

Immunization in the Americas

2017 Summary

Comprehensive Family Immunization
Family, Gender and Life Course



Pan American
Health
Organization



World Health
Organization

REGIONAL OFFICE FOR THE Americas

preface

In September 2017, the regional immunization program will mark its 40th anniversary. For the past 40 years, the Region of the Americas has led the world in achieving the elimination of vaccine-preventable diseases such as polio, measles, rubella, and congenital rubella syndrome. The Region has also been a leader in the incorporation of new vaccines into national immunization schedules, starting with the six basic vaccines (against polio, diphtheria, tuberculosis, pertussis, tetanus, and measles) and proceeding to introduce conjugate vaccines such as the triple vaccine (against measles, mumps, and rubella), the pentavalent vaccine (against diphtheria, pertussis, tetanus, *Haemophilus influenzae b*, and hepatitis B) and now, the more recent vaccines against rotavirus, pneumococcus, and human papillomavirus. Thanks to the consistent use of these vaccines, Member States' immunization programs have made a crucial contribution to reducing infant morbidity and mortality in the Americas and have also been key in promoting socioeconomic development and equity in our Region.

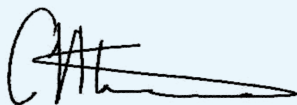
Another of the Region's achievements has been the implementation of Vaccination Week in the Americas, which is the result of an extraordinary effort led by the countries and territories and health workers of the Region of the Americas to promote vaccination equity and access. Since the initiative's inception in 2003, more than 640 million people of all ages have been vaccinated in the course of campaigns conducted under the framework of Vaccination Week in the Americas. At the same time, they have benefited from other preventive activities carried out in tandem with the vaccination campaigns. This initiative has been adopted by other regions of the World Health Organization since 2012, under the rubric of World Immunization Week.

Despite these achievements, challenges remain. PAHO's 54th Directing Council approved the Plan of Action on Immunization as the guiding framework for immunization in the Region of the Americas in 2015, in the context of the Global Vaccine Action Plan. According to the mandate of PAHO's governing bodies, the Midterm Review (2015-2016) of this Plan of Action was presented to the Technical Advisory Group on Vaccine-preventable Diseases and will be presented at the Pan American Sanitary Conference in 2017. The Midterm Review highlights the challenges to be overcome during the next two years in order to reach the established targets.

The Regional Plan of Action on Immunization established 13 objectives and 29 indicators. Concerted action and urgent measures will be needed to achieve the Plan's stated targets. The measures proposed by the Secretariat and endorsed by Member States are aligned with the measures set out in the Global Vaccine Action Plan and call on Member States to strengthen their efforts in the following areas of work, taking into account their own national context:

- a) Enhance legal frameworks;
- b) Ensure that immunization programs work jointly with health systems, in order to extend services to people who are not currently covered and take advantage of integrated approaches with other interventions at the primary care level;
- c) Maintain and strengthen national commitment to immunization programs;
- d) Increase surveillance of vaccine-preventable diseases;
- e) Strengthen immunization information systems;
- f) Enhance communication and social mobilization.

Under the slogan "40 years and counting," the work of the program continues and the Secretariat remains committed to ensuring that vaccination is at the forefront of the strategy for universal health coverage and everyone is reached.



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For this publication:

