



NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 51 of 2022
(19.12.22 - 25.12.22)

Summary.

Influenza and ARI incidence data. Influenza and other ARI activity decrease of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (147.2 per 10 000 of population) was higher than national baseline (70.0) by 110.3%.

Etiology of ILI & ARI. Among 11872 patients investigation 3361 (28.3%) respiratory samples were positive for influenza, including 2989 cases of influenza A(H1N1)pdm09 in 47 cities, 29 cases of influenza A(H3N2) in 7 cities, 157 cases of influenza A untyped in 10 cities and 186 cases of influenza B in 30 cities.

53 influenza viruses were isolated on MDCK cell culture, including: 48 influenza A(H1N1)pdm09 viruses in Astrakhan (4), Vladimir (6), Kaliningrad (3), Moscow (5), Samara (2), Saint-Petersburg (27), Yaroslavl (1), 1 influenza A(H3N2) virus in Saint-Petersburg and 4 influenza B viruses in Moscow (2) and Saint-Petersburg (2). Since the beginning of the season, 286 viruses A(H1N1)pdm09, 5 viruses A(H3N2) and 29 viruses B have been isolated.

Antigenic characterization. Since the beginning of the season, 66 influenza A(H1N1)pdm09 have been antigenically characterized by the NICs, including: Moscow (36) and Saint-Petersburg (30) and 9 influenza B, including: Moscow (3) and Saint-Petersburg (6). All viruses A(H1N1)pdm09 were antigenically similar to reference strain A/Victoria/2570/2019 (H1N1)pdm09. 8 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 10.9% (PCR).

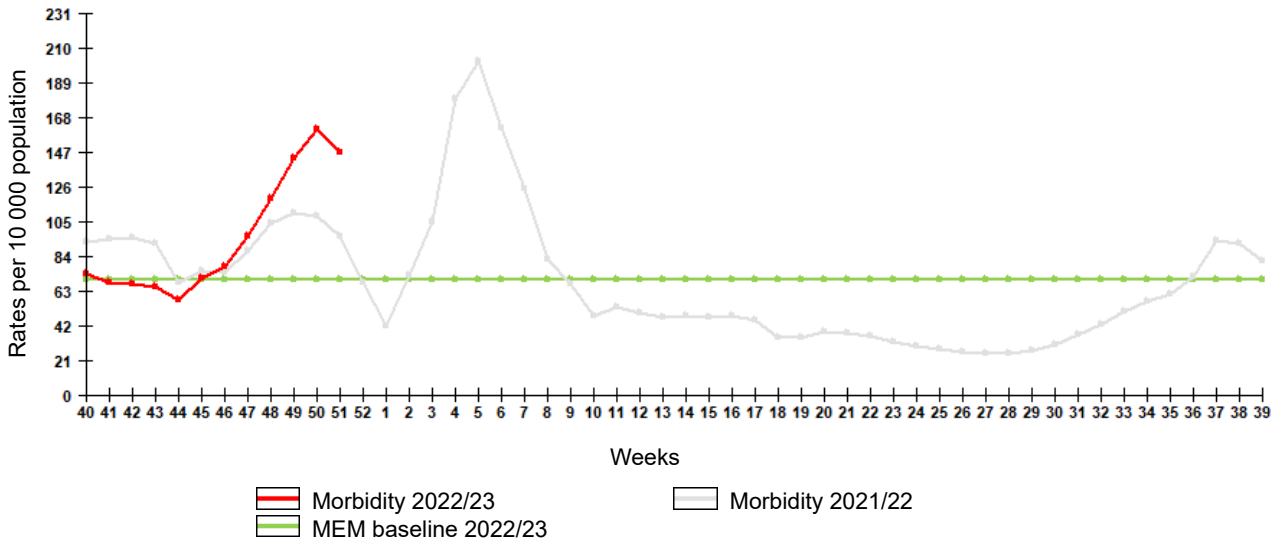
In sentinel surveillance system clinical samples from 64 SARI patients were investigated by rRT-PCR for influenza, among them 24 (45.3%) cases of influenza, including 23 cases of influenza A(H1N1)pdm09 and 1 case of influenza B. Among 39 SARI patients no cases positive for ARVI by rRT-PCR recognized. Among 49 SARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

Clinical samples from 70 ILI/ARI patients were investigated for influenza by rRT-PCR, among them 21 (30.0%) cases of influenza, including 20 cases of influenza A(H1N1)pdm09 and 1 case of influenza B. Among 52 ILI/ARI samples 9 (17.3%) cases positive for ARVI detected including 1 case of ADV, 1 case of RSV, 5 cases of CoV, 1 case of MPV and 1 case of BoV infection. 1 (1.7%) of 58 ILI/ARI patients were positive for coronavirus SARS-CoV-2.

