



NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 49 of 2022
(05.12.22 - 11.12.22)

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 (143.6 per 10 000 of population) was higher than national baseline (70.0) by 105.1%.

Etiology of ILI & ARI. Among 7801 patients investigation 1549 (19.9%) respiratory samples were positive for influenza, including 1406 cases of influenza A(H1N1)pdm09 in 44 cities, 9 cases of influenza A(H3N2) in 3 cities, 49 cases of influenza A unsubtype in 9 cities and 85 cases of influenza B in 20 cities.

50 influenza viruses were isolated on MDCK cell culture, including: 44 influenza A(H1N1)pdm09 viruses in Astrakhan (7), Vladivostok (5), Voronezh (1), Moscow (11), Samara (1) and Saint-Petersburg (5), Chita (14) and 6 influenza B viruses in Samara (3), Chita (3). Since the beginning of the season, 151 viruses A(H1N1)pdm09 and 14 virus B have been isolated.

Antigenic characterization. Since the beginning of the season, 32 influenza A(H1N1)pdm09 have been antigenically characterized by the NICs, including: Moscow (21) and Saint-Petersburg (11) 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 **18.6%** (PCR).

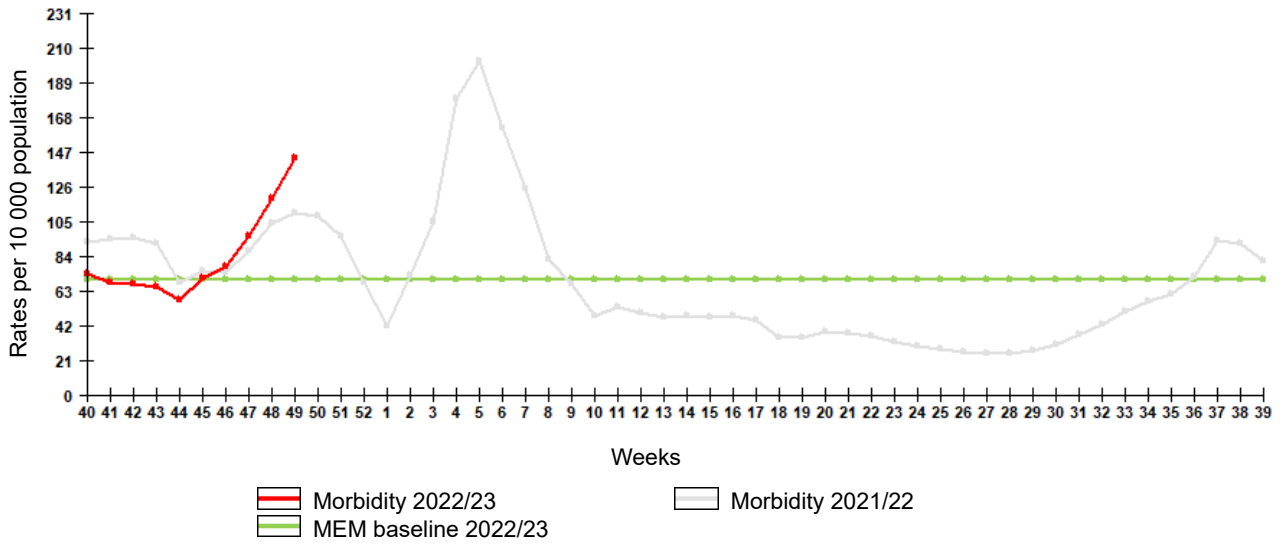
In sentinel surveillance system clinical samples from 48 SARI patients were investigated by rRT-PCR for influenza, among them 9 (18.8%) cases of influenza A(H1N1)pdm09. 38 SARI patients were investigated for ARVI by rRT-PCR, among them 11 (28.9%) cases of ARVI recognized including 1 case of PIV, 5 cases of ADV, 1 case of RhV, 1 case of CoV, 2 cases of MPV and 1 case of BoV infection. Among 48 SARI patients no cases positive for coronavirus SARS-CoV-2 recognized.

Clinical samples from 67 ILI/ARI patients were investigated for influenza by rRT-PCR, among them 12 (17.9%) cases of influenza A(H1N1)pdm09. Among 58 ILI/ARI samples 6 (10.3%) cases positive for ARVI detected including 1 case of ADV, 2 cases of RhV, 1 case of CoV and 4 cases of BoV infection. 2 (3.0%) of 66 ILI/ARI patients were positive for coronavirus SARS-CoV-2.

