >60y | ... | yes | yes | yes |
| Bahamas | >6m | ... | ≥65y | ... | yes | yes | yes |
| Barbados | NA | NA | >65y | ... ^C | yes ^C | NA | no |
| Belize | 6m-23m | 71 | ≥65y | 41 | 78 | 48 | yes |
| Bermuda | 6m-18y | 12 | >65y | 9 | 15 | 16 | NA |
| BES* | ... | ... | ... | ... | ... | ... | ... |
| Bolivia | 6m-23m | 84 | >60y | 72 | 100 ^E | 87 | yes |
| Brazil | 6m-<5y | 88 | ≥60y | 97 | 95 | 81 | yes |
| British Virgin Islands | NA | NA | >60y | ... ^C | 6 | NA ^C | yes |
| Canada | ≥6m | ... | >65y | 70 | yes | yes | yes |
| Cayman Islands | ≥6m | ... | ≥60y | ... | yes | yes | yes |
| Chile | 6m-5y | 71 | ≥65y | 65 | 100 ^E | 90 | yes |
| Colombia | 6m-23m | 66 | ≥50y | ... | NA | 69 | yes |
| Costa Rica | 6m-<5y | 77 | ≥60y | ... ^C | 72 | 73 | yes |
| Cuba | 6m-2y | 85 | ≥75y | 97 | 97 | 88 | yes |
| Curaçao | NA | NA | NA | NA | NA | NA | NA |
| Dominica | 6m-35m | ... | ≥65y | 29 | 19 | yes | yes |
| Dominican Republic | 6m-23m | 19 ^B | yes | ... | yes | 87 | yes |
| Ecuador | 6m-4y | 94 | >65y | 100 ^E | 65 | 67 | yes |
| El Salvador | 6m-4y | 64 | NA | NA | 84 | 78 | yes |
| Grenada | 6m-17y | ... ^C | >65y | ... | yes ^C | yes ^C | yes |
| Guatemala | 6m-35m | ... ^C | NA ^F | NA ^F | 90 | yes ^C | yes |
| Guyana | NA | NA | NA | NA | NA | NA | NA |
| Haiti | NA | NA | NA | NA | NA | NA | NA |
| Honduras | NA ^D | NA ^D | >60y | 79 | 100 ^E | 82 | yes |
| Jamaica | 6m-17y | ... ^C | ≥65y | ... ^C | 23 | yes ^C | yes |
| Mexico | 6m-59m | 88 | >60y | 94 | 100 ^E | 81 | yes |
| Montserrat | NA | NA | >60y | ... ^C | yes ^C | NA | yes |
| Nicaragua | NA | NA | NA | NA | 100 ^E | 91 | yes |
| Panama | 6m-18y | 57 | >60y | 100 ^E | 95 | 64 | yes |
| Paraguay | 6m-36m | 24 | ≥60y | 34 | 54 | 28 | yes |
| Peru | 6m-<2y | 55 | >60y | ... | yes ^C | 38 | yes |
| St. Kitts and Nevis | NA | NA | >60y | ... ^C | yes | 2 | yes |
| St. Lucia | NA | NA | ≥60y | ... ^C | yes ^C | 73 | yes |
| St. Vincent and the Grenadines | NA | NA | NA | NA | NA | NA | NA |
| Sint Maarten (Dutch part) | NA | NA | NA | NA | NA | NA | NA |
| Suriname | NA | NA | >60y | ... ^C | yes ^C | yes | yes |
| Trinidad and Tobago | 6m-5y | ... ^C | ≥65y | ... ^C | 17 | yes ^C | yes |
| Turks and Caicos Islands | 6m-35m | ... ^C | ≥55y | ... ^C | ... | ... | yes |
| United States of America** | ≥6m-17y | 58 | >65y | 65 | yes | yes | yes |
| Uruguay | 6m-5y | 24 | >65y | 32 | 57 | 25 | yes |
| Venezuela | 6m-23m | 0 | ≥60y | 0 | 0 | 0 | yes |

*Bonaire, St. Eustatius and Saba; **USA data during 2017-2018 influenza season; m-month(s); y-year(s).
(A) pediatric coverage formula: ((2nd dose+single dose)/denominator)*100; (B) from months of November-December; (C) no denominators defined; (D) with chronic disease; (E) reported coverage >100%; (F) institutionalized population; (G) countries including adults with chronic diseases in their policy.

