Respiratory Viruses in Luxembourg (ReViLux)

Sentinel Network Report -Week 13

Summary of Sentinel Network activities

At the end of week **2025/13**, the sentinel network detected a low epidemic activity, based on **5.5%** of consultations being associated with influenza-like illness. Among the specimens collected by the sentinel network over the last week, the percentage of positive tests for **Human rhinovirus** was **26.3%**, **18.4%** for **Metapneumovirus** and **15.8%** for **Influenza A**, while **SARS-CoV-2** activity was not detected.

In total, this season (24/25) 2,656 samples were received with 891 Influenza positive samples (395 Influenza B and 496 Influenza A). So far, 475 of the 496 Influenza A samples (95.8%) have been subtyped. Hundred and ninety seven (41.5%) Influenza A samples have been subtyped as A(H1)pdm09 and 278 (58.5%) samples as A(H3) virus. Combined Influenza A and B positivity rates remained stable at 23.7% with mix of subtypes co-circulating.

RSV continues to circulate at 6.6% in week 2025/13, with 41.6% of subtype A and 58.4% subtype B cases this season (24/25).

Syndromic surveillance over the last 4 weeks (Table 1)

Week	ARI		ILI		Total consultations
	N	%	N	%	
2025/10	60	16.71	34	9.47	359
2025/11	36	11.32	36	11.32	318
2025/12	70	16.28	22	5.12	430
2025/13	51	15.55	18	5.49	328

ARI: Acute Respiratory Infections; ILI: Influenza-Like Illness.

Sentinel Surveillance Network

The Sentinel Surveillance aims to monitor circulating respiratory viruses, from traditional ones like Influenza to more recent ones like SARS-CoV-2, and hence underpin public health actions. The Sentinel Network is a group of general practitioners and paediatricians spread across the country. They report the weekly number of patients showing symptoms suggestive of acute respiratory infection (ARI) and influenza-like illness (ILI), and those patients are then sampled and tested for a panel of respiratory viruses. The circulation of respiratory viruses in the north hemisphere is generally monitored by seasons that go from week 40 to week 20. The period between weeks 20 and 40 is usually called inter-season.

Clinical results

Last week **(end of week 2025/13)**, **5.5%** of the consultations were reported as ILI, representing a low epidemic activity for Luxembourg, according to ECDC and the Moving Epidemic Method. Over the last two weeks reported ILI rates indicate slow declining levels of respiratory virus activity.

The history of ILI consultations is displayed in figure 1, and a detailed summary of the number of ARI and ILI cases during the last four weeks is included in table 1.

Laboratory results

In week 2025/13, the most frequently detected viruses (according to positivity rates) were **Human rhinovirus (26.3%)**, followed by **Metapneumovirus (18.4%)** and **Influenza A (15.8%)**. During week 2025/13, Influenza B remained below 10%, Influenza A remained stable, while SARS-CoV-2 activity was not detected within the sentinel network (figure 4). An overview of the circulating viral pathogens during the current and previous inter- season is displayed in figure 2 and table 2.

More than 60% of Influenza B cases identified in the past two weeks were in children under 5 years of age, while Influenza A has been detected in all age-groups.

Over the last week (2025/13), RSV positivity increased slightly from 2.2% (2025/12) to 6.6% (2025/13), indicating still low circulation within the network. So far this season (24/25), two hundred and seventy five RSV cases have been detected, including ninety nine RSV-A cases and hundred and thirty nine RSV-B cases. Approximately, 55% of cases were aged 1 and 4 years (figure 3).

In total, 2656 sentinel samples have been analysed with more than 60% of samples belonging to age-group below 18 years and with 52% of female cases. However, over the past week, 35% of samples were from adults over 18 years old and 11% from adults above 65 years old (figure 4).

Over the past 2 weeks, Human rhinovirus and Metapneumovirus were detected in all age-groups, while Adenovirus and Parainfluenza were detected predominantly in children.

