

RESPIRATORY VIRUS DETECTION REPORT

January 1 to January 7, 2023
(Surveillance Week 2023-01)



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 1 (week ending January 7, 2023) in Canada, participating RVDSS laboratories reported 11,318 detections of SARS-CoV-2 from 75,090 tests (15.1% positive). Among non-SARS-CoV-2 respiratory viruses, where test volumes are lower (range of 9,894 to 37,731 tests), activity of respiratory syncytial virus (RSV) is now higher than influenza.

- Activity of influenza is decreasing sharply. Influenza A accounts for nearly all influenza detections in Canada, and activity of influenza A is now far below average levels typical of this time of year (1,721 detections; 4.6% positive)
- Activity of RSV is following seasonal trends at the national level. Compared to pre-pandemic seasons, RSV activity is near average levels typical of this time of year (3,179 detections; 10.1% positive).
- Activity of most other non-SARS-CoV-2 respiratory viruses is near expected levels typical of this time of year.
- 33/35 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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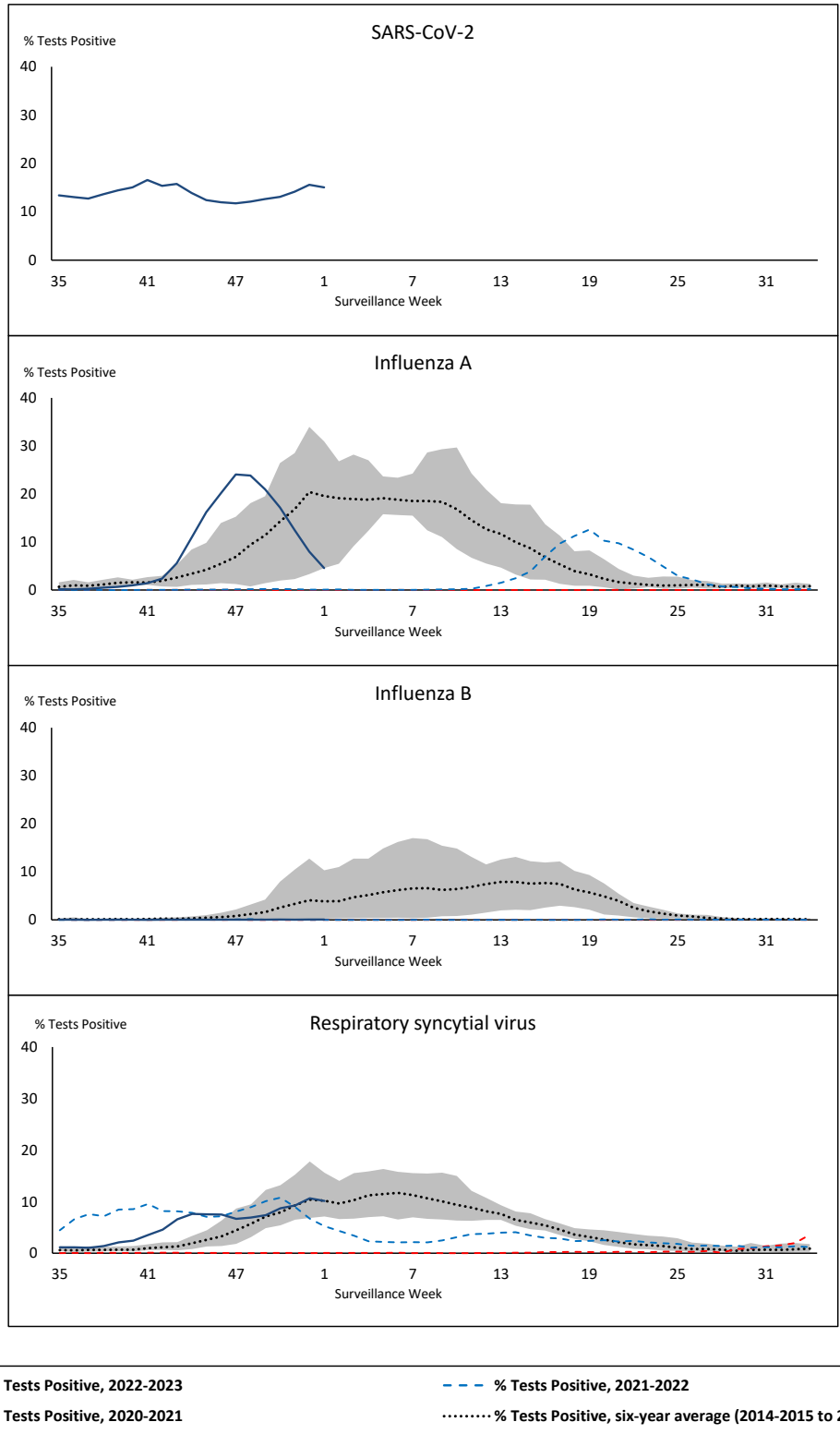


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Figure 1: Positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), influenza, and respiratory syncytial virus tests (%) reported by participating laboratories in Canada by surveillance week compared to average and range from 2014-2015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



