NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 52 of 2021
(27.12.21 - 02.01.22)

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 (67.5 per 10 000 of population) was lower than national baseline (70.0) by 3.6%.

Etiology of ILI & ARI. Among 4621 investigated patients 970 (**21.0%**) respiratory samples positive for influenza detected in 34 cities, including 820 cases of influenza A(H3N2) in 33 cities, 146 cases of influenza A unsubtyped in 6 cities and 4 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 **7.1%** (PCR).

In sentinel surveillance system clinical samples from 15 SARI patients were investigated by rRT-PCR, among them 6 (**40.0%**) cases of influenza A(H3N2) recognized. Among clinical samples from 7 ILI/ARI patients one (**14.3%**) case of influenza A(H3N2) detected. Among 9 SARI patients no cases positive for ARVI recognized. Among 7 ILI/ARI patients one (**14.3%**) case was positive for ADV infection. None of 13 SARI patients were positive for coronavirus SARS-CoV-2. Among 7 ILI/ARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

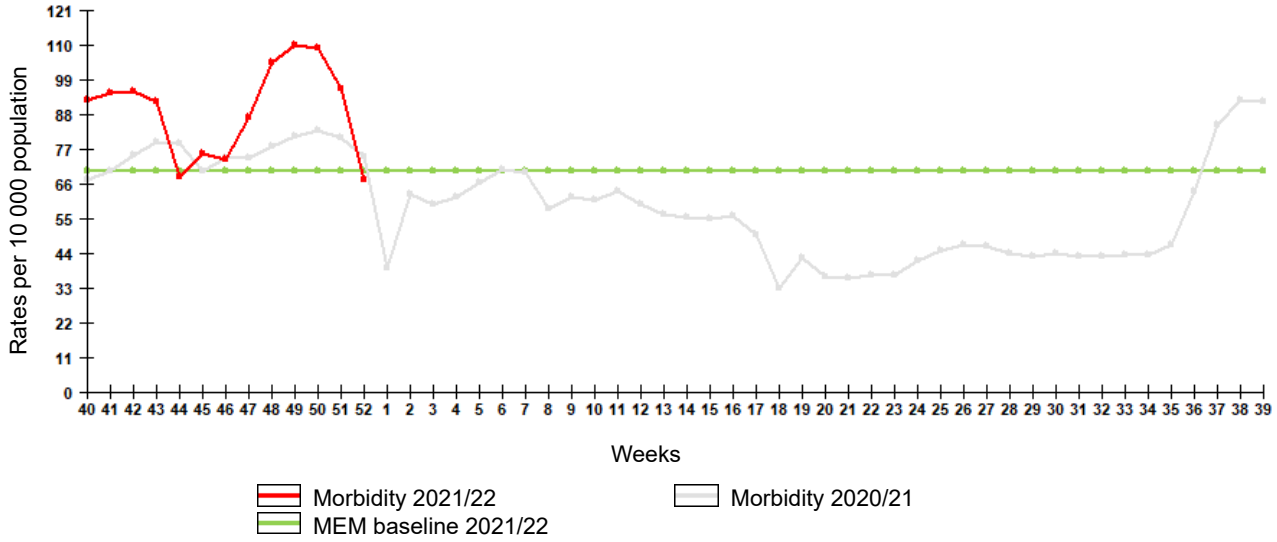
Antigenic characterization. Since the beginning of the season, 126 influenza A(H3N2) viruses have been antigenically characterized by the NICs (Moscow and Saint-Petersburg). 87 viruses were antigenically closely related to vaccine strain A/Cambodia/e0826360/20 (H3N2), however 28 strains were poorly recognized (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 69 influenza A(H3N2) viruses analysed by the NIC (Moscow) were susceptible to oseltamivir and zanamivir.

COVID-19. Totally 10 601 300 cases and 313 817 deaths associated with COVID-19 were registered in Russia including 15 316 cases and 802 deaths in last 24 hours (on 12:00 of 06.01.2022). According to the data obtained by NIC in Saint-Petersburg totally 14288 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 2981 (**20.9%**) cases.