COVID-19. Totally 21 692 870 cases and 392 832 deaths associated with COVID-19 were registered in Russia including 7 833 cases and 57 deaths in last 24 hours (on 12:00 of 15.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 19 646 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 1076 (5.5%) cases.

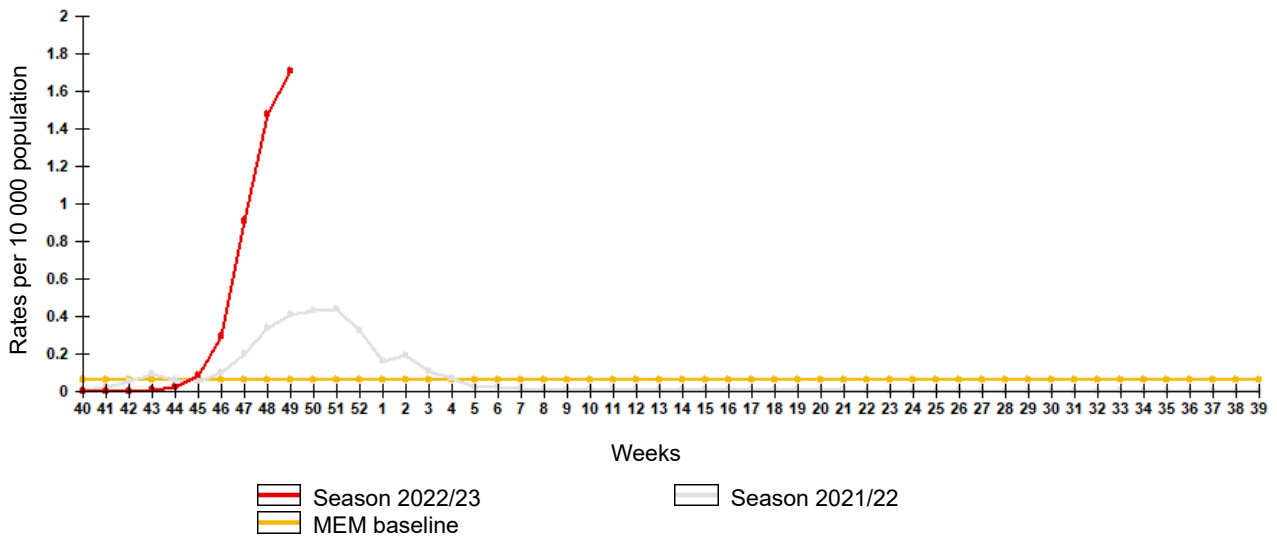
Influenza and ARI morbidity data

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



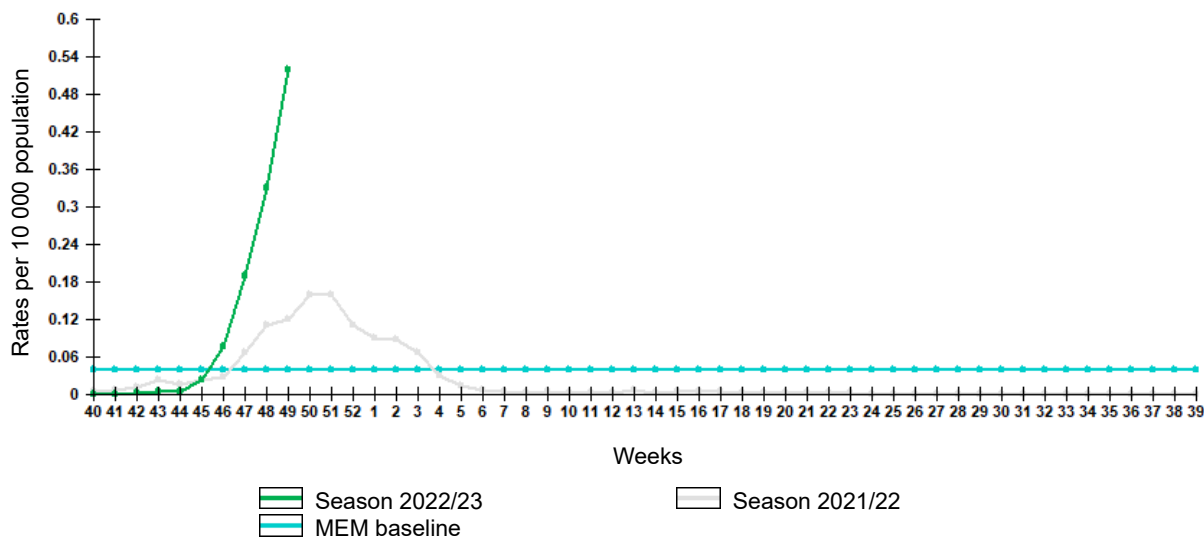
Epidemiological data showed increase of influenza and other ARI activity in Russia in comparison with previous week. The nationwide ILI and ARI morbidity level (143.6 per 10 000 of population) was higher than national baseline (70.0) by 105.1%.

