GECO Philippines SARS-CoV-2 Situation Report - 2023 February

Highlights

- BA.2.3.20 sublineages continue to circulate in the country
- Recombinant sublineages including XBB show no sign of expansion

SARS-CoV-2 variants detected in the Philippines

WHO label	Pango lineage	Classification	New submission	Isolated in 3 months	Total
Alpha	B.1.1.7/Q.x	VOC	0	0	2807
Beta	B.1.351	VOC	0	0	3282
Delta	B.1.617.2/AY.x	VOC	3 (0.3)	1 (0.3)	3500
Gamma	P.1	VOC	0	0	3
Omicron	B.1.1.529/BA.x	VOC	859 (98.5)	280 (96.2)	13529
Eta	B.1.525	VUM	0	0	8
Theta	P.3	VUM	0	0	529

Table 1. Number of available sequences by variant in the Philippines as of 28 February 2023. The variants (VOC/VUM) here only include sequences that present in the GISAID or GECO data base and fulfill the definitions of WHO at the time the report is prepared. *New submission*, new sequences submitted from the last report. *Isolated in 3 months*, sequences isolated from 1 December 2022 to 28 February 2023. Numbers in the parentheses are percentage of the category (%). Note that recombinant strains involving Omicron sublineages (e.g. XBB, XBC) are provisionally classified as "Omicron".

- **VOC (Variant of Concern):** A SARS-CoV-2 variant that meets the definition of a VOI (see below) and, through a comparative assessment, has been demonstrated to be associated with (a) increase in transmissibility, (b) increase in clinical disease presentation or (c) decrease in effectiveness of public health measures including diagnostics, vaccines, therapeutics.
- **VOI (Variant of Interest):** A SARS-CoV-2 variant: (a) with genetic changes that are predicted or known to affect virus characteristics such as transmissibility, disease severity, immune escape, diagnostic or therapeutic escape; AND (b) identified to cause significant community transmission or multiple COVID-19 clusters, in multiple countries with increasing relative prevalence alongside increasing number of cases over time.
- **VUM (Variant Under monitoring):** A SARS-CoV-2 variant with genetic changes that are suspected to affect virus characteristics with some indication that it may pose a future risk, but evidence of phenotypic or epidemiological impact is currently unclear, requiring enhanced monitoring and repeat assessment pending new evidence.

- **Pango lineage:** A dynamic SARS-CoV-2 naming system that uses a phylogenetic framework (methods that involve a tree-like structure inferred based on genetic information of viruses) to identify actively spreading lineages. The Pango system is designed to track the transmission and spread of SARS-CoV-2, but does not attempt to identify or define VOCs or VOIs.

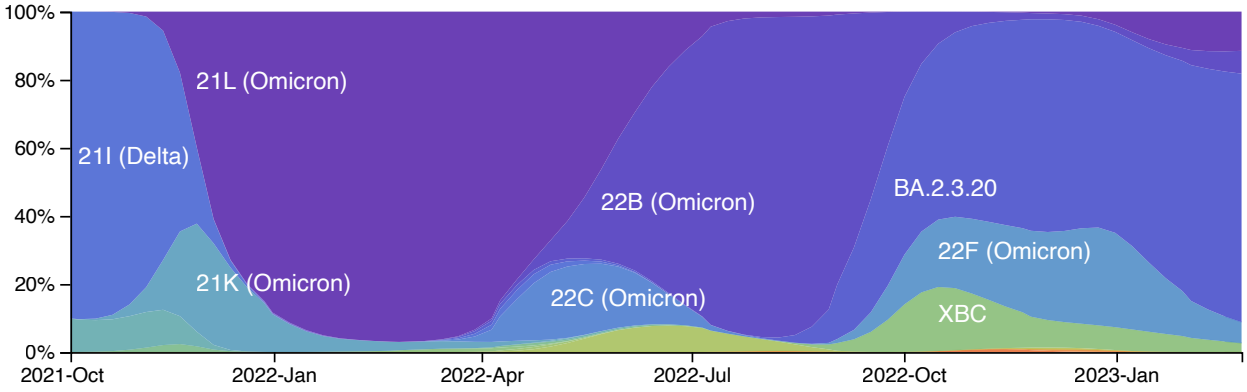

Figure 1. Temporal frequencies of SARS-CoV-2 variants in the Philippines. The figure is constructed with a subsampled genomic data set from all available sequences (methods). Different ways of classification of SARS-CoV-2 lineages isolated in the country can be visualised by selecting options for coloring in the control panel (icon on top left/right). **Note** that the latest available Philippine sequences were isolated on 31 January 2023, thus the frequencies after the time point could harbor great uncertainty.

- **Nextstrain clade** and the corresponding Pango lineage name: **21L** = BA.2, **22B** = BA.5, **22C** = BA.2.12.1, **22A** = BA.4, **22F** = XBB.

