

Immunization in the Americas

2022 Summary



PAHO



Pan American
Health
Organization



World Health
Organization
Regional Office for the Americas

preface

The COVID-19 pandemic continues to impact the functioning of the health systems in the countries and territories of the Region of the Americas, particularly affecting essential health services, such as national immunization programs, where service disruptions have negatively impacted vaccination coverage rates in the Region. In the Americas, the marker for immunization coverage -the percentage of children less than one year old receiving the third dose of the diphtheria, tetanus, and pertussis vaccine (DTP3)- dropped from 86% to 81% between 2019 to 2021. Regional vaccination coverage with three doses of the polio vaccine was 79% in 2021, corresponding to the lowest coverage reported since polio was eradicated in the Americas in 1994. These sustained declines in coverage are attributable to various factors, but the impact of the COVID-19 pandemic is undeniable. In 2021, one of the main disruptive factors was the shift of human and financial resources from routine immunization services to pandemic emergency response efforts which included COVID-19 vaccine delivery to meet country, regional, and global priorities.

To support Member States to identify the underlying drivers of the service disruptions resulting from the pandemic, the Pan American Health Organization (PAHO) collaborated with the World Health Organization (WHO) to carry out three rounds of a global pulse survey on the continuity of essential health services in 2020 and 2021. Immunization services, both facility-based routine and outreach, were used as one of the tracer services to measure the extent of essential health service disruptions compared to pre-pandemic levels. Results provided by these surveys showed that an average of 50% of the 19 responding countries and territories in the Americas reported immunization services disruptions between 2020 and 2021.¹ In addition, supply chain disruptions were shown to have increased during this period, challenging the vaccine delivery efforts of national immunization programs.

PAHO worked jointly with the United Nations Children's Fund (UNICEF) to identify evidence-based strategies to support national immunization programs and to better understand the impact of COVID-19 in the Region. The implementation of the joint reporting form on immunization by PAHO/WHO-UNICEF has facilitated the gathering of information on topics such as: efforts and delays in vaccine introduction; intervention priorities that are planned or require additional support; systems used for COVID-19 vaccinations; supply chain challenges; and funding. This knowledge is critical for enabling PAHO to provide targeted and effective support to national immunization programs and to achieve regional immunization goals.

The continued efforts of national immunization programs to meet and overcome the challenges and disruptions that have arisen since 2020 have been truly remarkable. A sustained commitment by Member States to providing high quality immunization services to all is fundamental to meeting the Region's goal of reinvigorating immunization as a public good for universal health. Maintaining immunization as an essential public health program continues to be an important priority to sustain the public health gains made over the past decades through immunization and to reach new milestones in the Region.

As the Americas Region has moved from the emergency COVID-19 pandemic response to the COVID-19 vaccine rollout, there is an important opportunity to leverage and integrate new COVID-19 vaccination systems and service delivery platforms to improve national immunization program activities. The implementation of these efforts, supported by evidence-based strategies, will continue to reinforce the resilience and response capacity of immunization programs to regain high vaccination coverage in the Region to meet future challenges and to protect the health and wellbeing of our communities.



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¹ The 19 countries that participated in all three rounds of the survey were: Argentina, Bahamas, Belize, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Dominica, Ecuador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Peru, Saint Vincent and the Grenadines, Suriname, and Uruguay. Pan American Health Organization, Third Round of the National Survey on the Continuity of Essential Health Services during the COVID-19 Pandemic: November-December 2021, Interim Report for the Region of the Americas. Washington, DC: PAHO; 2022. Available from: <https://iris.paho.org/handle/10665.2/56128>.

For this publication:

- Latin America is composed of Mexico, Central America, Latin Caribbean, Andean Area, Brazil, and Southern Cone.
- Latin America and the 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: <https://www.paho.org/en/topics/immunization/immunization-data-and-statistics>.



