NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 1 of 2022
(03.01.22 - 09.01.22)

Summary

Influenza and ARI incidence data. Influenza and other ARI activity decreased in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (42.3 per 10 000 of population) was lower than national baseline (70.0) by 39.6%.

Etiology of ILI & ARI. Among 2414 investigated patients 547 (**22.7%**) respiratory samples positive for influenza detected in 29 cities, including 497 cases of influenza A(H3N2) in 26 cities, 42 cases of influenza A unsubtyped in 5 cities and 8 cases of influenza B in 3 cities.

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 **6.9%** (PCR).

In sentinel surveillance system clinical samples from 5 SARI patients and one ILI/ARI patient were investigated by rRT-PCR, among them no cases of influenza recognized. Among 5 SARI patients one case positive for PIV infection detected. One ILI/ARI patient was negative for ARVI. None of 5 SARI patients were positive for coronavirus SARS-CoV-2. One investigated ILI/ARI patient was negative for coronavirus SARS-CoV-2.

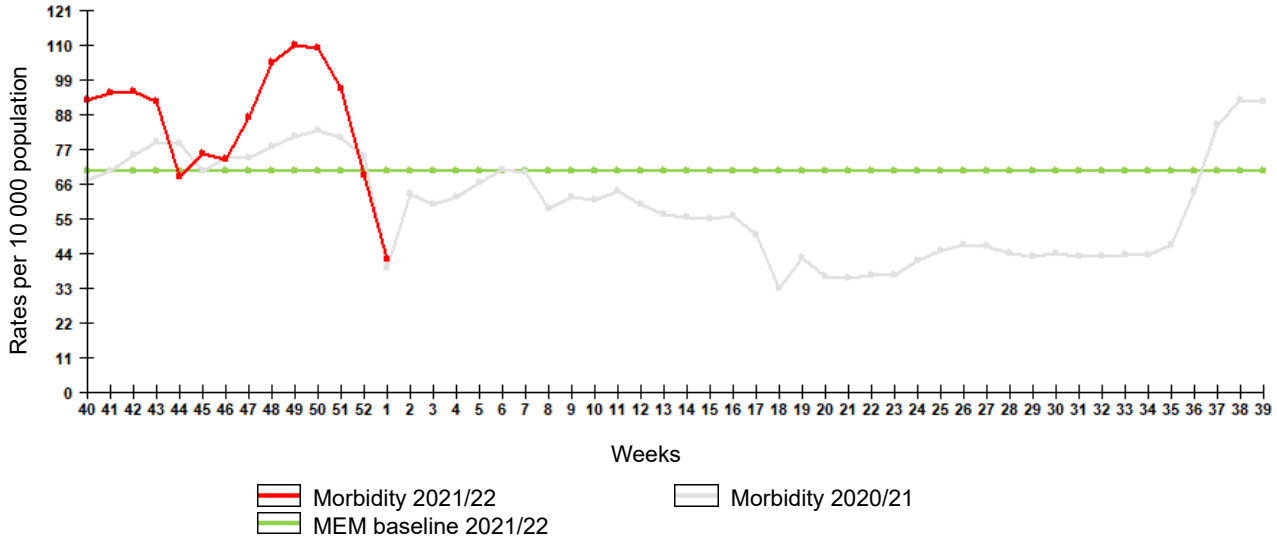
Antigenic characterization. Since the beginning of the season, 126 influenza A(H3N2) viruses have been antigenically characterized by the NICs (Moscow and Saint-Petersburg). 87 viruses were antigenically closely related to vaccine strain A/Cambodia/e0826360/20 (H3N2), however 28 strains were poorly recognized (1/16-1/32 of the homological titer) by rat antiserum to vaccine strain. 11 viruses were antigenically similar to reference strain A/Darwin/9/2021 (H3N2).

Susceptibility to antivirals. All 97 influenza A(H3N2) viruses analysed by the two NIC (Moscow, Saint-Petersburg) were susceptible to oseltamivir and zanamivir.