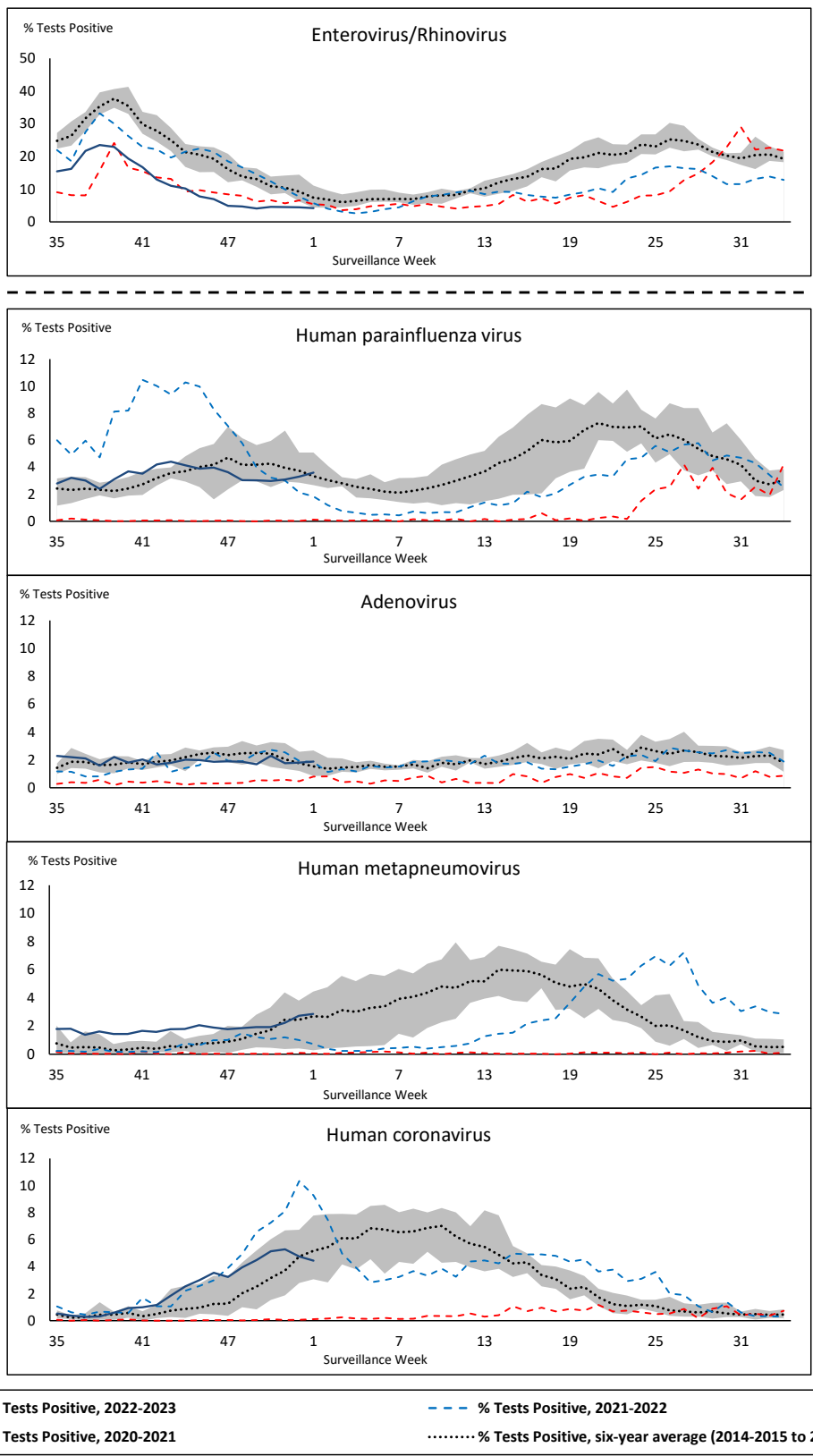
Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

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.

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Note: % Tests Positive scale changes across the dashed line

Table 1: Respiratory virus detections for the week ending January 7, 2023 (surveillance week 2023-01)

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	725	142	620	0	0	56	56	0	620	28	620	1	3	9	0	0	620	12	620	22	620	13	620	63
Prince Edward Island	836	154	218	0	1	7	8	0	218	30	21	0	0	1	1	0	21	3	21	0	21	3	21	3
Nova Scotia	4076	945	2101	0	0	82	82	0	2101	192	32	0	0	3	0	0	32	0	32	1	32	1	32	5
New Brunswick	4297	557	2521	1	8	114	123	0	2205	212	129	0	0	7	0	0	129	15	129	5	129	8	129	17
Atlantic	9934	1798	5460	1	9	259	269	0	5144	462	802	1	3	20	1	0	802	30	802	28	802	25	802	88
Région Nord-Est	3024	343	2249	0	1	262	263	0	870	102	44	0	0	3	0	0	44	3	44	2	N.C.	N.C.	44	3
Québec-Chaudière-Appalaches	5619	724	1432	0	0	177	177	0	1355	85	232	0	0	2	0	0	241	12	232	12	N.C.	N.C.	232	7
Centre-du-Québec	4248	643	632	0	0	40	40	1	468	29	30	0	0	4	1	0	30	4	30	0	N.C.	N.C.	30	2
Montréal-Laval	4724	667	4364	0	0	147	147	13	1776	80	688	3	0	14	1	0	688	43	690	18	N.C.	N.C.	688	40
Ouest du Québec	3434	525	1107	0	0	57	57	1	1046	72	10	0	0	1	0	0	10	3	10	1	N.C.	N.C.	10	0
Montérégie	3666	479	835	0	0	50	50	0	782	38	3	0	0	0	0	0	3	0	3	0	N.C.	N.C.	3	0
Province of Québec	24715	3381	10619	0	1	733	734	15	6297	406	1007	3	0	24	2	0	1016	65	1009	33	N.C.	N.C.	1007	52
P.H.O.L. - Ottawa	1011	343	312	1	9	6	16	0	312	27	160	0	0	0	0	5	160	1	160	4	160	4	160	9
EOURLA	2444	247	737	0	0	49	49	1	737	79	37	0	0	6	0	0	37	3	37	3	37	4	37	2
P.H.O.L. - Kingston	799	193	119	0	2	1	3	0	119	18	85	0	0	0	0	4	85	0	85	3	85	1	85	1
UHN / Mount Sinai Hospital	2773	267	841	0	0	15	15	1	841	29	84	0	0	0	0	0	84	0	84	0	84	1	84	2
P.H.O.L. - Toronto	1318	434	1165	9	55	6	33	0	1163	104	970	0	0	0	0	31	970	19	970	16	970	67	970	43
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	2599	347	2599	9	35	3	47	4	2599	116	2595	0	0	0	0	37	2595	30	2603	31	2604	83	2604	29
P.H.O.L. - Sault Ste. Marie	11	2	23	0	3	0	3	0	23	2	23	0	0	0	0	7	23	0	23	3	23	1	23	0
P.H.O.L. - Timmins	186	16	30	0	2	0	2	0	30	11	30	0	0	0	0	0	30	0	30	0	30	0	30	1
St. Joseph's - London	3351	541	757	0	0	18	18	1	757	73	71	0	0	0	0	0	71	5	71	2	71	3	71	14
P.H.O.L. - London	1137	227	552	1	11	5	16	0	552	81	417	0	0	0	0	23	417	1	417	2	417	19	417	18
P.H.O.L. - Orillia	27	8	89	0	3	1	4	0	89	19	83	0	0	0	0	7	83	1	83	5	83	6	83	5
P.H.O.L. - Thunder Bay	233	83	44	0	0	0	0	0	44	8	39	0	0	0	0	5	39	1	39	1	39	1	39	1
P.H.O.L. - Sudbury	85	10	51	0	10	8	10	0	51	7	30	0	0	0	0	1	30	0	30	3	30	1	30	0
P.H.O.L. - Hamilton	903	365	491	0	8	6	14	1	491	32	293	0	0	0	0	8	295	1	293	10	293	22	293	20
P.H.O.L. - Peterborough	123	18	55	0	1	1	2	0	55	15	37	0	0	0	0	0	37	0	37	4	37	1	37	2
St. Joseph's - Hamilton	3375	588	1847	0	0	56	56	0	1847	184	1847	0	0	62	0	0	1847	15	1847	25	1847	69	0	0
Sault Area Hospital	410	44	410	0	3	16	19	0	410	4	59	0	0	5	0	0	59	0	59	3	59	1	59	1
Province of Ontario	20785	3733	10122	20	142	191	307	8	10120	809	6860	0	0	73	0	128	6862	77	6868	115	6869	284	5022	148
Manitoba	1997	188	1545	0	3	40	43	0	1545	164	124	1	0	12	0	0	124	6	152	9	124	12	152	22
Saskatchewan	4908	324	1424	0	0	31	31	0	1178	183	560	4	1	35	0	0	561	9	561	42	561	28	560	23
Alberta	6498	1009	4562	50	47	65	162	0	4124	751	1469	3	0	32	1	0	1468	16	1469	76	1455	52	1469	29
Prairies	13403	1521	7531	50	50	136	236	0	6847	1098	2153	8	1	79	1	0	2153	31	2182	127	2140	92	2181	74
British Columbia	5970	846	3885	9	59	0	166	5	2880	401	909	3	6	55	14	0	909	18	909	34	882	48	882	77
Yukon	139	17	53	0	2	0	6	0	53	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	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.R.	N.R.	N.C.	N.C.
Nunavut	144	22	61	0	3	0	3	0	61	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	283	39	114	0	5	0	9	0	114	3	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	0	0	N.C.	N.C.
CANADA	75090	11318	37731	80	266	1319	1721	28	31402	3179	11731	15	10	251	18	128	11742	221	11770	337	10693	449	9894	439