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 (per 1,000 live births) 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		public	private
				rate	(N)	year		current value	ppp value		2020	2018			2018
	2021	2021	2021				2021	2020	2020	2020				
The Americas	1,031,142	13,722.9	13,902.9	12.2	139,852		258,577	28,072	33,122	44.6	5.5	5.2		
North America	375,217	4,063.6	4,109.9	5.7	24,036		85,057	62,053	62,367	40.7	8.4	7.8		
Bermuda	64	0.5	0.5	1.9	1	2018	13	112,240	83,180	...	...	...
Canada	38,155	373.9	374.7	4.5	1,700	2017	8,559	43,540	46,050	33.3 ^J	7.9	2.9		
United States of America	336,998	3,689.3	3,734.7	5.8	22,335	2017	76,485	64,140	64,210	41.5 ^K	8.5	8.4		
Latin America and the Caribbean	655,925	9,659.3	9,793.1	14.8	115,816		173,520	7,632	15,208	47.1	4.1	3.8		
Latin America	648,337	9,561.2	9,694.2	14.8	114,130		171,497	7,546	15,153	47.1	4.1	3.8		
Mexico	126,705	1,902.0	1,938.5	12.1 ^A	26,995	2017	34,243	8,480	18,170	45.4	2.7	2.7		
Central America Isthmus	50,957	966.4	975.4	17.0	12,063		13,804	4,949	10,115	47.2	3.5	3.2		
Belize	400	7.1	7.1	12.6	98	2018	112	4,110	6,230	...	3.9	1.6		
Costa Rica	5,154	61.4	63.4	8.4 ^B	573	2018	1,333	11,530	20,860	49.3	5.5	2.1		
El Salvador	6,314	100.4	100.6	9.2 ^C	1,029	2018	1,764	3,630	7,970	38.8 ^K	4.5	2.6		
Guatemala	17,608	368.6	376.2	20.0	7,626	2017	4,766	4,490	8,700	48.3 ^L	2.1	3.6		
Honduras	10,278	213.7	212.6	22.8 ^C	...	2016	2,839	2,180	5,050	48.2 ^K	2.8	4.0		
Nicaragua	6,851	139.1	139.3	12.2 ^B	1,674	2018	1,892	1,850	5,410	0.0	5.1	3.0		
Panama	4,351	76.1	76.1	14.0	1,063	2017	1,099	12,420	25,950	49.8 ^K	4.6	2.6		
Latin Caribbean	38,140	604.6	607.3	34.0	5,240		9,416	7,063	11,667	39.6	4.5	2.7		
Cuba	11,256	102.6	107.3	4.0	461	2018	2,506	8,630 ^H	...	...	9.9	1.2		
Dominican Republic	11,118	200.8	201.8	22.8	4,420	2018	2,878	7,260	17,060	39.6	2.5	3.1		
French Guiana	297	7.4	7.4	7.9	56 ^G	2013-15	74	...	...	0.0	...	...
Guadeloupe	396	4.4	4.4	8.9	43 ^G	2013-15	87	...	...	0.0	...	...
Haiti	11,448	259.4	256.9	59.0 ^D	...	2016-17	3,072	1,320	3,100	0.0	0.9	3.8		
Martinique	369	3.5	3.5	7.3	88	2014-16	73	...	...	0.0	...	...
Puerto Rico	3,256	26.4	26.0	7.1 ^B	172	2017	724	21,160	23,370	0.0	...	...
Andean Area	143,309	2,316.0	2,329.2	15.8	19,537		37,681	5,546	12,421	49.0	4.0	2.2		
Bolivia (Plurinational State of)	12,079	257.3	255.2	24.0 ^A	...	2011-16	3,205	3,180	8,180	43.6	4.5	1.7		
Colombia	51,517	728.3	733.1	16.8 ^F	7,220	2016	13,972	5,790	14,640	54.2	5.5	2.2		
Ecuador	17,798	296.9	297.6	9.7 ^C	3,252	2017	4,753	5,530	10,580	47.3	4.2	3.9		
Peru	33,715	589.3	588.4	15.0 ^D	...	2017	8,934	6,030	11,520	43.8	3.3	1.9		
Venezuela (Bolivarian Republic of)	28,200	444.2	454.8	15.2	9,065	2014	6,817	...	...	0.0	1.7	1.9		
Brazil	214,326	2,743.2	2,800.3	13.4 ^E	40,425	2,017	57,529	7,850	14,550	48.9	4.0	5.5		
Southern Cone	74,900	1,028.9	1,043.6	9.2	9,870		18,824	10,174	20,602	43.0	5.3	3.8		
Argentina	45,277	627.5	642.3	9.3	6,579	2017	11,281	9,070	20,230	42.3	5.9	3.7		
Chile	19,493	229.2	228.8	7.1	1,557	2017	4,958	13,470	24,020	44.9 ^K	4.6	4.5		
Paraguay	6,704	136.6	136.4	12.6 ^C	1,461	2017	1,763	5,180	12,680	43.5	2.9	3.7		
Uruguay	3,426	35.5	36.0	6.8	273	2018	822	15,790	21,570	40.2	6.7	2.5		
Non-Latin Caribbean	7,587	98.1	98.8	17.5	1,686		2,022	18,982	22,366	51.2	3.7	2.5		
Anguilla	16	0.2	0.2	20.7	3	2017	4	...	...	...	...	...
Antigua and Barbuda	93	1.1	1.1	18.0	20	2017	25	13,750	17,910	...	2.9	2.3		
Aruba	107	0.8	0.9	2.5	3	2017	24	27,120 ^J	36,750 ^J	...	...	...
Bahamas	408	4.6	4.6	16.0	70	2016	114	26,070	30,790	...	3.1	3.1		
Barbados	281	3.0	3.0	14.2	37	2016	66	14,350	12,790	...	2.9	3.5		
BES*	...	...	...	...	...	...	...	...	...	...	...	...
British Virgin Islands	31	0.2	0.2	16.5	4	2017	9	...	...	...	...	...
Cayman Islands	68	0.7	0.7	9.4	6	2017	18	64,000	54,150	...	...	...
Curaçao	190	2.1	2.2	10.3	16	2017	45	17,150	22,220	...	...	...
Dominica	72	1.0	0.9	13.8 ^B	10	2018	19	7,270	11,150	...	4.3	2.2		
Grenada	125	2.0	2.0	12.5	19	2018	31	9,410	15,450	...	1.7	2.6		
Guyana	805	16.0	16.0	18.9 ^C	290	2018	213	7,130	16,610	...	3.7	2.1		
Jamaica	2,828	32.9	33.0	20.9 ^C	756	2016	795	4,670	8,940	...	3.9	2.0		
Montserrat	4	0.0	0.0	0.0	0	2017	1	...	...	...	...	...
Saint Kitts and Nevis	48	0.6	0.6	27.0	16	2018	13	19,080	26,190	...	2.5	2.8		
Saint Lucia	180	2.1	2.1	12.9	24	2017	49	8,560	11,960	51.2 ^M	2.1	2.3		
Saint Vincent and the Grenadines	104	1.3	1.4	16.6	29	2016	26	7,310	12,740	...	3.1	1.4		
Sint Maarten	44	0.3	0.3	14.6	6	2018	9	27,510 ^H	35,180 ^H	...	...	...
Suriname	613	11.0	10.9	14.0 ^C	137	2017	156	4,620	14,030	...	5.3	2.6		
Trinidad and Tobago	1,526	17.8	18.2	11.4 ^{B,C,F}	190	2017	392	15,420	24,790	...	3.4	3.5		
Turks and Caicos Islands	45	0.6	0.5	11.0	5	2018	12	30,250 ^K	29,620 ^K	...	...	...

Notes: (A) study; (B) preliminary; (C) 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; (D) survey; (E) estimate; (F) public sector only; (G) value 2015; (H) value 2018; (J) value 2017; (K) value 2019; (L) value 2014; (M) value 2016.

*Bonaire, Sint Eustatius, and Saba.

