Respiratory Viruses in Luxembourg (ReViLux)

Sentinel Network Report -Week 47

Summary of Sentinel Network activities

At the end of week (2025/47), data from the sentinel network indicated epidemic activity remained at baseline. No consultations were linked to influenza-like illness (ILI); however, there was an increase in consultations for acute respiratory infections (ARI), suggesting that non-influenza respiratory viruses were predominantly circulating.

The LNS received 35 samples from sentinel doctors for respiratory virus testing, covering all age-groups.

Among specimens collected during week (2025/47), the positivity rate was **20.0%** for **human rhinovirus**, **11.4%** each for **RSV** and for **SARS-CoV-2.** Influenza A circulation remained low, with four cases of A(H3) and one case of A(H1)pdm09 detected in recent weeks.

Influenza A circulation in the sentinel network (2025/40-47)

During the 2025/26 season, the sentinel network reported only low-level circulation of influenza A. In contrast, several countries have observed an early onset of the season, primarily driven by increased circulation of A(H3) viruses and the emergence of subclade K, which exhibits substantial genetic variation from the vaccine strain currently recommended. Preliminary studies indicate, that ferret antigenic drift markers only moderately predict reduced vaccine effectiveness. Previous exposure to A(H3) viruses may still confer partial protection against hospitalization and severe infection.

In England, subclade K emerged as the dominant strain early in the 2025/26 season. Preliminary estimates of vaccine effectiveness against hospital admissions and A&E attendances remain in line with recent years, reinforcing the continued importance of vaccination.

At LNS, two of the four A(H3) samples collected in October 2025 were successfully sequenced, and both were identified as belonging to the newly emerged subclade K (see figure 6).

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 Northern Hemisphere is generally monitored by seasons that range from week 40 to week 20. The period between weeks 20 and 40 is usually called inter-season.

Clinical results

During the last week **(2025/47)**, no consultations were classified as influenza-like illness (ILI), whereas the proportion of acute respiratory infections (ARI) increased slightly from 13.5% to 16.5%. It is important to note, that only a limited number of GP practices completed the survey, which restricts the interpretability of the findings. Of note, only a few surgeries completed the survey, making it challenging to interpret. Nevertheless, the low ILI rates are consistent with the limited number of influenza cases detected this season within the sentinel network.

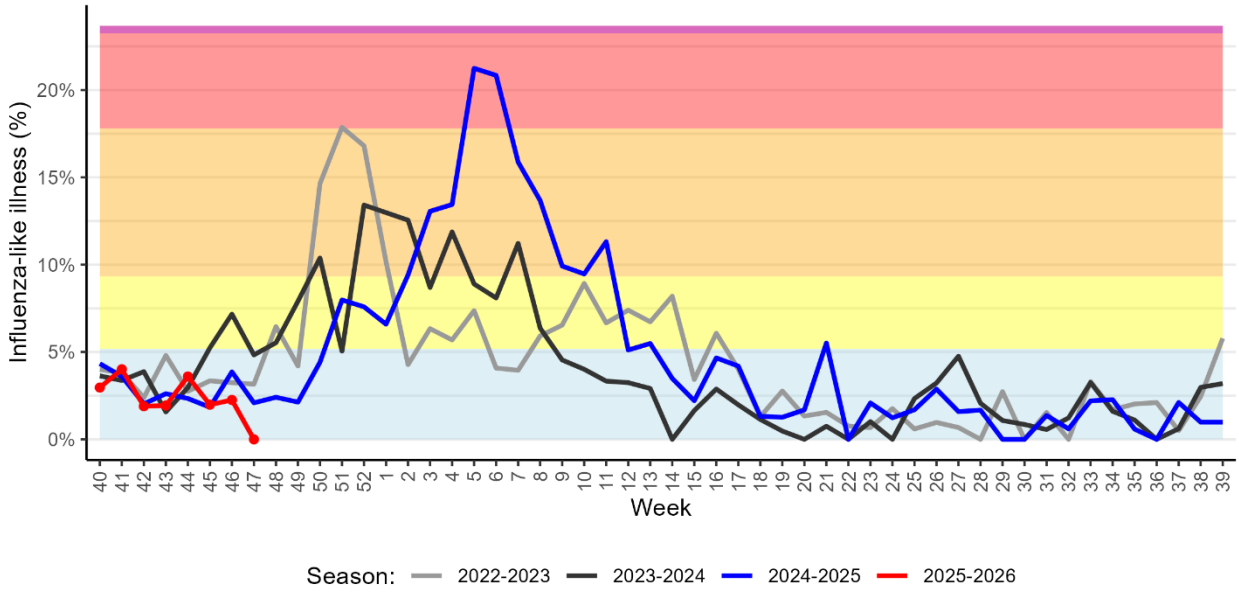
Similar patterns-excluding the most recent week- have been observed in previous seasons. Historical trends in ILI consultations are presented in figure 2, and a detailed summary of the ARI and ILI case counts for the past four weeks is provided in table 1.