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 January 7, 2023 (surveillance weeks 2022-35 to 2023-01)

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	11086	2381	6283	1	233	655	889	0	6283	224	6283	4	28	38	16	0	6283	129	6283	239	6283	526	6283	194	
Prince Edward Island	22820	5759	1849	1	117	224	342	0	1849	117	926	15	25	69	6	0	926	55	926	11	926	297	926	22	
Nova Scotia	88099	17341	21432	0	4	3533	3537	1	21431	1578	773	4	16	20	2	0	772	33	762	2	772	159	772	18	
New Brunswick	75336	10954	26317	2	120	4359	4481	3	20163	1186	1924	3	19	107	7	0	1924	137	1924	27	1924	374	1869	125	
Atlantic	197341	36435	55881	4	474	8771	9249	4	49726	3105	9906	26	88	234	31	0	9905	354	9895	279	9905	1356	9850	359	
Région Nord-Est	55401	7711	26275	0	2	3360	3362	7	9131	917	698	7	3	44	0	0	698	34	691	45	N.C.	N.C.	698	34	
Québec-Chaudière-Appalaches	121742	12163	14310	0	0	2682	2682	10	14092	1528	4110	20	4	38	0	0	4345	270	4110	200	N.C.	N.C.	4110	176	
Centre-du-Québec	96703	13981	10006	0	0	1704	1704	13	8754	790	523	12	0	21	1	0	523	39	523	54	N.C.	N.C.	523	23	
Montréal-Laval	135829	18131	48693	0	8	5701	5709	61	27972	2102	12618	121	13	212	10	0	12627	496	12717	593	N.C.	N.C.	12303	341	
Ouest du Québec	74009	10395	11654	0	7	2104	2111	6	9792	891	660	20	0	48	1	0	659	123	660	38	N.C.	N.C.	660	26	
Montérégie	96211	11500	12751	0	0	1585	1585	11	12200	876	75	0	0	2	0	0	75	1	75	4	N.C.	N.C.	75	1	
Province of Québec	579895	73881	123689	0	17	17136	17153	108	81941	7104	18684	180	20	365	12	0	18927	963	18776	934	N.C.	N.C.	18369	601	
P.H.O.L. - Ottawa	19997	5108	2520	4	131	61	191	0	2520	181	1902	0	0	0	0	46	1902	6	1902	19	1902	127	1902	44	
EOURLA	57462	6277	9291	0	0	1351	1351	3	9291	1087	756	7	3	30	16	0	756	37	756	24	756	179	756	52	
P.H.O.L. - Kingston	20300	3335	1497	2	88	38	128	1	1496	102	1310	0	0	0	0	63	1311	19	1311	22	1310	156	1311	47	
UHN / Mount Sinai Hospital	60659	4882	11741	3	43	322	368	14	11741	189	664	0	0	4	0	0	631	1	664	0	664	19	664	34	
P.H.O.L. - Toronto	39388	8301	14418	61	2343	137	1056	1	14389	788	12545	0	0	0	0	534	12548	182	12545	133	12545	950	12545	465	
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	50595	3777	50598	50	1411	711	2172	16	50597	1772	27865	4	0	16	0	327	27878	235	27986	138	27934	711	27828	505	
P.H.O.L. - Sault Ste. Marie	1261	242	339	1	48	12	53	0	339	3	291	0	0	0	0	27	291	0	291	19	291	10	291	2	
P.H.O.L. - Timmins	6375	714	617	0	160	6	155	0	616	35	598	0	0	0	0	40	598	9	598	9	598	45	598	18	
St. Joseph's - London	82189	10862	8595	0	0	856	856	8	8595	747	1042	0	0	0	0	39	1076	36	1076	6	1076	165	664	56	
P.H.O.L. - London	24346	5225	5493	8	578	60	629	1	5492	553	4781	0	0	0	0	260	4782	59	4782	29	4781	354	4782	182	
P.H.O.L. - Orillia	407	216	1547	4	258	23	285	0	1547	196	1490	0	0	0	0	104	1490	28	1490	23	1490	183	1490	80	
P.H.O.L. - Thunder Bay	6193	1315	571	0	106	3	109	0	570	45	504	0	0	0	0	19	504	14	504	3	504	42	504	13	
P.H.O.L. - Sudbury	1499	227	419	1	64	12	65	0	419	29	348	0	0	0	0	18	348	5	348	7	348	21	348	17	
P.H.O.L. - Hamilton	18007	4623	4644	5	293	88	386	4	4641	378	3503	0	0	0	0	148	3505	38	3503	33	3503	271	3503	149	
P.H.O.L. - Peterborough	2952	530	715	0	63	9	72	0	715	69	636	0	0	0	0	25	636	7	636	16	636	94	636	23	
St. Joseph's - Hamilton	57772	9084	23333	0	0	2628	2628	8	23333	1918	23333	0	0	669	0	0	23333	200	23333	114	23333	1633	0	0	
Sault Area Hospital	8997	1533	5710	1	255	252	508	0	5710	48	1721	30	0	37	1	0	1721	35	1721	84	1721	182	1721	26	
Province of Ontario	458399	66251	142048	140	5841	6569	11012	56	142011	8140	83289	41	3	756	17	1650	83310	911	83446	679	83392	5142	59543	1713	
Manitoba	43637	8385	19917	15	192	1704	1911	0	19917	998	3265	2	4	123	6	0	3255	102	3336	132	3265	543	3336	107	
Saskatchewan	112678	9754	24009	0	0	3826	3826	8	18091	978	7911	25	37	374	8	0	7914	173	7916	422	7914	707	7911	305	
Alberta	149737	25099	68942	785	7208	2580	10573	18	58712	4787	24237	131	58	488	23	0	24229	283	24203	447	23833	2244	24237	789	
Prairies	306052	43238	112868	800	7400	8110	16310	26	96720	6763	35413	158	99	985	37	0	35398	558	35455	1001	35012	3494	35484	1201	
British Columbia	161861	15712	70721	306	4255	278	8443	40	65498	4435	15435	137	157	542	101	6	15423	321	15423	305	14994	2350	14991	539	
Yukon	3664	256	442	0	129	0	135	0	439	11	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	939	126	861	2	114	0	116	0	861	33	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	861	210	N.C.	N.C.
Nunavut	2779	263	1435	3	230	3	236	0	1435	34	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	7382	645	2738	5	473	3	487	0	2735	78	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	861	210	N.C.	N.C.
CANADA	1710930	236162	507945	1255	18460	40867	62654	234	438631	29625	162727	542	367	2882	198	1656	162963	3107	162995	3198	144164	12552	138237	4413	

