



NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 48 of 2022
(28.11.22 - 04.12.22)

Summary.

Influenza and ARI incidence data. Influenza and other ARI activity increase of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (118.8 per 10 000 of population) was higher than national baseline (70.0) by 69.7%.

Etiology of ILI & ARI. Among 6087 patients investigation 1141 (18.7%) respiratory samples were positive for influenza, including 1078 cases of influenza A(H1N1)pdm09 in 41 cities, 7 cases of influenza A(H3N2) in 5 cities, 15 cases of influenza A unsubtype in 9 cities and 41 cases of influenza B in 20 cities.

16 influenza viruses were isolated on MDCK cell culture, including: 12 influenza A(H1N1)pdm09 viruses in Astrakhan (2), Moscow (4), Samara (3) and Saint-Petersburg (3) and 4 influenza B viruses in Saint-Petersburg (2), Ulan-Ude (1), Yaroslavl (1). Since the beginning of the season, 25 viruses A(H1N1)pdm09 and 5 virus B have been isolated.

Antigenic characterization. Since the beginning of the season, 15 influenza A(H1N1)pdm09 have been antigenically characterized by the NICs, including: Moscow (10) and Saint-Petersburg (5) and 5 influenza B, including: Moscow (1) and Saint-Petersburg (4). All viruses A(H1N1)pdm09 were antigenically similar to reference strain A/Victoria/2570/2019 (H1N1)pdm09. 4 influenza B viruses were antigenically similar to reference strain B/Austria/1359417/2021 and 1 influenza B virus reacted with the reference virus antiserum to a 1:8 homologous titer.

ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) was estimated in total as 23.7% (PCR).

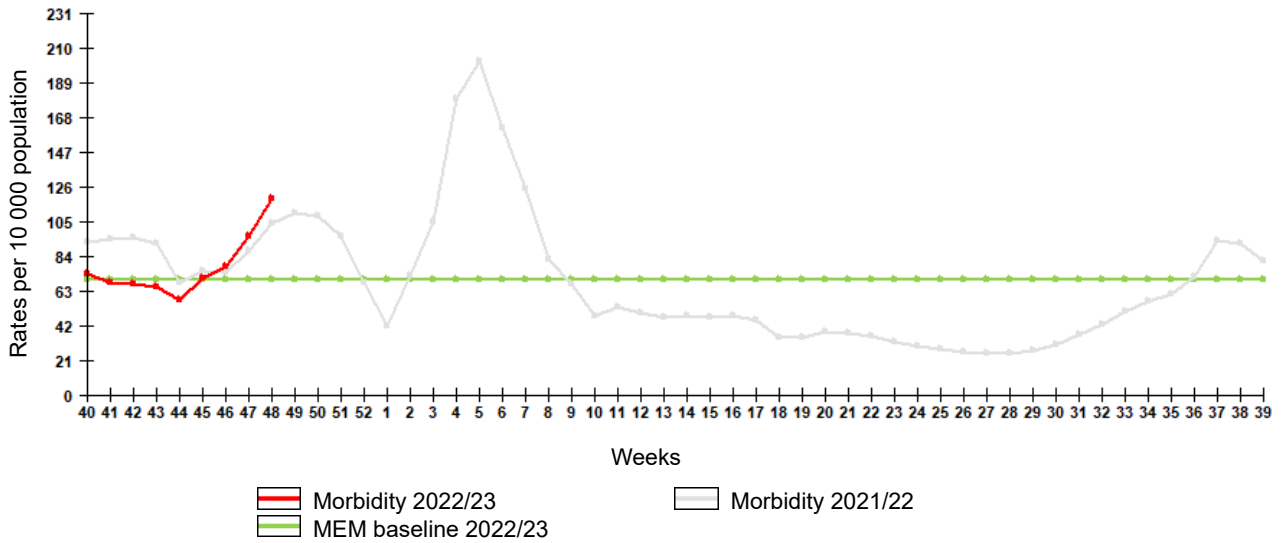
In sentinel surveillance system clinical samples from 56 SARI patients were investigated by rRT-PCR for influenza, among them 9 (16.1%) cases of influenza, including 7 cases of influenza A(H1N1)pdm09 and 2 cases of influenza B. 46 SARI patients were investigated for ARVI by rRT-PCR, among them 12 (26.1%) cases of ARVI recognized including 1 case of PIV, 6 cases of ADV, 2 cases of RhV, 1 case of CoV and 2 cases of MPV infection. Among 51 SARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

Clinical samples from 45 ILI/ARI patients were investigated for influenza by rRT-PCR, among them 4 (8.9%) cases of influenza, including 3 cases of influenza A(H1N1)pdm09 and 1 case of influenza B. Among 33 ILI/ARI samples 12 (36.4%) cases positive for ARVI detected including 1 case of PIV, 2 cases of ADV, 3 cases of RhV, 2 cases of CoV and 4 cases of MPV infection. 2 (5.9%) of 34 ILI/ARI patients were positive for coronavirus SARS-CoV-2.