Over the last 4 weeks, about 80% of all co-infections (N=37) were detected primarily in children below 5 years and 13% in children aged between 5 and 18 years. The most commonly identified combination was Human rhinovirus with Metapneumovirus. So far this season, ten patients were co-infected with Influenza A and B.

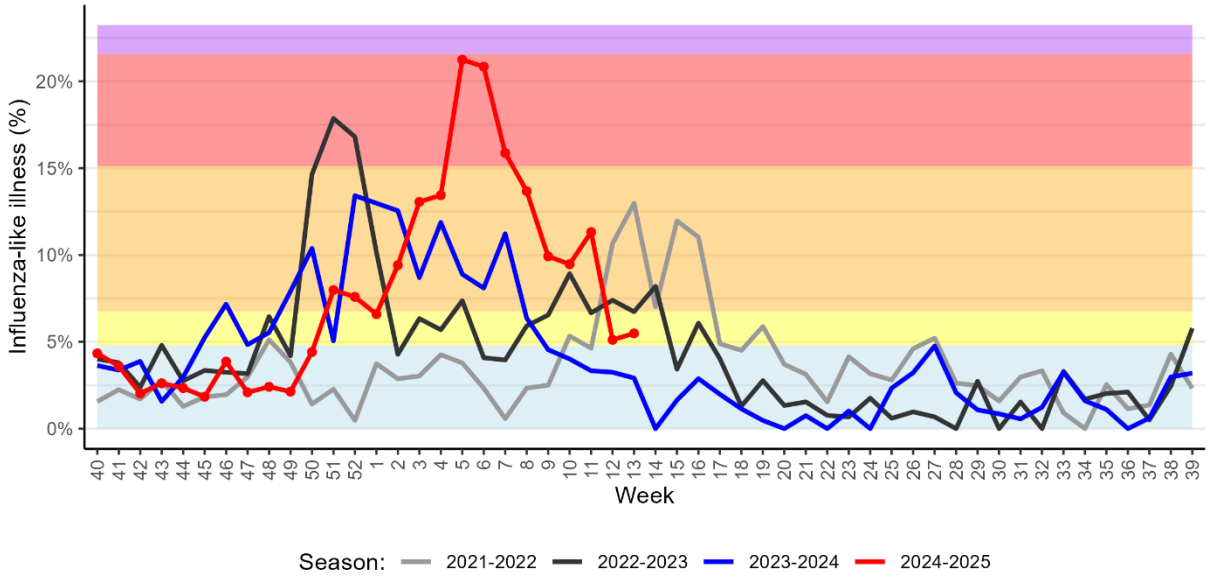

Figure 1. Percentage of patients with Influenza-like illness over the last three seasons
Background colours according to intensity of circulation: baseline, low, medium, high, very high.

Table 2. Distribution of respiratory viruses detected within the Sentinel Network previous 4 weeks compared to previous year. Data for week 2025/12 not yet completely consolidated

Virus	Season 2024/25					Season 2023/24	
	Positivity Rate in %						
	W10	**W11**	**W12**	**W13**	**Total N (%)**	**W13**	**Total N (%)**
Human rhinovirus	25,0	15,0	24,7	26,3	622 (23,5)	32,4	572 (24,9)
Metapneumovirus	7,7	9,3	14,6	18,4	117 (4,4)	17,6	125 (5,4)
Influenzavirus A	16,3	10,3	11,2	15,8	496 (18,7)	2,8	388 (16,5)
Influenzavirus B	14,4	13,1	9,0	7,9	395 (14,9)	2,8	12 (0,5)
Adenovirus	9,6	10,3	5,6	9,2	171 (6,5)	2,9	125 (5,4)
Respiratory syncytial virus	4,8	1,9	2,2	6,6	275 (10,4)	0,0	212 (9,2)
Parainfluenzavirus	1,0	2,8	4,5	5,3	74 (2,8)	17,6	77 (3,4)
SARS-CoV-2	0,0	0,9	1,1	0,0	71 (2,7)	0,0	227 (9,7)

Co-detection counted once for each virus detected & N- total number of detection during season

