

Weekly COVID-19 Epidemiological Update - Region of the Americas

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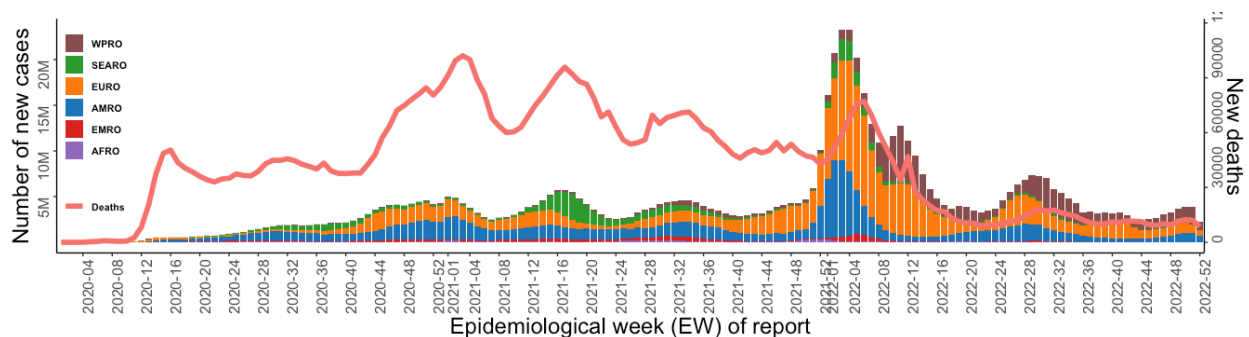
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- Immunization
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Executive Summary

- **Since the onset of the pandemic** in 2020 and up to January 4, 2023, a cumulative total of approximately 656 million COVID-19 cases including about 6.7 million deaths were reported from all six WHO regions. During epidemiological week (EW) 52, COVID-19 cases and deaths decreased in all six WHO regions (range: cases; -84.3 - -16.1% & deaths; -76.5 - -8.5%).
- **Globally**, approximately 2,297,755 new COVID-19 cases were reported in EW 52 (December 25, 2022-December 31, 2022) - a 41% decrease compared to EW 51 (December 18, 2022-December 24, 2022) (**Figure 1**). For the same period, 9,049 new COVID-19 deaths were reported globally - a -25.6% relative decrease compared the previous week.
- **In the region of the Americas**, 803,105 cases and 4,385 deaths were reported in EW 52 - a -20.0% decrease in cases and -8.5% decrease in deaths compared to the previous week.
- At the subregional level, COVID-19 cases decreased in all four subregions (range: -37.1 - -14.5% decrease). Deaths increased in the South American subregion (14.9%) while they decreased in the remaining three subregions (range: -31.7 - -7.1% decrease).
- The overall weekly case notification rate for the region of the Americas was 78.5 cases per 100,000 population during EW 52 (98.1 the previous week). Between EW 52 and 51, the 14-day COVID-19 death rate was 9 deaths per 1 million population (9.2 the previous two weeks).
- Among 21 countries/territories in the region with available data, **COVID-19 hospitalizations** increased in 5 countries and territories (range: 0.9% - 100%) during EW 52 compared to the previous week. Among 17 countries/territories with available data, **COVID-19 ICU admissions** increased in 9 countries and territories (range: 0.8% - 100%).

Figure 1: COVID-19 cases and deaths by epidemiological week (EW) of report and WHO region. EW 4, 2020 - EW 52, 2022.

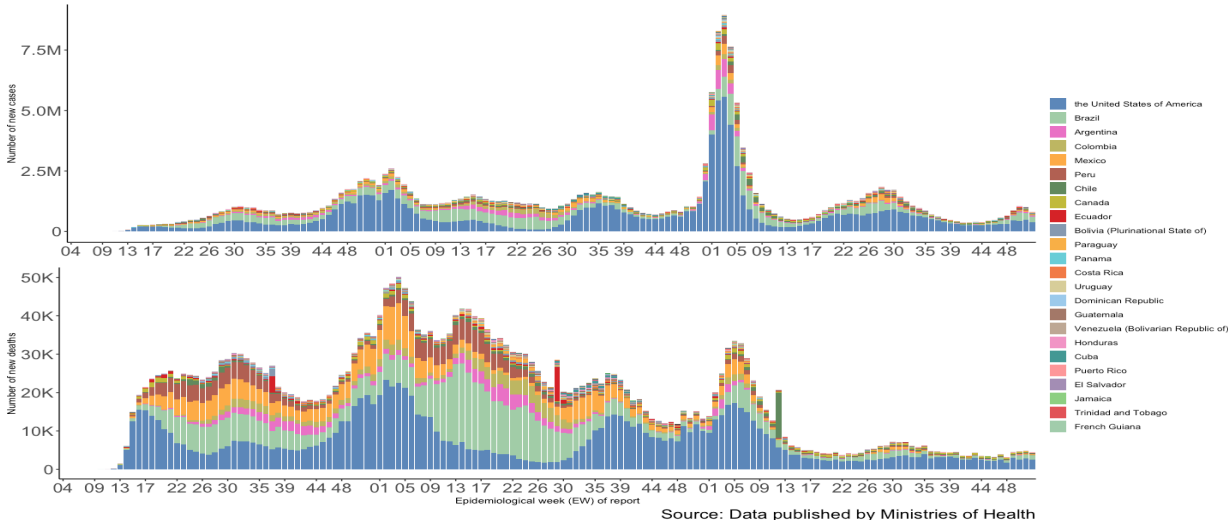


Source: Data from WHO COVID-19 Dashboard

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.

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 - 52, 2022.