COVID-19. Totally 21 643 194 cases and 392 454 deaths associated with COVID-19 were registered in Russia including 7 430 cases and 54 deaths in last 24 hours (on 12:00 of 08.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 15 215 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 1044 (6.9%) cases.

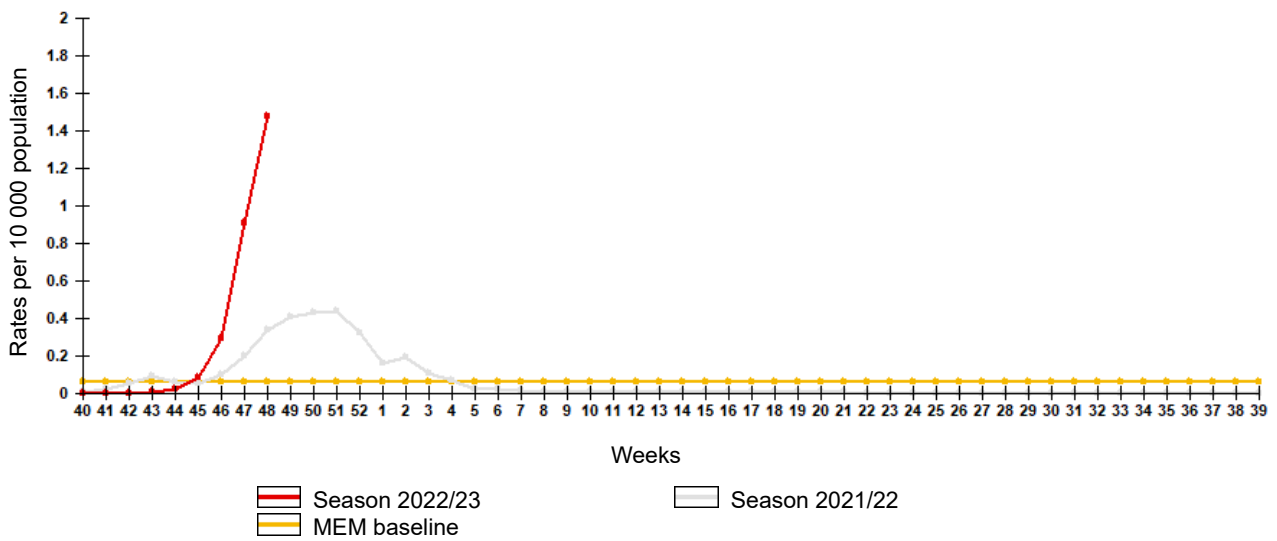
Influenza and ARI morbidity data

Fig. 1. Influenza and ARI morbidity in 61 cities under surveillance in Russia, seasons 2021/22 and 2022/23



