Weekly COVID-19 Epidemiological Update - Region of the Americas

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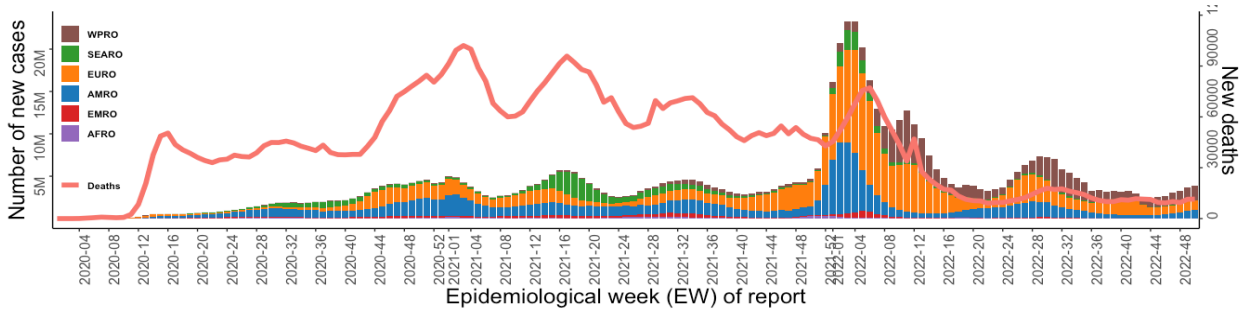
Contents:

Executive Summary

- **Since the onset of the pandemic** in 2020 and up to December 28, 2022, a cumulative total of approximately 652.2 million COVID-19 cases including about 6.7 million deaths were reported from all six WHO regions. During epidemiological week (EW) 51, COVID-19 cases decreased in all WHO regions (range: -67 - -4.2%). COVID-19 deaths decreased in three WHO regions while they increased in AFRO (45.5%), AMRO (0.9%), and EMRO (6.5%).
- **Globally,** approximately 2,749,815 new COVID-19 cases were reported in EW 51 (December 18, 2022-December 24, 2022) - a -29.2% decrease compared to EW 50 (December 11, 2022-December 17, 2022) (**Figure 1**). For the same period, 8,761 new COVID-19 deaths were reported globally – a -24.4% relative decrease compared the previous week.
- **In the region of the Americas,** 993,454 cases and 4,759 deaths were reported in EW 51 - a -4.2% decrease in cases and 0.9% increase in deaths compared to the previous week.
- At the subregional level, COVID-19 cases increased in one subregion – North America (11.5%) while they decreased in the remaining three subregions (range: -18.6 - -9.4%). Deaths increased in North America (6.5%) and Central America (2.4%) while they decreased in South America (-9%) and the Caribbean and Atlantic Ocean Islands (-23.7%).
- The overall weekly case notification rate for the region of the Americas was 97.1 cases per 100,000 population during EW 51 (101.3 the previous week). Between EW 51 and 50, the 14-day COVID-19 death rate was 9.3 deaths per 1 million population (9 the previous two weeks).
- Among 22 countries/territories in the region with available data, **COVID-19 hospitalizations** increased in 5 countries and territories (range: 0.7% - 84.5%) during EW 51 compared to the previous week. Among 11 countries and territories with available data, COVID-19 **ICU admissions** increased in 7 countries and territories (range: 0.4% - 100%).

Figure 1: COVID-19 cases and deaths by epidemiological week (EW) of report and WHO region. EW 4, 2020 - EW 51, 2022.



Source: Data from WHO COVID-19 Dashboard

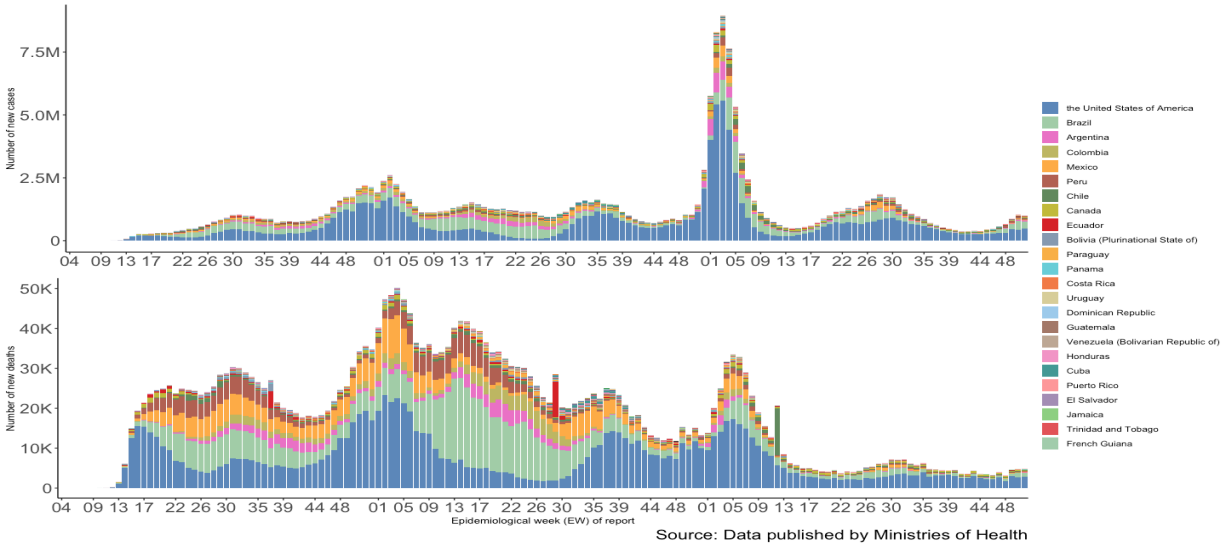
Data are retro-adjusted every week and the numbers and percent changes of COVID-19 cumulative cases and deaths may not match with the previous COVID-19 weekly situational reports.

Pan American Health Organization / World Health Organization. Washington, D.C.: PAHO/WHO; 2022

More information available at: https://paho-covid19-response-who.hub.arcgis.com/ & https://shiny.pahobra.org/wdc/

Region of the Americas - An overview

Figure 2: COVID-19 cases and deaths by epidemiological week (EW) of report and country/territory. Region of the Americas. EW 3, 2020 - 51, 2022.