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 ⁹	IPV1	polio3	DTP1-vc ^F	DTP3-vc ^F	rotavirus	PCV3	DTP4	MMR1	MMR2 ¹	covid-19
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
The Americas	82	68	85	80	87	81	75	80	72	85	68	64
North America	NA	72	96	93	97	94	76	82	81	91	83	63
Bermuda	NA	NA	96	100 ^C	96	100 ^C	100 ^C	100 ^C	88	92	65	63
Canada ^A	NA	...	91	92	91	92	84	84	78	90	83	77
United States of America ^B	NA	72	97	93	97	94	76	82	82	92	...	61
Latin America and the Caribbean	82	66	81	74	82	76	75	79	69	82	68	65
Latin America	82	66	81	74	82	76	75	79	69	82	67	65
Mexico	100 ^C	...	83	78	83	78	77	83	79	100	97	56
Central America	84	74	88	83	88	83	77	81	78	84	74	50
Isthmus	84	77	80	83	80	83	...	...	75	79	77	49
Belize	78	78	95	99	95	99	91	92	93	89	69	69
Costa Rica	78	73	78	79	78	79	78	94	83	86	71	64
El Salvador	84	NA	89	78	89	79	64	72	72	81	72	26
Guatemala	82	72	82	77	82	77	80	77	75	79	75	43
Honduras	96	NA	96	100 ^C	97	100 ^C	100	100 ^C	90	100	86	45
Nicaragua	...	...	...	...	...	...	...	...	...	...	...	64
Panama	89	77	90	76	95	82	74	71	69	83	61	74
Latin Caribbean	100	100	100 ^E	98	100	100	NA	NA	99	100	100	86
Cuba	100 ^C	66	98	83	99	84	80	76	83	88	60	52
Dominican Republic	...	...	...	...	...	...	...	...	...	...	...	25
French Guiana	...	...	...	...	...	...	...	...	...	...	...	34
Guadeloupe	L	76	79	62	90	73	69	68	45	73 ^H	44	1
Haiti	...	...	...	...	...	...	...	...	...	...	...	34
Martinique	o	...	...	...	...	...	...	...	...	...	...	87
Puerto Rico	r	81	80	72	84	76	79	76	62	77	62	62
Andean Area	e	78	75	70	75	70	71	70	54	75	56	41
Bolivia (Plurinational State of)	87	65	90	86	91	87	86	84	76	86	86	56
Colombia	75	61	71 ^E	62	78	72	60	62	83	65	58	71
Ecuador	87	77	89	79	90	82	82	75	61	78	60	79
Peru	68	37	59	50	73	56	...	...	33	68	37	40
Venezuela (Bolivarian Republic of)	69	62	73	68	74	68	69	...	61	73	46	67
Brazil	83	83	87	79	88	81	74	78	75	84	72	81
Southern Cone	80	77	86	78	88	81	78	79	76	86	79	83
Argentina	98	98	99	95	99	95	...	92	86	92	58	86
Chile	67	...	66	53	67	58	56	47	47	56	55	42
Paraguay	99	NA	98	90	98	91	NA	94	96	93	82	77
Uruguay	93	76	93	87	93	89	89	73	80	88	81	41
Non-Latin Caribbean	93	100	93	79	88	79	...	46	58	82	65	50
Anguilla	NA	NA	93	92	93	92	NA	...	75	85	76	60
Antigua and Barbuda	NA	...	98	93	98	93	...	90	85	94	76	74
Aruba	NA	...	79	75	79	75	75	82	82	82	82	38
Bahamas	NA	...	83	84	83	82	...	83	69	77	70	50
Barbados	BES*	...	...	...	...	...	...	...	...	...	...	...
British Virgin Islands	NA	...	84	85	84	84	...	...	71	83	70	45
Cayman Islands	90	...	100	92	100	92	83	90	80	85	68	91
Curaçao	...	...	...	...	...	...	...	...	...	...	...	59
Dominica	89	98	96	92	96	92	...	...	89	92	88	38
Grenada	NA	90	74	...	84	77	...	...	78	70	55	32
Guyana	89	58	98	80	98	91	93	100 ^C	...	94	83	40
Jamaica	97	...	92	90	93	90	...	45	78	88	85	19
Montserrat	100 ^C	80	96	100	96	100	...	...	...	100 ^C	84	27
Saint Kitts and Nevis	96	95	97	96	97	96	...	...	95	96	94	48
Saint Lucia	81	94	90	75	89	80	...	...	71	77	66	27
Saint Vincent and the Grenadines	62	93	...	92	91	92	...	...	92	96	94	24
Sint Maarten	...	...	...	...	...	...	...	...	...	...	...	57
Suriname	NA	97	93	86	93	86	...	...	69	79	58	39
Trinidad and Tobago	NA	...	96	94	95	94	...	95	92	93	88	48
Turks and Caicos Islands	98	...	99	99	92	92	...	...	89	86	80	48

Notes: (A) <2 years of age; (B) children aged 19-35 months; (C) reported coverage >100%; (D) given within 24 hours of birth; (E) fractional dose; (F) diphtheria-tetanus-pertussis containing vaccine; (G) no data but in schedule; (H) coverage report for measles-rubella vaccine in children <1 year of age; (J) target age groups vary by country.

*Bonaire, Sint Eustatius, and Saba.

morbidity data

	23	24	25	26	27	28	29	30	31	32	33	34
	number of confirmed cases											
	VDPV ^A	measles ^B	rubella ^B	covid-19 ^D	non-neonatal tetanus	neonatal tetanus	yellow fever	pertussis	diphtheria	mumps	Hib meningitis	meningitis pneumococcal (Spn)
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
The Americas	0	730	1	68,548,971	393	16	25	6,709	66	14,414	175	601
North America	0	49	1	35,771,869	21	0	0	6,158	6	708	22	0
Bermuda	0	0	0	5,816	0	0	0	0	0	0	0	0
Canada	0	0	0	1,431,755	4	...	0	32	5	14	19	...
United States of America	0	49	1	34,334,298	17	0	...	6,126	1	694	3 ^E	...
Latin America and the Caribbean	0	681	0	32,777,102	372	16	25	551	60	13,706	153	601
Latin America	0	681	0	32,391,943	372	16	25	551	60	13,706	153	601
Mexico	0	0	0	2,532,271	21	0	0	22	0	2,329	2	5
Central America Isthmus	0	0	0	1,501,225	13	2	0	16	0	607	10	1
Belize	0	0	0	22,033	0	0	0	0	0	2	0	0
Costa Rica	0	0	0	401,957	0	0	0	2	0	77	0	0
El Salvador	0	0	0	75,703	1	0	0	1	0	164	1	0
Guatemala	0	0	0	490,043	0	0	0	0	0	0	...	...
Honduras	0	0	0	256,568	11	1	0	8	0	248	0	1
Nicaragua	0	0	0	8,734	0	0	0	0	0	0	0	0
Panama	0	0	0	246,187	1	1	0	5	0	116	9	0
Latin Caribbean	0	5	0	1,539,220	119	7	0	8	55	832	5	37
Cuba	0	0	0	954,248	0	0	0	0	0	0	4	13
Dominican Republic	0	0	0	246,962	36	0	...	8	27	832	...	1
French Guiana	...	5	0	35,664	...	...	...	...	...	...	...	...
Guadeloupe	...	0	0	47,895	...	...	...	...	...	...	...	...
Haiti	0	0	0	16,178	83	7	...	0	28	0	1	23
Martinique	...	0	0	43,914	...	...	...	...	...	...	...	...
Puerto Rico	0	0	0	194,359	...	...	...	...	...	...	...	...
Andean Area	0	0	0	5,886,938	53	7	25	110	4	3,556	40	102
Bolivia (Plurinational State of)	0	0	0	438,768	0	0	1	0	0	2	4	0
Colombia	0	0	0	3,502,560	32	2	0	75	4	3,300	35	102
Ecuador	0	0	0	334,905	...	...	0	0	0	142	1	0
Peru	0	0	0	1,279,632	17	3	11	35	0	70	0	0
Venezuela (Bolivarian Republic of)	0	0	0	331,073	4	2	13	0	0	42	0	0
Brazil	0	676 ^C	0 ^C	14,587,516	160	0	0	143	1	1,337	61	348
Southern Cone	0	0	0	6,344,773	6	0	0	252	0	5,045	35	108
Argentina	0	0	0	4,131,556	0	0	0	174	0	3,000	18	57
Chile	0	0	0	1,459,911	4	0	0	29	0	1,774	3	37
Paraguay	0	0	0	359,676	2	0	0	5	0	128	6	8
Uruguay	0	0	0	393,630	0	0	0	44	0	143	8	6
Non-Latin Caribbean	0	0	0	385,159	0	0	0	0	0	0	0	0
Anguilla	0	0	0	1,659	0	0	0	0	0	0	0	0
Antigua and Barbuda	0	0	0	4,260	0	0	...	0	0	0	...	0
Aruba	0	0	0	14,330	0	0	0	0	0	0	0	0
Bahamas	0	0	0	17,386	0	0	0	0	0	0	0	...
Barbados	0	0	0	28,415	0	0	0	0	0	0	0	0
BES*	...	0	0	3,236	...	...	...	...	...	...	...	...
British Virgin Islands	0	0	0	3,399	0	0	0	0	0	0	0	0
Cayman Islands	0	0	0	8,742	0	0	0	0	0	0	0	0
Curaçao	0	0	0	16,480	...	...	...	...	...	...	...	...
Dominica	0	0	0	6,766	0	0	0	0	0	0	0	0
Grenada	0	0	0	6,170	...	0	0	0	0	0	0	0
Guyana	0	0	0	33,222	0	0	0	...	0	0	0	...
Jamaica	0	0	0	81,718	0	0	0	0	0	0	0	0
Montserrat	0	0	0	37	0	0	0	0	0	0	0	0
Saint Kitts and Nevis	0	0	0	3,010	...	0	0	0	0	0	0	...
Saint Lucia	0	0	0	13,287	0	0	0	0	0	0	0	0
Saint Vincent and the Grenadines	0	0	0	5,869	0	0	0	0	0	0	0	0
Sint Maarten	0	0	0	3,763	...	...	...	...	...	...	...	...
Suriname	0	0	0	46,169	0	0	0	0	0	0	0	...
Trinidad and Tobago	0	0	0	84,741	0	0	0	0	0	0	0	0
Turks and Caicos Islands	0	0	0	2,500	0	0	0	0	0	0	0	0