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.

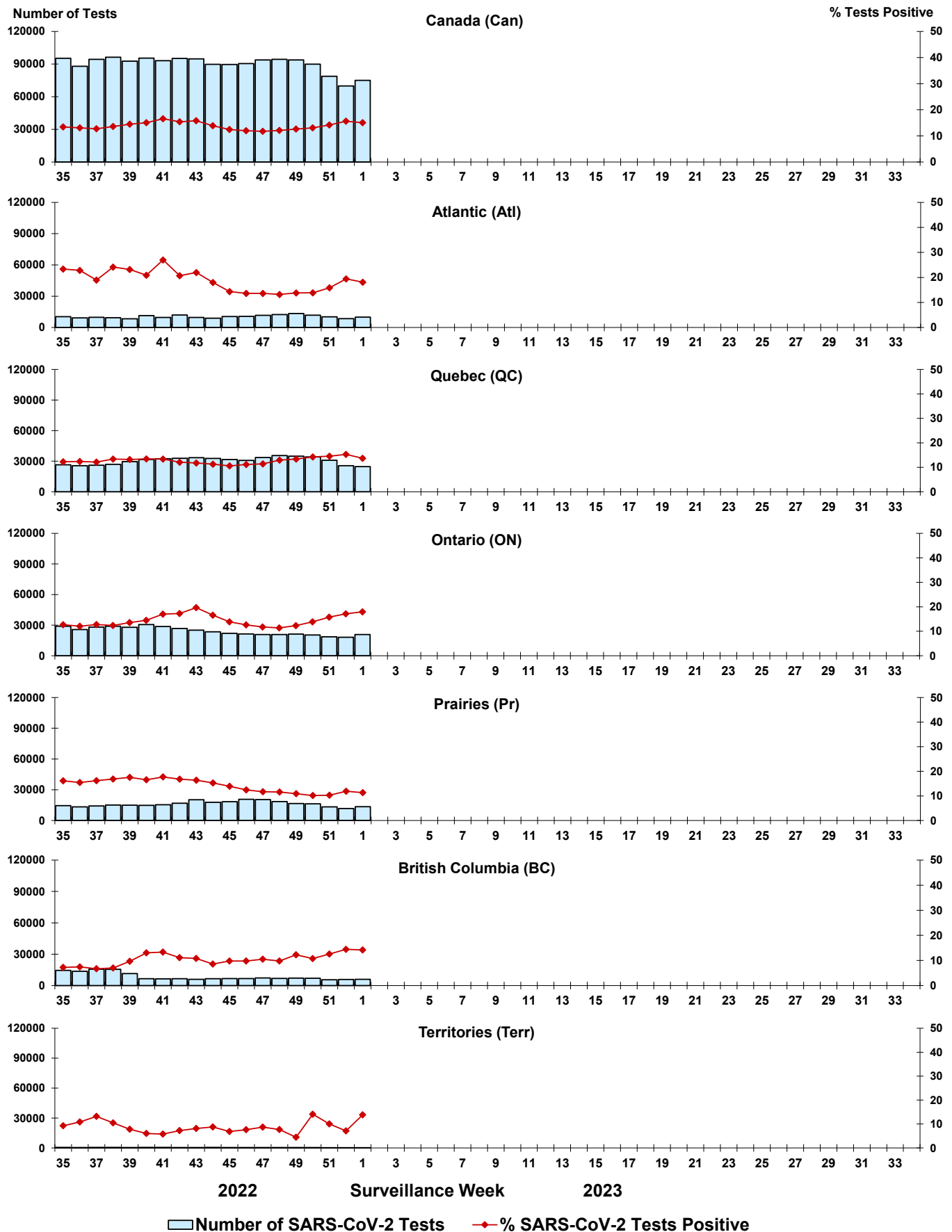
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Due to different testing protocols of laboratories across Canada, influenza A subtype detection counts may not be included in total influenza A detection counts. Total influenza A and B positive counts are used to calculate percentage of tests