During EW 52, 803,105 new **COVID-19 cases** were reported in the region of the Americas - a relative decrease of -20% compared to previous week (**Figure 2**). The highest number of COVID-19 cases in the last week was reported from North America (417,102 cases, -24% decrease) compared to the previous week. (**Table 1**). During EW 52, the highest proportion of weekly COVID-19 cases at the national level were reported by the United States of America (393,587 new cases, -20.9% decrease), Brazil (206,944 new cases, -18.8% decrease), and Argentina (72,558 new cases, 17.2% increase).

Table 1: Weekly change (%) in cases and deaths between EW 51 and EW 52 by subregion. Region of the Americas

Subregion	Total Cases	Total Deaths	Cases EW 51	Deaths EW 51	Cases EW 52	Deaths EW 52	% Change Cases	% Change Deaths
Caribbean and Atlantic Ocean Islands	4,398,829	35,876	14,381	63	9,041	43	-37.1%	-31.7%
Central America	4,150,226	53,897	22,658	42	17,458	39	-22.9%	-7.1%
North America	111,151,970	1,462,410	546,523	3,239	417,102	2,638	-23.7%	-18.6%
South America	66,677,329	1,339,111	420,253	1,449	359,504	1,665	-14.5%	14.9%

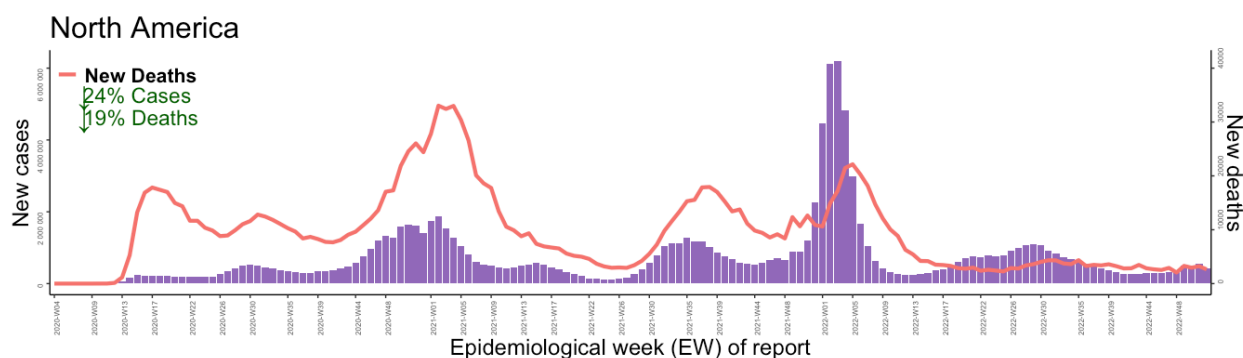
For the same period, 4,385 **COVID-19 deaths** were reported in the region of the Americas - a relative decrease of -8.5% compared to previous week (**Figure 2**). The highest number of COVID-19 deaths in the last week was reported from North America (2,638 deaths, -19% decrease) (**Table 1**). At the national level, the highest proportion of weekly COVID-19 deaths were reported by the United States of America (2,501 new deaths, -13.6% decrease), Brazil (1,110 new deaths, 19% increase), and Peru (194 new deaths, 4.3% increase).

A summary of the COVID-19 trends for EW 52 by subregion is presented below.

North America

The overall trends for **COVID-19 cases** have decreased in North America as of EW 52. However, please note that data for EW 52 for Canada was not publicly available, resulting in a data artifact in percent changes in cases and deaths in the subregion. During EW 52, both countries with data available in the subregion reported a decline in weekly cases - the largest decline being reported by Mexico (23,515 cases, -24.8% decrease), followed by the United States of America (393,587 cases, -20.9% decrease).

Figure 3: COVID-19 cases and deaths by epidemiological week (EW). North America. Region of the Americas. EW 3, 2020 - EW 52, 2022.



For the same period, **weekly COVID-19 deaths** decreased by -18.6% in North America during EW 52 relative to the previous week. While the United States of America reported a decline in weekly deaths (2,501 new deaths, -13.6% decrease), Mexico reported a 17.1% increase in deaths (137 new deaths) during EW 52 compared to the previous week.

During 52, among the two countries in North America with available data for **COVID-19 weekly hospitalizations and ICU admissions**, the United States of America continued to report a slight increase in weekly hospitalizations (n=43,677, 8% increase) and ICU admissions (n=5,271, 8% increase) for the fifth consecutive week. In Canada, weekly hospitalizations including weekly ICU admissions remained stable after a peak observed in early-November 2022 (5,141 hospitalizations, -0.3% decrease & 265 ICU admissions, 0.8% increase) during EW 52 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 3.7%, 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 89.3% (18.3%, 26.9%, and 44.1% respectively) of sequences for the week ending on 31 December 2022¹. 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 Canada² and 89.2% and 0.6% as of EW 48 in Mexico, respectively.