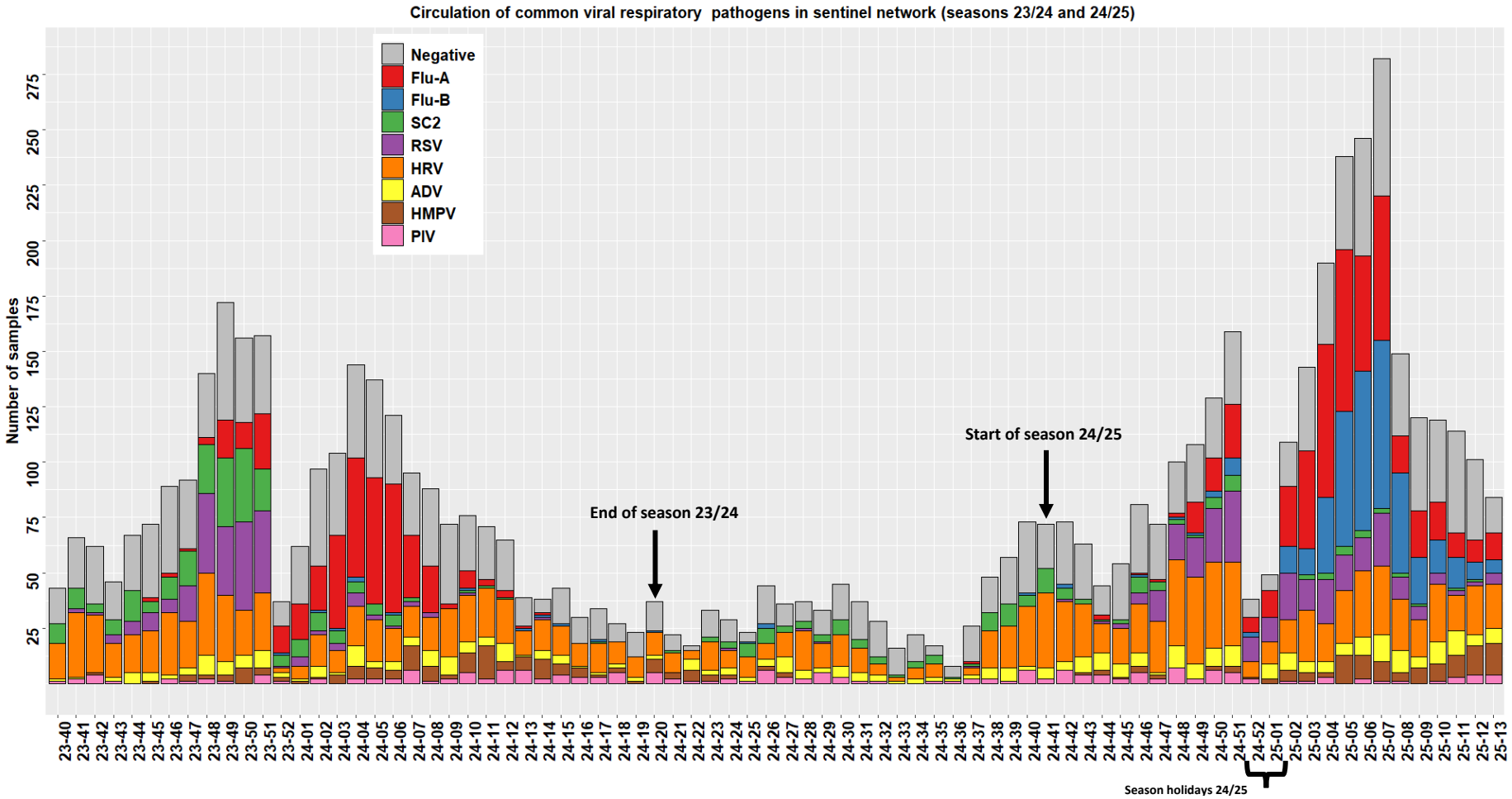

Figure 2. Distribution of respiratory viruses detected within the Sentinel Network. by calendar week. Results from last weeks are not all yet consolidated.
FLU-A: Influenzavirus A; FLU-B: Influenzavirus B; PIV:Parainfluenzavirus; RSV: Respiratory syncytial virus; ADV: Adenovirus; MPV: Metapneumovirus; HRV: Human rhinovirus; SC2: SARS-CoV-2.

