COVID-19 variant surveillance - WHO & Partners meeting – 12 January 2022

Agenda

1 Welcoming and WHO HQ updates

- Epi updates HQ – Zyleen Kassamali/Homa Attar Cohen
- Lab updates HQ – Lorenzo Subissi/Jilian Sacks
  - Surveillance updates – Maya Allan

2 WHO Regional Office and Partners updates

- AFRO
- African CDC
- EMRO
- WPRO
- SEARO
- PAHO
- CDC
- EURO
- eCDC

3 AOB

4 Some links and references from WHO HQ

Enhancing Readiness for Omicron (B.1.1.529): Technical Brief and Priority Actions for Member States - 7 January 2022 | Technical document

https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-(b.1.1.529)-technical-brief-and-priority-actions-for-member-states

Weekly Epidemiological Update - 11 January 2022

https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---11-january-2022

Weekly Epidemiological Update - 11 January 2022

Enhancing Readiness for Omicron (B.1.1.529): Technical Brief and Priority Actions for Member States - 7 January 2022

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 9 January 2022**

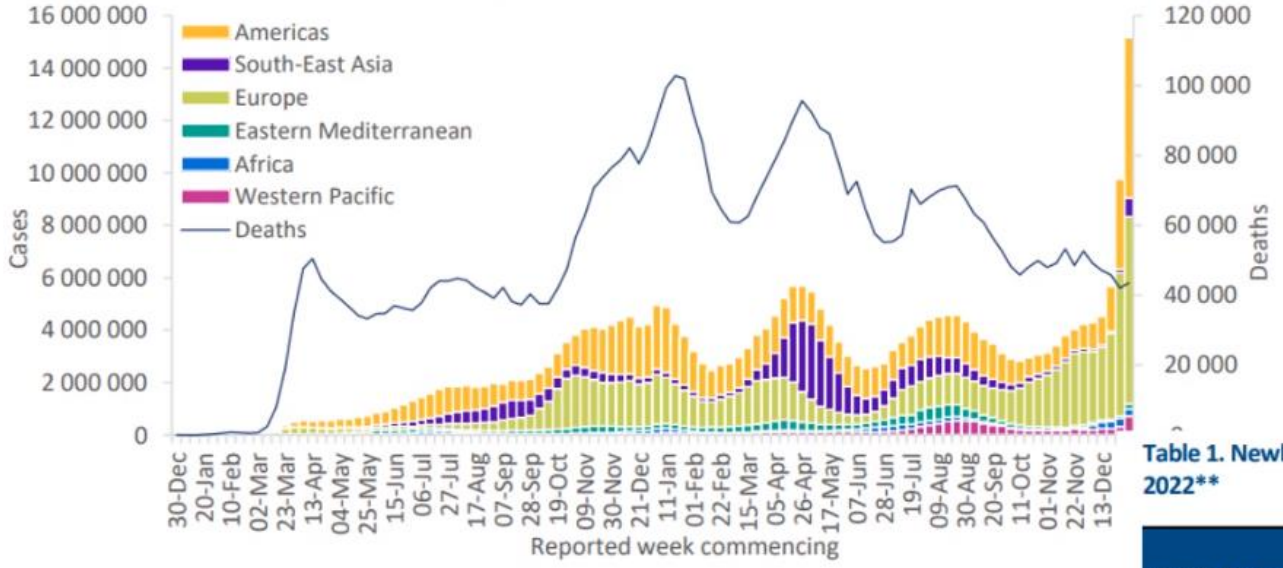
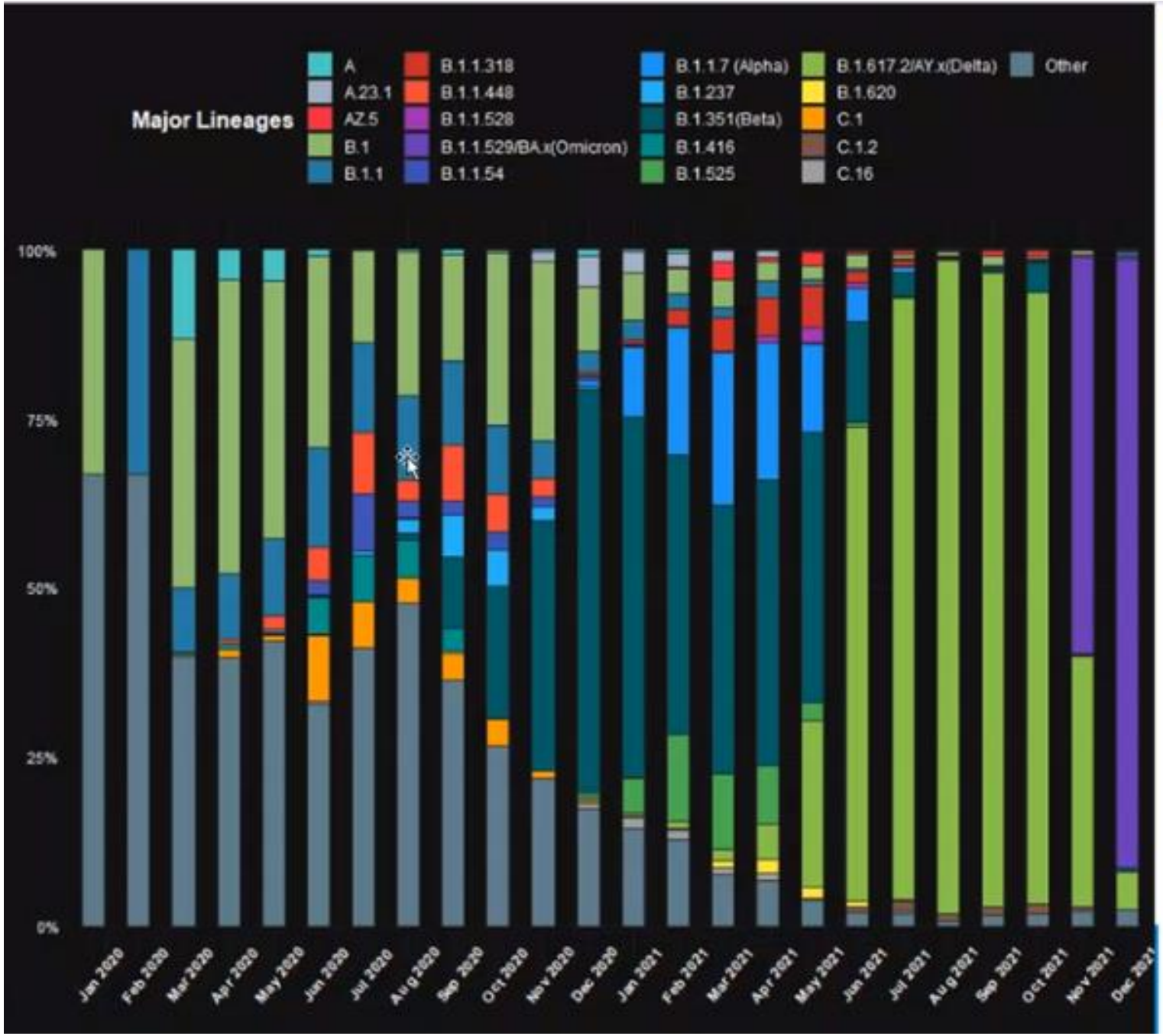


Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 9 January 2022**

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Europe	7 145 424 (47%)	31%	110 413 718 (36%)	20 696 (48%)	-10%	1 695 819 (31%)
Americas	6 115 409 (40%)	78%	111 063 942 (36%)	14 489 (33%)	26%	2 427 710 (44%)
Western Pacific	732 464 (5%)	122%	12 124 225 (4%)	2 781 (6%)	0%	159 296 (3%)
South-East Asia	699 635 (5%)	418%	45 734 456 (15%)	2 309 (5%)	-6%	724 249 (13%)
Africa	261 720 (2%)	-11%	7 611 721 (3%)	2 130 (5%)	84%	158 581 (3%)
Eastern Mediterranean	200 014 (1%)	86%	17 401 381 (6%)	1 056 (2%)	-11%	317 197 (6%)
Global	**15 154 666 (100%)**	**55%**	**304 350 207 (100%)**	**43 461 (100%)**	**3%**	**5 482 865 (100%)**

**Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior*

**See Annex 3: Data, table, and figure notes



Monthly evolution of lineages in AFRICA

- ***67,139*** sequences in Africa, with SA accounting for **39.5%** (26,555)

***VOCs**

- **43** countries with **Delta**
- **34** countries with **Omicron**

VBM

- **47** countries with **Alpha**
- **43** countries with **Beta**
- **8** countries with **Gamma**
- **Lambda (C37)** in 1 country
- **Mu (B.1.621)** in **5** countries

****Other variants**

- **Eta, B.1.525** (25)
- **C.1.2** (6)
- **B1.640: (4)** Ghana, Kenya, R. Congo, SA

