Measles, Rubella and Congenital Rubella Syndrome (CRS) Country Profile

Paraguay

Pan American Health Organization

Introduction

The measles and rubella country profile aims to facilitate the analysis of data compiled in the last five years. This profile was only developed for those countries who officially reported vaccination coverage and case by case surveillance and laboratory data to the Pan American Health Organization (PAHO). There may be minor differences in the country profile if the country has updated data that was not reported to PAHO. The country profile will be automatically updated twice per year: at the end of April (surveillance data) and at the end of September (vaccination coverage data).

General Information

Table 1: Demographic data, 2022.

Demographic group	Population
1 year of age	136,094
Total population	6,780,767

Table 2: Last endemic cases by year and disease.

Measles	Rubella	CRS
1998	2005	2004

Table 3: Vaccination schedule.

Vaccine	1st Dose	2nd Dose	MMR2 Year Introduced
MMR	1 yr	4 yr	2004

Table 4: Accumulation of susceptibles for measles and rubella.

Year of the last follow-up campaign	Vaccine used (M, MR, MMR)	Age group vaccinated	Number vaccinated (numerator)	Coverage of the follow-up campaign (B/C)*100	Number of susceptibles 1-4 years of age	Year of next campaign
2015	MMR	1-5 years	535,703	72.53	238,374	2021

Epidemiology and Quality of Surveillance

Figure 1: Distribution of suspected MR cases and notification rate at the national level, 2018-2022.
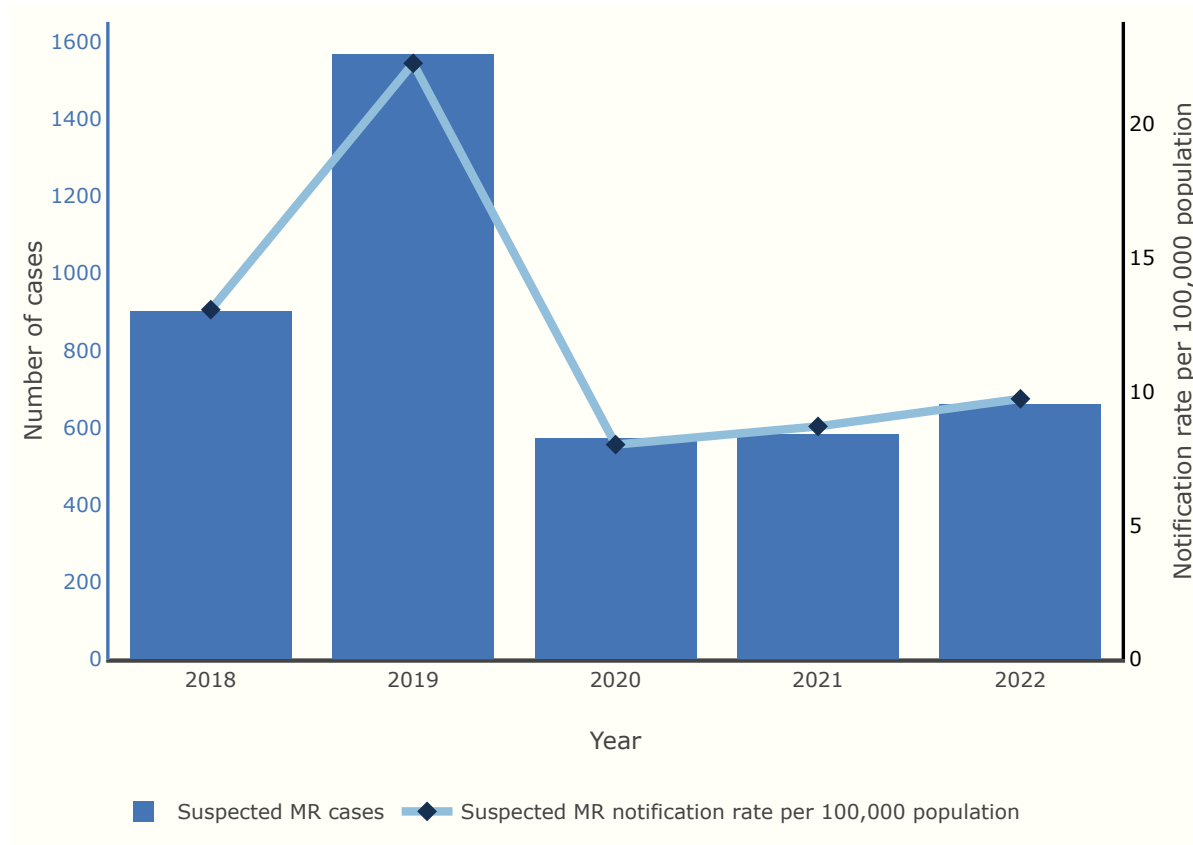

Table 5: Distribution of suspected MR cases and notification rate at the national level, 2018-2022.

	2018	2019	2020	2021	2022
Suspected MR cases	901	1,568	572	583	660
Suspected MR notification rate per 100,000 population	13.06	22.26	8.02	8.7	9.73

Figure 2: Distribution of suspected CRS cases and notification rate at the national level, 2018-2022.
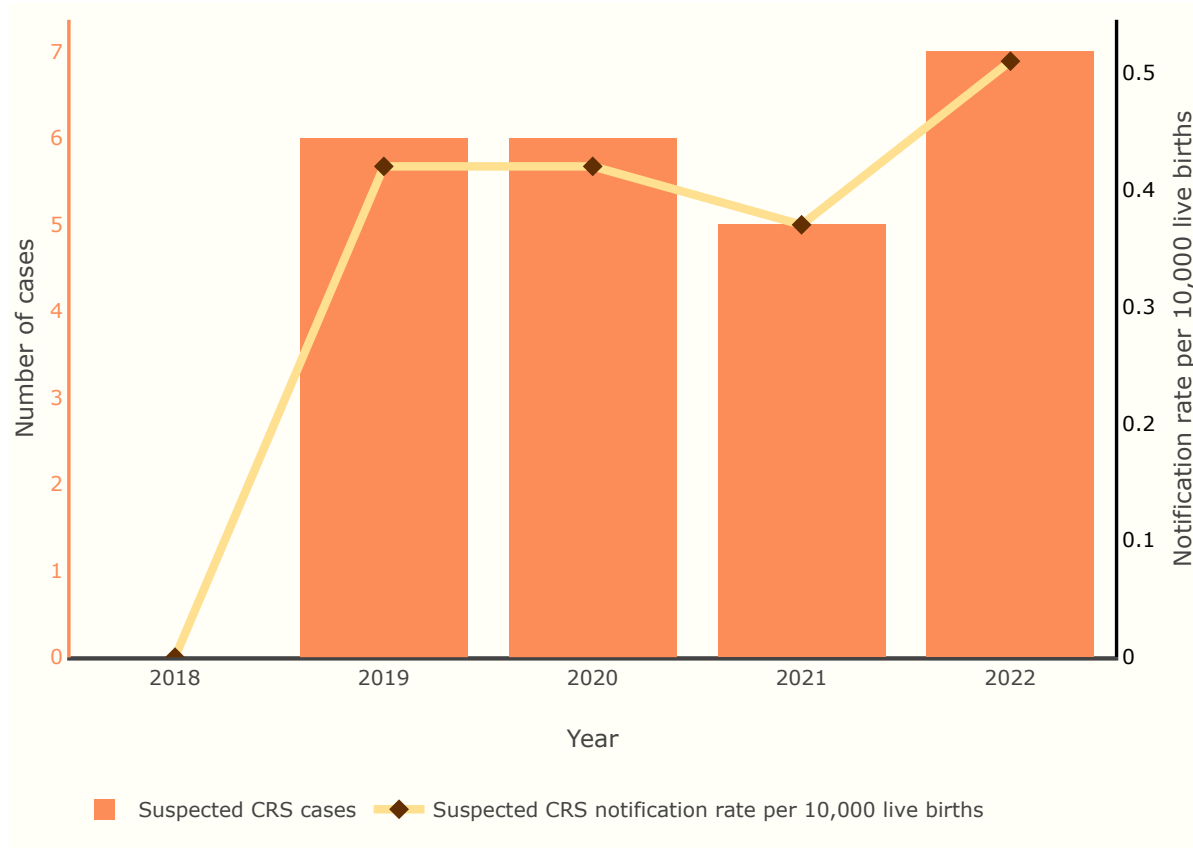