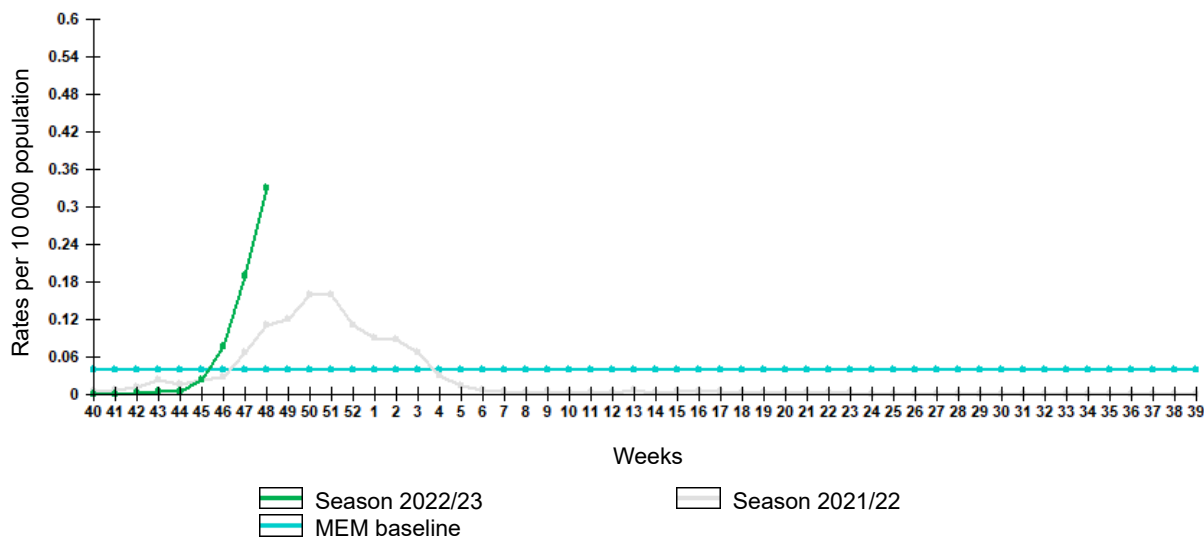
Epidemiological data showed increase of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (118.8 per 10 000 of population) was higher than national baseline (70.0) by 69.7%.

Fig. 2. Comparative data on incidence rate of clinically diagnosed influenza, seasons 2021/22 and 2022/23



Incidence rate of clinically diagnosed influenza increased comparing to previous week and amounted to 1.48 per 10 000 of population, it was higher than pre-epidemic MEM baseline (0.060).

Fig. 3. Comparison of hospitalization rate with clinical diagnosis of influenza, seasons 2021/22 and 2022/23



Hospitalization rate of clinically diagnosed influenza increased comparing to previous week and amounted to 0.33 per 10 000 of population, it was higher than pre-epidemic MEM baseline (0.040).

Influenza and ARVI laboratory testing results

Cumulative results of influenza laboratory diagnosis by rRT-PCR were submitted by 47 RBLs and two WHO NICs. According to these data as a result of 6087 patients investigation 1141 (18.7%) respiratory samples were positive for influenza, including 1078 cases of influenza A(H1N1)pdm09 in 41 cities, 7 cases of influenza A(H3N2) in 5 cities, 15 cases of influenza A unsubtype in 9 cities and 41 cases of influenza B in 20 cities.

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Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 48 of 2022

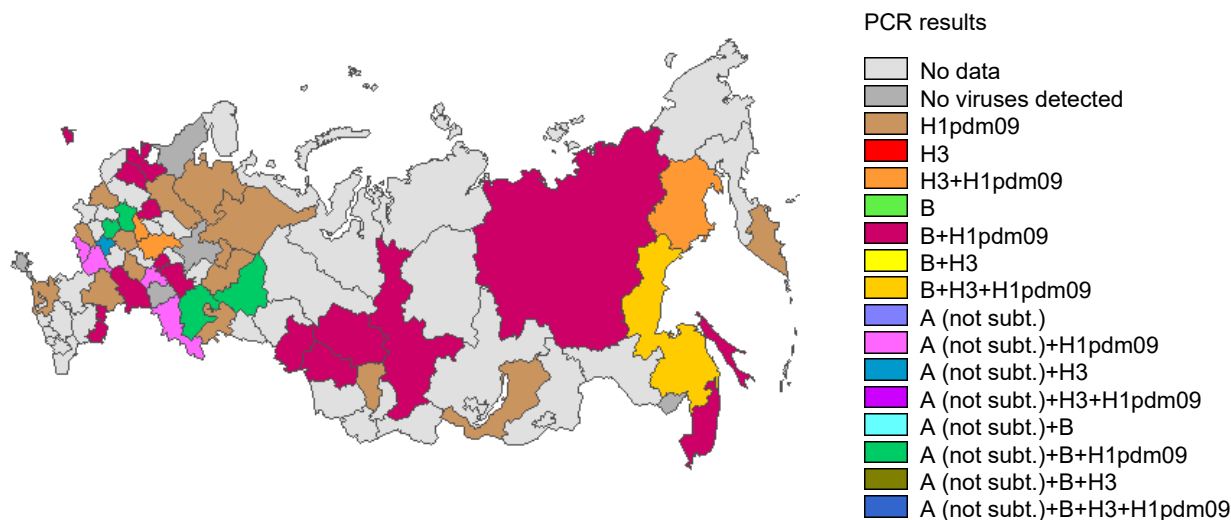


Fig. 5. Monitoring of influenza viruses detection by RT-PCR in Russia, season 2022/23