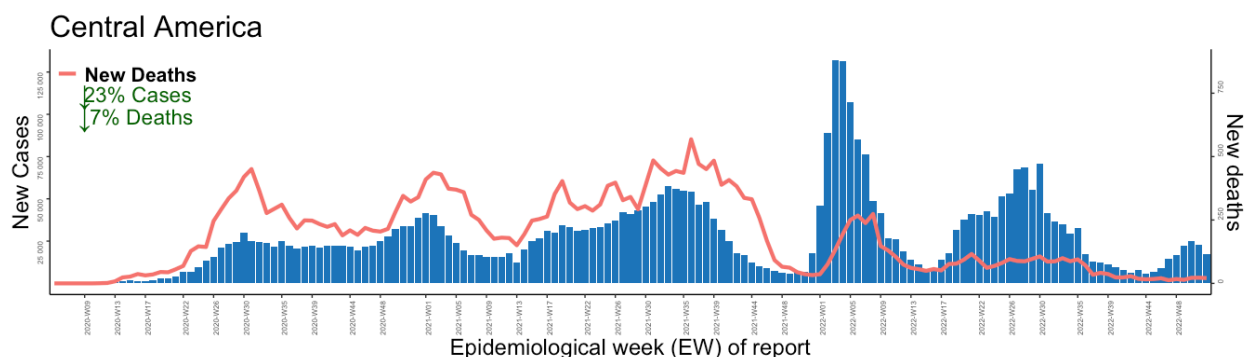
1 The United States Centers for Disease Control and Prevention (CDC). Variant Proportions. Accessed 4 January 2023. Available at: <https://bit.ly/3Obz8cT>

2 Public Health Agency of Canada (PHAC). COVID-19 Variants in Canada. Accessed 4 January 2023. Available at: <https://bit.ly/3bbFRFR>

Central America

In Central America, the overall **COVID-19 incidence** for the sub-region has decreased for the second consecutive week with 17,458 new cases being reported during EW 52 – a -22.9% 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 52, 2022.



During EW 52, **COVID-19 weekly cases** increased in one country – Honduras (2,230 cases, 136.5% increase) – in the subregion. However, please note the percent change in cases and deaths for Honduras might be a result of a data artifact due to lack of publicly available data for the complete weeks between EW 51 and EW 52. The six remaining countries and territories in the subregion reported either a decline (n=4, range: -42.1 - -0.7% decrease) or did not report any cases (n=2) during EW 52. The largest decline in cases this week included Guatemala (7,736 new cases, -42.1% decrease) and Panama (2,066 new cases, -26.7% decrease).

For the same period, **weekly deaths** decreased by approximately -7.1% relative to the previous week (**Figure 4**) with one out of the seven countries and territories reporting an increase – Honduras (8 deaths, 166.7% increase). The six remaining countries and territories either reported a decline (n=2) – Guatemala (10 deaths, -23.1% decrease) and Panama (8 deaths, -38.5% decrease) – or did not observe any changes (n=4) during EW 52 compared to the previous week.

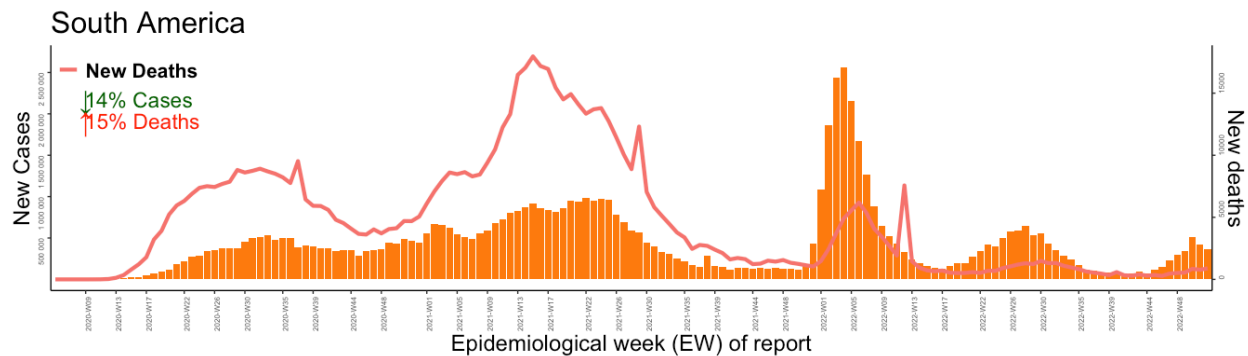
Among four countries/territories with available data for **weekly COVID-19 hospitalizations** in the Central American subregion, two reported an increase in their weekly COVID-19 hospitalizations – Belize (2 hospitalizations, 100% increase) and Costa Rica (129 hospitalizations, 30.3% increase) while two reported a decline – Panama (107 hospitalizations, -14.4% decrease) and Honduras (60 hospitalizations, -13% decrease) relative to the previous week. Among three countries and territories with available data for **weekly COVID-19 ICU admissions**, one country – Costa Rica – reported a 23.1% increase (n=16) in weekly ICU admissions, while the remaining two reported a decline (range: -41.7 - -40% 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 for the second consecutive week by -14.5%, with a total of 359,504 new COVID-19 cases being reported during EW 52 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 52, 2022.



During EW 52, **COVID-19 weekly cases** increased in three out of 10 countries and territories the sub-region. The highest relative increase in cases was reported by Paraguay (3,272 new cases, 73.2% increase), followed by Chile (31,368 new cases, 18.3% increase), and Argentina (72,558 new cases, 17.2% increase). The remaining seven countries reported a decline in cases (range: -53.1 - -9.2% decrease), with the largest decline in cases being reported by Peru (15,458 new cases, -53.1% decrease), followed by Bolivia (Plurinational State of) (14,277 new cases, -25.5% decrease), and Venezuela (Bolivarian Republic of) (678 new cases, -22.9% decrease) relative to the previous week. Please note that data for EW 52 for Ecuador was not publicly available, resulting in a data artifact in percent changes in the subregion.