COVID-19. Totally 21 787 172 cases and 393 604 deaths associated with COVID-19 were registered in Russia including 6 146 cases and 56 deaths in last 24 hours (on 12:00 of 29.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 16 326 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 852 (5.2%) cases.

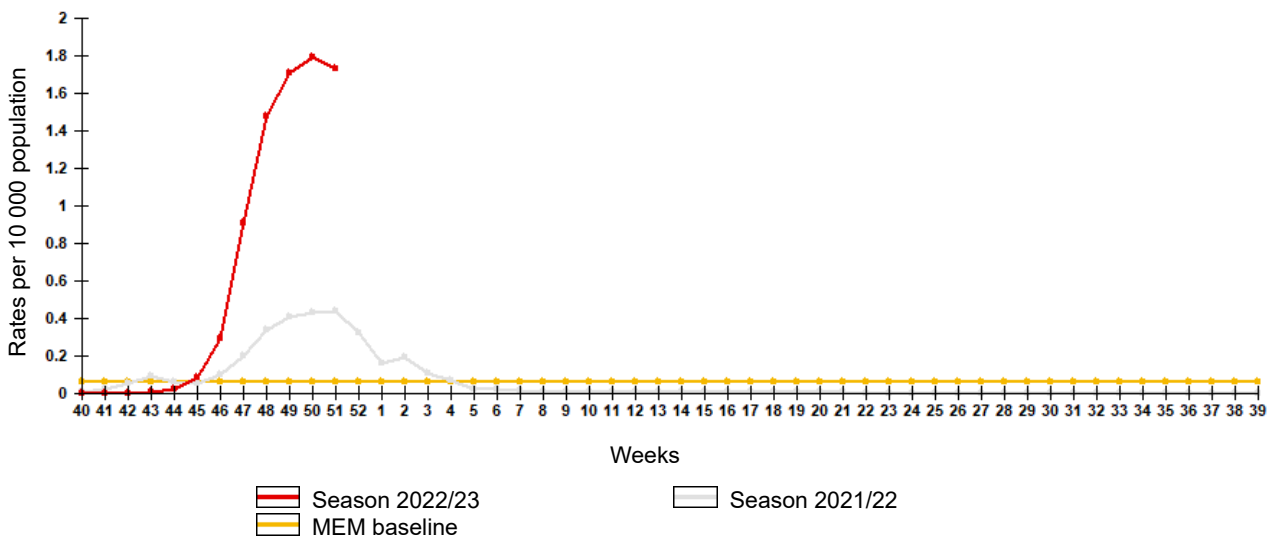
Influenza and ARI morbidity data

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



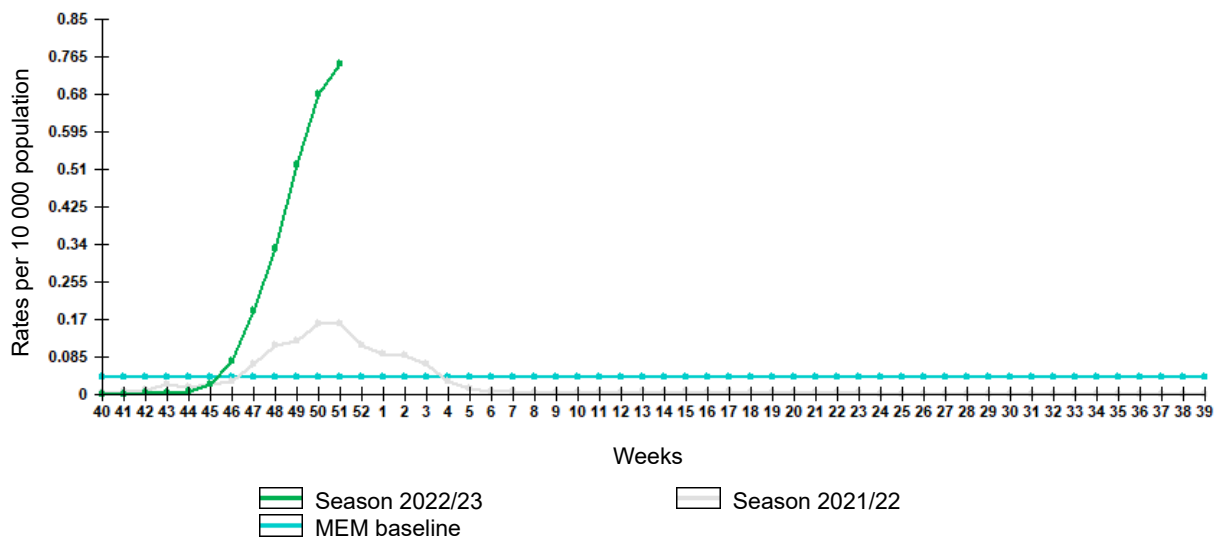
Epidemiological data showed decrease of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (147.2 per 10 000 of population) was higher than national baseline (70.0) by 110.3%.

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