During EW 51, 993,454 new **COVID-19 cases** were reported in the region of the Americas - a relative decrease of -4.2% compared to previous week **(Figure 2)**. The highest number of COVID-19 cases in the last week was reported from North America (542,556 cases, 12% increase) compared to the previous week. **(Table 1)**. During EW 51 at the national level, the highest proportion of weekly COVID-19 cases were reported by the United States of America (498,637 new cases, 12.1% increase), Brazil (254,811 new cases, -24.6% decrease), Argentina (61,903 new cases, -0.6% decrease).

Table 1: Weekly change (%) in cases and deaths between EW 50 and EW 51 by subregion. Region of the Americas

Subregion	Total Cases	Total Deaths	Cases EW 50	Deaths EW 50	Cases EW 51	Deaths EW 51	% Change Cases	% Change Deaths
Caribbean and Atlantic Ocean Islands	4,327,995	35,820	15,026	59	13,210	45	-12.1%	-23.7%
Central America	4,133,033	53,859	25,011	41	22,658	42	-9.4%	2.4%
North America	110,725,507	1,459,988	486,634	3,031	542,556	3,228	11.5%	6.5%
South America	66,344,543	1,337,587	509,888	1,587	415,030	1,444	-18.6%	-9.0%

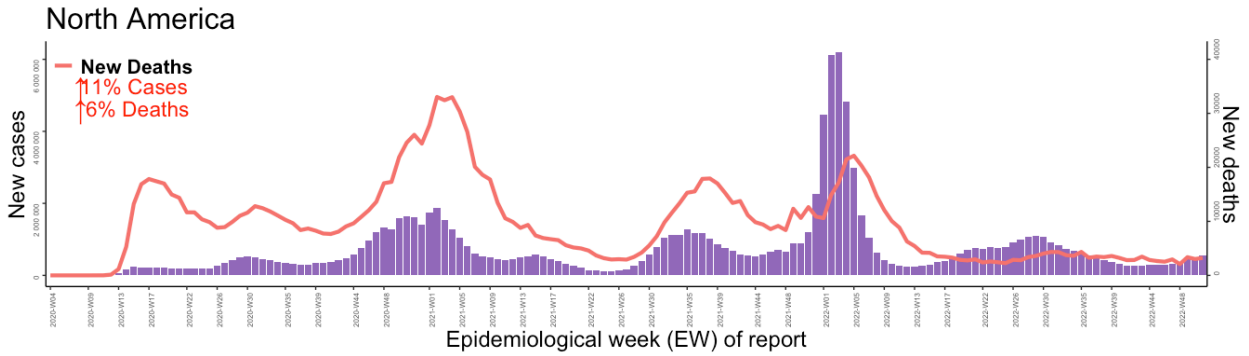
For the same period, 4,759 **COVID-19 deaths** were reported in the region of the Americas - a relative increase of 0.9% compared to previous week **(Figure 2)**. The highest number of COVID-19 deaths in the last week was reported from North America (3,228 deaths, 7% increase) **(Table 1)**. At the national level, the highest proportion of weekly COVID-19 deaths were reported by the United States of America (2,915 new deaths, 9.8% increase), Brazil (933 new deaths, -17.7% decrease), and Canada (227 new deaths, -18.9% decrease).

A summary of the COVID-19 trends for EW 51 by subregion is presented below.

North America

The overall trends for **COVID-19 cases** have been increasing in North America as of EW 51, with a total of 542,556 weekly cases (11.5% increase) being reported. During EW 51, all three countries in the subregion reported an increase in weekly cases – the largest proportion of reported cases being reported by the United States of America (498,637 cases, 12.1% increase), followed by Mexico (26,574 cases, 7.6% increase), and Canada (17,345 cases, 2.3% increase).

Figure 3: COVID-19 cases and deaths by epidemiological week (EW). **North America.** Region of the Americas. EW 3, 2020 - EW 51, 2022.



For the same period, **weekly COVID-19 deaths** increased by 6.5% in North America during EW 51 relative to the previous week. While two countries in the subregion reported a decrease in weekly deaths – Canada (227 new deaths, -18.9% decrease) and Mexico (86 new deaths, -11.3% decrease), the United States of America reported a 9.8% increase in weekly deaths (n=2,915 new deaths) during EW 51 compared to the previous week.

During 51, among the two countries in North America with available data for **COVID-19 weekly hospitalizations and ICU admissions**, both countries did not report any substantial changes compared to the previous week. The United States of America reported a slight increase in weekly hospitalizations (n=40,451, 1.4% increase) and ICU admissions (n=4,844, 4.2% increase) for the fourth consecutive week. In Canada, weekly hospitalizations including weekly ICU admissions remained stable after a peak observed in early-November 2022 (5,156 hospitalizations, 0.7% increase & 263 ICU admissions, 0.4% increase) during EW 51 compared to the previous week.

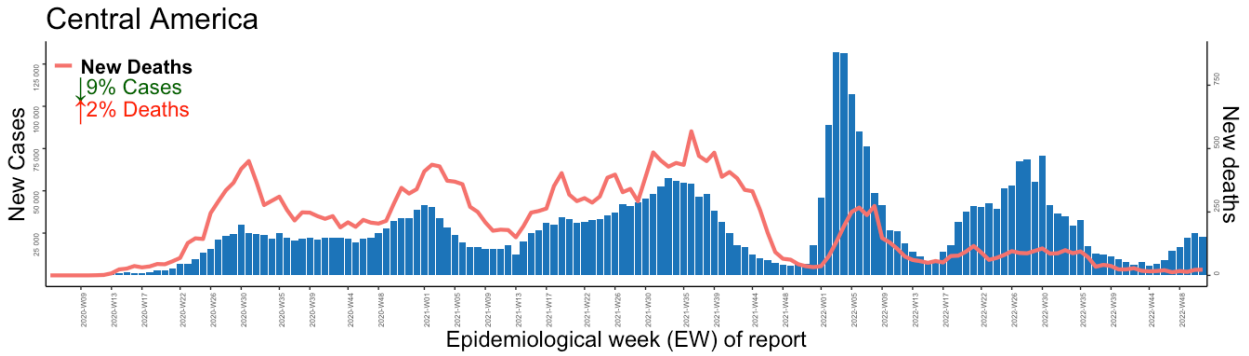
The Omicron **variant of concerns** (VOC) of BA.5 are predominant in all three countries in the subregion. In the United States of America, the proportion of the BA.5 subvariant has been gradually decreasing over the past three months – accounting for 6.9%, while the estimated proportions of BA.5 sub-lineages, BQ.1, BQ.1.1, and XBB, have been increasing over the past two months – accounting for 81.3% (27.4%, 35.7%, and 18.3% respectively) of sequences for the week ending on 24 December 2022[1]. The BA.5 and BA.4 sub-lineages made up about 92.5% (including 8.9% of BQ.1, 25.8% of BQ.1.1 and 6.3% of BF.7) and 2.3% the week of 4 December 2022 in Canada[2] and 89.2% and 0.6% as of EW 48 in Mexico, respectively.