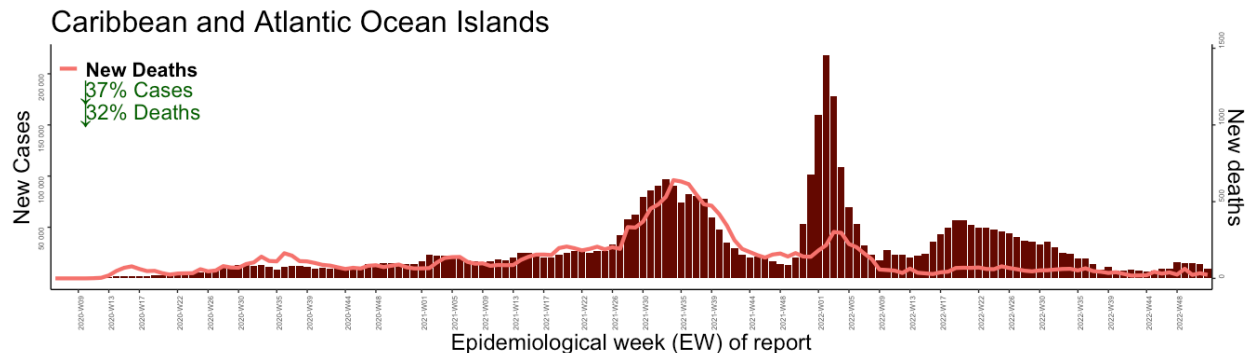
During EW 52, a total of 1,665 **COVID-19 deaths** were reported in South America – a 14.9% increase compared to the previous week. Seven countries and territories in the subregion reported an increase in weekly deaths (range: 4.3 – 100% increase). The remaining two countries in the subregion reported a decline – Chile (160 new deaths, -1.2% decrease) and Uruguay (8 new deaths, -20% decrease). The largest proportion of reported deaths were reported by Brazil (1,110 new deaths, 19% increase), followed by Peru (194 new deaths, 4.3% increase), and Chile (160 new deaths, -1.2% decrease).

All three countries and territories in the subregion with data available for **COVID-19 weekly hospitalizations** reported a decline in their weekly COVID-19 hospitalizations (range: -26.9 - -5.4% 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, with the highest relative increase being observed in Uruguay (40 ICU admissions, 81.8% increase), followed by Argentina (411 ICU admissions, 20.2% increase). Peru reported a 16.1% decrease in ICU admissions (n=120) during EW 52 compared 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

Figure 6: COVID-19 cases and deaths by epidemiological week (EW). Caribbean and Atlantic Ocean Islands. Region of the Americas. EW 6, 2020 - EW 52, 2022.



In the Caribbean and Atlantic Ocean Islands sub-region, **COVID-19 weekly cases** decreased by -37.1% compared to the previous week (**Figure 6**). At the national level, cases increased in one, while they declined in the remaining 23 countries and territories (range: -100% - -7.8%). The decline in cases and deaths in the subregion is possibly due to inconsistent reporting and lack of data in EW 52.

Nine countries/territories in the subregion reported new cases during EW 52. The highest proportion of reported cases was reported from Puerto Rico (7,744 new cases, -22.8% decrease), followed by the Dominican Republic (589 new cases, -66.9% decrease), Cuba (166 new cases, -7.8% decrease), and Guyana (159 new cases, -35.6% decrease).

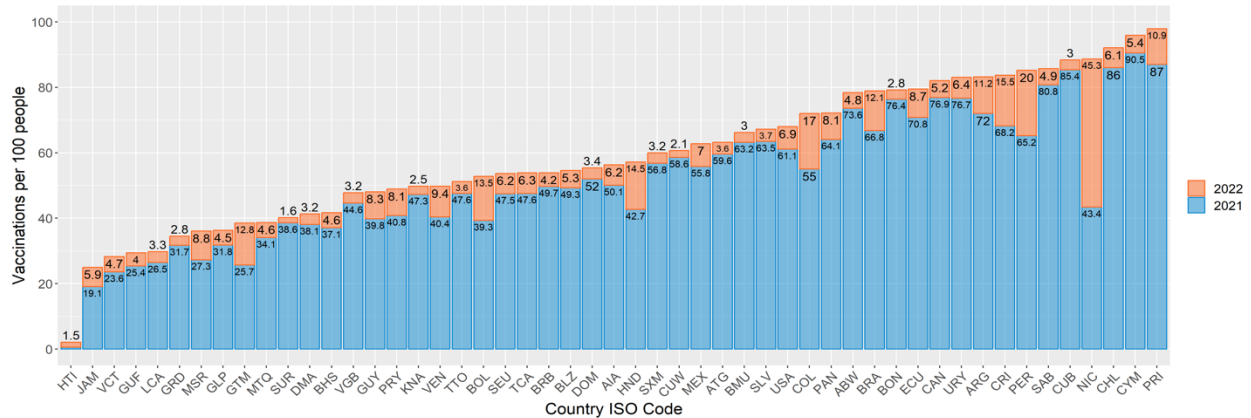
For the same period, **COVID-19 weekly deaths** decreased by -31.7% (43 deaths) in the Caribbean and Atlantic Ocean Islands subregion. Two observed a relative increase in their weekly deaths in EW 52 compared to the previous week – Bermuda (1 death, 100% increase) and Puerto Rico (35 deaths, 6.1% increase). Weekly deaths either remained the same (Trinidad and Tobago, 0% change) or declined in seven countries and territories of the subregion (range: -100 – -50% decrease). The remaining countries/territories did not report any deaths during EW 52.

During EW 52, among 12 countries and territories with available data for **weekly COVID-19 hospitalizations**, two reported an increase in their weekly COVID-19 hospitalizations – Bermuda (7 hospitalizations, 16.7% increase) and Cuba (108 hospitalizations, 0.9% increase), while seven countries/territories reported a decline (range: -100 - -12.9% decrease) relative to the previous week. Among eight countries and territories with data available for **COVID-19 ICU admissions**, three reported an increase in their weekly COVID-19 ICU admissions – Cuba (1 ICU admission, 100% increase), French Guiana (6 ICU admissions, 100% increase), and Puerto Rico (11 ICU admissions, 83.3% increase), while three observed a decline in ICU admissions (range: -50 - -11.1% decrease) 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.

