

Respiratory Viruses in Luxembourg (ReViLux)

Sentinel Network Report – Week 43

Sentinel Surveillance Network

The Sentinel Surveillance aims at monitoring the 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 over Luxembourg. 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, 1.6% of the consultations were reported as ILI, which represents a baseline epidemic activity for Luxembourg, according to ECDC and the Moving Epidemic Method. 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

Over the last four weeks, the most frequently detected viruses (according to positivity rates) were Human rhinovirus (42.9%), followed closely by SARS-CoV-2 (13.3%). Detected Influenza remains low within the sentinel network. RSV activity observed within the sentinel network over the last 4 weeks is lower compared to last season. An overview of the viral circulation during the current and previous inter- season is displayed in Figure 2 and Table 2.

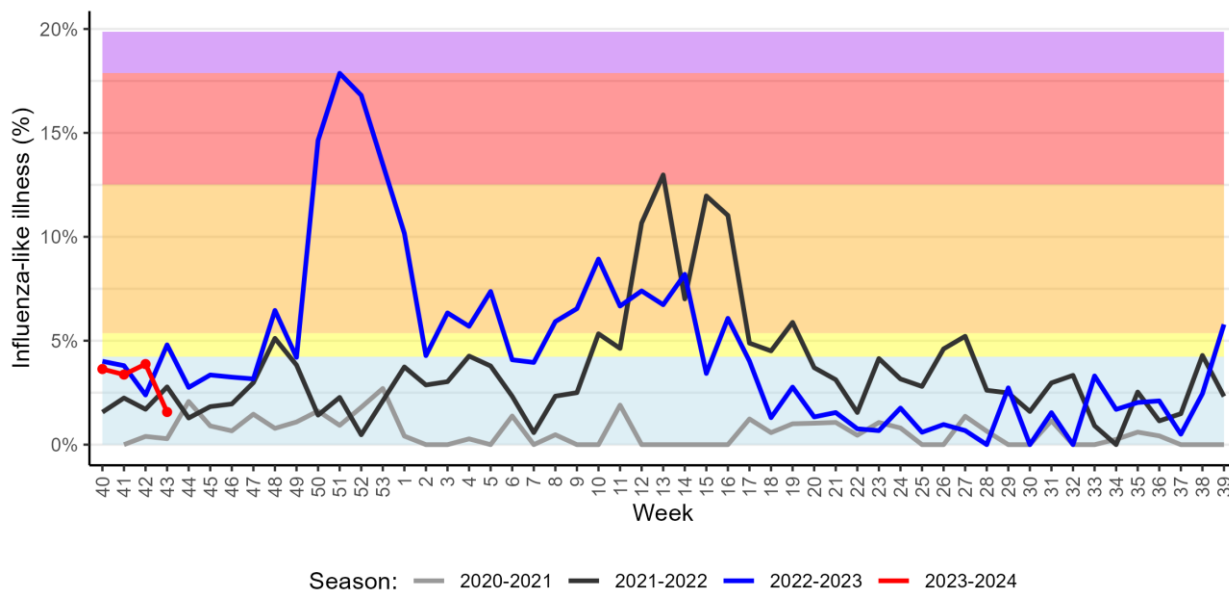


Figure 1. Percentage of patients with influenza-like illness over the last three seasons
Background colours according to intensity of circulation: baseline, low, medium, high, very high.

Table 1. Syndromic surveillance over the last 4 weeks

| Week | ARI | | ILI | | Total consultations |
|---------|-----|-------|-----|------|---------------------|
| | N | % | N | % | |
| 2023/40 | 52 | 15.76 | 12 | 3.64 | 330 |
| 2023/41 | 83 | 18.65 | 15 | 3.37 | 445 |
| 2023/42 | 46 | 17.83 | 10 | 3.88 | 258 |
| 2023/43 | 69 | 18.06 | 6 | 1.57 | 382 |