1 The United States Centers for Disease Control and Prevention (CDC). Variant Proportions. Accessed 28 Dec 2022. Available at: https://bit.ly/3Obz8cT
2 Public Health Agency of Canada (PHAC). COVID-19 Variants in Canada. Accessed 28 Dec 2022. Available at: https://bit.ly/3bbFRFr

Central America

In Central America, the overall **COVID-19 incidence** for the sub-region has decreased for the first time after six-weeks of an increasing trend, with 22,658 new cases being reported during EW 51 – - a -9.4% decrease compared to the previous week **(Figure 4)**.

Figure 4: COVID-19 cases and deaths by epidemiological week (EW). **Central America. Region of the Americas.** EW 6, 2020 - EW 51, 2022.



During EW 51, **COVID-19 weekly cases** increased in three countries and territories in the subregion – the highest relative increase in cases being reported by Costa Rica (5,190 new cases, 28.8% increase), followed by Nicaragua (57 new cases, 26.7% increase), and Belize (299 new cases, 15.4% increase). The countries with the decline in cases this week included Honduras (943 new cases, -53.5% decrease), Panama (2,817 new cases, -43.6% decrease), and Guatemala (13,352 new cases, -2.2% decrease).

During EW 51, there were no substantial changes in **weekly deaths** – a 2.4% increase (n=42) relative to the previous week **(Figure 4)**. Two out of the seven countries and territories reporting an increase reported an increase in weekly deaths – Panama (13 new deaths, 18.2% increase) and Costa Rica (13 new deaths, 62.5% increase). The remaining countries and territories reported either a decline (n=2, range: -50 - -18.8% decrease) compared to the previous week or did not report any deaths (n=3) during EW 51.

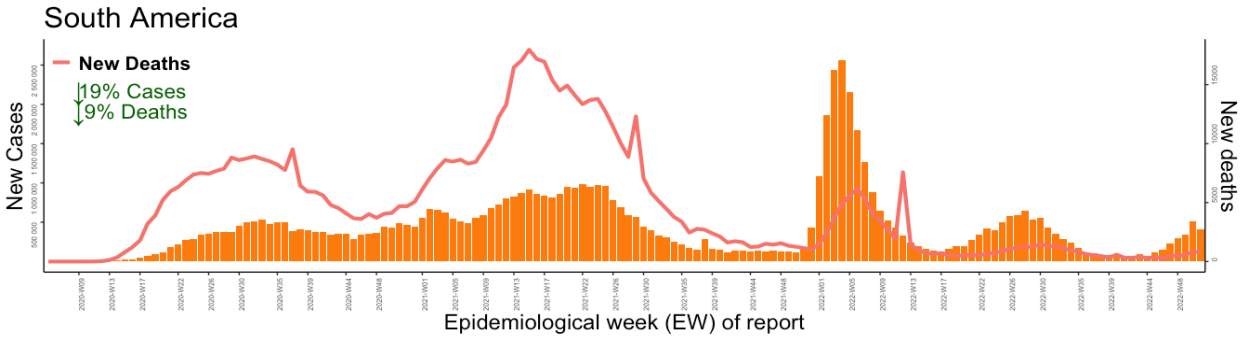
Among three countries/territories with available data for **weekly COVID-19 hospitalizations** in the Central American subregion, two countries reported a decline in their weekly COVID-19 hospitalizations – Panama (n=125, -23.3% decrease) and Costa Rica (n=99, -8.3% decrease) while one country – Honduras – did not report any changes in hospitalizations relative to the previous week. During EW 51, among three countries and territories with available data for **weekly COVID-19 ICU admissions**, one country – Honduras – reported an increase in COVID-19 ICU admissions (n=12, 71.4% increase), while the remaining two reported a decline – Panama (5 ICU admissions, -50% decrease) and Costa Rica (13 ICU admissions, -27.8% decrease) relative to the previous week.

To date, Omicron lineages BA.4 and BA.5 have been reported from six of the seven countries and territories in the subregion respectively – Costa Rica, Panama, Guatemala, El Salvador, Nicaragua, and Belize.

South America

In South America, the overall **COVID-19 incidence** for the subregion has decreased by -18.6%, with a total of 415,030 new COVID-19 cases being reported during EW 51 compared to the previous week **(Figure 5)**.

Figure 5: COVID-19 cases and deaths by epidemiological week (EW). **South America. Region of the Americas.** EW 3, 2020 - EW 51, 2022.



During EW 51, **COVID-19 weekly cases** increased in six out of the 10 countries and territories the sub-region (range: 10.1 – 93.1% increase). The highest relative increase in cases was reported by Paraguay (1,889 new cases, 93.1% increase), followed by Bolivia (Plurinational State of) (19,157 new cases, 88.7% increase), and Uruguay (9,000 new cases, 82.1% increase). Three countries in the subregion reported a decline in cases with the largest decline in cases being reported by Peru (32,935 new cases, -40.5% decrease) and Brazil (254,811 new cases, -24.6% decrease). Please note that data for EW 51 for Ecuador was not publicly available, resulting in a data artifact in percent changes in the subregion.