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Figure 3. Displays RSV cases according to different age groups with highest impact among the 1 years old. Data for week 2025/13 not yet completely consolidated

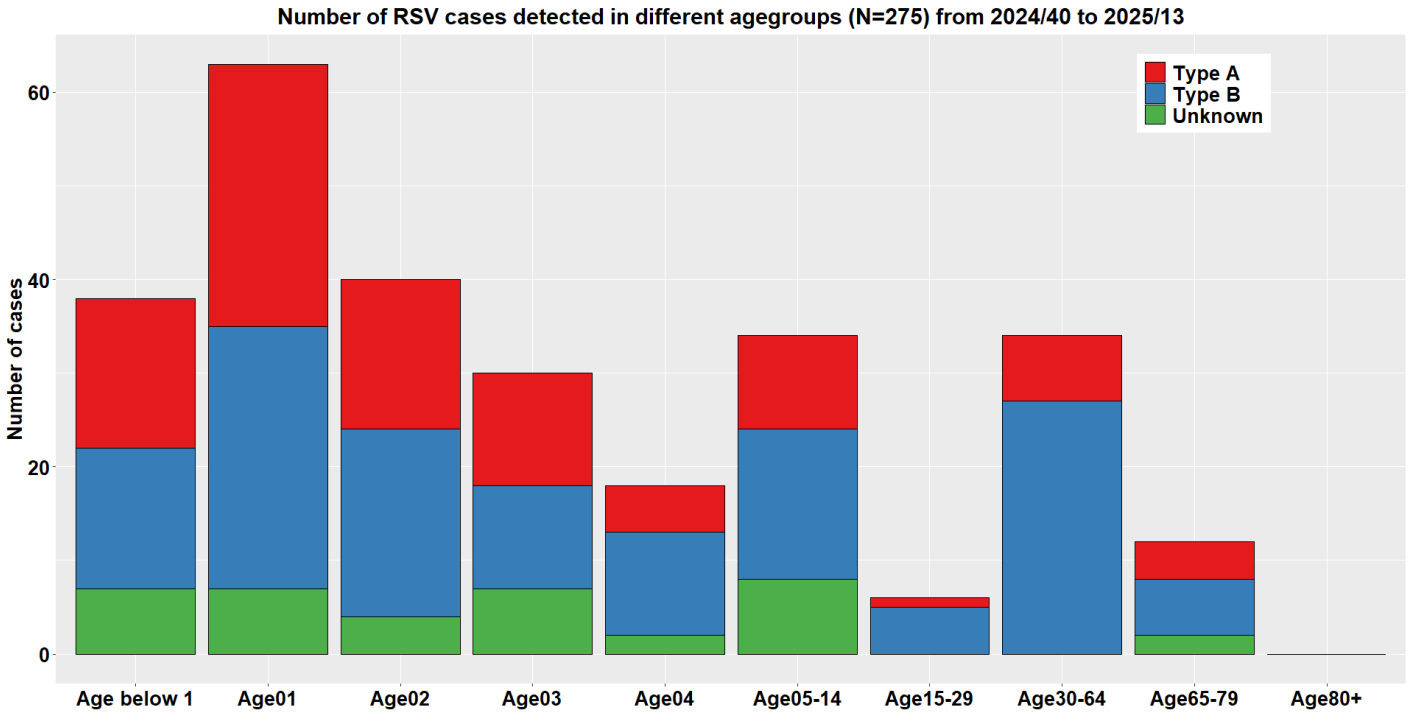


*Figure 4. Displays number of sentinel samples received per week by age-group including overall sample positivity including Human rhinovirus (HRV, dotted line), excluding HRV (black line) and Influenza **combined** (red). Secondary axis corresponds to positivity*