- Latin America is composed of Mexico, Central American Isthmus, 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		
	2016	2016	2016	rate	(N)	year	2016	current value	ppp value	2014	public expenditure	private expenditure	2014	2014
The Americas	1,001,473	15,113.5	15,063.0	13.0	157,002		507,851	25,710	29,887	46.0	5.3	5.2		
North America	360,579	4,242.3	4,205.9	5.7	25,101		166,307	55,105	56,126	40.3	8.2	8.3		
Bermuda	71	0.8	0.8	3.4	2	2016	29	106,140 ^g	66,670 ^g	...	...	...
Canada	36,286	371.7	375.4	5.0	1,884	2013	16,740	47,250	43,580	33.7 ^l	7.4	3.0		
United States of America	324,222	3,869.8	3,829.8	5.8	23,215	2014	149,538	55,980	57,540	41.1 ^g	8.3	8.9		
Latin America and the Caribbean	640,894	10,871.2	10,857.0	16.1	131,901		341,544	9,057	15,021	49.5	3.7	3.4		
Latin America	633,656	10,761.6	10,749.1	16.0	130,154		337,760	9,053	15,017	49.5	3.7	3.4		
Mexico	128,632	2,335	2,341.8	12.5 ^a	28,149	2015	69,771	9,710	16,860	48.2	3.3	3.0		
Central American Isthmus	46,373	968.3	963.6	18.2	10,902		24,557	4,675	8,685	49.0	4.1	3.5		
Belize	367	8.5	8.3	14.3	103	2016	201	4,490	8,020	...	3.9	1.9		
Costa Rica	4,857	66.9	67.8	7.9	555	2016	2,591	10,400	14,910	48.5	6.8	2.6		
El Salvador	6,146	103.1	102.9	9.8	1,107	2016	3,271	...	...	...	4.5	2.3		
Guatemala	16,673	438.0	432.7	21.0	8,202	2015	8,529	3,590	7,530	48.7	2.3	3.9		
Honduras	8,190	161.4	160.1	24.0 ^b	...	2007-12	4,499	2,280	4,750	50.6	4.4	4.3		
Nicaragua	6,150	116.6	117.7	17.0	...	2005-10	3,378	1,940	5,060	47.1	5.1	3.9		
Panama	3,990	73.9	74.1	12.3	935	2015	2,088	11,880	20,460	50.7	5.9	2.2		
Latin Caribbean	37,713	633.1	635.0	32.3	5,176		19,063	6,035	12,676	54.0	5.1	2.6		
Cuba	11,393	114.7	116.5	4.3	497	2016	5,538	6,600 ^g	18,630 ^h	...	10.6	0.5		
Dominican Republic	10,649	210.9	211.6	22.2 ^a	4,360	2016	5,497	6,240	13,600	47.1 ^g	2.9	1.5		
French Guiana	276	6.5	6.5	8.2 ^c	53	2012-14	137	...	...	...	...	...
Guadeloupe	471	5.7	5.8	8.9 ^c	44	2013-15	203	...	...	...	...	...
Haiti	10,848	247.7	246.5	59.0 ^b	...	2007-12	5,717	810	1,760	60.8 ^m	1.6	6.0		
Martinique	396	4.2	4.2	6.2	...	2014	153	...	...	...	...	...
Puerto Rico	3,681	43.4	43.9	7.1 ^d	222	2015	1,818	19,320 ^g	24,020 ^g	...	...	...
Andean Area	139,221	2,503.6	2,505.4	18.3	29,349		74,074	7,507	13,258	49.0	3.9	2.6		
Bolivia	10,888	241.8	238.9	50.0	13,758	2003-08	5,621	3,000	6,710	48.4	4.6	1.8		
Colombia	48,654	735.7	737.9	17.2 ^a	...	2014	26,311	7,140	13,550	53.5	5.4	1.8		
Ecuador	16,385	321.9	322.4	8.9	2,979	2015	8,596	6,030	11,270	45.4	4.5	4.7		
Peru	31,774	611.7	613.0	15.0 ^b	3,854	2015	16,925	6,130	12,060	44.1	3.3	2.2		
Venezuela	31,519	592.6	593.2	14.7	8,758	2013	16,620	11,780 ^g	17,310 ^k	...	1.5	3.7		
Brazil	209,568	3,154.5	3,136.5	15.1 ^g	45,425	2015	113,780	9,990	15,140	51.5	3.8	4.5		
Southern Cone	72,149	1,167.6	1,166.9	9.6	11,153		36,514	12,241	19,631	45.4	3.3	2.9		
Argentina	43,847	754.2	753.1	9.7	7,445	2015	21,914	12,450	19,980	42.7	2.7	2.1		
Chile	18,132	232.0	232.5	6.9	1,683	2015	9,352	14,100	22,760	50.5 ^g	3.9	3.9		
Paraguay	6,725	133.7	133.4	14.2	1,649	2015	3,591	4,190	8,680	51.7	4.5	5.3		
Uruguay	3,444	47.6	47.8	8.0 ^d	376 ^d	2016	1,657	15,720	20,400	41.6	6.1	2.5		
Non-Latin Caribbean	7,238	109.6	107.9	18.0	1,747		3,785	9,393	15,412	...	3.1	2.7		
Anguilla	17	0.2	0.3	7.1	1	2016	8	...	...	...	...	...
Antigua and Barbuda	94	1.5	1.5	17.9	19	2016	49	13,270	22,280	...	3.8	1.8		
Aruba	114	1.4	1.4	4.8	6	2015	53	...	...	...	...	...
Bahamas	393	5.7	5.8	19.9	94	2015	211	20,740	21,970	...	3.6	4.2		
Barbados	291	3.4	3.4	12.9	37	2015	145	14,510	15,610	...	4.7	2.7		
BES*	...	...	0.0	0.0	0	...	...	...	...	...	...	...
Cayman Islands	57	0.7	0.7	1.5	1	2016	27	...	...	...	...	...
Curaçao	149	2.0	2.0	11.2	20	2016	66	...	...	...	...	...
Dominica	74	1.1	1.1	17.6	14	2016	38	6,800	10,500	...	3.8	1.7		
Grenada	111	1.7	1.8	14.7	23	2016	55	8,650	13,090	...	2.8	3.3		
Guyana	771	16.8	16.1	19.8	268	2014	397	4,090	7,540	...	3.1	2.1		
Jamaica	2,803	41.3	39.7	22.2	840	2015	1,505	4,930	8,680	...	2.8	2.6		
Montserrat	5	0.1	0.1	0.0	0	2016	3	...	...	...	...	...
Saint Kitts & Nevis	52	0.7	0.7	23.3	15	2014	27	15,060	24,370	...	2.1	2.9		
Saint Lucia	164	2.2	2.2	16.3	33	2014	86	7,350	10,780	...	3.6	3.1		
St. Vincent and the Grenadines	102	1.4	1.4	15.5	29	2015	54	6,630	11,090	...	4.4	4.3		
Sint Maarten (Dutch part)	41	0.5	0.5	2.2	1	2016	20	...	...	...	...	...
Suriname	548	9.5	9.6	15.9	159	2013	285	9,360	16,610	...	2.9	2.8		
Trinidad and Tobago	1,365	18.2	18.6	11.5 ^f	169	2016	704	17,640	32,180	...	2.9	2.8		
Turks and Caicos	51	0.8	0.8	5.8	3	2016	32	...	...	...	...	...
Virgin Islands (UK)	34	0.4	0.4	7.4	2	2016	19	...	...	...	...	...

*Bonaire, St. Eustatius, and Saba.

