

RESPIRATORY VIRUS DETECTION REPORT

November 27 to December 3, 2022
(Surveillance Week 2022-48)



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 48 (week ending December 3, 2022) in Canada, participating RVDSS laboratories reported 11,043 detections of SARS-CoV-2 from 90,520 tests (12.2% positive). Among non-SARS-CoV-2 respiratory viruses, where test volumes are lower (range of 10,332 to 41,411 tests), activity of influenza is highest.

- At the national level, influenza A activity remained similar to the previous week (9,842 detections; 23.8%); however, activity remains above expected levels for this time of year.
 - There is geographic variation in influenza A activity as activity is increasing in eastern provinces and the territories, but decreasing in western provinces.
 - Influenza A accounts for nearly all influenza detections in Canada.
- Activity of respiratory syncytial virus (RSV) has stabilized (2,392 detections; 6.8% 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.
- 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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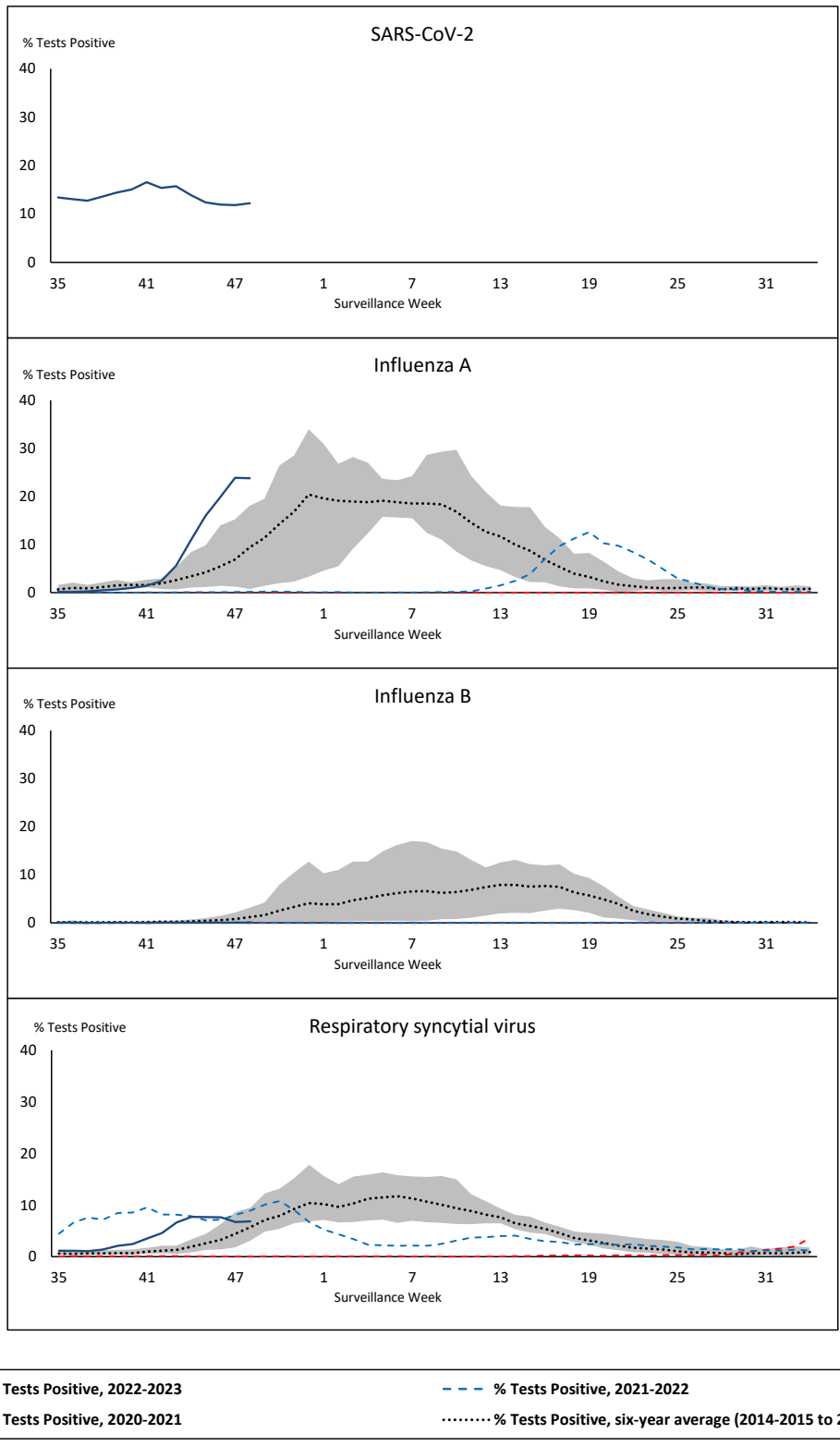


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Figure 1: Positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), influenza, and respiratory syncytial virus tests (%) reported by participating laboratories in Canada by surveillance week compared to average and range from 2014-2015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



