

NATIONAL WEEKLY INFLUENZA BULLETIN OF THE RUSSIAN FEDERATION

week 3 of 2023 (16.01.23 - 22.01.23)

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 (72.3 per 10 000 of population) was higher than national baseline (70.0) by 3.3%.

Etiology of ILI & ARI. Among 8707 patients investigation 1298 (14.9%) respiratory samples were positive for influenza, including 529 cases of influenza A(H1N1)pdm09 in 39 cities, 11 cases of influenza A(H3N2) in 6 cities, 268 cases of influenza A untyped in 12 cities and 490 cases of influenza B in 39 cities.

111 influenza viruses were isolated on MDCK cell culture, including: 96 influenza A(H1N1)pdm09 viruses in Astrakhan (1), Vladivostok (4), Yekaterinburg (3), Novosibirsk (3), Orenburg (11), Samara (2), Saint-Petersburg (30), Tomsk (9), Khabarovsk (33); 4 influenza A(H3N2) viruses in Astrakhan (1), Khabarovsk (3) and 11 influenza B viruses in Vladivostok (4), Novosibirsk (1), Orenburg (1), Samara (2), Saint-Petersburg (2), Khabarovsk (1). Since the beginning of the season 657 influenza viruses were isolated on MDCK cell culture, including: 581 viruses A(H1N1)pdm09, 17 viruses A(H3N2) and 59 viruses B.

Antigenic characterization. Since the beginning of the season, 159 influenza A(H1N1)pdm09 viruses have been antigenically characterized by the NICs, including: Moscow (37) and Saint-Petersburg (122), 5 influenza A(H3N2) viruses in Saint-Petersburg and 28 influenza B, including: Moscow (5) and Saint-Petersburg (23). All viruses A(H1N1)pdm09 were antigenically similar to reference strain A/Victoria/2570/2019 (H1N1)pdm09. All A(H3N2) strains were similar to the reference virus A/Darwin/9/2021. 27 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 10.4% (PCR).

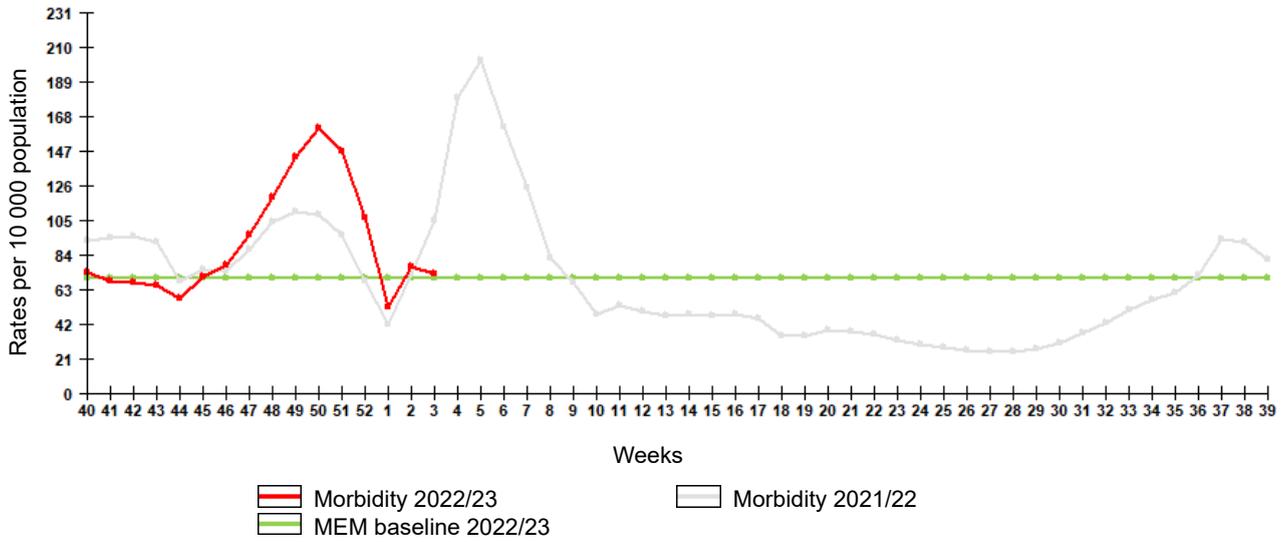
In sentinel surveillance system clinical samples from 52 SARI patients were investigated by rRT-PCR for influenza, among them 16 (30.8%) cases of influenza, including 11 cases of influenza A(H1N1)pdm09 and 5 cases of influenza B. Among 36 SARI patients no positive cases for ARVI recognized. Among 41 SARI patients no positive cases for coronavirus SARS-CoV-2 recognized.