Notes: (A) no countries in the Americas reported wildpolio virus; (B) Measles/Rubella Weekly Surveillance Bulletin, 2022; (C) re-establishment of endemic transmission; (D) PAHO Health Emergency Information & Risk Assessment (PHE/HIM); (E) invasive disease, age <5 years.

*Bonaire, Sint Eustatius, and Saba.

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 ^a meetings	total number of districts/ municipalities	% of municipalities w/ coverage level ≥95% DTP3	% of children in municipalities w/ coverage level ≥95% DTP3	DTP1-3 dropout rate	plan for immunization injection safety	number of "serious" ESAVIs reported	spending on routine immunization financed using govt funds (%)	spending on vaccine purchases financed using govt funds (%)
	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021
The Americas		334	15,073	32	18	7.4		68,536		
North America		75	162	...	...	5.5		65,886		
Bermuda	no	3	1	100	100	-12.1	yes	25	100	100
Canada	2016-2021	55	111	...	...	...	...	144	...	...
United States of America	...	17	50 ^b	...	...	...	yes	65,717	...	...
Latin America and the Caribbean		259	14,911	32	18	7.7		2,650		
Latin America		220	14,756	32	18	7.6		2,468		
Mexico	2020-2024	24	2,469	22	19	9.5	yes	1,034	100	...
Central America Isthmus		98	1,221	28	21	7.6		139		
Belize	2020-2022	52	6	0	0	-4.5	yes	1	94	123
Costa Rica	...	0	81	...	...	-4.5	...	...	...	...
El Salvador	2019-2024	12	262	17	13	-1.7	yes	26	99	100
Guatemala	2020-2024	12	340	21	15	11.9	yes	57	0	100
Honduras	no	13	298	29	4	6.0	yes	44	50	39
Nicaragua	2021-2025	2	153	65	65	-4.0	yes	11	90	91
Panama	...	7	81	...	...	...	...	...	...	...
Latin Caribbean		5	465	33	22	-1.2		2		
Cuba	2020-2021	5	168	...	...	0.3	yes	2	98	99
Dominican Republic	2021-2024	0	157	36	27	15.0	yes	0	100	100
French Guiana	...	...	...	...	...	...	...	...	...	...
Guadeloupe	...	...	...	...	...	...	...	...	...	...
Haiti	...	...	140	29	18	18.6	...	...	...	...
Martinique	...	...	...	...	...	...	...	...	...	...
Puerto Rico	...	...	...	...	...	...	...	...	...	...
Andean Area		42	3,891	38	15	4.7		1,058		
Bolivia (Plurinational State of)	2021-2025	18	339	14	5	6.7	yes	0	86	86
Colombia	2019-2024	2	1,122	43	28	4.5	yes	749	0	100
Ecuador	no	11	221	6	2	7.0	yes	6	99	100
Peru	2019-2024	11	1,874	47	20	9.5	yes	303	...	...
Venezuela (Bolivarian Republic of)	no	0	335	14	5	14.4	no	0	...	...
Brazil	...	...	5,570	...	...	7.0	...	...	...	...
Southern Cone		51	1,140	33	15	3.5		235		
Argentina	no	13	512	32	13	7.3	yes	191	100	100
Chile	2020-2030	12	346	62	45	2.2	no	...	...	...
Paraguay	2019-2023	7	262	4	1	13.5	yes	28	94	100
Uruguay	no	19	20	25	15	7.0	yes	16	100	100
Non-Latin Caribbean		39	155	43	33	7.8		182		
Anguilla	no	3	3	33	36	10.0	no	0	100	100
Antigua and Barbuda	...	3	8	25	0	0.4	yes	...	...	...
Aruba	no	0	8	...	...	4.6	yes	...	...	...
Bahamas	...	0	15	67	6	5.2	0	...	...	...
Barbados	no	3	10	20	25	1.0	no	0	100	100
BES*	...	...	...	...	...	...	...	...	...	...
British Virgin Islands	2018-2023	3	4	25	16	-0.4	yes	0	...	...
Cayman Islands	no	3	6	50	6	11.6	yes	...	100	100
Curaçao	...	...	...	...	...	...	0	...	...	...
Dominica	no	3	7	29	10	3.3	yes	3	61	100
Grenada	...	...	7	14	...	8.7	...	...	...	...
Guyana	2019-2025	2	13	31	...	7.4	yes	5	100	100
Jamaica	no	3	13	54	34	3.4	no	169	100	100
Montserrat	no	3	4	50	66	-3.7	yes	0	...	...
Saint Kitts and Nevis	no	3	17	76	84	0.0	yes	...	...	...
Saint Lucia	no	4	8	38	22	10.9	yes	...	...	...
Saint Vincent and the Grenadines	no	3	9	67	65	-1.8	...	...	...	...
Sint Maarten	...	...	...	...	...	...	...	...	...	...
Suriname	2020-2025	0	10	...	...	7.4	yes	...	100	100
Trinidad and Tobago	no	3	9	44	48	1.1	yes	5	...	...
Turks and Caicos Islands	no		4	50	4	0.0	0	...	...	...