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

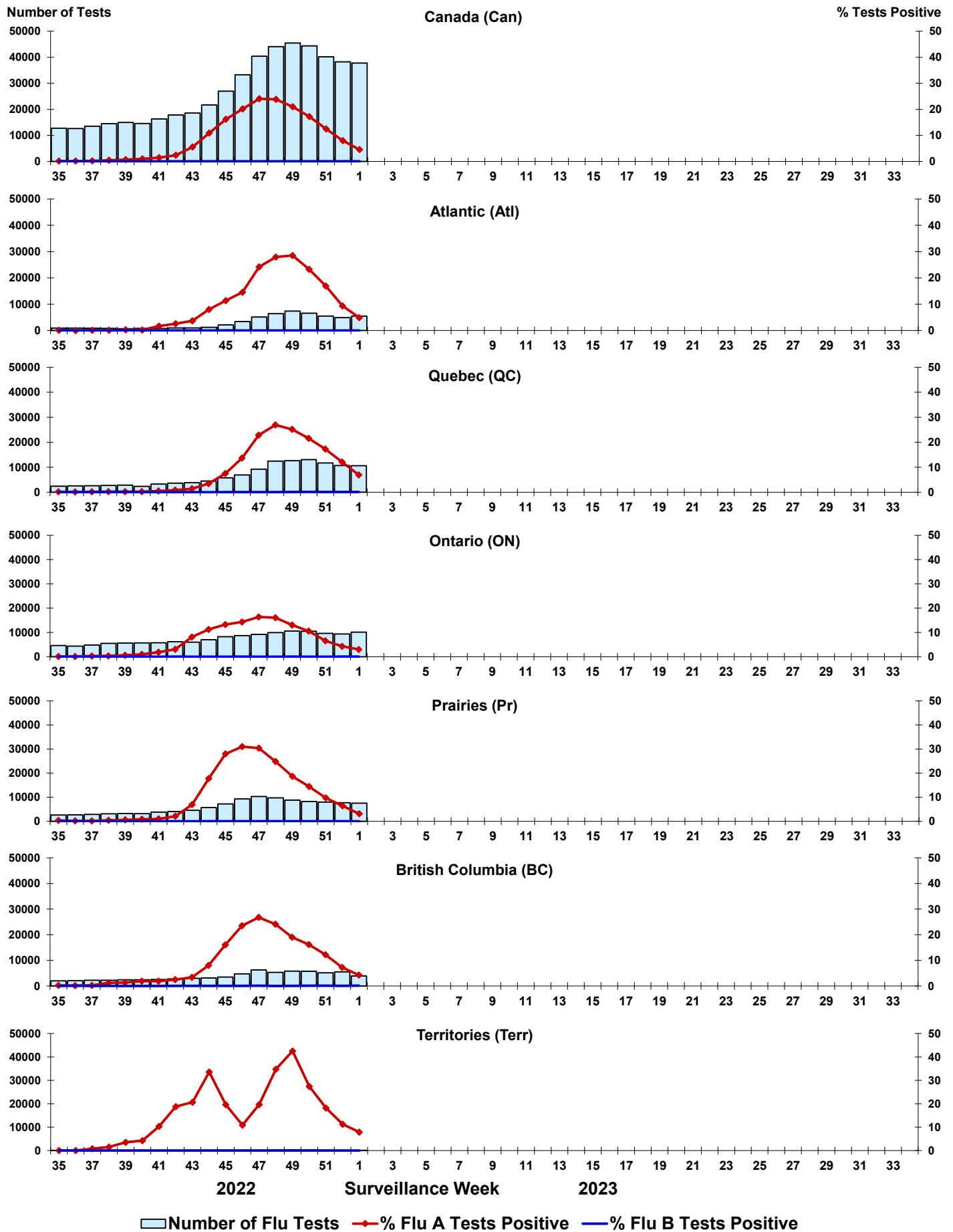


Figure 5: Positive Respiratory syncytial virus (RSV) tests (%) in Canada by region by surveillance week