Clinical samples from 51 ILI/ARI patients were investigated for influenza by rRT-PCR, among them 7 (13.7%) cases of influenza, including 2 cases of influenza A(H1N1)pdm09 and 5 cases of influenza B. Among 41 ILI/ARI samples 5 (12.2%) cases positive for ARVI detected including 1 case of PIV, 2 cases of ADV and 2 cases of RhV infection. 5 (11.4%) of 44 ILI/ARI patients were positive for coronavirus SARS-CoV-2.

COVID-19. Totally 21 910 020 cases and 394 821 deaths associated with COVID-19 were registered in Russia including 6 442 cases and 44 deaths in last 24 hours (on 12:00 of 26.01.2023). According to the data obtained by NIC in Saint-Petersburg totally 9 401 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 640 (6.8%) cases.

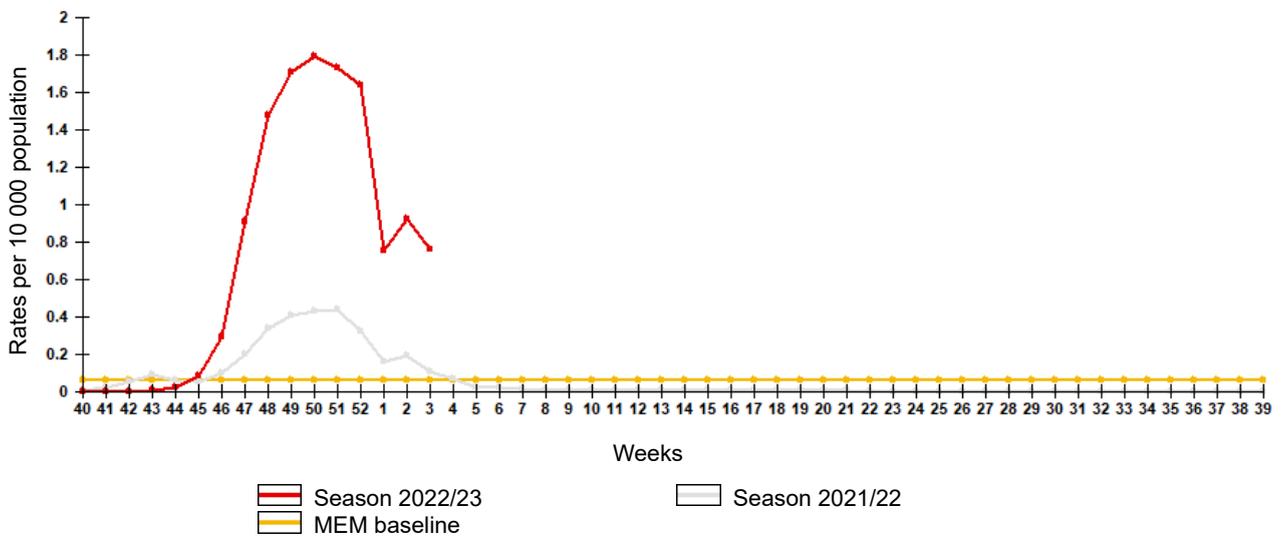
Influenza and ARI morbidity data

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



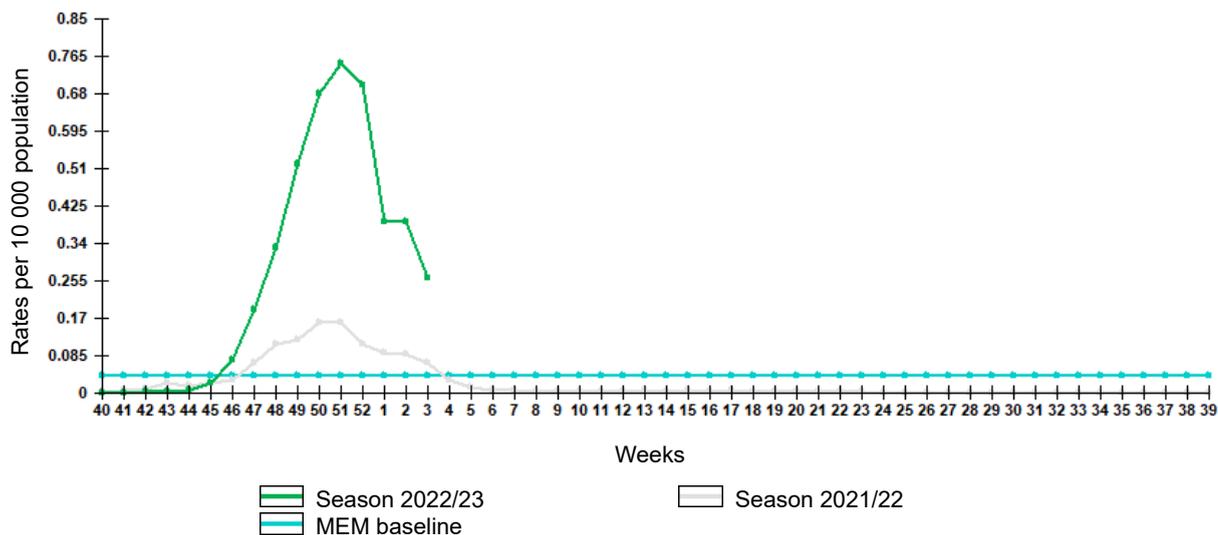
Epidemiological data showed decrease of influenza and other ARI activity in Russia in comparison with previous week. The nationwide IRI and ARI morbidity level (72.3 per 10 000 of population) was higher than national baseline (70.0) by 3.3%.

