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COVID-19 EG.5 RISK ASSESSMENT IN THE ASEAN REGION

Image by GISAID

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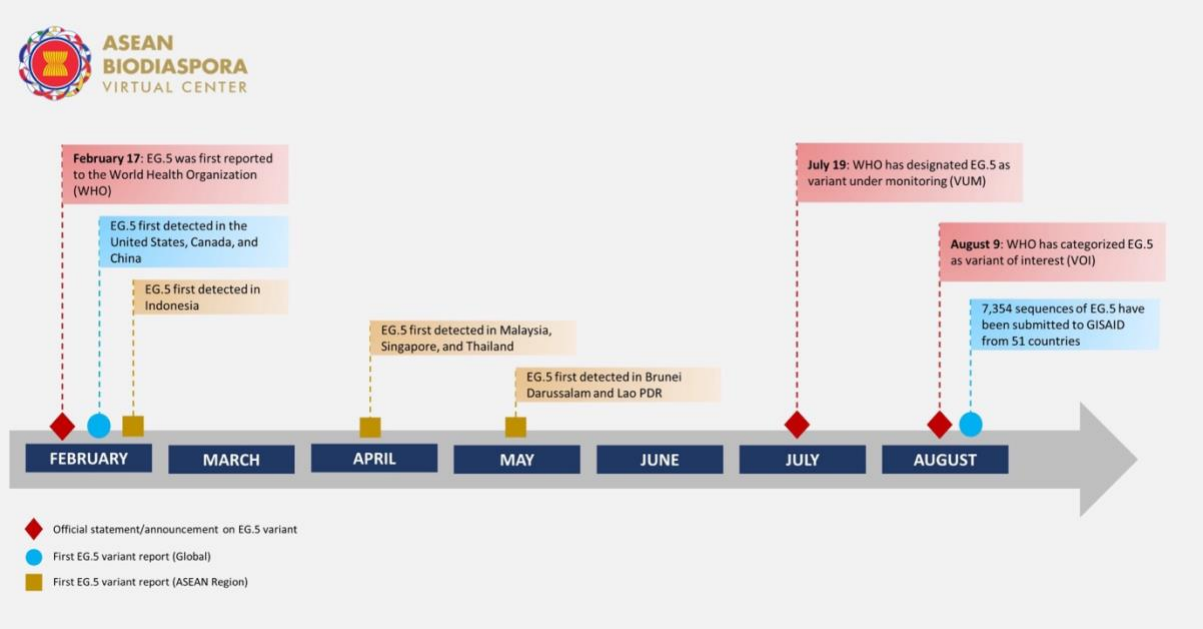
Weekly Issue