Notes: (A) NITAG: national immunization technical advisory group; (B) reports number of states.

*Bonaire, Sint Eustatius, and Saba.

surveillance indicators

Acute flaccid paralysis (AFP), 2021*

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	112	1.02	5	44	0
Bolivia	18	0.51	100	89	0
Brazil	285	0.65	99	58	0
Canada	8	0.13	0	--	0
CARPHA	3	0.17	0	67	0
Chile	50	1.33	98	44	0
Colombia	134	1.19	72	87	0
Costa Rica	10	0.95	70	80	0
Cuba	19	1.07	95	84	0
Dominican Republic	5	0.17	0	--	0
Ecuador	30	0.62	73	53	0
El Salvador	26	1.52	62	92	0
Guatemala	48	0.80	100	56	0
Haiti	11	0.28	64	36	0
Honduras	45	1.52	67	91	0
Mexico	517	1.56	99	81	0
Nicaragua	13	0.67	92	92	0
Panama	10	0.87	60	80	0
Paraguay	26	1.26	96	81	0
Peru	35	0.43	40	51	0
Uruguay	0	0.00	0	0	0
Venezuela	105	1.38	99	75	7
TOTAL/AVERAGE	1,510	0.93	84	71	7

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

*Data as of epidemiological week 31 (August 2022).

Measles/Rubella/CRS surveillance indicators, 2021*

Country	Number of suspected MR cases	% of cases with adequate investigation	% of cases with adequate samples	% of samples received in lab in ≤5 days	% of laboratory samples with results in ≤4 days	Rate of suspected MR cases per 100,000 population	Rate of suspected CRS cases per 10,000 live births
Argentina	147	12	87	80	38	0.3	1.1
Bolivia	128	97	98	94	92	1.1	1.3
Brazil	2,644	36	76	83	81	1.4	0.2
CARPHA	13	62	77	0	92	0.2	0.0
Chile	48	48	87	89	91	0.2	4.5
Colombia	1,036	48	36	45	55	2.1	2.1
Costa Rica	20	95	100	100	50	0.4	11.2
Cuba	728	100	100	100	100	6.4	0.0
Dominican Republic	33	18	91	67	57	0.3	0.0
Ecuador	238	87	66	45	64	1.4	0.0
El Salvador	382	86	99	99	98	5.9	20.3
Guatemala	89	100	98	75	94	0.5	0.0
Haiti	168	63	97	47	67	1.4	1.3
Honduras	53	94	100	92	94	0.5	1.0
Mexico	1,405	91	100	96	97	1.1	0.0
Nicaragua	140	100	97	94	94	2.1	3.9
Panama	26	73	88	65	88	0.6	0.0
Paraguay	583	79	97	82	96	8.2	0.3
Peru	75	81	83	66	48	0.2	0.0
Uruguay	0	0	0	0	0	0.0	0.0
Venezuela	1,287	98	89	18	7	3.5	0.0
TOTAL/AVERAGE	9,243	68	82	71	71	1.4	0.8

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

*Data as of epidemiological week 31 (August 2022).

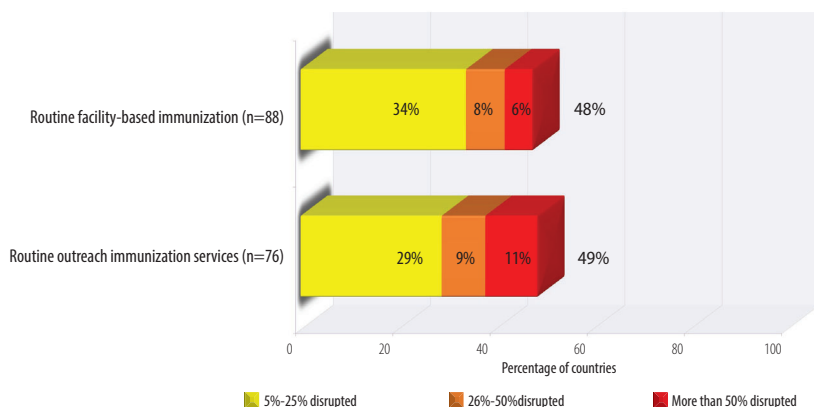
Number of second HPV vaccine doses administered, Latin America and the Caribbean, 2021

Country/territory	Type of population	Number of second HPV vaccine doses by age								
		9 years	10 years	11 years	12 years	13 years	14 years	15 years	>15 years	Unknown
Anguilla	...	...	...	...	...	...	...	...	...	...
Antigua and Barbuda	female	29	29	0	0	0	0	0	0	0
Argentina	female and male	0	0	341,828	0	0	0	0	0	81,168
Aruba	female	0	0	474	0	0	0	0	0	0
Bahamas	...	...	...	...	...	...	...	...	...	...
Barbados	female and male	0	0	900	0	21	8	18	0	18
Belize	...	...	...	...	...	...	...	...	...	...
Bermuda	...	...	...	...	...	...	...	...	...	...
BES*	...	...	...	...	...	...	...	...	...	...
Bolivia (Plurinational State of)	female	0	40,951	0	0	0	0	0	0	0
Brazil	female and male	309,985	307,200	401,888	335,756	166,014	106,544	52,520	15,596	0
British Virgin Islands	female	0	0	42	0	0	0	0	0	0
Canada	...	...	...	...	...	...	...	...	...	...
Cayman Islands	...	...	...	...	...	...	...	...	...	...
Chile	female and male	446	83,838	63,561	6,333	2,446	1,198	214	120	0
Colombia	female	40,339	44,536	27,047	16,987	14,200	12,357	10,919	14,362	0
Costa Rica	female	0	20,638	0	0	0	0	0	0	0
Cuba	...	...	...	...	...	...	...	...	...	...
Curaçao	...	...	...	...	...	...	...	...	...	...
Dominica	...	...	...	...	...	...	...	...	...	...
Dominican Republic	female	5,097	2,831	1,855	1,210	995	1,038	1,544	0	0
Ecuador	female	3,303	882	309	0	0	0	0	0	0
El Salvador	female	20,457	5,877	0	0	0	0	0	0	0
Grenada	...	...	...	...	...	...	...	...	...	...
Guatemala	...	...	...	...	...	...	...	...	...	...
Guyana	female and male	215	367	186	202	144	136	29	35	0
Haiti	...	...	...	...	...	...	...	...	...	...
Honduras	female	0	0	52,421	6,322	0	0	0	0	0
Jamaica	female	1	3	3	80	204	140	68	0	0
Mexico	female	0	9,250	0	0	0	0	0	0	0
Montserrat	...	...	...	...	...	...	...	...	...	...
Nicaragua	...	...	...	...	...	...	...	...	...	...
Panama	...	...	...	...	...	...	...	...	...	...
Paraguay	...	...	...	...	...	...	...	...	...	...
Peru	female	10,696	39,532	63,359	17,426	6,264	2,247	709	926	0
Saint Kitts and Nevis	...	...	...	...	...	...	...	...	...	...
Saint Lucia	female and male	1	107	762	321	88	0	0	0	0
St. Vincent and the Grenadines	...	...	...	...	...	...	...	...	...	...
Sint Maarten	...	...	...	...	...	...	...	...	...	...
Suriname	...	...	...	...	...	...	...	...	...	...
Trinidad and Tobago	female	7	0	0	1,541	0	0	399	1,586	3,567
Turks and Caicos Islands	...	...	...	...	...	...	...	...	...	...
United States of America	...	...	...	...	...	...	...	...	...	...
Uruguay	...	...	...	...	...	...	...	...	...	...
Venezuela (Bolivarian Republic of)	...	...	...	...	...	...	...	...	...	...

