

RESPIRATORY VIRUS DETECTION REPORT

December 4 to December 10, 2022
(Surveillance Week 2022-49)



Please note that the Respiratory Virus Detection Surveillance System (RVDSS) is a sentinel laboratory surveillance system that does not capture all respiratory virus testing performed in Canada; differences may exist between the data presented in this report and provincial/territorial epidemiological reports. SARS-CoV-2 laboratory data is included in this report to facilitate the comparison of positivity with other respiratory viruses. Interpretation should be made with caution as testing practices differ among viruses.

For additional SARS-CoV-2 surveillance information, please refer to the [COVID-19 epidemiology update](#).

Overall Summary

In week 49 (week ending December 10, 2022) in Canada, participating RVDSS laboratories reported 11,793 detections of SARS-CoV-2 from 93,704 tests (12.6% positive). Among non-SARS-CoV-2 respiratory viruses, where test volumes are lower (range of 10,684 to 43,589 tests), activity of influenza is highest and remains slightly above expected levels for this time of year.

- At the national level, influenza A activity is showing signs of decrease (9,365 detections; 21.5%).
 - Influenza A accounts for nearly all influenza detections in Canada.
- Activity of respiratory syncytial virus (RSV) has stabilized (2,683 detections; 7.3% positive). Compared to pre-pandemic seasons, RSV activity is within expected levels typical of this time of year.
- Activity of most other non-SARS-CoV-2 respiratory viruses is near expected levels typical of this time of year.
- 34/35 sentinel laboratories reported surveillance data.

Abbreviations

ADV: Adenovirus

Atl: Atlantic Canada

BC: British Columbia

Can: Canada

EORLA: Eastern Ontario Regional Laboratory Association

EV/RV: Enterovirus/Rhinovirus

Flu: Influenza

Flu A(H1N1)pdm09: Influenza A(H1N1)pdm09

Flu A(H3): Influenza A(H3N2)

Flu A (UnS): Influenza A(Unsubtyped)

HCoV: Human coronavirus 229E/OC43/NL63/HKU1

HMPV: Human metapneumovirus

HPIV: Human parainfluenza virus

HSC: Health Sciences Centre

N.C.: Data not collected

N.R.: Data not reported for current week

ON: Ontario

PR: Prairies

P.H.O.L.: Public Health Ontario Laboratory

QC: Quebec

RSV: Respiratory syncytial virus

RVDSS: Respiratory Virus Detection Surveillance System

SARS-CoV-2: Severe acute respiratory syndrome coronavirus 2

Terr: Territories of Canada

UHN: University Health Network

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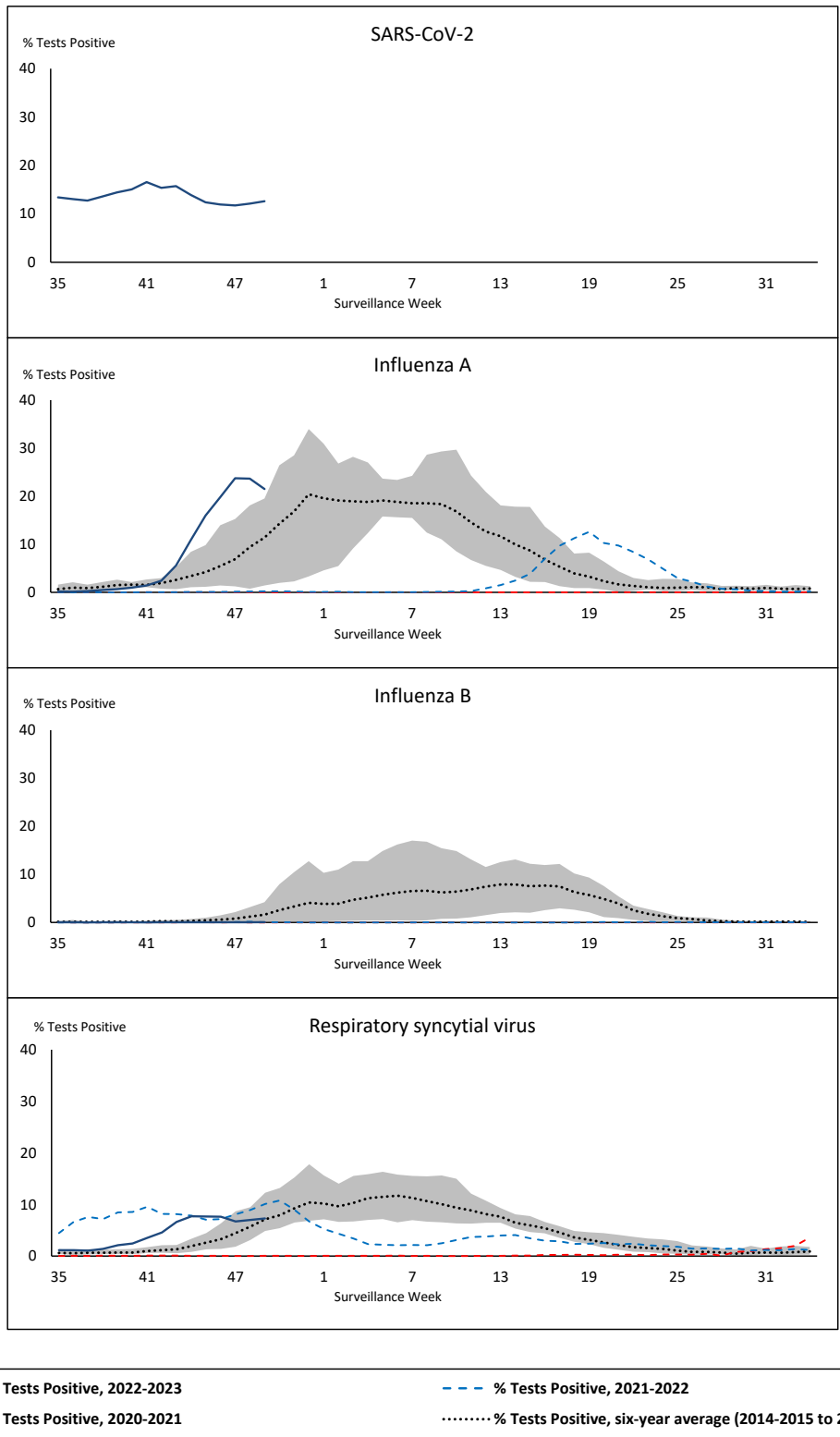


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Figure 1: Positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), influenza, and respiratory syncytial virus tests (%) reported by participating laboratories in Canada by surveillance week compared to average and range from 2014-2015 to 2019-2020 season