B.1.620 (9)- most central Africa

*Variant tracking file

**GISAID

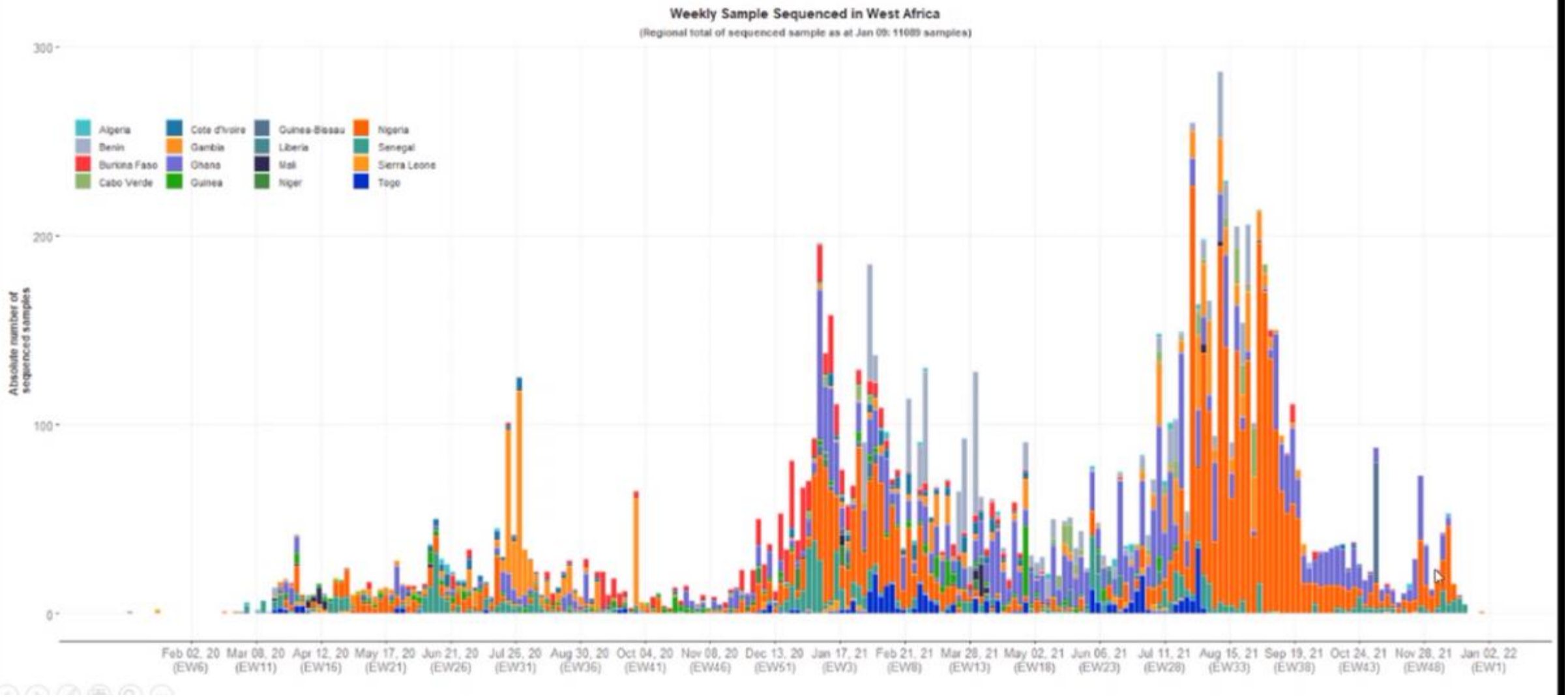
COVID-19 RESPONSE

Evolution of linages during the last five weeks of year 2021

igeria: only one case of Delta variant was submitted

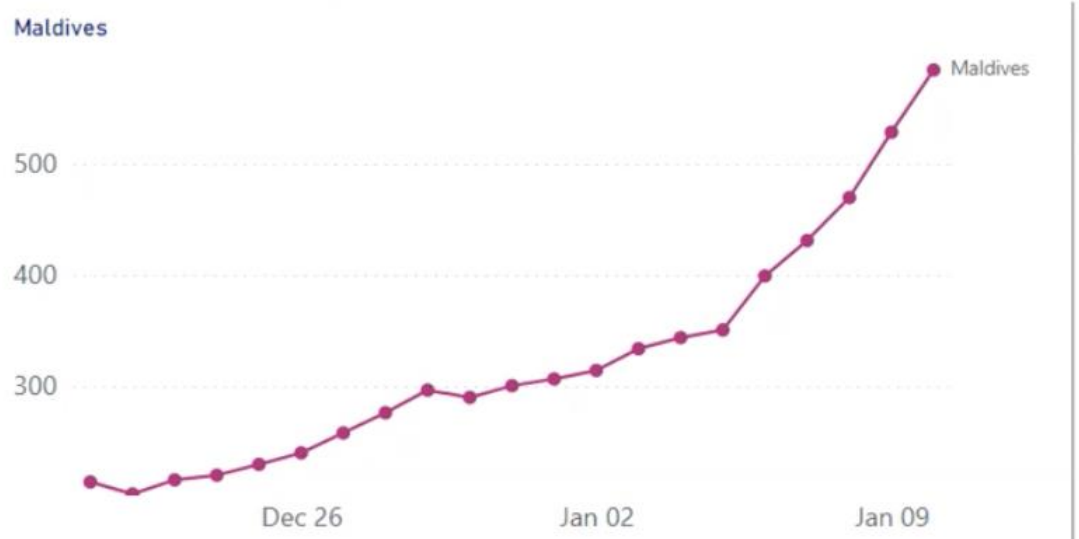
Weekly Submission on GISAID

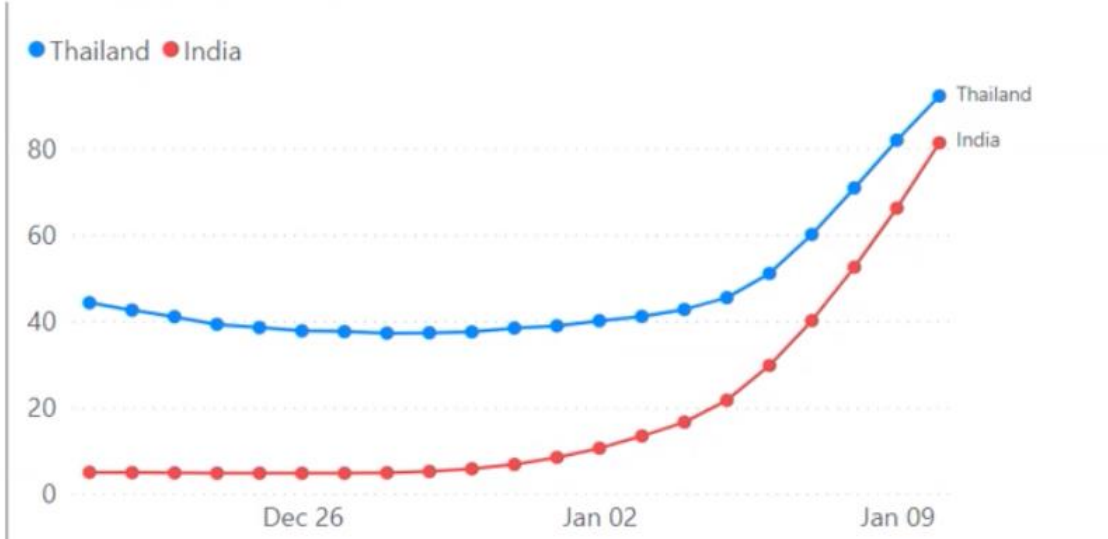
- 11089 sequences submitted since 2020
- 8922 sequences were submitted in 2021
- No sequences submitted in 2022

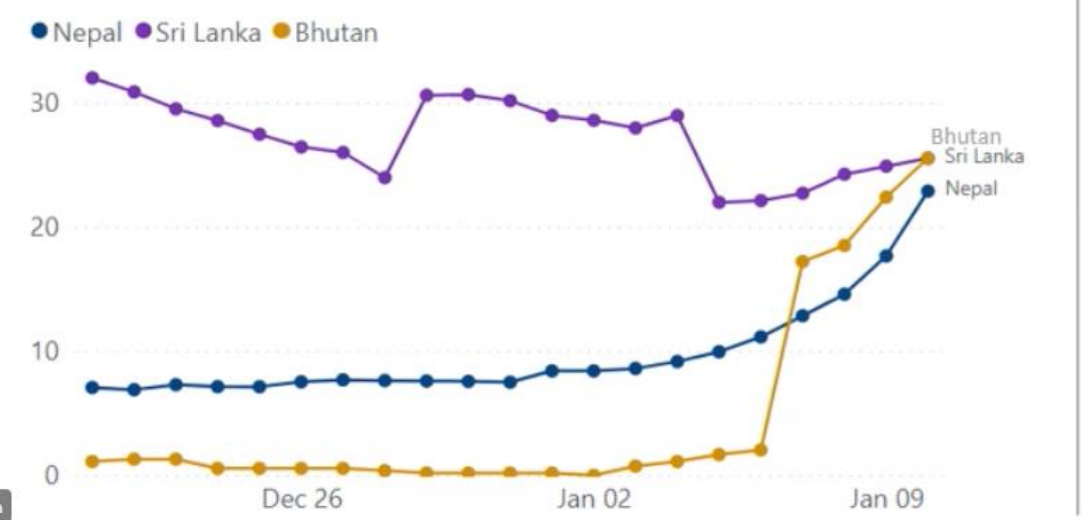


Epidemiological Trend in South-East Asia Region (as of 10 January 2021)