Dashboard of Selected Regional Immunization Action Plan (RIAP) Objectives in the Americas

| General (GO) and Strategic Objectives (SO) | Baseline (2013) | Target (2020) | 2018 |
|---|-----------------|---------------|--|
| GO 1.2.1 Number of countries and territories in which endemic transmission of measles or rubella virus has been reestablished | 0 | 0 | 1*  |
| GO 2.2.1 Number of countries and territories reporting national average coverage of at least 95% with three doses of DTP vaccine in children under 1 year | 19 | 35 | 16  |
| GO 2.2.2 Number of countries and territories reporting coverage of at least 80% in each district or equivalent with three doses of DTP vaccine in children under 1 year | 12 | 35 | 27  |
| SO 4.2.1 Number of countries and territories that have dropout rates below 5% between the first and the third dose of DTP vaccine | 11 | 35 | 28  |
| SO 4.2.2 Number of countries and territories with coverage above 95% for third dose of DTP vaccine sustained for three or more consecutive years | 13 | 35 | 6  |
| SO 4.2.5 Number of countries and territories that have a national system for a computerized nominal immunization registry | 3 | 10 | 24  |

Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting Form (JRF), 2019; IM/PAHO.
* Venezuela: 30 June 2018; Brazil: 19 February 2019.

Number of 2nd HPV Vaccine Doses Administered Latin America and the Caribbean, 2018