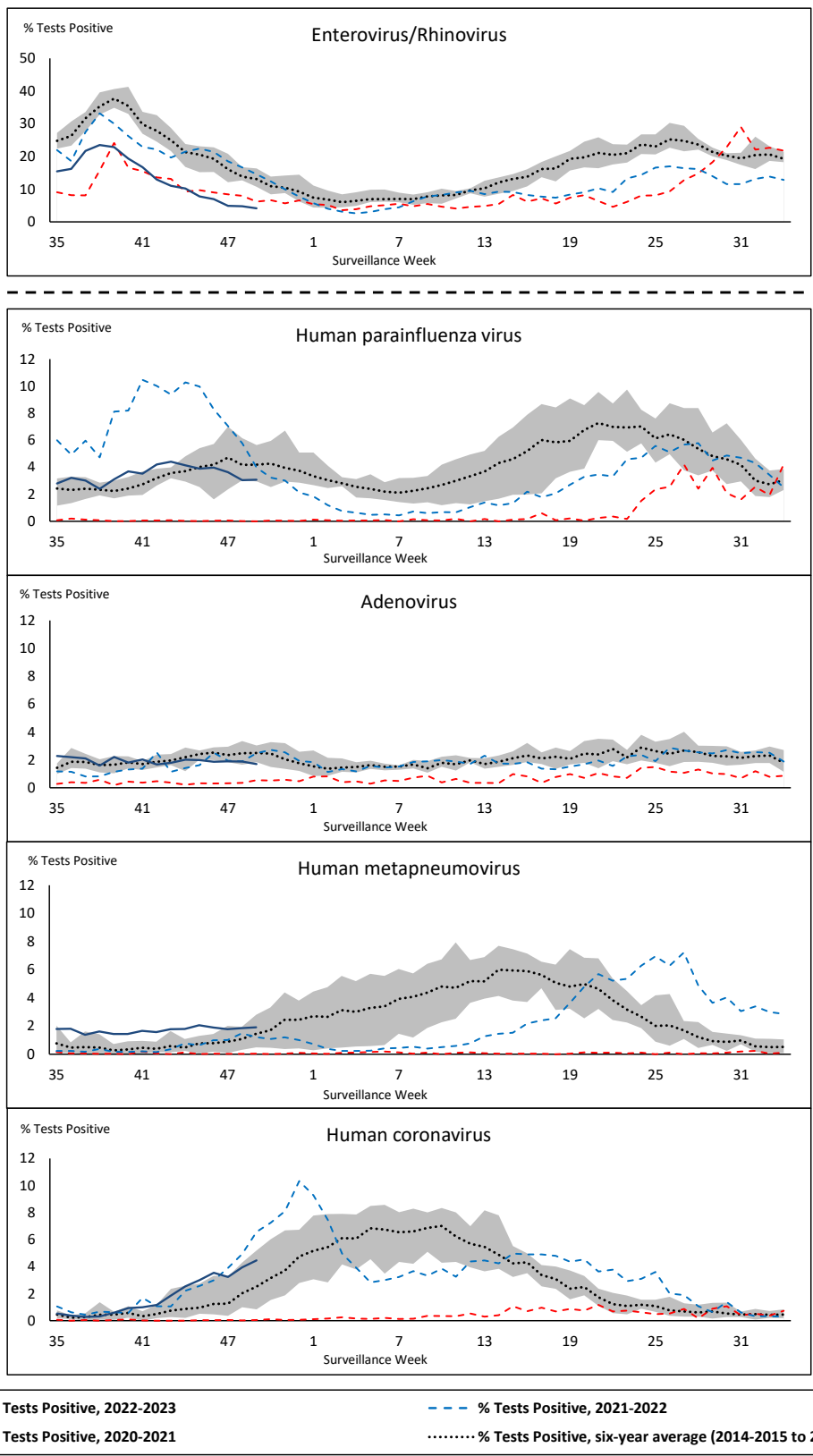
Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

Note: Changes to testing practices during the COVID-19 pandemic may cause substantial changes to indicator estimates from previous years. Collection of laboratory testing practice meta-data to understand these changes is ongoing. Interpret trends with caution.

Note: SARS-CoV-2 surveillance was integrated into RVDSS at the beginning of the 2022-2023 season; no appropriate data is available for historical comparison.

Note: Data from week 11 of the 2019-2020 season onwards are excluded from the historical comparison due to the COVID-19 pandemic.

Figure 2: Positive tests (%) of other respiratory viruses reported by participating laboratories in Canada by surveillance week compared to average and range from 2014-2015 to 2019-2020 season



Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

Note: Changes to testing practices during the COVID-19 pandemic may cause substantial changes to indicator estimates from previous years. Collection of laboratory testing practice meta-data to understand these changes is ongoing. Interpret trends with caution.

Note: Data from week 11 of the 2019-2020 season onwards are excluded from the historical comparison due to the COVID-19 pandemic.

Note: % Tests Positive scale changes across the dashed line

Table 1: Respiratory virus detections for the week ending December 10, 2022 (surveillance week 2022-49)