Incidence rate of clinically diagnosed influenza decreased comparing to previous week and amounted to 1.73 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 0.75 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 11872 patients investigation 3361 (28.3%) respiratory samples were positive for influenza, including 2989 cases of influenza A(H1N1)pdm09 in 47 cities, 29 cases of influenza A(H3N2) in 7 cities, 157 cases of influenza A unsubtype in 10 cities and 186 cases of influenza B in 30 cities.

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Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 51 of 2022

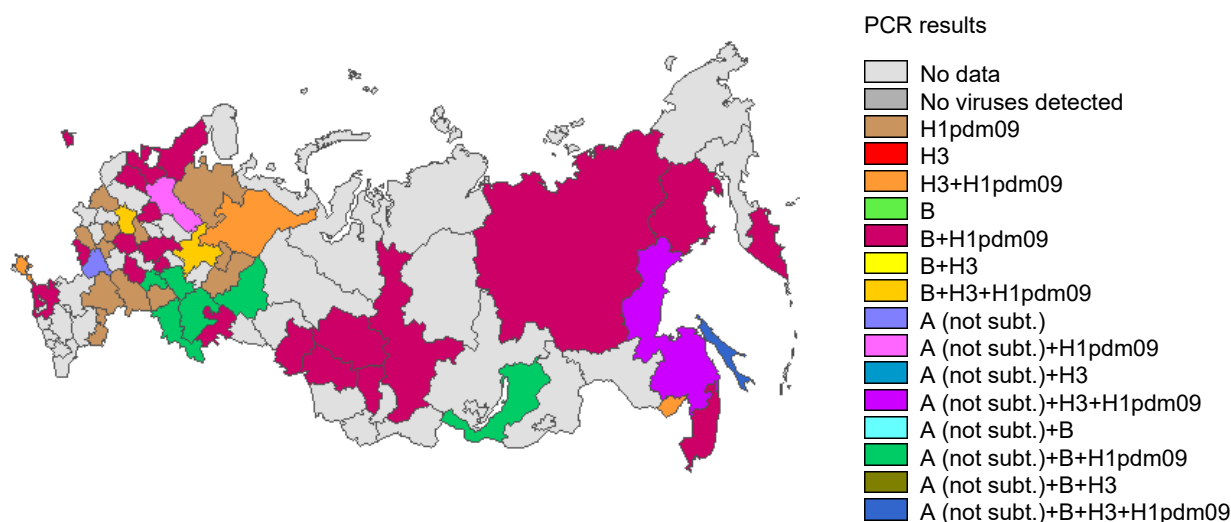


Fig. 5. Monitoring of influenza viruses detection by RT-PCR in Russia, season 2022/23