During EW 51, a total of 1,444 **COVID-19 deaths** were reported in South America – a -9% decrease compared to the previous week. Six countries and territories in the subregion reported an increase in weekly deaths (range: 12.8 – 150% increase), with the highest relative increase being observed from Uruguay (10 new deaths, 150% increases), followed by Bolivia (Plurinational State of) (18 new deaths, 100% increase), and Colombia (80 new deaths, 50.9% increase) relative to the previous week. The remaining three countries and territories observed a decline in deaths – Venezuela (Bolivarian Republic of) (0 death, -100% decrease), followed by Brazil (933 new deaths, -17.7% decrease), and Peru (186 new deaths, -5.6% decrease).

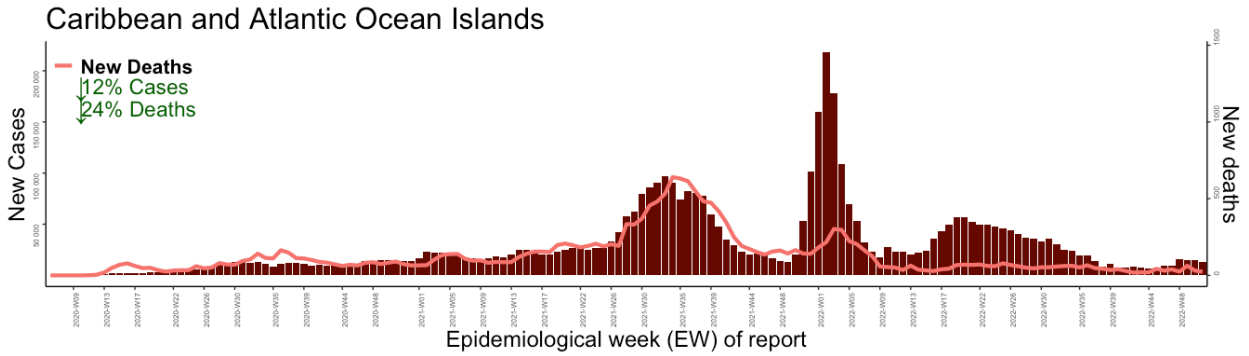
Among three countries and territories in the subregion with data available for **COVID-19 weekly hospitalizations**, Venezuela (Bolivarian Republic of) reported an increase of 15.9% in weekly hospitalizations (n=160) while the remaining two countries reported a decline (range: -22.7 - -5.9% decrease). For the same period, three countries and territories out of four with data available for **COVID-19 ICU admissions** reported an increase in their weekly COVID-19 ICU admissions – Uruguay (22 ICU admissions, 69.2% increase), Argentina (342 ICU admissions, 37.9% increase), and Peru (143 ICU admissions, 13.5% increase) relative to the previous week.

To date, Omicron lineage BA.4 and BA.5 have been reported from eight out of the 10 countries in the subregion respectively – Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Venezuela (Bolivarian Republic of).

Caribbean and Atlantic Ocean Islands

In the Caribbean and Atlantic Ocean Islands sub-region, **COVID-19 weekly cases** decreased by -12.1% compared to the previous week **(Figure 6)**. At the national level, cases increased in 13 countries or territories in the subregion (range: 2.8% - 751.7%) while it declined in the remaining 14 countries and territories (range: -100% - -2.6%).

Figure 6: COVID-19 cases and deaths by epidemiological week (EW). **Caribbean and Atlantic Ocean Islands.** Region of the Americas. EW 6, 2020 - EW 51, 2022.



For the same period, **COVID-19 weekly deaths** decreased by -23.7% (45 deaths) in the Caribbean and Atlantic Ocean Islands subregion. Six countries and territories observed an increase in their weekly deaths in EW 51 compared to the previous week (range: 6.5 – 100% increase). Weekly deaths either remained the same (n=23, 0% change) or declined (n=5) in the remaining countries and territories of the subregion (0 death, range: -100%).

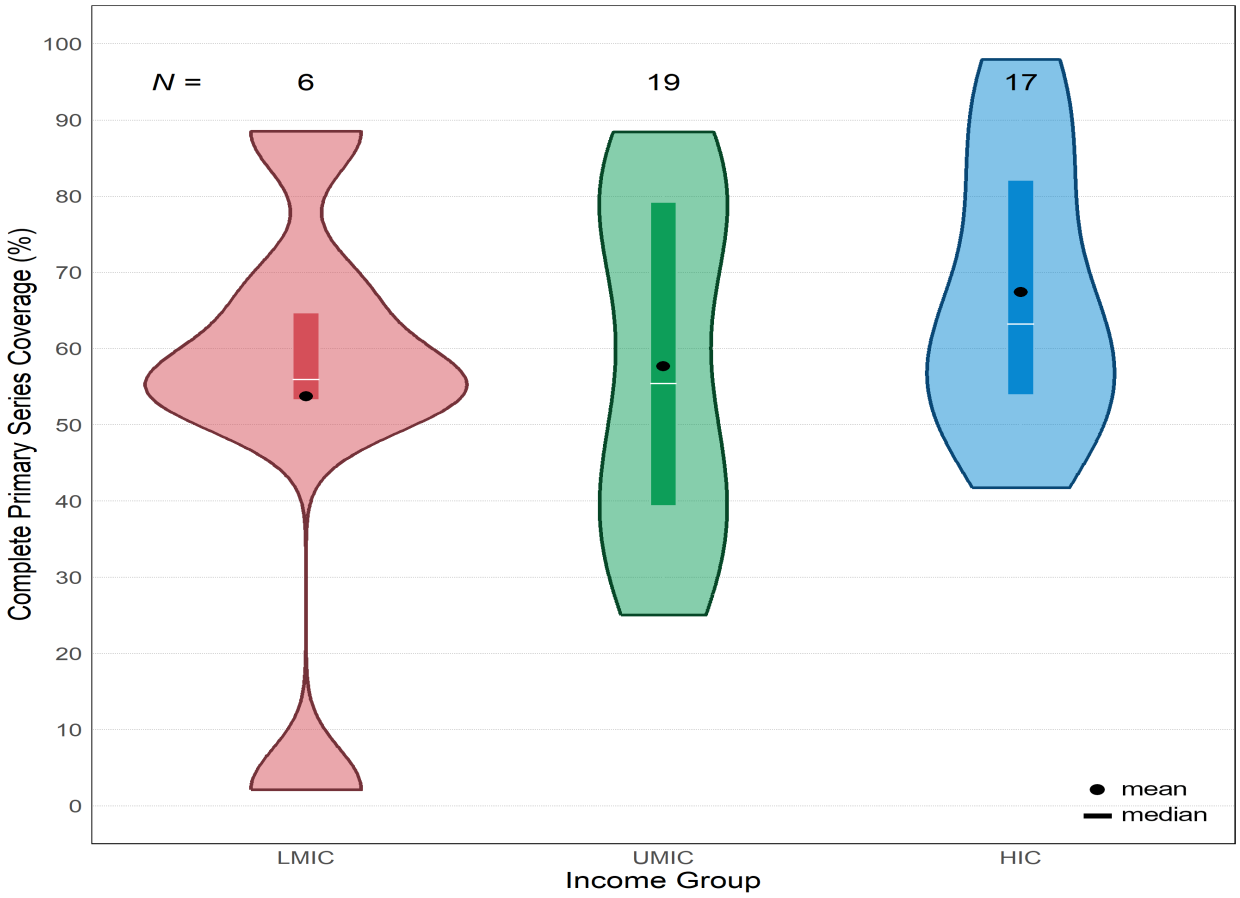
During EW 51, among 14 countries and territories with available data for **weekly COVID-19 hospitalizations**, two countries and territories reported an increase in their weekly COVID-19 hospitalizations – Cuba (107 hospitalizations, 84.5% increase) and Trinidad and Tobago (36 hospitalizations, 20% increase) relative to the previous week. Among seven countries and territories with data available for **COVID-19 ICU admissions**, one - Trinidad and Tobago - reported an increase in their weekly COVID-19 ICU admissions (4 ICU admissions, 100% increase), while the remaining six countries and territories reported either no changes (n=5) or a decrease (n=1) relative to the previous week.