Reporting Laboratory	SARS-CoV-2 Tested	SARS-CoV-2 Positive	Flu Tested	A(H1)pdm09 Positive	A(H3) Positive	A(UN)S Positive	Total Flu A Positive	Total Flu B Positive	RSV Tested	RSV Positive	HPIV Tested	HPIV 1 Positive	HPIV 2 Positive	HPIV 3 Positive	HPIV 4 Positive	Other HPIV Positive	ADV Tested	ADV Positive	HMPV Tested	HMPV Positive	EV/RV Tested	EV/RV Positive	HCoV Tested	HCoV Positive	
Newfoundland	853	117	674	0	51	160	211	0	674	22	674	1	4	3	4	0	674	15	674	35	674	37	674	30	
Prince Edward Island	1058	232	214	0	10	62	72	0	214	14	66	1	2	8	1	0	66	2	66	1	66	4	66	0	
Nova Scotia	5150	614	2779	0	0	778	778	0	2779	176	26	0	0	1	0	0	26	3	26	0	26	3	26	0	
New Brunswick	6384	895	3737	0	17	1036	1053	0	2560	147	196	2	2	6	0	0	196	7	196	2	196	29	196	17	
Atlantic	13445	1858	7404	0	78	2036	2114	0	6227	359	962	4	8	18	5	0	962	27	962	38	962	73	962	47	
Région Nord-Est	4138	637	2290	0	0	614	614	0	1132	112	50	0	0	3	0	0	50	1	47	3	N.C.	N.C.	50	6	
Québec-Chaudière-Appalaches	7468	790	1630	0	0	539	539	5	1630	148	366	1	0	4	0	0	377	27	366	15	N.C.	N.C.	366	24	
Centre-du-Québec	6032	900	1022	0	0	324	324	3	870	45	31	0	0	0	0	0	31	4	31	2	N.C.	N.C.	31	1	
Montréal-Laval	7043	984	5068	0	0	1032	1032	7	2438	107	930	5	0	11	1	0	930	26	934	26	N.C.	N.C.	907	36	
Ouest du Québec	4556	604	1315	0	1	369	370	2	1027	61	27	1	0	2	0	0	27	7	27	4	N.C.	N.C.	27	1	
Montérégie	5659	748	1266	0	0	278	278	1	1082	44	2	0	0	0	0	0	2	0	2	0	N.C.	N.C.	2	0	
Province of Québec	34896	4663	12591	0	1	3156	3157	18	8179	517	1406	7	0	20	1	0	1417	65	1407	50	N.C.	N.C.	1383	68	
P.H.O.L. - Ottawa	721	162	242	1	16	29	44	0	242	25	167	0	0	0	0	2	167	1	167	0	167	9	167	3	
EOURLA	2870	240	908	0	0	235	235	0	908	79	41	0	0	1	6	0	41	2	41	1	41	2	41	11	
P.H.O.L. - Kingston	615	62	95	2	6	8	16	0	95	4	80	0	0	0	0	4	80	0	80	0	80	2	80	4	
UHN / Mount Sinai Hospital	2850	254	803	1	15	14	30	0	803	21	29	0	0	1	0	0	29	0	29	0	29	1	29	5	
P.H.O.L. - Toronto	2045	494	1338	3	362	13	137	0	1337	137	1022	0	0	0	0	33	1022	9	1022	12	1022	44	1022	56	
Sick Kids Hospital - Toronto	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	
Shared Hospital Laboratory	2673	163	2673	4	127	79	210	4	2673	155	2243	0	0	0	0	19	2243	21	2247	10	2247	32	2244	62	
P.H.O.L. - Sault Ste. Marie	49	0	50	0	7	1	7	0	50	0	32	0	0	0	0	1	32	0	32	3	32	0	32	0	
P.H.O.L. - Timmins	282	25	73	0	32	2	29	0	73	1	67	0	0	0	0	1	67	2	67	0	67	4	67	0	
St. Joseph's - London	3602	313	1013	0	0	161	161	1	1013	91	56	0	0	0	0	4	56	2	56	0	56	3	56	6	
P.H.O.L. - London	1029	241	517	0	65	15	74	0	517	50	410	0	0	0	0	22	410	3	410	2	410	7	410	29	
P.H.O.L. - Orillia	36	21	126	0	15	6	21	0	126	21	107	0	0	0	0	5	107	4	107	0	107	5	107	4	
P.H.O.L. - Thunder Bay	192	44	60	0	12	2	14	0	60	7	41	0	0	0	0	1	41	3	41	0	41	1	41	1	
P.H.O.L. - Sudbury	31	9	32	1	11	1	12	0	32	5	31	0	0	0	0	4	31	0	31	1	31	1	31	3	
P.H.O.L. - Hamilton	673	142	468	0	18	16	34	0	468	28	279	0	0	0	0	10	279	5	279	2	279	15	279	14	
P.H.O.L. - Peterborough	76	15	45	0	5	6	11	0	45	5	38	0	0	0	0	1	38	0	38	1	38	3	38	2	
St. Joseph's - Hamilton	2915	371	1596	0	0	252	252	1	1596	170	1596	0	0	34	0	0	1596	16	1596	9	1596	48	0	0	
Sault Area Hospital	555	51	541	0	58	47	105	0	541	6	230	2	0	6	0	0	230	1	230	14	230	11	230	5	
Province of Ontario	21214	2607	10580	12	749	887	1392	6	10579	805	6469	2	0	42	6	107	6469	69	6473	55	6473	188	4874	205	
Manitoba	2359	248	1505	2	31	377	410	0	1505	82	170	0	0	6	1	0	153	4	201	6	170	16	201	7	
Saskatchewan	6493	427	1871	0	0	376	376	0	1476	80	684	0	2	28	0	0	682	3	682	31	682	18	684	39	
Alberta	7697	1090	4065	50	427	263	740	2	3322	375	1585	5	4	46	1	0	1584	18	1583	34	1573	59	1585	60	
Prairies	16549	1765	7441	52	458	1016	1526	2	6303	537	2439	5	6	80	2	0	2419	25	2466	71	2425	93	2470	106	
British Columbia	7196	882	5326	23	340	17	1082	2	5326	458	995	6	11	38	9	0	995	22	995	21	995	92	995	50	
Yukon	149	3	72	0	0	0	35	0	72	1	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	
Northwest Territories	135	11	116	0	48	0	48	0	116	4	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	116	8	N.C.	N.C.
Nunavut	120	4	59	0	11	0	11	0	59	2	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	
Territories	404	18	247	0	59	0	94	0	247	7	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	116	8	N.C.	N.C.	
CANADA	93704	11793	43589	87	1685	7112	9365	28	36861	2683	12271	24	25	198	23	107	12262	208	12303	235	10971	454	10684	476	

The data in the RVDSS report represent surveillance data available at the time of writing. Data missing from the current week are denoted by N.R. Data not collected by reporting lab denoted by N.C.

Some specimens from Yukon (YT) are sent to reference laboratories in British Columbia and reported results reflect specimens identified as originating from YT.

Results from British Columbia comprise of specimens from the following sites: Children's and Women's Hospital Laboratory, Fraser Health Medical Microbiology Laboratory, Island Health, Providence Health Care, Vancouver Coastal Health sites, Victoria General Hospital, BCCDC Public Health Laboratory, Interior Health Authority sites and Northern Health Authority sites.

Due to different testing protocols of laboratories across Canada, influenza A subtype detection counts may not be included in total influenza A detection counts. Total influenza A and B positive counts are used to calculate percentage of tests

Delays in the reporting of data may cause data to change retrospectively.

Table 2: Cumulative respiratory virus detections from August 28, 2022 to December 10, 2022 (surveillance weeks 2022-35 to 2022-49)