Table 1. Syndromic surveillance over the last 4 weeks

Week	ARI		ILI		Total consultations
	N	%	N	%	
2025/44	33	11.87	10	3.60	278
2025/45	26	10.32	5	1.98	252
2025/46	48	13.52	8	2.25	355
2025/47*	18	16.51	0	0.00	109

*ARI: Acute Respiratory Infections; ILI: Influenza-like Illness. *Results from only 5 doctors*

Figure 1. Percentage of patients with Influenza-like illness over the last three seasons and 2025-2026 (red) Background colours according to intensity of circulation: baseline, low, medium, high, very high.



Laboratory results

During calendar week 2025/47, the LNS received 35 specimens. Among these, 48.6% (N=17) originated from adults aged 18 to 64 years, followed by 34.3% (N=12) from children under 5 years. Children aged 5 to 17 years and older adults each accounted for 8.6% (N=3) of the sampled population. Overall, 51.4% (N=18) of samples were from female patients, and 48.6% (N=17) from male patients.

Respiratory viruses were detected in 18 (51.4%) of the 35 sentinel samples. The predominant pathogen was **human rhinovirus (20.0%)**, followed by **RSV (11.4%)** and **SARS-CoV-2 (11.4%)**. Over the preceding two weeks, SARS-CoV-2 and RSV increased slightly, whereas influenza A activity remained below 5%.

Since the beginning of the season, sixteen cases of RSV have been confirmed. Subtyping identified eight RSV-A and seven RSV- B cases. Approximately 31.3% of RSV infections occurred in children under 2 years of age, while 25% were reported in adults aged 18 to 64 years (figure 4).

Influenza A circulation remained low. Among six cases detected, 66.7% (N=4) were subtyped as A(H3) and 33.3% (N=2) as A(H1)pdm09. The majority of influenza A cases (83.5%) were observed in adults aged 18 to 64 years (figure 5).

An overview of the circulating viral pathogens in the sentinel network in Luxembourg during the current and previous (inter)- season is presented in figure 2, 3 and table 2.