COVID-19. Totally 10 723 305 cases and 319 172 deaths associated with COVID-19 were registered in Russia including 21 155 cases and 740 deaths in last 24 hours (on 12:00 of 13.01.2022). According to the data obtained by NIC in Saint-Petersburg totally 9180 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 2719 (**29.6%**) cases.

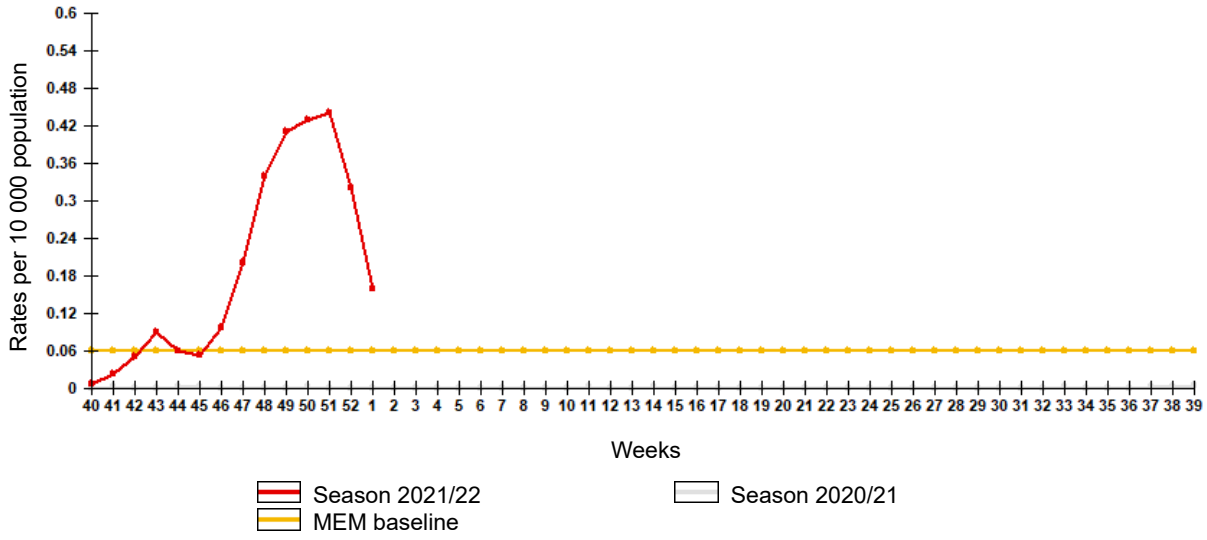
Influenza and ARI morbidity data

Fig. 1. Influenza and ARVI morbidity in 61 cities under surveillance in Russia, seasons 2020/21 and 2021/22



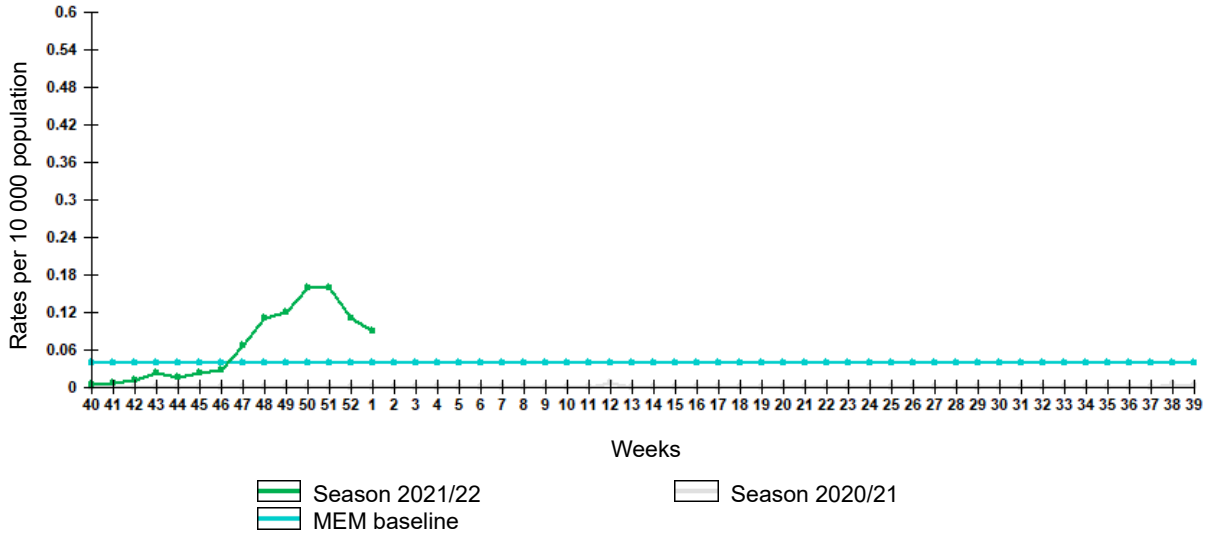
Epidemiological data showed decrease of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (42.3 per 10 000 of population) was lower than national baseline (70.0) by 39.6%.