Reporting Laboratory	SARS-CoV-2 Tested	SARS-CoV-2 Positive	Flu Tested	A(H1)pdm09 Positive	A(H3) Positive	A(UnS) Positive	Total Flu A Positive	Total Flu B Positive	RSV Tested	RSV Positive	HPIV Tested	HPIV 1 Positive	HPIV 2 Positive	HPIV 3 Positive	HPIV 4 Positive	Other HPIV Positive	ADV Tested	ADV Positive	HMPV Tested	HMPV Positive	EV/RV Tested	EV/RV Positive	HCoV Tested	HCoV Positive	
Newfoundland	8261	1911	3934	0	209	176	385	0	3934	153	3934	3	17	21	12	0	3934	89	3934	154	3934	438	3934	45	
Prince Edward Island	19286	5052	1108	0	99	142	241	0	1108	40	786	15	24	57	5	0	786	47	786	11	786	280	786	8	
Nova Scotia	72456	14135	13193	0	4	2499	2503	1	13192	889	649	4	7	14	2	0	649	29	649	0	649	151	649	5	
New Brunswick	56940	8639	15221	0	79	2858	2937	3	10853	463	1326	3	18	73	7	0	1326	88	1326	6	1326	291	1271	63	
Atlantic	156943	29737	33456	0	391	5675	6066	4	29087	1545	6695	25	66	165	26	0	6695	253	6695	171	6695	1160	6640	121	
Région Nord-Est	40378	5709	16469	0	0	1149	1149	3	4772	491	464	5	2	37	0	0	464	15	461	20	N.C.	N.C.	464	16	
Québec-Chaudière-Appalaches	95800	9057	7986	0	0	1112	1112	8	8010	1165	2976	20	4	31	0	0	3170	199	2976	157	N.C.	N.C.	2976	121	
Centre-du-Québec	76979	10657	6988	0	0	1234	1234	5	6116	632	398	12	0	15	0	0	398	31	398	46	N.C.	N.C.	398	12	
Montréal-Laval	114358	14738	30773	0	8	4160	4168	21	20063	1769	9653	108	12	155	9	0	9662	330	9737	515	N.C.	N.C.	9338	156	
Ouest du Québec	58596	8088	6658	0	6	1378	1384	3	5480	611	580	18	0	45	1	0	579	105	580	30	N.C.	N.C.	580	20	
Montérégie	78312	8949	8675	0	0	1224	1224	9	8356	729	59	0	0	1	0	0	59	0	59	3	N.C.	N.C.	59	1	
Province of Québec	464423	57198	77549	0	14	10257	10271	49	52797	5397	14130	163	18	284	10	0	14332	680	14211	771	N.C.	N.C.	13815	326	
P.H.O.L. - Ottawa	16648	4077	1454	3	74	41	113	0	1454	75	1311	0	0	0	0	33	1311	2	1311	11	1311	110	1311	21	
EOURLA	48387	5413	6506	0	0	991	991	2	6506	731	621	6	3	17	16	0	621	27	621	15	621	162	621	44	
P.H.O.L. - Kingston	17698	2863	1029	2	59	22	83	1	1028	60	966	0	0	0	0	43	967	17	967	9	966	143	967	34	
UHN / Mount Sinai Hospital	49977	3822	8464	1	31	245	277	9	8464	94	358	0	0	2	0	0	325	1	358	0	358	14	358	29	
P.H.O.L. - Toronto	33308	6514	9601	39	1897	91	795	0	9578	382	8572	0	0	0	0	395	8575	121	8572	78	8572	756	8572	236	
Sick Kids Hospital - Toronto	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Shared Hospital Laboratory	40399	2673	40400	18	1146	645	1809	6	40401	1230	17774	4	0	16	0	225	17787	132	17843	48	17790	456	17684	314	
P.H.O.L. - Sault Ste. Marie	1156	233	238	0	37	10	40	0	238	0	205	0	0	0	0	7	205	0	205	5	205	9	205	2	
P.H.O.L. - Timmins	5553	637	428	0	127	6	124	0	427	4	419	0	0	0	0	35	419	6	419	7	419	42	419	13	
St. Joseph's - London	69640	9219	5076	0	0	607	607	5	5076	442	803	0	0	0	0	32	837	23	837	1	837	149	426	29	
P.H.O.L. - London	20349	4338	3367	6	460	35	486	1	3366	263	3154	0	0	0	0	176	3155	47	3155	13	3154	272	3155	109	
P.H.O.L. - Orillia	299	166	1143	4	228	20	252	0	1143	99	1116	0	0	0	0	76	1116	22	1116	9	1116	158	1116	39	
P.H.O.L. - Thunder Bay	5429	1082	433	0	98	5	103	0	432	14	369	0	0	0	0	3	369	8	369	1	369	38	369	8	
P.H.O.L. - Sudbury	1212	162	241	1	33	3	34	0	241	10	211	0	0	0	0	13	211	5	211	3	211	16	211	9	
P.H.O.L. - Hamilton	14827	3473	2746	1	235	51	287	3	2743	242	2290	0	0	0	0	95	2290	28	2290	15	2290	205	2290	80	
P.H.O.L. - Peterborough	2414	443	506	0	61	6	67	0	506	28	499	0	0	0	0	20	499	5	499	5	499	88	499	13	
St. Joseph's - Hamilton	45951	7184	16682	0	0	2161	2161	8	16682	1196	16682	0	0	487	0	0	16682	130	16682	53	16682	1348	0	0	
Sault Area Hospital	7352	1358	4070	0	204	132	336	0	4070	30	1412	22	0	16	0	0	1412	30	1412	68	1412	176	1412	11	
Province of Ontario	380599	53657	102384	75	4690	5071	8565	35	102355	4900	56762	32	3	538	16	1153	56781	604	56867	341	56812	4142	39615	991	
Manitoba	35620	7550	13446	13	146	1368	1527	0	13446	445	2472	1	2	84	6	0	2423	85	2667	103	2472	492	2667	42	
Saskatchewan	92264	8501	17416	0	0	3296	3296	6	12803	286	5687	11	31	251	8	0	5689	128	5691	267	5689	603	5687	175	
Alberta	123125	20871	45953	400	6165	1255	7820	15	38004	1715	18414	104	54	355	19	0	18409	220	18391	189	18082	1986	18414	613	
Prairies	251009	36922	76815	413	6311	5919	12643	21	64253	2446	26573	116	87	690	33	0	26521	433	26749	559	26243	3081	26768	830	
British Columbia	137468	12569	50013	201	3086	142	6306	20	47117	1947	11359	115	127	381	69	6	11359	224	11359	210	11077	2086	11077	165	
Yukon	3206	225	257	0	0	0	81	0	254	5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	
Northwest Territories	827	104	773	2	86	0	88	0	773	31	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	773	203	N.C.	N.C.
Nunavut	2289	191	1192	3	200	2	205	0	1192	24	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Territories	6322	520	2222	5	286	2	374	0	2219	60	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	773	203	N.C.	N.C.	
CANADA	1396764	190603	342439	694	14778	27066	44225	129	297828	16295	115519	451	301	2058	154	1159	115688	2194	115881	2052	101600	10672	97915	2433	

The data in the RVDSS report represent surveillance data available at the time of writing. Data not collected by reporting lab denoted by N.C.