Table 6: Distribution of suspected CRS cases and notification rate at the national level, 2018-2022.

	2018	2019	2020	2021	2022
Suspected CRS cases	0	6	6	5	7
Suspected CRS notification rate per 10,000 live births	0	0.42	0.42	0.37	0.51

Figure 3: Reported cases of measles and rubella by epidemiological week and final classification: confirmed, discarded and under investigation, 2018-2022.
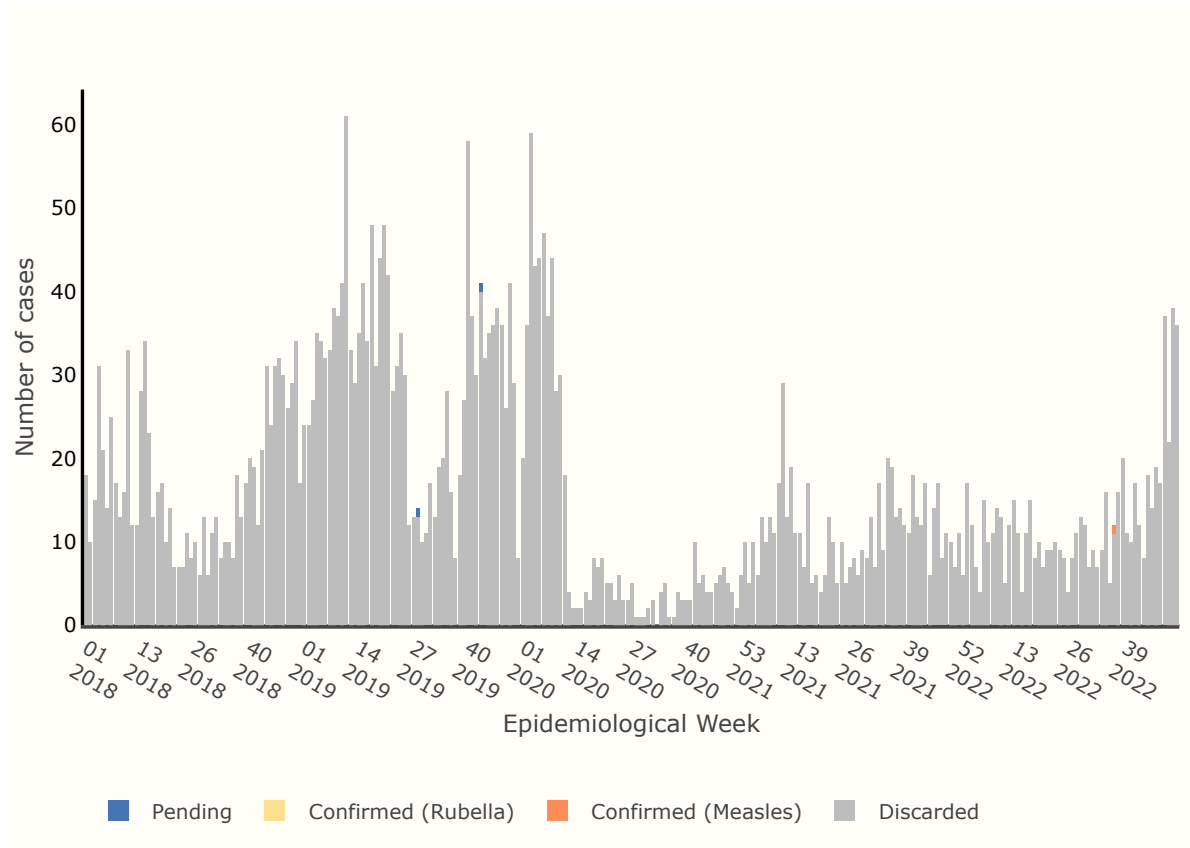
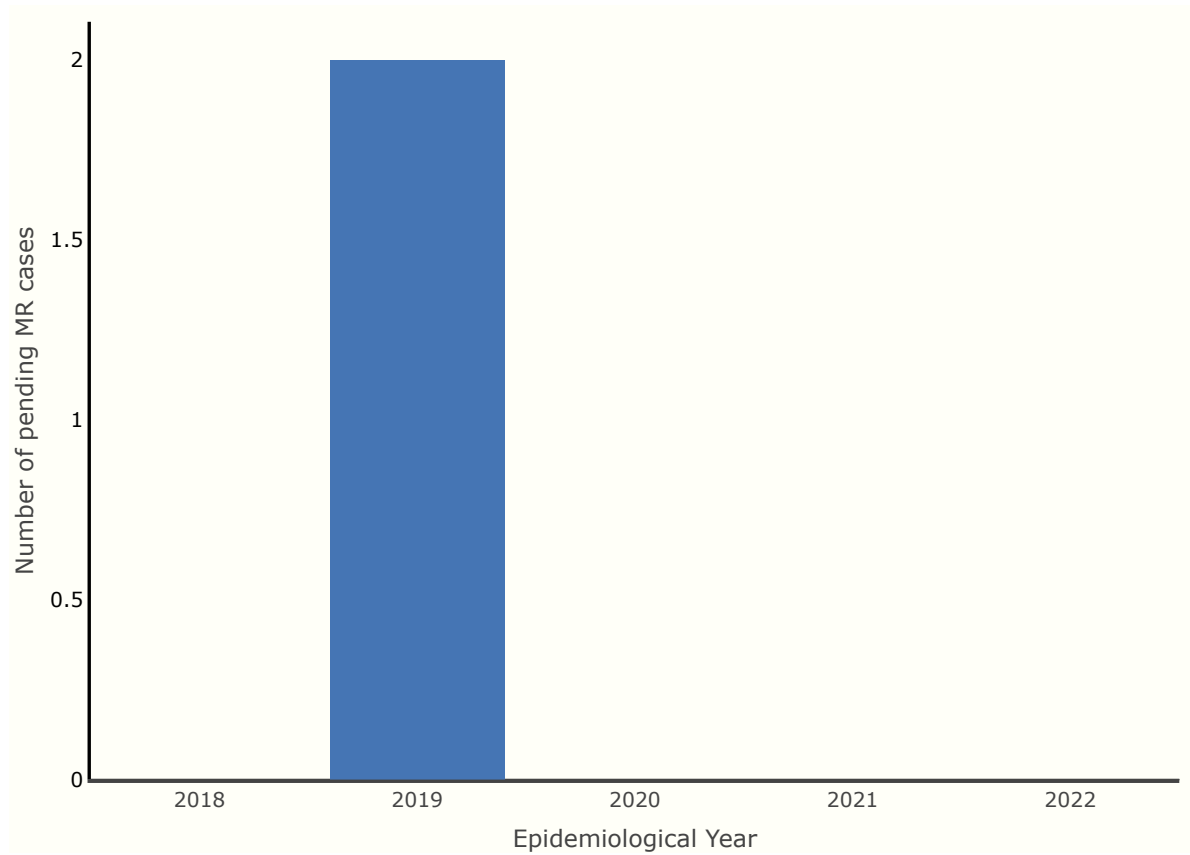Figure 4: Number of measles and rubella cases by epidemiological year pending final classification, 2018-2022.