Fig. 2. Comparative data on incidence rate of clinically diagnosed influenza, seasons 2020/21 and 2021/22



Incidence rate of clinically diagnosed influenza decreased comparing to previous week and amounted to 0.16 per 10 000 of population, it was 2.7 times higher than pre-epidemic MEM baseline (0.060).

Fig. 3. Comparison of hospitalization rate with clinical diagnosis of influenza, seasons 2020/21 and 2021/22



Hospitalization rate of clinically diagnosed influenza decreased comparing to previous week and amounted to 0.091 per 10 000 of population, it was 2.3 times 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 43 RBLs and two WHO NICs. According to these data as a result of 2414 patients investigation 547 (**22.7%**) respiratory samples positive for influenza were detected in 29 cities, including 497 cases of influenza A(H3N2) in 26 cities, 42 cases of influenza A unsubtyped in 5 cities and 8 cases of influenza B in 3 cities.

Antigenic characterization. Since the beginning of the season, 126 influenza A(H3N2) viruses have been antigenically characterized by the NICs (Moscow and Saint-Petersburg). 87 viruses were antigenically closely related to vaccine strain A/Cambodia/e0826360/20 (H3N2), however 28 strains were poorly recognized (1/16-1/32 of the homological titer) by rat antiserum to vaccine strain. 11 viruses were antigenically similar to reference strain A/Darwin/9/2021 (H3N2).

Susceptibility to antivirals. All 97 influenza A(H3N2) viruses analysed by the two NIC (Moscow, Saint-Petersburg) were susceptible to oseltamivir and zanamivir.

Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 1 of 2022

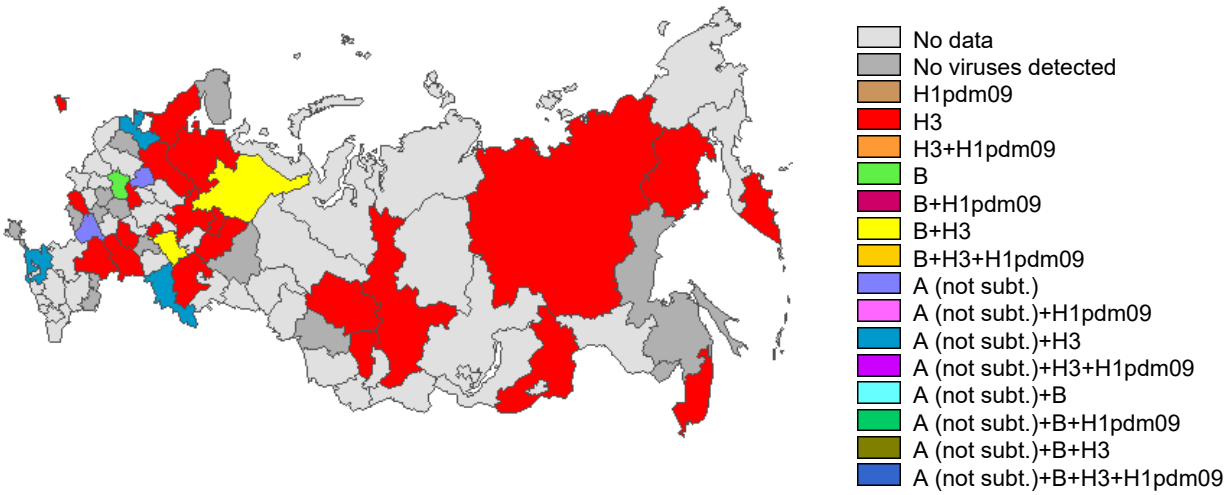


Fig. 5. Monitoring of influenza