Weekly COVID-19 Epidemiological Update - Region of the Americas

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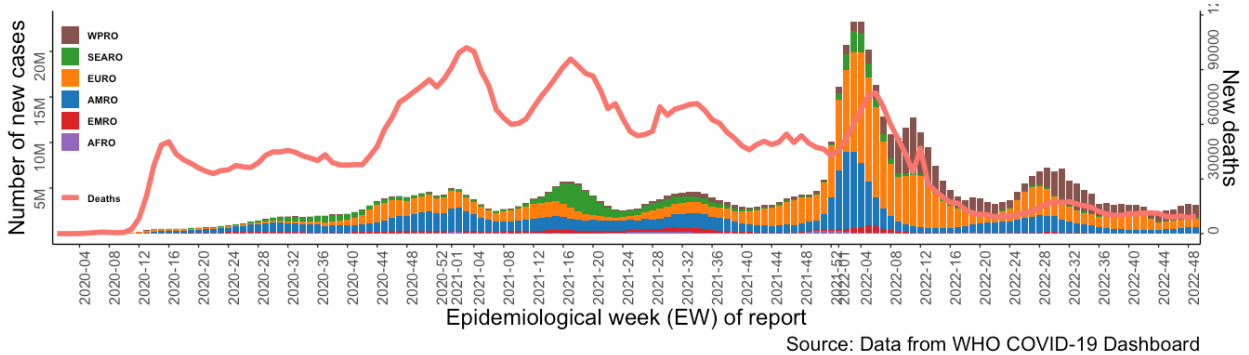
Contents:

Executive Summary

- **Since the onset of the pandemic** in 2020 and up to December 13, 2022, a cumulative total of approximately 645 million COVID-19 cases including about 6.6 million deaths were reported from all six WHO regions. During epidemiological week (EW) 49, cases decreased in four regions while they increased in AMRO (29.3%) and WPRO (3.1%). COVID-19 deaths increased in four regions (range: 5 – 975%) while they decreased in EURO (-13.2%) and SEARO (-10%).
- **Globally,** approximately 3,427,092 new COVID-19 cases were reported in EW 49 (December 04, 2022-December 10, 2022) - a 5.5% increase compared to EW 48 (November 27, 2022-December 03, 2022) (**Figure 1**). For the same period, 9,949 new COVID-19 deaths were reported globally – a 11.1% relative increase compared the previous week.
- **In the region of the Americas,** 852,748 cases and 4,367 deaths were reported in EW 49 - a 29.3% increase in cases and 38.0% increase in deaths compared to the previous week.
- At the subregional level, COVID-19 cases increased in all subregions (range: 11.9 – 47.1%) except for the Caribbean and Atlantic Ocean Islands (-16.4%). COVID-19 deaths increased in three subregions (range: 6.1 – 108.3%) while they decreased in Central America (-18.8%).
- The overall weekly case notification rate for the region of the Americas was 83.4 cases per 100,000 population during EW 49 (64.5 the previous week). Between EW 49 and 48, the 14-day COVID-19 death rate was 7.4 deaths per 1 million population (6.9 the previous two weeks).
- Among 22 countries/territories in the region with available data, **COVID-19 hospitalizations** increased in 12 countries and territories (range: 0.7% - 300%) during EW 49 compared to the previous week. Among 17 countries and territories with available data, COVID-19 **ICU admissions** increased in 7 countries and territories (range: 2.5% - 100%).

Figure 1: COVID-19 cases and deaths by epidemiological week (EW) of report and WHO region. EW 4, 2020 - EW 49, 2022.



Source: Data from WHO COVID-19 Dashboard

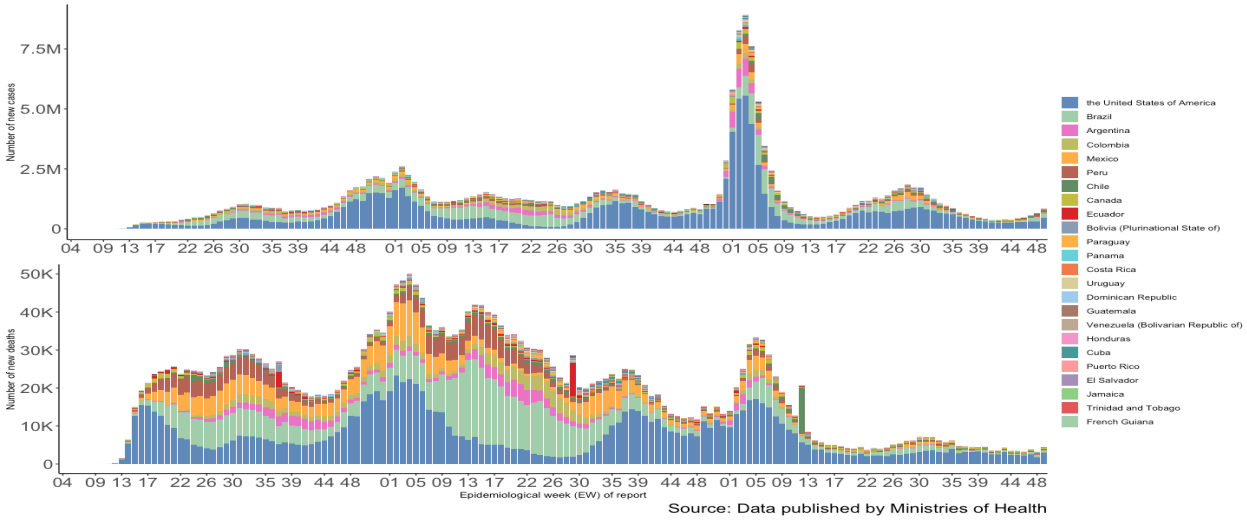
Data are retro-adjusted every week and the numbers and percent changes of COVID-19 cumulative cases and deaths may not match with the previous COVID-19 weekly situational reports.