Diversity within the Omicron variant

Pango lineage	New submission	Isolated in 3 months	Total
BA.1.*	0	0	598
BA.2	6 (0.7)	6 (2.1)	751
BA.2.3	17 (1.9)	5 (1.7)	5848
BA.2.3.20.*	368 (42.2)	165 (56.7)	1096
BA.2.12.1	0	0	119
BA.2.75.*	0	0	5
Other BA.2.*	2 (0.2)	1 (0.3)	153
BA.4.*	0	0	120
BA.5	0	0	12
BA.5.2.*	5 (0.6)	4 (1.4)	3122
Other BA.5.*	3 (0.3)	0	437
BE.1.*	0	0	19
BQ.1.*	3 (0.3)	3 (1)	5
XBB.*	436 (50)	72 (24.7)	853
XBC.*	5 (0.6)	16 (5.5)	206

Table 1b. Number of available Omicron sequences in the Philippines as of 28 February 2023. *New submission*, new sequences submitted from the last report. *Isolated in 3 months*, sequences isolated from 1 December 2022 to 28 February 2023. Numbers in the parentheses are percentage of the category (%). Phylogenetic relationship of the sublineages of Omicron variant is available here.

- **BA.2.3.20** includes its descending sulbineages CM. **BE.1** = BA.5.3.1.1, a sublineage of BA.5.3; **BQ.1** = BE.1.1.1.1, a sublineage of BE.1 (and also a sublineage of BA.5.3). **XBB** sublineages are recombinant viruses between BJ.1 (BA.2.10.1.1) and BA.2.75, whereas **XBC** are recombinant viruses between BA.2 and Delta.

Diversity within the Delta variants

More than 70 Pango lineages have been found among Delta variants isolated in the Philippines, with >40 sublineages that have more than 2 isolated sequences as of March 2022. Phylogenetic relationship of the sublineages of Delta variant is available here.

SARS-CoV-2 variants detected by administrative region

Region	New submission	Dominant variant in 3 months	Isolated in 3 months	Total
NCR	4 (0.5)	CM.8.1 (100)	2 (0.7)	5807
Ilocos	7 (0.8)	CM.10 (38.9)	18 (6.2)	765
CAR	0	CM.10 (66.7)	3 (1)	1349
Cagayan Valley	0	-	0	1562
Central Luzon	2 (0.2)	CM.8.1 (42.9)	7 (2.4)	1686
Calabarzon	0	XBB (30)	10 (3.4)	3518
Mimaropa	1 (0.1)	BA.2.3.20 (14.3)	14 (4.8)	638
Bicol	0	BA.2.3.20 (27.8)	18 (6.2)	738
Western Visayas	797 (91.4)	XBB (31.5)	124 (42.6)	4445
Central Visayas	0	-	0	1194
Eastern Visayas	0	-	0	238
Zamboanga Peninsula	0	-	0	778
Northern Mindanao	0	CM.10 (100)	1 (0.3)	530
Davao	57 (6.5)	CM.8.1 (17.6)	74 (25.4)	2705
Soccsksargen	1 (0.1)	XBC.1 (25)	16 (5.5)	804
Caraga	3 (0.3)	CM.8.1 (25)	4 (1.4)	628
BARMM	0	-	0	138

Table 2. Number of available sequences by administrative region in the Philippines as of 28 February 2023. *New submission*, new sequences submitted from the last report. *Dominant variant in 3 months*, the major variant isolated from 1 December 2022 to 28 February 2023. A dash indicates no sequence isolated. *Isolated in 3 months*, sequences isolated from 1 December 2022 to 28 February 2023. Numbers next to the dominant variant indicate percentage of the variant in the region, whereas other numbers in the parentheses are percentage of the category.

NCR, National Capital Region; CAR, Cordillera Administrative Region; BARMM, Bangsamoro Autonomous Region in Muslim Mindanao.