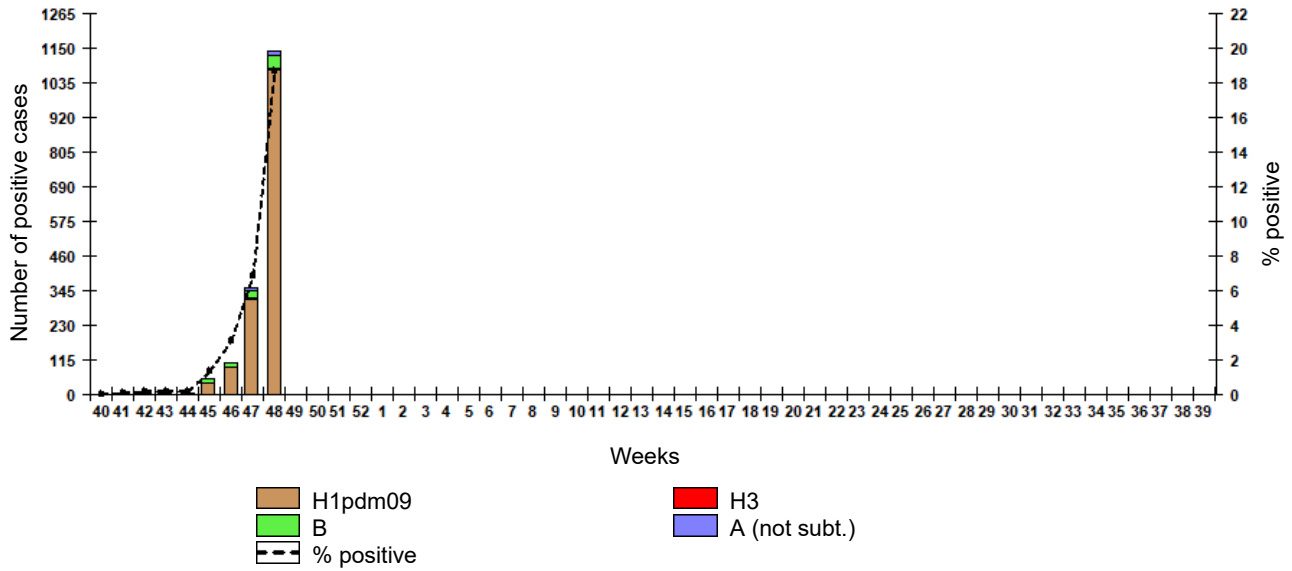
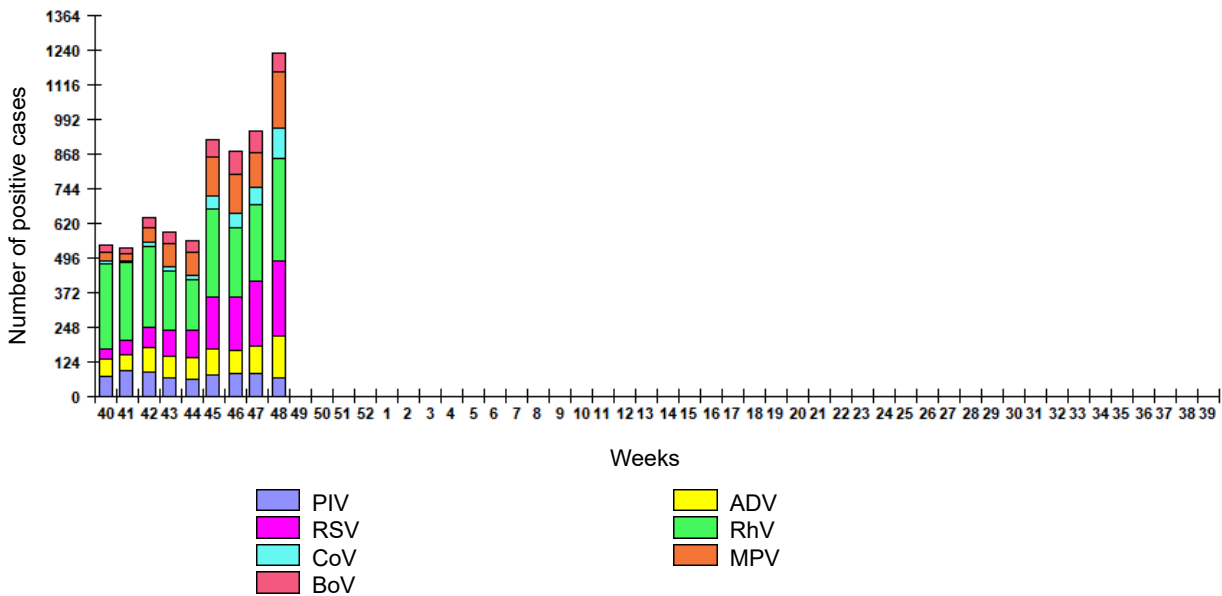