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 - 49, 2022.



During EW 49, 852,748 new **COVID-19 cases** were reported in the region of the Americas - a relative increase of 29.3% compared to previous week **(Figure 2)**. The highest number of COVID-19 cases in the last week was reported from North America (481,301 cases, 47% increase) compared to the previous week. **(Table 1)**. During EW 49, at the national level, the highest proportion of weekly COVID-19 cases were reported by the United States of America (448,634 new cases, 49.5% increase), Brazil (194,170 new cases, 3.3% increase), Peru (71,516 new cases, 15.5% increase).

Table 1: Weekly change (%) in cases and deaths between EW 48 and EW 49 by subregion. Region of the Americas

Subregion	Total Cases	Total Deaths	Cases EW 48	Deaths EW 48	Cases EW 49	Deaths EW 49	% Change Cases	% Change Deaths
Caribbean and Atlantic Ocean Islands	4,298,074	35,693	15,048	48	12,587	100	-16.4%	108.3%
Central America	4,086,827	53,774	16,522	32	22,282	26	34.9%	-18.8%
North America	109,677,910	1,453,415	327,216	2,119	481,301	3,217	47.1%	51.8%
South America	65,397,743	1,334,330	300,907	965	336,578	1,024	11.9%	6.1%

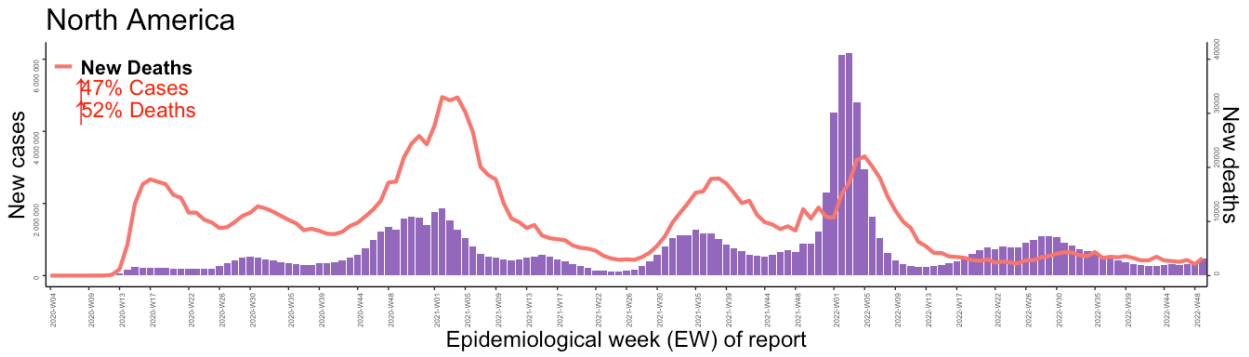
For the same period, 4,367 **COVID-19 deaths** were reported in the region of the Americas - a relative increase of 38.0% compared to previous week **(Figure 2)**. The highest number of COVID-19 deaths in the last week was reported from North America (3,217 deaths, 52% increase) **(Table 1)**. At the national level, the highest proportion of weekly COVID-19 deaths were reported by the United States of America (2,934 new deaths, 62.3% increase), Brazil (603 new deaths, -4.6% decrease), and Canada (242 new deaths, -6.9% decrease).

A summary of the COVID-19 trends for EW 49 by subregion is presented below.

North America

The overall trends for **COVID-19 cases** have increased again in North America as of EW 49, with a total of 481,301 weekly cases (47.1% increase) being reported. During EW 49, all three countries in the subregion reported an increase in weekly cases – with the largest relative increase of reported cases being reported by the United States of America (448,634 cases, 49.5% increase), followed by Mexico (15,291 cases, 27.6% increase), and Canada (17,376 cases, 14.1% increase).

Figure 3: COVID-19 cases and deaths by epidemiological week (EW). **North America.** Region of the Americas. EW 3, 2020 - EW 49, 2022.



For the same period, the overall trends for **weekly COVID-19 deaths** increased by 51.8% in North America during EW 49 relative to the previous week. While two countries in the subregion reported a decrease in weekly deaths – Canada (242 new deaths, -6.9% decrease) and Mexico (41 new deaths, -19.6% decrease), the United States of America reported a large increase in weekly deaths (2,934 new deaths, 62.3% increase) during EW 49 compared to the previous week.

During 49, among the two countries in North America with available data for **COVID-19 weekly hospitalizations and ICU admissions**, the United States of America reported an increase in weekly hospitalizations (n=38,321, 6.3% increase) and ICU admissions (n=4,325, 6.4% increase) for the second consecutive week after 4-5 weeks of a stable period. In Canada, weekly hospitalizations remained stable after a peak observed in early-November 2022 (5,071 hospitalizations, 0.7% increase), and weekly ICU admissions decreased by 7% (n=264) during EW 49 relative to the previous week.