viruses detection by RT-PCR in Russia, season 2021/22

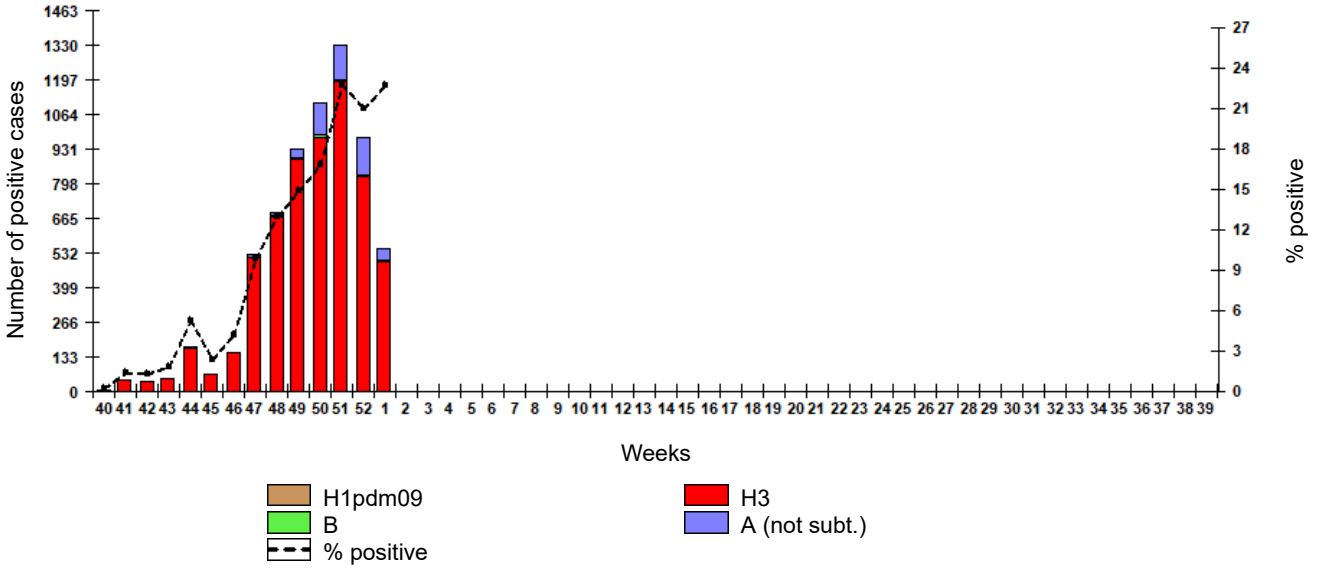
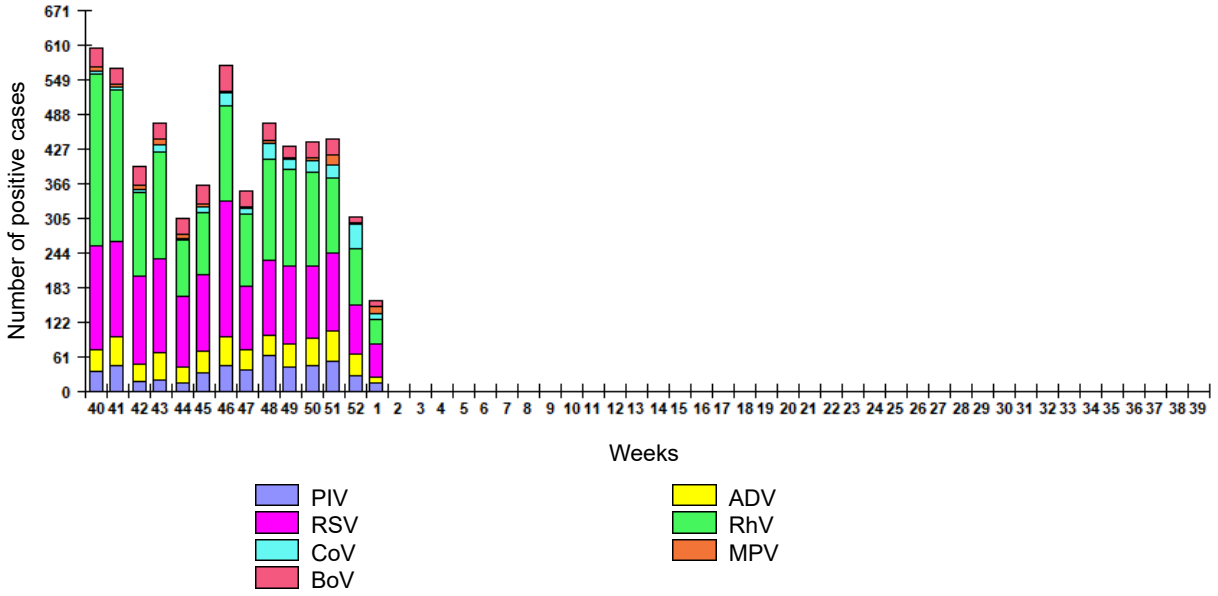