COVID-19 (EG.5 VARIANT) RISK ASSESSMENT IN THE ASEAN REGION

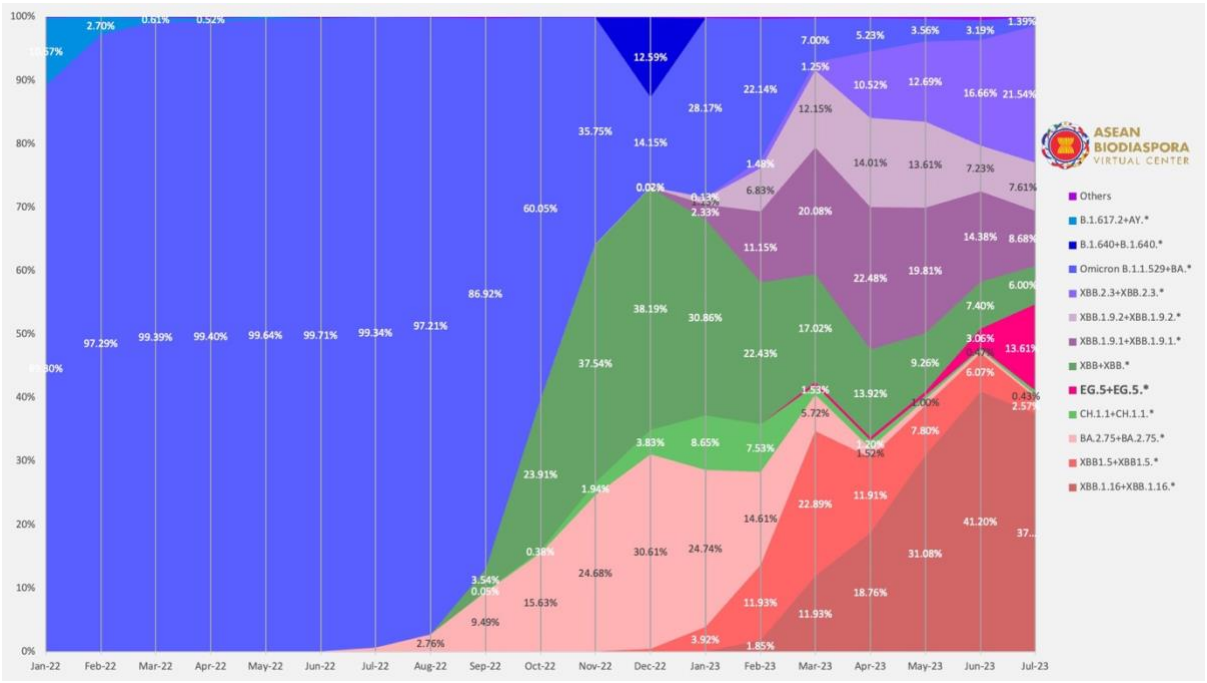
Introduction

According to the World Health Organization (WHO), 2023, COVID-19 EG.5 is a variant of interest (VOI) of XBB.1.9.2, with an additional F456L amino acid mutation in the spike protein. It was first reported on February 17, 2023, and designated as a variant under monitoring (VUM) on July 19, 2023. EG.5 and its sub-lineages have a global prevalence of 17.4%, a significant increase from the previous week's 7.6%. The public health risk posed by EG.5 is evaluated as low at the global level, aligning with the risk associated with XBB.1.16 and other circulating VOIs. Despite increased prevalence, growth advantage, and immune escape properties, there have been no reported changes in disease severity. The WHO and its Technical Advisory Group on SARS-CoV-2 Evolution recommend Member States prioritize specific actions to better address uncertainties relating to antibody escape and severity of EG.5. The recommended timelines are estimates and will vary depending on national capacities. The WHO and its Technical Advisory Group on COVID-19 Vaccine Composition regularly assess the impact of variants on the performance of COVID-19 vaccines to inform decisions on vaccine composition updates.

COVID-19 EG.5 Timeline



Relative Frequencies of COVID-19 Variants in the ASEAN Region Over Time



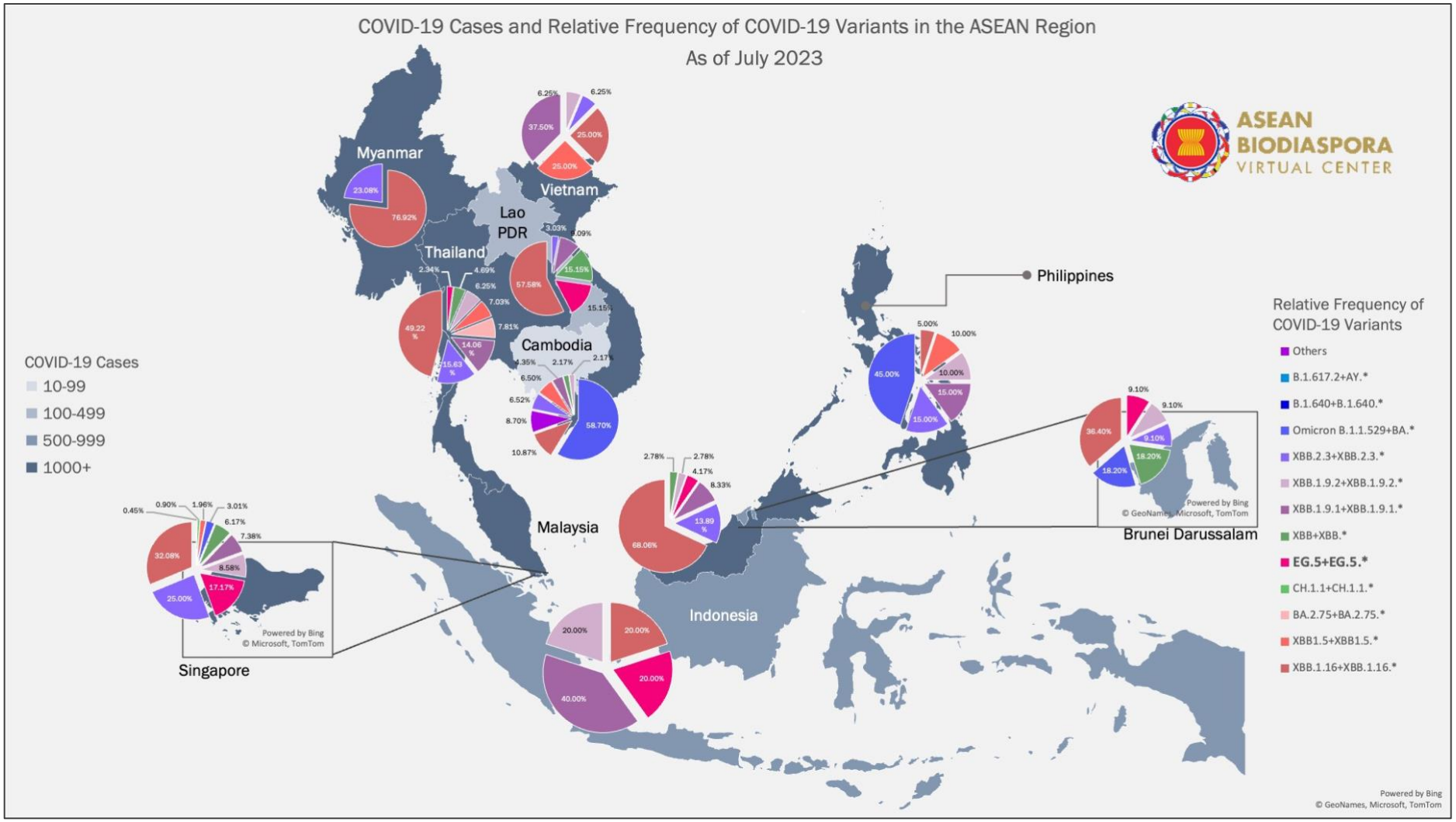
Data reference: hCoV-19 Variants Dashboard, "VOC/VOI/VUM Relative Frequencies Over Time," August 15, 2023, https://gisaid.org/hcov-19-variants-dashboard/.