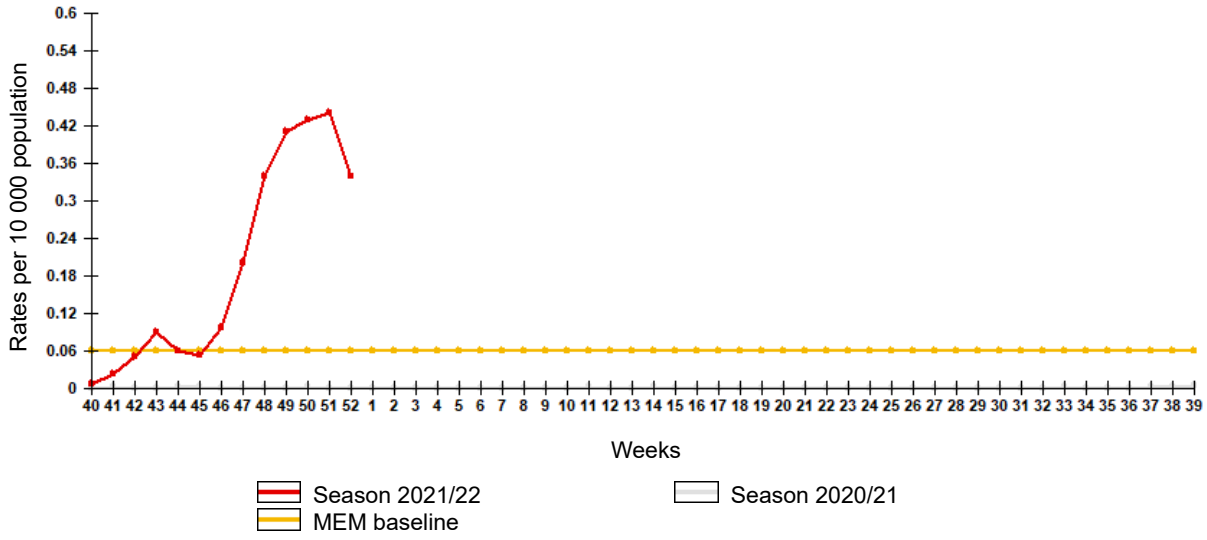
Influenza and ARI morbidity data

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



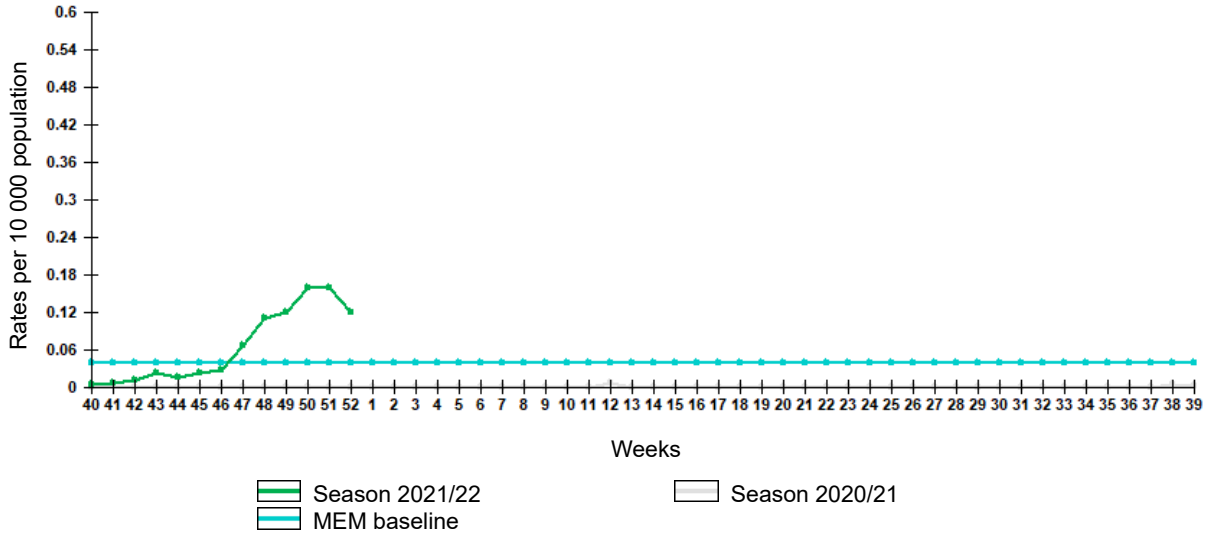
Epidemiological data showed decrease of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (67.5 per 10 000 of population) was lower than national baseline (70.0) by 3.6%.