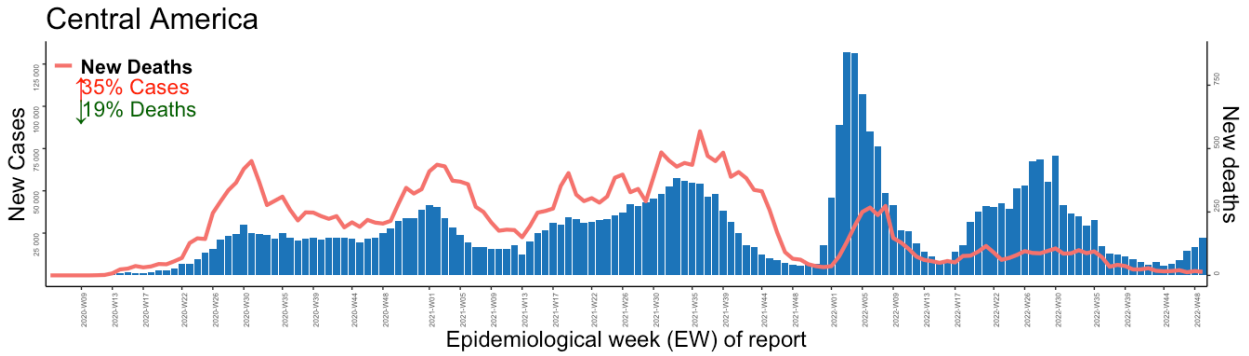
The Omicron **variant of concerns** (VOC) of BA.5 are predominant in all three countries in the subregion. In the United States of America, the proportion of the BA.5 subvariant has been gradually decreasing over the past three months – accounting for 13.8%, while the estimated proportions of BA.5 sub-lineages, BQ.1 and BQ.1.1, have been rapidly increasing over the past two months – accounting for 67.9% (31.1% and 36.8% respectively) of sequences for the week ending on 10 December 2022[1]. The BA.5 and BA.4 sub-lineages made up about 90.2% (including 6.8% of BQ.1, 13.1% of BQ.1.1 and 5.9% of BF.7) and 3.8% the week of 20 November 2022 in Canada[2] and 95.8% and 1.4% as of EW 45 in Mexico, respectively.

1 The United States Centers for Disease Control and Prevention (CDC). Variant Proportions. Accessed 13 Dec 2022. Available at: https://bit.ly/3Obz8cT
2 Public Health Agency of Canada (PHAC). COVID-19 Variants in Canada. Accessed 13 Dec 2022. Available at: https://bit.ly/3bbFRFr

Central America

In Central America, the overall **COVID-19 incidence** for the sub-region has been on an upward trend for the past five consecutive weeks, with 22,282 new cases being reported during EW 49 – - a 34.9% increase 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 49, 2022.



During EW 49, **COVID-19 weekly cases** increased in four countries and territories in the subregion – the highest relative increase in cases being reported by Honduras (1,793 new cases, 99.7% increase), followed by Belize (69 new cases, 91.7% increase), Guatemala (10,137 new cases, 77.8% increase), and Costa Rica (3,552 new cases, 27.8% increase). The remaining three countries and territories in the subregion reported either a decline – Panama (6,718 new cases, -5.3% decrease) and Nicaragua (13 new cases, -27.8% decrease) – or did not report any cases (El Salvador) during EW 49 compared to the previous week.

On the other hand, **weekly deaths** decreased by approximately -18.8% during EW 49 relative to the previous week **(Figure 4)**, with one country – Panama – reporting an increase (10 new deaths, 42.9% increase). The remaining six countries and territories either reported a decline – Guatemala (8 new deaths, -11.1% decrease), Costa Rica (5 new deaths, -37.5% decrease), and Honduras (3 new deaths, -62.5% decrease) – or did not report any deaths (n=3) during EW 49.

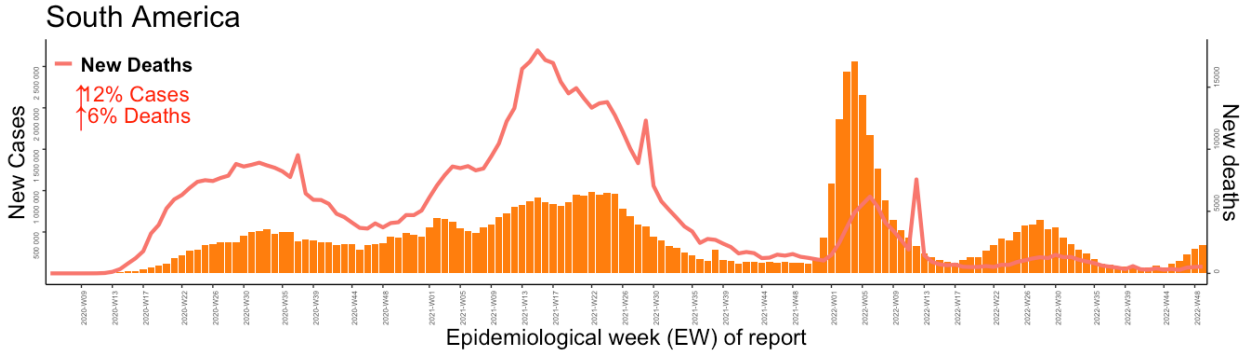
Among three countries/territories with available data for **weekly COVID-19 hospitalizations** in the Central American subregion, one country – Panama – reported an increase in their weekly COVID-19 hospitalizations (n=175, 6.7% increase), while the remaining two reported a decline (range: -7.4 - -3.1% decrease). Among two out of three countries and territories with available data for **weekly COVID-19 ICU admissions**, reported an increase in their weekly ICU admissions – Panama (5 ICU admissions, 25% increase) and Costa Rica (14 ICU admissions, 16.7% increase) while Honduras did not report any changes (3 ICU admissions, 0%) compared 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 increased by 11.9%, with a total of 336,578 new COVID-19 cases being reported during EW 49 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 49, 2022.



During EW 49, **COVID-19 weekly cases** increased in all countries and territories (range: 3.3 – 457.4% increase) except for Chile where weekly cases declined (n=22,011, -21.4% decrease) compared to the previous week. The largest proportion of reported cases being reported by Brazil (194,170 new cases, 3.3% increase), followed by Peru (71,516 new cases, 15.5% increase). The largest relative increase in cases was reported from Bolivia (Plurinational State of) (5,786 new cases, 457.4% increase), followed by Argentina (27,119 new cases, 115.1% increase), and Paraguay (724 new cases, 114.2% increase) compared to the previous week.