Variants of Interest as of 09 August 2023

Pango Lineage	Nextstrain Clade	Genetic Features	Earliest Document Samples	AMS Current Dominant Strain
XBB.1.5	23A	Recombinant of BA.2.10.1 and BA.2.75 sublineages, i.e. BJ.1 and BM.1.1.1, with a breakpoint in S1. XBB.1 + S:F486P (similar Spike genetic profile as XBB.1.9.1)	21-Oct-2022	Indonesia, the Philippines, Singapore, Thailand, Vietnam
XBB.1.16	23B	Recombinant of BA.2.10.1 and BA.2.75 sublineages, i.e. BJ.1 and BM.1.1.1 XBB.1 + S:E180V, S:K478R and S:F486P	09-Jan-2023	Malaysia, Thailand, Vietnam, Brunei Darussalam, Lao PDR
EG.5	Not assigned	XBB.1.9.2 + S:F456L Includes EG.5.1: EG.5 + S:Q52H	17-Feb-2023	

Reference: WHO, "Tracking Sars-COV-2 Variants," World Health Organization, August 9, 2023, https://www.who.int/activities/tracking-SARS-CoV-2-variants.

COVID-19 Cases and Frequency of COVID-19 Variants in the ASEAN Region



Relative Frequency Reference: GISIAD, "Hcov-19 Variants Dashboard," GISAID, August 16, 2023, https://gisaid.org/hcov-19-variants-dashboard/.
COVID-19 Cases Reference: BlueDot Developer Portal, accessed August 16, 2023, https://developer-portal.bluedot.global/.

Efficacy of COVID-19 Bivalent Vaccines Against Omicron Variants

A bivalent booster dose given 2-3 months earlier in 18-49-year-olds provided 52% protection against symptomatic BA.5 infection and 48% against symptomatic XBB/XBB.1.5 infection (Link-Gelles et al., 2023). As new SARS-CoV-2 variants emerge, ongoing vaccine effectiveness monitoring is crucial. Bivalent vaccines offer additional protection against symptomatic BA.5-related sublineage and XBB/XBB.1.5-related sublineage infections. It is essential for all individuals to stay up-to-date with recommended COVID-19 vaccines, including receiving a bivalent booster dose when eligible.