Daily new confirmed COVID-19 cases per million people (7-day rolling average)

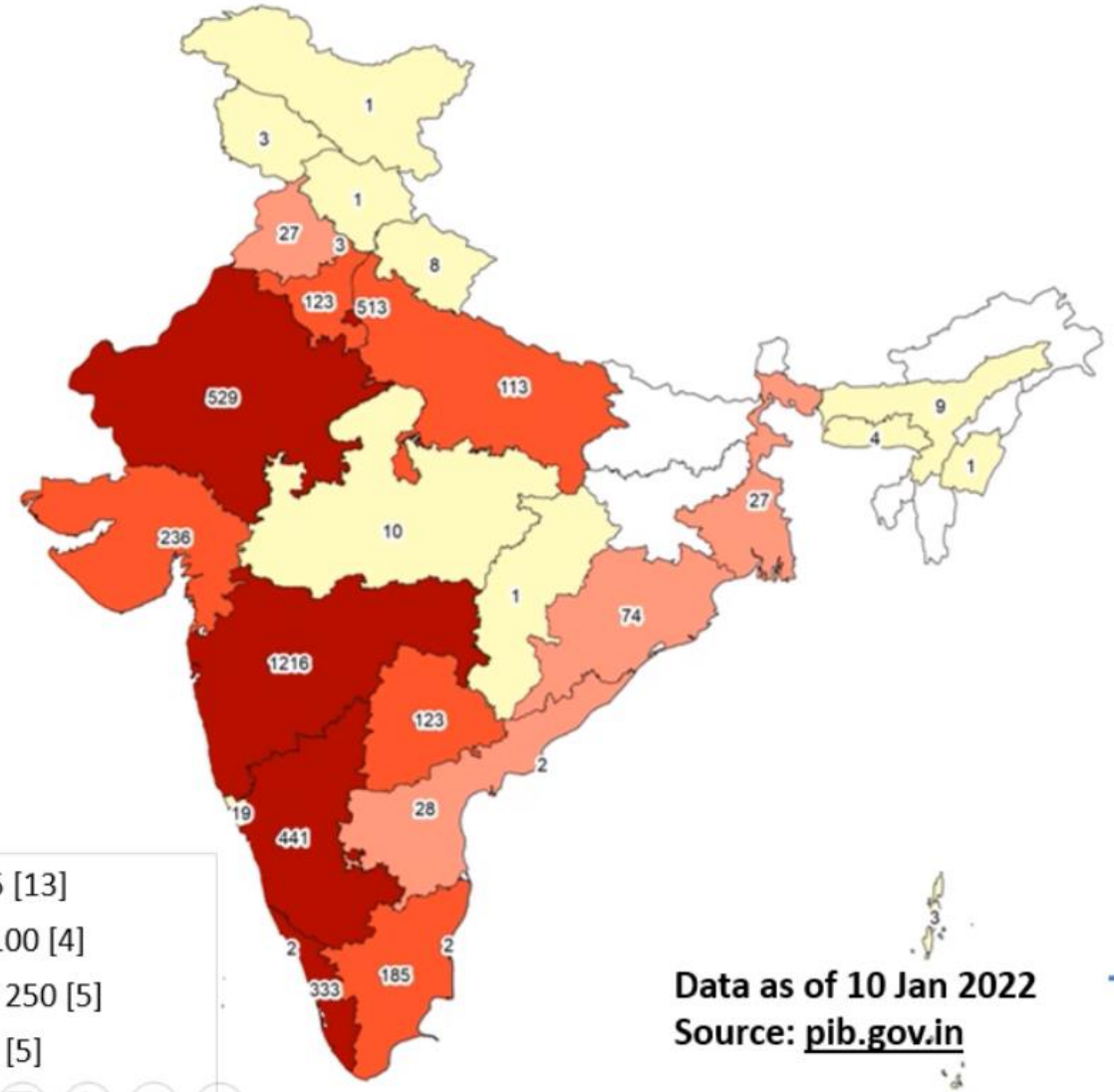






TO, Masaya

India: Omicron Cases by State (as of 10 Jan 2022)