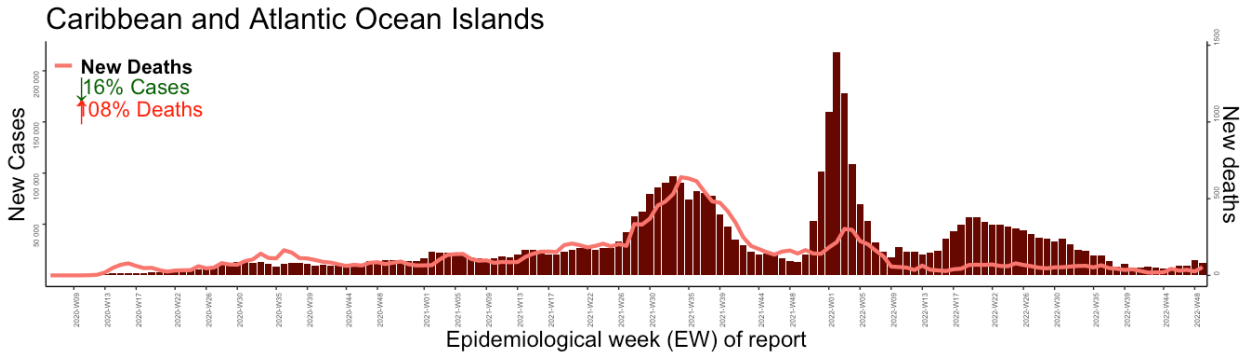
During EW 49, a total of 1,024 **COVID-19 deaths** were reported in South America – a 6.1% increase compared to the previous week. Six countries in the subregion reported an increase in weekly deaths (range: 66.7 – 200% increase), with the largest relative increase being observed from Ecuador (6 deaths, 200% increase), followed by Colombia (32 deaths, 100% increase), Peru (183 deaths, 79.4% increase). The largest proportion of reported deaths in the subregion were reported by Brazil (603 new deaths, -4.6% decrease), followed by Peru (183 new deaths, 79.4% increase), and Chile (165 new deaths, -11.3% decrease).

Among three countries and territories in the subregion with data available for **COVID-19 weekly hospitalizations**, two countries reported an increase in weekly hospitalizations – Peru (730 hospitalizations, 53.4% increase) and Venezuela (Bolivarian Republic of) (114 hospitalizations, 32.6% increase), while Chile observed a decline in hospitalizations (n=1,203, -8.5% decrease) relative to the previous week. For the same period, three out of four countries and territories with data available for **COVID-19 ICU admissions** reported an increase in their weekly COVID-19 ICU admissions (range: 2.5 – 36.4% increase), while one country – Chile – reported a decline in ICU admissions (n=165, -9.8% decrease) 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

Figure 6: COVID-19 cases and deaths by epidemiological week (EW). **Caribbean and Atlantic Ocean Islands.** Region of the Americas. EW 6, 2020 - EW 49, 2022.



In the Caribbean and Atlantic Ocean Islands sub-region, **COVID-19 weekly cases** decreased by -16.4% compared to the previous week **(Figure 6)**. At the national level, cases increased in nine out of the 34 countries and territories in the subregion (range: 7.9% - 272%) while they declined in 17 countries and territories (range: -100% - -10.5%). The remaining eight countries and territories did not report any cases during EW 49.

For the same period, COVID-19 weekly deaths increased by 108.3% (100 deaths) in the Caribbean and Atlantic Ocean Islands subregion, primarily due to the retrospective adjustment done in deaths for Aruba (44 deaths, 100% increase). Four countries and territories in the subregion reported an increase in in their weekly deaths in EW 49 compared to the previous week (range: 27.5 – 100% increase). Weekly deaths either remained the same (Trinidad and Tobago, and the United States Virgin Islands, 0% change) or declined in five countries and territories of the subregion (range: -100% decrease).

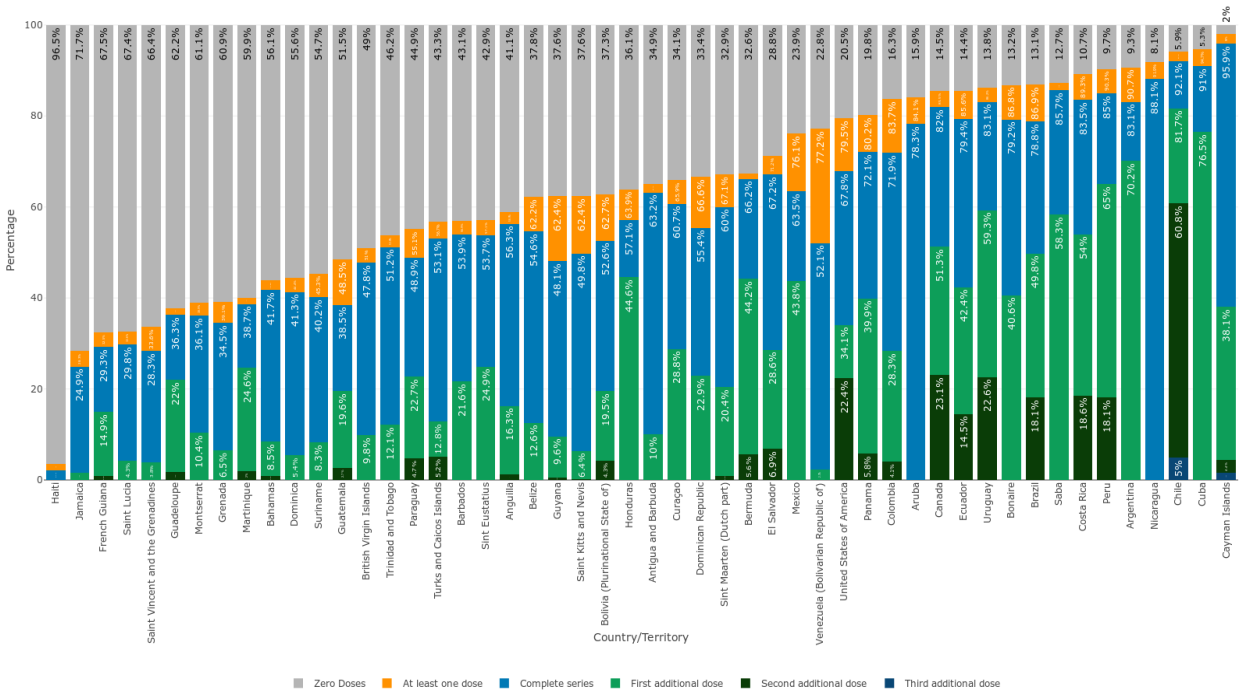
During EW 49, among 14 countries and territories with available data for **weekly COVID-19 hospitalizations**, seven reported an increase in their weekly COVID-19 hospitalizations (range: 6.7 – 300% increase). The highest relative increase was observed in the United States Virgin Island (4 hospitalizations, 300% increase), followed by Cuba (53 hospitalizations, 103.8% increase). The remaining seven countries and territories reported a decline in weekly hospitalizations (range: -100 – -4.2% decrease). Among eight countries and territories with data available for **COVID-19 ICU admissions**, one reported an increase - United States Virgin Island (2 ICU admissions, 100% increase) – while the remaining seven reported either a decline (range: -100 - -10.7% decrease) or remained the same compared to the previous week.