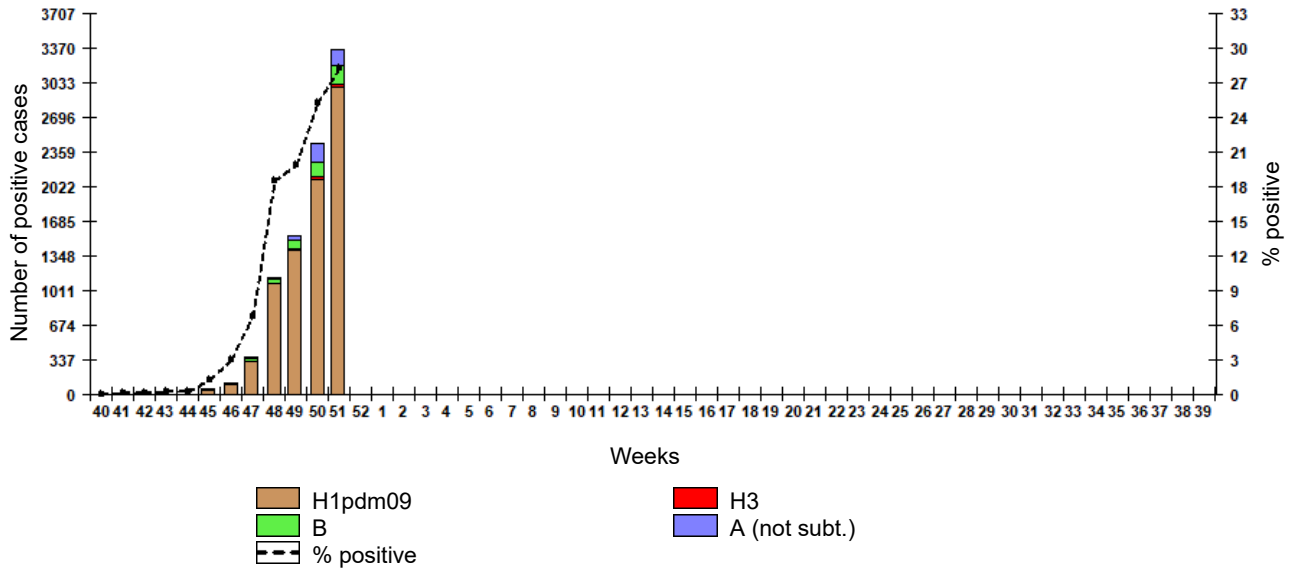
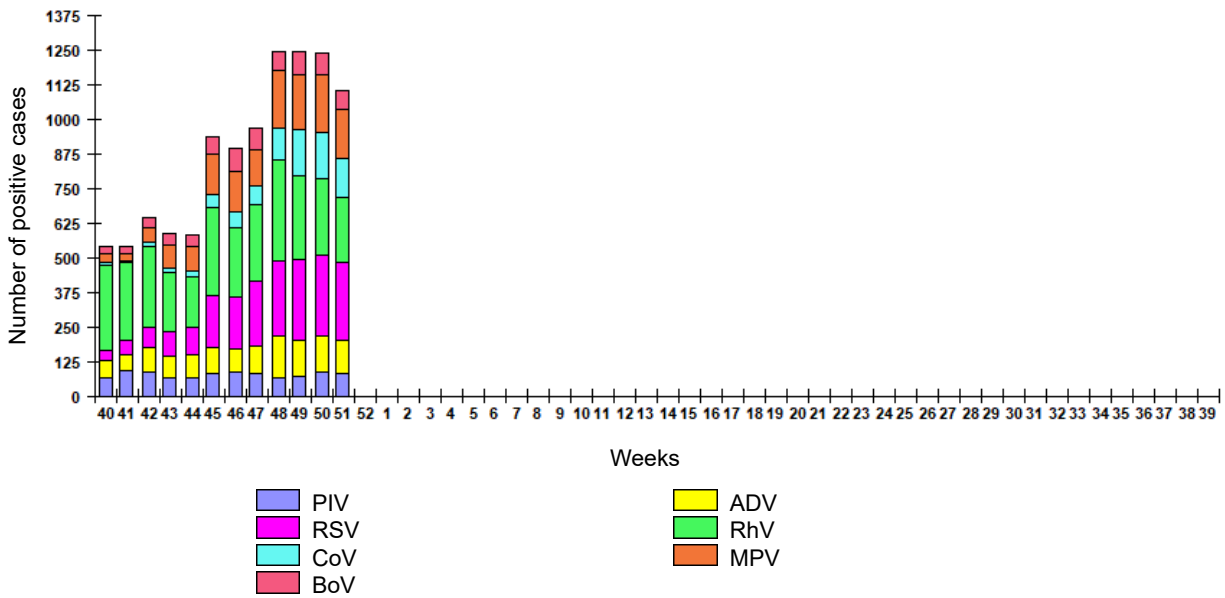


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2022/23



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **10.9%** of investigated samples by PCR.