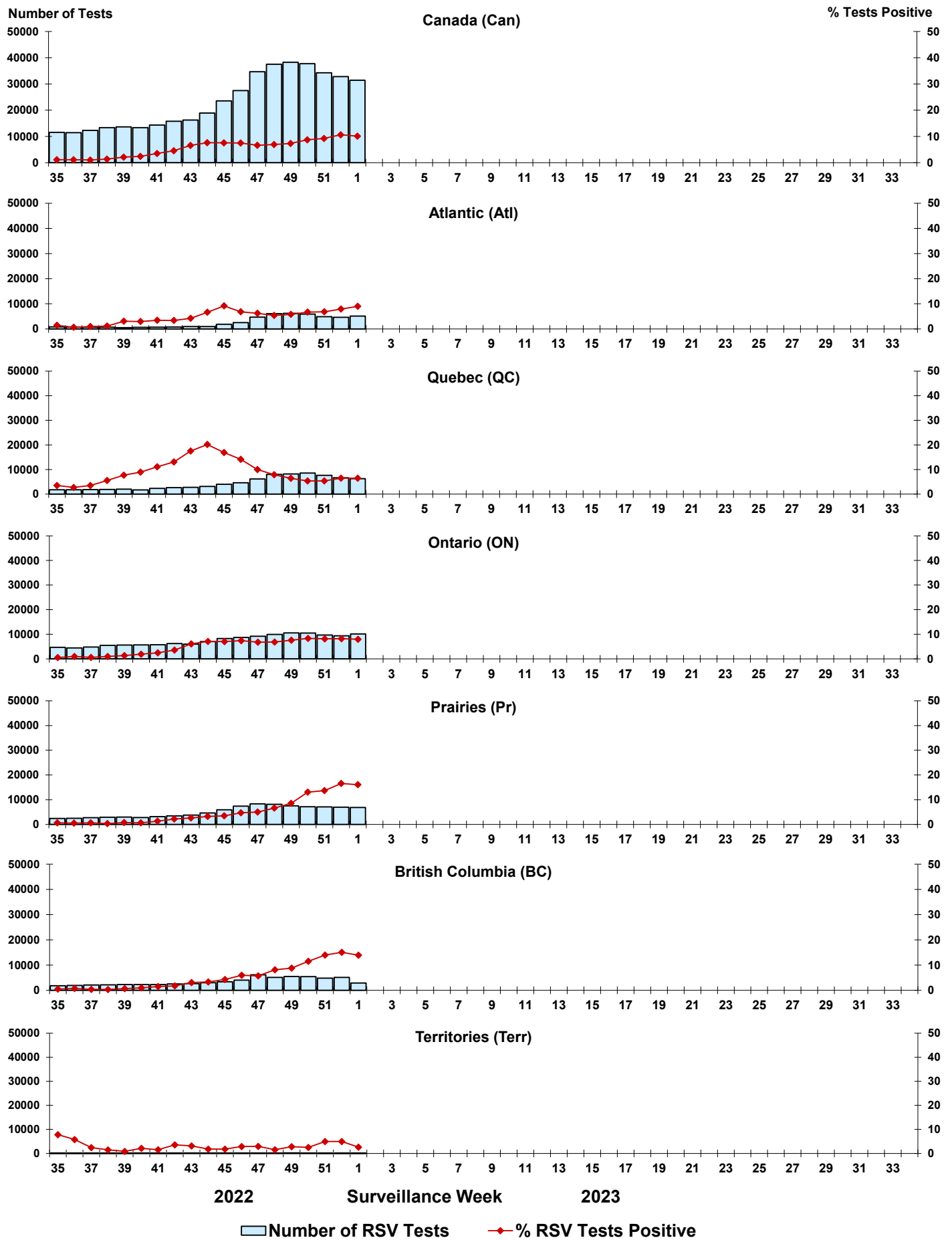


Figure 6: Positive Human parainfluenza virus (HPIV) tests (%) in Canada by region by surveillance week

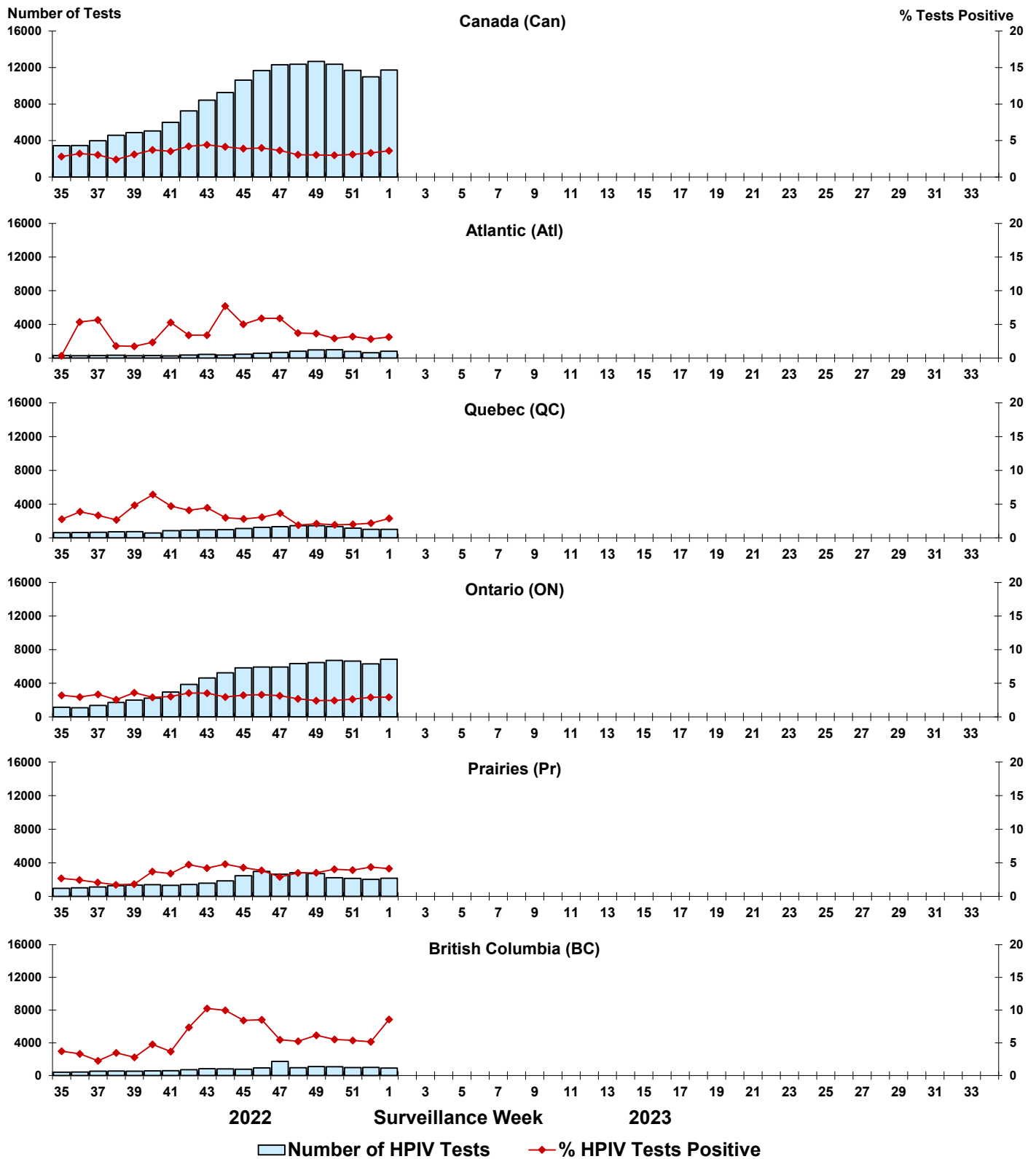


Figure 7: Positive Adenovirus (ADV) tests (%) in Canada by region by surveillance week