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 0.34 per 10 000 of population, it was 5.6 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 0.12 per 10 000 of population, it was 3.0 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 42 RBLs and two WHO NICs. According to these data as a result of 4621 patients investigation 970 (**21.0%**) respiratory samples positive for influenza were detected in 34 cities, including 820 cases of influenza A(H3N2) in 33 cities, 146 cases of influenza A unsubtyped in 6 cities and 4 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 69 influenza A(H3N2) viruses analysed by the NIC (Moscow) were susceptible to oseltamivir and zanamivir.

Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 52 of 2021

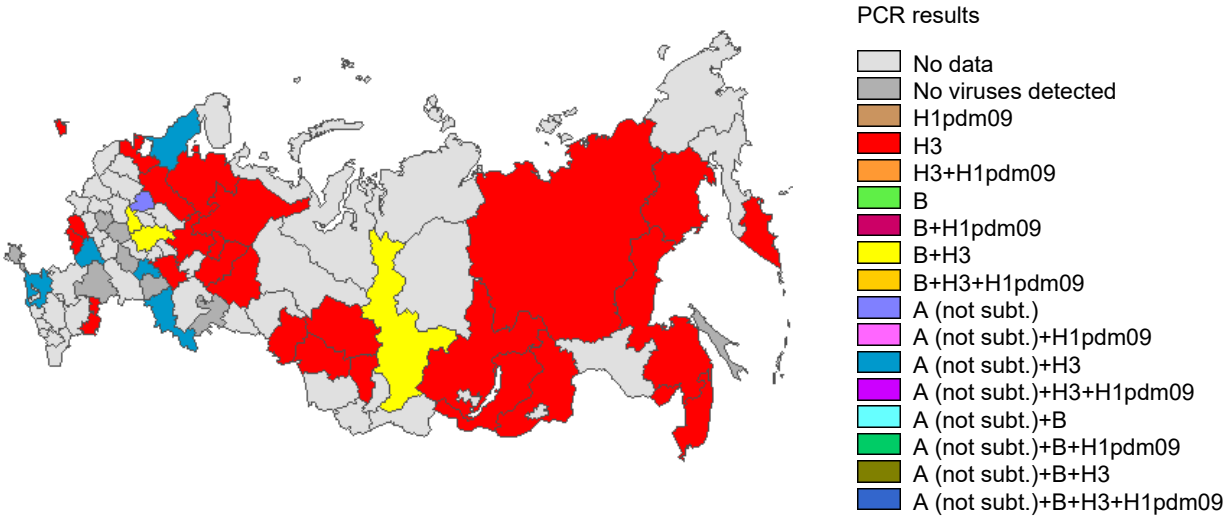


Fig. 5. Monitoring of influenza viruses detection by RT-PCR in Russia, season 2021/22

