Weekly COVID-19 Epidemiological Update - Region of the Americas
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Contents:
- Executive summary including global overview
- Regional and sub-regional trends
- Immunization
- Genomic Surveillance

Executive Summary

- **Since the onset of the pandemic** in 2020 and up to October 18, 2022, a cumulative total of approximately 622 million COVID-19 cases including 6.5 million deaths were reported from all six WHO regions. During epidemiological week (EW) 41, cases decreased in five WHO regions while they increased in WPRO (10.8%). Similarly, COVID-19 deaths decreased in five WHO regions while they increased in AFRO (144%).

- **Globally**, approximately 3,085,313 new COVID-19 cases were reported in EW 41 (October 09, 2022 - October 15, 2022) - a -2.1% decrease compared to EW 40 (October 02, 2022 - October 08, 2022) (**Figure 1**). For the same period, 8,512 new COVID-19 deaths were reported globally – a -15.7% relative decrease compared the previous week.

- **In the region of the Americas**, 349,781 cases and 3,218 deaths were reported in EW 41 - a -11.8% decrease in cases and -19.4% decrease in deaths compared to the previous week.

- At the subregional level, COVID-19 cases decreased in all four subregions (range: -24.2 - -10.2% decrease). Similarly, COVID-19 deaths decreased in three subregions (range: -44 - -10% decrease) while they remained the same in one subregion – Central American subregion.

- The overall weekly case notification rate for the region of the Americas was 34.2 cases per 100,000 population during EW 41 (38.8 the previous week). Between EW 41 and 40, the 14-day COVID-19 death rate was 7.1 deaths per 1 million population (7.8 the previous two weeks).

- Among 28 countries/territories in the region with available data, **COVID-19 hospitalizations** increased in 3 countries and territories (range: 9.7% - 125%) during EW 41 compared to the previous week. Among 19 countries and territories with available data, **COVID-19 ICU admissions** increased in 2 countries and territories (range: 33.3% - 100%).

**Figure 1**: COVID-19 cases and deaths by epidemiological week (EW) of report and WHO region. EW 4, 2020 - EW 41, 2022.
During EW 41, 349,781 new COVID-19 cases were reported in the region of the Americas - a relative decrease of -11.8% compared to previous week (Figure 2). The highest number of COVID-19 cases in the last week was reported from North American subregion (273,463 cases, -10% decrease) compared to the previous week. (Table 1). During EW 41, the highest proportion of weekly COVID-19 cases were reported by the United States of America (251,280 new cases, -10.4% decrease), Brazil (31,325 new cases, -26.5% decrease), Chile (25,025 new cases, 16.8% increase).

Table 1: Weekly change (%) in cases and deaths between EW 40 and EW 41 by subregion. Region of the Americas

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Total Cases</th>
<th>Total Deaths</th>
<th>Cases EW 40</th>
<th>Deaths EW 40</th>
<th>Cases EW 41</th>
<th>Deaths EW 41</th>
<th>% Change Cases</th>
<th>% Change Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caribbean and Atlantic Ocean Islands</td>
<td>4,216,353</td>
<td>35,191</td>
<td>7,399</td>
<td>58</td>
<td>5,610</td>
<td>45</td>
<td>-24.2%</td>
<td>-22.4%</td>
</tr>
<tr>
<td>Central America</td>
<td>3,995,694</td>
<td>53,508</td>
<td>9,841</td>
<td>44</td>
<td>7,943</td>
<td>44</td>
<td>-19.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>North America</td>
<td>107,049,823</td>
<td>1,429,883</td>
<td>304,464</td>
<td>2,793</td>
<td>273,463</td>
<td>2,514</td>
<td>-10.2%</td>
<td>-10.0%</td>
</tr>
<tr>
<td>South America</td>
<td>63,972,912</td>
<td>1,328,337</td>
<td>74,704</td>
<td>1,098</td>
<td>62,765</td>
<td>615</td>
<td>-16.0%</td>
<td>-44.0%</td>
</tr>
</tbody>
</table>

For the same period, 3,218 COVID-19 deaths were reported in the region of the Americas - a relative decrease of -19.4% compared to previous week (Figure 2). The subregion reporting the the highest number of COVID-19 deaths in the last week was North America (2514 deaths, -10% decrease) (Table 1). At the national level, the countries/territories with the highest proportion of weekly COVID-19 deaths were the United States of America (2,274 new deaths, -11.2% decrease), Brazil (341 new deaths, -55.5% decrease), and Canada (226 new deaths, 17.7% increase).