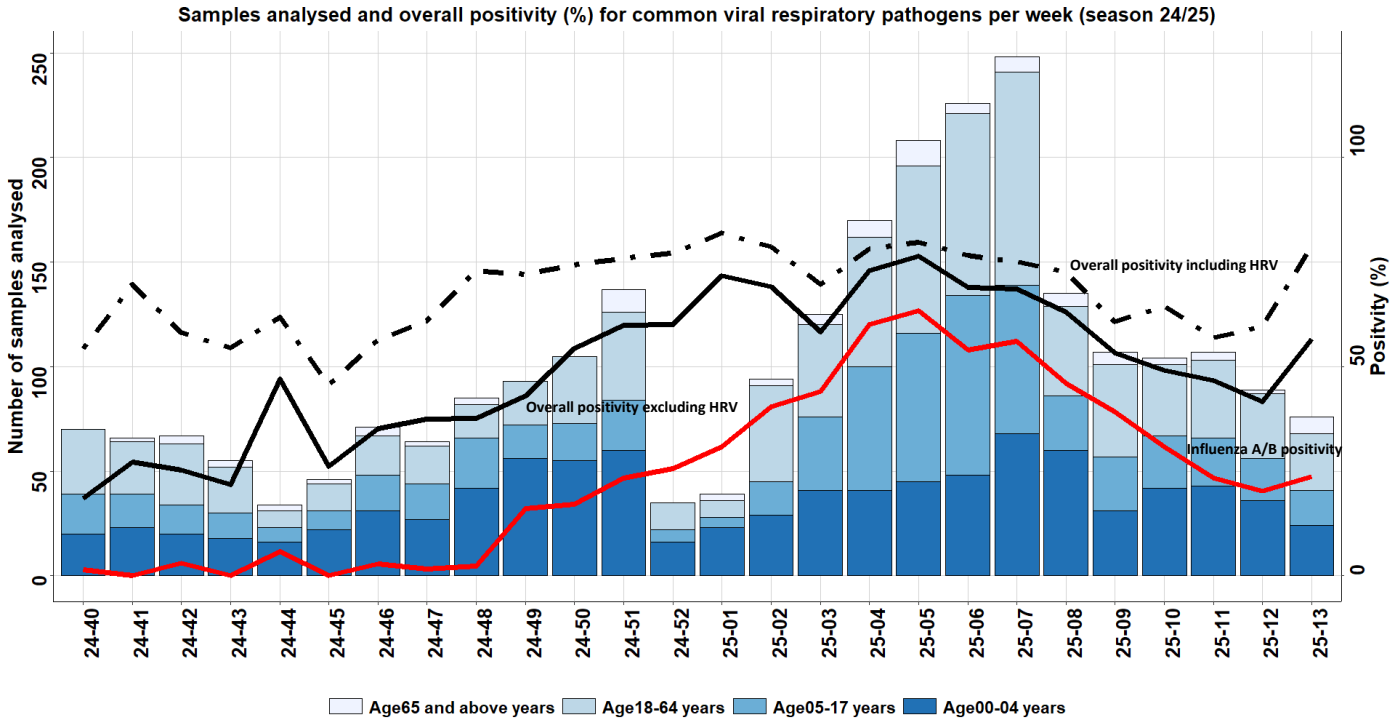
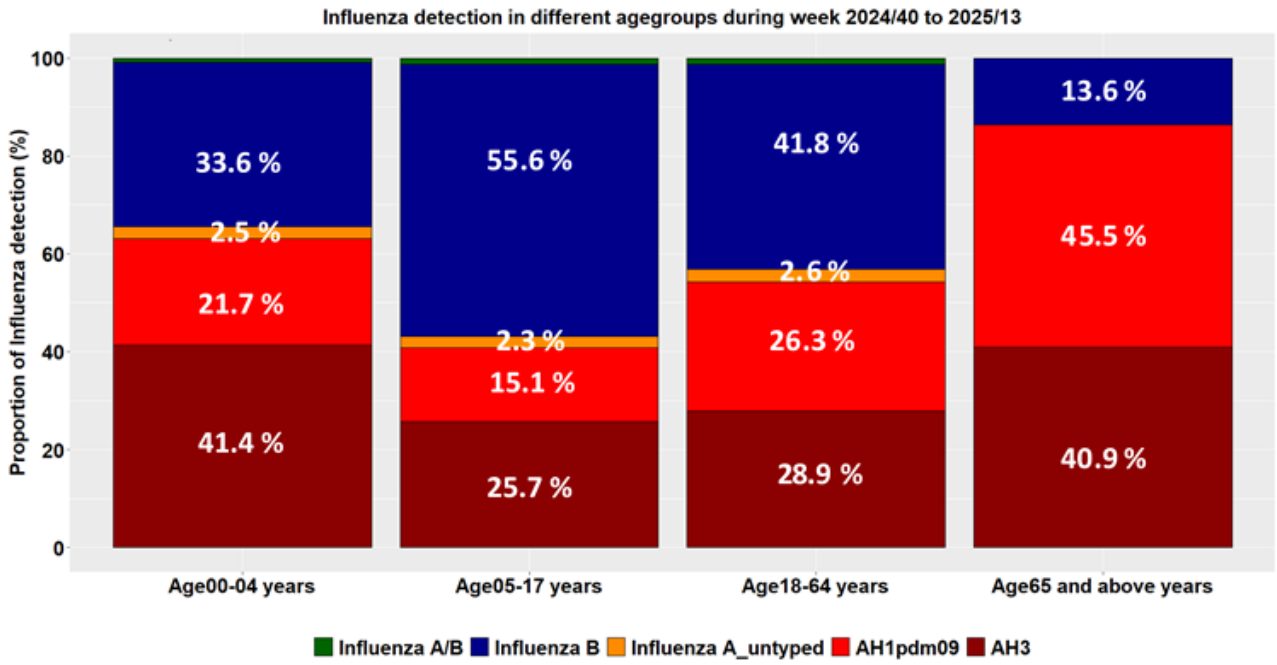