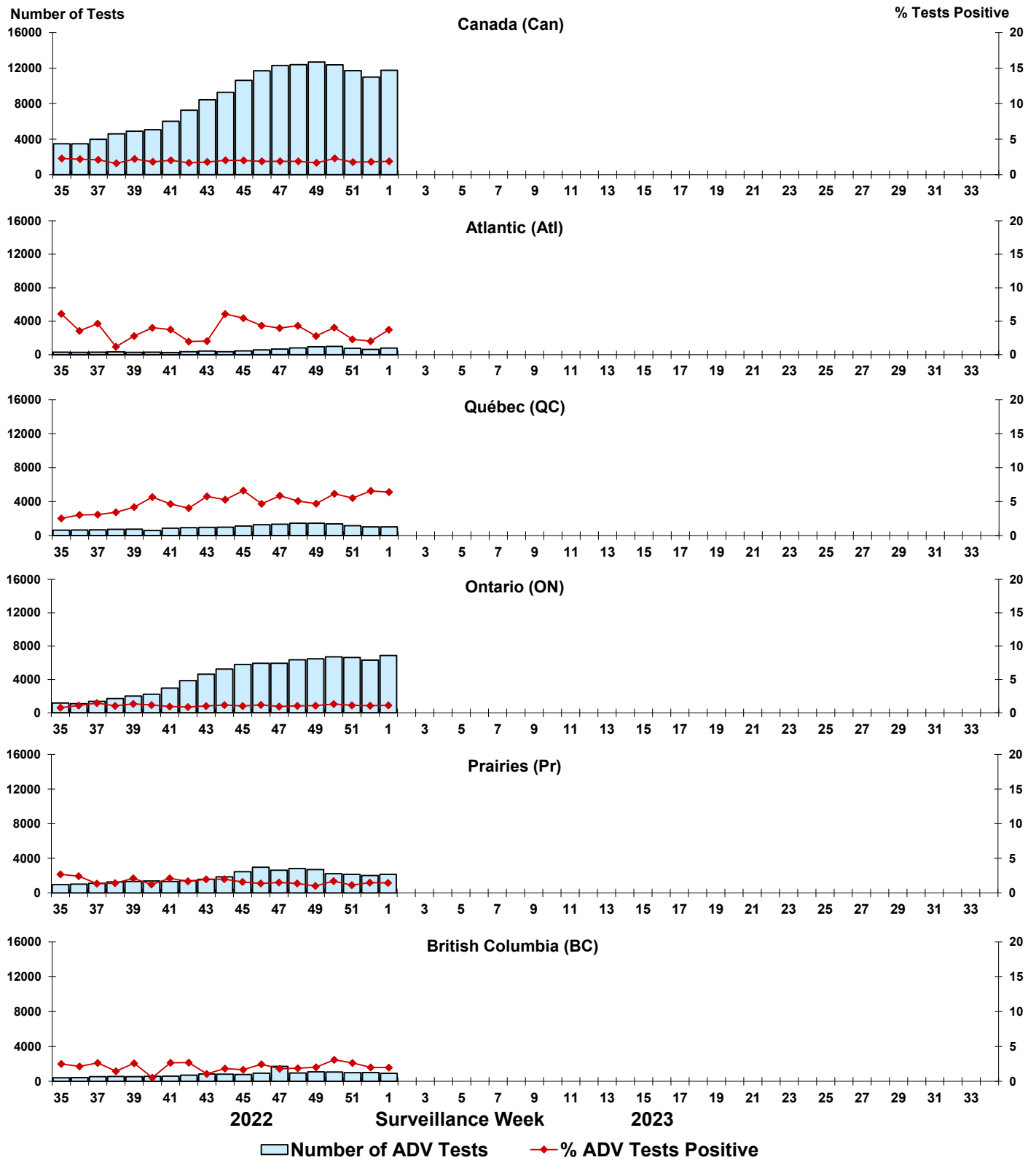


Figure 8: Positive Human metapneumovirus (HMPV) tests (%) in Canada by region by surveillance week