(a) national estimates; (b) survey; (c) average; (d) preliminary; (e) national study; (f) only public sector; (g) value 2013; (h) value 2011; (k) value 2014; (l) value 2010; (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	polio3	DTP1-vc ^f	DTP3-vc ^f	DTP1-3 Dropout Rate	HepB3	rotavirus	PCV3	DTP4	MMR1	MMR2 ^k
2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
The Americas	94	76	87	95	91	4.8	91	80	84	76	93	82
North America	NA	64	93	98	95	0.4	93	73	92	84	92	72
Bermuda	NA	...	94	94	94	0.4	87	39 ^a	95	77	87	72
Canada	NA	...	91 ^a	...	91 ^a	...	...	79 ^a	77 ^a	90 ^b	86 ^a	...
United States of America	NA	64 ^b	94 ^b	98 ^b	95 ^b	...	93 ^b	73 ^b	93 ^b	85 ^b	92 ^b	...
Latin America and the Caribbean	94	81	84	94	89	4.8	90	82	81	73	93	82
Latin America	94	81	84	94	89	4.8	90	82	81	73	93	82
Mexico	100	98	96	96	93	2.8	93	83	92	90	97	95
Central American Isthmus	92	60	90	97	89	6.7	89	90	88	84	92	91
Belize	94	...	96	94	95	-1.6	95	...	...	80	95	96
Costa Rica	89	91	97	96	97	-1.2	97	...	94	95	93	87
El Salvador	87	81	95	90	93	-4.2	93	93	90	90	90	87
Guatemala	87	38	82	96	80	16.0	80	82	81	71	86	65
Honduras	100 ^c	83	100 ^c	100 ^c	100 ^c	0.4	100 ^c	100 ^c	100 ^c	99	100 ^c	...
Nicaragua	100 ^c	...	100 ^c	100 ^c	100 ^c	-1.0	100 ^c	100 ^c	100 ^c	96	100 ^c	...
Panama	100	84	86	100 ^c	86	15.3	86	92	83	87	100 ^c	100 ^c
Latin Caribbean	84	99	78	89	82	7.7	87	67	30	48	84	...
Cuba	99	99	99 ^{a,b}	100	100	0.2	100	...	...	99	100	100
Dominican Republic	100	...	82	98	87	11.3	80	75	30	74 ^g	85	...
French Guiana	...	...	...	...	...	...	...	...	...	...	...	...
Guadeloupe	...	...	...	...	...	...	...	...	...	...	...	...
Haiti	63	...	65	77	70	8.6	0	60	...	2 ^g	76 ^h	26 ^g
Martinique	...	...	...	...	...	...	...	...	...	...	...	...
Puerto Rico	...	...	...	...	...	...	...	...	...	...	...	...
Andean Area	92	64	86	93	87	6.8	87	78	68	71	90	70
Bolivia	96	...	87	93	87	6.4	...	87	87	60	94	48
Colombia	88	...	91	93	91	1.5	91	90	89	86	93	87
Ecuador	84	47	79	82	83	-1.7	83	80	84	80	86	64
Peru	90	79	88	94	89	5.5	89	87	86	70	88	66
Venezuela	100	56	82	100 ^c	84	18.9	84	47	7	52	88	53
Brazil	96	82	72	95	89	5.9	89	88	84	61	95	77
Southern Cone	92	81	88	90	91	-1.5	91	76	85	80	91	86
Argentina	92	81	87	88	92	-3.9	92	75	82	79	90	88
Chile	97	...	95	99	95	2.3	95	...	93	88	93	87
Paraguay	82	...	80	82	80	3.0	80	79	85	69	91	75
Uruguay	98	...	95	97	95	2.9	95	95	94	...	95	92
Non-Latin Caribbean	93	76	97	96	97	-0.8	96	75	66	83	94	81
Anguilla	98	...	90	91	90	2.1	90	...	...	72	96	86
Antigua and Barbuda	NA	...	87	88	92	-4.3	92	...	...	...	88	68
Aruba	NA	...	97	99	97	2.1	95	...	92	90	95	83
Bahamas, The	NA	...	94	95	94	1.6	94	11	94	84	89	74
Barbados	46	...	97	100 ^c	97	3.6	97	...	96	79	92	87
BES*	...	...	...	...	...	...	...	...	...	...	...	...
Cayman Islands	79	...	95	94	95	-1.6	86	83	92	86	89	...
Curaçao	NA	...	87	95	84	5.2	84	...	66	75	81	92
Dominica	98	100 ^d	99	100	99	2.0	99	...	...	93	96	92
Grenada	NA	35 ^d	98	91	96	-5.8	96	...	...	87	95	85
Guyana	95	...	94	97	97	0.0	97	96	92	81	100 ^c	94
Jamaica	96	...	99	97	99	-1.9	98	...	37	87	95	85
Montserrat	100	...	100	100	100	0.0	100	...	...	100	100	100
Saint Kitts & Nevis	96	98	100	92	98	-6.7	98	...	...	94	98	96
Saint Lucia	96	...	95	95	95	-0.6	0	...	...	90	100 ^c	88
St. Vincent and the Grenadines	...	...	100	98	100	-2.3	100	...	...	100 ^c	100	100
Sint Maarten (Dutch part)	NA	...	89	87	89	-2.3	87	...	49	88	90	84
Suriname	NA	80	91	92	91	0.5	91	...	...	66	97	43
Trinidad and Tobago	NA	...	100	97	97	-1.0	97	...	91	82	86	76
Turks and Caicos Islands	98	...	91	88	91	-3.9	91	...	...	82	96	89
Virgin Islands (UK)	91	58	96	85	95	-11.8	91	...	...	88	100 ^c	87

*Bonaire, St. Eustatius, and Saba.