Notable increases in weekly cases in the subregion during EW 51 were Guyana (247 new cases, 751.7% increase), Sint Maarten (24 new cases, 140% increase), Cuba (180 new cases, 53.8% increase) relative to the previous week.

To date, Omicron lineages BA.4 and BA.5 have been reported from 18 out of 34 countries and territories in the subregion, respectively, including the overseas territories of France, the Netherlands, the United Kingdom, and the United States of America. However, these trends should be interpreted with caution due to the presence of differences in sequencing capacity and sampling strategies between countries and territories.

Immunization

Figure 7: Complete Primary Series Coverage* by Income Group** Region of the Americas. As of EW 51, 2022.



When plotting complete primary series coverage by income group in a violin and boxplot (**Figure 7**), it can be seen that:

The High Income (HIC) group shows the highest mean and median, although its distribution is the most skewed among the three groups. The largest accumulation of countries and territories in this group can be seen around the median, between 50% and 70% coverage.

The Upper Middle Income (UMIC) group shows a more symmetric distribution, with two clear bulges that accumulate the most countries: between 30%-50% and 70%-90%.

The Lower Middle Income (LMIC) group shows the most outliers and has the least number of countries and territories. Most concentrate around the 40% to 70% coverage, with one country at 89% and another at 2% coverage.

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* Based on the United Nations (UN) Population Prospects for 2021 and projections from the United States (US) Census Bureau for countries with 100,000 or fewer inhabitants

** Based on the World Bank 2021-2022 Income Level Classification

Genomic surveillance

Through PAHO's Genomic Surveillance Regional Network and the work from the Member States, 503,168 full genome sequences of SARS-CoV-2 from Latin America and the Caribbean have been uploaded to the Global Initiative on Sharing All Influenza Data (GISAID) platform up to 23 December 2022.

The Omicron variant of concern (VOC) was introduced in the Americas at the end of 2021, and it rapidly replaced Delta VOC and other lineages throughout the Region. Omicron has been officially reported by 54 countries or territories and has been predominant in all PAHO countries since the beginning of 2022. In the past two months, very few sequences from "previously circulating" VOCs have been detected in the Region (six Delta sequences distributed as follows: four in North America, one in South America and one in the Caribbean; and two Lambda sequences in South America).

Omicron comprises the BA.1 to BA.5 sublineages (or subvariants), which are in turn subdivided into diverse sublineages based on additional mutations that slightly change the genomic profile. These sublineages of BA.1 to BA.5 include those denominated as BC.x to DN.x. Several sublineages arising from recombinations involving Omicron viruses have also been described. The cumulative proportion of Omicron sequences collected in the Americas from November 2021 to date are: 44.2% of BA.1 (and BA.1 sublineages), 24.8% of BA.2 (and sublineages), <0.1% of BA.3 (and sublineages), 4.5% of BA.4 (and BA.4 sublineages), 26.5% BA.5 (and BA.5 sublineages), and 0.3% recombinant sublineages. Although BA.1 accounts for the majority of cumulative sequences, BA.2 became predominant in all subregions between weeks 12 and 15 of 2022, and BA.4 and BA.5 became predominant between weeks 25 and 34 (**Figure 8**). Since then, the proportion of BA.4 and in particular BA.5 has stabilized throughout the Region. Notably, in the past eight weeks, the BA.4 and BA.5 (and sublineages) combined represent 94.6%, 94.3%, 96.9%, and 96.0% of the characterized samples in North America, the Caribbean, Central America, and South America, respectively (**Figures 9-12**). In the past eight weeks, recombinant lineages represented 2.4%, 21.0%, 2.0% and 6.9% of the characterized samples in North America, the Caribbean, Central America and South America, respectively (**Figures 9-12**). During this period, most of the recombinant sequences corresponded to XBB, a recombinant between two BA.2 sublineages.