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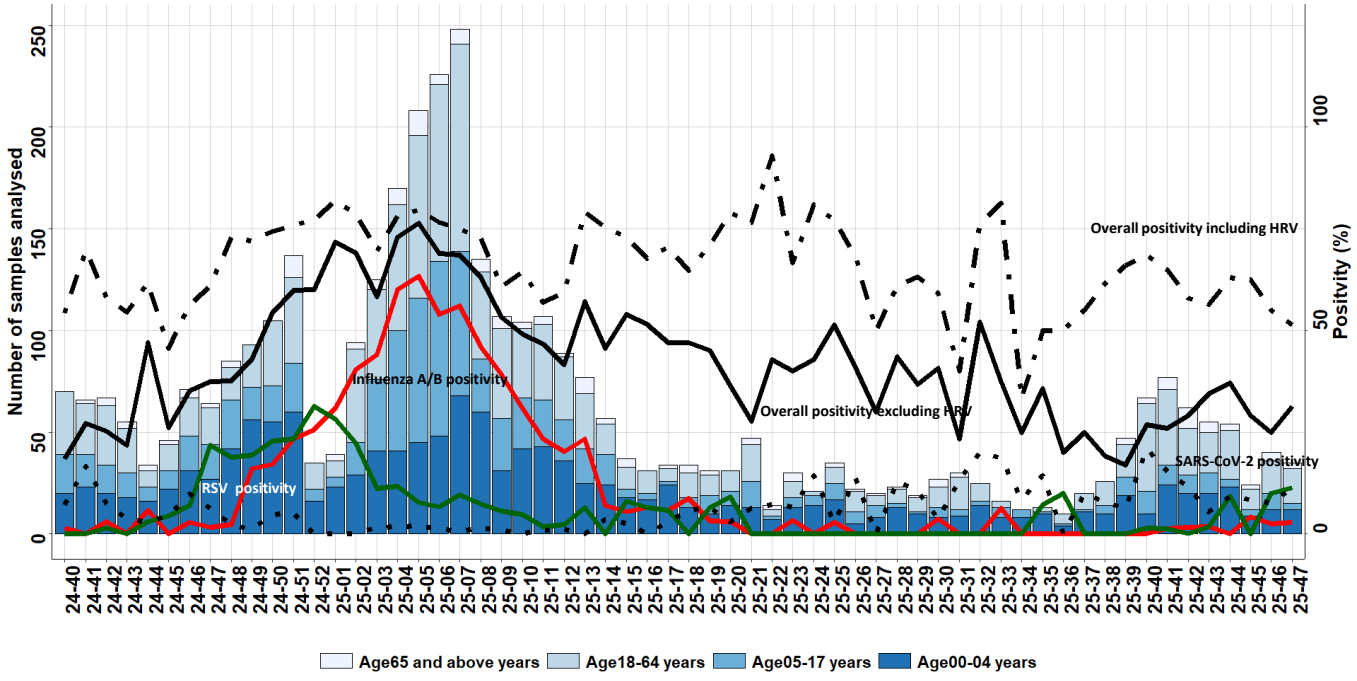
Table 2. Distribution of respiratory viruses detected within the Sentinel Network during the past 4 weeks compared to previous season; Total N detected during season 2025/26 and previous season; Results from last weeks are not all yet consolidated.

Virus	Season 2025/26					Season 2024/25		
	Positivity Rate in %							
	W44	W45	W46	W47	Total N (%)	W46	W47	Total N (%)
Human rhinovirus	35.2	34.8	30.0	20.0	152 (36.8)	31.4	36.5	720 (24.8)
Respiratory syncytial virus	9.3	0.0	10.0	11.4	16 (3.9)	7.1	22.2	287 (9.9)
SARS-CoV-2	9.3	8.3	7.5	11.4	50 (12.1)	9.9	6.3	80 (2.7)
Influenzavirus A	0.0	4.2	2.5	2.9	6 (1.4)	1.4	1.6	502 (17.2)
Adenovirus	13.0	8.7	5.0	2.9	25 (6.1)	8.6	1.6	203 (7.0)
Metapneumovirus	1.9	4.3	0.0	2.9	5 (1.2)	4.3	3.2	157 (5.4)
Parainfluenzavirus	9.3	4.3	0.0	0.0	29 (7.0)	7.1	3.2	99 (3.4)
Influenzavirus B	0.0	0.0	0.0	0.0	0 (0.0)	1.4	0.0	404 (13.9)

*Figure 2. Presents number of sentinel samples received per week by age-group (weeks 2024/40 to 2025/47) including overall sample positivity- including human rhinovirus (HRV, dot-dash line), excluding HRV (black line), SARS-CoV-2 (dotted line), influenza **combined** (red) and RSV (green); Secondary axis corresponds to positivity; Results from last weeks are not all yet consolidated.*