(a) < 2 years of age; (b) children aged 19-35; (c) reported coverage > 100%; (d) given only if mothers are HepB +; (e) polio2, as per country schedule; (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; (k) target age groups vary by country.

morbidity data

	23	24	25	26	27	28	29	30	31	32	33	34
	number of reported cases											
	confirmed cases				neonatal tetanus	tetanus (non-neonatal)			pertussis	diphtheria	Hib meningitis	mumps
	wild polio	measles	rubella	CRS		male	female	total				
2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
The Americas	0	93	2	0	11	396	95	499	25,910	45	214	26,457
North America	0	92	2	0	0	5	0	5	19,633	1	34	5,620
Bermuda	0	0	0	0	0	0	0	0	0	0	0	0
Canada	0	12 ^b	1	0	0	5	0	5	3,896	1	12	309
United States of America	0 ^a	80 ^{b,c}	1 ^c	0 ^c	...	...	...	...	15,737 ^a	0 ^a	22 ^{a,d}	5,311 ^a
Latin America and the Caribbean	0	1	0	0	11	391	95	494	6,277	44	180	20,837
Latin America	0	1	0	0	11	388	95	491	6,263	44	180	20,818
Mexico	0	0	0	0	2	28	7	35	1,029	0	0	3,646
Central American Isthmus	0	0	0	0	0	17	1	18	436	0	6	922
Belize	0	0	0	0	0	0	0	0	4	0	0	0
Costa Rica	0	0	0	0	0	0	0	0	23	0	2	75
El Salvador	0	0	0	0	0	2	0	2	13	0	2	0
Guatemala	0	0	0	0	0	0	0	0	152	0	0	517
Honduras	0	0	0	0	0	13	1	14	151	0	2	138
Nicaragua	0	0	0	0	0	1	0	1	90	0	0	82
Panama	0	0	0	0	0	1	0	1	3	0	0	110
Latin Caribbean	0	0	0	0	2	41	5	46	26	8	12	1,833
Cuba	0	0	0	0	0	0	0	0	0	0	12	0
Dominican Republic	0	0	0	0	2	41	5	46	26	3	0	1,833
French Guiana	0	0	0	0	...	...	...	...	...	...	...	...
Guadeloupe	0	0	0	0	...	...	...	...	...	...	...	...
Haiti	0	0	0	0	...	...	...	...	...	5	...	...
Martinique	0	0	0	0	...	...	...	...	...	...	...	...
Puerto Rico	0	0	0	0	...	...	...	...	...	...	...	...
Andean Area	0	1	0	0	6	104	41	145	724	31	11	11,854
Bolivia	0	0	0	0	0	0	0	0	27	0	3	0
Colombia	0	0	0	0	2	31	14	45	536	0	3	10,452
Ecuador	0	1 ^b	0	0	1	36	16	52	16	0	1	1,352
Peru	0	0	0	0	1	21	4	25	143	0	1	...
Venezuela	0	0	0	0	2	16	7	23	2	31	3	50
Brazil	0	0	0	0	1	186	38	224	1,208	4	99	...
Southern Cone	0	0	0	0	0	12	3	23	2,840	1	52	2,563
Argentina	0	0	0	0	0	...	...	8	1,686	0	42	74
Chile	0	0	0	0	0	9	2	11	752	1	0	1,265
Paraguay	0	0	0	0	0	3	1	4	31	0	3	286
Uruguay	0	0	0	0	0	0	0	0	371	0	7	938
Non-Latin Caribbean	0	0	0	0	0	3	0	3	14	0	0	19
Anguilla	0	0	0	0	0	0	0	0	0	0	0	0
Antigua and Barbuda	0	0	0	0	0	0	0	0	0	0	0	0
Aruba	0	0	0	0	0	0	0	0	13	0	0	4
Bahamas, The	0	0	0	0	0	0	0	0	0	0	0	0
Barbados	0	0	0	0	0	0	0	0	0	0	...	0
BES*	0	...	...	...	...	...	...	...	...	...	...	...
Cayman Islands	0	0	0	0	...	...	...	...	...	...	...	...
Curaçao	0	...	...	...	...	...	...	...	...	...	...	...
Dominica	0	0	0	0	0	1	0	1	0	0	0	0
Grenada	0	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	2	0	2	0	0	0	2
Montserrat	0	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	0	0	1	0	0	0
St. Vincent and the Grenadines	0	0	0	0	0	0	0	0	0	0	0	0
Sint Maarten (Dutch part)	0	0	0	0	...	...	...	...	...	...	...	...
Suriname	0	0	0	0	0	0	0	0	0	0	0	13
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
Virgin Islands (UK)	0	0	0	0	...	...	...	...	0	0	0	0

*Bonaire, St. Eustatius, and Saba.