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 1.71 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 0.52 per 10 000 of population, it was higher than pre-epidemic MEM baseline (0.040).

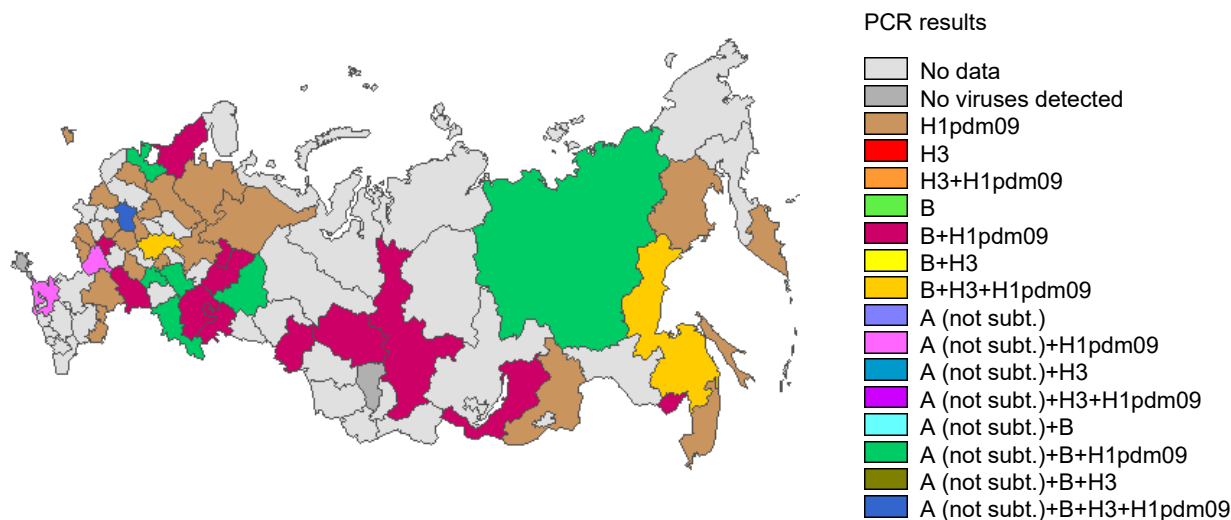
Influenza and ARVI laboratory testing results

Cumulative results of influenza laboratory diagnosis by rRT-PCR were submitted by 46 RBLs and two WHO NICs. According to these data as a result of 7801 patients investigation 1549 (19.9%) respiratory samples were positive for influenza, including 1406 cases of influenza A(H1N1)pdm09 in 44 cities, 9 cases of influenza A(H3N2) in 3 cities, 49 cases of influenza A unsubtype in 9 cities and 85 cases of influenza B in 20 cities.

50 influenza viruses were isolated on MDCK cell culture, including: 44 influenza A(H1N1)pdm09 viruses in Astrakhan (7), Vladivostok (5), Voronezh (1), Moscow (11), Samara (1) and Saint-Petersburg (5), Chita (14) and 6 influenza B viruses in Samara (3), Chita (3). Since the beginning of the season, 151 viruses A(H1N1)pdm09 and 14 virus B have been isolated.

Antigenic characterization. Since the beginning of the season, 32 influenza A(H1N1)pdm09 have been antigenically characterized by the NICs, including: Moscow (21) and Saint-Petersburg (11) 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.

Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 49 of 2022



- PCR results
- No data
 - No viruses detected
 - H1pdm09
 - H3
 - H3+H1pdm09
 - B
 - B+H1pdm09
 - B+H3
 - B+H3+H1pdm09
 - A (not sub.)
 - A (not sub.)+H1pdm09
 - A (not sub.)+H3
 - A (not sub.)+H3+H1pdm09
 - A (not sub.)+B
 - A (not sub.)+B+H1pdm09
 - A (not sub.)+B+H3
 - A (not sub.)+B+H3+H1pdm09

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

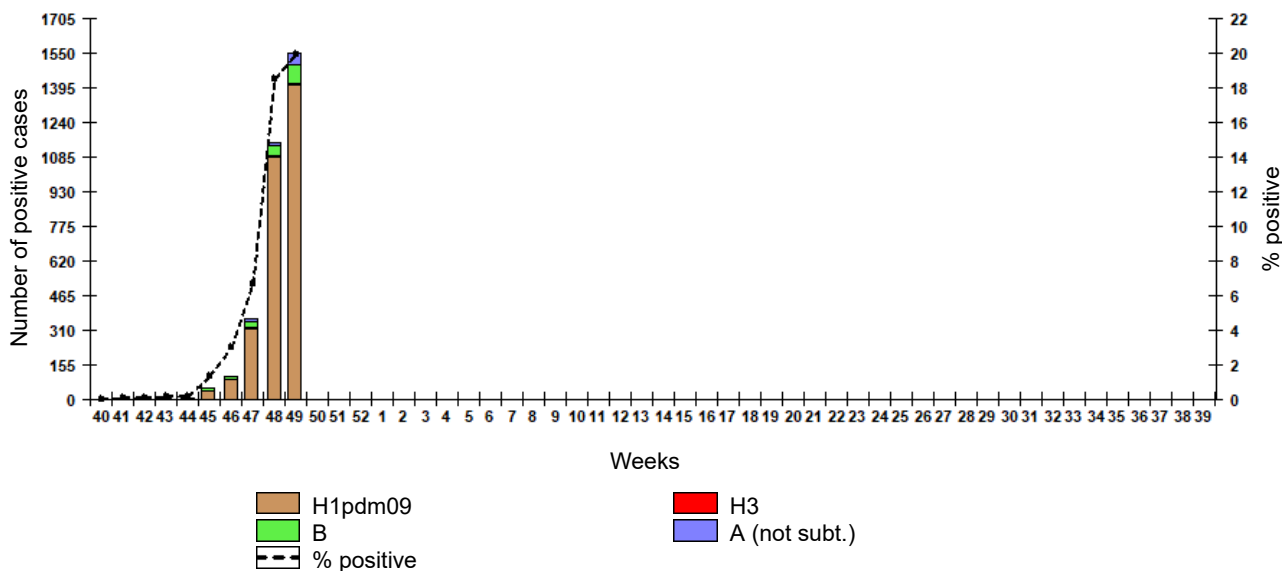
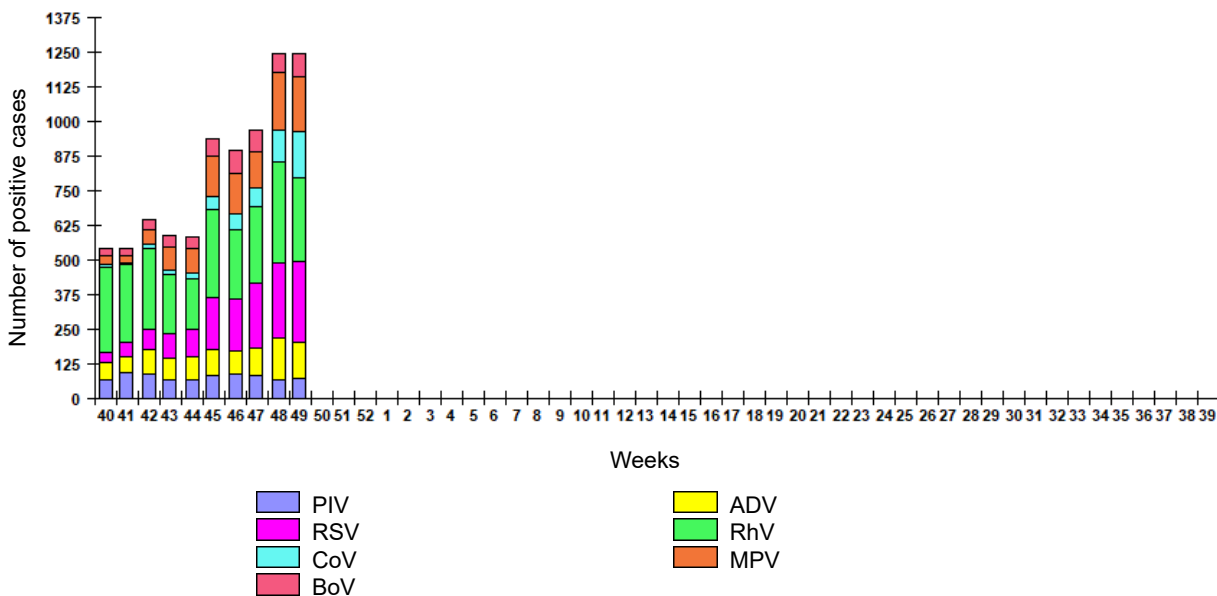