Table 7: Reported cases of measles and rubella by epidemiological year and final classification, 2018-2022.

Classification	2018	2019	2020	2021	2022
Confirmed (Measles)	0	0	0	0	1
Confirmed (Rubella)	0	0	0	0	0
Pending	0	2	0	0	0
Discarded	901	1566	572	583	659
Total	901	1568	572	583	660

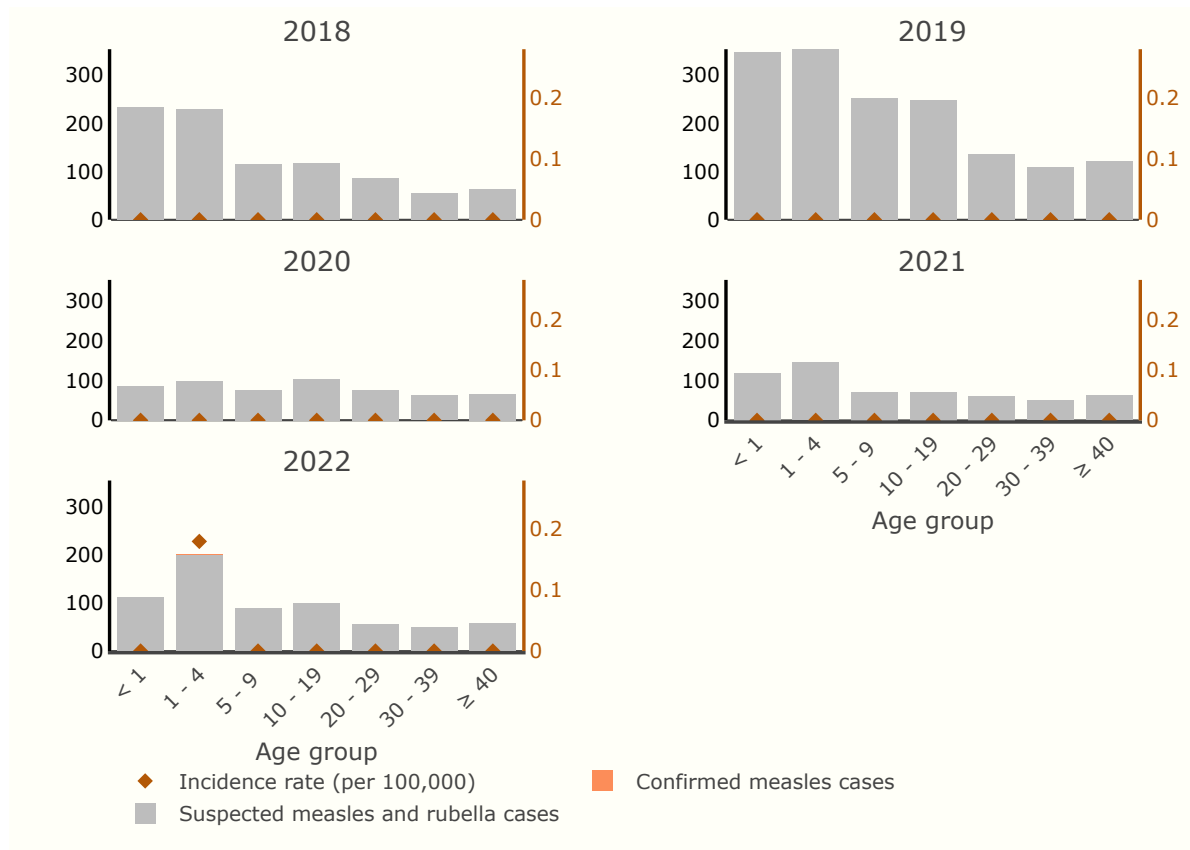Figure 5: Distribution of reported measles and rubella cases and incidence rate by age group, 2018-2022.

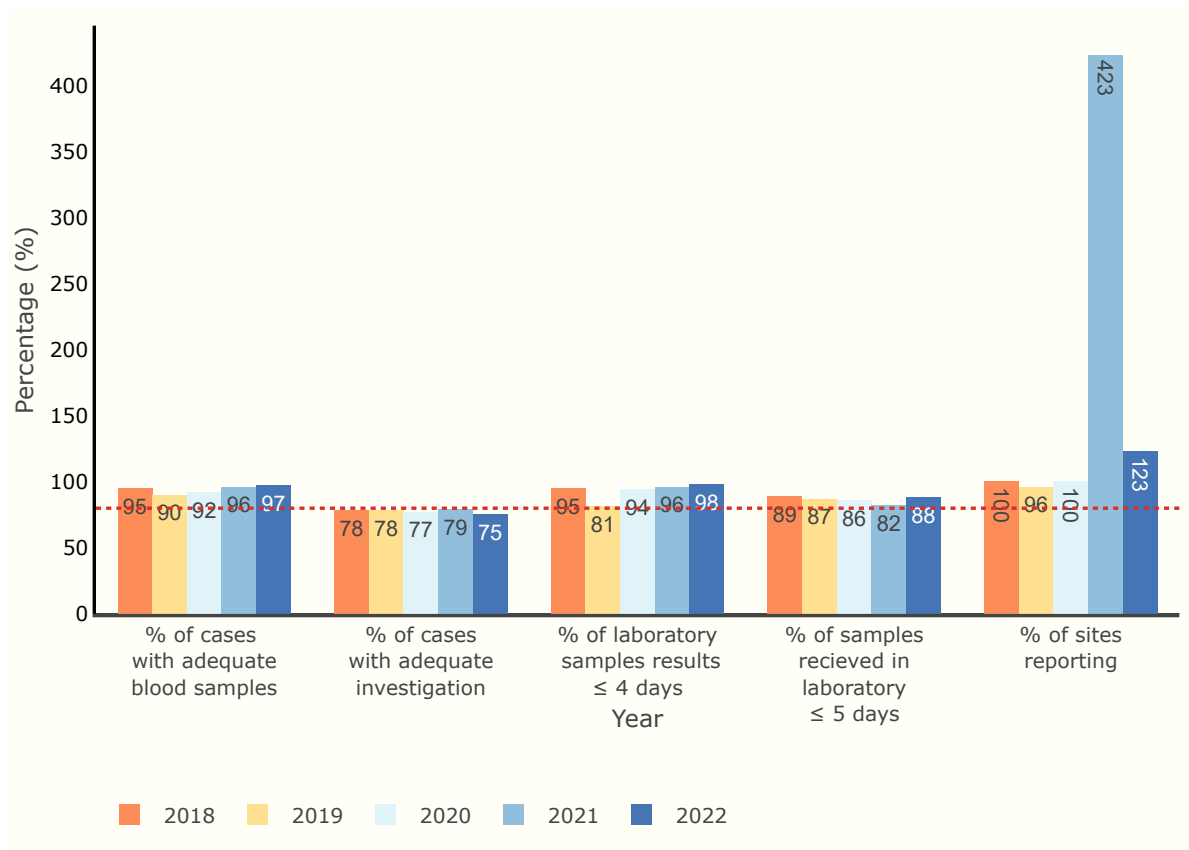Figure 6: Performance indicators of measles and rubella surveillance by year, 2018-2022.