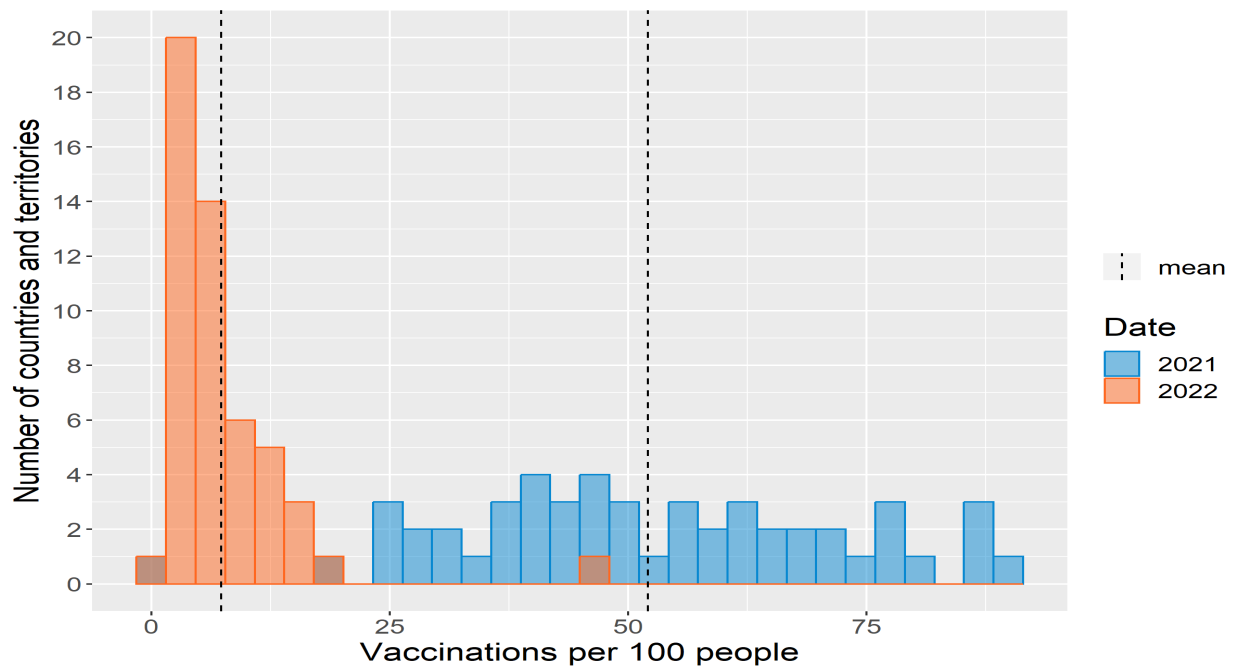
Immunization

Figure 7: Complete Primary Series Coverage Increase Comparison (2021 vs. 2022) for the Region of the Americas



As 2022 has come to an end, a comparison of the increase in COVID-19 Primary Series vaccination coverage* was done for 2021 and 2022. **Figure 7** shows the increase for each country or territory, for each year. Significant differences can be seen among the countries and territories, especially for 2021, but the overall distribution shows that coverage increase was, on average, significantly higher in 2021.

Figure 8: Histogram of Complete Primary Series Coverage Increase (2021 vs. 2022) for the Region of the Americas



* 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

This is further backed by **Figure 8**, which shows a histogram of the increases for each year, with the vertical axis showing how many countries and territories fall within the range denoted by each bin. Note that most countries did not increase coverage more than 25% in 2022. Conversely, the mean coverage increases for 2021 was 52%, while 2022 had only a 7% mean increase. This further underlines the overarching deceleration in COVID-19 vaccination that was seen during 2022.

Genomic surveillance

Through PAHO's Genomic Surveillance Regional Network and the work from the Member States, 512,415 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 4 January 2023.

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 (three Delta sequences: two in North America and one in South America; 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 DR.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: 42.8% of BA.1 (and BA.1 sublineages), 24.2% of BA.2 (and sublineages), <0.1% of BA.3 (and sublineages), 4.3% of BA.4 (and BA.4 sublineages), 28.2% BA.5 (and BA.5 sublineages), and 0.5% 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 9**). 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 93.2%, 93.7%, 95.1%, and 96.6% of the non-recombinant samples in North America, the Caribbean, Central America, and South America, respectively. During the same period, recombinant lineages represented 5.0%, 23.6%, 34.4% and 13.8% of the characterized samples in North America, the Caribbean, Central America and South America, respectively. Most of the recombinant sequences corresponded to XBB (and sublineages), a recombinant between two BA.2 sublineages.