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2021/22



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **6.9%** of investigated samples by PCR.

Fig. 7. Monitoring of influenza viruses isolation in Russia, season 2021/22

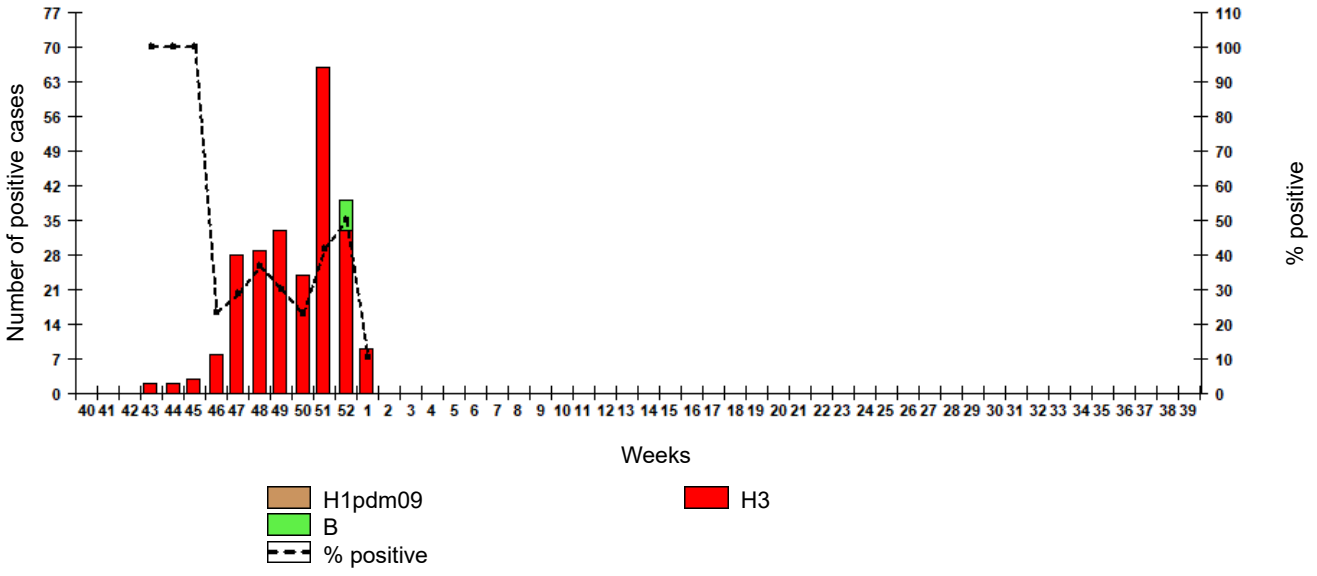
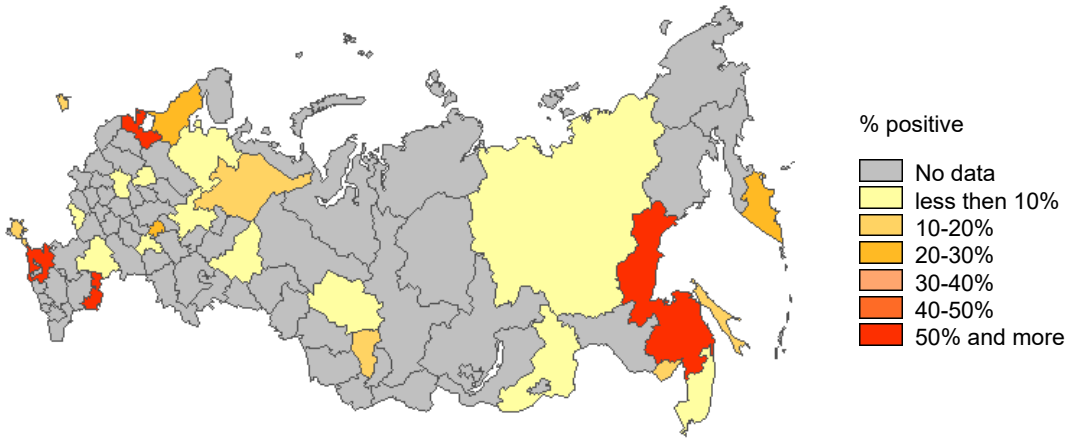


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 1 of 2022

	Number of specimens / number of positive cases	% positive
Influenza		
Number of specimens tested for influenza	*2414*	-
Influenza A (not subt.)	*42*	*1,7%*
Influenza A(H1)pdm09	*0*	*0,0%*
Influenza A(H3)	*497*	*20,6%*
Influenza B	*8*	*0,3%*
All influenza	*547*	*22,7%*
Other ARVI		
Number of specimens tested for ARVI	*2292*	-
PIV	*16*	*0,7%*
ADV	*9*	*0,4%*
RSV	*58*	*2,5%*
RhV	*43*	*1,9%*
CoV	*9*	*0,4%*
MPV	*13*	*0,6%*
BoV	*10*	*0,4%*
All ARVI	*158*	*6,9%*
SARS-CoV-2 (COVID-19)		
Number of specimens tested for SARS-CoV-2	*9180*	-
SARS-CoV-2	*2719*	*29,6%*

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



COVID-19. Totally 10 723 305 cases and 319 172 deaths associated with COVID-19 were registered in Russia including 21 155 cases and 740 deaths in last 24 hours (on 12:00 of 13.01.2022). According to the data obtained by NIC in Saint-Petersburg totally 9180 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 2719 (**29.6%**) cases

Table 2. Results of influenza viruses isolation in Russia, week 1 of 2022

	Number of specimens / number of viruses	% isolated viruses
Number of specimens	*85*	-
Influenza A(H1)pdm09	*0*	*0,0%*
Influenza A(H3)	*9*	*10,6%*
Influenza B	*0*	*0,0%*
All influenza	*9*	*10,6%*

Sentinel influenza surveillance

Clinical samples from 5 SARI patients were investigated by rRT-PCR for influenza, among them no cases of influenza recognized. Five SARI patients were investigated for ARVI by rRT-PCR, among them one case of PIV infection recognized. None of 5 SARI patients were positive for coronavirus SARS-CoV-2.