Figure 7: Proportion of the 11 variables reported for adequate investigation indicator, 2022.
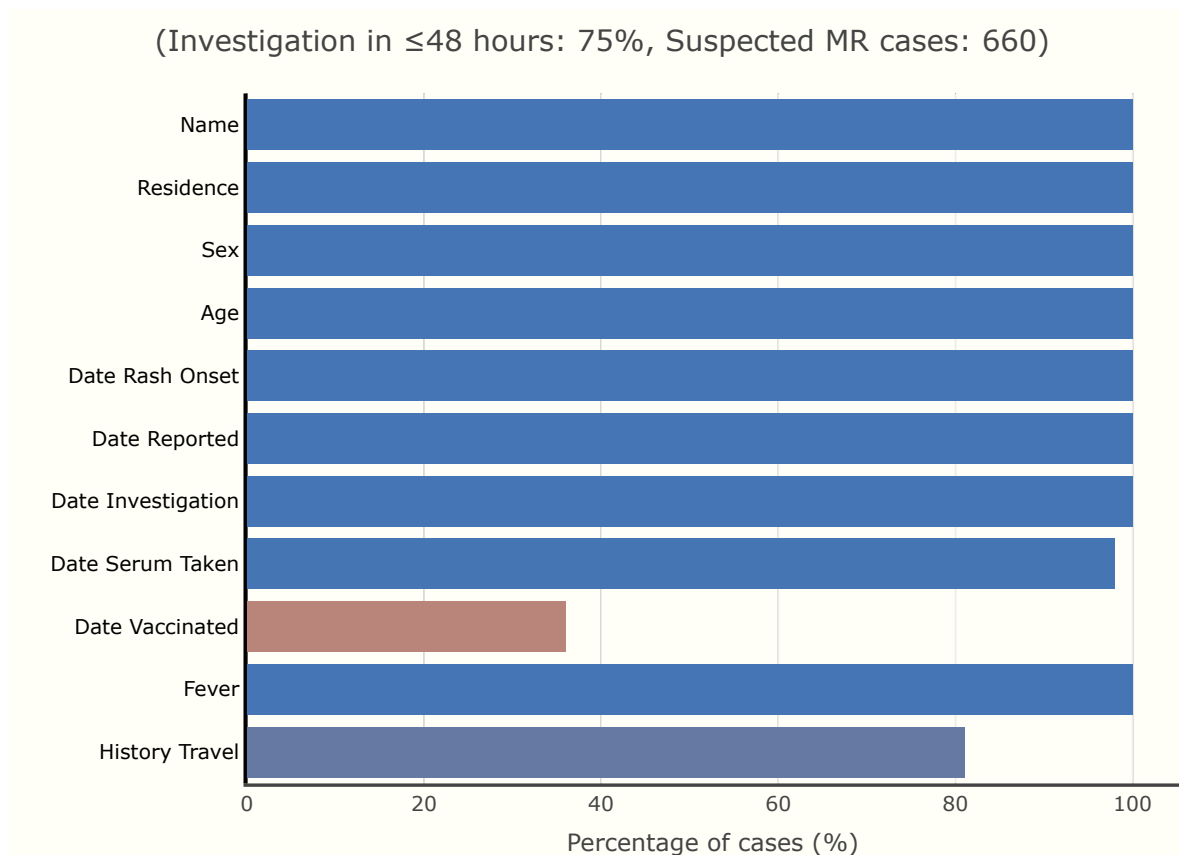

(Investigation in ≤48 hours: 75%, Suspected MR cases: 660)

Table 8: Municipalities reporting measles and rubella suspected cases by year, 2018-2022.

Year	No. of municipalities reporting suspected cases	Total municipalities in the country	% of municipalities reporting suspected cases
2018	129	252	51
2019	140	252	56
2020	110	252	44
2021	103	262	39
2022	104	262	40

Laboratory Surveillance

Table 9: Criteria used to discard suspected measles and rubella cases by year, 2018-2022.

Year	No. of suspected cases reported	No. of discarded cases	Criteria for discarding			No. of cases discarded by other differential diagnosis					
			IgM Negative	No data	Others	Vaccine reaction	Dengue	Parvo virus	Herpes 6	Allergic reaction	Others
2018	901	901	777	0	124	4	74	7	9	2	28
2019	1568	1566	1278	0	288	2	96	3	1	16	170
2020	572	572	502	0	70	1	5	7	3	5	49
2021	583	583	559	0	24	8	1	0	0	3	12
2022	660	659	589	0	70	9	0	0	0	2	59