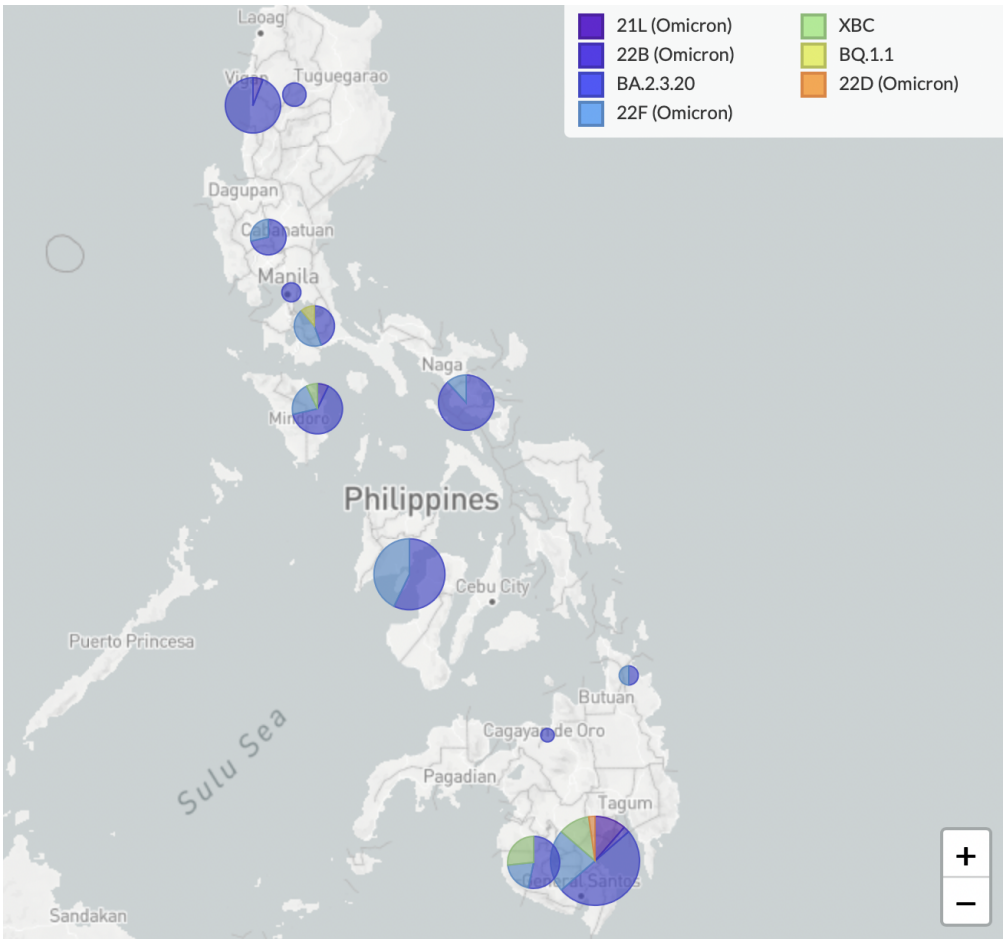

Figure 2. Frequencies of SARS-CoV-2 variants by administrative region in the Philippines since 1 December 2022. The figure is constructed with a subsampled genomic data set from all available sequences as Figure 1. Frequencies of isolates in a particular time frame and frequencies classified with the Pango linage can be adjusted with the control panel (icon on top left/right).

- **Nextstrain clade** and the corresponding Pango lineage name: **22B** = BA.5, **22F** = XBB.

Philippines specific SARS-CoV-2 lineages

Figure 3. Temporal frequencies of Philippine lineages (clusters) identified by Grapevine-anywhere. Each sequence submitted to GECO database would undergo *Grapevine-anywhere* pipeline to detect sustain local transmission. A cluster is defined based on multiple sequences isolated in the Philippines that appeared to descend from the same introductory event on a phylogenetic tree. Phylogenetic relationships of these lineages can be found here.

Cluster name	Date first identified	Pango lineage	Distribution	New sub-mission	Isolated in 3 months	Total
PH_421	2022-01-10	BA.2.3.20	>3 regions	0	153	861
PH_41	2022-09-15	XBB	>3 regions	0	38	617

Cluster name	Date first identified	Pango lineage	Distribution	New sub-mission	Isolated in 3 months	Total
PH_413	2022-10-17	BA.2	>3 regions	0	7	19
PH_317	2022-01-07	BA.5.2	>3 regions	0	7	3153
PH_31	2022-11-16	XBB.1.2	>3 regions	0	6	8
PH_34	2022-11-21	XBB.1.2	>3 regions	0	4	7
PH_52	2022-10-23	XBB	Western Visayas; Davao	0	4	22
PH_13	2022-08-27	XBC.1	Davao; Western Visayas; Caraga	0	4	60
PH_190	2020-08-13	B.1.351	>3 regions	0	3	6475
PH_15	2022-02-11	XBC.1	Soccsksargen; Davao	0	2	11
PH_12	2022-01-11	XBC.1	>3 regions	0	2	41
PH_40	2022-10-07	XBB	Western Visayas; Calabarzon; NCR	0	1	17
PH_45	2022-10-05	XBB	Western Visayas	0	1	26
PH_43	2022-10-03	XBB	Western Visayas	0	0	29
PH_48	2022-09-20	XBB	Davao; Soccsksargen; Western Visayas	0	0	16
PH_21	2022-09-05	XBC.1	>3 regions	0	0	10
PH_16	2022-09-02	XBC.1	Davao	0	0	7
PH_274	2022-07-28	BA.2.76	Western Visayas; Soccsksargen	0	0	5
PH_323	2022-06-19	BA.4	Soccsksargen; BARMM; Davao	0	0	5
PH_265	2022-06-17	BA.2.74	Davao; Calabarzon; Soccsksargen	0	0	9
PH_324	2022-06-03	BA.4	Bicol; Western Visayas	0	0	11
PH_368	2022-05-31	BA.2	NCR; Calabarzon; Western Visayas	0	0	7
PH_335	2022-05-28	BA.4	Soccsksargen; Davao; Northern Mindanao	0	0	66
PH_286	2022-05-24	BA.2.12.1	Davao; Caraga; Soccsksargen	0	0	5
PH_381	2022-05-20	BA.2	Mimaropa	0	0	12
PH_341	2022-05-04	BA.2	Cagayan Valley	0	0	6
PH_311	2022-04-29	BA.2.12.1	Mimaropa; Calabarzon	0	0	12
PH_408	2022-04-26	BA.2	NCR; Calabarzon	0	0	10
PH_278	2022-04-22	BA.2.12.1	>3 regions	0	0	15
PH_287	2022-04-15	BA.2.12.1	Davao; Ilocos	0	0	6
PH_608	2022-03-20	BA.2.3	NCR; Davao; Soccsksargen	0	0	5
PH_11	2022-03-11	XBC.1	Soccsksargen	0	0	6
PH_338	2022-02-24	BA.2.10	NCR; Central Visayas; CAR	0	0	6
PH_470	2022-02-19	BA.2.3	Calabarzon; NCR	0	0	5
PH_480	2022-02-16	DD.1	Western Visayas; NCR	0	0	15
PH_385	2022-02-13	BA.2	NCR; Calabarzon; Western Visayas	0	0	5
PH_363	2022-01-29	BA.2	NCR; Central Visayas	0	0	6
PH_637	2022-01-23	BA.2.3.2	NCR; Zamboanga Peninsula	0	0	8
PH_272	2022-01-16	BA.2	Central Visayas; NCR; Davao	0	0	8
PH_567	2022-01-12	BA.2	>3 regions	0	0	6
PH_661	2022-01-12	BA.2.3	Western Visayas; Davao	0	0	18
PH_456	2022-01-10	BA.2.3	>3 regions	0	0	9
PH_361	2022-01-08	BA.2	>3 regions	0	0	10
PH_436	2022-01-08	BA.2.3	>3 regions	0	0	23
PH_604	2022-01-08	BA.2.3	>3 regions	0	0	5
PH_652	2022-01-08	BA.2.3	>3 regions	0	0	6
PH_351	2022-01-07	BA.2	>3 regions	0	0	21