Notable increases in weekly cases in the subregion during EW 49 were observed in Bonaire (37 new cases, 236.4% increase), Cuba (109 new cases, 105.7% increase), and the United States Virgin Island (88 new cases, 76% increase) compared to the previous week.

To date, Omicron lineages BA.4 and BA.5 have been reported from 18 and 17 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: COVID-19 vaccination coverage* by type of dose offered in the Region of the Americas. As of EW 49, 2022.



The most recent coverage data for COVID-19 vaccination in the Americas (**Figure 7**) shows that two countries/territories (Chile and Cayman Islands) started reporting the application of a third additional dose to their population. Coverage stands at 5% and 1.5%, respectively. Despite these advances, it is important to continue to stress the large disparity both between and within countries. For example, 13 countries/territories report that 50% of their population has not yet received a single dose of a COVID-19 vaccine. Also, large dropout rates persist in some countries. For example, 9 countries/territories report a difference of at least 10 percentage points between the coverage for "At Least One Dose" and "Complete Primary Series". It is important to initiate vaccination series for 0-dose population, as well as to complete the series for those who are under-vaccinated. Coverage rates will improve significantly by following both strategies concurrently.

* 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

Genomic surveillance

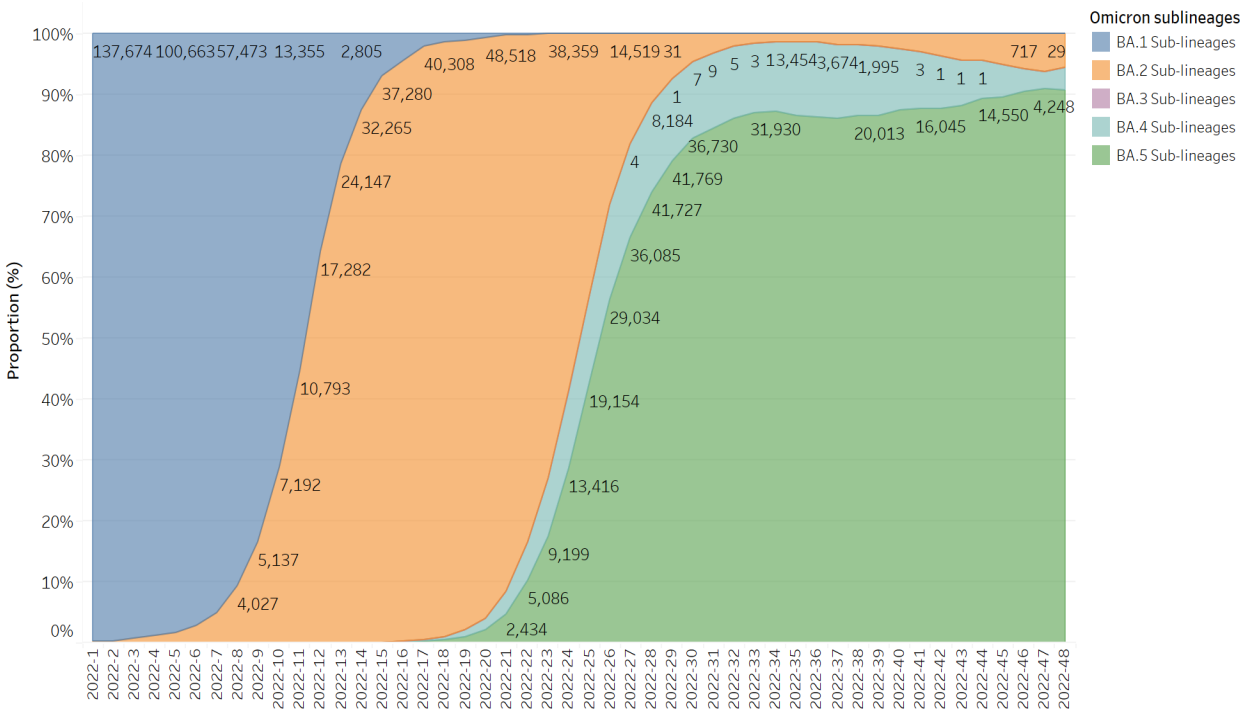
Through PAHO's Genomic Surveillance Regional Network and the work from the Member States, 491,650 full genome sequences of SARS-CoV-2 from Latin America and the Caribbean have been uploaded to the Global Initiative on Sharing All Influenza Data (GISAID) platform up to 11 December 2022.

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 (four Delta sequences distributed as follows: three in North America and one in the Caribbean).