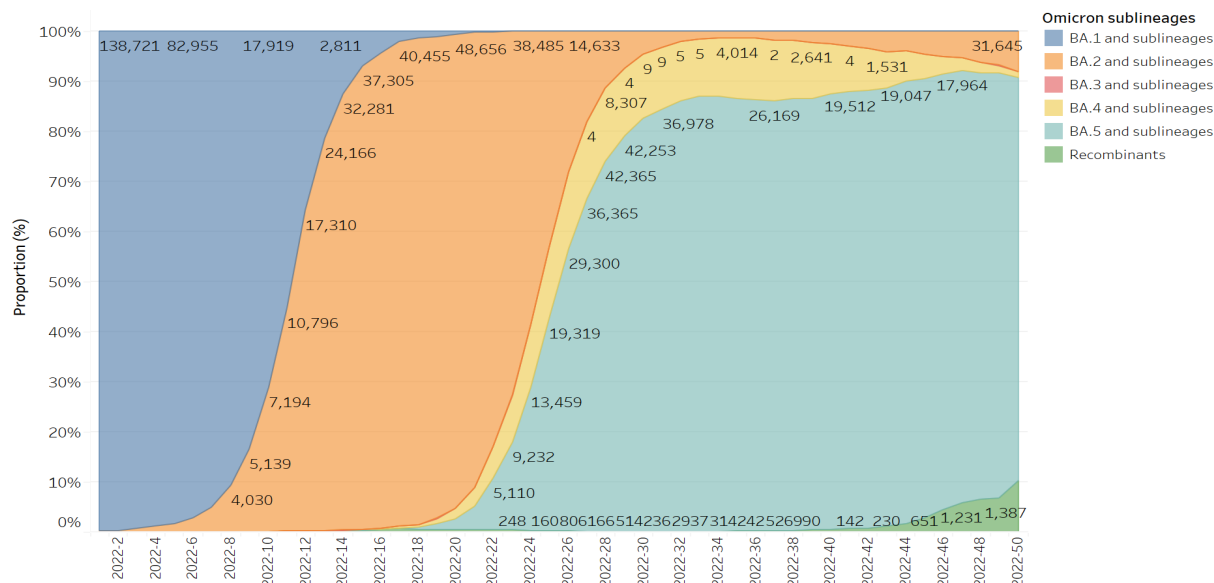
The WHO Technical Advisory Group on SARS-CoV-2 virus evolution (TAG-VE)¹ regularly assesses new Omicron sublineages including recombinants. Some have been classified as "Omicron subvariants under monitoring" as they carry additional mutations that might confer some fitness advantage. However, to date, 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

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

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 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 genomic surveillance.**

Figure 9: Proportions of VOC Omicron sublineages identified by the countries in the Region of the Americas (January-December 2022)