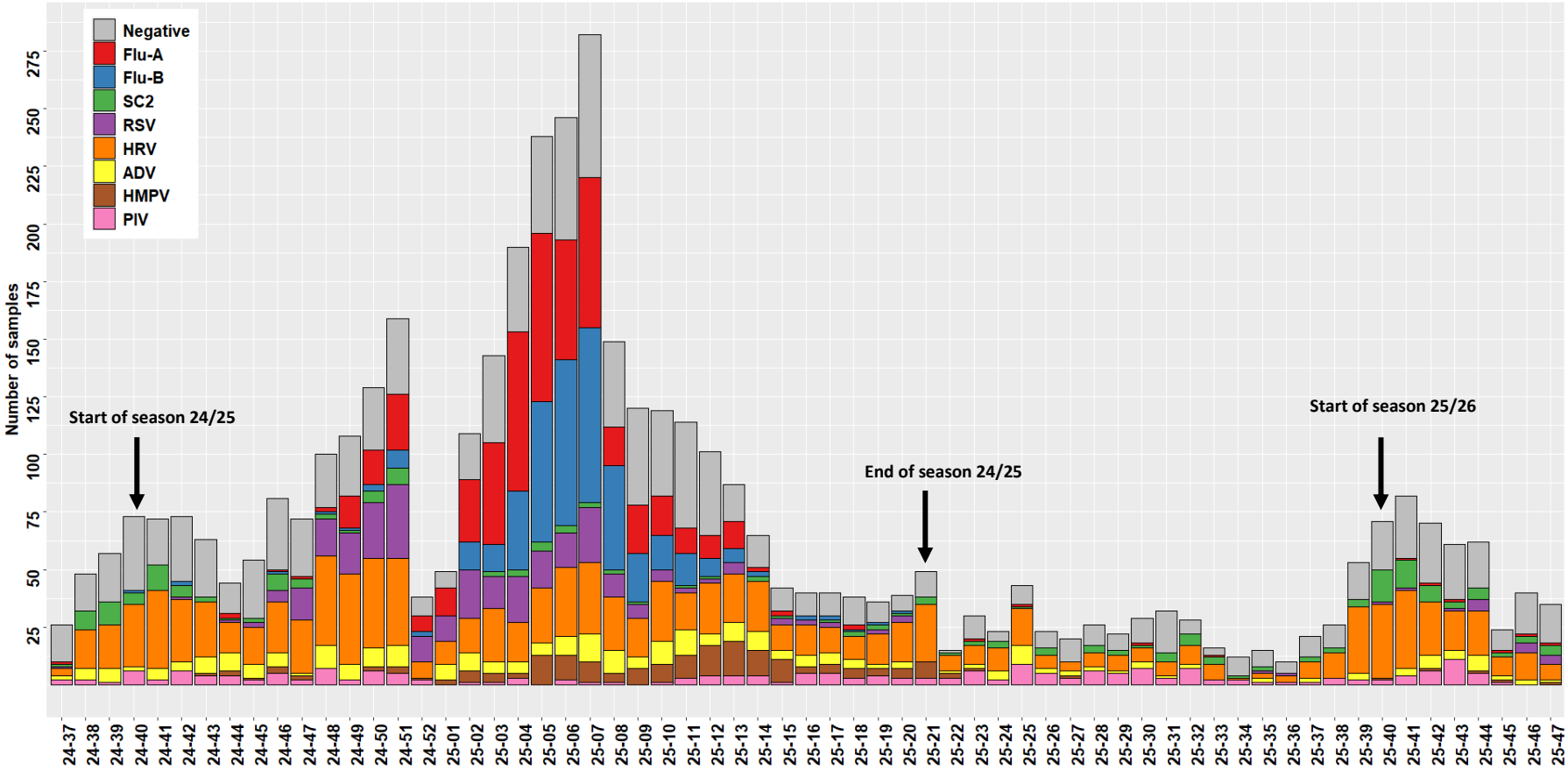


Figure 3. Circulation of respiratory viruses detected within the Sentinel Network by calendar week (seasons 24/25 and 25/26). FLU-A: influenzavirus A; FLU-B: influenzavirus B; PIV:parainfluenzavirus; RSV: respiratory syncytial virus; ADV: adenovirus; HMPV: metapneumovirus; HRV: human rhinovirus; SC2: SARS-CoV-2; Results from last weeks are not all yet consolidated.