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2022/23



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **23.7%** of investigated samples by PCR.

Fig. 7. Monitoring of influenza viruses isolation in Russia, season 2022/23

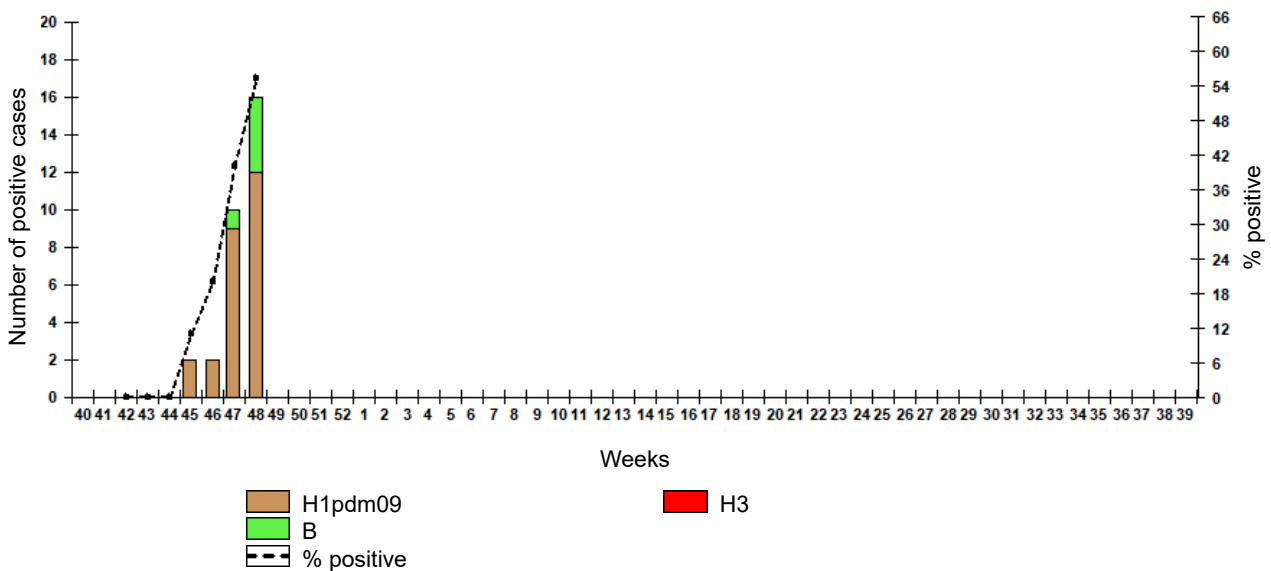


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 48 of 2022

| | Number of specimens / number of positive cases | % positive |
|---|--|------------|
| <u>Influenza</u> | | |
| Number of specimens tested for influenza | 6087 | - |
| Influenza A (not subt.) | 15 | 0,2% |
| Influenza A(H1)pdm09 | 1078 | 17,7% |
| Influenza A(H3) | 7 | 0,1% |
| Influenza B | 41 | 0,7% |
| All influenza | 1141 | 18,7% |
| <u>Other ARVI</u> | | |
| Number of specimens tested for ARVI | 5207 | - |
| PIV | 68 | 1,3% |
| ADV | 149 | 2,9% |
| RSV | 270 | 5,2% |
| RhV | 365 | 7,0% |
| CoV | 111 | 2,1% |
| MPV | 204 | 3,9% |
| BoV | 68 | 1,3% |
| All ARVI | 1235 | 23,7% |
| <u>SARS-CoV-2 (COVID-19)</u> | | |
| Number of specimens tested for SARS-CoV-2 | 15215 | - |
| SARS-CoV-2 | 1044 | 6,9% |

Fig. 8. Results of PCR detections of SARS-CoV-2 in Russia



COVID-19. Totally 21 643 194 cases and 392 454 deaths associated with COVID-19 were registered in Russia including 7 430 cases and 54 deaths in last 24 hours (on 12:00 of 08.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 15 215 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 1044 (**6.9%**) cases.