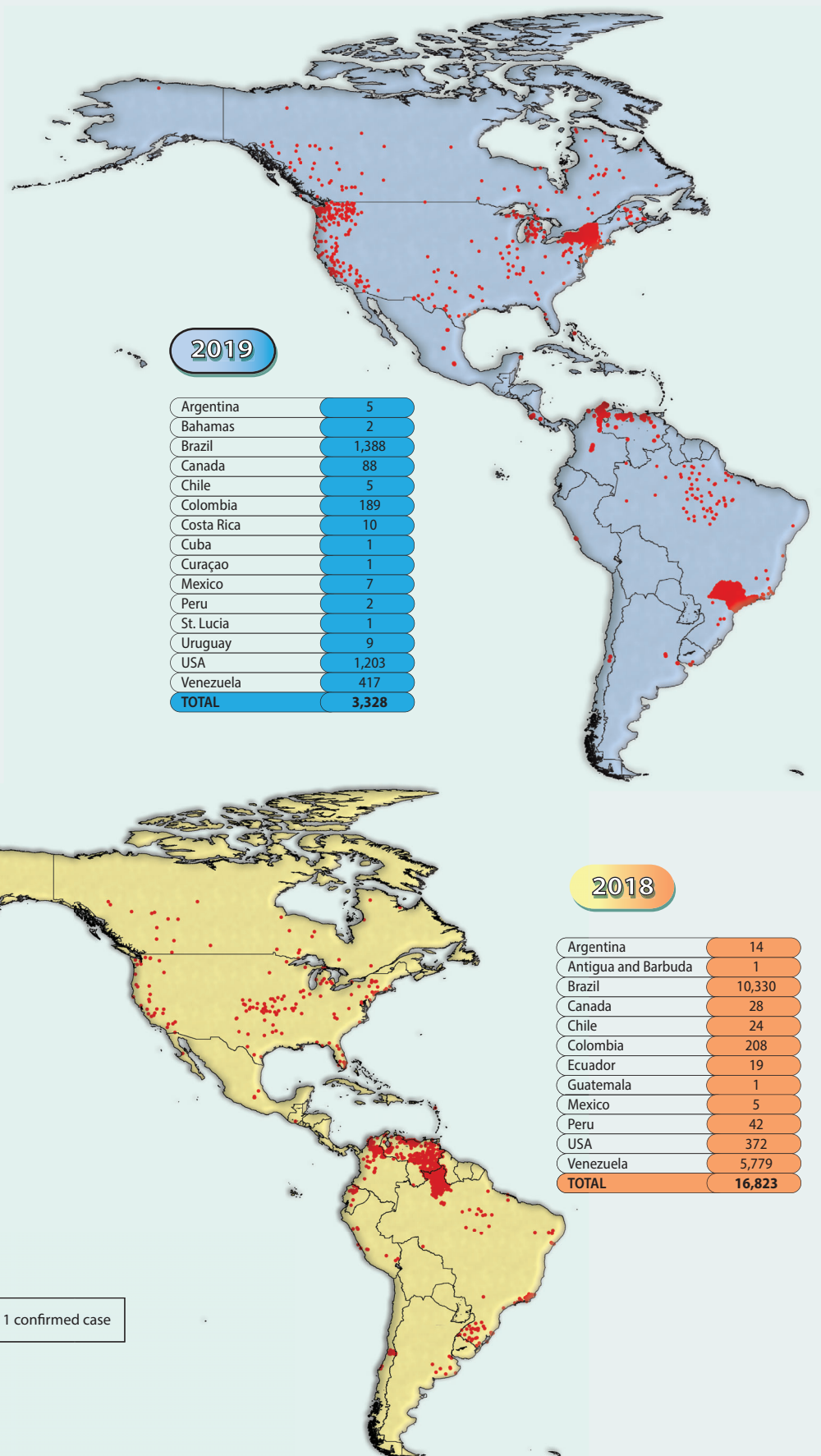
| Country | Type of Population | Number of Second HPV Vaccine Dose by Age | | | | | | |
|--------------------------------|--------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 9 years | 10 years | 11 years | 12 years | 13 years | 14 years | 15+ years |
| Anguilla | female | 0 | 2 | 1 | 1 | 0 | 0 | 0 |
| Antigua and Barbuda | female and male | 4 | 0 | 0 | 0 | 0 | 5 | 300 |
| Argentina | female and male | 0 | 0 | 359,101 | 0 | 0 | 0 | 0 |
| Aruba | female | 0 | 0 | 404 | 0 | 0 | 0 | 0 |
| Bahamas | female | 27 | 263 | 190 | 100 | 65 | 193 | 453 |
| Barbados | female and male | 0 | 0 | 776 | 0 | 0 | 0 | 0 |
| Belize | female | 297 | 1,149 | 549 | 229 | 89 | 29 | 0 |
| Bermuda | female | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BES* | ... | ... | ... | ... | ... | ... | ... | ... |
| Bolivia | female | 0 | 69,028 | 0 | 0 | 0 | 0 | 0 |
| Brazil | female and male | 308,185 | 655,644 | 1,009,068 | 1,272,145 | 1,524,720 | 1,604,296 | 4,446,207 |
| British Virgin Islands | ... | ... | ... | ... | ... | ... | ... | ... |
| Canada | ... | ... | ... | ... | ... | ... | ... | ... |
| Cayman Islands | female and male | 0 | 1 | 81 | 52 | 12 | 12 | 51 |
| Chile | female | 794 | 91,105 | 0 | 0 | 0 | 0 | 0 |
| Colombia | female | 32,635 | 28,936 | 19,042 | 13,936 | 9,643 | 6,528 | 21,193 |
| Costa Rica | ... | ... | ... | ... | ... | ... | ... | ... |
| Cuba | ... | ... | ... | ... | ... | ... | ... | ... |
| Curaçao | ... | ... | ... | ... | ... | ... | ... | ... |
| Dominica | ... | ... | ... | ... | ... | ... | ... | ... |
| Dominican Republic | female | 5,871 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ecuador | female | 140,294 | 0 | 0 | 0 | 0 | 0 | 0 |
| El Salvador | ... | ... | ... | ... | ... | ... | ... | ... |
| Grenada | ... | ... | ... | ... | ... | ... | ... | ... |
| Guatemala | female | 0 | 28,939 | 86,524 | 3,935 | 3,142 | 1,777 | 0 |
| Guyana | female | 623 | 928 | 715 | 481 | 467 | 0 | 0 |
| Haiti | ... | ... | ... | ... | ... | ... | ... | ... |
| Honduras | female | 0 | 0 | 53,703 | 5,515 | 0 | 0 | 0 |
| Jamaica | female | 0 | 3 | 40 | 838 | 801 | 145 | 7 |
| Mexico | female | 0 | 1,097,095 | 0 | 0 | 0 | 0 | 0 |
| Montserrat | female | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Nicaragua | ... | ... | ... | ... | ... | ... | ... | ... |
| Panama | female and male | 0 | 46,288 | 0 | 0 | 0 | 0 | 0 |
| Paraguay | female | 0 | 36,162 | 35,563 | 347 | 157 | 87 | 19 |
| Peru | female | 9,491 | 74,324 | 80,846 | 15,551 | 6,779 | 2,986 | 3,188 |
| St. Kitts and Nevis | ... | ... | ... | ... | ... | ... | ... | ... |
| St. Lucia | ... | ... | ... | ... | ... | ... | ... | ... |
| St. Vincent and the Grenadines | female | 0 | 0 | 32 | 0 | 0 | 0 | 0 |
| Sint Maarten (Dutch part) | ... | ... | ... | ... | ... | ... | ... | ... |
| Suriname | female | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Trinidad and Tobago | female | 2 | 0 | 2,683 | 0 | 0 | 0 | 3,235 |
| Turks and Caicos Islands | ... | ... | ... | ... | ... | ... | ... | ... |
| United States of America | ... | ... | ... | ... | ... | ... | ... | ... |
| Uruguay | female | 1 | 5 | 2,180 | 7,879 | 5,796 | 845 | 789 |
| Venezuela | ... | ... | ... | ... | ... | ... | ... | ... |

*Bonaire, St. Eustatius and Saba.

Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting Form (JRF), 2019.

Distribution of Confirmed Measles Cases by Countries

The Americas, 2018 and 2019*



Source: Integrated Surveillance Information System, Measles Elimination Surveillance System, country reports to IM/PAHO, and Measles Epidemiological Alert, PAHO.

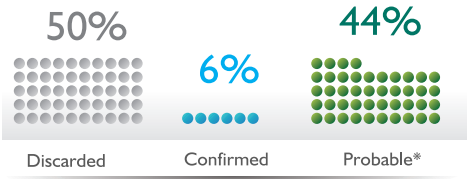
* Data as of epidemiological week 33 (August 2019).

Epidemiological Surveillance Indicators for Diseases Preventable by New Vaccines in Selected Countries, Latin America and the Caribbean, 2018

Since 2007, PAHO's Comprehensive Family Immunization Unit (IM) within the Family, Health Promotion and Life Course Department (FPL) has been promoting the implementation of sentinel hospital surveillance for rotavirus diarrhea, and bacterial pneumonia and meningitis among children under 5 years old in Latin America and the Caribbean. As of 2014, this network was incorporated into the World Health Organization's global network.

Pneumonia

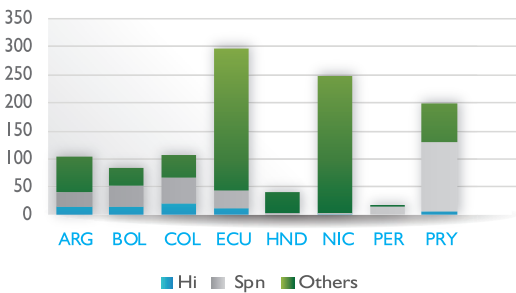
Classification of suspected bacterial pneumonia cases among children <5 years, selected countries, 2016-2018 (n=20,042)



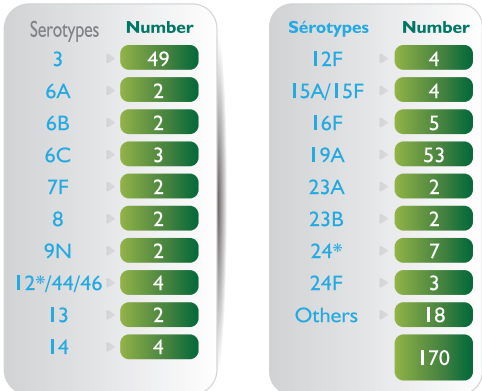
Deaths among probable and confirmed cases: 218 (=2%)

*Probable case of bacterial pneumonia: All suspected cases where the thorax radiography shows a radiological pattern compatible with bacterial pneumonia.

Number of principal etiological agents identified in bacterial pneumonia among children <5 years, selected countries 2016-2018.



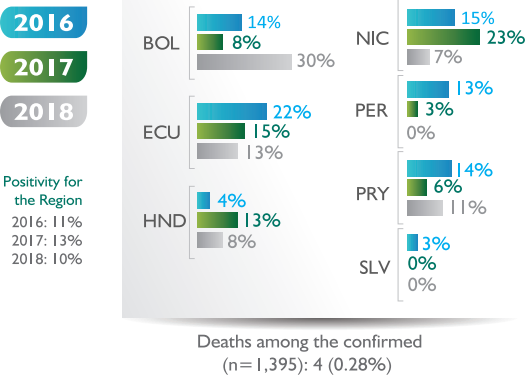
Number of pneumococcal serotypes more frequently identified (n=170)



* Correspond to groups, additional tests are required for complete serotyping.

Rotavirus

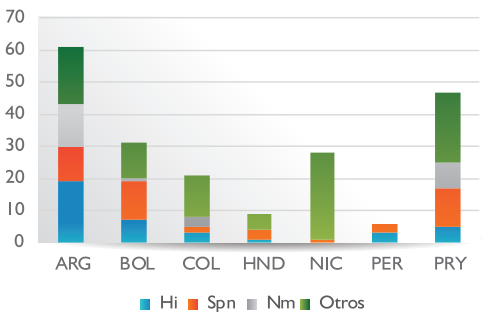
Positive rotavirus cases among children <5 years, sentinel surveillance for diarrhea in selected countries, 2016-2018, (n=12,454)



Deaths among the confirmed (n=1,395): 4 (0.28%)

Meningitis

Number of bacteria identified among meningitis cases in children <5 years, selected Latin American countries (VINUVA), 2016-2018 (n=203)



34 (17%) deaths among cases confirmed by laboratory

Percentage of etiological agents identified in bacterial meningitis cases among children <5 years, selected Latin American countries (VINUVA), 2016-2018 (n=203)