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 DM.x. The cumulative proportion of Omicron sequences collected in the Americas from November 2021 to date are: 44.7% of BA.1 (and BA.1 sublineages), 25.0% of BA.2 (and sublineages), <0.1% of BA.3 (and sublineages), 4.5% of BA.4 (and BA.4 sublineages), and 25.8% BA.5 (and BA.5 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 four weeks, the BA.4 and BA.5 (and sublineages) combined represent 93.9%, 90.6%, 97.3%, and 98.5% of the characterized samples in North America, the Caribbean, Central America, and South America, respectively.

It is important to note that the number of SARS-CoV-2 sequences deposited in GISAID by PAHO Member States has been decreasing significantly for the past 18 weeks. This decrease, which is also observed in other regions, increases the risk of bias in the estimates and reduces our collective ability for timely identification of 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 8: Proportions of VOC Omicron sublineages identified by the countries in the Region of the Americas (January-December 2022)

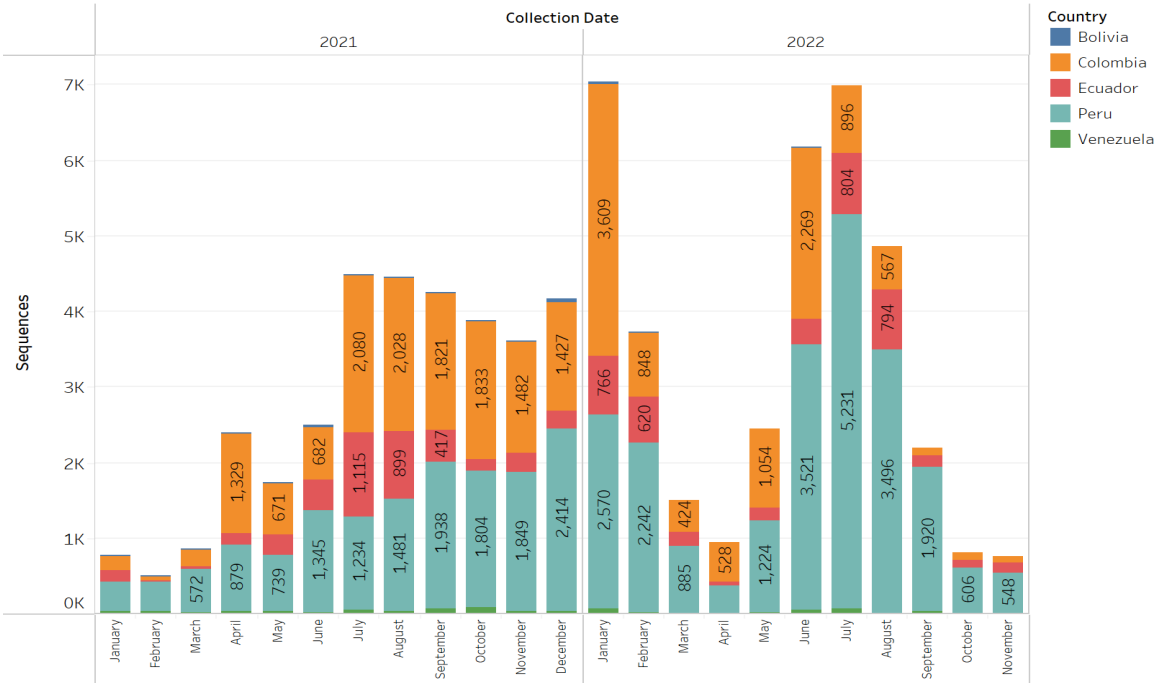


Source: GISAID

Spotlight: Sequencing and genomic surveillance in the Andean subregion

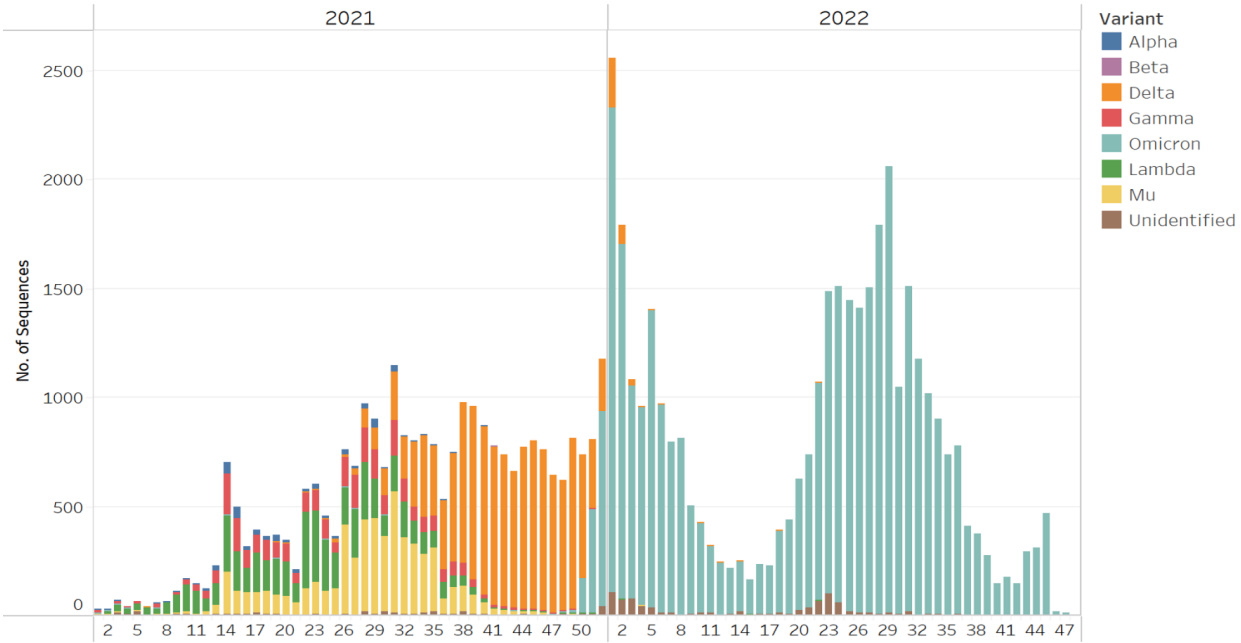
During the last two years (January 2021 to 10 December 2022), 70,965 whole genome sequences from Andean countries (Bolivia, Colombia, Ecuador, Peru, and Venezuela) have been generated as part of the genomic surveillance systems (**Figure 9**). As in other subregions, Omicron is vastly predominant with no other "previously circulating" VOC/VOI detected in the past 28 weeks (**Figure 10**). Since Omicron's first detection, BA.1 and BA.1 sublineages represent the majority (34.5%) of cumulative sequences, while BA.2 and BA.2 sublineages represent 20.5% of the cumulative sequences, and BA.3, BA.4, and BA.5 (with their respective sublineages) represent 0.1%, 11.5%, and 33.4% of cumulative sequences, respectively (**Figure 11**). However, BA.1 was progressively replaced by BA.2 in weeks 10 to 19, and the proportion of BA.4 and BA.5 have been increasing since week 19 (**Figure 12**). When focusing on the past eight weeks (16 October to 10 December), BA.5 is the predominant sublineage (90.8%) while BA.4 and BA.2 account for 5.4% and 3.6% of the sequences, respectively. It is important to note that the majority of sequences (72.2%) for the eight-week period was contributed by Peru (**Figure 9**).