Table 2. Results of influenza viruses isolation in Russia, week 48 of 2022

| | Number of specimens / number of viruses | % isolated viruses |
|----------------------|---|--------------------|
| Number of specimens | 29 | - |
| Influenza A(H1)pdm09 | 12 | 41,4% |
| Influenza A(H3) | 0 | 0,0% |
| Influenza B | 4 | 13,8% |
| All influenza | 16 | 55,2% |

Sentinel influenza surveillance

Clinical samples from 56 SARI patients were investigated by rRT-PCR for influenza, among them 9 (16.1%) cases of influenza, including 7 cases of influenza A(H1N1)pdm09 and 2 cases of influenza B. 46 SARI patients were investigated for ARVI by rRT-PCR, among them 12 (26.1%) cases of ARVI recognized including 1 case of PIV, 6 cases of ADV, 2 cases of RhV, 1 case of CoV and 2 cases of MPV infection. Among 51 SARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

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Fig. 9. Monitoring of influenza viruses detection by RT-PCR among SARI patients in sentinel hospitals, season 2022/23

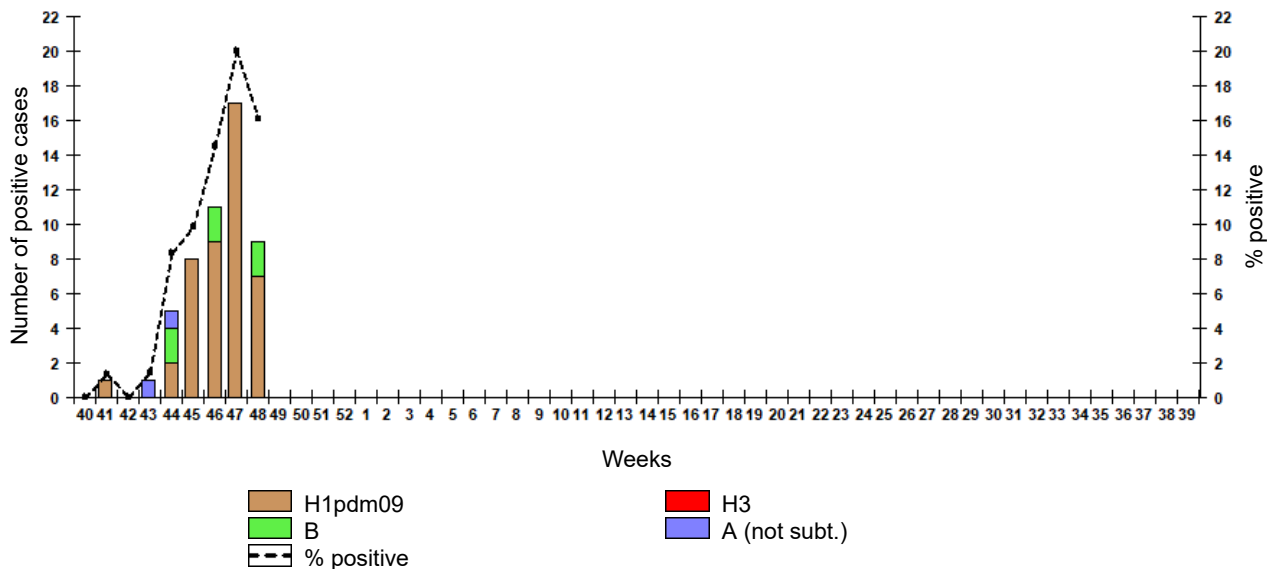


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

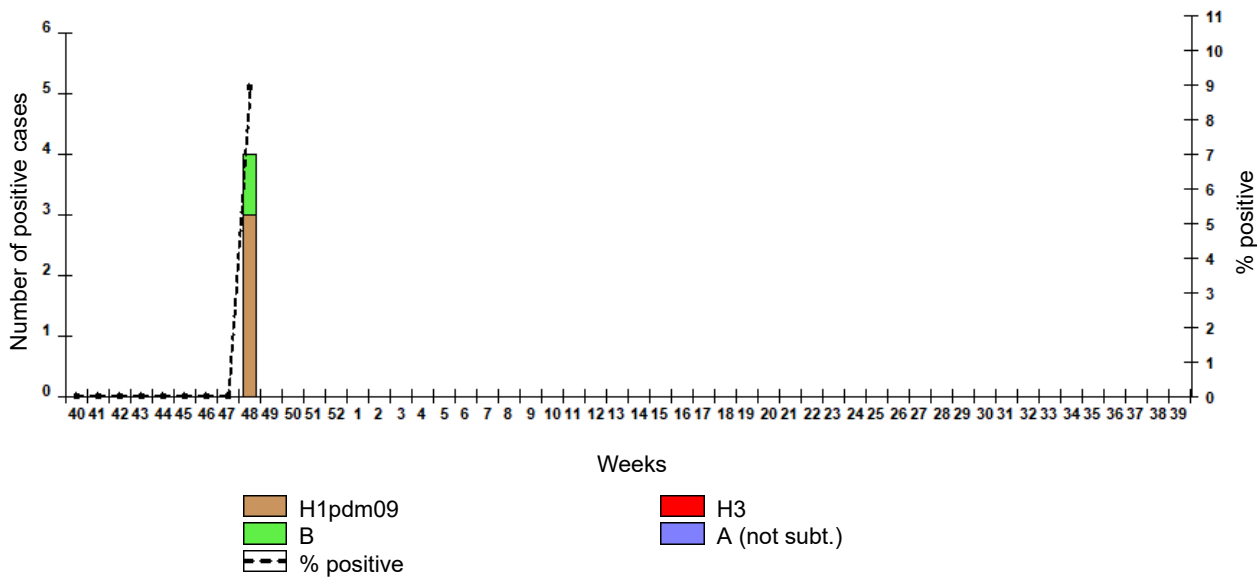


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2022/23

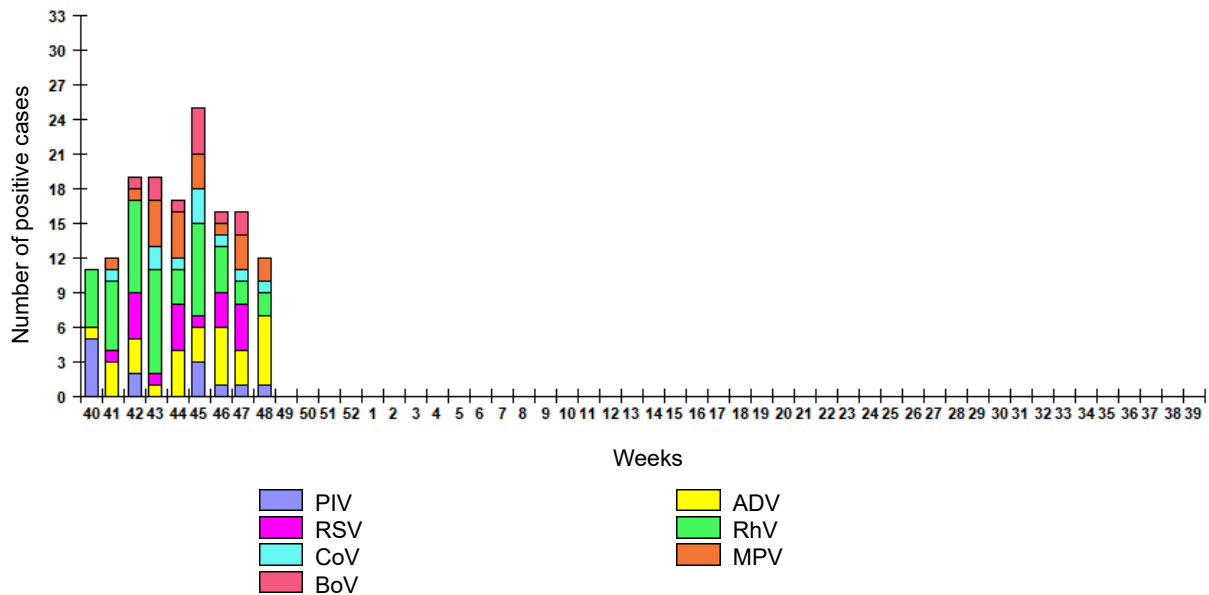


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