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 0.76 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 decreased comparing to previous week and amounted to 0.26 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 8707 patients investigation 1298 (14.9%) respiratory samples were positive for influenza, including 529 cases of influenza A(H1N1)pdm09 in 39 cities, 11 cases of influenza A(H3N2) in 6 cities, 268 cases of influenza A unsubtype in 12 cities and 490 cases of influenza B in 39 cities.

111 influenza viruses were isolated on MDCK cell culture, including: 96 influenza A(H1N1)pdm09 viruses in Astrakhan (1), Vladivostok (4), Yekaterinburg (3), Novosibirsk (3), Orenburg (11), Samara (2), Saint-Petersburg (30), Tomsk (9), Khabarovsk (33); 4 influenza A(H3N2) viruses in Astrakhan (1), Khabarovsk (3) and 11 influenza B viruses in Vladivostok (4), Novosibirsk (1), Orenburg (1), Samara (2), Saint-Petersburg (2), Khabarovsk (1). Since the beginning of the season 657 influenza viruses were isolated on MDCK cell culture, including: 581 viruses A(H1N1)pdm09, 17 viruses A(H3N2) and 59 viruses B.

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Fig. 4. Geographic distribution of RT-PCR detected influenza viruses in cities under surveillance in Russia, week 3 of 2023