A summary of the COVID-19 trends for EW 41 by subregion is presented below.
North America

The overall trends for COVID-19 cases have continued decreasing in North America since mid-July 2022, with a total of 273,463 new cases (-10.2% decrease) being reported during EW 41 as compared to the previous week. The largest decline in cases was reported by Mexico (2,180 cases, -35.3 % decrease), followed by the United States of America (251,280 cases, -10.4 % decrease), and Canada (20,003 cases, -2.5 % decrease).

*Figure 3: COVID-19 cases and deaths by epidemiological week (EW). North America. Region of the Americas. EW 3, 2020 - EW 41, 2022.*

For the same period, weekly COVID-19 deaths have decreased by -10% in North America during EW 41 relative to the previous week. All three countries in the subregion reported a decline in deaths during EW 41. Two countries reported a decline in weekly deaths – Mexico (14 new deaths, -65.9% decrease) and the United States of America (2,274 new deaths, -11.2% decrease) – while Canada have reported a 17.7% increase (226 new deaths) compared to the previous week.

During EW 41, 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 observe a decline in both hospitalizations (n=26,610; -2% decrease) and ICU admissions (n=3,168; -3.3% decrease). On the other hand, Canada has reported an increase for the third consecutive week in weekly hospitalizations (n=5,386; 9.7% increase) while there were no significant changes in ICU admissions (n=263; -0.4% decrease) during EW 41 compared to the previous week.

The Omicron variant of concern (VOC) sub-lineages of BA.4 and BA.5 are predominant in all three countries in the subregion. In the United States of America, the proportion of the BA.5 sub-lineages has been gradually decreasing over the past eight weeks while the estimated proportions of BA.5 subvariant, BQ.1 and BQ.1.1, as well as BA.4.6 have been increasing over the past 3-4 weeks. The BA.5 and BA.4 sub-lineages made up about 84.6% (including 5.7% of BQ.1 and 5.7% of BQ.1.1) and 12.8% (including 12.2% of BA.4.6) of sequences for the week ending on 15 October 2022 in the United States of America\(^1\), 88.2% and 10.9% for the week of 25 September 2022 in Canada\(^2\), and 91.5% and 7.6% as of EW 39 in Mexico, respectively.

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Central America

In Central America, the overall COVID-19 incidence for the sub-region has been on a downward trend for the past consecutive six weeks, with 7,943 new cases reported during EW 41 – a -19.3% 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 41, 2022.

During EW 41, two countries in the subregion reported an increase in weekly cases – Panama (725 new cases, 8.7% increase) and Nicaragua (28 new cases, 27.3% increase) compared to the previous week. The remaining five countries either remained the same (El Salvador) or experienced a decline in cases (n=4, range: -35.5 - -6.4% decrease). The countries with the largest decline in cases included Costa Rica (2,966 new cases, -35.5% decrease), Honduras (222 new cases, -18.7% decrease), and Belize (25 new cases, -16.7% decrease).

For the same period, weekly deaths for the subregion have plateaued (44 new deaths, 0% change) (Figure 4) with one out of the seven countries and territories reporting an increase – Honduras (11 deaths, 266.7% increase). However, the percent increase in weekly deaths for Honduras is a result of a data artifact since data for EW 39-40 were not publicly available, and the reported deaths include historical deaths that occurred in previous weeks. The remaining six countries and territories either reported a decline (n=3, range: -100 - -17.2% decrease) or remained the same (n=3) in weekly deaths compared to the previous week.

Among four countries/territories with available data for weekly COVID-19 hospitalizations in the Central American subregion, all countries/territories reported a decline in their weekly hospitalizations (range: -50 - -16.7% decrease) during EW 41 compared to the previous week. With regards to ICU admissions, among three countries and territories with available data for weekly COVID-19 ICU admissions, two countries experienced a decline – Honduras (1 ICU admissions, -50% decrease) and Costa Rica (23 ICU admissions, -14.8% decrease), while one country reported an increase in ICU admissions – Panama (7 ICU admissions, 75% increase) during EW 41 as compared to the previous week.