Source: Country reports through the PAHO-WHO/UNICEF electronic Joint Reporting Form (eJRF), 2022.

*Bonaire, Sint Eustatius, and Saba.

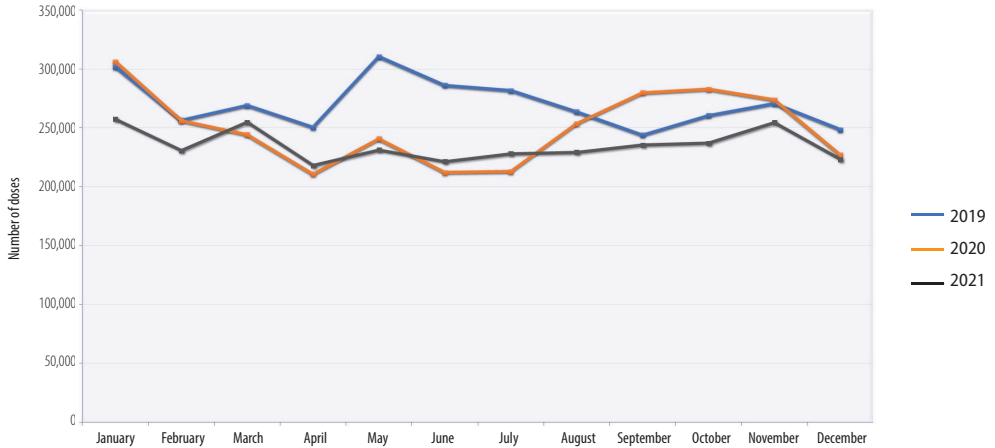
Percentage of countries reporting disruptions in routine immunization services in Q4 2021



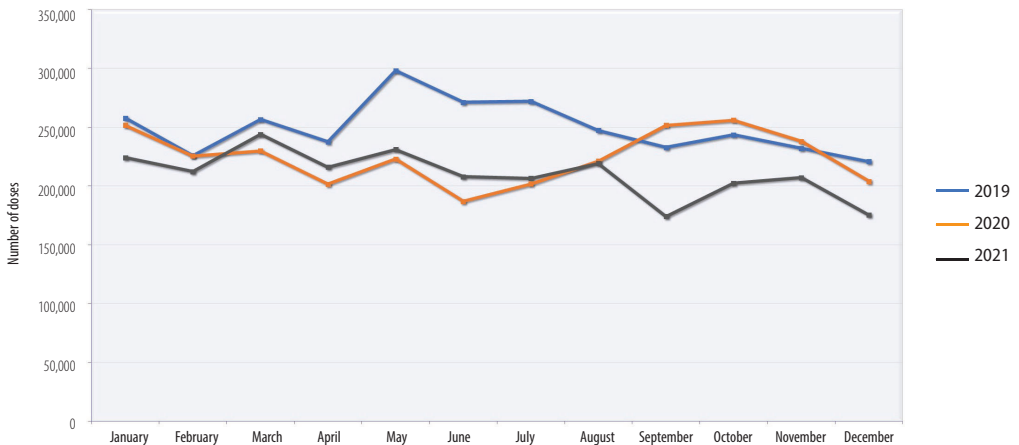
Extent of service disruptions (% of users not served as compared to pre-pandemic levels)

Source: Country reports to FPL-IM/PAHO.

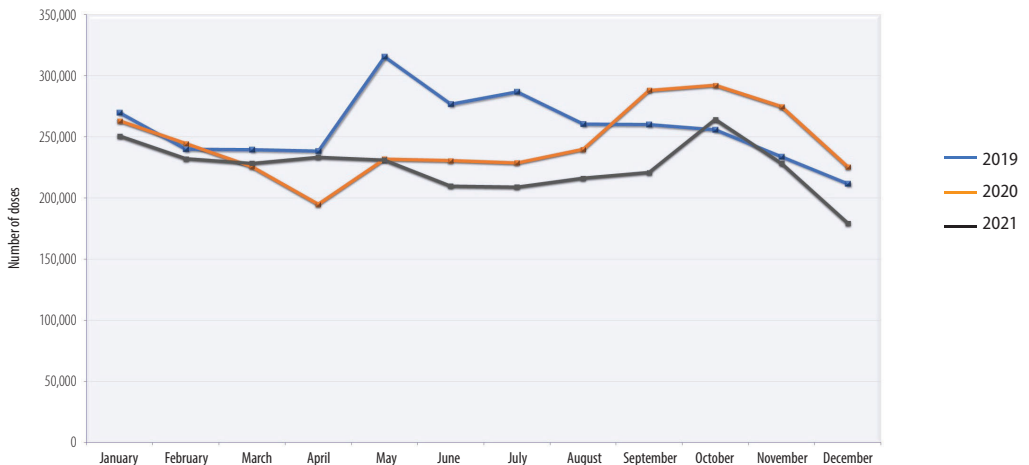
Number of DTP1 doses administered monthly in selected countries*, Latin America and the Caribbean, 2019-2021



Number of DTP3 doses administered monthly in selected countries*, Latin America and the Caribbean, 2019-2021