Frequency of EG.5 variant in COVID-19 cases among ASEAN Member States as of July 2023 (GISAID, 2023)

- Brunei Darussalam – 9.10%
- Indonesia – 20.00%
- Lao PDR – 15.15%
- Malaysia – 4.17%
- Singapore – 17.17%
- Thailand – 2.34%

Importation Likelihood of COVID-19 from Countries with high cases of EG.5

Country of Destination	Country of Origin	COVID-19 Importation Likelihood[1]	% of EG.5 in COVID-19 Cases as of July 2023[2]
Cambodia	Australia	0.999999766	5.12%
	Brunei	0.564784776	4.76%
	Canada	0.685791735	17.34%
	China	0.770144126	42.53%
	France	0.999968416	22.26%
	Indonesia	0.128501876	20.00%
	Japan	1	16.46%
	Laos	0.040117318	7.81%
	Malaysia	0.99972438	4.17%
	Portugal	0.015525089	32.68%
	Singapore	1	17.17%
	South Korea	0.997775954	11.79%
	Spain	0.182020554	14.32%
	Thailand	0.499424662	2.34%
	United Kingdom	0.726076298	13.97%
	United States	0.999999998	12.36%
Myanmar	Australia	0.936070376	5.12%
	Brunei	0.17879842	4.76%
	Canada	0.01788615	17.34%
	China	0.199102223	42.53%
	France	0.499603998	22.26%

	Indonesia	0.034387551	20.00%
	Japan	0.999848072	16.46%
	Laos	0.00209878	7.81%
	Malaysia	0.98178808	4.17%
	Portugal	0.025511555	32.68%
	Singapore	1	17.17%
	South Korea	0.2618	11.79%
	Spain	0.114307323	14.32%
	Thailand	0.250620989	2.34%
	United Kingdom	0.295579822	13.97%
	United States	0.880763036	12.36%
Philippines	Australia	1	5.12%
	Brunei	1	4.76%
	Canada	0.999999546	17.34%
	China	0.674339842	42.53%
	France	0.999997265	22.26%
	Indonesia	0.396274339	20.00%
	Japan	1	16.46%
	Laos	0.003596151	7.81%
	Malaysia	0.999995026	4.17%
	Portugal	0.359510806	32.68%
	Singapore	1	17.17%
	South Korea	1	11.79%
	Spain	0.989052892	14.32%
	Thailand	0.332954172	2.34%
	United Kingdom	0.999999582	13.97%
	United States	1	12.36%
Vietnam	Australia	1	5.12%
	Brunei	0.998658278	4.76%
	Canada	0.999934878	17.34%
	China	0.732641136	42.53%
	France	1	22.26%
	Indonesia	0.550320761	20.00%
	Japan	1	16.46%
	Laos	0.081596031	7.81%
	Malaysia	1	4.17%
	Portugal	0.244434313	32.68%
	Singapore	1	17.17%
	South Korea	1	11.79%
	Spain	0.842065955	14.32%
	Thailand	0.787531908	2.34%
	United Kingdom	0.99999994	13.97%
	United States	1	12.36%

1. BlueDot Developer Portal, accessed August 16, 2023, https://developer-portal.bluedot.global/.
2. GISIAD, "Hcov-19 Variants Dashboard," GISAID, August 16, 2023, https://gisaid.org/hcov-19-variants-dashboard/.

Risk Assessment

According to the World Health Organization (2023), EG.5 poses low global public health risk, similar to XBB.1.16 and other circulating VOIs. It has increased prevalence, growth advantage, and immune escape properties, but no changes in disease severity have been reported. Although COVID-19 hospitalizations have decreased in countries like Japan and Korea, no associations have been found between EG.5 and these hospitalizations. However, EG.5's growth advantage and immune escape characteristics may cause a rise in case incidence and become dominant globally.

Recommendations and Actions

- Collectively, available evidence does not suggest that EG.5 has additional public health risks relative to the other currently circulating Omicron descendent lineages (Tetrault-Farber & Leo, 2023). EG.5 had an increased transmissibility but was not more severe than other Omicron variants (WHO).

- The standing recommendations cover seven main areas to deal with emergence of new variant EG.5 (WHO as cited in Schnirring, 2023):

    1. The guidance urges countries to update their COVID plans
    2. Sustain and share surveillance
    3. Vaccinate the most at-risk groups
    4. Report data to the WHO
    5. Collaborate on research
    6. Deliver optimal clinical care
    7. Provide equitable access to vaccines, testing, and treatment

- The ASEAN Biodiaspora Virtual Center will periodically update risk assessments for the policy recommendations of all ASEAN Member States affected by these illnesses and will continue to monitor the situation relating to EG.5 and other new variants of COVID-19 in the future.

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