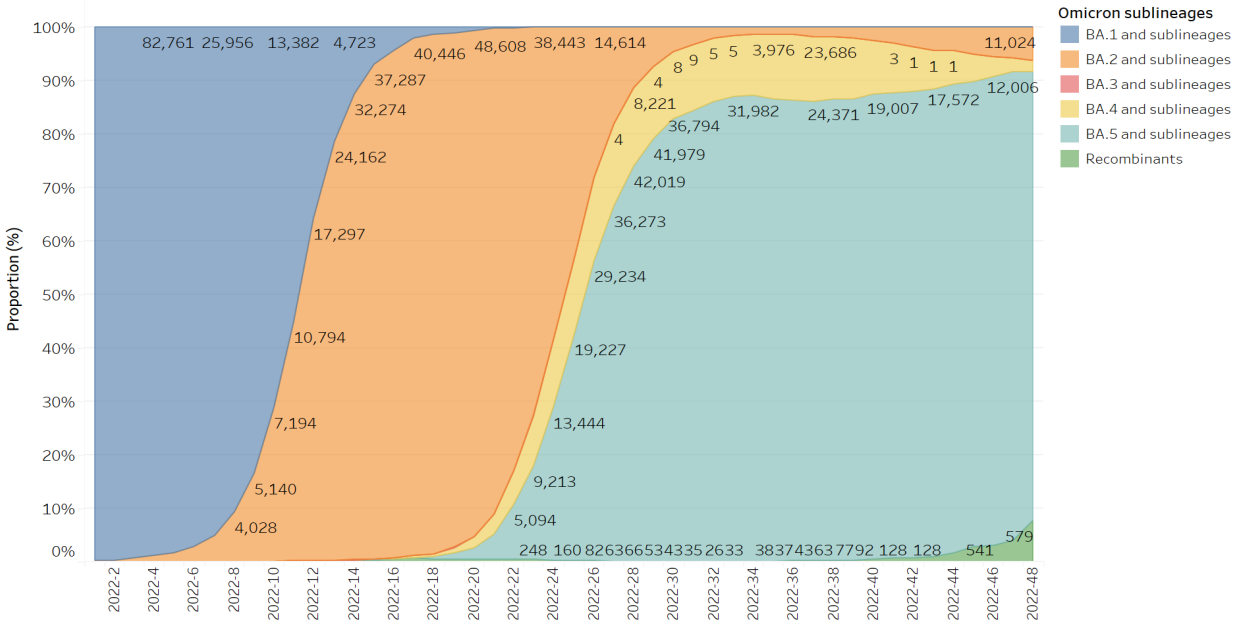
The WHO Technical Advisory Group on SARS-CoV-2 virus evolution (TAG-VE)[1] regularly assesses new Omicron sublineages including recombinants. Some have been classified as "Omicron subvariants under monitoring" as they carry additional mutations that might confer some fitness advantage. However, to date, there is no evidence of significant changes in the public health impact of these sublineages and no justification of the assignment of a new variant of concern label. Thus, all "subvariants under monitoring" remain part of Omicron. Risk assessments of existing and emerging sublineages are updated periodically.

It is important to note that the number of SARS-CoV-2 sequences deposited in GISAID by PAHO Member States has significantly decreased since July 2022. This decrease, which is also observed

1 WHO. Tracking SARS-CoV-2 variants. Available at: https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/

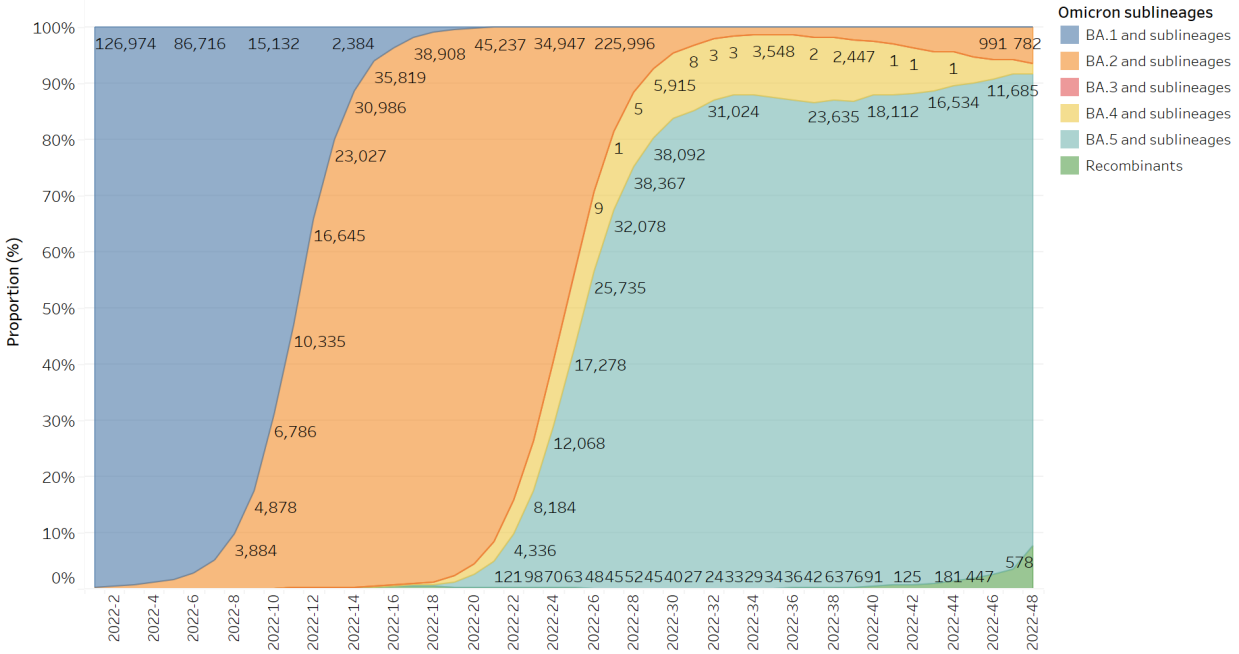
in other regions, increases the risk of bias in the sublineage prevalence estimates and reduces our collective ability to timely identify new emerging lineages. In this context, **PAHO strongly encourages all countries in the Region to continue collecting representative samples for sequencing and to maintain appropriate COVID-19.**

Figure 8: Proportions of VOC Omicron sublineages identified by the countries in the Region of the Americas (January-December 2022)