(a) Morbidity and Mortality Weekly Report (MMWR), National Notifiable Diseases Surveillance System (NNDSS); (b) imported or related to importation; (c) Measles/Rubella weekly bulletin 2016; (d) 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 $\geq 95\%$	% of children in municipalities w/ coverage level $\geq 95\%$	plan for immunization injection safety	national system to monitor ESAVIs	spending on routine immunization financed using gov't funds (%)	spending on vaccine purchases financed using gov't funds (%)	budget line for vaccine purchases
		2016	2016	DTP3 2016	DTP3 2016	2016	2016	2016	2016	2016
The Americas			15,282	52	37					
North America			64	8	...					
Bermuda	no	...	...	...	...	no	yes	100	100	yes
Canada	...	3	13 ^a	8	...	no	yes	...	...	...
United States of America	...	...	51 ^b	...	...	...	...	...	...	no
Latin America and the Caribbean			15,218	52	37					
Latin America			14,964	52	37					
Mexico	2013-2018	3	2,457	53	50	yes	yes	100	100	yes
Central American Isthmus			1,216	52	42					
Belize	yes	...	6	67	64	yes	yes	86	100	yes
Costa Rica	2015-2020	11	81	67	74	yes	no	100	100	yes
El Salvador	2015 - 2019	4	262	44	43	yes	yes	89	90	yes
Guatemala	no	13	338	29	18	yes	yes	100	100	...
Honduras	2016-2020	2	298	70	62	yes	yes	76	88	yes
Nicaragua	2016-2020	3	153	80	77	yes	yes	67	58	yes
Panama	yes	8	78	42	13	yes	yes	100	100	yes
Latin Caribbean			465	48	35					
Cuba	2014-2018	4	168	89	92	yes	yes	99	99	yes
Dominican Republic	2016 -2020	0	157	38	34	yes	yes	100	100	yes
French Guiana	...	...	...	...	...	...	...	...	...	...
Guadeloupe	...	...	...	...	...	...	...	...	...	...
Haiti	...	...	140	11	12	yes	yes	...	...	no
Martinique	...	...	...	...	...	...	...	...	...	...
Puerto Rico	...	...	...	...	...	...	...	...	...	...
Andean Area			3,871	53	35					
Bolivia	2016-2020	6	339	19	36	yes	yes	74	75	yes
Colombia	2016-2020	3	1,122	39	52	yes	yes	100	100	yes
Ecuador	2010-2017	...	221	25	12	yes	yes	100	99	yes
Peru	2013-2018	10	1,854	73	36	yes	yes	...	...	yes
Venezuela	no	0	335	44	26	no	yes	100	100	no
Brazil	2014-2018	2	5,570	51	29	yes	yes	88	88	yes
Southern Cone			1,385	52	31					
Argentina	2011-2016	3	512	56	29	yes	yes	100	100	yes
Chile	2010-2020	7	346	58	44	no	yes	...	...	yes
Paraguay	2014-2018	10	249	15	16	yes	yes	100	100	yes
Uruguay	2015-2020	4	278	69	43	yes	yes	100	100	yes
Non-Latin Caribbean			254	62	66					
Anguilla	2015-2016	...	3	0	0	NA	yes	100	100	...
Antigua and Barbuda	no	...	8	38	26	no	yes	...	...	yes
Aruba	no	...	6	100	100	no	yes	100	100	yes
Bahamas	2010-2020	...	16	NA	NA	no	yes	...	...	yes
Barbados	no	1	10	50	45	no	yes	99	100	yes
BES*	...	...	...	...	...	...	...	...	...	...
Cayman Islands	no	0	6	67	77	yes	yes	100	100	yes
Curaçao	2017-2019	...	...	0	0	yes	yes	100	100	no
Dominica	no	...	7	100	100	yes	yes	96	100	no
Grenada	2016- 2025	...	7	29	17	yes	yes	97	100	no
Guyana	2017-2021	...	13	54	62	yes	yes	94	100	yes
Jamaica	no	...	13	85	79	no	yes	99	100	no
Montserrat	no	...	4	100	100	yes	yes	...	...	no
Saint Kitts & Nevis	2017-2021	...	17	94	98	no	yes	...	100	no
Saint Lucia	no	...	9	44	37	no	yes	98	100	no
St. Vincent and the Grenadines	no	...	9	67	68	yes	yes	89	100	no
Sint Maarten (Dutch part)	no	1	1	0	0	no	yes	...	...	yes
Suriname	2017-2021	...	10	20	47	yes	yes	95	100	yes
Trinidad and Tobago	no	1	107	67	69	no	yes	100	100	yes
Turks and Caicos	no	...	4	75	15	no	no	100	100	yes
Virgin Islands (UK)	no	...	4	50	73	no	no	100	100	yes

*Bonaire, St. Eustatius, and Saba.

(a) reports number of provinces and territories; (b) reports number of states.

surveillance indicators

Acute Flaccid Paralysis (AFP), 2016

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 Cases with 60 Days Follow-up	Number of Compatible Cases
Argentina	207	1.88	41	71	1	0
Bolivia	24	0.69	92	79	14	0
Brazil	500	1.06	95	66	128	0
Canada	39	0.67	...	36	0	0
CARPHA	24	1.36	92	21	1	0
Chile	75	2.08	80	71	22	0
Colombia	185	1.59	76	83	22	0
Costa Rica	31	2.91	55	90	6	0
Cuba	17	0.93	100	88	0	0
Dominican Republic	33	1.05	6	79	0	0
Ecuador	29	0.62	100	83	0	0
El Salvador	47	2.89	38	72	10	0
Guatemala	30	0.5	0	73	0	0
Haiti	14	0.39	71	50	0	0
Honduras	65	2.02	49	83	0	0
Mexico	600	1.72	99	79	468	0
Nicaragua	26	1.43	88	100	0	0
Panama	17	1.58	76	88	0	0
Paraguay	29	1.4	93	86	3	0
Peru	56	0.64	80	75	2	0
United States of America	...	...	...	...	...	...
Uruguay	5	0.68	100	80	0	0
Venezuela	113	1.29	88	79	1	0
TOTAL/AVERAGE	2,166	1.29	81	74	678	0

Source: Integrated Surveillance Information System (ISIS), Polio Eradication Surveillance System (PESS), and country reports to FGL-IM/PAHO.

Measles/Rubella/CRS Surveillance Indicators, 2016

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	316	18	95	61	54	0.7	1.5
Bolivia	121	99	98	55	83	1.1	0.0
Brazil	2,179	80	87	40	57	1.0	0.3
CARPHA	504	88	97	22	80	6.6	2.6
Chile	215	34	80	91	92	1.2	4.7
Colombia	1,536	77	97	88	93	3.2	7.5
Costa Rica	37	65	89	83	94	0.8	9.1
Cuba	168	100	100	100	100	13.2	0.0
Dominican Republic	174	1	98	65	50	1.6	0.0
Ecuador	300	94	99	79	72	1.8	0.0
El Salvador	195	68	93	89	80	3.2	0.0
French Guiana	1	...	...	...	...	...	...
Guadeloupe	0	...	...	...	...	...	...
Guatemala	206	2	97	56	73	1.2	0.0
Haiti	56	91	96	80	73	0.5	1.0
Honduras	58	84	100	78	100	0.7	1.4
Martinique	2	...	...	...	...	...	...
Mexico	4,004	95	98	88	82	3.1	0.0
Nicaragua	124	95	98	97	87	2.0	4.1
Panama	57	88	100	67	98	1.4	0.0
Paraguay	389	81	96	86	84	5.8	0.0
Peru	425	85	96	75	34	1.3	0.0
Uruguay	0	0	0	0	0	0.0	0.0
Venezuela	792	95	99	74	66	2.5	0.1
TOTAL/AVERAGE	11,859	82	95	73	75	2.1	1.0

Source: Integrated Surveillance Information System (ISIS), Measles Elimination Surveillance System (MESS), and country reports to FGL-IM/PAHO.