Cluster name	Date first identified	Pango lineage	Distribution	New sub-mission	Isolated in 3 months	Total
PH_446	2022-01-07	BA.2.3	Western Visayas; Davao; Soccsksargen	0	0	5
PH_533	2022-01-07	BA.2.3	Calabarzon; Davao; CAR	0	0	5
PH_554	2022-01-07	BA.2.3	Central Luzon; Western Visayas; Zamboanga Peninsula	0	0	5
PH_454	2022-01-05	BA.2.3	>3 regions	0	0	7
PH_461	2022-01-05	BA.2.3	>3 regions	0	0	10
PH_569	2022-01-05	BA.2.3	>3 regions	0	0	9
PH_585	2022-01-05	BA.2.3	Ilocos; BARMM; Western Visayas	0	0	5
PH_538	2022-01-04	BA.2.3	>3 regions	0	0	10
PH_557	2022-01-04	BA.2.3	Zamboanga Peninsula	0	0	10
PH_582	2022-01-04	BA.2.3	>3 regions	0	0	12
PH_648	2022-01-04	BA.2.3	Central Visayas; Zamboanga Peninsula; Caraga	0	0	16
PH_448	2022-01-03	BA.2.3	>3 regions	0	0	8
PH_534	2022-01-03	BA.2.3	>3 regions	0	0	9
PH_555	2022-01-03	BA.2.3	>3 regions	0	0	17
PH_559	2022-01-03	BA.2.3	>3 regions	0	0	5
PH_603	2022-01-03	BA.2.3	>3 regions	0	0	15
PH_633	2022-01-03	BA.2.3	>3 regions	0	0	8
PH_639	2022-01-03	BA.2.3	>3 regions	0	0	5
PH_590	2022-01-02	BA.2.3	>3 regions	0	0	10
PH_602	2022-01-02	BA.2.3	>3 regions	0	0	19
PH_617	2022-01-02	BA.2.3	>3 regions	0	0	7
PH_627	2022-01-02	BA.2.3	>3 regions	0	0	14
PH_631	2022-01-02	BA.2.3	>3 regions	0	0	12
PH_586	2022-01-01	BA.2.3	>3 regions	0	0	18
PH_601	2022-01-01	BA.2.3	Bicol; Central Luzon; NCR	0	0	6
PH_356	2021-12-31	BA.2	>3 regions	0	0	11
PH_458	2021-12-31	BA.2.3	>3 regions	0	0	14
PH_528	2021-12-31	BA.2.3	>3 regions	0	0	18
PH_558	2021-12-31	BA.2.3	>3 regions	0	0	5
PH_659	2021-12-31	BA.2.3	>3 regions	0	0	23
PH_529	2021-12-30	BA.2.3	>3 regions	0	0	13
PH_386	2021-12-29	BA.2	>3 regions	0	0	15
PH_527	2021-12-29	BA.2.3	>3 regions	0	0	8
PH_541	2021-12-29	BA.2.3	>3 regions	0	0	15
PH_641	2021-12-29	BA.2.3	>3 regions	0	0	6
PH_642	2021-12-29	BA.2.3	>3 regions	0	0	9
PH_345	2021-12-28	BA.2	>3 regions	0	0	73
PH_437	2021-12-28	BA.2.3	>3 regions	0	0	9
PH_621	2021-12-28	BA.2.3	>3 regions	0	0	50
PH_422	2021-12-27	BA.2.3	>3 regions	0	0	144
PH_452	2021-12-27	BA.2.3	>3 regions	0	0	5
PH_484	2021-12-27	BA.2.3	Western Visayas; NCR	0	0	5
PH_526	2021-12-27	BA.2.3	>3 regions	0	0	139
PH_530	2021-12-27	BA.2.3	>3 regions	0	0	15
PH_572	2021-12-27	BA.2.3	>3 regions	0	0	34
PH_643	2021-12-27	BA.2.3	>3 regions	0	0	142
PH_644	2021-12-26	BA.2.3	>3 regions	0	0	33