Figure 9. Number of sequences generated monthly by countries in the Andean subregion (January 2021-November 2022)



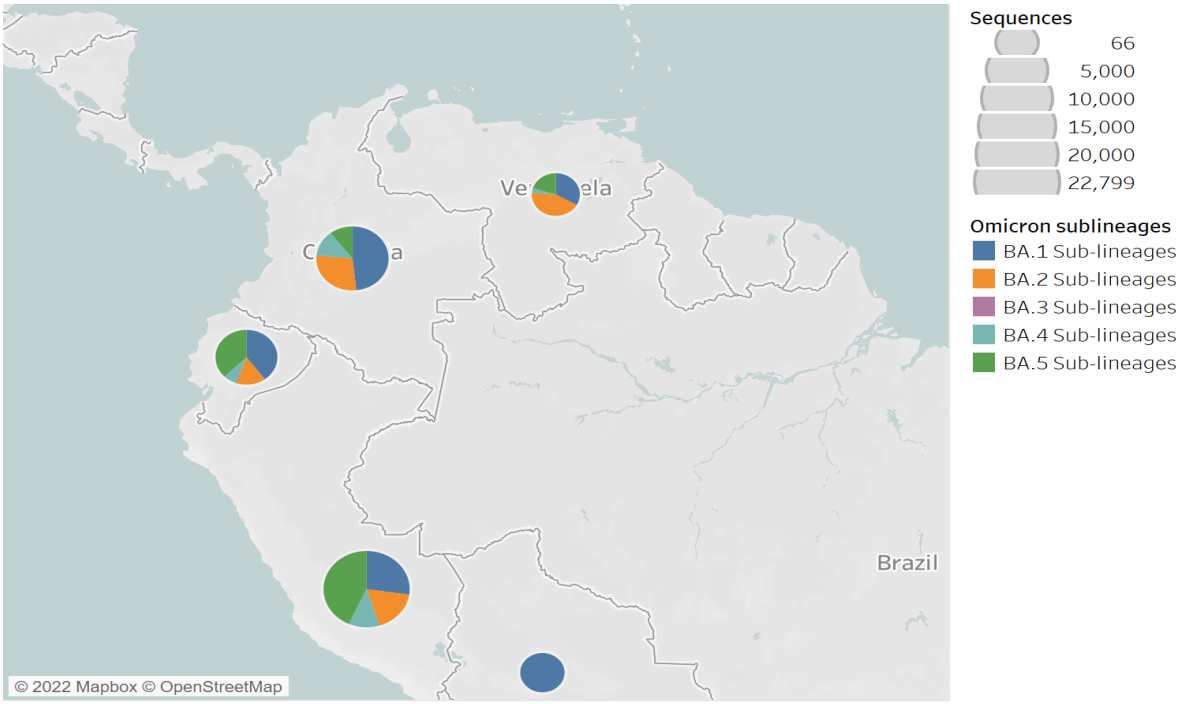
Source: GISAID

Figure 10. Variants detected and reported by countries in the Andean subregion (January 2021-December 2022)