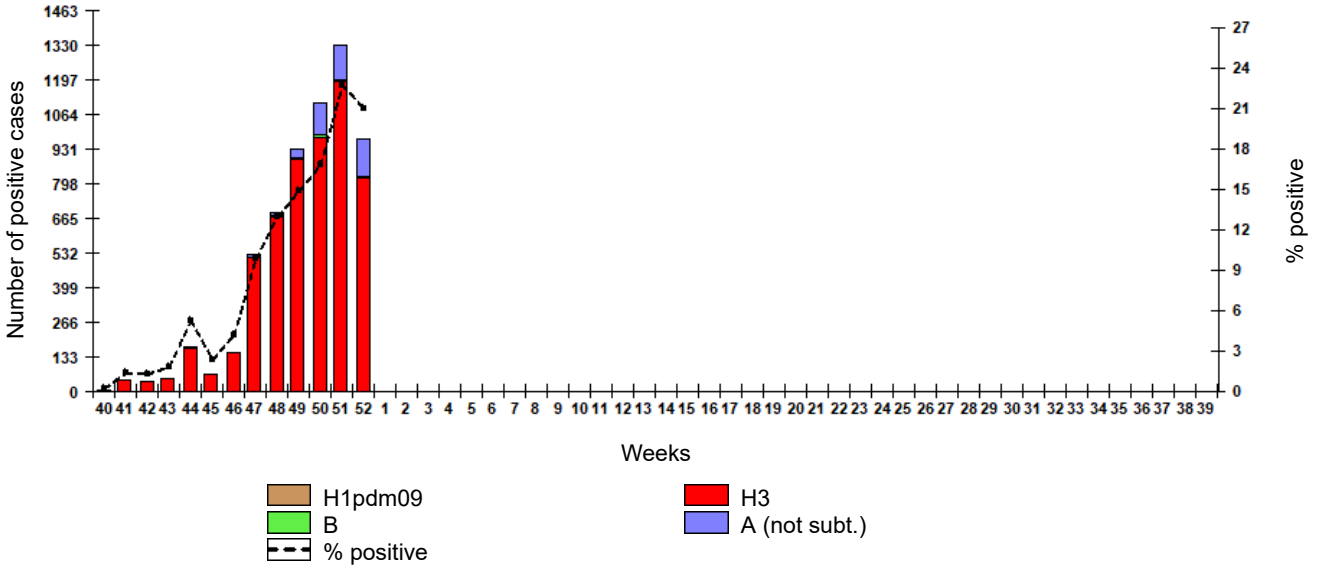
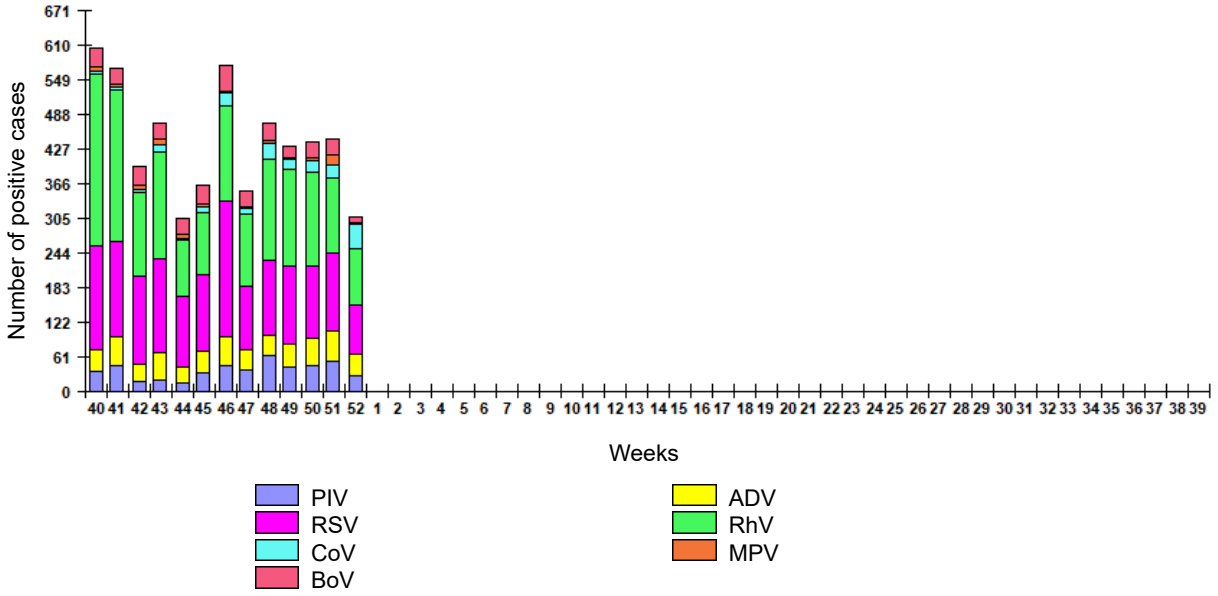


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2021/22



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **7.1%** of investigated samples by PCR.