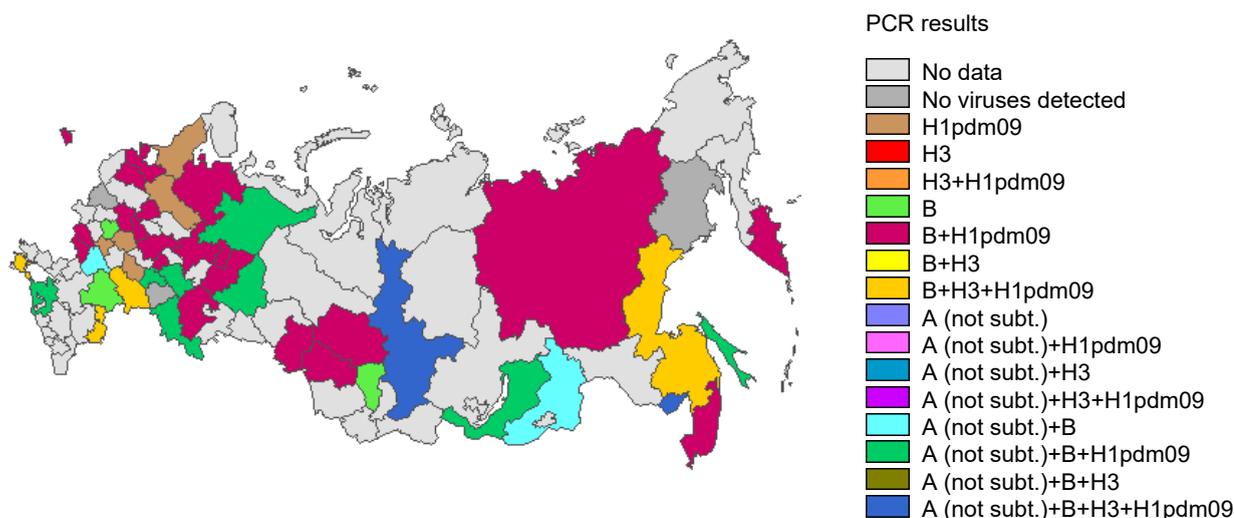


Fig. 5. Monitoring of influenza viruses detection by RT-PCR in