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Figure 4. Number of RSV cases detected in different age-groups (N=16) from 2025/40 to 2025/47

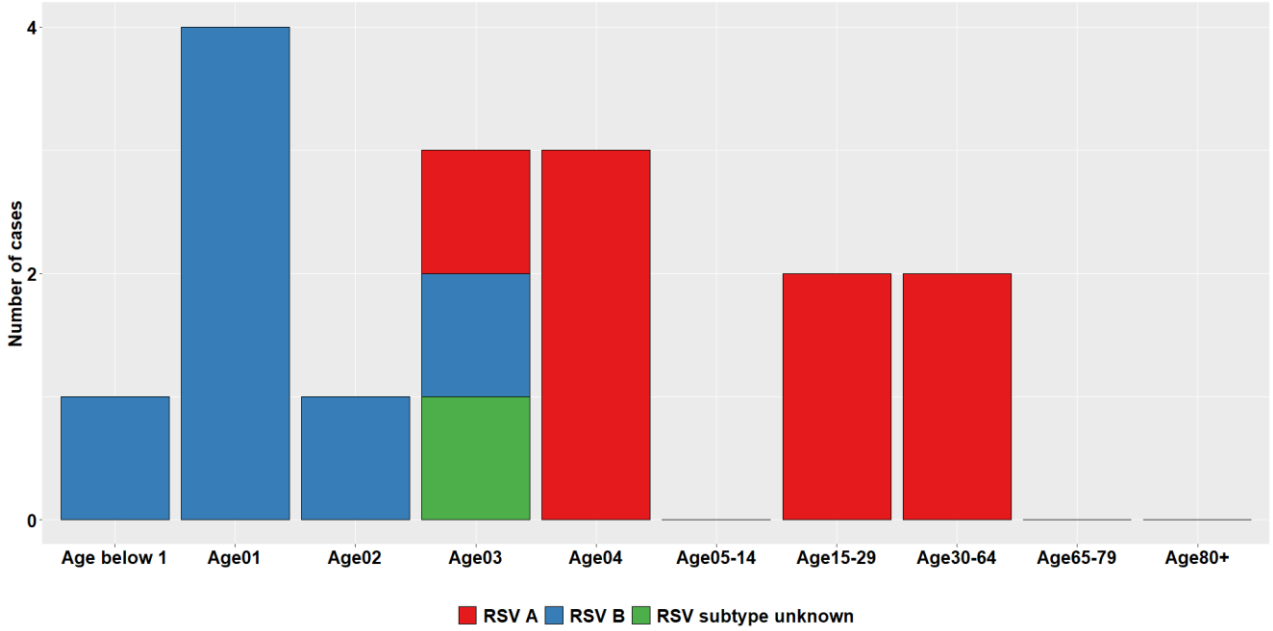


Figure 5. Number of Influenza cases detected in different age-groups (N=6) from 2025/40 to 2025/47