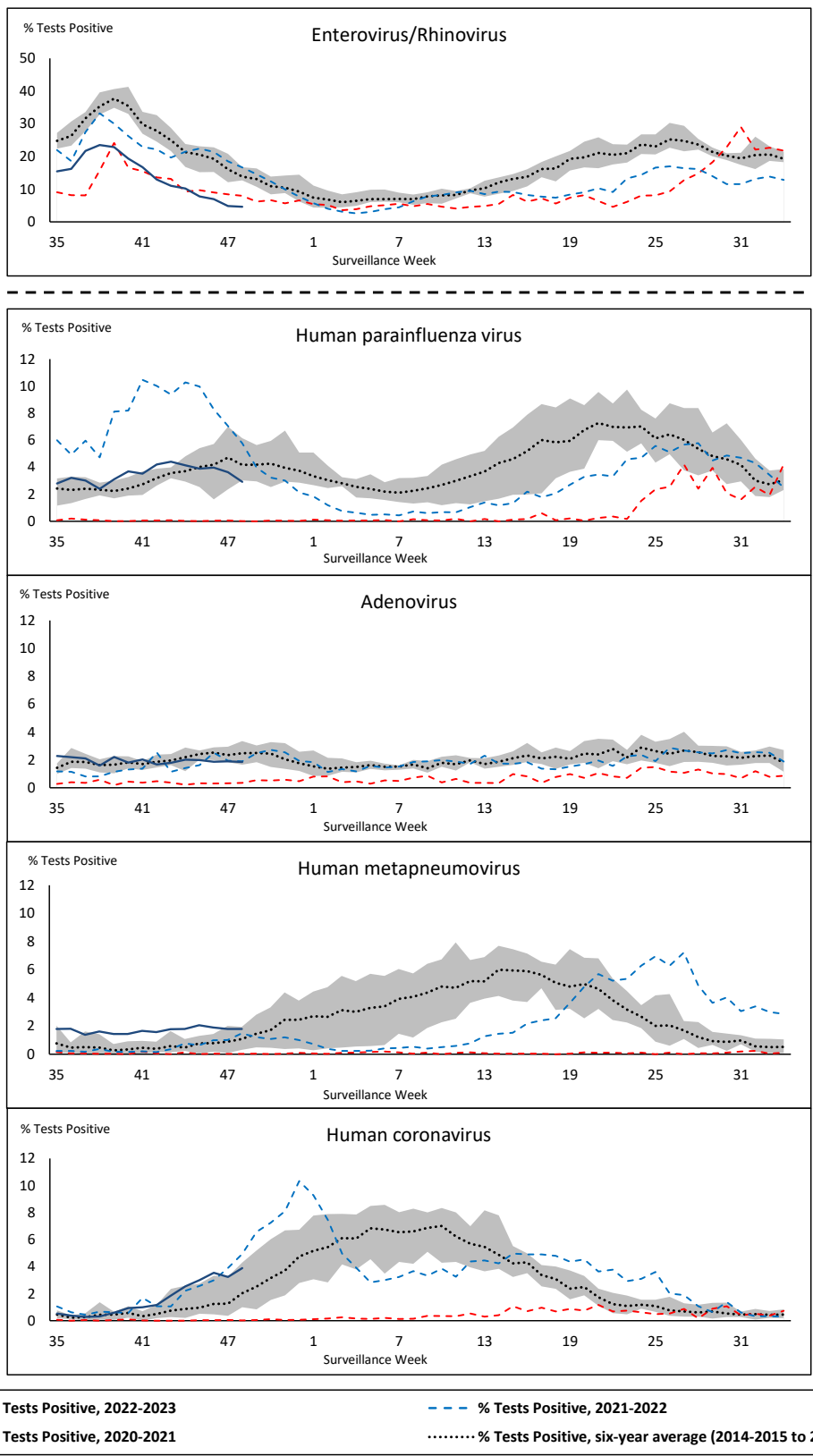
Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

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.

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 3, 2022 (surveillance week 2022-48)

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	703	129	516	0	106	13	119	0	516	18	516	0	3	2	2	0	516	16	516	24	516	43	516	6	
Prince Edward Island	1145	259	189	0	21	59	80	0	189	12	59	2	2	5	2	0	59	6	59	0	59	11	59	0	
Nova Scotia	5226	596	2763	0	1	718	719	0	2763	173	37	0	0	2	1	0	37	3	37	0	37	6	37	1	
New Brunswick	5280	649	2925	0	13	855	868	1	2642	124	196	0	1	8	0	0	196	10	196	2	196	19	196	15	
Atlantic	12354	1633	6393	0	141	1645	1786	1	6110	327	808	2	6	17	5	0	808	35	808	26	808	79	808	22	
Région Nord-Est	3463	547	2025	0	0	375	375	1	908	108	64	1	0	6	0	0	64	2	64	4	N.C.	N.C.	64	4	
Québec-Chaudière-Appalaches	7100	639	1257	0	0	359	359	0	1261	163	361	0	0	0	0	0	373	23	361	17	N.C.	N.C.	361	28	
Centre-du-Québec	6545	910	1591	0	0	497	497	0	1124	76	30	0	0	1	0	0	30	2	30	4	N.C.	N.C.	30	4	
Montréal-Laval	7501	1090	4979	0	2	1253	1255	5	2481	164	934	3	0	7	2	0	934	39	935	30	N.C.	N.C.	876	34	
Ouest du Québec	5302	688	1287	0	2	461	463	0	1007	66	27	2	0	2	0	0	27	5	27	3	N.C.	N.C.	27	0	
Montérégie	5586	723	1284	0	0	375	375	2	1216	54	2	0	0	0	0	0	2	0	2	1	N.C.	N.C.	2	0	
Province of Québec	35497	4597	12423	0	4	3320	3324	8	7997	631	1418	6	0	16	2	0	1430	71	1419	59	N.C.	N.C.	1360	70	
P.H.O.L. - Ottawa	663	151	229	0	26	5	28	0	229	20	177	0	0	0	0	5	177	0	177	1	177	9	177	5	
EOURLA	2716	208	786	0	0	237	237	0	786	96	55	0	0	3	0	0	55	3	55	1	55	4	55	10	
P.H.O.L. - Kingston	612	79	112	0	12	7	19	0	112	4	104	0	0	0	0	3	104	2	104	3	104	20	104	7	
UHN / Mount Sinai Hospital	3021	238	795	0	6	34	40	0	795	12	28	0	0	0	0	0	28	0	28	0	28	1	28	3	
P.H.O.L. - Toronto	1670	420	1320	5	311	29	178	0	1316	74	1014	0	0	0	0	43	1014	13	1014	8	1014	37	1014	45	
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.	N.R.
Shared Hospital Laboratory	2699	183	2699	2	161	107	270	0	2699	143	2283	0	0	0	0	19	2283	20	2299	9	2299	29	2297	67	
P.H.O.L. - Sault Ste. Marie	58	5	41	0	7	4	10	0	41	0	37	0	0	0	0	3	37	0	37	1	37	1	37	1	
P.H.O.L. - Timmins	289	16	66	0	37	2	36	0	66	0	64	0	0	0	0	2	64	2	64	1	64	2	64	2	
St. Joseph's - London	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.	N.R.
P.H.O.L. - London	902	158	392	1	85	5	90	0	392	35	348	0	0	0	0	10	348	6	348	2	348	13	348	30	
P.H.O.L. - Orillia	16	8	106	0	20	6	26	0	106	16	98	0	0	0	0	11	98	1	98	0	98	5	98	8	
P.H.O.L. - Thunder Bay	234	50	38	0	6	2	8	0	38	1	26	0	0	0	0	1	26	0	26	0	26	1	26	2	
P.H.O.L. - Sudbury	43	9	37	0	9	0	9	0	37	2	32	0	0	0	0	2	32	2	32	1	32	2	32	1	
P.H.O.L. - Hamilton	621	136	399	1	30	19	50	0	399	18	290	0	0	0	0	16	290	2	290	1	290	17	290	16	
P.H.O.L. - Peterborough	154	16	46	0	10	0	10	0	46	0	46	0	0	0	0	2	46	0	46	2	46	1	46	1	
St. Joseph's - Hamilton	2954	310	1570	0	0	334	334	1	1570	173	1570	0	0	42	0	0	1570	9	1570	3	1570	48	0	0	
Sault Area Hospital	422	33	331	0	53	31	84	0	331	6	117	2	0	2	0	0	117	4	117	7	117	9	117	0	
Province of Ontario	17074	2020	8967	9	773	822	1429	1	8963	600	6289	2	0	47	0	117	6289	64	6305	40	6305	199	4733	198	
Manitoba	2919	422	2022	0	34	360	394	0	2022	80	190	0	0	8	0	0	190	7	221	11	190	29	221	10	
Saskatchewan	6966	461	2143	0	0	545	545	2	1735	67	807	1	4	33	0	0	809	14	809	44	809	40	808	25	
Alberta	8546	1216	4160	41	824	201	1066	1	3128	286	1644	14	3	28	0	0	1644	16	1642	17	1618	55	1644	45	
Prairies	18431	2099	8325	41	858	1106	2005	3	6885	433	2641	15	7	69	0	0	2643	37	2672	72	2617	124	2673	80	
British Columbia	6811	667	5146	15	317	0	1250	0	4903	398	783	6	6	19	7	0	783	14	783	19	758	77	758	32	
Yukon	180	11	26	0	10	0	17	0	24	0	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	80	7	73	2	20	0	22	0	73	3	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	73	8	N.C.	N.C.
Nunavut	93	9	58	0	9	0	9	0	58	0	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	353	27	157	2	39	0	48	0	155	3	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	73	8	N.C.	N.C.	
CANADA	90520	11043	41411	67	2132	6893	9842	13	35013	2392	11939	31	19	168	14	117	11953	221	11987	216	10561	487	10332	402	