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

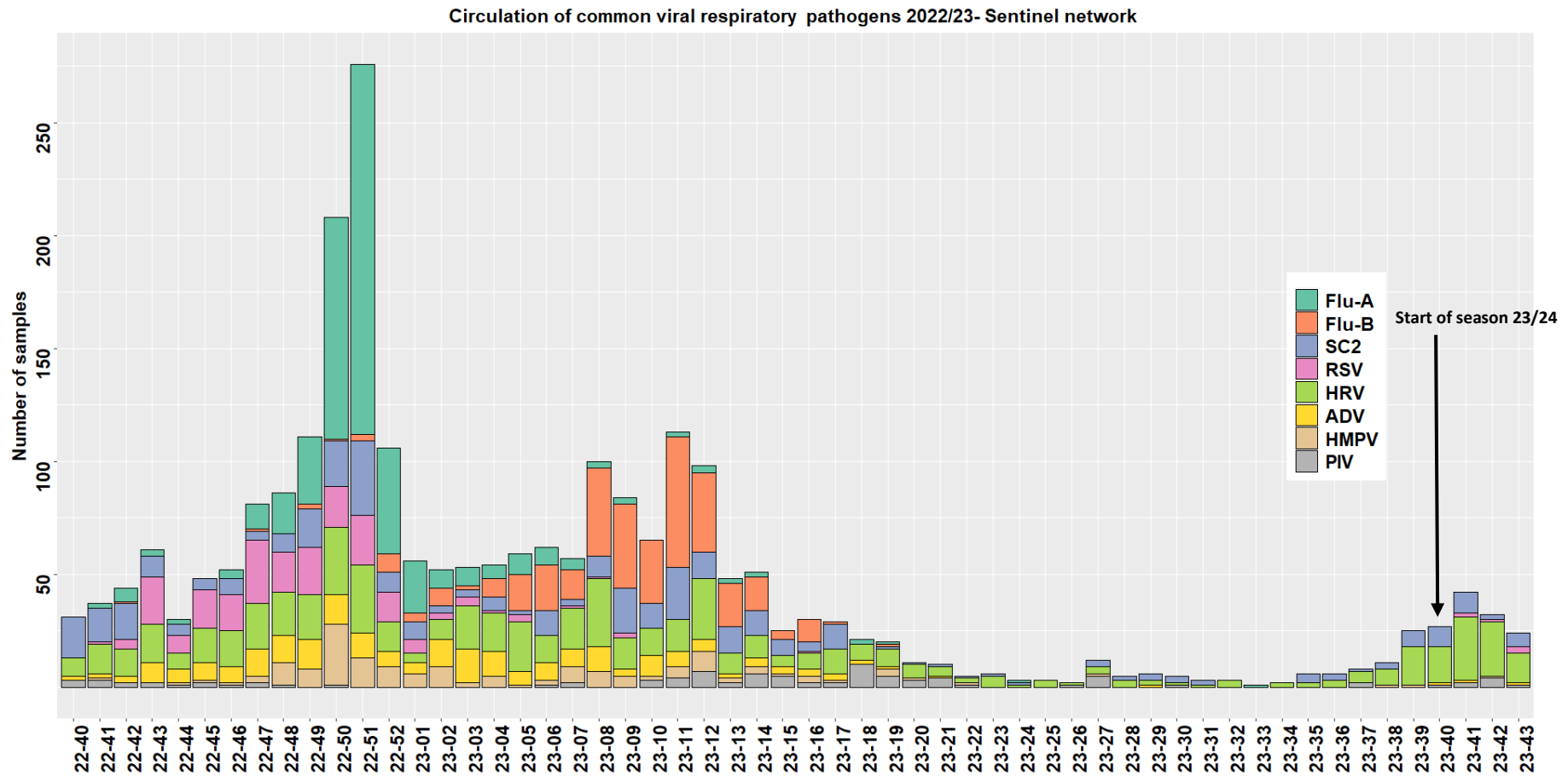


Figure 2. Distribution of respiratory viruses detected within the Sentinel Network, by calendar week. Results from last weeks are not yet consolidated. FLU-A: influenza A; FLU-B: influenza B; PIV: parainfluenza virus; RSV: respiratory syncytial virus; ADV: adenovirus; MPV: metapneumovirus; HRV: human rhinovirus; SC2: SARS-CoV-2.

Table 2. Distribution of respiratory viruses detected within the Sentinel Network previous 4 weeks compared to previous year.

| Virus | Season 23/24 weeks (40-43) | | Season 22/23 weeks (40-43) | |
|-----------------------------|----------------------------|---------------------|----------------------------|---------------------|
| | N* | Positivity rate (%) | N* | Positivity rate (%) |
| Human rhinovirus | 81 | 42.9 | 50 | 28.1 |
| SARS-CoV-2 | 26 | 13.3 | 58 | 23.7 |
| Parainfluenza | 8 | 4.2 | 10 | 5.6 |
| Respiratory syncytial virus | 6 | 3.2 | 26 | 14.6 |
| Adenovirus | 3 | 1.6 | 16 | 9.0 |
| Metapneumovirus | 1 | 0.5 | 1 | 0.6 |
| Influenzavirus A | 0 | 0.0 | 11 | 4.5 |
| Influenzavirus B | 0 | 0.0 | 1 | 0.4 |
| Total | 125 | | 173 | |

*Co-infection cases counted once for each virus detection