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

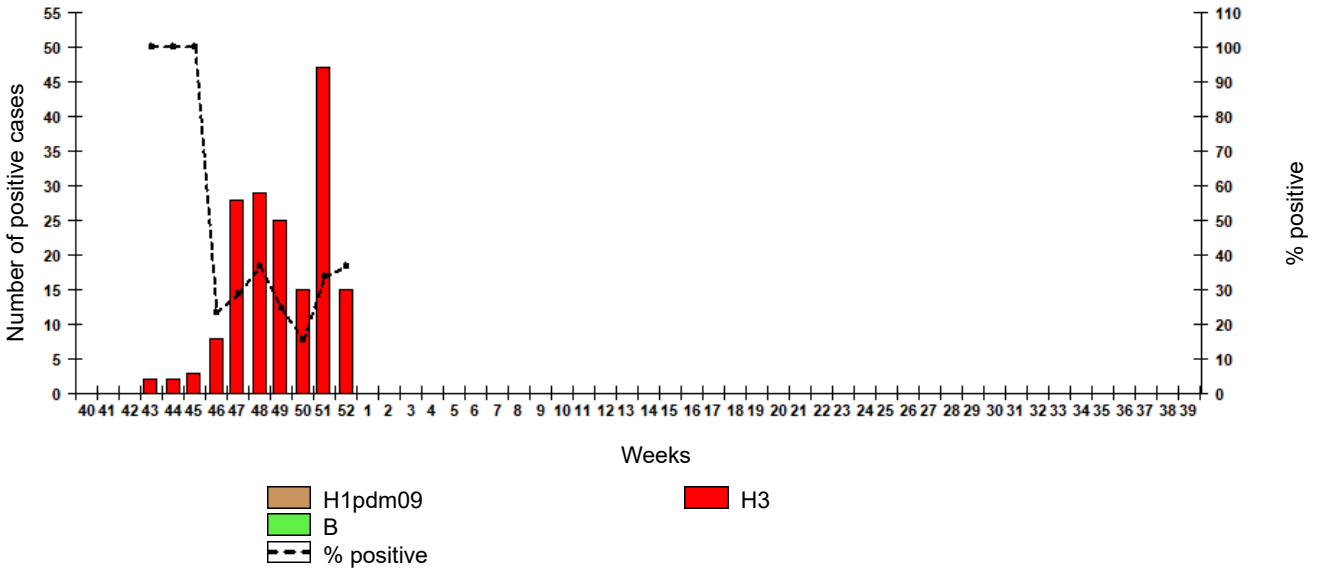


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 52 of 2021

	Number of specimens / number of positive cases	**% positive**
Influenza		
Number of specimens tested for influenza	*4621*	-
Influenza A (not subt.)	*146*	*3,2%*
Influenza A(H1)pdm09	*0*	*0,0%*
Influenza A(H3)	*820*	*17,7%*
Influenza B	*4*	*0,09%*
All influenza	*970*	*21,0%*
Other ARVI		
Number of specimens tested for ARVI	*4316*	-
PIV	*29*	*0,7%*
ADV	*37*	*0,9%*
RSV	*86*	*2,0%*
RhV	*98*	*2,3%*
CoV	*43*	*1,0%*
MPV	*3*	*0,07%*
BoV	*10*	*0,2%*
All ARVI	*306*	*7,1%*
SARS-CoV-2 (COVID-19)		
Number of specimens tested for SARS-CoV-2	*14288*	-
SARS-CoV-2	*2981*	*20,9%*

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

COVID-19. Totally 10 601 300 cases and 313 817 deaths associated with COVID-19 were registered in Russia including 15 316 cases and 802 deaths in last 24 hours (on 12:00 of 06.01.2022). According to the data obtained by NIC in Saint-Petersburg totally 14288 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 2981 (**20.9%**) cases

Table 2. Results of influenza viruses isolation in Russia, week 52 of 2021

	Number of specimens / number of viruses	**% isolated viruses**
Number of specimens	*41*	-
Influenza A(H1)pdm09	*0*	*0,0%*
Influenza A(H3)	*15*	*36,6%*
Influenza B	*0*	*0,0%*
All influenza	*15*	*36,6%*

Sentinel influenza surveillance

Clinical samples from 15 SARI patients in 3 cities were investigated by rRT-PCR for influenza, among them 6 (**40.0%**) cases of influenza A(H3N2) recognized in one city. 9 SARI patients were investigated for ARVI by rRT-PCR, among them no cases of ARVI recognized. None of 13 SARI patients were positive for coronavirus SARS-CoV-2.