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.

Non-SARS-CoV-2 specimens and select SARS-CoV-2 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 3, 2022 (surveillance weeks 2022-35 to 2022-48)

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	7408	1794	3260	0	158	16	174	0	3260	131	3260	2	13	18	8	0	3260	74	3260	119	3260	401	3260	15	
Prince Edward Island	18228	4820	894	0	89	80	169	0	894	26	720	14	22	49	4	0	720	45	720	10	720	276	720	8	
Nova Scotia	67306	13521	10414	0	4	1721	1725	1	10413	713	623	4	7	13	2	0	623	26	623	0	623	148	623	5	
New Brunswick	50556	7744	11484	0	62	1822	1884	3	8293	316	1130	1	16	67	7	0	1130	81	1130	4	1130	262	1075	46	
Atlantic	143498	27879	26052	0	313	3639	3952	4	22860	1186	5733	21	58	147	21	0	5733	226	5733	133	5733	1087	5678	74	
Région Nord-Est	36244	5075	14176	0	0	533	533	4	3639	379	413	5	2	34	0	0	413	14	413	17	N.C.	N.C.	413	10	
Québec-Chaudière-Appalaches	88332	8267	6343	0	0	569	569	3	6367	1017	2602	19	4	27	0	0	2781	170	2602	141	N.C.	N.C.	2602	97	
Centre-du-Québec	70881	9749	5975	0	0	912	912	2	5254	589	370	12	0	15	0	0	370	26	370	44	N.C.	N.C.	370	11	
Montréal-Laval	107312	13754	25709	0	8	3117	3125	14	17629	1658	8707	101	12	142	8	0	8716	303	8787	488	N.C.	N.C.	8415	117	
Ouest du Québec	54053	7486	5342	0	5	1009	1014	1	4453	550	557	18	0	43	1	0	556	99	557	27	N.C.	N.C.	557	19	
Montérégie	72658	8203	7401	0	0	937	937	8	7266	685	55	0	0	1	0	0	55	0	55	3	N.C.	N.C.	55	1	
Province of Québec	429480	52534	64946	0	13	7077	7090	32	44608	4878	12704	155	18	262	9	0	12891	612	12784	720	N.C.	N.C.	12412	255	
P.H.O.L. - Ottawa	15927	3915	1212	2	58	12	69	0	1212	50	1144	0	0	0	0	31	1144	1	1144	11	1144	101	1144	18	
EOURLA	45517	5173	5598	0	0	756	756	2	5598	652	580	6	3	16	10	0	580	25	580	14	580	160	580	33	
P.H.O.L. - Kingston	17083	2801	934	0	53	14	67	1	933	56	885	0	0	0	0	39	886	17	886	9	885	141	886	30	
UHN / Mount Sinai Hospital	47127	3568	7661	0	16	231	247	9	7661	73	329	0	0	1	0	0	296	1	329	0	329	13	329	24	
P.H.O.L. - Toronto	31262	6020	8263	36	1535	78	658	0	8240	245	7549	0	0	0	0	362	7553	112	7550	66	7549	712	7550	180	
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	37726	2510	37727	14	1019	566	1599	2	37728	1075	15531	4	0	16	0	206	15544	111	15596	38	15543	424	15440	252	
P.H.O.L. - Sault Ste. Marie	1107	233	188	0	30	9	33	0	188	0	173	0	0	0	0	6	173	0	173	2	173	9	173	2	
P.H.O.L. - Timmins	5271	612	355	0	95	4	95	0	354	3	352	0	0	0	0	34	352	4	352	7	352	38	352	13	
St. Joseph's - London	58389	8185	2334	0	0	177	177	3	2334	219	628	0	0	0	0	20	662	19	662	0	662	134	251	15	
P.H.O.L. - London	19320	4097	2850	6	395	20	412	1	2849	213	2744	0	0	0	0	154	2745	44	2745	11	2744	265	2745	80	
P.H.O.L. - Orillia	263	145	1017	4	213	14	231	0	1017	78	1009	0	0	0	0	71	1009	18	1009	9	1009	153	1009	35	
P.H.O.L. - Thunder Bay	5237	1038	373	0	86	3	89	0	372	7	328	0	0	0	0	2	328	5	328	1	328	37	328	7	
P.H.O.L. - Sudbury	1181	153	209	0	22	2	22	0	209	5	180	0	0	0	0	9	180	5	180	2	180	15	180	6	
P.H.O.L. - Hamilton	14154	3331	2278	1	216	36	253	3	2275	214	2011	0	0	0	0	85	2011	23	2011	13	2011	190	2011	66	
P.H.O.L. - Peterborough	2338	428	461	0	56	0	56	0	461	23	461	0	0	0	0	19	461	5	461	4	461	85	461	11	
St. Joseph's - Hamilton	43036	6813	15086	0	0	1909	1909	7	15086	1026	15086	0	0	453	0	0	15086	114	15086	44	15086	1300	0	0	
Sault Area Hospital	6797	1307	3529	0	146	85	231	0	3529	24	1182	20	0	10	0	0	1182	29	1182	54	1182	165	1182	6	
Province of Ontario	351735	50329	90075	63	3940	3916	6904	28	90046	3963	50172	30	3	496	10	1038	50192	533	50274	285	50218	3942	34621	778	
Manitoba	33261	7302	11909	11	115	962	1088	0	11909	349	2270	1	2	78	5	0	2270	81	2466	97	2270	476	2466	35	
Saskatchewan	85771	8074	15349	0	0	2871	2871	6	11235	203	5003	11	29	223	8	0	5007	125	5009	236	5007	585	5003	136	
Alberta	115372	19738	41315	311	5631	1008	6950	13	34160	1271	16688	99	49	303	18	0	16685	200	16669	146	16374	1917	16688	545	
Prairies	234404	35114	68573	322	5746	4841	10909	19	57304	1823	23961	111	80	604	31	0	23962	406	24144	479	23651	2978	24157	716	
British Columbia	130265	11687	44499	166	2387	12	5190	18	41603	1472	10191	106	116	338	56	6	10191	198	10191	186	9909	1976	9909	110	
Yukon	3057	222	146	0	26	5	33	0	141	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	692	93	657	2	38	0	40	0	657	27	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	657	195	N.C.	N.C.
Nunavut	2169	187	1133	3	189	2	194	0	1133	22	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	5918	502	1936	5	253	7	267	0	1931	50	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	657	195	N.C.	N.C.	
CANADA	1295300	178045	296081	556	12652	19492	34312	101	258352	13372	102761	423	275	1847	127	1044	102969	1975	103126	1803	90168	10178	86777	1933	