Figure 8: Distribution of discarded measles and rubella suspected cases by other differential diagnosis, 2018-2022.
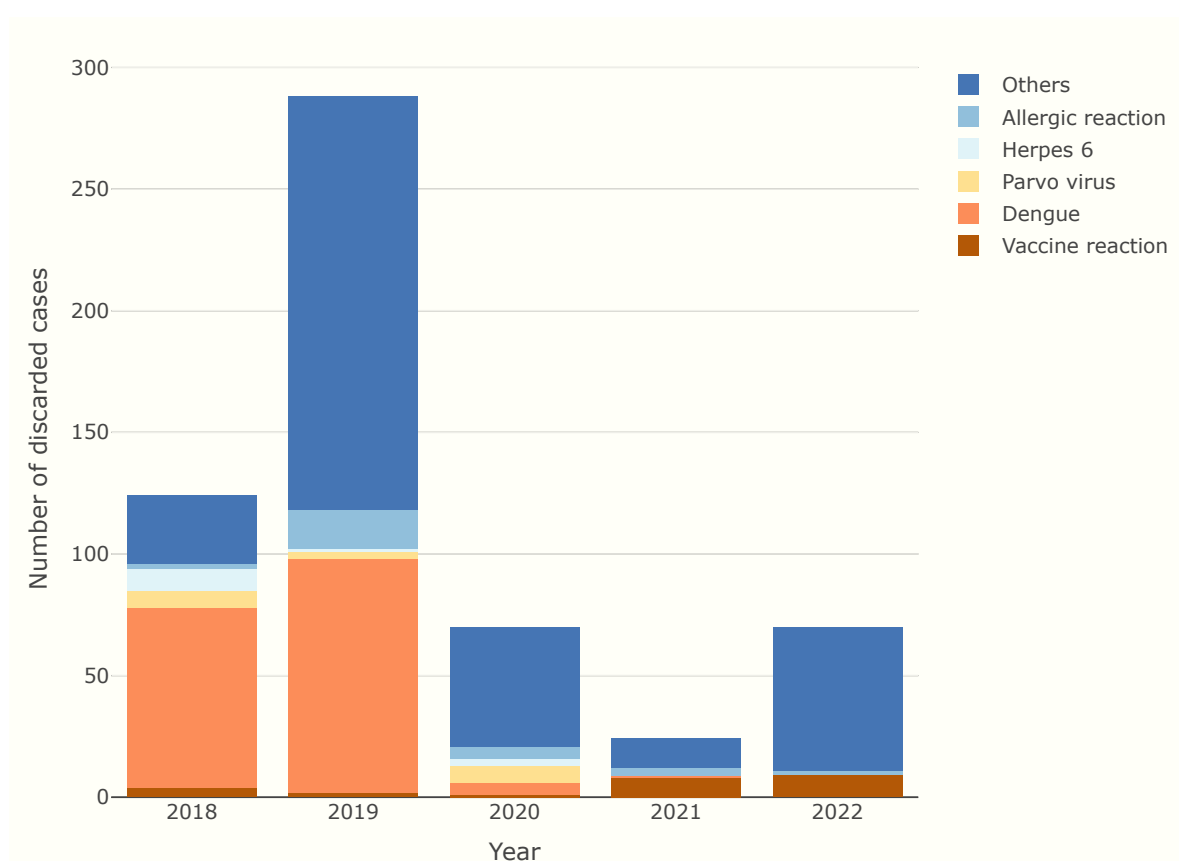
Analysis of Vaccination Coverage and Population Cohorts

Figure 9: Coverage of the first dose of measles-mumps-rubella (MMR1) vaccine, number of doses administered, and number of children 1 year of age, 2018-2022.
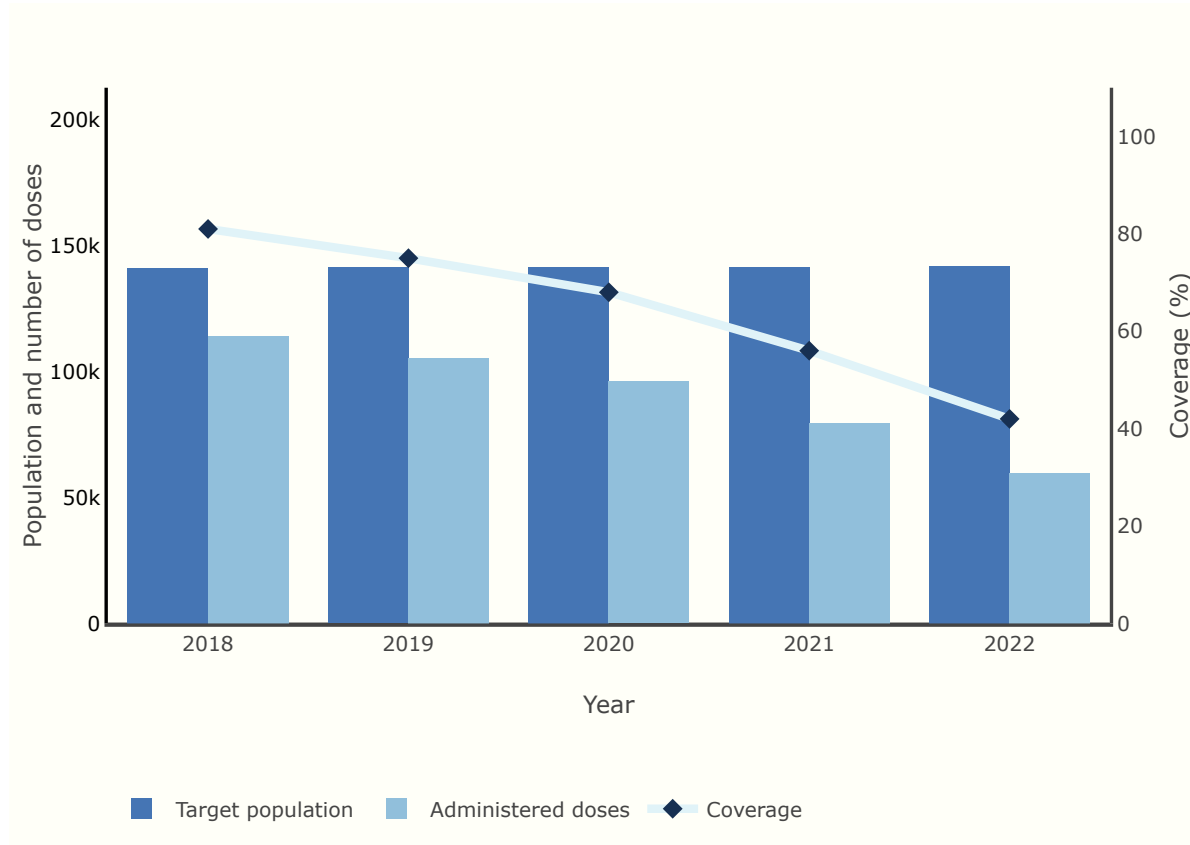
Figure 10: Coverage of the second dose of measles-mumps-rubella (MMR2) vaccine, number of doses administered, and number of children 4 year(s) of age, 2018-2022.
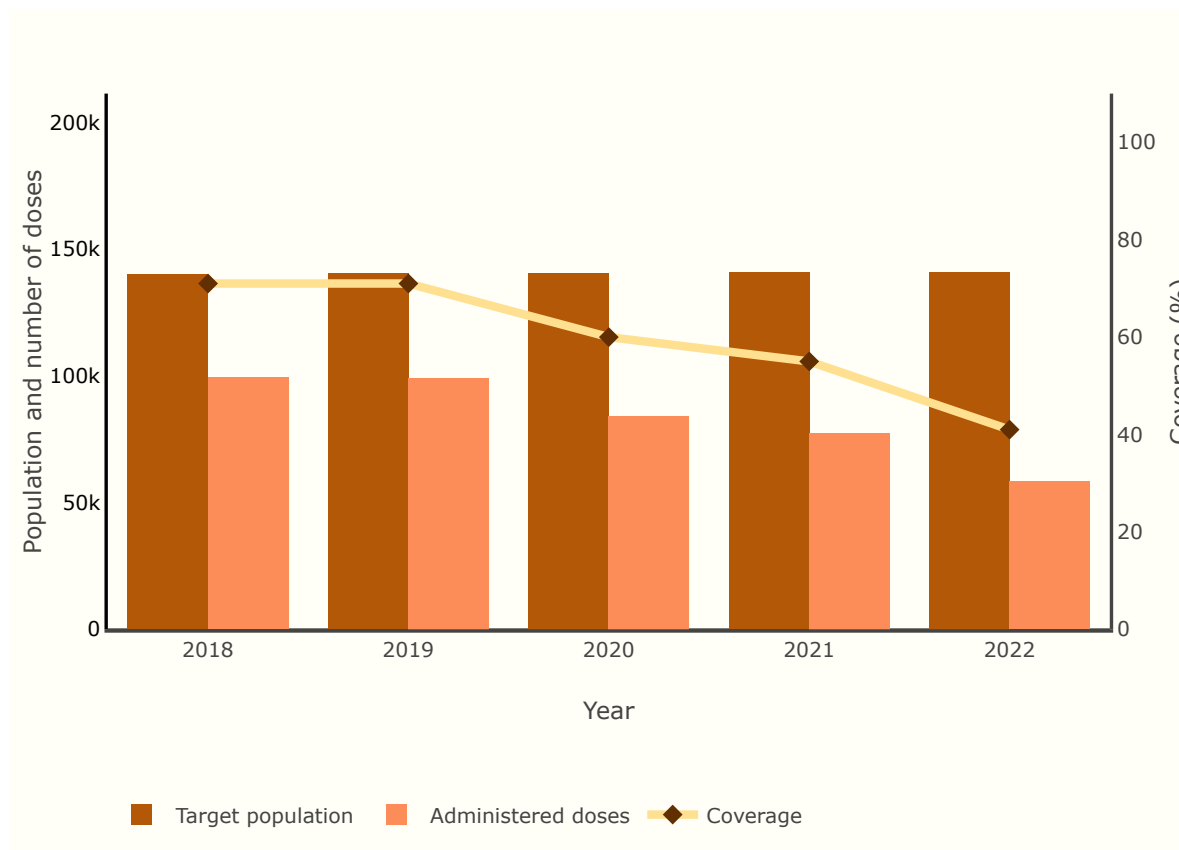