Cluster name	Date first identified	Pango lineage	Distribution	New sub-mission	Isolated in 3 months	Total
PH_622	2021-12-25	BA.2.3	>3 regions	0	0	148
PH_618	2021-12-24	BA.2.3	>3 regions	0	0	145
PH_433	2021-12-23	BA.2.3	>3 regions	0	0	17
PH_571	2021-12-23	BA.2.3	>3 regions	0	0	15
PH_607	2021-12-23	BA.2.3	>3 regions	0	0	14
PH_657	2021-12-23	BA.2.3	>3 regions	0	0	173
PH_523	2021-12-22	BA.2.3	>3 regions	0	0	72
PH_442	2021-12-19	BA.2.3	>3 regions	0	0	781
PH_531	2021-12-02	BA.2.3	>3 regions	0	0	2489
PH_259	2021-11-20	BA.1.1	>3 regions	0	0	473
PH_625	2021-05-25	BA.2.3	>3 regions	0	0	244
PH_260	2021-05-15	B.1.1.529	>3 regions	0	0	8
PH_532	2021-05-15	BA.2.3	>3 regions	0	0	114
PH_87	2021-05-06	B.1.1.7	>3 regions	0	0	7
PH_89	2021-04-19	B.1.1.7	Davao; Soccsksargen	0	0	18
PH_96	2021-04-19	B.1.1.7	>3 regions	0	0	16
PH_81	2021-04-14	B.1.1.7	>3 regions	0	0	24
PH_226	2021-04-02	B.1.1.519	NCR	0	0	5
PH_78	2021-03-25	B.1.1.7	>3 regions	0	0	28
PH_90	2021-03-22	B.1.1.7	>3 regions	0	0	31
PH_93	2021-03-19	B.1.1.7	>3 regions	0	0	12
PH_27	2021-03-09	XBC.1	Western Visayas; Calabarzon; Mimaropa	0	0	12
PH_75	2021-03-06	B.1.1.7	>3 regions	0	0	31
PH_113	2021-03-05	B.1.1.7	>3 regions	0	0	32
PH_165	2021-03-05	B.1.1.63	NCR; Calabarzon	0	0	5
PH_76	2021-03-05	B.1.1.7	>3 regions	0	0	24
PH_88	2021-03-05	B.1.1.7	>3 regions	0	0	32
PH_97	2021-03-05	B.1.1.7	>3 regions	0	0	24
PH_95	2021-03-04	B.1.1.7	>3 regions	0	0	18
PH_91	2021-02-22	B.1.1.7	NCR; Calabarzon; Central Luzon	0	0	13
PH_57	2021-02-15	B.1.1.7	>3 regions	0	0	55
PH_137	2021-02-12	B.1.1.7	>3 regions	0	0	72
PH_112	2021-02-11	B.1.1.7	>3 regions	0	0	14
PH_36	2021-02-06	B.1.1.7	>3 regions	0	0	1461
PH_187	2021-01-27	B.1.1.63	NCR; Calabarzon	0	0	7
PH_133	2021-01-26	B.1.1.7	>3 regions	0	0	48
PH_159	2021-01-25	B.1.1.63	Calabarzon	0	0	5
PH_698	2021-01-21	B.1.466.1	Calabarzon; NCR	0	0	20
PH_215	2021-01-19	B.1.1	>3 regions	0	0	29
PH_246	2021-01-15	B.1.1.28	Davao; NCR; Soccsksargen	0	0	9
PH_691	2021-01-12	B.1.441	NCR; Central Visayas	0	0	5
PH_245	2021-01-11	B.1.1.28	Soccsksargen; Davao; Calabarzon	0	0	14
PH_253	2021-01-11	B.1.1.28	Davao	0	0	14
PH_232	2021-01-08	B.1.1	Calabarzon; Central Visayas; NCR	0	0	6
PH_242	2021-01-08	P.3	>3 regions	0	0	452
PH_106	2021-01-07	B.1.1.7	>3 regions	0	0	342
PH_71	2021-01-07	B.1.1.7	NCR; Calabarzon; Central Visayas	0	0	12