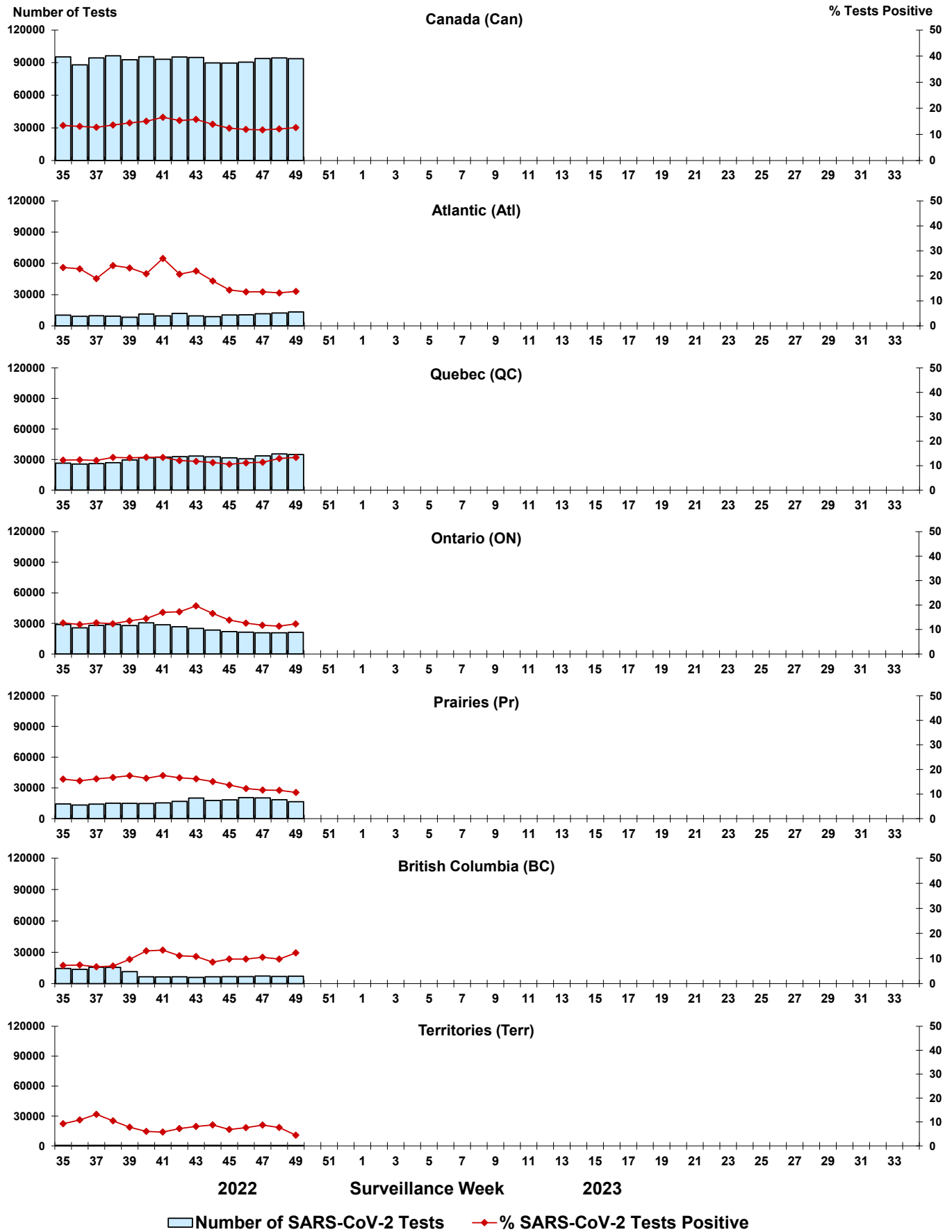
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Due to different testing protocols of laboratories across Canada, influenza A subtype detection counts may not be included in total influenza A detection counts. Total influenza A and B positive counts are used to calculate percentage of tests

Delays in the reporting of data may cause data to change retrospectively. Due to these delays, the sum of weekly report totals do not add up to cumulative totals.

Figure 3: Positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) tests (%) in Canada by region by surveillance week



Note: Differences in positivity between jurisdictions can reflect differences in testing practices. Please interpret with caution.

Figure 4: Positive Influenza (Flu) tests (%) in Canada by region by surveillance week

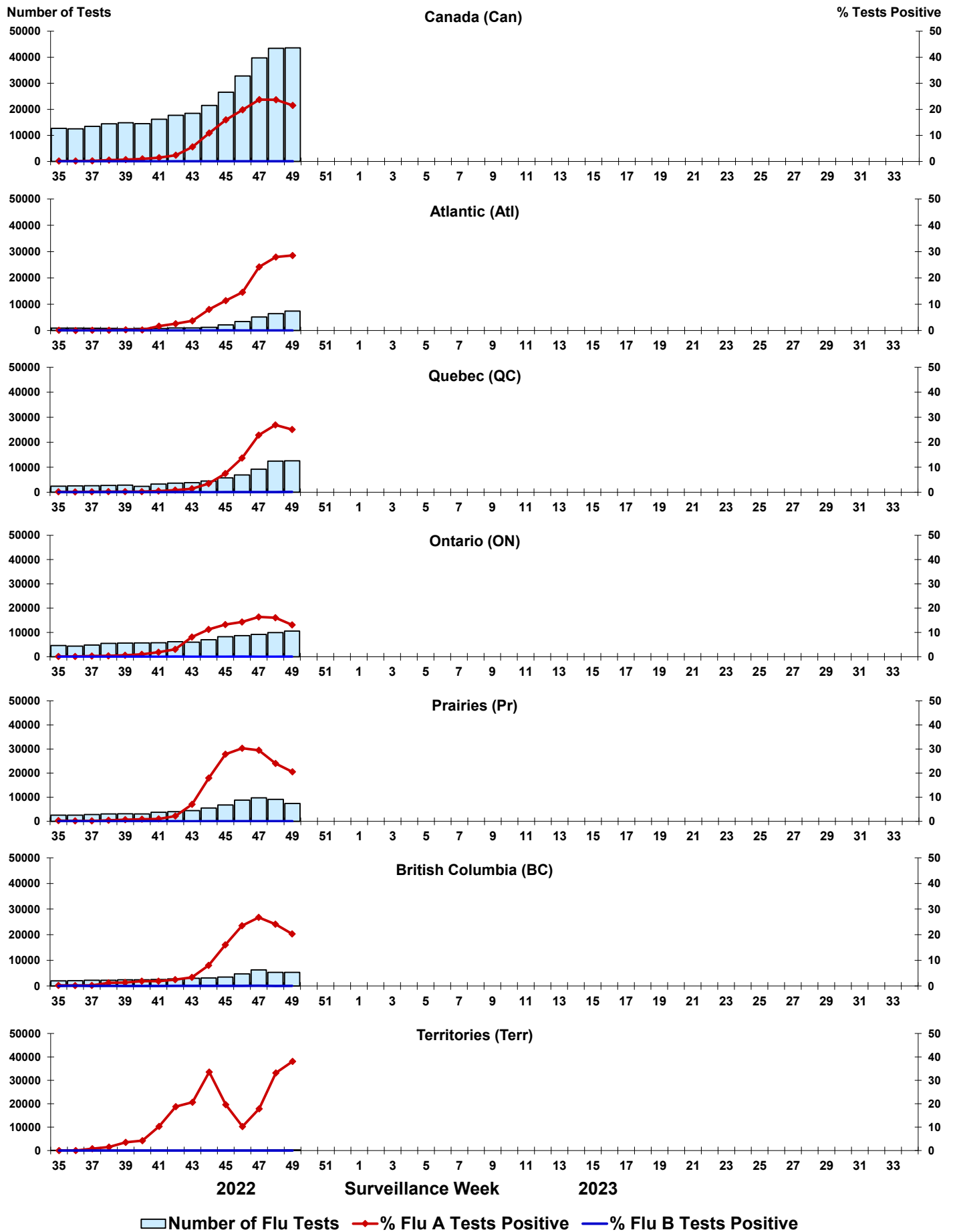


Figure 5: Positive Respiratory syncytial virus (RSV) tests (%) in Canada by region by surveillance week