Russia, season 2022/23

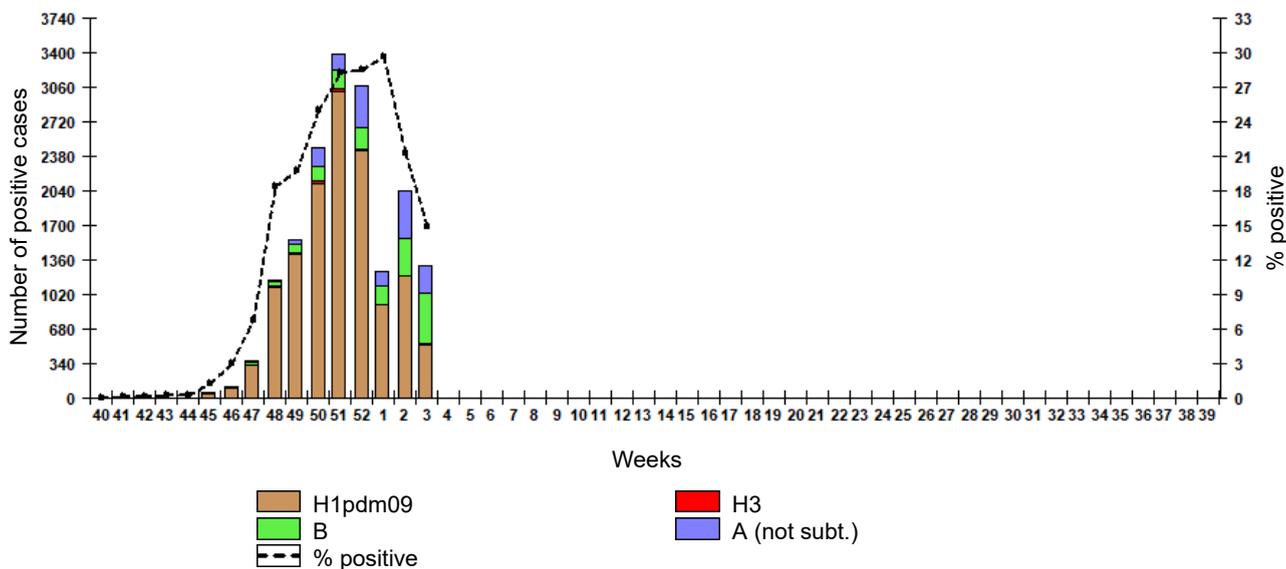
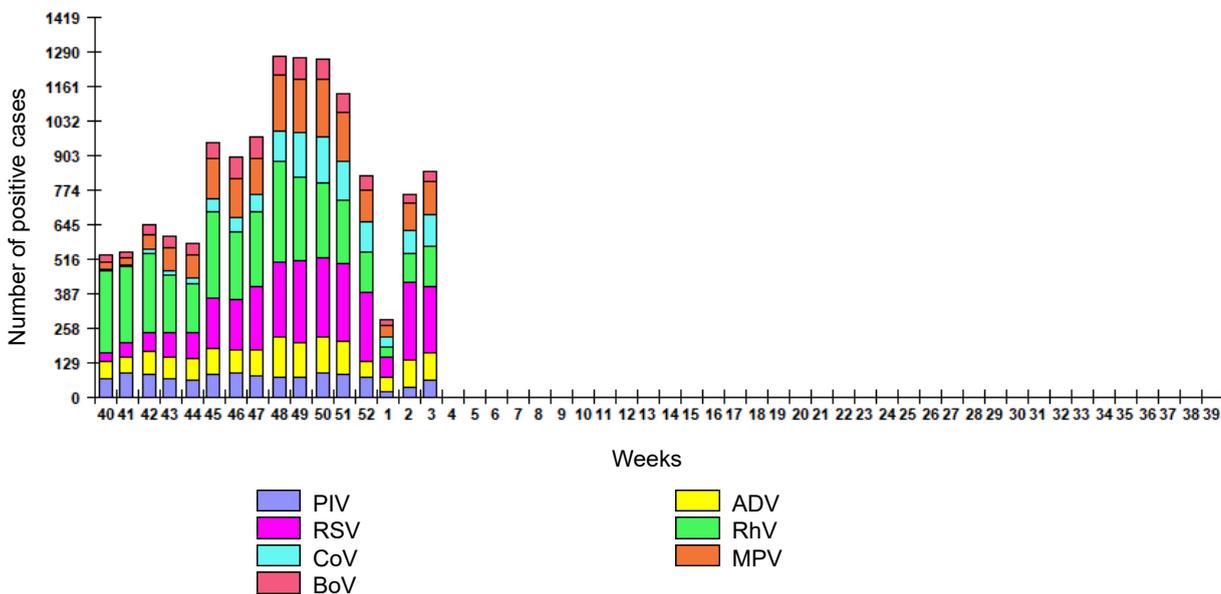