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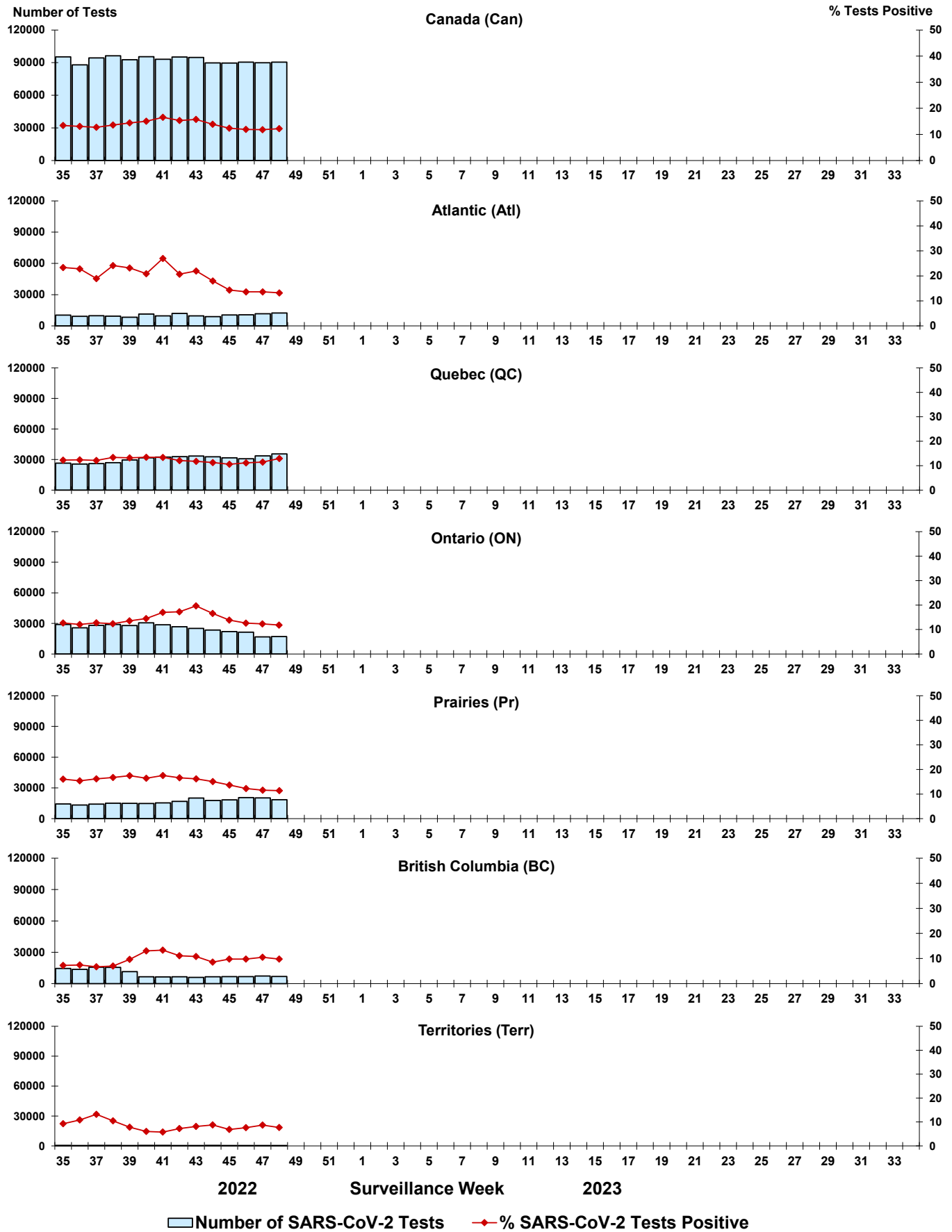
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Due to different testing protocols of laboratories across Canada, influenza A subtype detection counts may not be included in total influenza A detection counts. Total influenza A and B positive counts are used to calculate percentage of tests