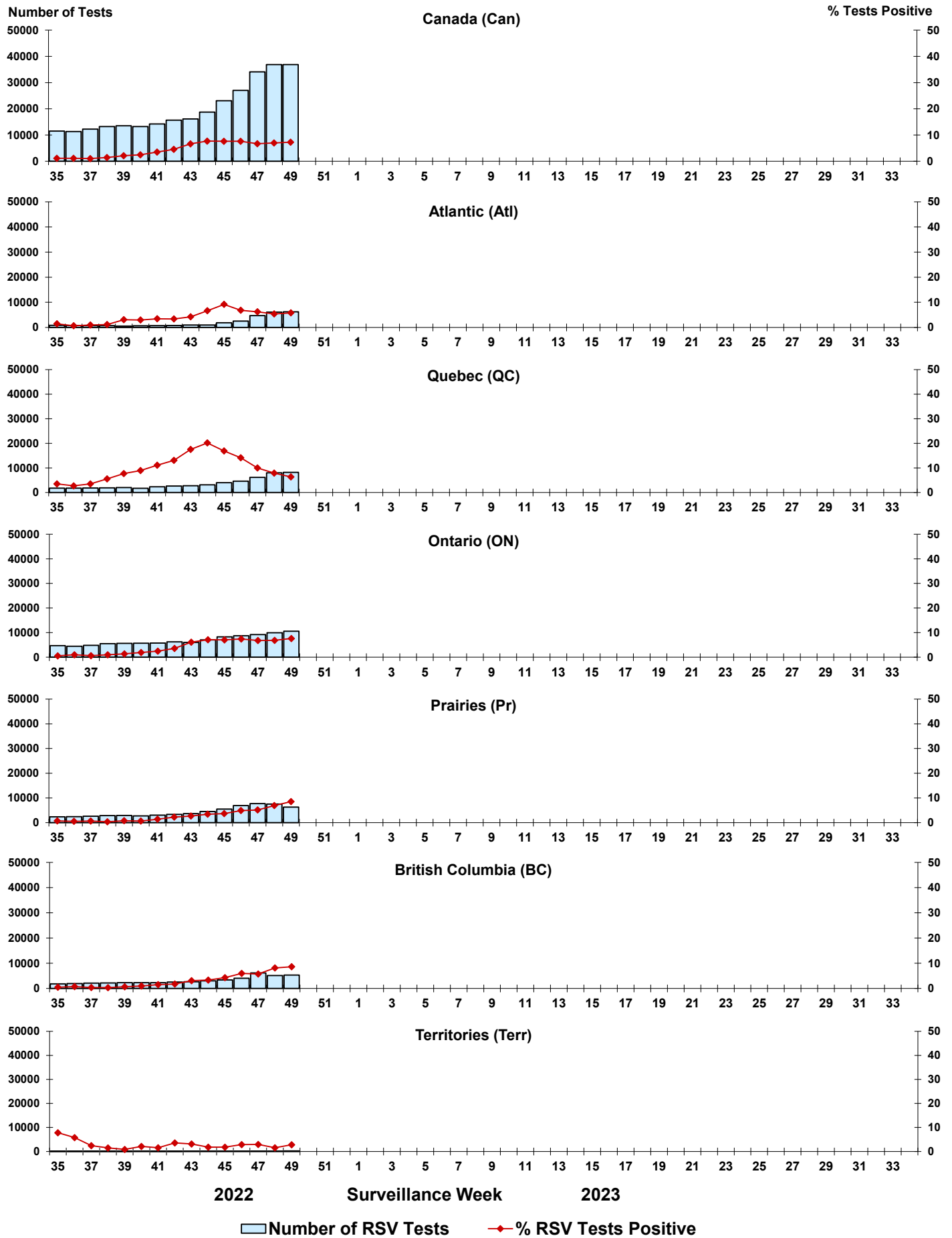


Figure 6: Positive Human parainfluenza virus (HPIV) tests (%) in Canada by region by surveillance week