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

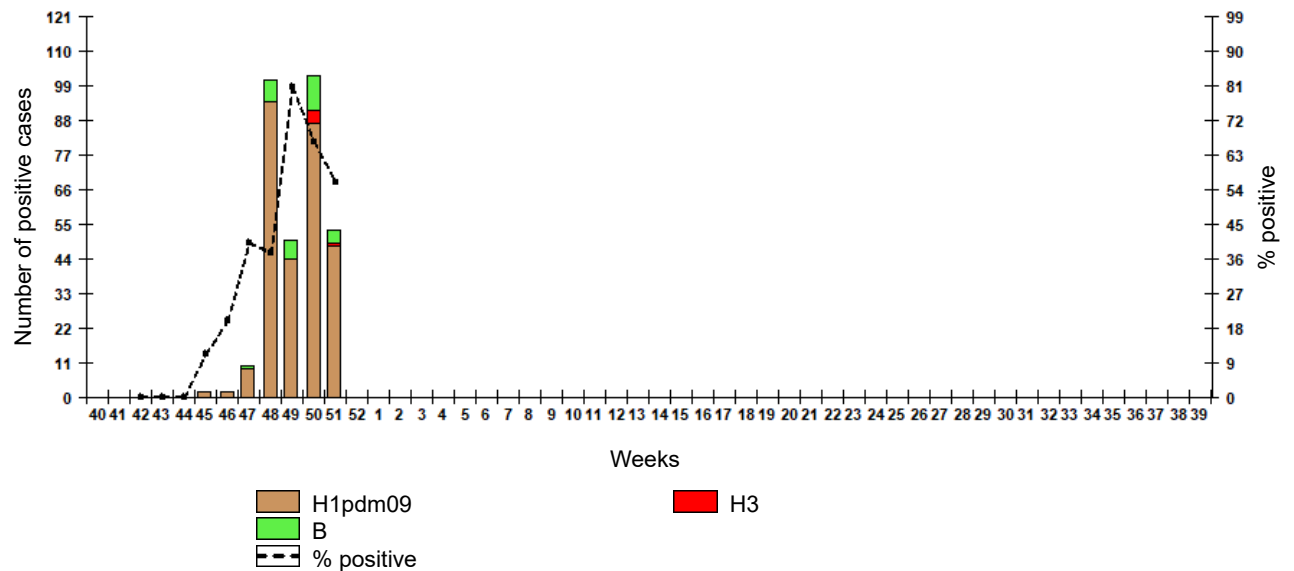


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 51 of 2022

	Number of specimens / number of positive cases	% positive
<u>Influenza</u>		
Number of specimens tested for influenza	11872	-
Influenza A (not subt.)	157	1,3%
Influenza A(H1)pdm09	2989	25,2%
Influenza A(H3)	29	0,2%
Influenza B	186	1,6%
All influenza	3361	28,3%
<u>Other ARVI</u>		
Number of specimens tested for ARVI	10167	-
PIV	84	0,8%
ADV	121	1,2%
RSV	283	2,8%
RhV	235	2,3%
CoV	143	1,4%
MPV	178	1,8%
BoV	69	0,7%
All ARVI	1113	10,9%
<u>SARS-CoV-2 (COVID-19)</u>		
Number of specimens tested for SARS-CoV-2	16326	-
SARS-CoV-2	852	5,2%

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



COVID-19. Totally 21 787 172 cases and 393 604 deaths associated with COVID-19 were registered in Russia including 6 146 cases and 56 deaths in last 24 hours (on 12:00 of 29.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 16 326 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 852 (5.2%) cases.