Table 10: Vaccination coverage with first and second dose of measles-mumps-rubella (MMR1 and MMR2) vaccines by target population and administered doses, 2018-2022.

Year	MMR1			MMR2		
	Administered doses	Target population	Coverage	Administered doses	Target population	Coverage
2018	114,089	141,218	81	99,421	140,067	71
2019	105,514	141,320	75	99,282	140,372	71
2020	96,044	141,547	68	84,157	140,580	60
2021	79,723	141,616	56	77,485	140,829	55
2022	59,763	141,802	42	58,263	140,943	41

Figure 11: Subnational coverage of the first dose of measles-mumps-rubella (MMR1) vaccine and proportion of children aged 1 year, 2021
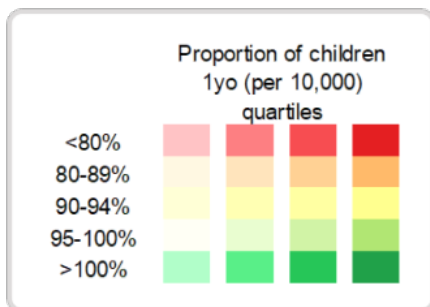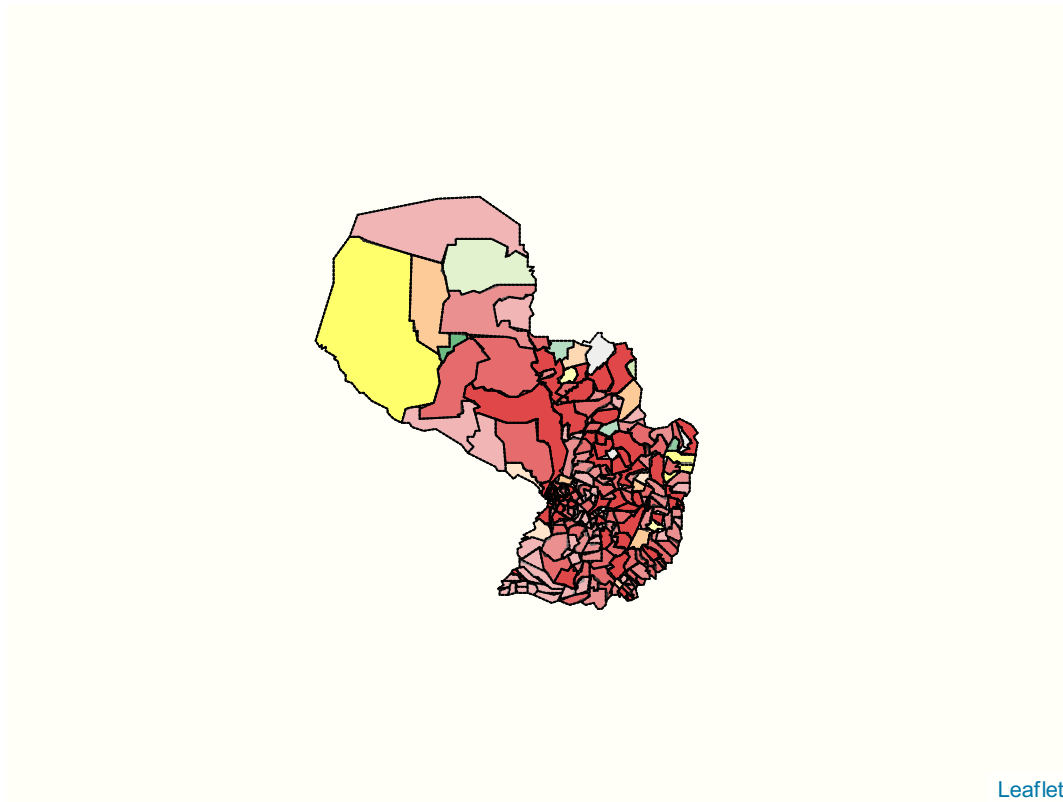
Figure 12: Proportion of municipalities by MMR1 vaccination coverage ranges, 2018-2022.
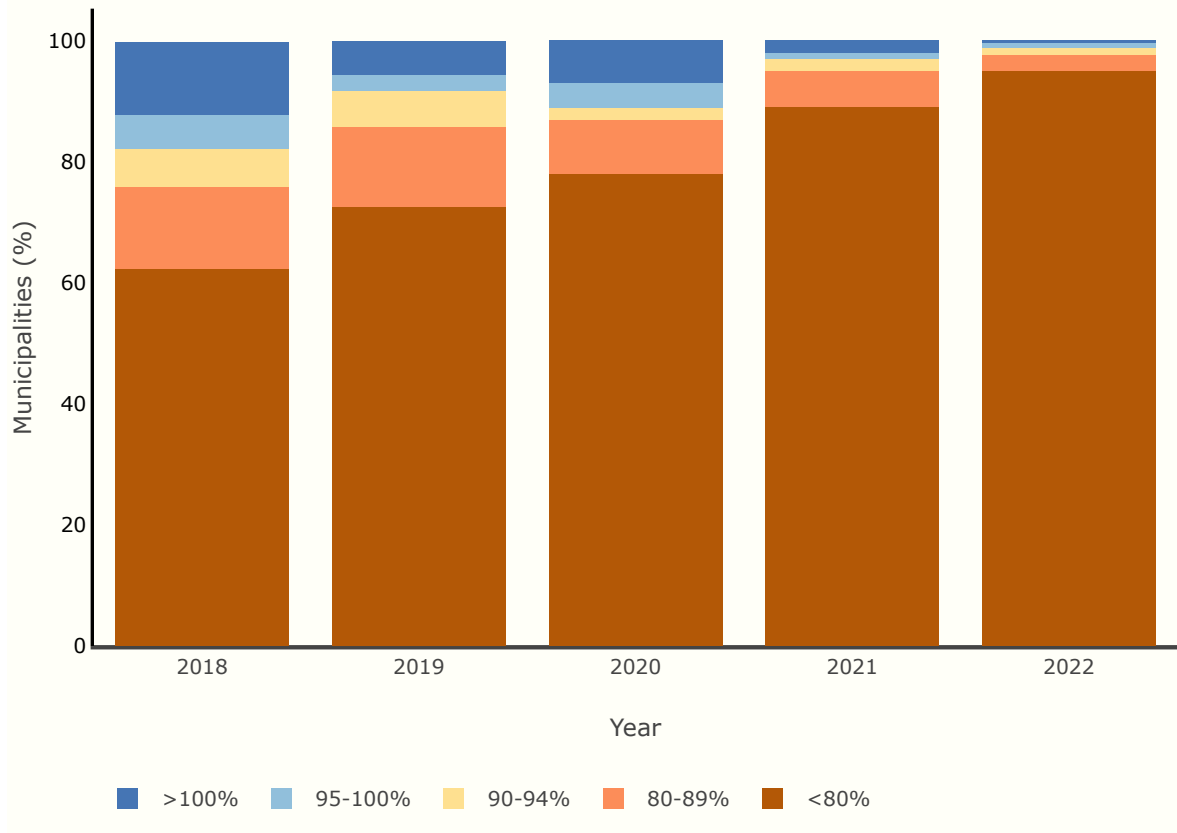
Figure 13: Proportion of children living in those municipalities for MMR1 vaccination coverage ranges, 2018-2022.
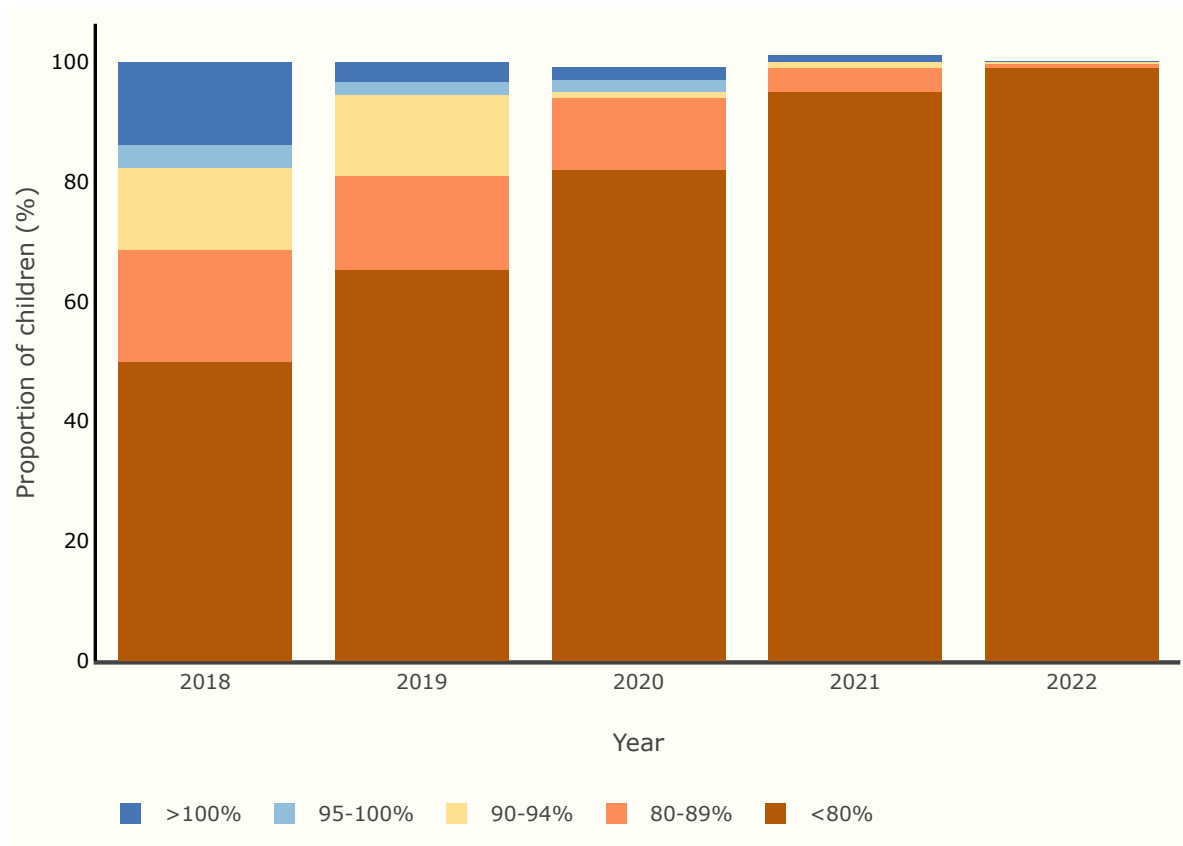
Figure 14: Proportion of municipalities by MMR2 vaccination coverage ranges, 2018-2022.
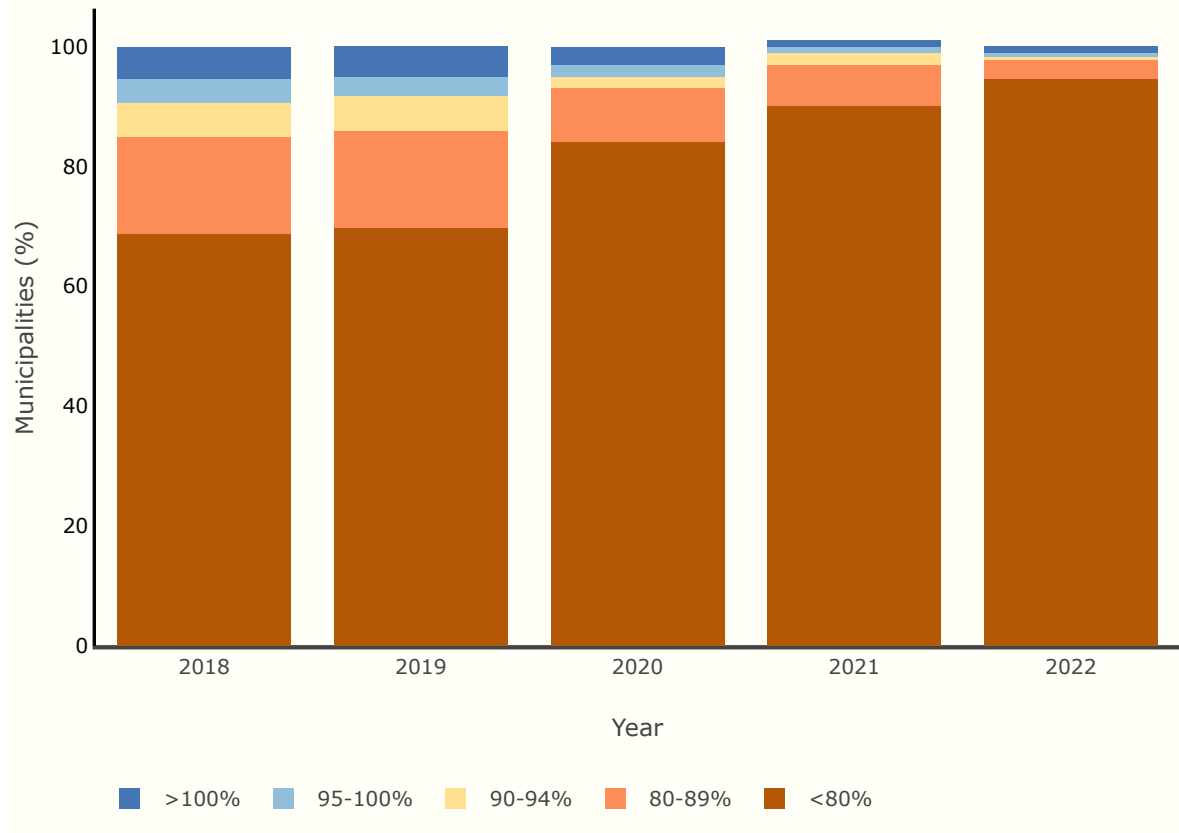
Figure 15: Proportion of children living in those municipalities for MMR2 vaccination coverage ranges, 2018-2022.
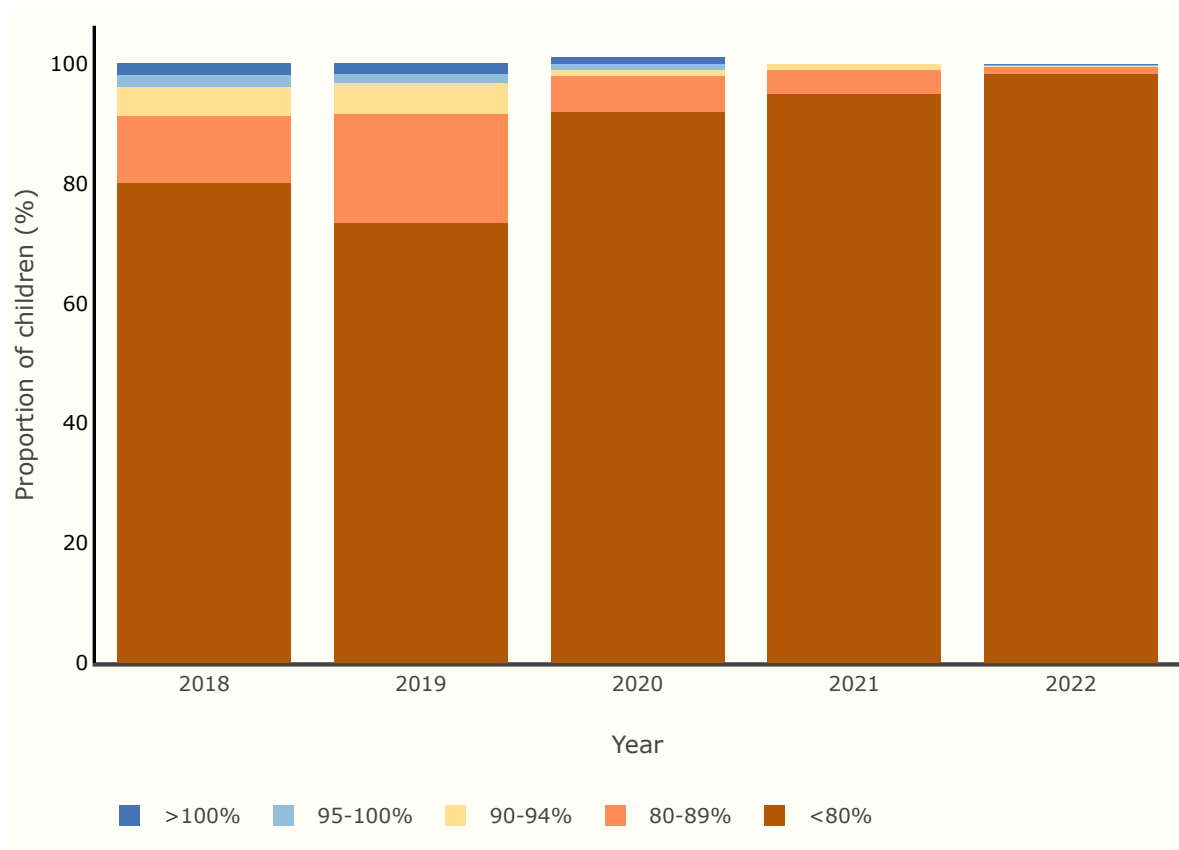