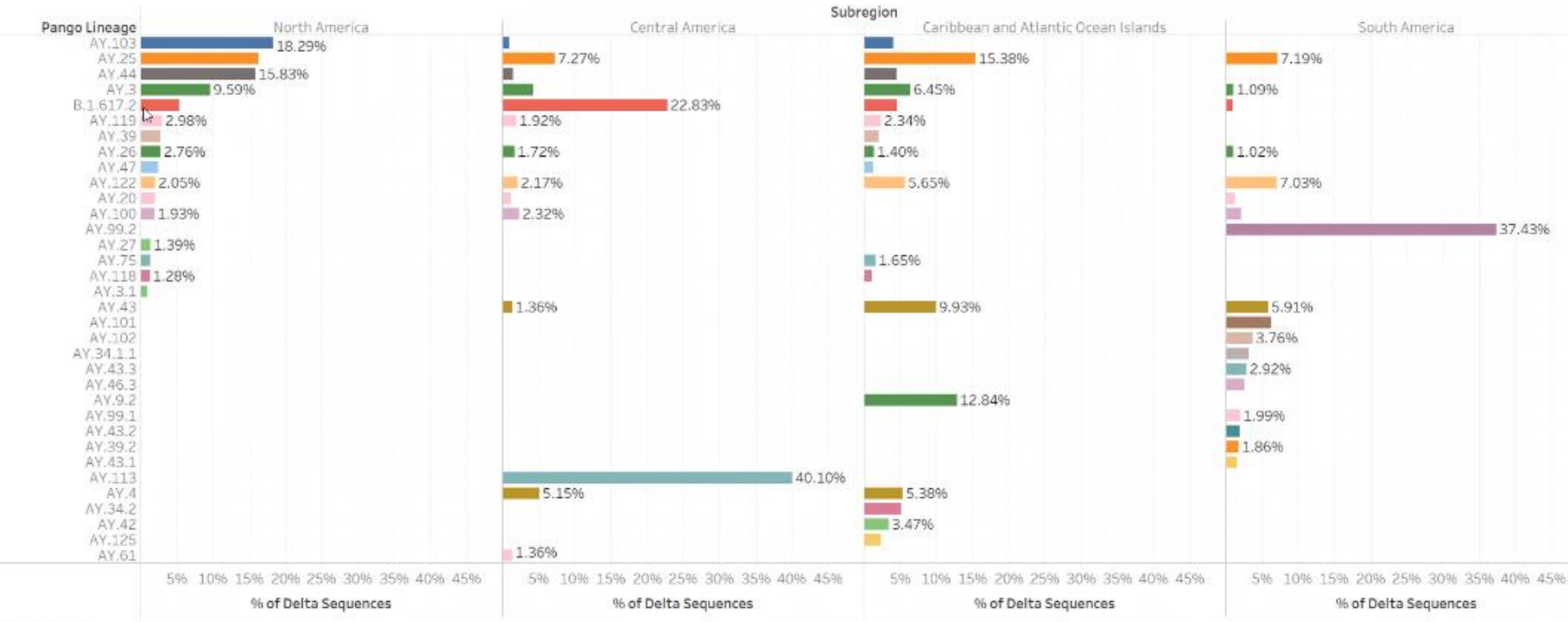


Data as of 10 Jan 2022
Source: pib.gov.in

States/UTs reporting >10 Omicron cases

States	No. of Omicron Cases
Maharashtra	1216
Rajasthan	529
Delhi	513
Karnataka	441
Kerala	333
Gujarat	236
Tamil Nadu	185
Haryana	123
Telangana	123
Uttar Pradesh	113
Odisha	74
Andhra Pradesh	28
Punjab	27
West Bengal	27
Goa	19
Madhya Pradesh	10

Tracking of Delta sublineages



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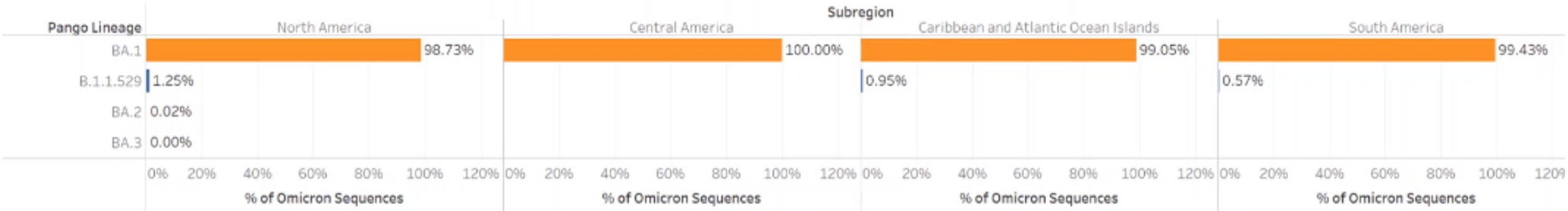
Lineages with >1% prevalence only

Dashboard developed by PAHO-IMST (https://ais.paho.org/phip/viz/SARS_CoV2_variants_regional.asp)

Tracking of Omicron sublineages



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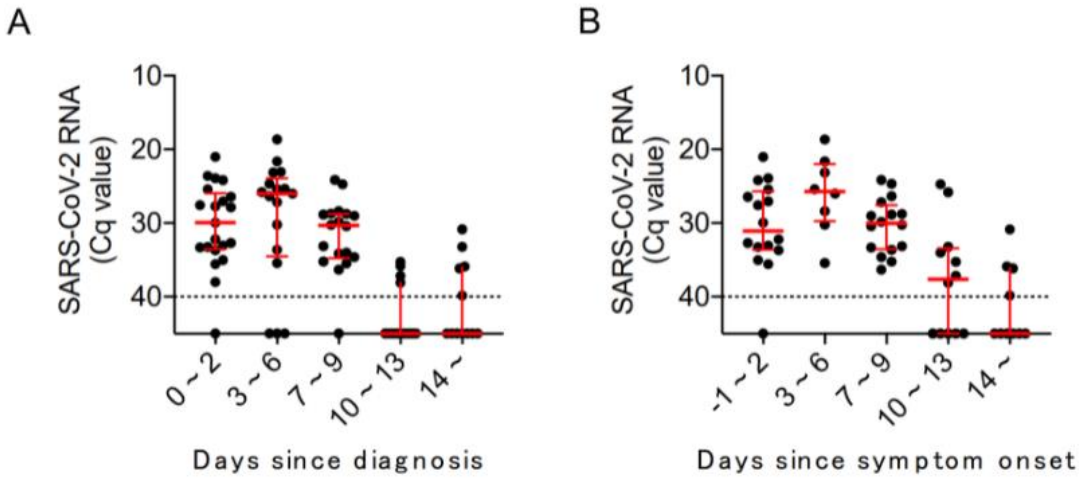
Screening RT-PCRs and genomic surveillance