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

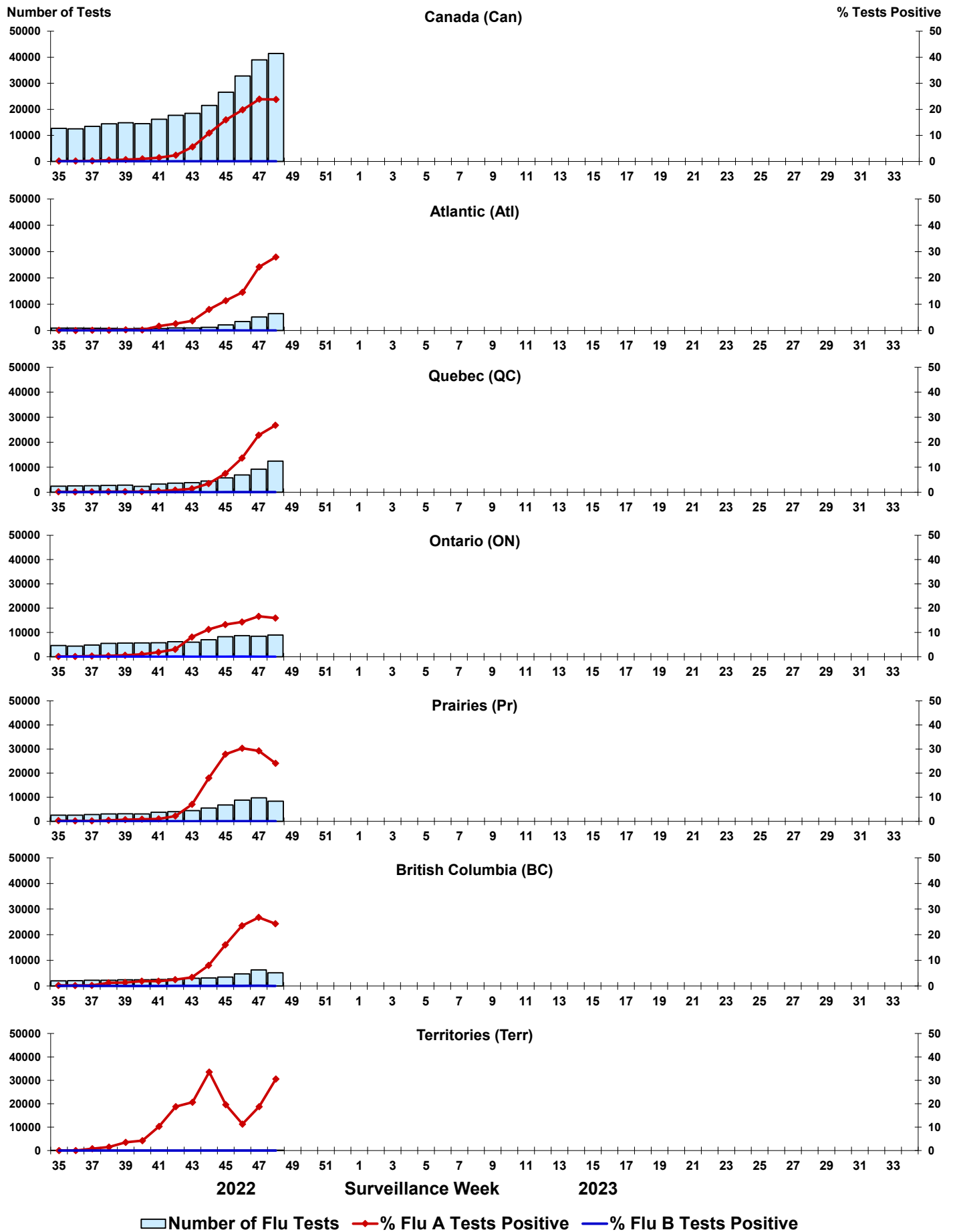
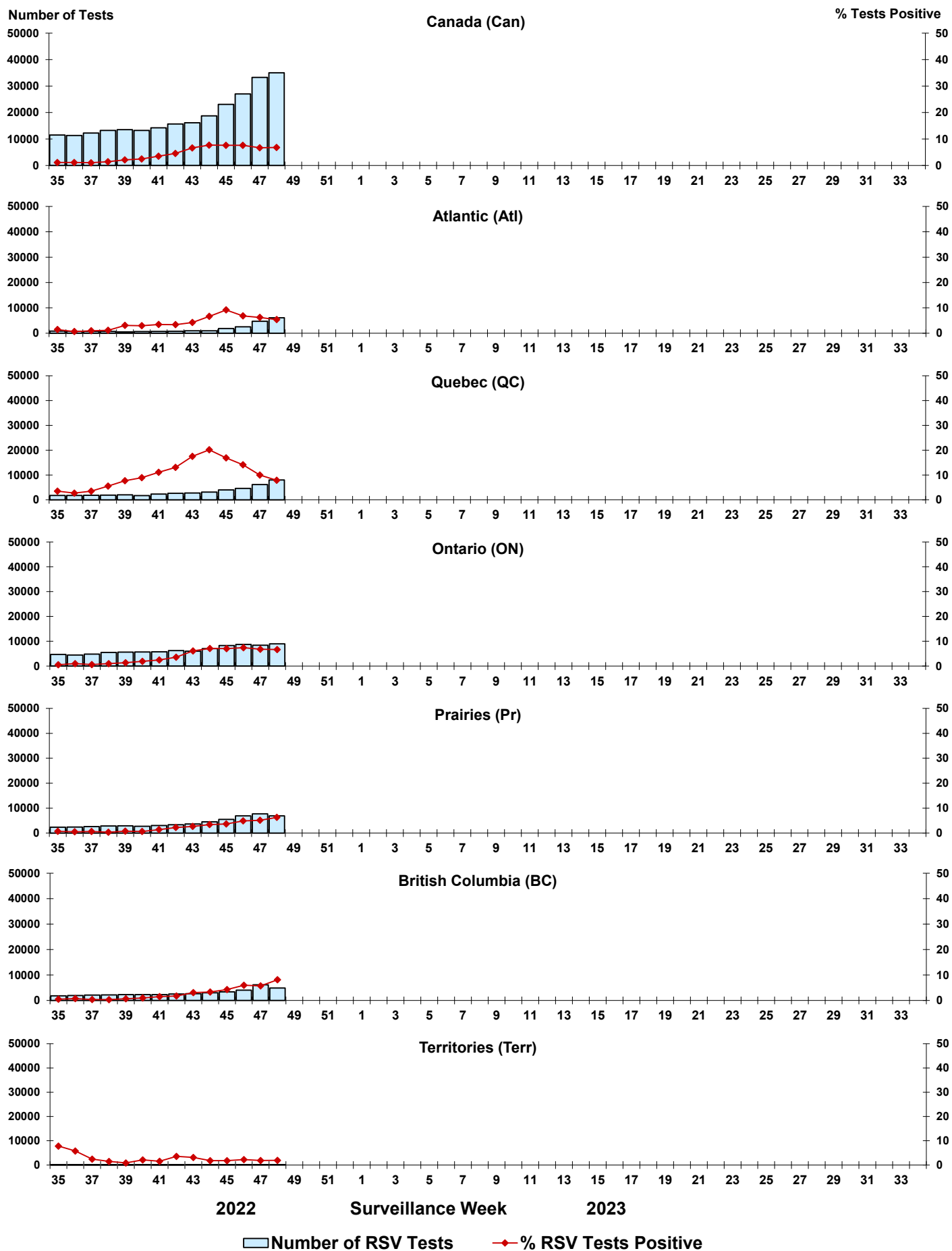