Figure 5. Displays detection of Influenza subtypes by age-group. Data for week 2025/13 not yet completely consolidated



References

European Centre for Disease Prevention and Control. SARS-CoV-2 variants of concern. Retrieved 01 April 2025. from https://www.ecdc.europa.eu/en/covid-19/variants-concern

European Centre for Disease Prevention and Control. Communicable Disease Threats Report Week https://www.ecdc.europa.eu/en/publications-data/communicable-disease-threats-report-22-28-march-2025-week-13

GISAID. EpiCoV – Pandemic coronavirus causing COVID-19. Retrieved 01 April 2025. from https://www.gisaid.org

GitHub - cov-lineages/pangolin: pango-designation/lineage_notes.txt. (2025). Retrieved 01 April 2025. from https://github.com/cov-lineages/pango-designation/blob/master/lineage_notes.txt

Hadfield J. Megill C. Bell S. Huddleston J. Potter B. Callender C. et al. (2018). Nextstrain: real-time tracking of pathogen evolution. Bioinformatics. 34(23). 4121-4123. doi: 10.1093/bioinformatics/bty407

Rambaut A. Holmes E. O'Toole Á. Hill V.McCrone J.Ruis C. et al. (2020). A dynamic nomenclature proposal for SARS-CoV-2 lineages to assist genomic epidemiology. Nature Microbiology. 5(11). 1403-1407. doi: 10.1038/s41564-020-0770-5

World Health Organization. Tracking sars-COV-2 variants Retrieved 01 April 2025. from https://www.who.int/activities/tracking-SARS-CoV-2-variants

World Health Organization. Risk evaluation for SARS-CoV-2 Variant Under Monitoring: LP.8.1. from https://www.who.int/publications/m/item/risk-evaluation-for-sars-cov-2-variant-under-monitoring-lp81