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2022/23



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **18.6%** of investigated samples by PCR.

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

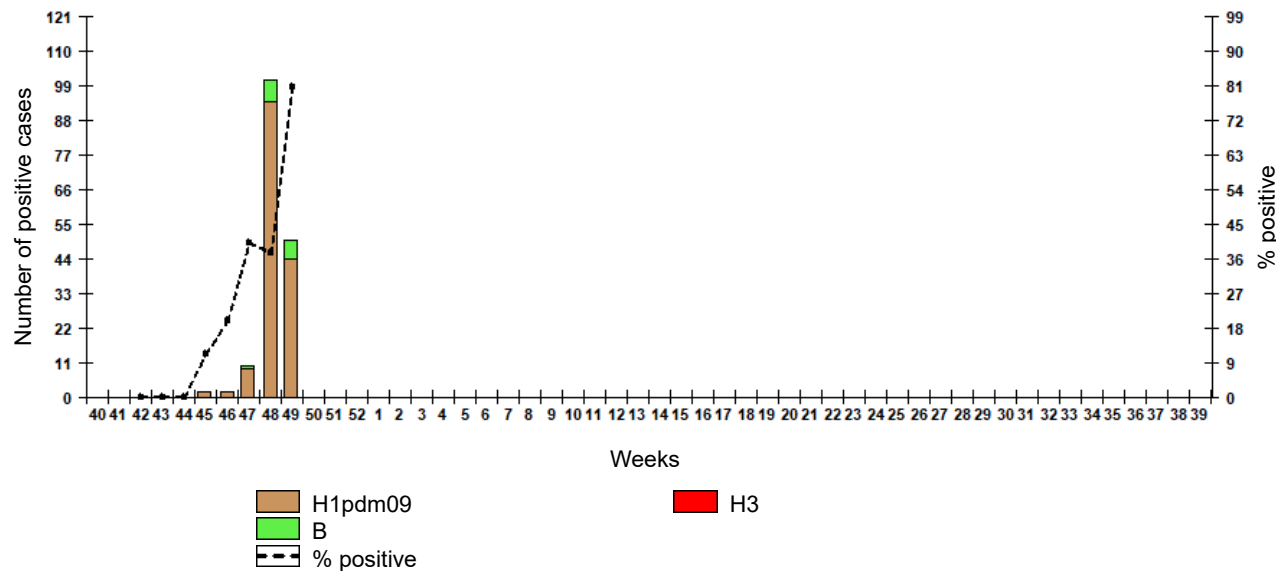


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 49 of 2022

	Number of specimens / number of positive cases	% positive
<u>Influenza</u>		
Number of specimens tested for influenza	7801	-
Influenza A (not subt.)	49	0,6%
Influenza A(H1)pdm09	1406	18,0%
Influenza A(H3)	9	0,1%
Influenza B	85	1,1%
All influenza	1549	19,9%
<u>Other ARVI</u>		
Number of specimens tested for ARVI	6617	-
PIV	71	1,1%
ADV	128	1,9%
RSV	290	4,4%
RhV	301	4,5%
CoV	165	2,5%
MPV	198	3,0%
BoV	81	1,2%
All ARVI	1234	18,6%
<u>SARS-CoV-2 (COVID-19)</u>		
Number of specimens tested for SARS-CoV-2	19646	-
SARS-CoV-2	1076	5,5%

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



COVID-19. Totally 21 692 870 cases and 392 832 deaths associated with COVID-19 were registered in Russia including 7 833 cases and 57 deaths in last 24 hours (on 12:00 of 15.12.2022). According to the data obtained by NIC in Saint-Petersburg totally 19 646 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 1076 (5.5%) cases.