Cluster name	Date first identified	Pango lineage	Distribution	New sub-mission	Isolated in 3 months	Total
PH_72	2021-01-07	B.1.1.7	NCR; Central Luzon; Central Visayas	0	0	6
PH_250	2021-01-06	B.1.1.28	>3 regions	0	0	45
PH_56	2021-01-05	B.1.1.7	>3 regions	0	0	134
PH_251	2021-01-03	B.1.1.28	Davao; Soccsksargen	0	0	17
PH_109	2020-12-29	B.1.1.7	>3 regions	0	0	8
PH_676	2020-12-28	B.1.524	>3 regions	0	0	10
PH_176	2020-12-18	B.1.1.63	Cagayan Valley; NCR	0	0	7
PH_214	2020-12-17	B.1.1.263	CAR; Cagayan Valley; Central Luzon	0	0	65
PH_185	2020-12-15	B.1.1.63	NCR; Calabarzon; CAR	0	0	11
PH_115	2020-12-10	B.1.1.7	NCR; Calabarzon; Central Visayas	0	0	5
PH_183	2020-12-10	B.1.1.63	Calabarzon; NCR	0	0	5
PH_173	2020-12-04	B.1.1.63	NCR; Central Luzon	0	0	10
PH_248	2020-12-02	B.1.1.28	>3 regions	0	0	36
PH_249	2020-12-02	B.1.1.28	NCR; Calabarzon; Caraga	0	0	21
PH_199	2020-11-25	B.1.1	Calabarzon; NCR	0	0	11
PH_194	2020-11-22	B.1.1.63	Calabarzon; NCR	0	0	9
PH_727	2020-11-20	B.6	Cagayan Valley; Calabarzon	0	0	6
PH_208	2020-11-15	B.1.1.263	CAR; Cagayan Valley; Calabarzon	0	0	9
PH_725	2020-11-10	B.6	NCR; Calabarzon	0	0	5
PH_243	2020-11-07	B.1.1.28	Calabarzon; NCR; Central Luzon	0	0	6
PH_680	2020-11-06	B.1.36	Calabarzon; NCR	0	0	9
PH_193	2020-11-03	B.1.1.63	Calabarzon	0	0	6
PH_188	2020-11-02	B.1.1.63	>3 regions	0	0	34
PH_163	2020-11-01	B.1.1.63	>3 regions	0	0	14
PH_207	2020-10-30	B.1.1.263	NCR; Ilocos; Central Visayas	0	0	6
PH_205	2020-10-11	B.1.1.263	>3 regions	0	0	68
PH_252	2020-08-24	B.1.1.28	>3 regions	0	0	15
PH_677	2020-08-22	B.1	NCR; Calabarzon; Davao	0	0	12
PH_172	2020-08-07	B.1.1.63	>3 regions	0	0	20
PH_201	2020-08-07	B.1.1	NCR	0	0	5
PH_728	2020-08-06	B.6	>3 regions	0	0	31
PH_200	2020-08-05	B.1.1	Calabarzon; NCR	0	0	5
PH_92	2020-07-22	B.1.1.63	>3 regions	0	0	127
PH_189	2020-07-19	B.1.1.63	Calabarzon; NCR; Western Visayas	0	0	24
PH_667	2020-07-15	B.1	>3 regions	0	0	30
PH_143	2020-07-12	B.1.1	NCR; Calabarzon; Mimaropa	0	0	13
PH_175	2020-07-09	B.1.1.63	>3 regions	0	0	121
PH_142	2020-07-08	B.1.1	>3 regions	0	0	263
PH_160	2020-07-08	B.1.1.63	>3 regions	0	0	80
PH_678	2020-07-08	B.1	Mimaropa; NCR; Central Visayas	0	0	9
PH_167	2020-07-07	B.1.1.63	NCR; Calabarzon; Cagayan Valley	0	0	13
PH_174	2020-07-07	B.1.1.63	>3 regions	0	0	33
PH_238	2020-07-05	B.1.1.28	>3 regions	0	0	234

Cluster name	Date first identified	Pango lineage	Distribution	New submission	Isolated in 3 months	Total
PH_153	2020-07-01	B.1.1.63	NCR; Calabarzon; CAR	0	0	8
PH_156	2020-07-01	B.1.1.63	>3 regions	0	0	234
PH_180	2020-06-29	B.1.1.63	>3 regions	0	0	132
PH_171	2020-06-23	B.1.1.63	NCR	0	0	5
PH_204	2020-06-16	B.1.1.263	>3 regions	0	0	137
PH_708	2020-06-11	B.1	NCR; Western Visayas	0	0	9
PH_724	2020-03-11	B.6	NCR; Cagayan Valley	0	0	6
PH_2	2020-03-10	B.6	>3 regions	0	0	20

Table 3. Number of sequences by cluster identified with the Grapevine-anywhere as of 28 February 2023. A cluster is defined based on multiple sequences isolated in the Philippines that appeared to descend from the same introductory event on a phylogenetic tree. *Date first identified*, the isolation date of the first identified sequence. *Pango lineage*, the major Pango lineage of the sequences that belong to the same cluster. *New submission*, new sequences submitted from the last report. *Isolated in 3 months*, sequences isolated from 1 December 2022 to 28 February 2023.