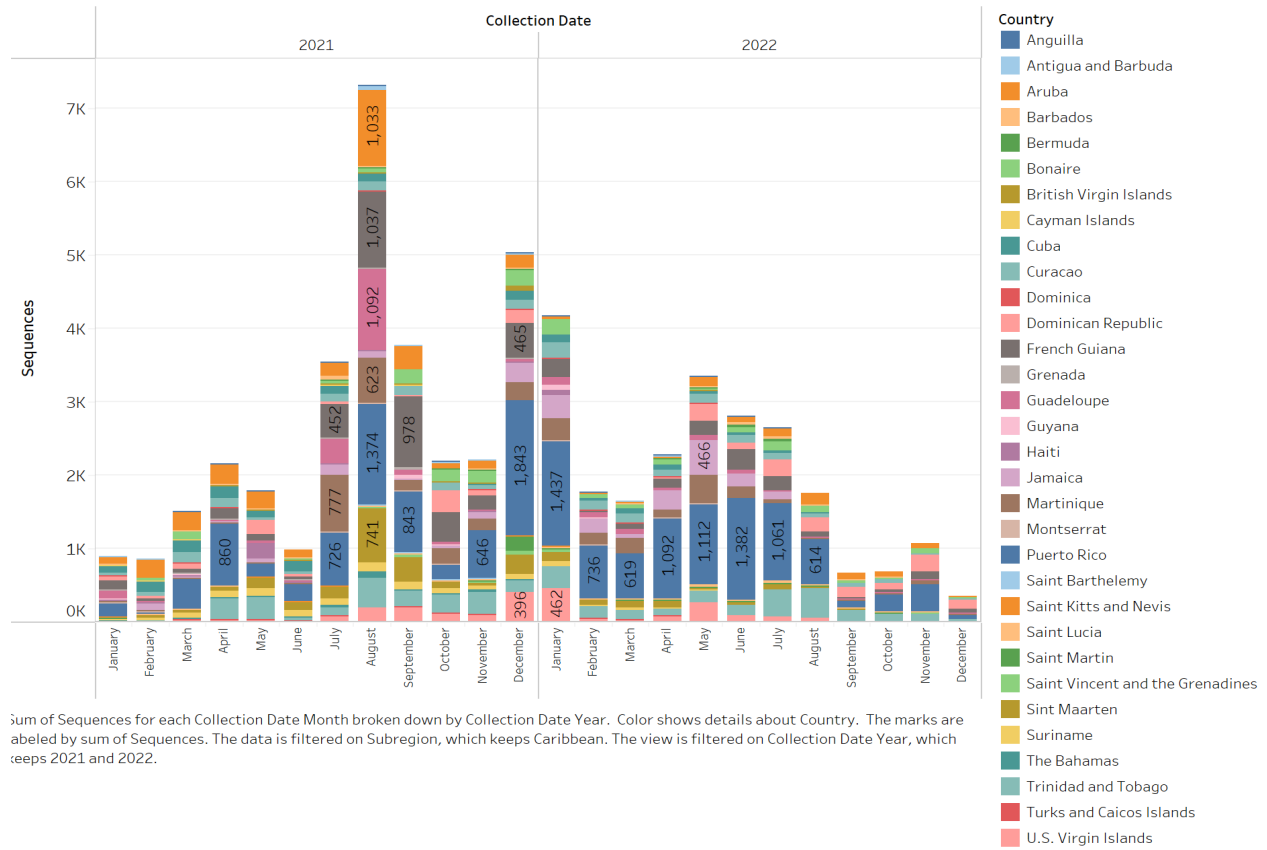


Source: GISAID

Spotlight: Sequencing and genomic surveillance in the Caribbean subregion

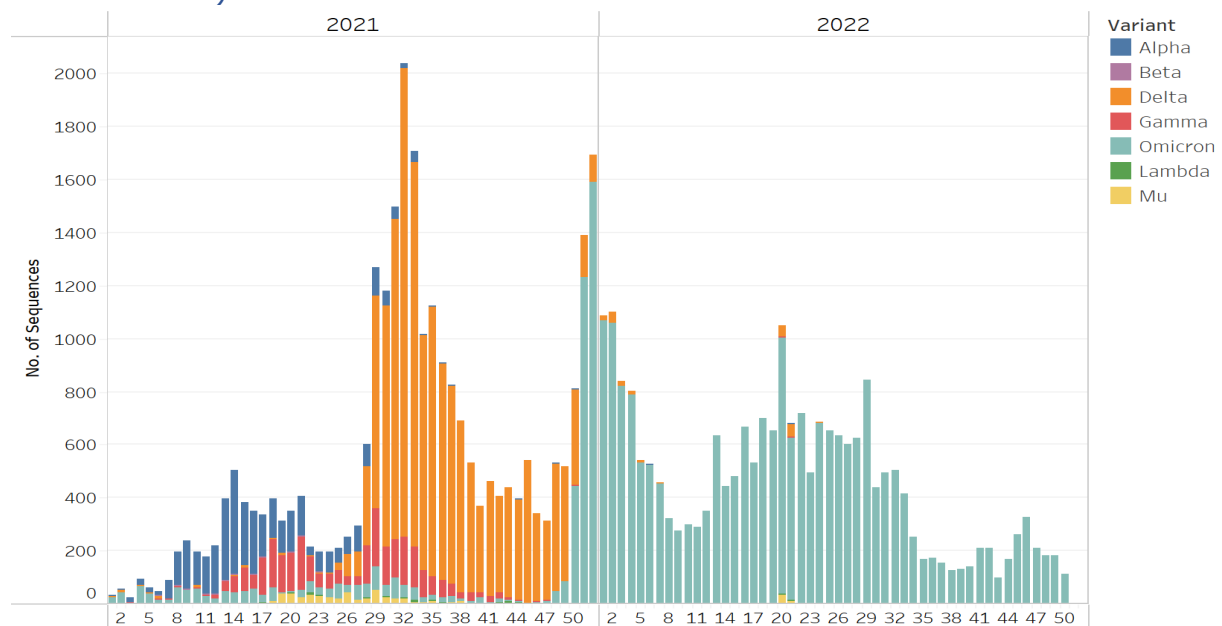
During the last 24 months (January 2021 to 26 December 2022), 54,883 whole genome sequences from the Caribbean countries and territories have been generated as part of the genomic surveillance systems (**Figure 10**). As in other subregions, Omicron is vastly predominant with a single “previously circulating” VOC/VOI detection in the past six months (**Figure 11**). Since Omicron’s first detection, BA.1 and BA.1 sublineages represent the majority (35.8%) of cumulative sequences, while BA.2 and BA.2 sublineages represent 32.9% of the cumulative sequences, and BA.3, BA.4, BA.5, and recombinants (with their respective sublineages) represent <0.1%, 6.0%, 23.9%, and 1.3% of cumulative sequences, respectively (**Figure 12**). However, BA.1 was progressively replaced by BA.2 in weeks 10 to 15, and the proportion of BA.4 and BA.5 have been increasing since week 19 (**Figure 12**). When focusing on the past eight weeks, BA.5 is the predominant sublineage (70.4%) while BA.2 accounts for 4.8% of the sequences. In the same period, BA.4 represented 1.1% of the sequences each and BA.1 and BA.3 were not identified in any of the sequences (**Figures 12**). In the same period, recombinants represented 23.6% of the sequences. It is important to note that the majority of sequences for the eight-week period was contributed by Puerto Rico (27.7%).

Figure 10. Number of sequences generated monthly by countries in the Caribbean subregion (January 2021-December 2022)