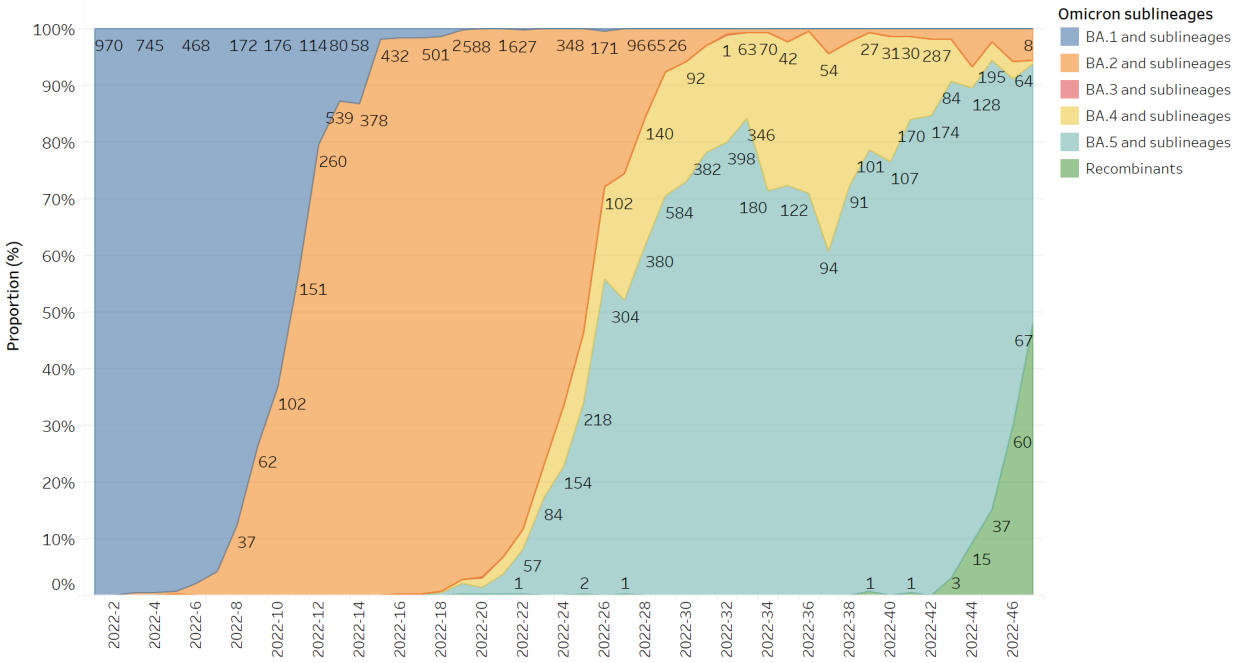
Source: GISAID

Figure 9. Proportion of VOC Omicron sublineages in North America (January-December 2022)



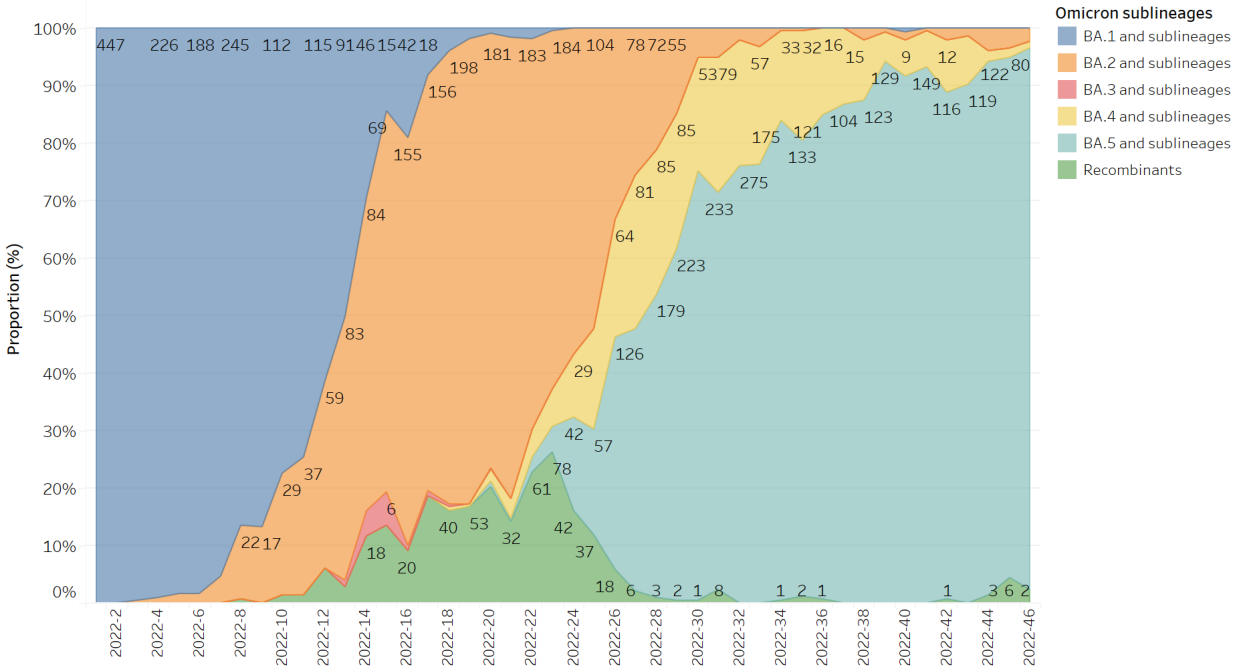
Source: GISAID

Figure 10. Proportion of VOC Omicron sublineages in the Caribbean (January-December 2022)