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: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision. New York. Accessed 5 July 2017 (<http://esa.un.org/wpp/>). WPP 2015: Linear interpolation using the mid-points of the quinquennium as 1 January. Women of childbearing age includes women aged 15 to 49 years.

Infant mortality rate (1,000 lb) or number of deaths (N): PAHO/WHO. Data provided by Ministries of Health or Health Agencies of countries. Washington DC, 2017. As of 15 May 2017. Infant mortality as reported by the countries (ECU, GTM, GUY, PAN, PRY, SLV, SUR, TTO) present limitations due to the coverage of infant and neonatal deaths or the number of live births. An increase may reflect an improvement in data coverage and quality.

Socioeconomic indicators: The World Bank (2016). World Development Indicators 2017. Washington, D.C.; Accessed 29 June 2017. (<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 DC, 2017. As of 15 May 2017. (<http://www.who.int/health-accounts/ghed/en/>).

Immunization coverage, immunization program management, and financing information: Annual country reports to Comprehensive Family Immunization Unit (IM)/PAHO via PAHO-WHO/UNICEF Joint Reporting Form (JRF); 2017.

Morbidity: Annual country reports to IM/PAHO via JRF, vaccine-preventable disease specific surveillance reports for measles/rubella and polio; 2016-2017.

Surveillance indicators: Vaccine-preventable disease specific surveillance reports for measles/rubella and acute flaccid paralysis/polio to IM/PAHO; 2016-2017.

Symbols and Abbreviations

(pop) population; (lb) live births; (NA) not applicable; (...) not available; (ppp) purchase power parity; (int'l) international; (GDP) gross domestic product; (BCG) bacille Calmette-Guérin (anti-tuberculosis 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); (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; (Hi) Haemophilus influenzae; (Spn) Streptococcus pneumoniae; (Nm) Neisseria meningitidis; (m) months; (y) years; (IPV) inactivated polio vaccine.

Country codes: (ARG) Argentina; (BOL) Bolivia; (BRA) Brazil; (CARPHA) Caribbean Public Health Agency; (CHL) Chile; (COL) Colombia; (DOM) Dominican Republic; (ECU) Ecuador; (SLV) El Salvador; (GTM) Guatemala; (HTI) Haiti; (HND) Honduras; (NIC) Nicaragua; (PAN) Panama; (PRY) Paraguay; (PER) Peru; (SUR) Suriname; (TTO) Trinidad and Tobago; (VEN) Venezuela.

Technical Notes

Immunization coverage: Proportion of children aged <1 year vaccinated with one dose of BCG vaccine, the third dose of polio vaccine (oral polio vaccine or inactivated polio vaccine), the first dose of DTP, the third dose of DTP, the third dose of HepB 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. Subregional aggregated data express average values weighted by population aged < 1 year, when a figure is available.

Drop-out 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 wild polio, measles, rubella, CRS, neonatal tetanus, non-neonatal tetanus, pertussis, diphtheria, Hib meningitis, and mumps. Subregional aggregated data is the sum of the totals. These are not rates; hence, inter-country comparisons may not be appropriate.

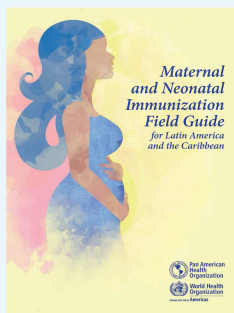
Immunization program management and financing:

- 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 2016. NITAGs provide recommendations on immunization practices, including advice on vaccines to be included into the national immunization schedule.

Selected Information Products of 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.



- **Maternal and Neonatal Immunization Field Guide for Latin America and the Caribbean.** The Maternal and Neonatal Immunization Field Guide will strengthen the execution of immunization programs in the Region of the Americas. In addition to the immunization programs, this guide is aimed at maternal and pediatric health care staff and aims to provide key information about maternal and neonatal vaccines that are available and in development, as well as recommendations on introducing or expanding their use. The guide also discusses various aspects related to social communication and vaccine acceptance, which are fundamental to promote maternal immunization. Available online at www.paho.org/immunization/maternal-immunization-guide.

- **Measles/Rubella (MR) and Polio Bulletins:** Weekly epidemiological surveillance bulletins. Available online at [www.paho.org/immunization/MeaslesRubella Bulletin](http://www.paho.org/immunization/MeaslesRubellaBulletin) and www.paho.org/immunization/PolioBulletin.

- Number of municipalities and number of children living in these municipalities reaching coverage $\geq 95\%$ for DTP3: Proportion of municipalities and proportion of children 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.
- 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.
- National system to monitor ESAVIs: System in place for the reporting and follow-up of ESAVIs.
- Spending on routine immunization financed using government funds: Percentage of all of 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 Id 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.

This brochure is published in collaboration with the Health Information and Analysis Unit, Department of Communicable Diseases and Health Analysis (CHA/HA), Pan American Health Organization.