- Screening RT-PCR for ORF1a/NSP6 deletion
  - NSP6 deletion S106/G107/F108 ⇔ ORF1a 3675-3677: "Present" in Alpha, Beta, Gamma, Lambda, and Omicron BA.2 and BA.3
  - NSP6 deletion L105/S106/G107 ⇔ ORF1a 3674-3676: "Present" in Omicron B.1.1.529 and BA.1
  - Deletions "NOT" present in Delta, Mu, and non-VOC/VOI
- Recommended implementation as a complement to genomic surveillance
  - https://www.paho.org/en/documents/detection-and-diagnosis-sars-cov-2-context-circulation-omicron-variant-concern
- Implementation support
  - Shipped reagents to 20 laboratories in 19 countries
  - Sourced Omicron positive controls for RT-PCR from EVAg for further distribution to countries
- Another screening assay: 4-plex N gene, S 69-70, NSP6 3674-3677, and control (Fiocruz / Bio-Manguinhos)
- COVID-19 Genomic Surveillance Regional Network (past 3 weeks)
  - Sequenced samples from:
    - Dominican Republic (1st detection of Omicron BA.1), Guatemala (1st detection of Omicron BA.1), Jamaica (all Delta)
  - In transit: Bahamas, Guatemala, Honduras
  - Shipments in preparation: Dominican Republic, Guyana, and Turks and Caicos
  - ~100 samples per shipment

Pan American Health Organization

World Health Organization
Americas

Duration of infectious virus shedding



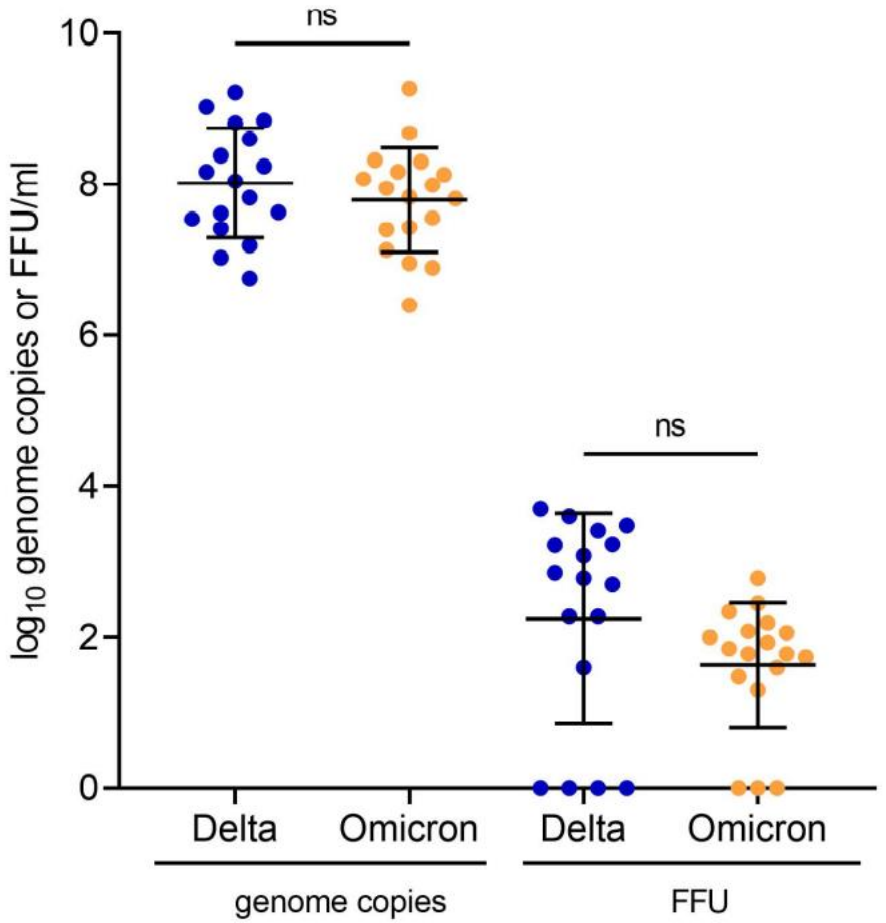
Days since diagnosis	Number and percentage of viral RNA positive samples n (%)	Number and percentage of virus isolation positive samples n (%)	Number and percentage of virus isolation positive in viral RNA positive samples n (%)
0 ~ 2 days	20/21 (95.2)	2/21 (9.5)	2/20 (10.0)
3 ~ 6 days	14/17 (82.4)	7/17 (41.2)	7/14 (50.0)
7 ~ 9 days	17/18 (94.4)	2/18 (11.1)	2/17 (11.8)
10 ~ 13 days	4/15 (26.7)	0/15 (0)	0/4 (0)
After 14 days	5/12 (41.7)	0/12 (0)	0/5 (0)

- Similar to WT, no infectious virus is recovored after 9 days post-symptom onset
- Only 21 individuals

Source: NIID Japan (https://www.niid.go.jp/niid/en/2019-ncov-e/10884-covid19-66-en.html)

Infectious viral titers in Delta (unvaccinated versus vaccinated)

- In vaccinated vs. unvaccinated Delta infected individuals, RNA genome copies were comparable but vaccinated individuals have significantly lower infectious viral titers, and cleared virus faster.
- Vaccinated individuals with Omicron infection had comparable infectious viral titers to Delta breakthrough infections