Clinical samples from one ILI/ARI patient were investigated for influenza and ARVI by rRT-PCR, no cases of influenza and ARVI detected. One ILI/ARI case was negative for coronavirus SARS-CoV2.

Fig. 9. Monitoring of influenza viruses detection by RT-PCR among SARI patients in sentinel hospitals, season 2021/22

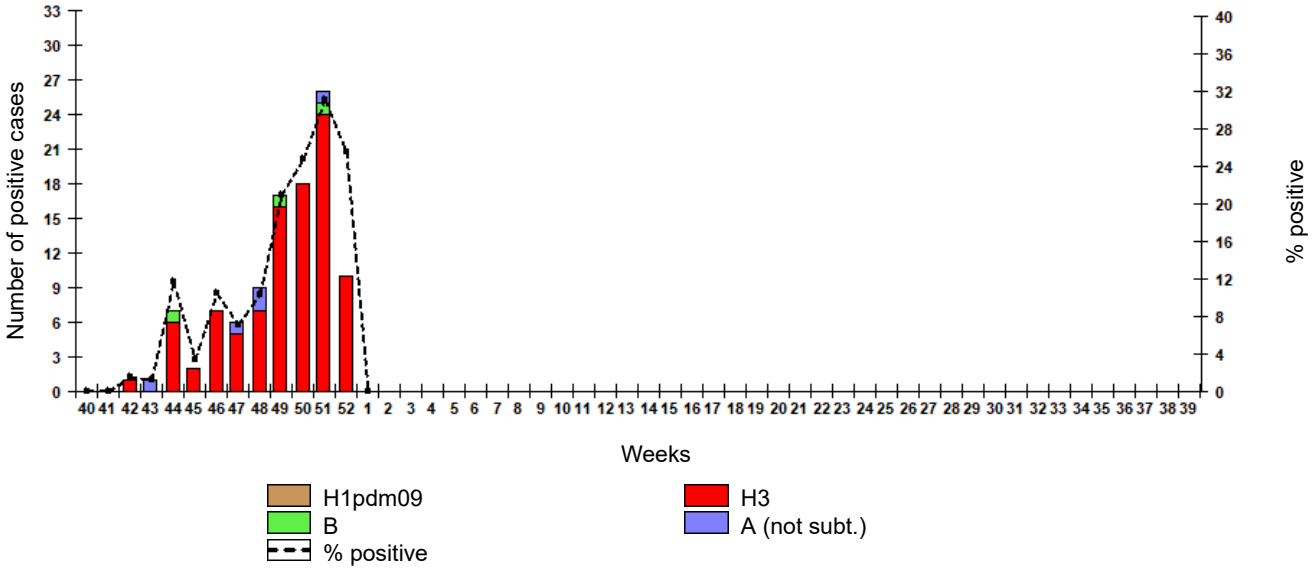


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2021/22

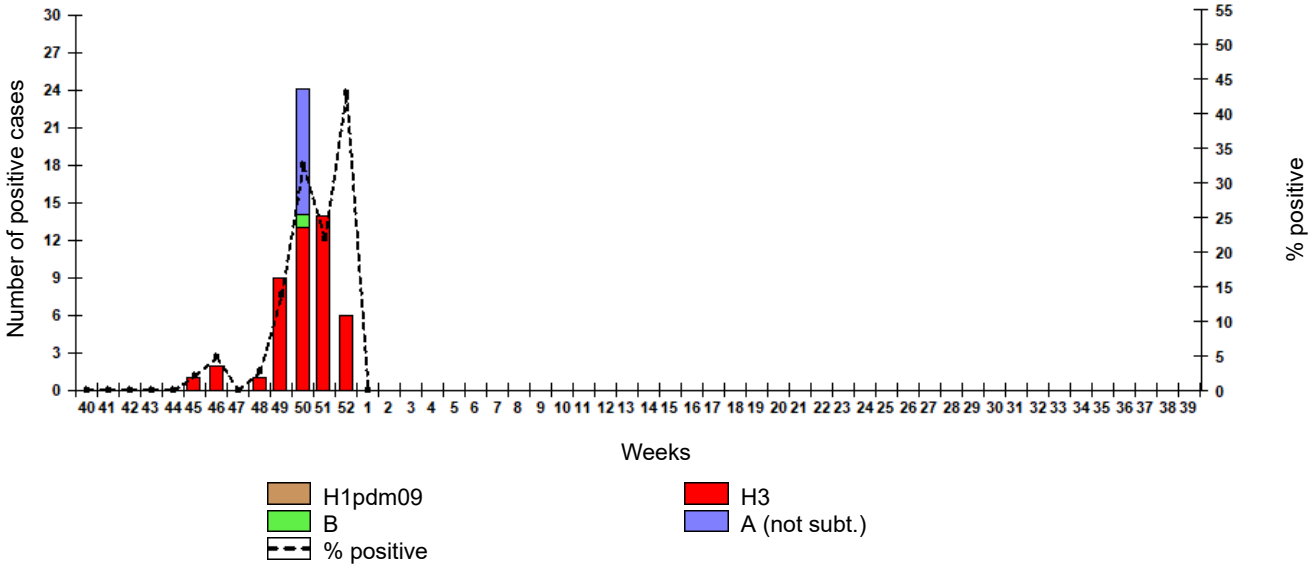


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2021/22

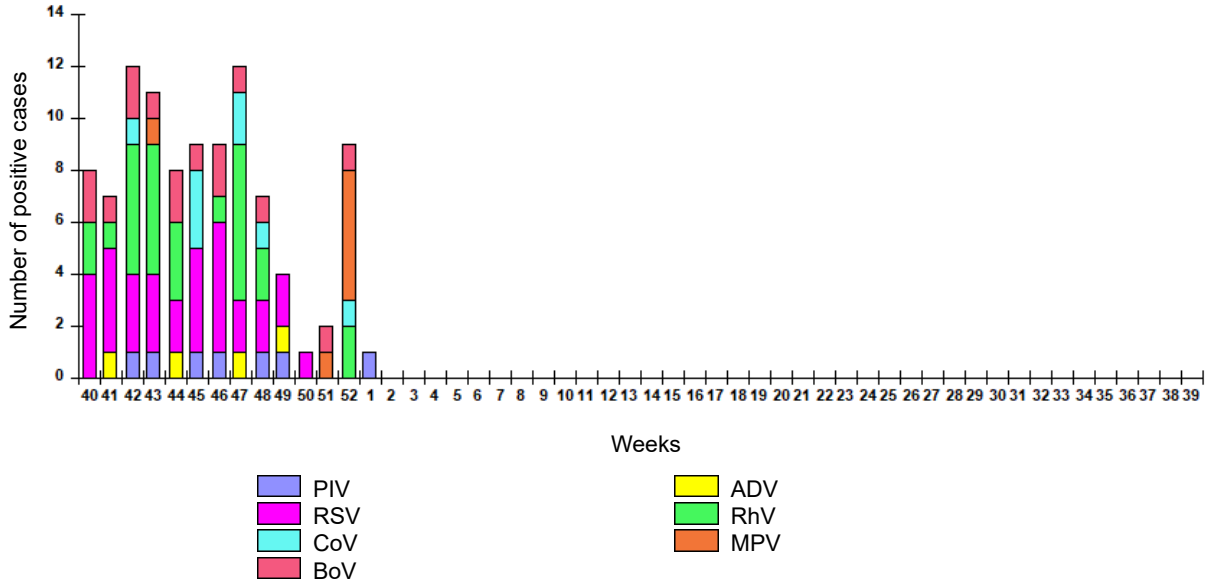


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2021/22