Figure 5: Positive Respiratory syncytial virus (RSV) tests (%) in Canada by region by surveillance week



Legend: █ Number of RSV Tests ◆ % RSV Tests Positive

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

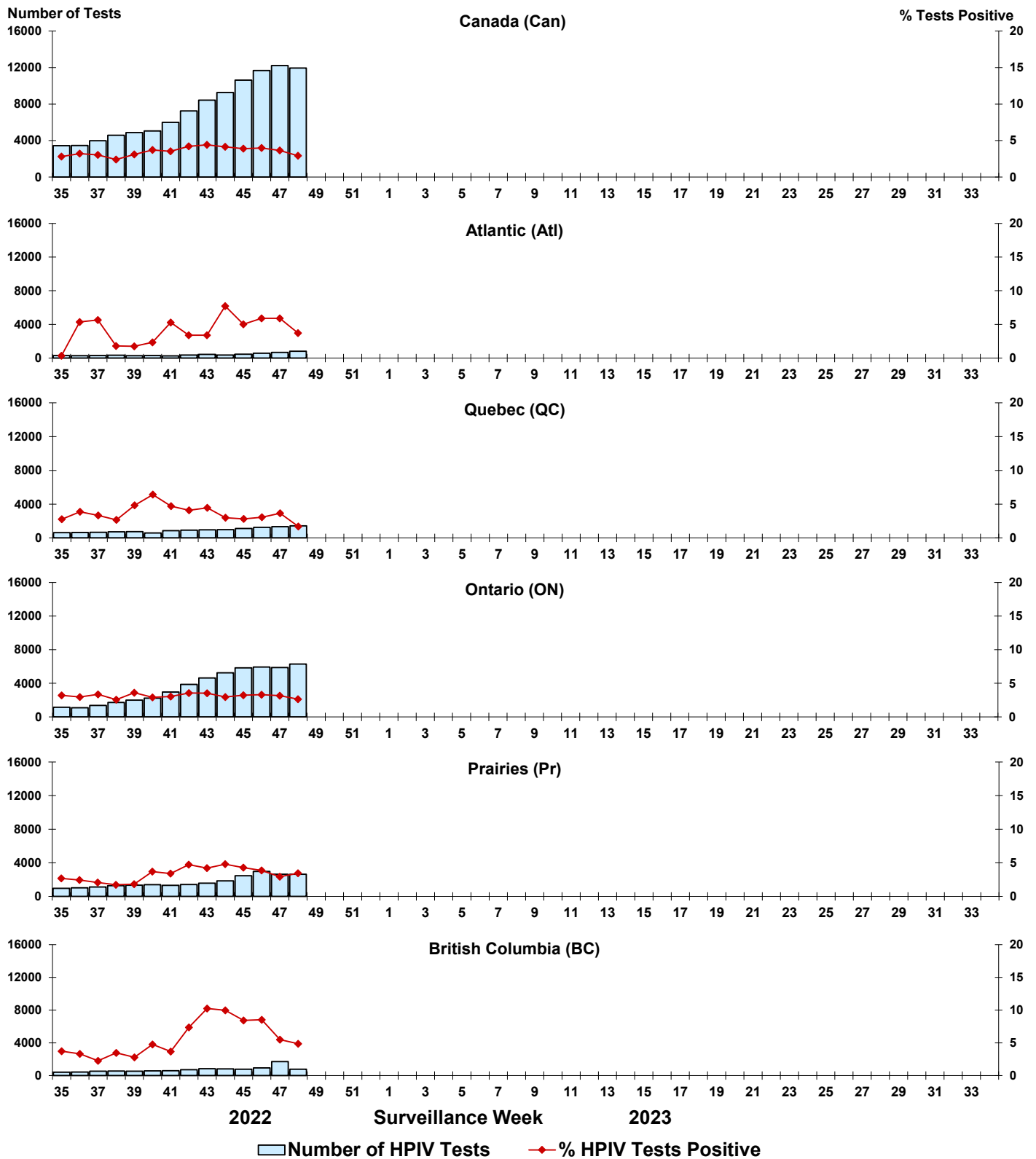


Figure 7: Positive Adenovirus (ADV) tests (%) in Canada by region by surveillance week