Fig. 6. Monitoring of ARVI detection by RT-PCR in Russia, season 2022/23



ARVI detections. The overall proportion of respiratory samples tested positive for other ARVI (PIV, ADV, RSV, RhV, CoV, MPV, BoV) estimated as **10.4%** of investigated samples by PCR.

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

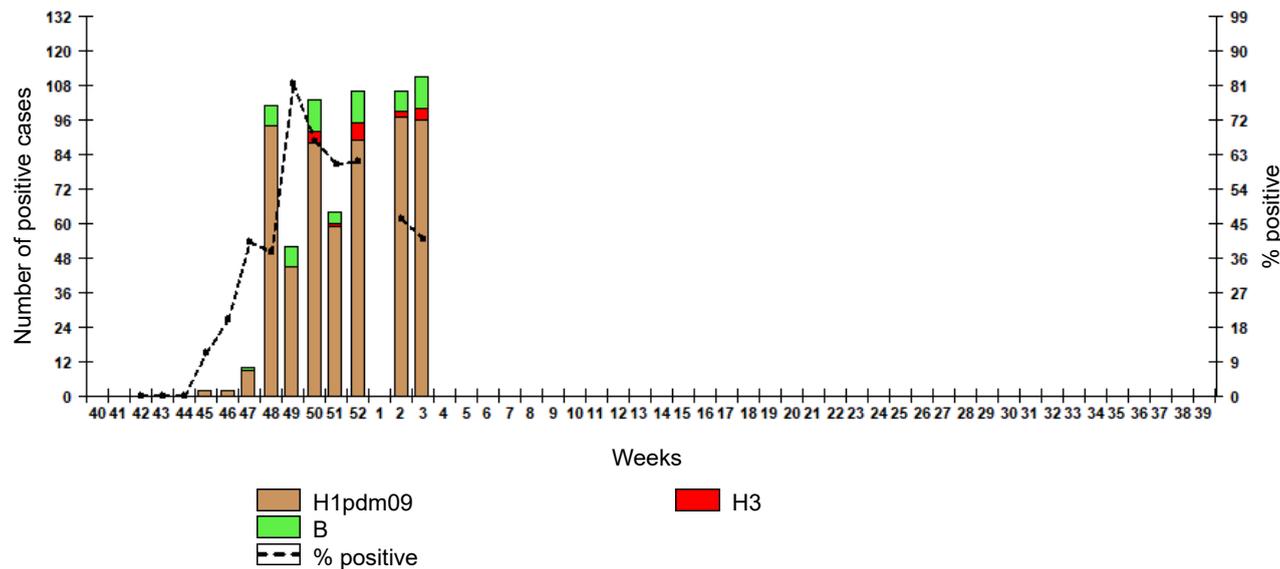
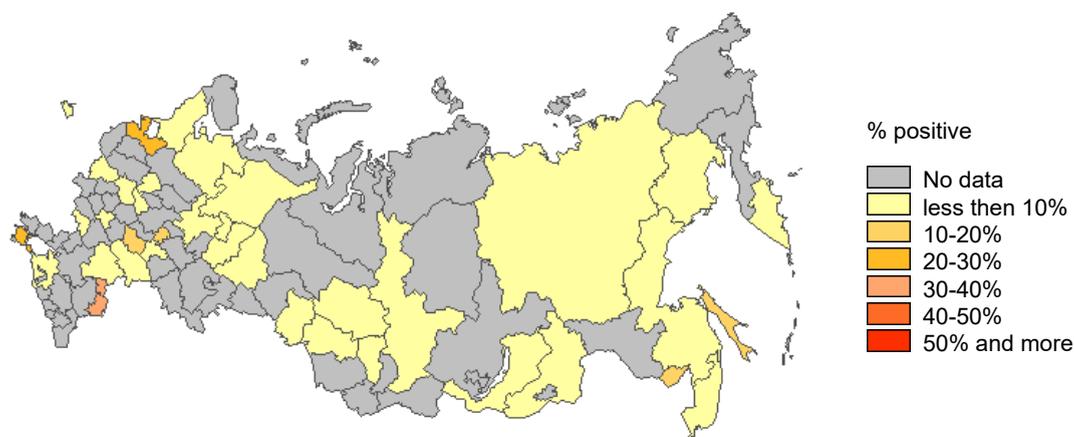


Table 1. Results of influenza and other ARVI detection by RT-PCR in Russia, week 3 of 2023

	Number of specimens / number of positive cases	% positive
<u>Influenza</u>		
Number of specimens tested for influenza	8707	-
Influenza A (not subt.)	268	3,1%
Influenza A(H1)pdm09	529	6,1%
Influenza A(H3)	11	0,1%
Influenza B	490	5,6%
All influenza	1298	14,9%
<u>Other ARVI</u>		
Number of specimens tested for ARVI	8083	-
PIV	65	0,8%
ADV	100	1,2%
RSV	245	3,0%
RhV	153	1,9%
CoV	118	1,5%
MPV	121	1,5%
BoV	36	0,4%
All ARVI	838	10,4%
<u>SARS-CoV-2 (COVID-19)</u>		
Number of specimens tested for SARS-CoV-2	9401	-
SARS-CoV-2	640	6,8%

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



COVID-19. Totally 21 910 020 cases and 394 821 deaths associated with COVID-19 were registered in Russia including 6 442 cases and 44 deaths in last 24 hours (on 12:00 of 26.01.2023). According to the data obtained by NIC in Saint-Petersburg totally 9 401 clinical samples were PCR investigated in last week. Among them coronavirus SARS-CoV-2 detected in 640 (6.8%) cases.