Seasonal Influenza Vaccine Use in the Americas, 2016

Country	Children		Elderly Adults		Other Risk Groups		
	Schedule	Coverage ^d	Schedule	Coverage (%)	Chronic Disease	Health Workers	Pregnant Women
Anguilla	NA	NA	NA	NA	yes	NA	NA
Antigua and Barbuda	6-35m	...	>35m	...	NA	NA	NA
Argentina	6-24m	62	>65y	...	yes	yes	100 ^f
Aruba	<5y	...	>60y	...	yes	yes	y
Bahamas	>6m	...	yes	...	yes	yes	y
Barbados	NA	NA	>65y	...	NA	yes	NA
Belize	6-23m	73	>65y	2	yes	10	12
Bermuda	6m-18y ^a	7	>65y	17	1	1	6
BES*							
Bolivia	<2y	58	>65y	100 ^f	100 ^f	100 ^f	69
Brazil	6m-<2y	88	yes	96	yes	100 ^f	80
Canada	6-59m	22	>65y	65	yes	yes	yes
Cayman Islands	...	...	yes	...	yes	yes	yes
Chile	6m-5y	71	>65y	54	100 ^f	100 ^f	69
Colombia	6-23m	59	>50y	...	yes	NA	60
Costa Rica	6m-<3y	22	>60y	74	yes	79	82
Cuba	NA	NA	yes	100	86	100	98
Curaçao	NA	NA	NA	NA	...	...	...
Dominica	6-35m	3	>65y	...	yes	6	61
Dominican Republic	6-23m	4	>60y	...	yes	yes	13
Ecuador	6-11m; 1-4y	86	>65y	93	100 ^f	100 ^f	63
El Salvador	6m-<5y	67	NA	NA	yes	81	73
Grenada	...	ND	yes ^e	...	yes	yes	yes
Guatemala	6-35m	97	yes	74	87	16	89
Guyana	NA	NA	NA	NA	NA	NA	NA
Haiti	NA	NA	NA	NA	NA	NA	NA
Honduras	NA	NA	>60y	87	100 ^f	100 ^f	62
Jamaica	>6m ^c	61	$\geq 65y^c$	...	yes	yes	yes
Mexico	6-59m	91	>60y	94	100 ^f	89	93
Montserrat	NA	NA	NA	NA	NA	NA	NA
Nicaragua	NA	NA	NA	NA	99	yes	30
Panama	<5y	68	>60y	95	yes	100	57
Paraguay	6m-35m	63	>60y	...	yes	yes	yes
Peru	7-23m	56	>65y	53	99	yes	26
St. Kitts and Nevis	NA	NA	NA	NA	NA	NA	NA
St. Lucia	NA	NA	NA	NA	yes	yes	5
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	...	...	yes	yes	yes
Trinidad and Tobago	6m-17y	1	>60y	2	yes	yes	15
Turks and Caicos	...	...	...	...	...	...	...
United States of America**	6m-17y	59	>65y	63	yes	yes	yes
Uruguay	6m-<5y	29	>65y	30	yes	68	36
Venezuela	6-23m	21	>60y	13	5	7	50
Virgin Islands (UK)	NA	NA	>50y	48	94	22	NA

*Bonaire, St. Eustatius and Saba; **USA data during 2015-2016 influenza season; m-month(s); y-year(s).

(a) optional in schedule; (b) no formal policy, however, influenza vaccine is provided to children, based on WHO recommendations; (c) with chronic disease;

(d) pediatric coverage formula: ((2nd dose + single dose)/denominator)*100; (e) administered to residents of elderly homes and those wish to be vaccinated; (f) reported coverage >100%.

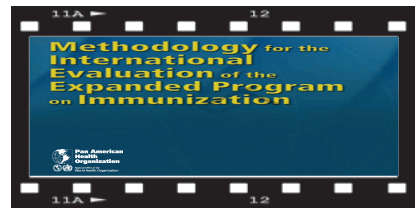
Milestones in the 40 years of the Expanded