Table 2. Results of influenza viruses isolation in Russia, week 49 of 2022

	Number of specimens / number of viruses	% isolated viruses
Number of specimens	62	-
Influenza A(H1)pdm09	44	71,0%
Influenza A(H3)	0	0,0%
Influenza B	6	9,7%
All influenza	50	80,6%

Sentinel influenza surveillance

Clinical samples from 48 SARI patients were investigated by rRT-PCR for influenza, among them 9 (18.8%) cases of influenza A(H1N1)pdm09. 38 SARI patients were investigated for ARVI by rRT-PCR, among them 11 (28.9%) cases of ARVI recognized including 1 case of PIV, 5 cases of ADV, 1 case of RhV, 1 case of CoV, 2 cases of MPV and 1 case of BoV infection. Among 48 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

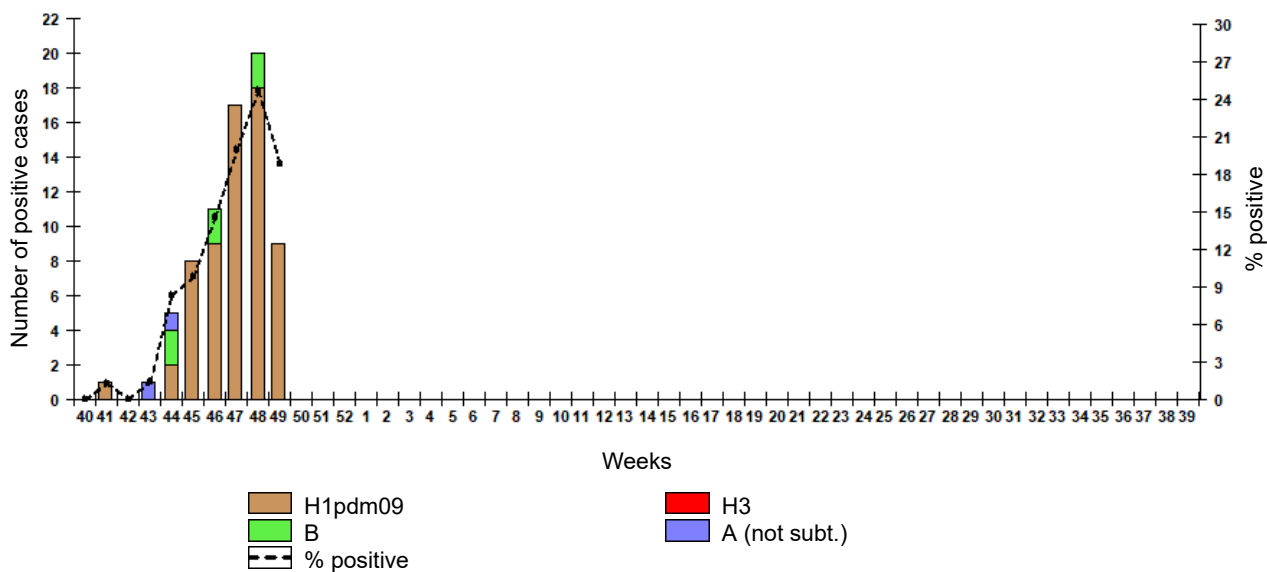


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

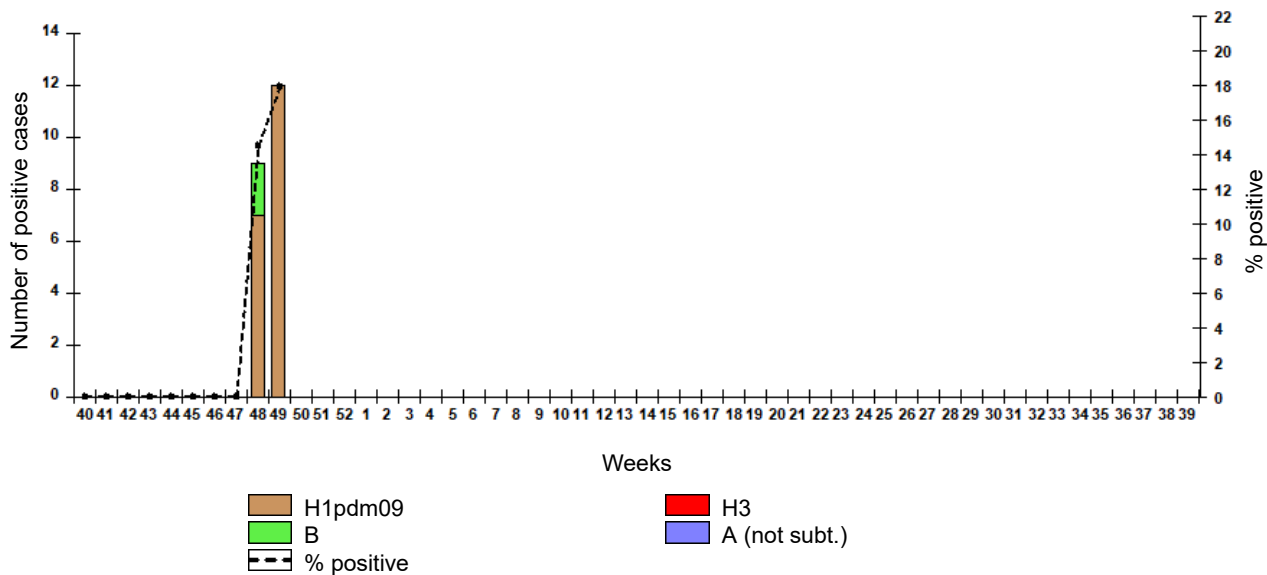


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2022/23

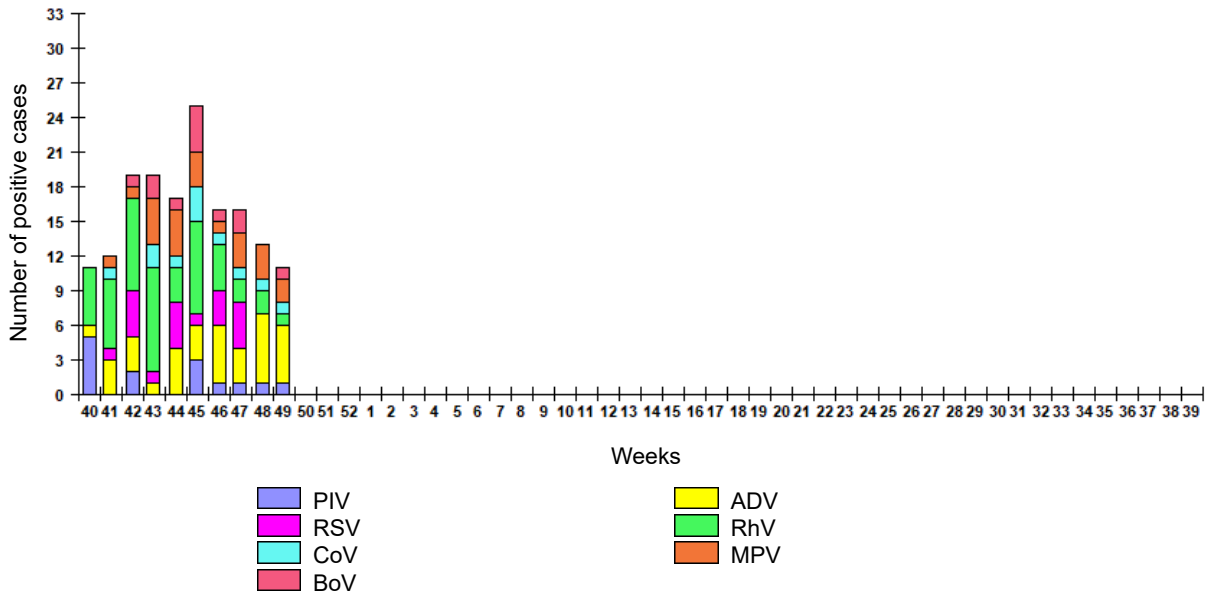


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