Table 2. Results of influenza viruses isolation in Russia, week 3 of 2023

	Number of specimens / number of viruses	% isolated viruses
Number of specimens	273	-
Influenza A(H1)pdm09	96	35,2%
Influenza A(H3)	4	1,5%
Influenza B	11	4,0%
All influenza	111	40,7%

Sentinel influenza surveillance

Clinical samples from 52 SARI patients were investigated by rRT-PCR for influenza, among them 16 (30.8%) cases of influenza, including 11 cases of influenza A(H1N1)pdm09 and 5 cases of influenza B. Among 36 SARI patients no positive cases for ARVI recognized. Among 41 SARI patients no positive cases 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

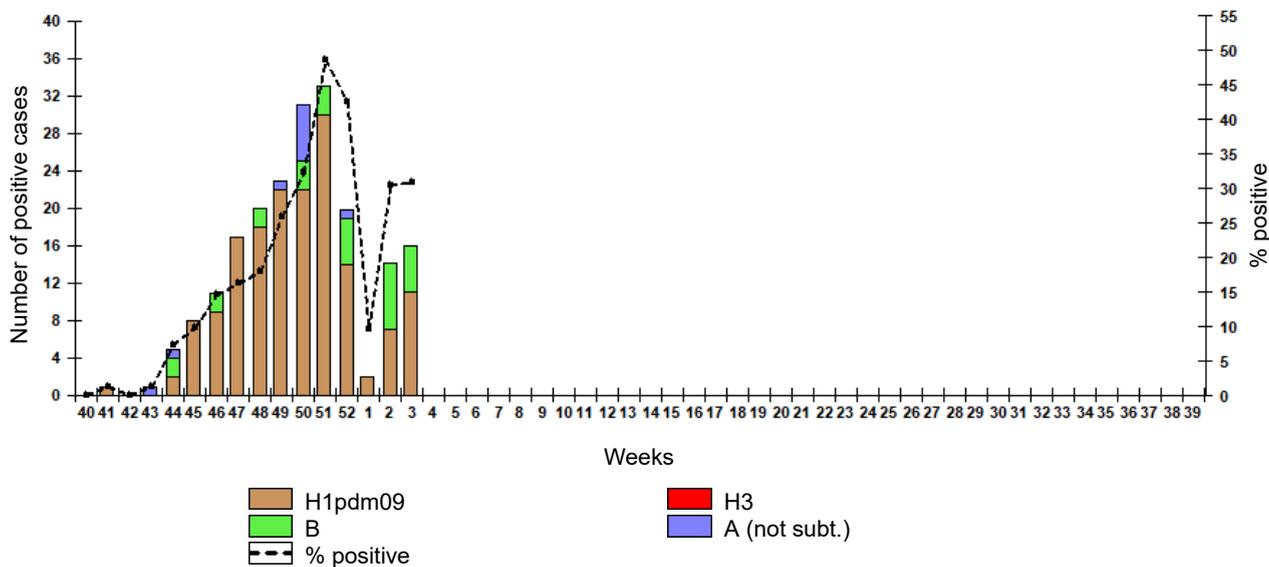


Fig. 10. Monitoring of influenza viruses detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