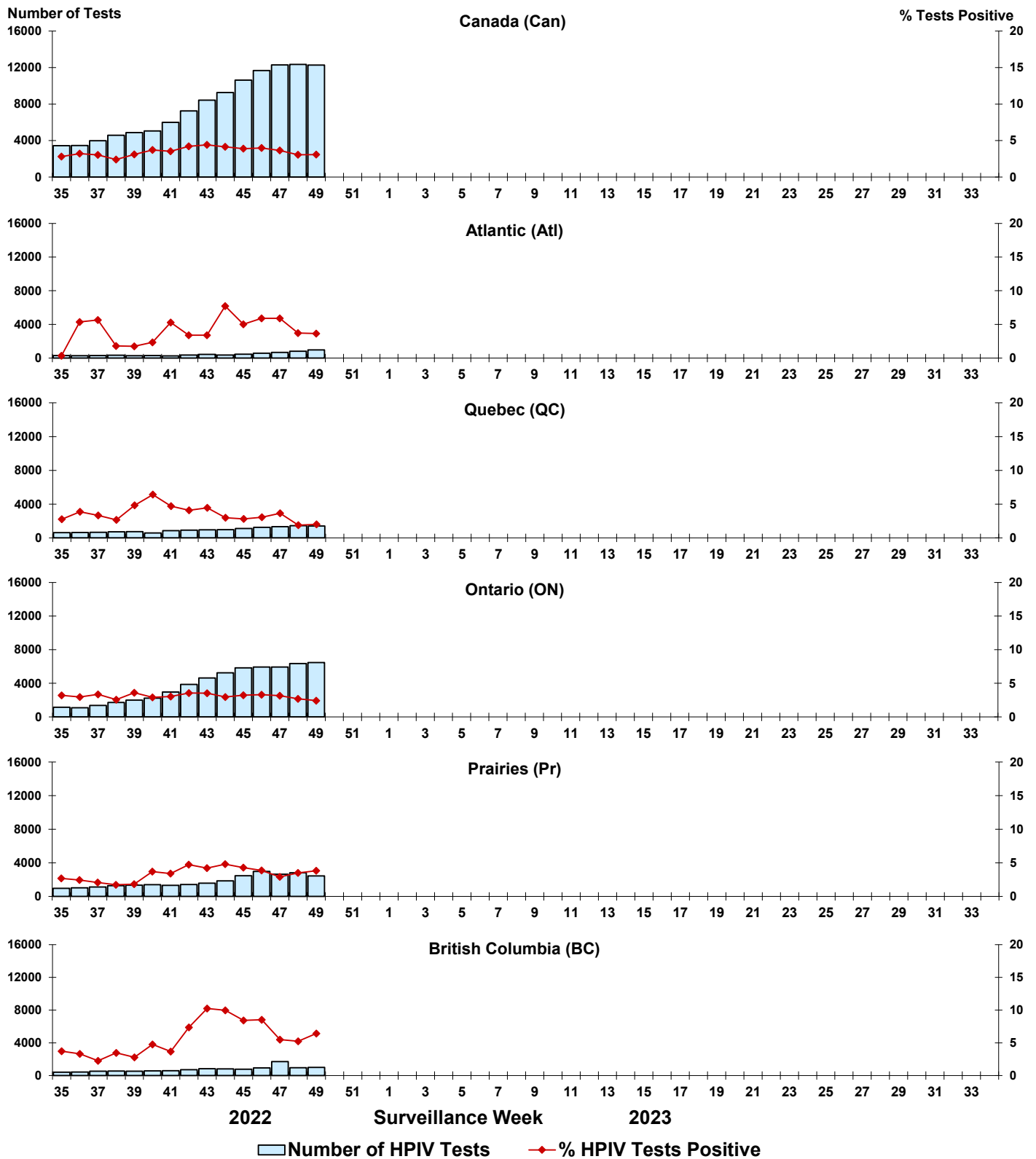


Figure 7: Positive Adenovirus (ADV) tests (%) in Canada by region by surveillance week

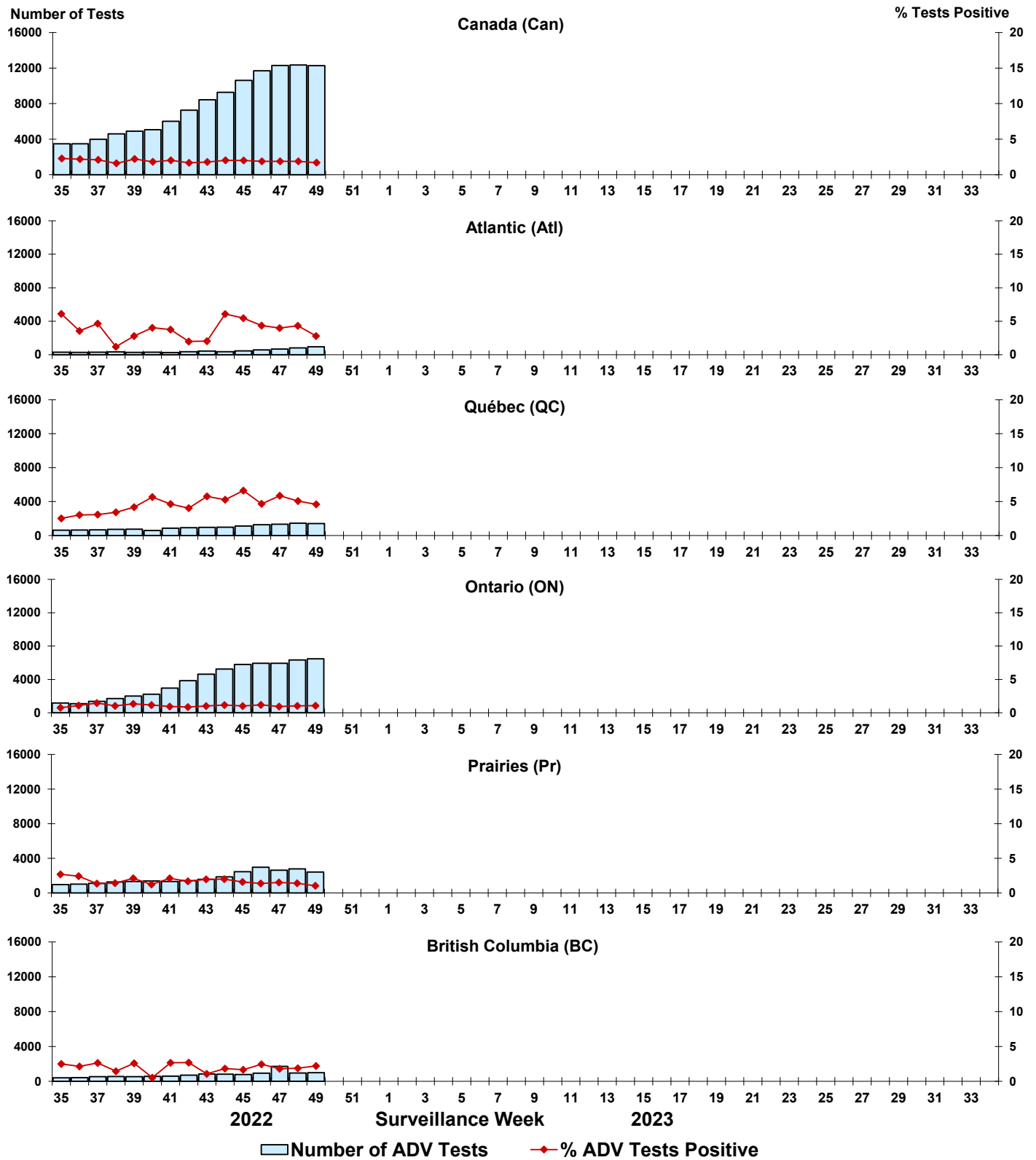


Figure 8: Positive Human metapneumovirus (HMPV) tests (%) in Canada by region by surveillance week