Clinical samples from 7 ILI/ARI patients were investigated for influenza and ARVI by rRT-PCR, among them one (**14.3%**) case of influenza A(H3N2) recognized. One (**14.3%**) of 7 ILI/ARI cases were positive for ADV infection. None of 7 ILI/ARI patients were positive for SARS-CoV2.

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

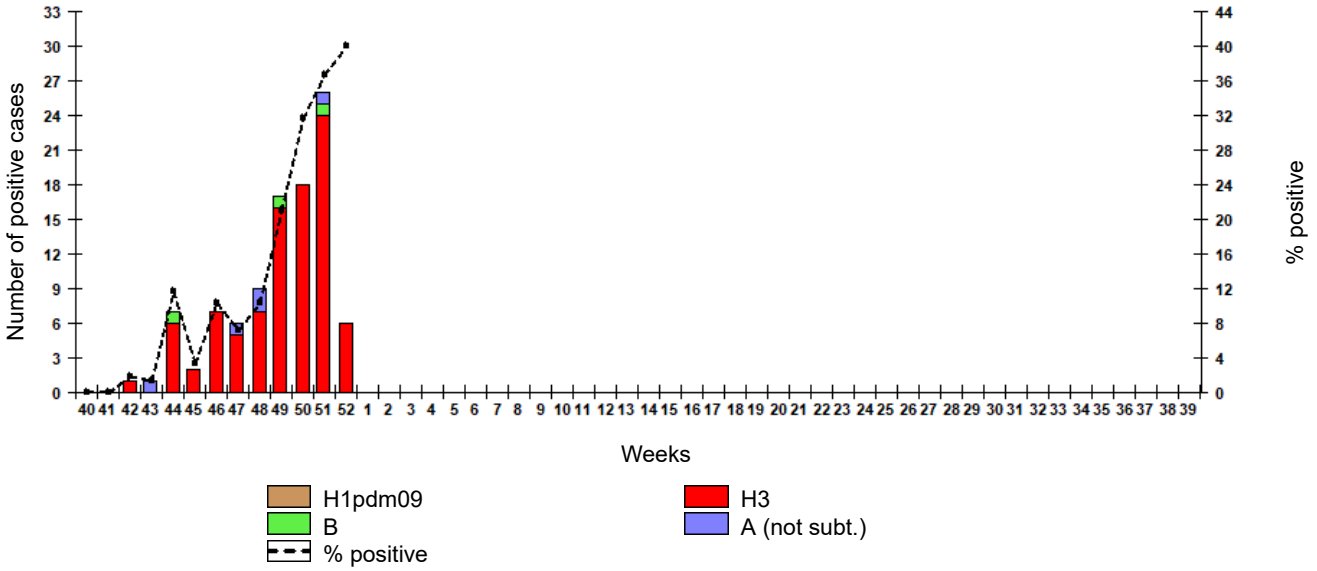


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2021/22

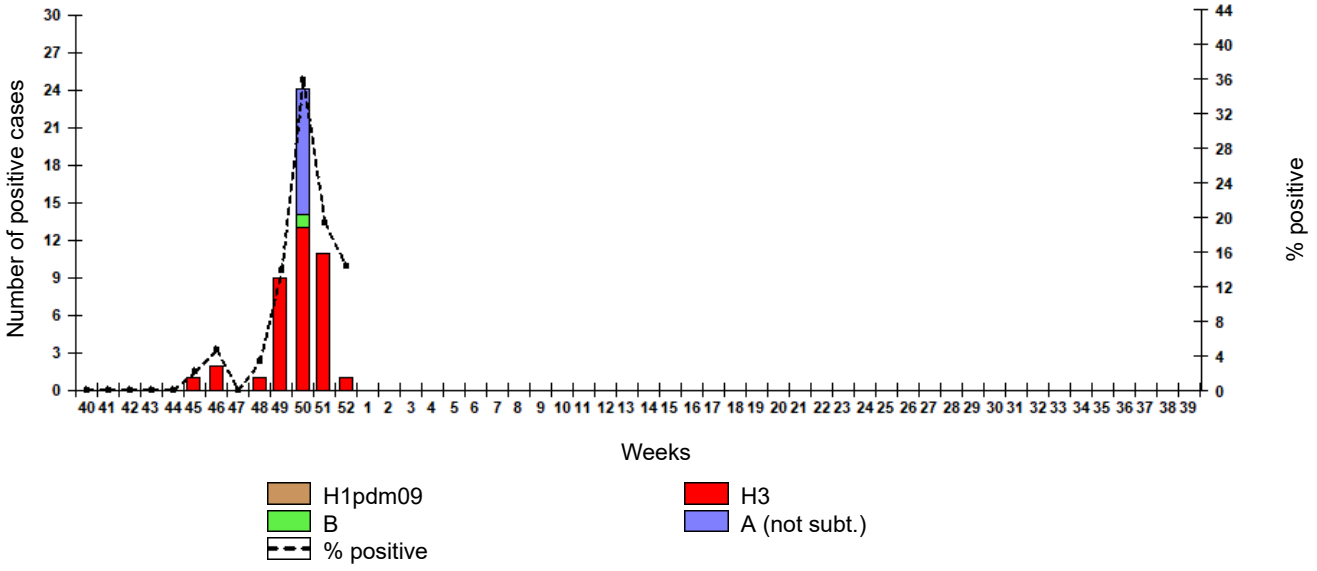


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2021/22

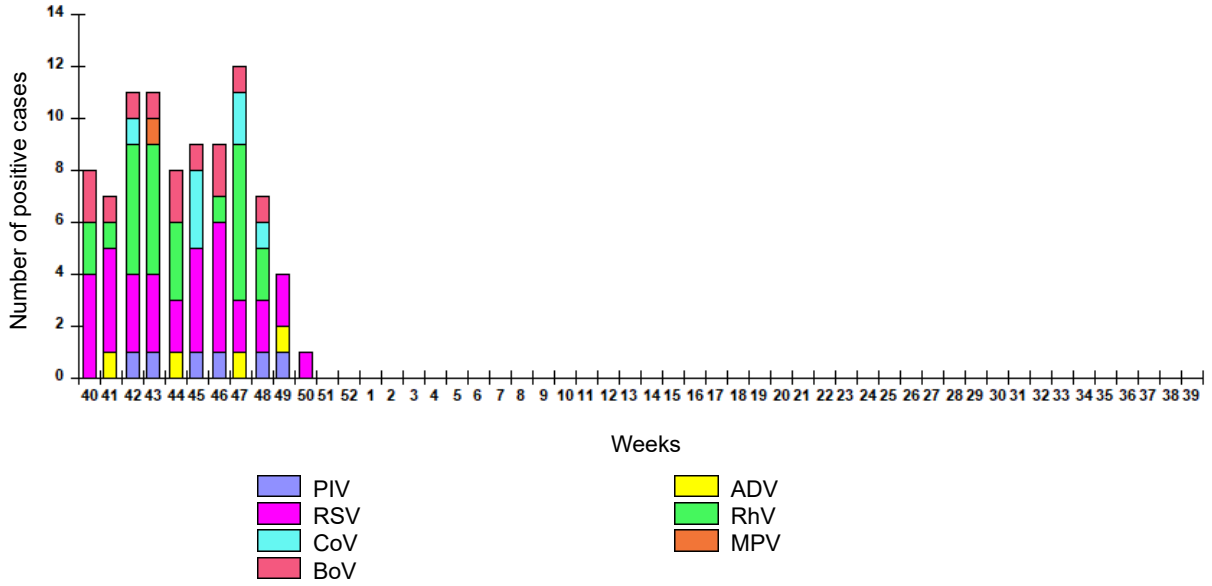


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2021/22