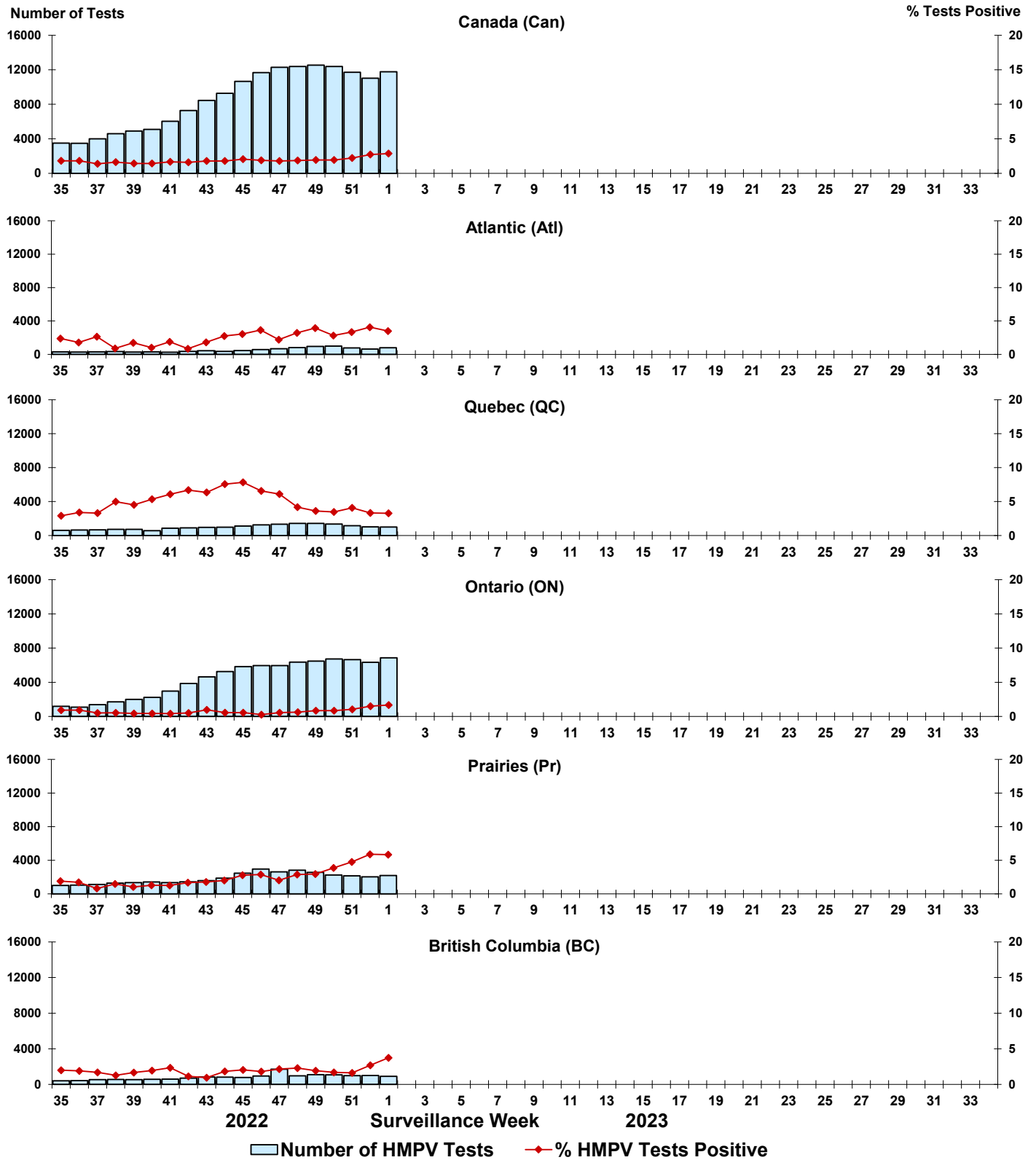


Figure 9: Positive Enterovirus/Rhinovirus (EV/RV) tests (%) in Canada by region by surveillance week

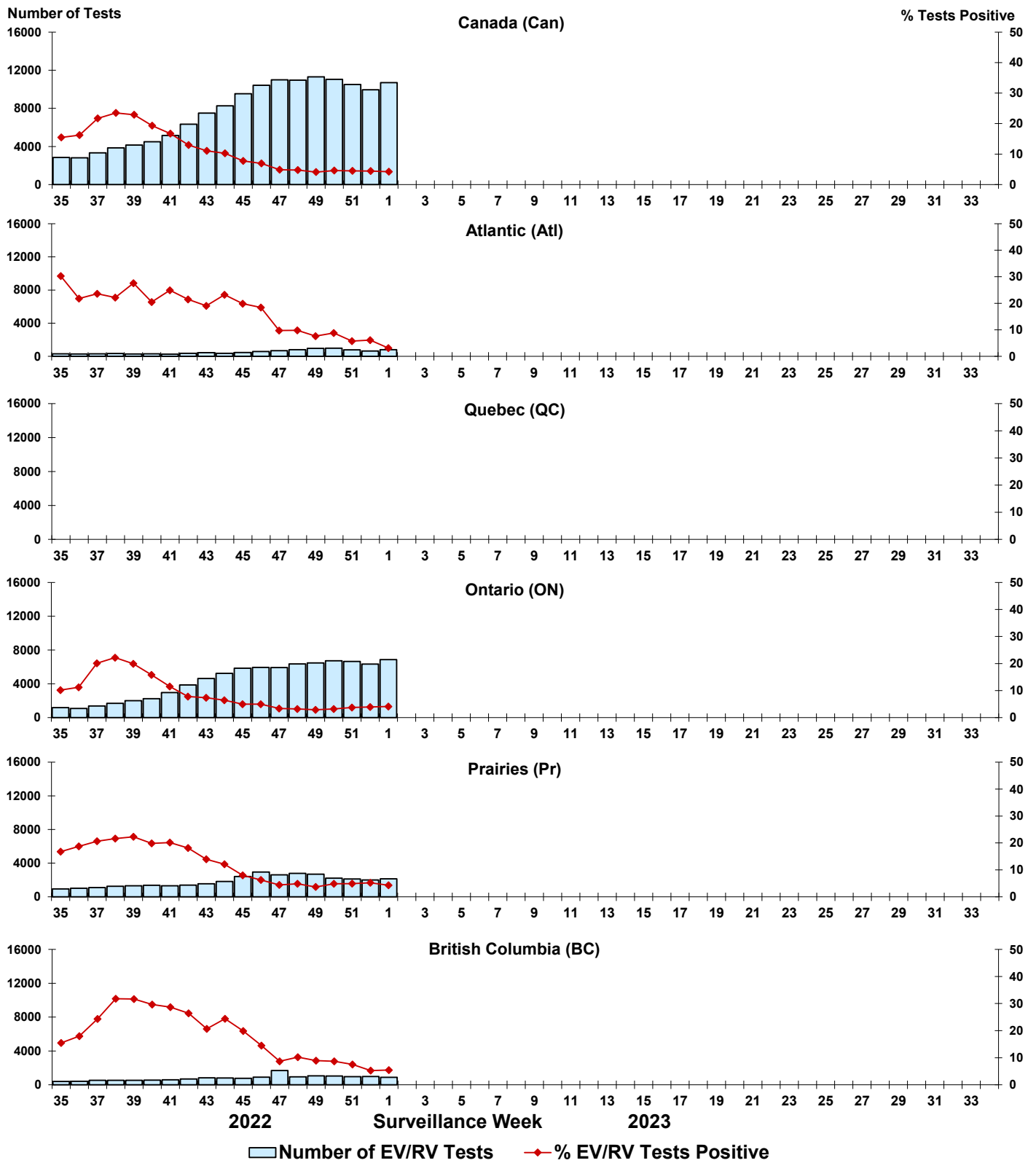


Figure 10: Positive Human coronavirus (HCoV) tests (%) in Canada by region by surveillance week