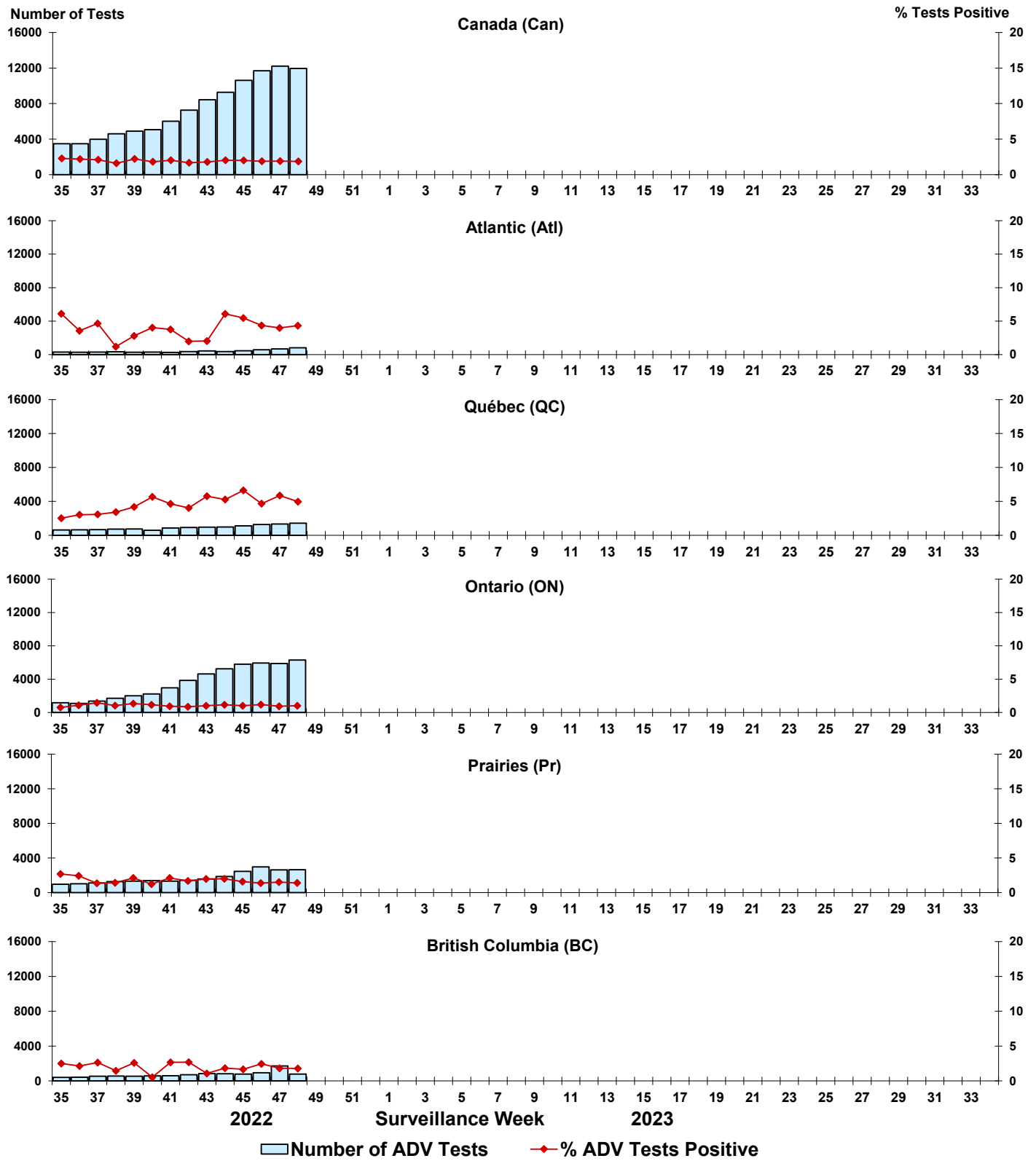


Figure 8: Positive Human metapneumovirus (HMPV) tests (%) in Canada by region by surveillance week