Source: GISAID

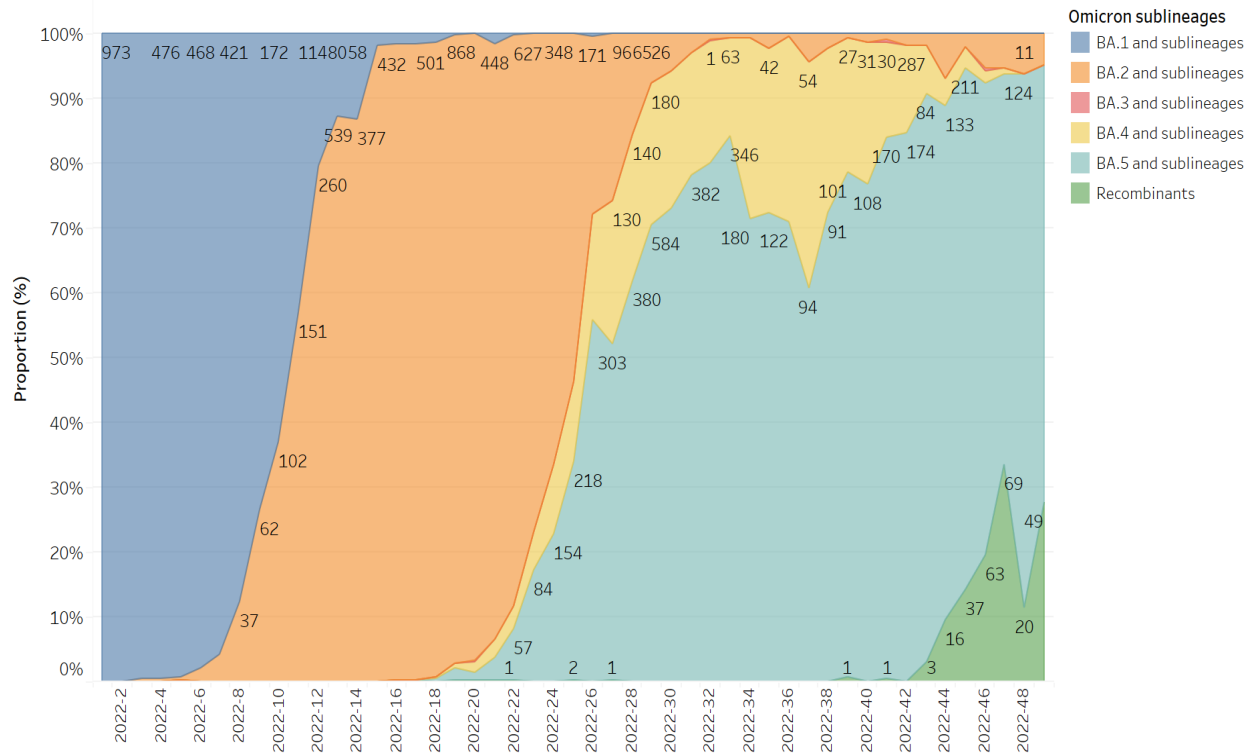
Figure 11. Variants detected and reported by the countries in the Caribbean (January 2021-December 2022)



Source: GISAID

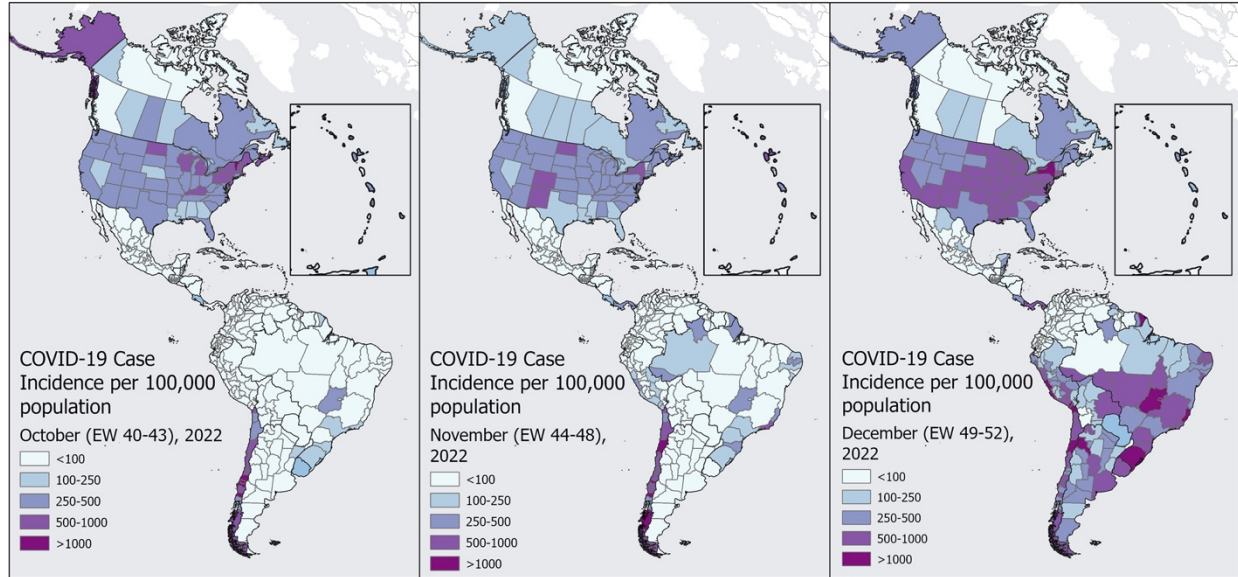
Country-specific data is available at: https://ais.paho.org/hip/viz/SARS_CoV2_variants_regional.asp

Figure 12. Proportion of VOC Omicron sublineages in the Caribbean (January-December 2022)



Source: GISAID

Annex 1. The maps of monthly COVID-19 case incidence rates per 100,000 population. The region of the Americas. From October to December 2022.



The maps (**Annex 1**) represent the COVID-19 case incidence per 100,000 population in the region of the Americas from October to December 2022.

In October, a moderately high COVID-19 case incidence was observed in some countries in the region compared to previous months. The highest incidence rates were observed in the US and Canada in North America, and in Costa Rica in Central America. In South America, Chile, Brazil, and Uruguay presented the highest incidence rates, and Puerto Rico, Aruba Martinique, Montserrat, Guadeloupe, Trinidad and Tobago, Barbados, US Virgin Islands and British Virgin Islands in the Caribbean and Atlantic Ocean islands and territories.

In November, an increase in case incidence rates was observed in Panama in Central America, and in Chile and parts of Brazil (Rio de Janeiro) in South America. In North America and the Caribbean and Atlantic Ocean Islands and territories, the overall incidence declined in November.

There was to be an important increase in new cases in December in most of the countries and territories of the Americas. In North America, the largest relative increase was observed in Mexico followed by the US. In Central America, Panama, Costa Rica, Belize, and Guatemala presented the highest case incidence rates. Most countries in South America presented an increase in incidence rates, the largest relative increase was observed in Bolivia, Paraguay, and Argentina. In the Caribbean and Atlantic Ocean islands and territories, the highest case incidence rates were observed in Puerto Rico and the French Guiana.

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.