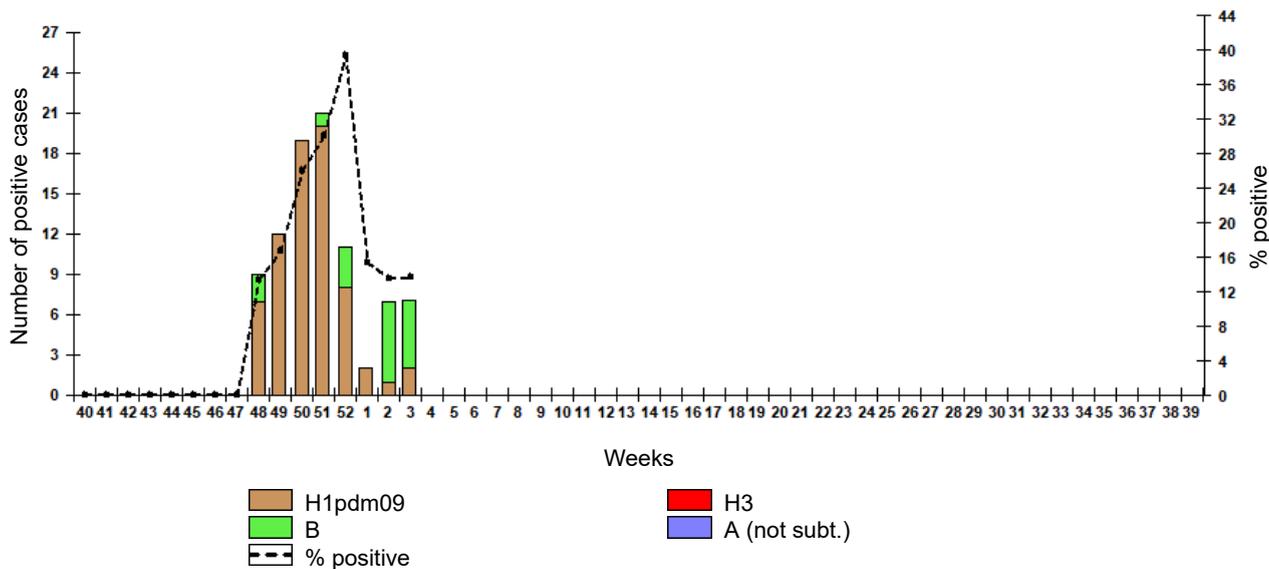


Fig. 11. Monitoring of ARVI detection by RT-PCR among SARI patients in sentinel hospitals, season 2022/23

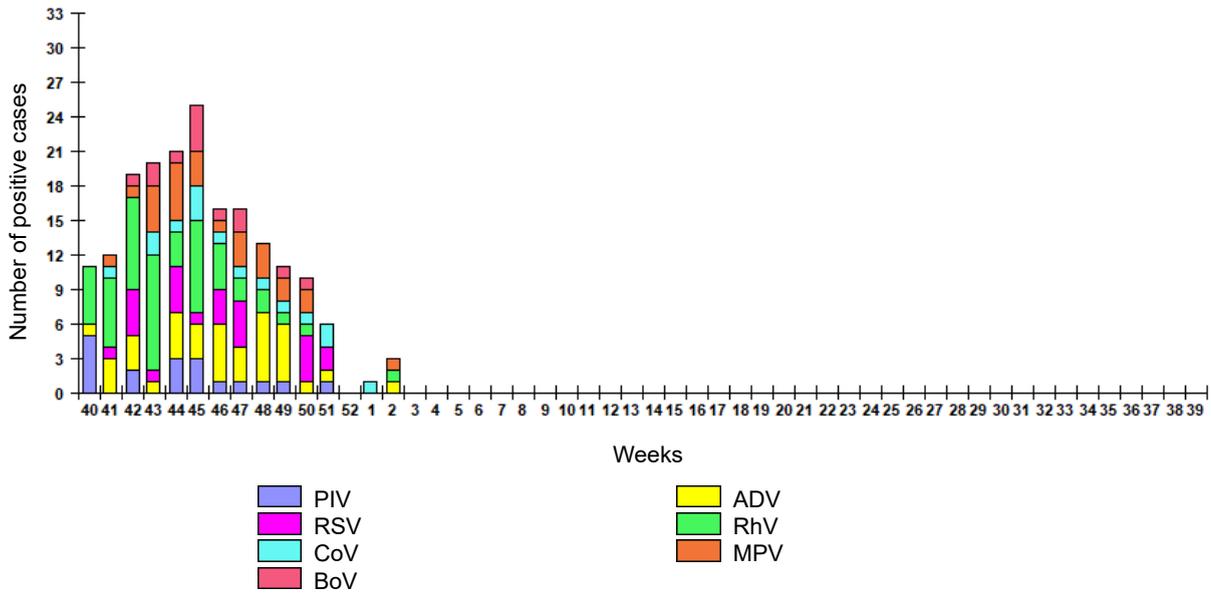


Fig. 12. Monitoring of ARVI detection by RT-PCR among ILI/ARI patients in sentinel polyclinics, season 2022/23