Table 11: Proportion of municipalities with MMR1 and MMR2 coverage ranges and proportion of children living in those municipalities, 2018-2022.

		MMR1		MMR2	
Year	Coverage range (%)	MMR1	MMR2	MMR1	MMR2
2022	<80	95.0	94.7	99.0	98.3
2022	80-89	2.7	3.1	0.7	1.2
2022	90-94	1.1	0.4	0.2	0.2
2022	95-100	0.8	0.8	0.1	0.1
2022	>100	0.4	1.1	0.1	0.1
2021	<80	89.0	90.0	95.0	95.0
2021	80-89	6.0	7.0	4.0	4.0
2021	90-94	2.0	2.0	1.0	1.0

17

2021	95-100	1.0	1.0	0.0	0.0
2021	>100	2.0	1.0	1.0	0.0
2020	<80	78.0	84.0	82.0	92.0
2020	80-89	9.0	9.0	12.0	6.0
2020	90-94	2.0	2.0	1.0	1.0
2020	95-100	4.0	2.0	2.0	1.0
2020	>100	7.0	3.0	2.0	1.0
2019	<80	72.5	69.8	65.3	73.4
2019	80-89	13.3	16.1	15.6	18.3
2019	90-94	5.9	5.9	13.6	5.1
2019	95-100	2.7	3.1	2.2	1.5
2019	>100	5.5	5.1	3.3	1.7
2018	<80	62.3	68.7	49.9	80.2
2018	80-89	13.5	16.3	18.7	11.2
2018	90-94	6.3	5.6	13.7	4.7
2018	95-100	5.6	4.0	3.8	2.0
2018	>100	11.9	5.2	13.8	1.9

References

Section	Sources
General Information	[1] United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition. [2] Country reports through the electronic PAHO-WHO/UNICEF Joint Reporting Form (eJRF).
Epidemiology and Quality of Surveillance	[3] Integrated Surveillance Information System (ISIS) and country reports to CIM/PAHO. [2] Country reports through the electronic PAHO-WHO/UNICEF Joint Reporting Form (eJRF).
Laboratory Surveillance	[3] Integrated Surveillance Information System (ISIS) and country reports to CIM/PAHO.
Analysis of Vaccination Coverage and Population Cohorts	[2] Country reports through the electronic PAHO-WHO/UNICEF Joint Reporting Form (eJRF).