To date, Omicron lineages BA.4 and BA.5 have been reported from five and six of the seven countries and territories in the subregion respectively – Costa Rica, Panama, Guatemala, El Salvador, Nicaragua, and Belize (BA.5 only).
In South America, the overall COVID-19 incidence for the sub-region has continued to be on a downward trend – a total of 62,765 new COVID-19 cases were reported during EW 41 – a -16.0% decrease 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 41, 2022.

Out of the 10 countries and territories the sub-region, two experienced an increase in cases during EW 41 – Venezuela (Bolivarian Republic of) (261 new cases, 102.3% increase) and Chile (25,025 new cases, 16.8% increase) relative to the previous week. The remaining eight countries/territories reported a decline in weekly cases (range: -58.8 - -13.7% decrease) with the largest decline in cases being reported by Peru (1,664 new cases, -58.8% decrease), followed by Ecuador (664 new cases, -57% decrease), and Paraguay (221 new cases, -55.4% decrease).

During EW 41, COVID-19 weekly deaths in the subregion have decreased again with a total of 615 COVID-19 deaths being reported in South America – a -44.0% decrease compared to the previous week. Two countries in the subregion reported an increase in deaths – Ecuador (4 new deaths, 33.3% increase) and Uruguay (9 new deaths, 50% increase) relative to the previous week. The remaining eight countries/territories reported a decline, with the largest decline in deaths being reported by Paraguay (1 new deaths, -75% decrease), followed by Venezuela (Bolivarian Republic of) (1 new deaths, -75% decrease), and Brazil (341 new deaths, -55.5% decrease).

Among four countries and territories in the subregion with data available for COVID-19 weekly hospitalizations, three reported a decline (range: -11.2 - -4.7% decrease) while one country – Venezuela (Bolivarian Republic of) – reported a slight increase in weekly hospitalizations (n=122, 9.9% increase) during EW 41 relative to the previous week. Similarly for the same period, all five countries and territories with data available for COVID-19 ICU admissions reported decrease in weekly ICU admissions (range: -18.8 - -1.8% decrease) compared to the previous week.

To date, Omicron lineages 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).
In the Caribbean and Atlantic Ocean Islands sub-region, **weekly cases** decreased by -24.2% and compared to the previous week (**Figure 6**). At the national level, cases increased in 9 out of the 36 countries and territories in the subregion (range: 38% - 450%), while they either declined (n=18, range: -100% - -9.1%) or remained the same (n=9) during EW 41 compared to the previous week.

For the same period, **COVID-19 weekly deaths** decreased by -22.4% (45 deaths) compared to the previous week. Three countries and territories in the subregion observed a relative increase in their weekly deaths during EW 41 compared to the previous week (range: 11.1 – 100% increase). Weekly deaths either remained the same (n=30) or declined (n=3, range: -100 - -35.3% decrease) in the remaining countries and territories of the subregion.

During EW 41, 18 countries and territories with available data for **weekly COVID-19 hospitalizations**, one country – Suriname – reported an increase in weekly hospitalizations (n=9, 125% increase) while the remaining countries/territories either reported a decline (n=8, range: -100 - -19% decrease) or remained the same (n=9) in their weekly COVID-19 hospitalizations. Similarly, among nine countries and territories with data available for **COVID-19 ICU admissions** reported either a decline (n=8, range: -100 - -22.2% decrease) or no substantial changes (n=4) during EW 41 compared to the previous week.

**Notable increases in weekly cases** in the subregion during EW 41 were observed in Sint Maarten (11 new cases, 450% increase), Suriname (17 new cases, 112.5% increase), and Guyana (38 new cases, 81% increase).

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. Vaccination coverage rate by age group (younger than 60 years; aged 60 or older), country and income level (for the 15 countries/territories with age-stratified data available). The region of the Americas. Between August and October 2022.

**Figure 7** reports the COVID-19 vaccination coverage for 15 countries and territories in the Americas that report data disaggregated by age during the last 3 months. When classified by income group*, the age group of persons aged 60 years or older reports a coverage rate above 60% in all reporting countries/territories**. However, coverage rates vary between 18% and 84% among persons younger than 60 years. We do not discern diverging vaccination coverage trends between income groups.