SARS-CoV-2 sequencing in the Philippines

Total available SARS-CoV-2 sequences in the Philippines: 27550

SARS-CoV-2 sequences from GECO project: 3672

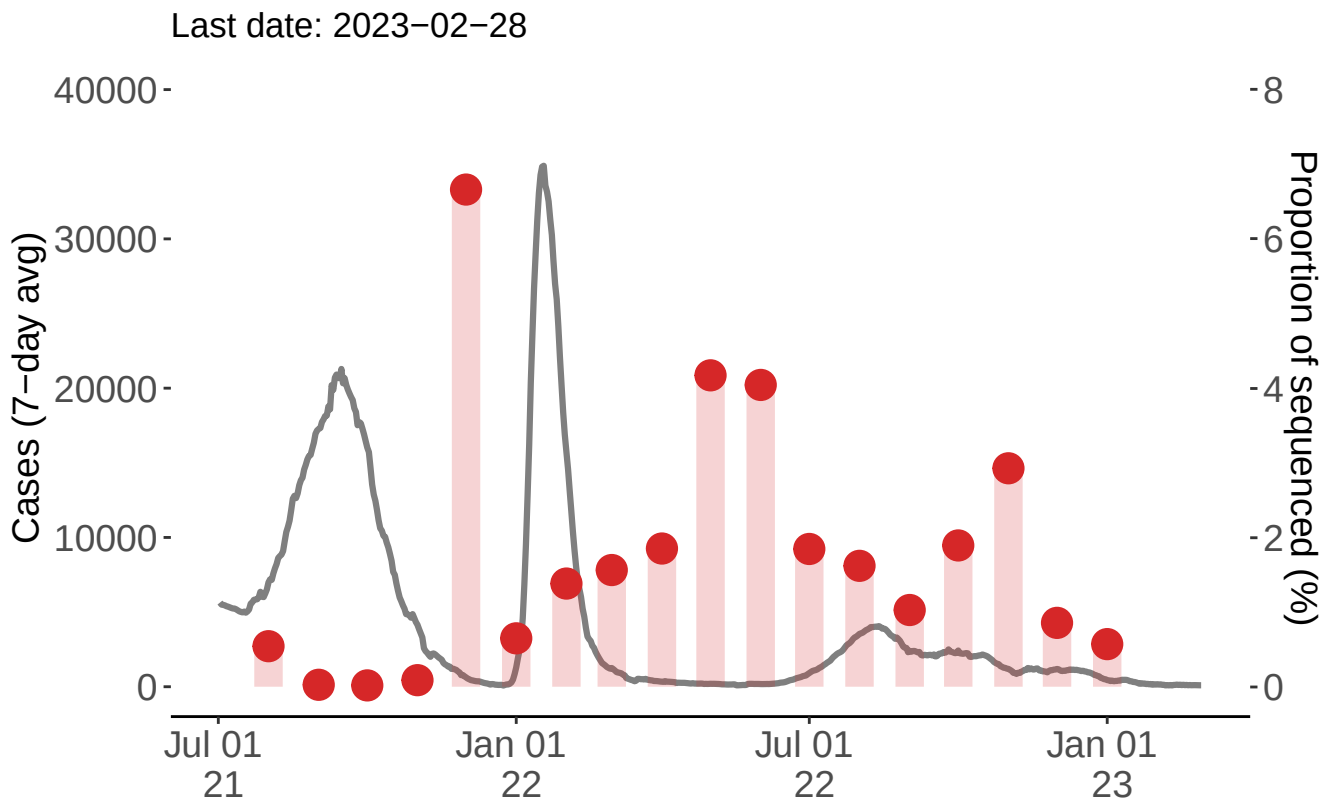

Figure 4. Number of COVID-19 cases and the proportion of sequenced samples in the Philippines from July 2021. The gray line indicates the mean cases in a 7 days window based on the JHU data base, whereas the red bars indicate the estimated percentage of sequenced samples among cases in a month.