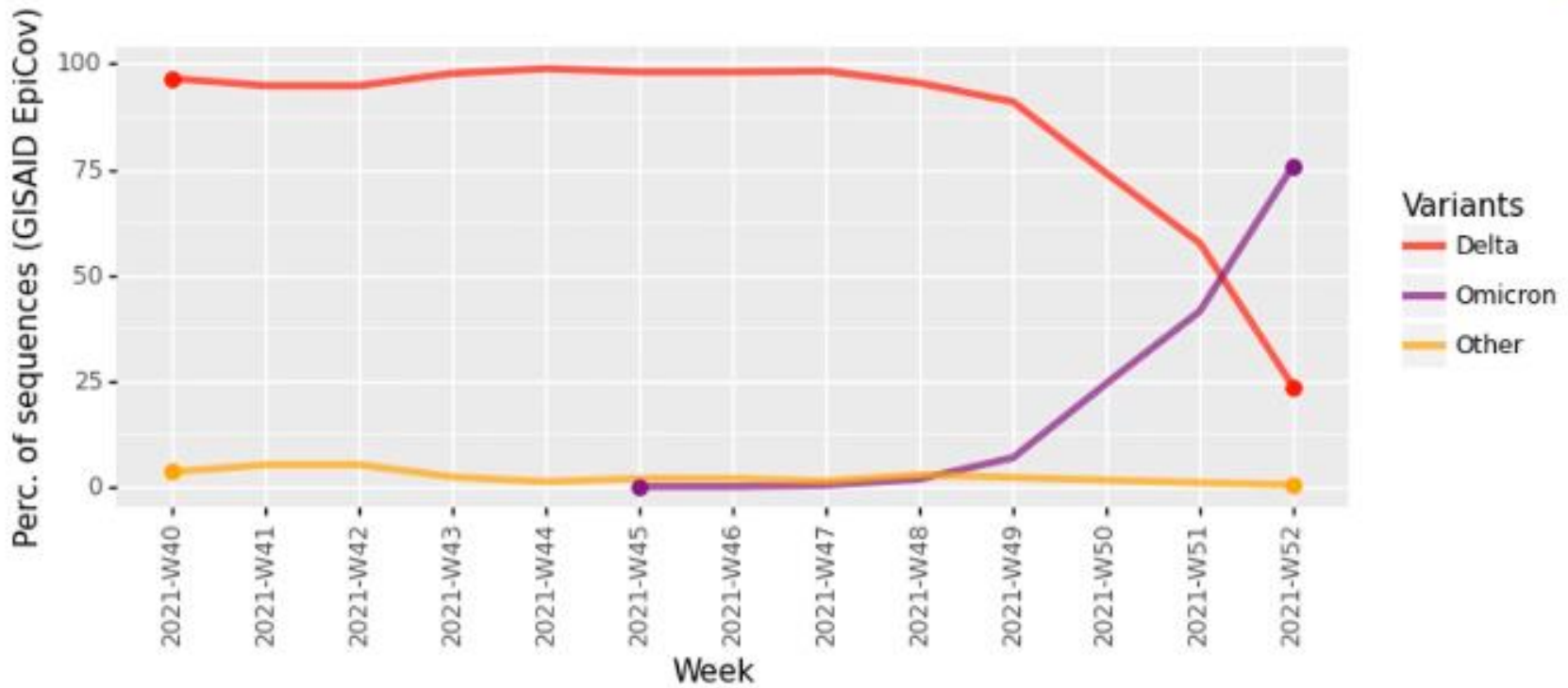


- Puhach et al 2022 medxriv

EU/EEA situation report

- **No changes to the VOC / VOI / VUM as of 5th of January 2022**
- Situation updates
  - B.1.1.529 (Omicron)
  - B.1.640
  - AY.4.2

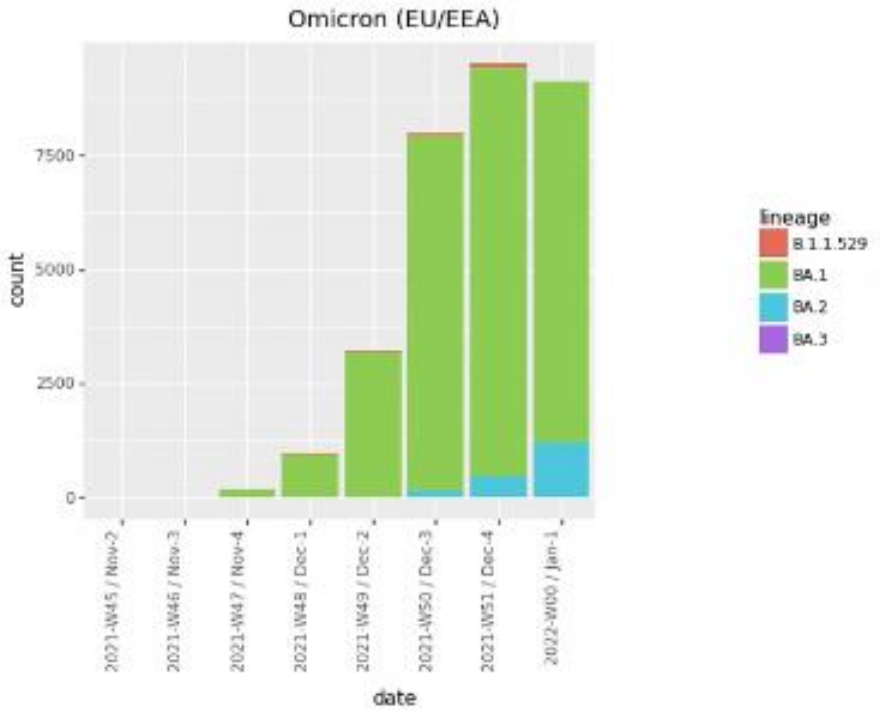
Omicron



Omicron is dominating in proportions in EU/EEA

(Possible biases by targeted sequencing and the delays due to holidays)