1977:
EPI established by PAHO's
Directing Council



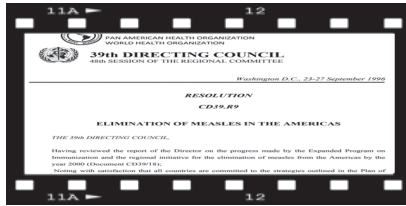
1977:
Revolving Fund created



1980:
International EPI review
methodology developed



1991:
Last indigenous case of polio in Peru



1994:
Measles elimination goals
established



1994:
1st Region certified free of polio



2013:
Directing Council resolution on the
principles of the Revolving Fund



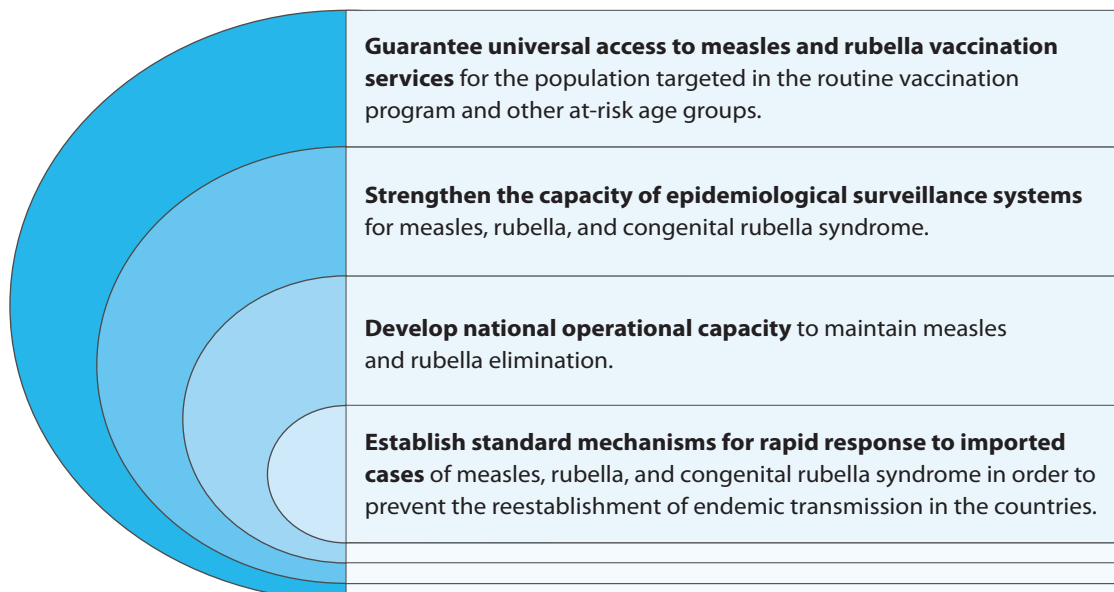
2015:
1st Region free of rubella



2015:
Directing Council resolution on the
Regional Immunization Action Plan (RIAP)

Plan of action for the sustainability of the elimination of measles, rubella and congenital rubella syndrome in the Americas, 2018-2023

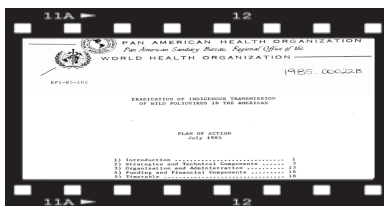
Four strategic lines of action:



Program in Immunization (EPI) in the Americas



1983:
Days of Tranquility



1985:
EPI Technical Advisory Group (TAG) established



1985:
Interagency Coordinating Committee (ICC) created



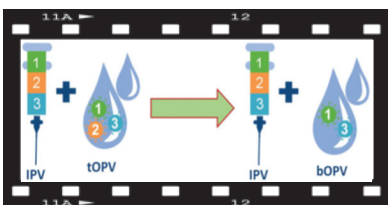
2003:
1st Vaccination Week in the Americas (VWA)



2006:
Launch of the PROVAC initiative



2010:
Directing Council resolution on strengthening the EPI Regional Immunization Vision and Strategy (RIVS)



2016:
Polio Switch from trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV)



2016:
1st Region free of measles

Source: FGL-IM/PAHO.

Dashboard of selected regional immunization action plan (RIAP) objectives in the Americas

General (GO) and Strategic Objectives(SO)	Baseline (2013)	Target (2020)	2016
GO 1.2.1 Number of countries and territories in which endemic transmission of measles or rubella virus has been reestablished	0	0	0 ●
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	22 ●
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	17 ●
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	33 ●
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	10 ●
SO 4.2.5 Number of countries and territories that have a national system for a computerized nominal immunization registry	3	10	6 ●

Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting Form (JRF), 2017; FGL-IM/PAHO.

Epidemiological surveillance indicators for diseases preventable by new vaccines in reporting countries, Latin America and the Caribbean, 2016

Rotavirus Surveillance, January-December 2016

Data and Indicators	CHL	DOM	ECU	HND	PRY	PER	SLV	SUR	VEN	TOTAL
Number of hospitalizations <5 years old	20,452	4,020	14,759	34,066	10,634	30,711	32,290	3,773	13,334	164,039
Number <5 years old admitted to hospital for diarrhea	1,342	349	3,219	4,699	253	4,750	3,818	766	1,365	20,561
Number <5 years old who meet the case definition	775	272	1,661	3,015	253	840	2,011	480	561	9,868
Number <5 years old with epidemiological form and stool specimen	775	121	1,508	1,970	178	695	1,749	193	413	7,602
Positive cases of rotavirus	282	6	214	339	37	110	90	57	30	1,165
Deaths	1	6	0	1	0	1	1	0	0	10

Bacterial Pneumonia Surveillance, January-December 2016

Data and Indicators	COL	ECU	HND	PRY	SLV	VEN	TOTAL
Number of hospitalizations <5 years old	69,992	14,759	15,744	10,634	21,511	4,566	137,206
Number of suspected cases of pneumonia	1,343	2,298	1,513	1,239	1,588	630	8,611
Number of suspected cases with x-ray and epidemiological form	1,343	1,910	1,110	1,239	1,582	533	7,717
Number of probable cases of bacterial pneumonia	654	1,598	685	597	965	267	4,766
Probable cases with blood specimen	619	961	375	478	963	9	3,405
Probable cases with pleural fluid specimen	3	10	1	96	0	0	110
Confirmed cases of Hib	8	2	0	0	0	0	10
Confirmed cases of Hi (no b)	0	0	0	1	0	0	1
Confirmed cases of Spn	17	11	0	49	2	0	79
Confirmed cases caused by other bacteria	16	135	36	24	2	1	214
Contamination	61	23	23	39	0	2	148
Deaths	14	43	13	3	0	36	109

Bacterial Meningitis Surveillance, January-December 2016

Data and Indicators	COL	ECU	HND	PRY	SLV	VEN	TOTAL
Number of hospitalizations <5 years old	69,992	14,165	15,744	10,634	13,728	2,912	127,175
Number of suspected cases of meningitis	22	89	103	166	47	64	491
Number of suspected cases with cerebrospinal fluid test and epidemiological form	20	74	93	154	43	57	441
Number of probable meningitis cases	20	59	32	44	20	21	191
Confirmed cases of Hib	0	2	0	1	1	0	4
Confirmed cases of Hi (no b)	0	0	0	1	0	0	1
Confirmed cases of Nm	2	0	0	2	0	0	4
Confirmed cases of Spn	0	0	1	2	1	0	4
Confirmed cases caused by other bacteria	3	10	3	6	0	0	22
Contamination	0	0	1	1	0	0	2
Deaths	0	1	2	1	0	7	11