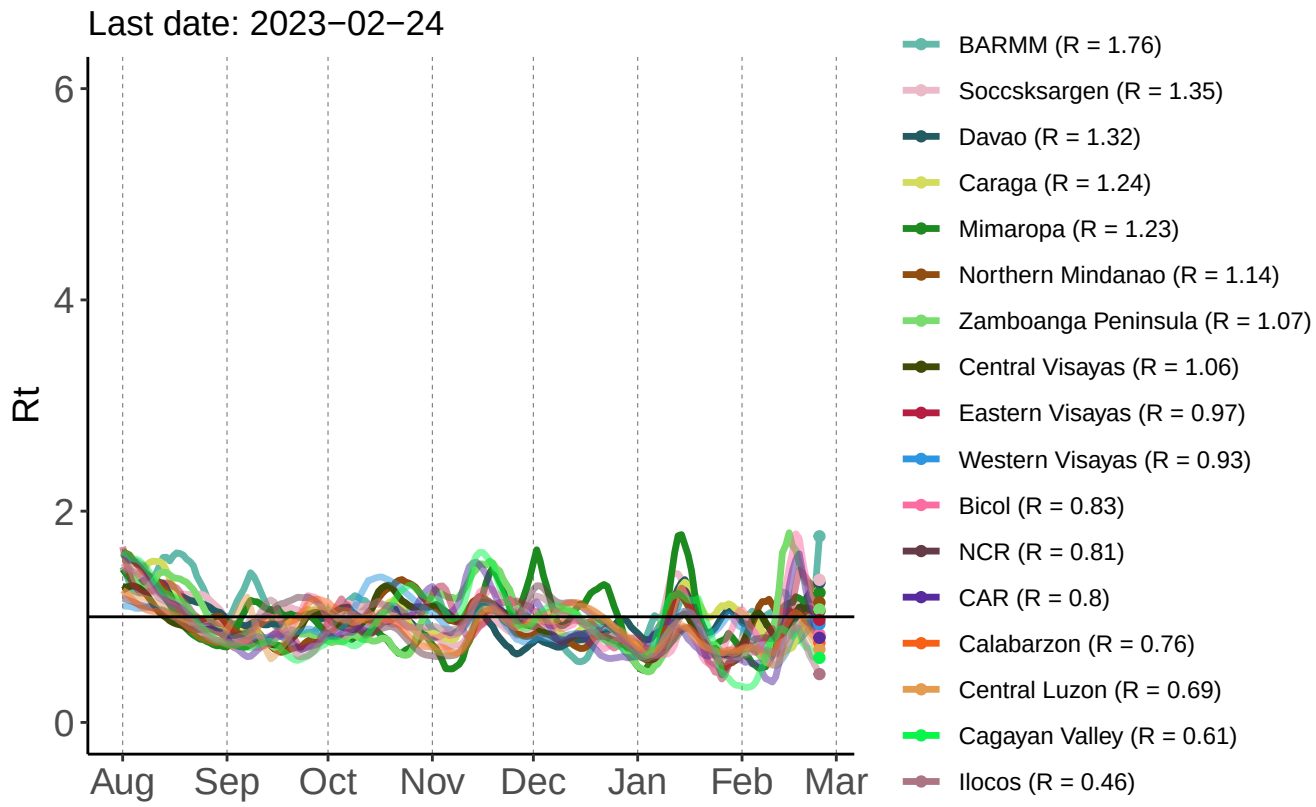

Figure 5. Mean effective reproductive number (Rt) of COVID-19 in the Philippines by region from August 2022. The reproductive number (R) is defined as the number of new infections that one infected patient can cause in a susceptible population. Here, *the mean effective reproductive number* (Rt) was inferred by daily number of cases reported in MOH, Philippines in a window of seven days. The horizontal line indicates one. If Rt is greater than 1, the case number in the region will likely continue to grow. If the Rt is below 1, the new cases may continue to appear at a slower rate. The R values denoted with the region name represent the most recent estimates. More regional epidemiological statistics can be found here.

SARS-CoV-2 mutations of interest

Omicron sublineage convergent sites

- **R346X** (K: BA.1.1; T: BA.5.2, BA.2.75.2): Distribution on the Philippine isolates
- **K444X** (R: BA.2.3.20; M: BR.1 [a BA.2.75.4.*]; T: BQ.1): Distribution on the Philippine isolates
- **L452X** (R: BA.4/BA.5, BA.2.35; M: BA.2.3.20): Distribution on the Philippine isolates
- **N460X** (K: BA.2.75, BQ.1 [a BA.5.3.*], BA.2.3.20): Distribution on the Philippine isolates
- **F486X** (V: BA.4/BA.5, S: BA.2.75.2, XBB.1.5): Distribution on the Philippine isolates

- **R493X** (Q: BA.4/BA.5, BA.2.75, BA.2.3.20): Distribution on the Philippine isolates

Other Spike protein

- **69-70Del** (Alpha, Omicron): Distribution on the Philippine isolates
- **T95I** (Mu, Omicron): Distribution on the Philippine isolates
- **144-** (Alpha, Eta, Omicron): Distribution on the Philippine isolates
- **K417N** (Beta, Omicron): Distribution on the Philippine isolates
- **T478K** (Delta, Omicron): Distribution on the Philippine isolates
- **E484K** (Beta, Gamma, Eta, Mu): Distribution on the Philippine isolates
- **N501Y** (Alpha, Beta, Gamma, Mu, Omicron): Distribution on the Philippine isolates
- **H655Y** (Gamma, Omicron): Distribution on the Philippine isolates

Relevant functions including antibody escape (S 69-70Del, S 144, S 346, S 417, S 484) and receptor binding (S 417, S 484, S 501). 69-70Del, deletions at positions 69-70.

Data sources and references

Data

- GECO website
- DOH Data drop
- GISAID (EPI-SET: EPI_SET_230228eg)
- JHU COVID data

Methods

- Analyses in this report
- Nextstrain (build for GECO project)
- Grapevine-anywhere

References

- WHO
- Pango lineage list

Online version and previous reports

GECO Monthly Report

2023-01 pdf

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