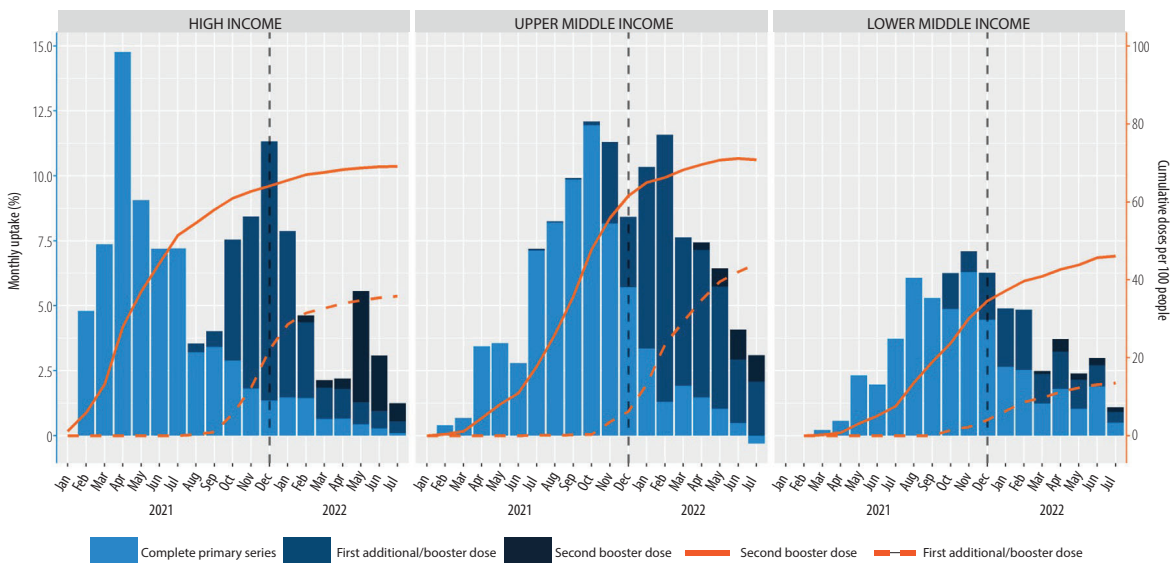


Number of MMR1 doses administered monthly in selected countries*, Latin America and the Caribbean, 2019-2021



Note: *Only Latin American and Caribbean countries that submitted reports with complete data from 2019-2021.
Source: Country reports to FPL-IM/PAHO.

Vaccination uptake (complete primary series and additional/booster doses) for the Americas by month and income level, 2021-2022*



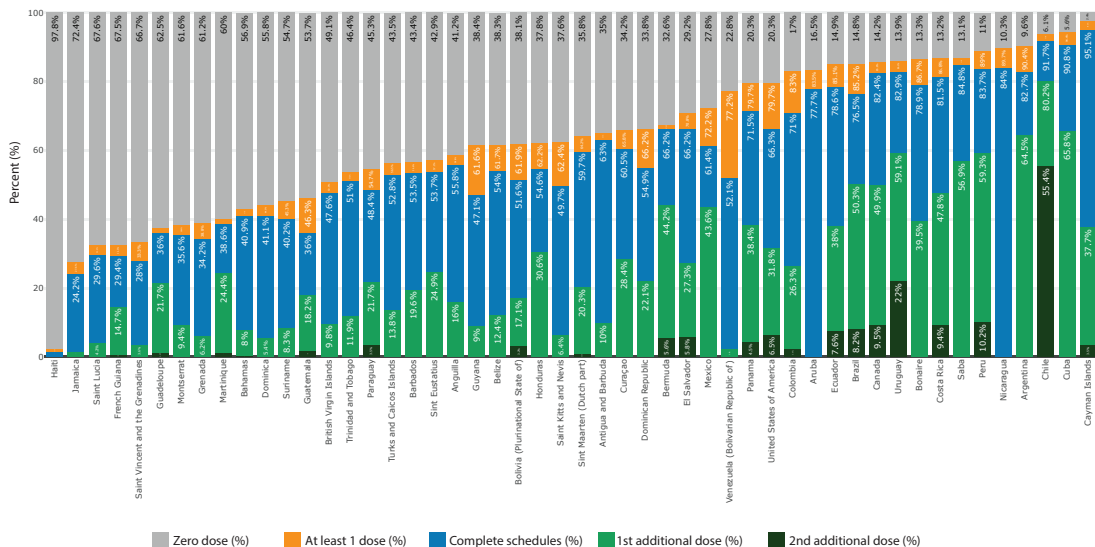
Source: Country reports to FPL-IM/PAHO.

Percentages with reference to 2021 U.N. Populations/U.S. Census Bureau for populations <100,000.

Income groups based on World Bank 2021-2022 Income level classification.

* Data as of July 2022.

COVID-19 vaccination coverage grouped by countries/territories, Region of the Americas, 2022*



Source: Country reports to FPL-IM/PAHO.

* Data as of epidemiological week 24, 2022.

Seasonal influenza vaccine use in the Americas, 2021

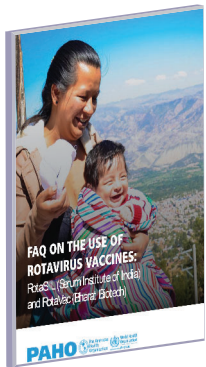
Country/territory	Healthy children		Older adults		Other risk groups		
	Schedule	Coverage ^a (%)	Schedule	Coverage (%)	Health workers (%)	Pregnant women (%)	Chronic diseases ^c
Anguilla	NA	NA	>65y	...	2	NA	NA
Antigua and Barbuda	6m-<3y	...	>60y	...	yes	yes	yes
Argentina	6m-<2y	42	≥65y	57	62	54	41
Aruba	<2y	...	>60y	...	yes	yes	yes
Bahamas	≥6m	...	≥15y	...	yes	yes	yes
Barbados	NA	NA	NA	NA	yes	NA	NA
Belize	6m-11m	85	≥65y	2	3	6	NA
Bermuda	6m-18y	...	>65y	...	yes	yes	yes
BES*	...	...	...	...	...	...	...
Bolivia (Plurinational State of)	<1y	28	≥60y	25	21	36	65
Brazil	6m-<5y	77	≥60y	71	yes	78	NA
British Virgin Islands	NA	NA	>10y	...	...	NA	...
Canada	≥6m-<5y	...	≥65y	70	yes	45	yes
Cayman Islands	≥6m	...	≥60y	...	yes	yes	yes
Chile	6m-<5y	72	≥65y	72	yes	yes	yes
Colombia	6m-<1y	56	≥60y	71	100 ^B	71	100 ^B
Costa Rica	6m-<7y	66	>58y	...	88	69	yes
Cuba	<2y	92	≥75y	...	100	82	70
Curaçao	NA	NA	NA	NA	NA	NA	NA
Dominica	6m-<3y	...	≥65y	...	yes	yes	yes
Dominican Republic	<1y	13	≥65y	79	51	70	...
Ecuador	1y-<5y	62	>65y	6	83	25	12
El Salvador	6m-<5y	54	≥60y	45	100 ^B	60	NA
Grenada	6m-59m	...	>65y	...	yes	yes	yes
Guatemala	6m-<3y	4	≥60y	3	32	10	25
Guyana	NA	NA	NA	NA	NA	NA	NA
Haiti	NA	NA	NA	NA	NA	NA	NA
Honduras	6m-<1y	47	≥60y	45	60	63	100 ^B
Jamaica	6m-<18y	...	≥65y	...	2	yes	yes
Mexico	6m-<3y	82	≥60y	95	100 ^B	88	94
Montserrat	NA	NA	yes	...	yes	NA	NA
Nicaragua	NA	NA	...	96	100	89	99
Panama	6m-59m	...	≥60y	...	...	...	yes
Paraguay	6m-<3y	29	≥60y	21	yes	3	yes
Peru	<5y	72	>60y	36	yes	18	yes
Saint Kitts and Nevis	NA	NA	≥18y	...	yes	yes	NA
Saint Lucia	NA	NA	≥60y	...	yes	1	yes
Saint Vincent and the Grenadines	NA	NA	NA	NA	NA	NA	NA
Sint Maarten	NA	NA	NA	NA	NA	NA	NA
Suriname	NA	NA	NA	...	yes	yes	yes
Trinidad and Tobago	6m-5y	...	>65y	...	yes	yes	yes
Turks and Caicos Islands	≥6m	...	≥50y	...	yes	yes	yes
United States of America	≥6m-17y	...	≥65y	...	...	...	yes
Uruguay	<5y	6	≥65y	38	28	28	yes
Venezuela (Bolivarian Republic of)	NA	NA	≥60y	...	yes	NA	yes