Table 2. Results of influenza viruses isolation in Russia, week 51 of 2022

	Number of specimens / number of viruses	% isolated viruses
Number of specimens	95	-
Influenza A(H1)pdm09	48	50,5%
Influenza A(H3)	1	1,1%
Influenza B	4	4,2%
All influenza	53	55,8%

Sentinel influenza surveillance

Clinical samples from 53 SARI patients were investigated by rRT-PCR for influenza, among them 24 (45.3%) cases of influenza, including 23 cases of influenza A(H1N1)pdm09 and 1 case of influenza B. Among 39 SARI patients no cases positive for ARVI by rRT-PCR recognized. Among 49 SARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

Clinical samples from 70 ILI/ARI patients were investigated for influenza by rRT-PCR, among them 21 (30.0%) cases of influenza, including 20 cases of influenza A(H1N1)pdm09 and 1 case of influenza B. Among 52 ILI/ARI samples 9 (17.3%) cases positive for ARVI detected including 1 case of ADV, 1 case of RSV, 5 cases of CoV, 1 case of MPV and 1 case of BoV infection. 1 (1.7%) of 58 ILI/ARI patients were positive for coronavirus SARS-CoV-2.

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

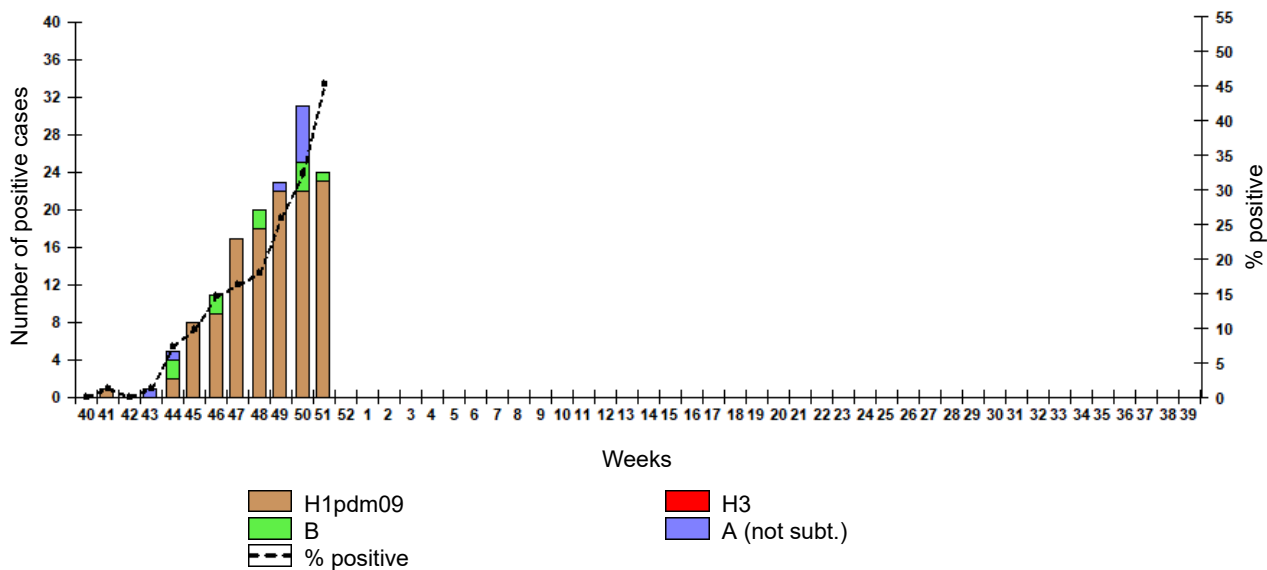


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

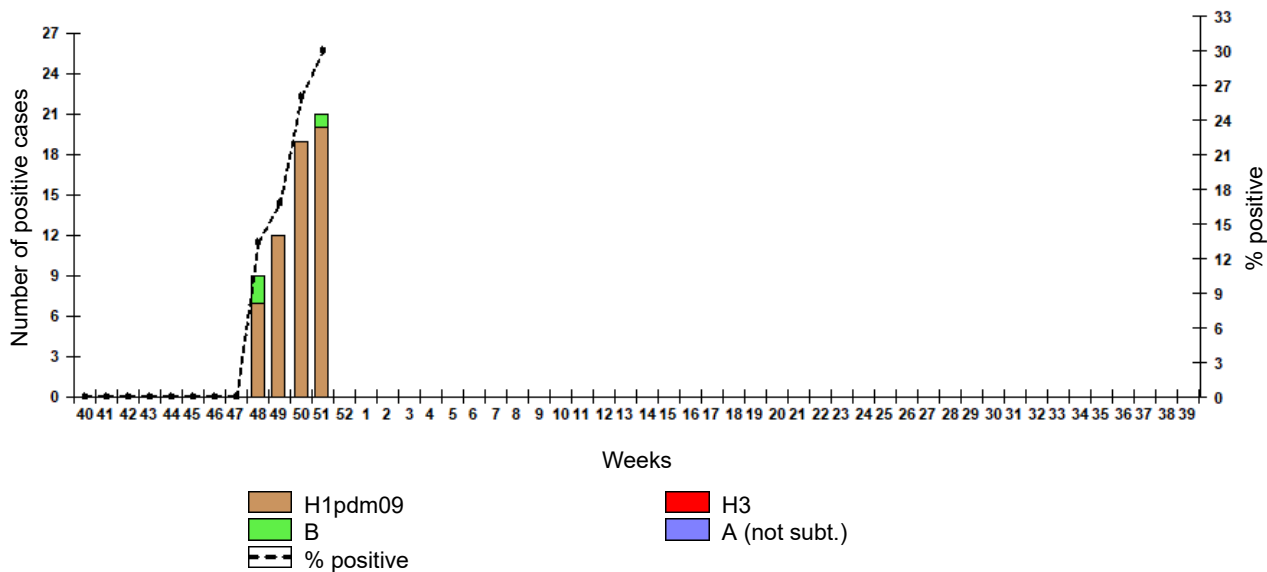


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2022/23

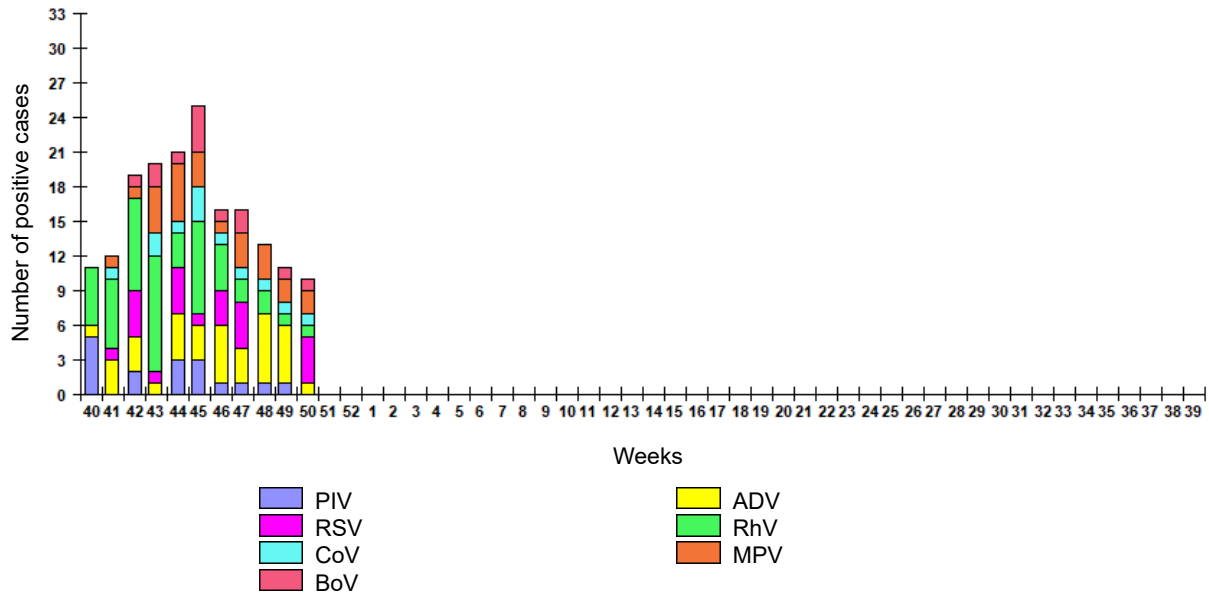


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