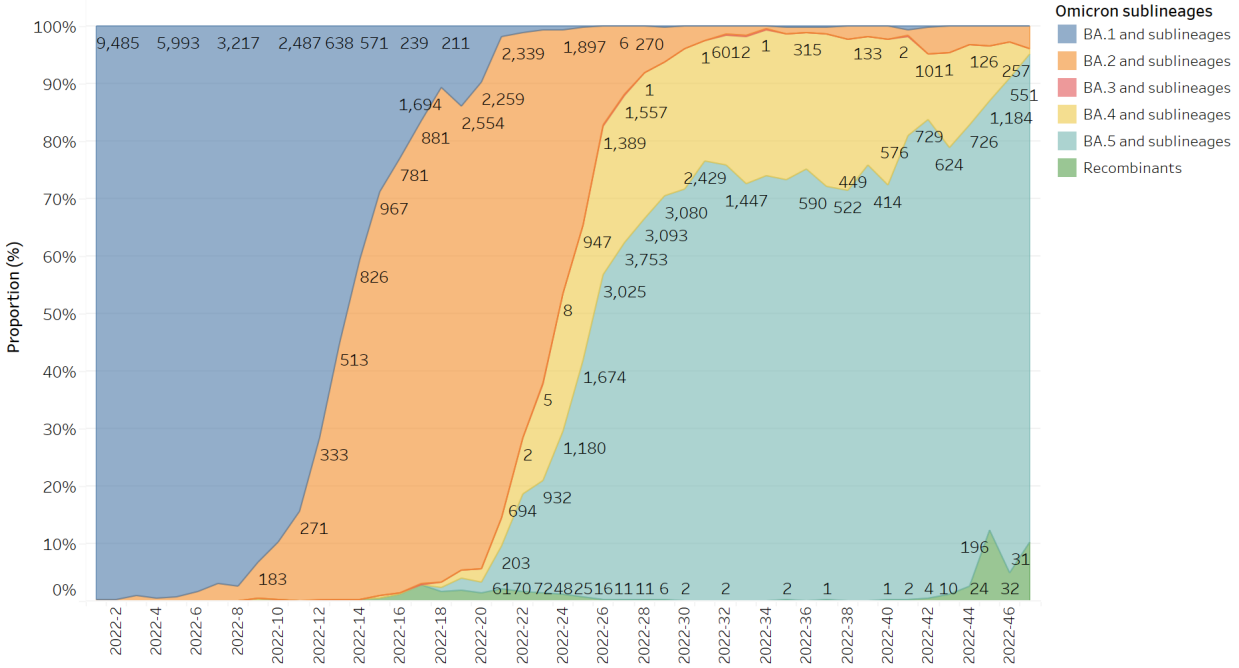
Source: GISAID

Figure 11. Proportion of VOC Omicron sublineages in Central America (January-December 2022)



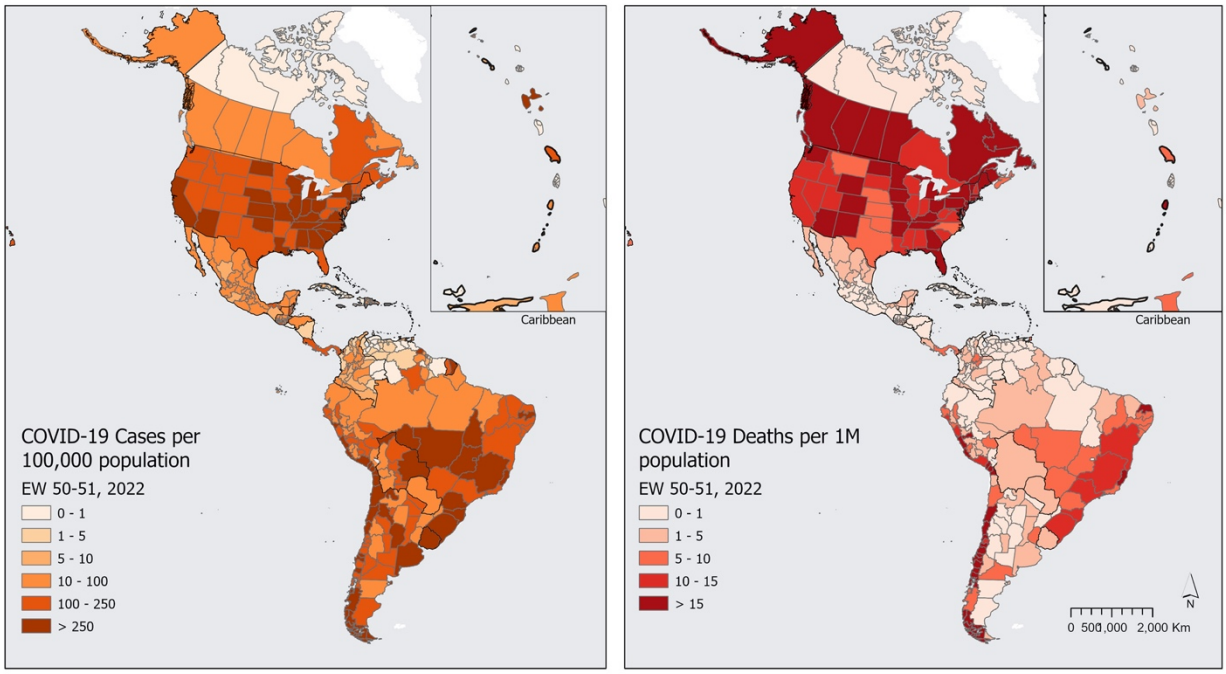
Source: GISAID

Figure 12. Proportion of VOC Omicron sublineages in South America (January-December 2022)



Source: GISAID

Annex 1. COVID-19 incidence rate per 100,000 population and COVID-19 mortality rate from per 1 million population. Region of the Americas. Between EW 50 and 51, 2022.



These maps (**Annex 1**) depict the COVID-19 case incidence and mortality rates in the Americas during EW 50 and 51, 2022.

The highest case incidence was observed in the USA, Brazil, Peru, Argentina, Bolivia, Uruguay, and Chile, while the highest mortality was seen in the US, Canada, and some parts of Brazil, Peru, and Chile.

In North America, it was observed that some parts of the US and Canada (Quebec, New Brunswick, Nova Scotia) with the highest incidence rates. The highest mortality rates in the region were observed in some states of the US and most provinces in Canada.

In Central America, cases increased in Panama and Costa Rica, while in South America, Brazil, Peru, Bolivia, Chile, Argentina, and Uruguay all report continued high incidence rates. Most territories in Chile and Uruguay, some parts of Brazil (Espírito Santo, Santa Catarina, Goiás and surrounding territories), Peru (Lima, Cuzco, and the coastal departments), and Bolivia (Santa Cruz) observe some of the highest incidence rates in the sub-region.

In the Caribbean and Atlantic Ocean islands, Puerto Rico shows the highest number of new cases and deaths, followed by Guadeloupe, Martinique, St Vincent and the Grenadines, and Trinidad and Tobago.