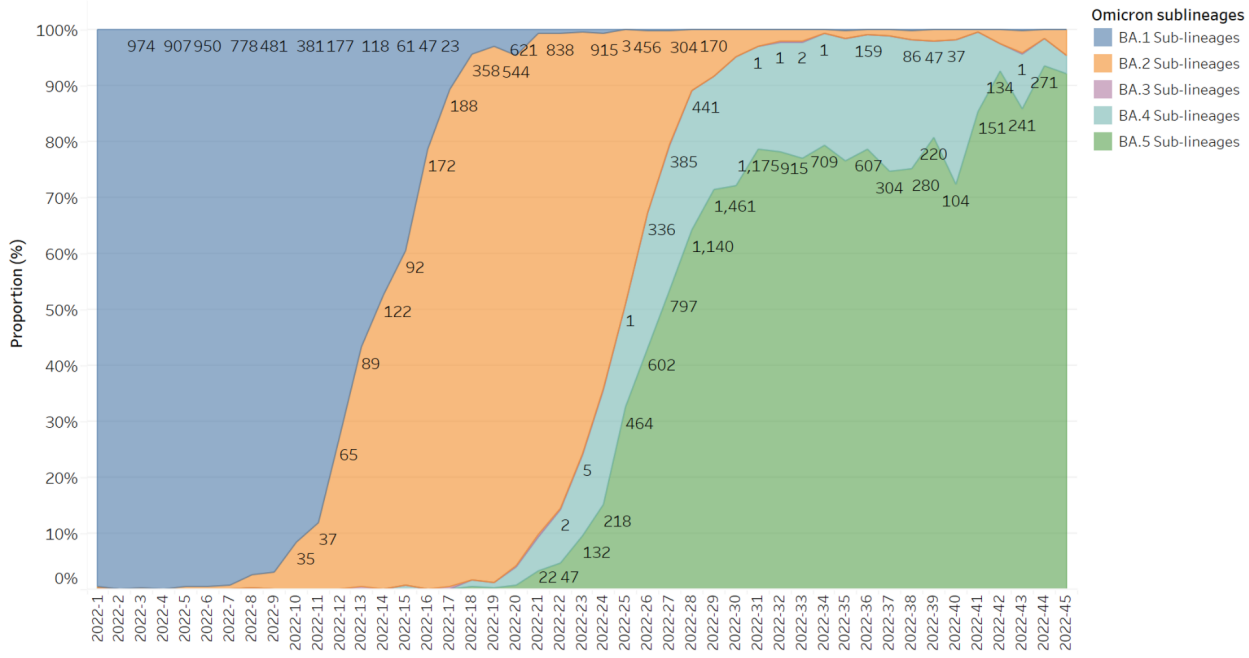
Source: GISAID
Country-specific data is available at: https://ais.paho.org/phip/viz/SARS_CoV2_variants_regional.asp

Figure 11. Distribution of Omicron sublineages identified by the countries in the Andean subregion (November 2021-December 2022)



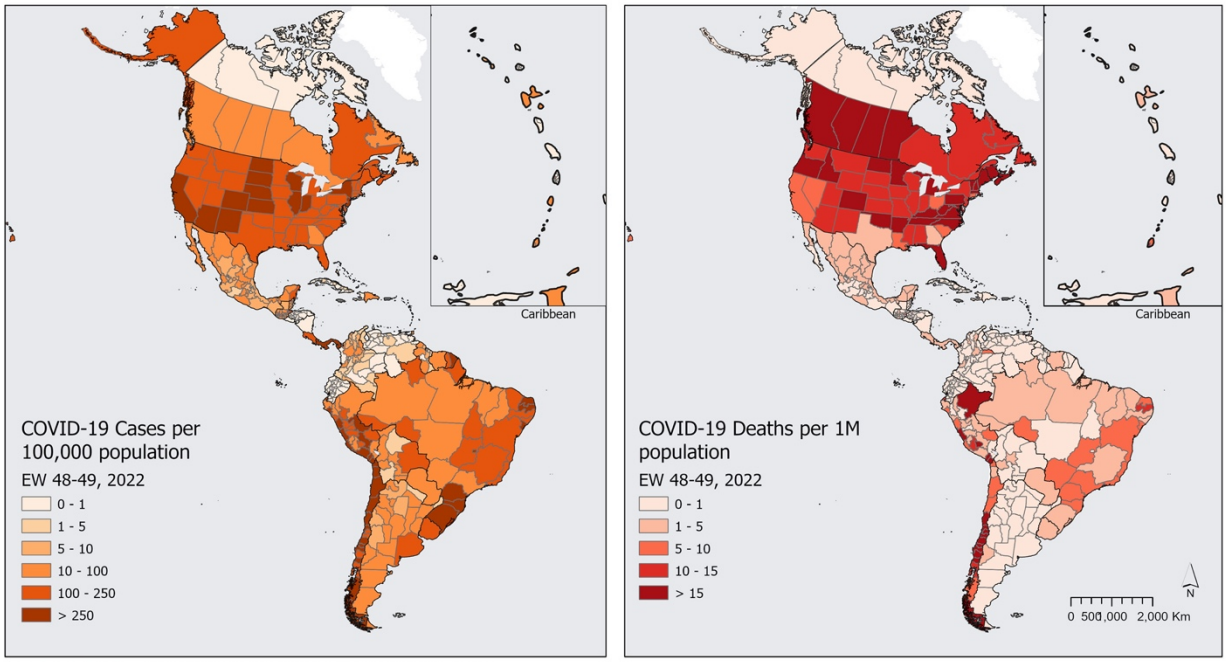
Source: GISAID

Figure 12. Proportion of VOC Omicron sublineages in the Andean subregion (January 2022-November 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 48 and 49, 2022.



The maps (**Annex 1**) represent the COVID-19 incidence rates per 100,000 population and the mortality rates from COVID-19 per 1 million population in the Region of the Americas reported in EW 48 and 49, 2022.

The highest case incidence was observed in the USA, Chile, Peru, Puerto Rico, French Guiana, Panama, and Brazil, while the highest mortality was seen in the USA, Canada, Puerto Rico, US Virgin Islands, Grenada, St Lucia, Peru, and Chile.

In North America, some states of the US (California, Arizona, New Mexico, Colorado, Kansas, Nebraska, South Dakota, North Dakota, etc.) presented the highest incidence rates. While high mortality rates were observed in almost half of the states in the US, and in some parts of Canada.

In Central America, the highest incidence rates were observed in Panama, and mortality rates continue to be low in the sub-region. Meanwhile, in South America, in most regions of Chile, some states of Brazil (Rio Grande do Sul, Santa Catarina, Parana, Rio Grande do Norte, Paraiba, and Sergipe) and almost half of the regions of Peru reported high incidence rates. At the same time, most regions of Chile and some regions of Peru (Loreto, Lima, Apurimac, Moquegua, and Tacna) showed the highest mortality rates in the sub-region.

In the Caribbean territories, Puerto Rico and the region of Cayenne in French Guiana reported the highest incidence rates, and Puerto Rico, US Virgin Island, Grenada, and St Lucia reported the highest mortality rates in the sub-region.