Genomic surveillance

Through PAHO’s Genomic Surveillance Regional Network and the work from the Member States, 465,912 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 18 October 2022.

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

** 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
After the introduction of the Omicron VOC in the Americas at the end of 2021, it has rapidly increased in prevalence and has been officially reported by 54 countries or territories. Omicron is now predominant in all PAHO countries. In the past two months, only six non-Omicron sequences have been detected (four Delta VOC and one Alpha VOC in North America, and one Delta VOC in South America).

Omicron comprises the BA.1 to BA.5 sublineages (or subvariants), which are also subdivided into diverse sublineages based on additional mutations that slightly change the genomic profile but not enough to define a new Variant. These sublineages of BA.1 to BA.5 include those denominated as BC.x to BZ.x and CA.x to CG.x. The cumulative proportion of Omicron sequences collected in the Americas from November 2021 to date are: 48.3% of BA.1 (and BA.1 sublineages), 26.8% of BA.2 (and sublineages), <0.1% of BA.3 (and sublineages), 4.2% of BA.4 (and BA.4 sublineages), and 20.7% 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). The proportion of BA.4 and in particular BA.5 continues to increase throughout the Region. Notably, in the past four weeks, the BA.4 and BA.5 (and sublineages) combined represent 98.1%, 97.1%, 97.4%, and 98.3% of the characterized samples in North America, the Caribbean, Central America, and South America, respectively. Recent increases in the proportion of BA.2.75 in North America and of BA.4.6 in all subregions have been noted. However, there is not (so far) sufficient evidence to infer increased severity or phenotypic impact in either of the sublineages, besides the already established for Omicron.

**Figure 8.** Proportions of VOC Omicron sublineages identified by the countries in the Region of the Americas (January-October 2022)
Spotlight: Sequencing and genomic surveillance in the Andean subregion

During the last 22 months (January 2021 to 17 October 2022), 64,045 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 20 weeks (Figure 10). Since Omicron’s first detection, BA.1 and BA.1 sublineages represent the majority (39.5%) of cumulative sequences, while BA.2 and BA.2 sublineages represent 23.1% of the cumulative sequences, and BA.3, BA.4, and BA.5 (with their respective sublineages) represent 0.10%, 10.9%, and 26.5% 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 (21 August to 15 October), BA.5 is the predominant sublineage (79.2%) while BA.4 and BA.2 account for 19.8% and 0.83% of the sequences, respectively. It is important to note that the majority of sequences (87%) for the eight-week period was contributed by Peru (Figure 9).

It is important that all countries at PAHO region continue the collection of representative samples for sequencing and to maintain COVID-19 appropriate genomic surveillance.

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

Source: GISAID
**Figure 10.** Variants detected and reported by countries in the Andean subregion (January 2021-October 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-October 2022)

Source: GISAID
Figure 12. Proportion of VOC Omicron sublineages in the Andean subregion (January-October 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 40 and 41, 2022.

These maps (Annex 1) depict the COVID-19 case incidence and mortality rates in the Americas in during EW 40 and 41, 2022.

The highest case incidence was observed in the USA, Canada, Chile, some parts of Brazil, Martinique, Guadeloupe, and Barbados, while the highest mortality was seen in the US, Canada, and Trinidad and Tobago.

In North America, mainly the eastern parts of the US (New York, New Jersey, Massachusetts, Maine, North Dakota, Kentucky), and Canada (Quebec, Ontario, and Saskatchewan) had the highest incidence rates. High mortality rates were observed in the northeastern states, and Alaska in the US, and Manitoba, Saskatchewan, and British Colombia in Canada.

In Central America, cases and deaths continued to be on a decline, while in South America, Chile continues to report a high number of cases. Some parts of Peru (Madre de Dios, Pasco, Moquegua, Tacna), and Chile (Los Rios, Region Metropolitana de Santiago, and surrounding regions) observe some of the highest incidence rates in the sub-region.

In the Caribbean islands, Puerto Rico showed the highest number of new cases and deaths. Guadeloupe, Martinique, and Barbados showed high incidence rates, while Trinidad and Tobago showed the highest mortality rate in the sub-region.

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.