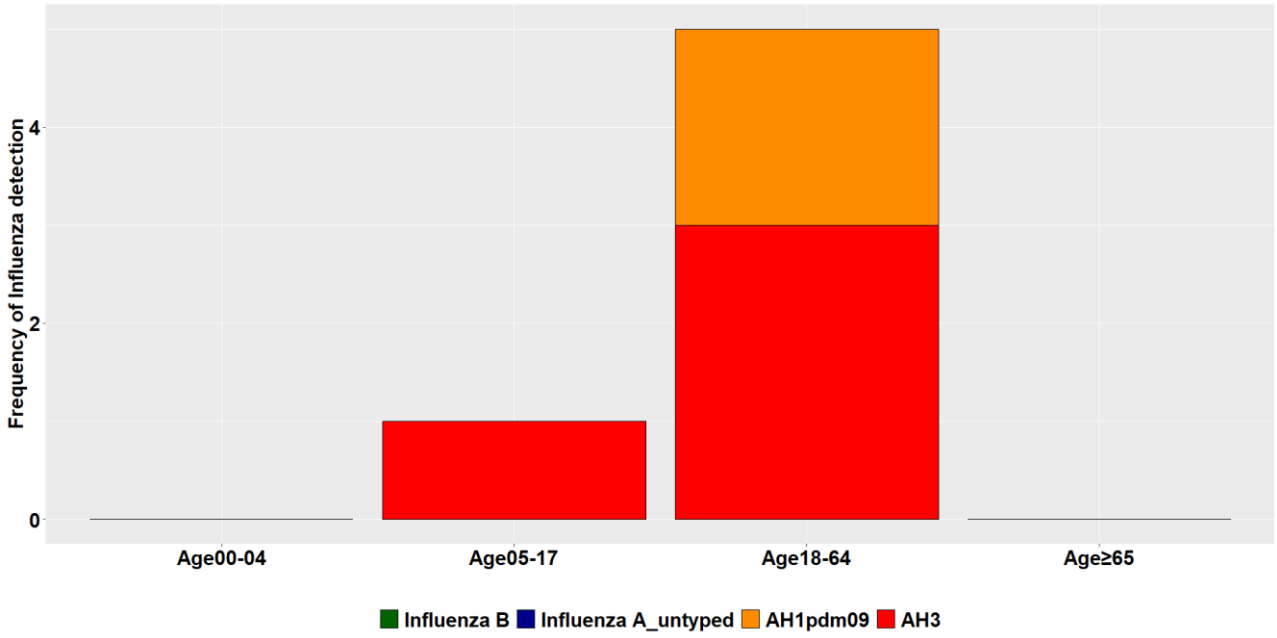
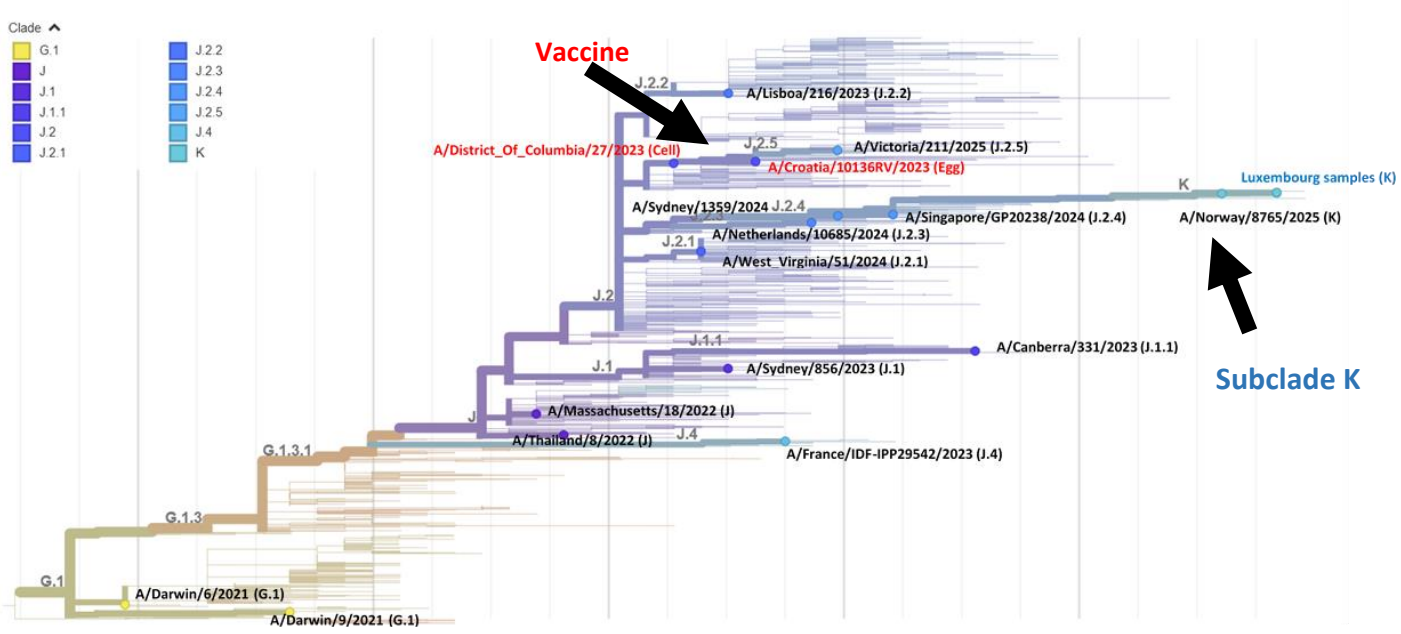


*Figure 6. Maximum likelihood phylogenetic tree of the **H3 HA** gene; data source: GISAID and open source tool nextclade used; Vaccine component for season 2025/2026 highlighted in red; Lines in background display strains detected globally; of note substantial genetic divergence from the vaccine strain currently recommended*



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