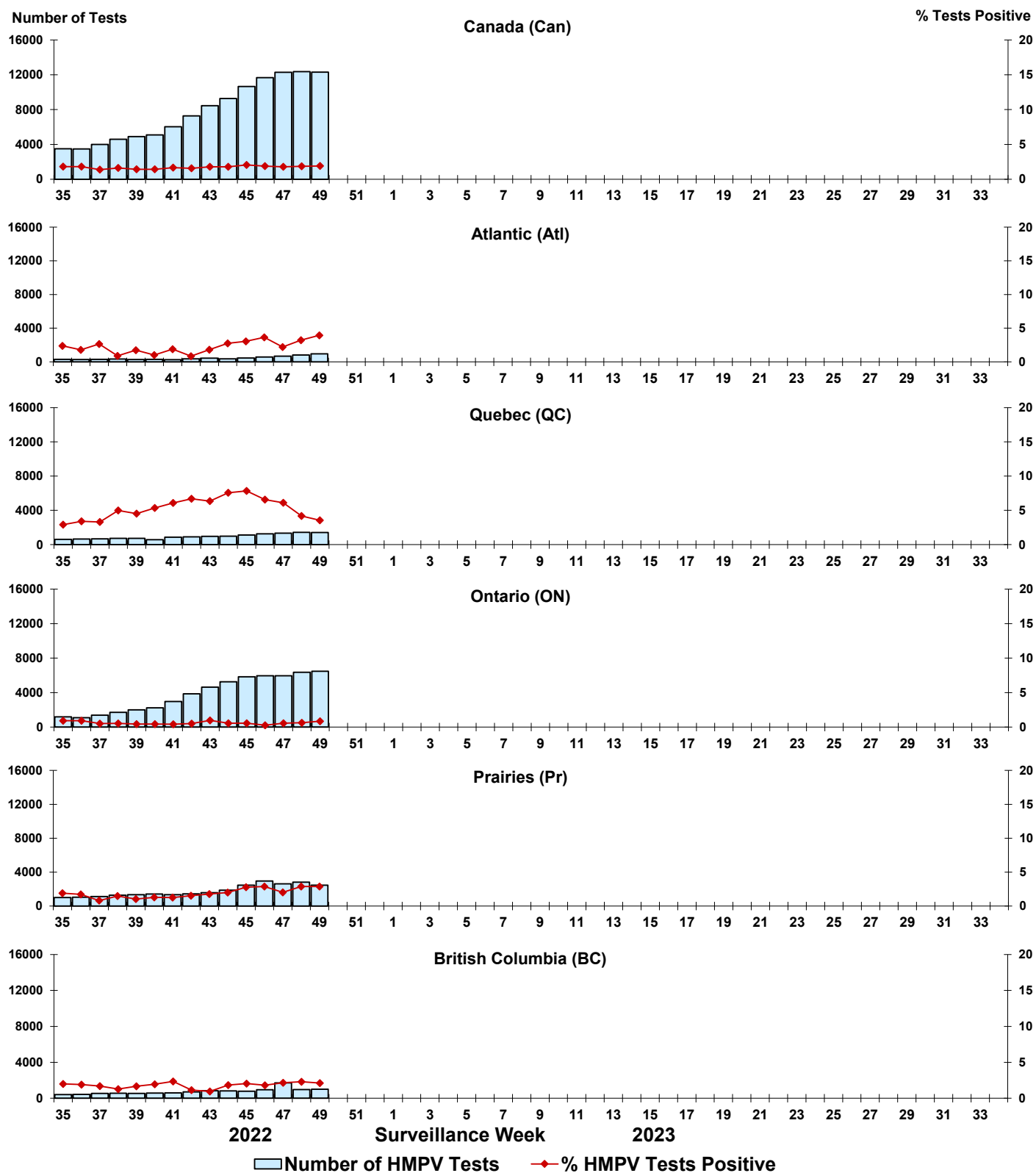


Figure 9: Positive Enterovirus/Rhinovirus (EV/RV) tests (%) in Canada by region by surveillance week

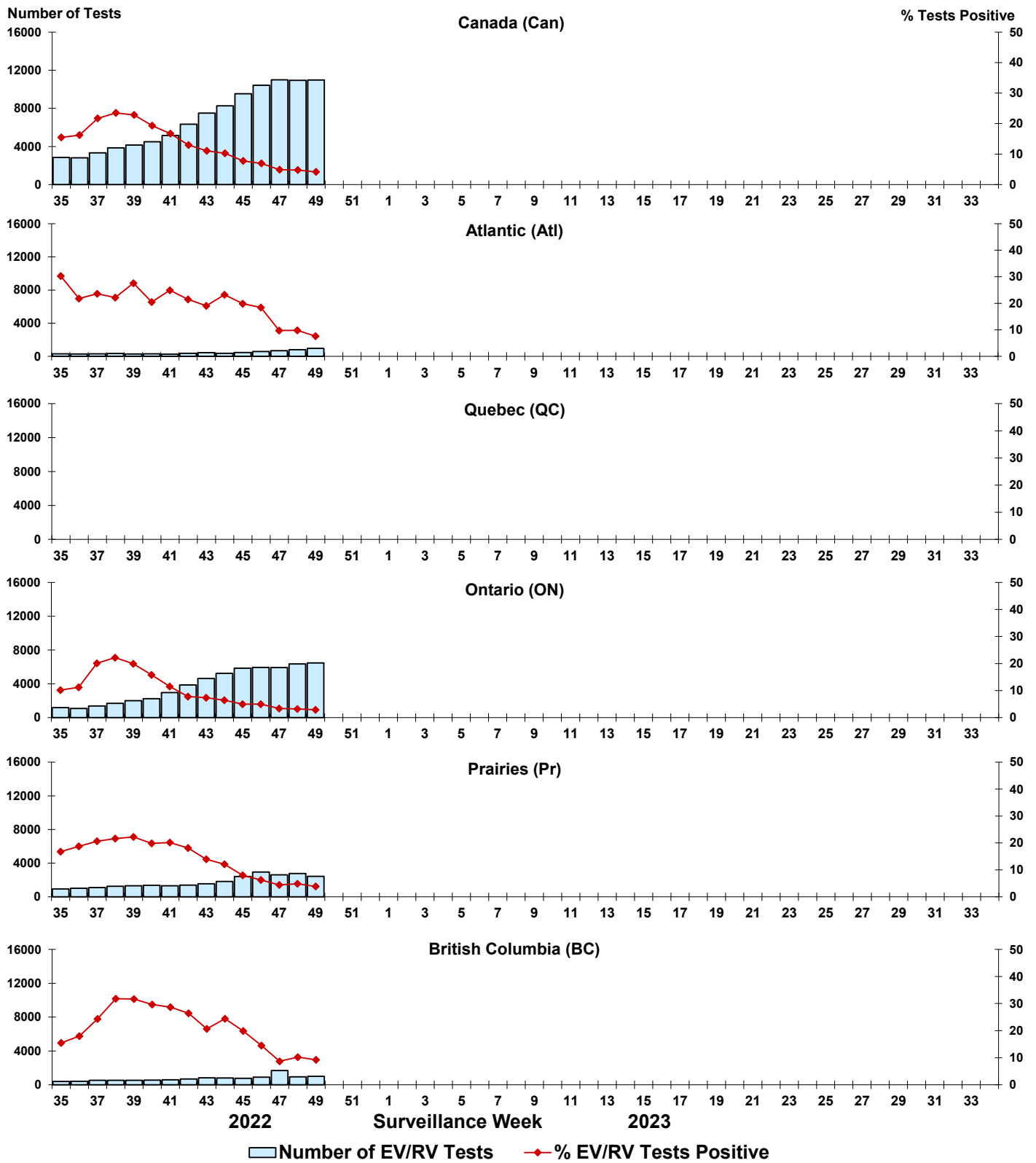


Figure 10: Positive Human coronavirus (HCoV) tests (%) in Canada by region by surveillance week