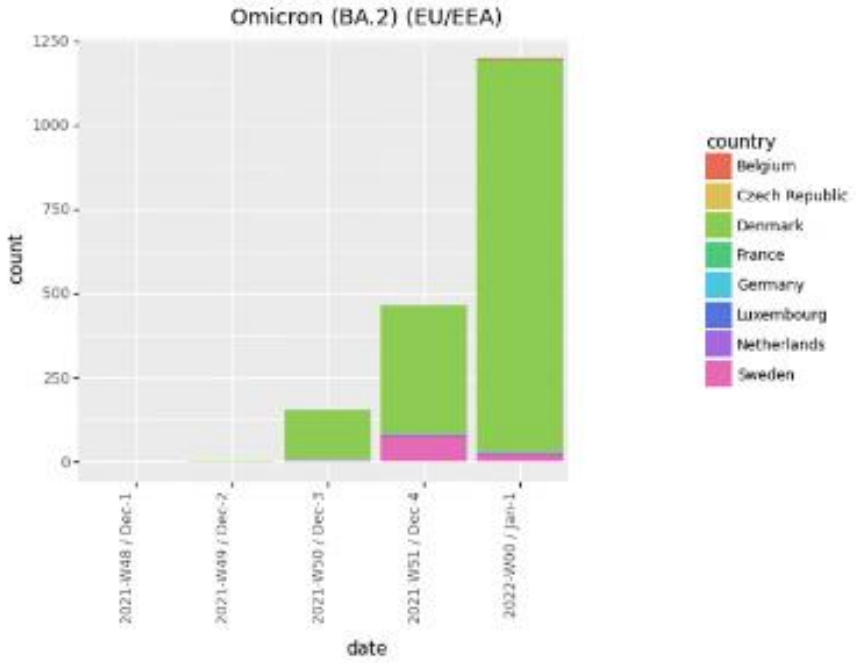
Omicron



Omicron – Sub-lineages - B.1.1.529, BA.1, BA.1.1, BA.2, BA.3

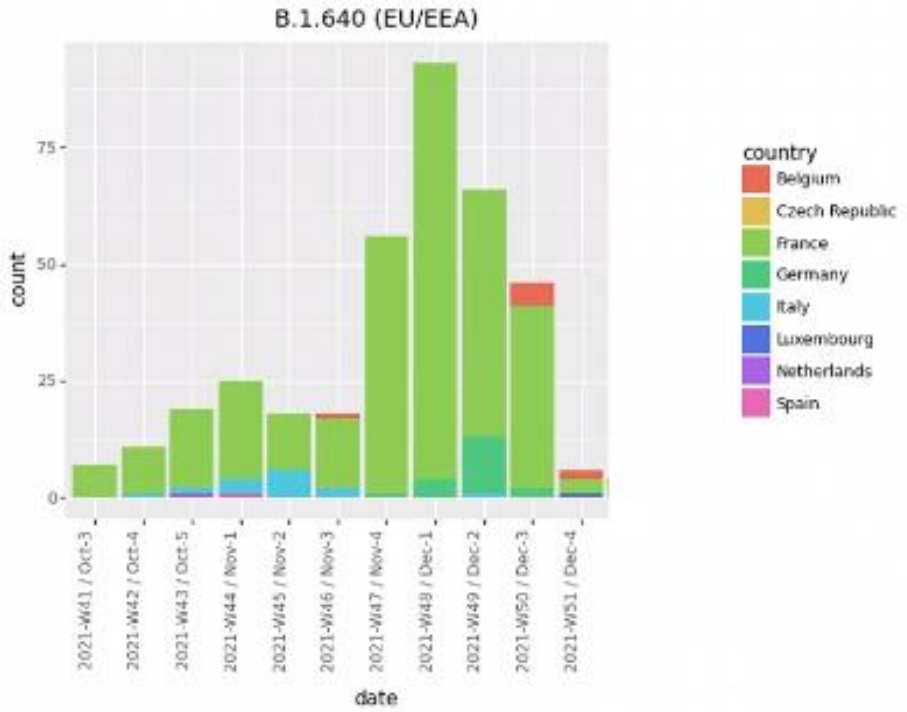
- BA.1 is currently the most abundant sub-lineage
- BA.1.1 defining mutation - S346K

Omicron



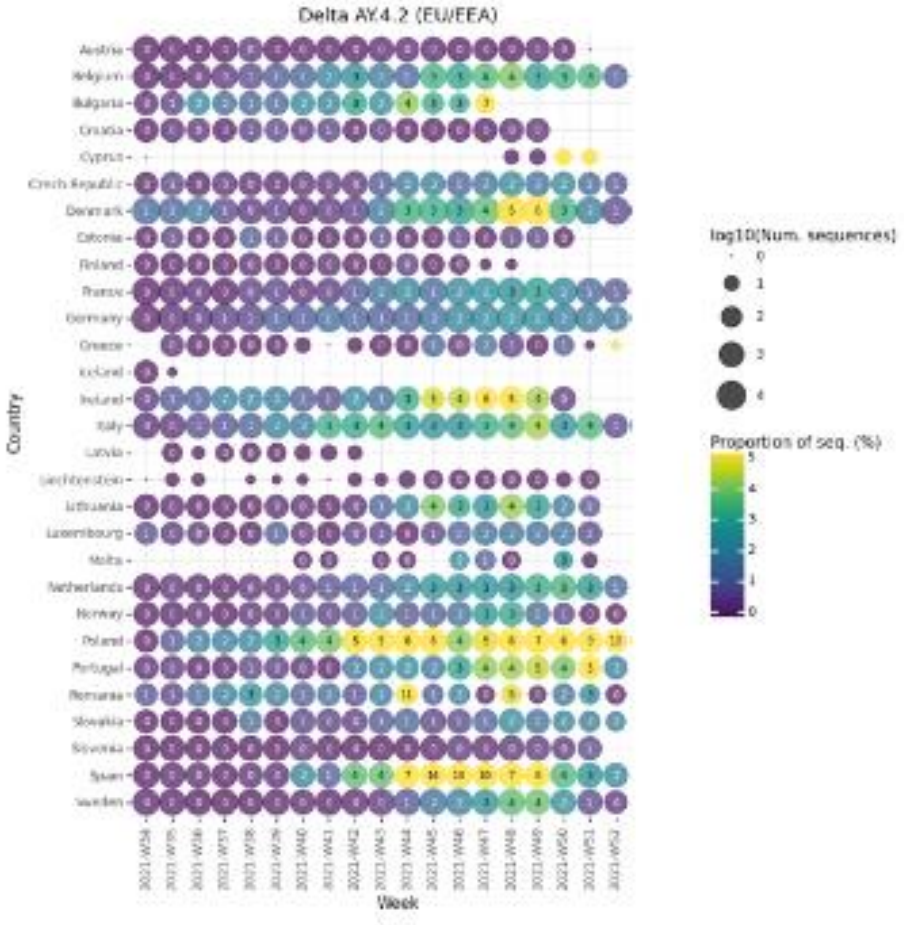
- Cases of BA.2 is rising, mainly from cases in Denmark
- BA.2 does not have Δ69-70 (no SGTF)

B.1.640



- Few cases with no clear increasing trend
- Mutation profile requires careful monitoring
- Monitoring all sub-lineages (B.1.640.1, B.1.640.2)

AY.4.2



- No increasing trend in the United Kingdom
- No increasing trend for other countries previously reported an increase