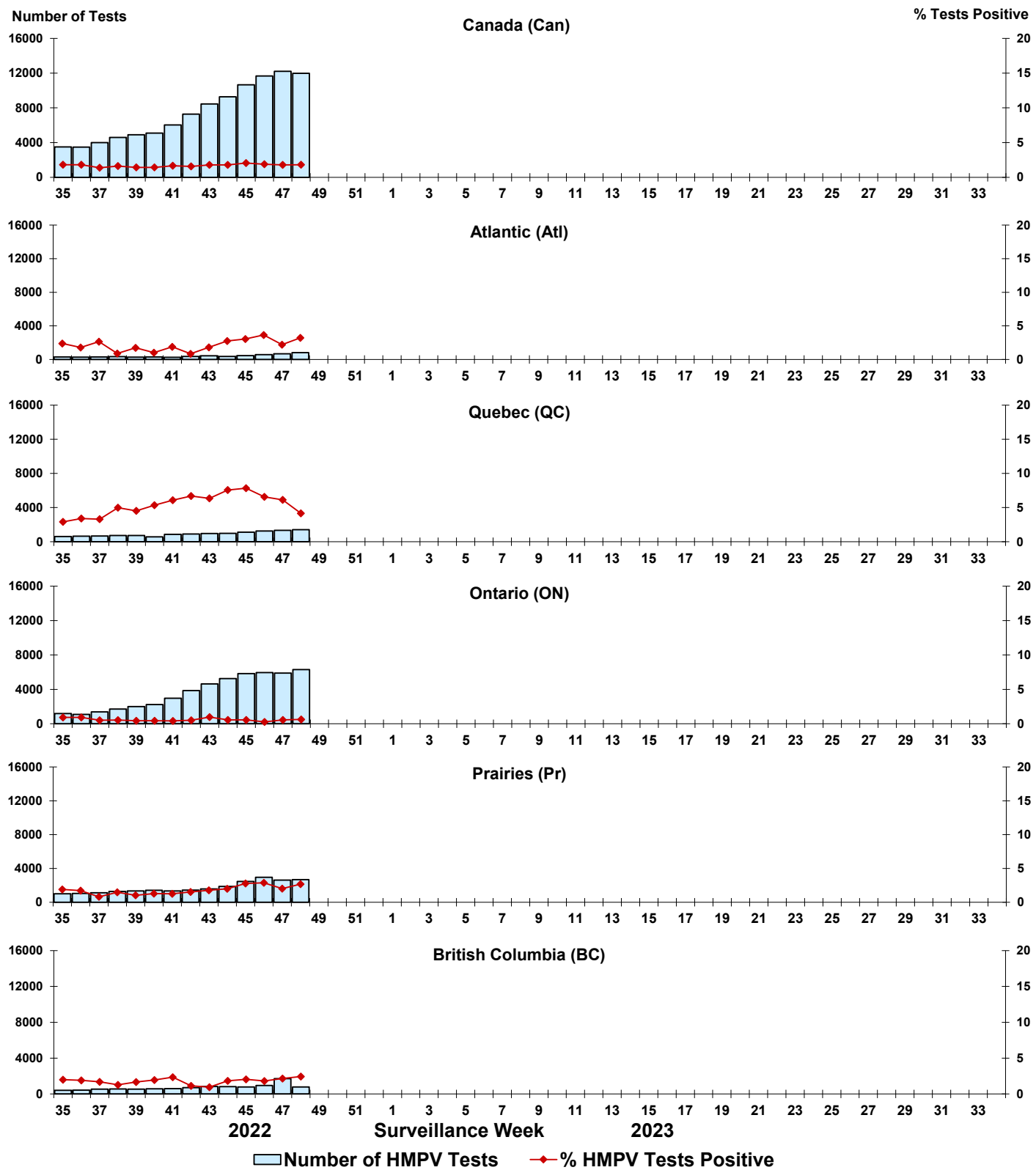


Figure 9: Positive Enterovirus/Rhinovirus (EV/RV) tests (%) in Canada by region by surveillance week

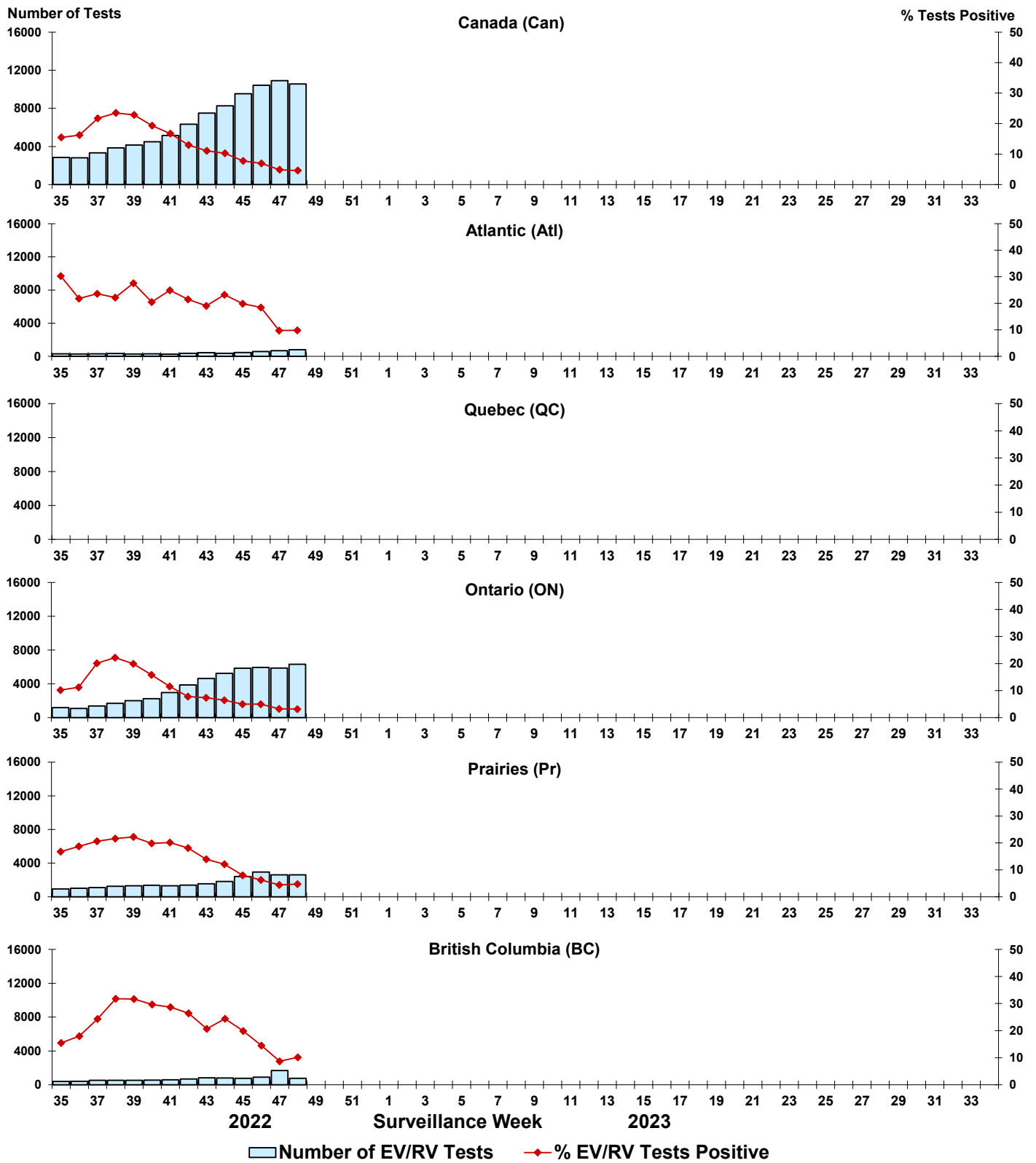


Figure 10: Positive Human coronavirus (HCoV) tests (%) in Canada by region by surveillance week