Notes: (A) pediatric coverage formula: ((2nd dose+single dose)/denominator)*100; (B) reported coverage >100%; (C) countries including adults with chronic diseases in their policy; yes - influenza vaccination recommended.

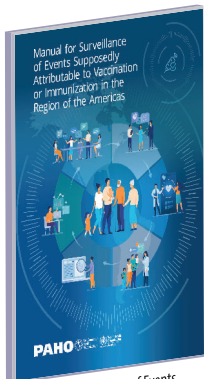
*Bonaire, Sint Eustatius, and Saba.

Source: Country reports through the PAHO-WHO/UNICEF electronic Joint Reporting Form (eJRF), 2022.

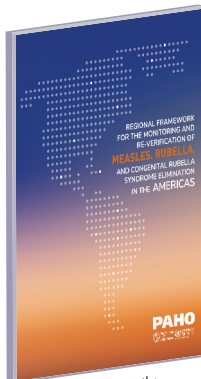
Selected information products from the Comprehensive Family Immunization Unit



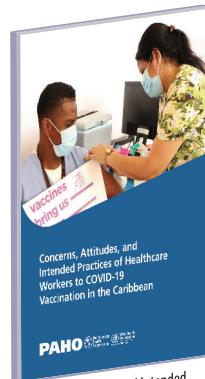
Frequently Asked Questions on the Use of Rotavirus Vaccines



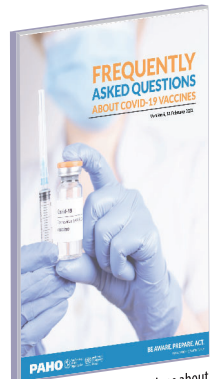
Manual for Surveillance of Events Supposedly Attributable to Vaccination or Immunization in the Region of the Americas



Regional Framework for the Monitoring and Re-Verification of Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas



Concerns, Attitudes, and Intended Practices of Healthcare Workers toward COVID-19 Vaccination in the Caribbean



Frequently Asked Questions about COVID-19 Vaccines. Version 6, 12 February 2022

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): United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition. Accessed July 2022 (<https://population.un.org/wpp/>). Women of childbearing age includes women aged 15 to 49 years.

Infant mortality rate (per 1,000 live births) 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. World Development Indicators. 2021. Washington, D.C., Accessed July 2022 (<https://datatopics.worldbank.org/world-development-indicators/>). 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., 2021. As of July 2021 (<https://apps.who.int/nha/database>).

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 electronic Joint Reporting Form (eJRF); 2022.

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; 2021-2022.

Surveillance indicators: Vaccine-preventable disease specific surveillance reports for measles/rubella and acute flaccid paralysis/polio to IM/PAHO; 2021-2022.

Symbols and Abbreviations

(pop) population; **(NA)** not applicable; **(...)** no data; **(ppp)** purchasing power parity; **(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); **(COVID-19)** coronavirus disease 2019; **(VDPV)** vaccine-derived poliovirus; **(CRS)** congenital rubella syndrome; **(Hib)** *Haemophilus influenzae* type b; **(Spn)** *Streptococcus pneumoniae*; **(NITAG)** national immunization technical advisory group; **(ESAVI)** event supposedly attributable to vaccination or immunization; **(govt)** government; **(CARPHA)** Caribbean Public Health Agency; **(HPV)** human papillomavirus; **(m)** months; **(y)** years.

Technical Notes

Immunization coverage: Proportion of children aged <1 year vaccinated with one dose of BCG vaccine, hepatitis B vaccine given within 24 hours of 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 (second or third dose depending on the vaccine used), respectively. Proportion of children vaccinated with the third dose of PCV in children <1 or ≥1 year according to the 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. Proportion of children vaccinated with a second dose of MMR vaccine, as targeted in countries offering a second MMR dose in the routine program; COVID-19 vaccine uptake of complete primary series. This includes the

second dose if the schedule is a two-dose schedule and a single dose in a single-dose schedule. 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 are available.

Morbidity: Number of confirmed cases of VDPV, measles, rubella, COVID-19, non-neonatal tetanus, neonatal tetanus, yellow fever, pertussis, diphtheria, Hib meningitis, mumps, and pneumococcal meningitis (Spn). Subregional aggregated data are 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 2021. NITAGs provide recommendations on immunization practices, including advice on vaccines to be included in the national immunization schedule.
 - Number of municipalities and number of children <1 year of age living in these municipalities reaching ≥95% coverage 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 DTP3, respectively, expressed as a percentage. Municipalities are defined as the third administrative level (country level being first), unless otherwise stated.
 - 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.
 - 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.
- Surveillance indicators:** For measles/rubella definitions refer to: PAHO. Measles Elimination: Field Guide (Scientific and Technical Publication No. 605). Washington, D.C.: PAHO; 2005. For acute flaccid paralysis definitions refer to: PAHO. Poliomyelitis Eradication: Field Guide (Scientific and Technical Publication No. 607). Washington, D.C.: PAHO; 2005. Available from: <https://iris.paho.org/handle/10665.2/44977>.

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Visit the Comprehensive Family Immunization page at www.paho.org/immunization

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