

RESPIRATORY VIRUS DETECTION REPORT

December 11 to December 17, 2022
(Surveillance Week 2022-50)



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 50 (week ending December 17, 2022) in Canada, participating RVDSS laboratories reported 10,983 detections of SARS-CoV-2 from 80,681 tests (13.6% positive). Among non-SARS-CoV-2 respiratory viruses, where test volumes are lower (range of 9,586 to 38,839 tests), activity of influenza is highest but is now within expected levels for this time of year.

- Across Canada, influenza A activity is decreasing (6,759 detections; 17.4%).
 - Influenza A accounts for nearly all influenza detections in Canada.
- After many weeks of consistent activity, respiratory syncytial virus (RSV) is showing signs of increase at the national level (2,795 detections; 8.6% positive). Compared to pre-pandemic seasons, RSV activity is near average 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.
- 32/35 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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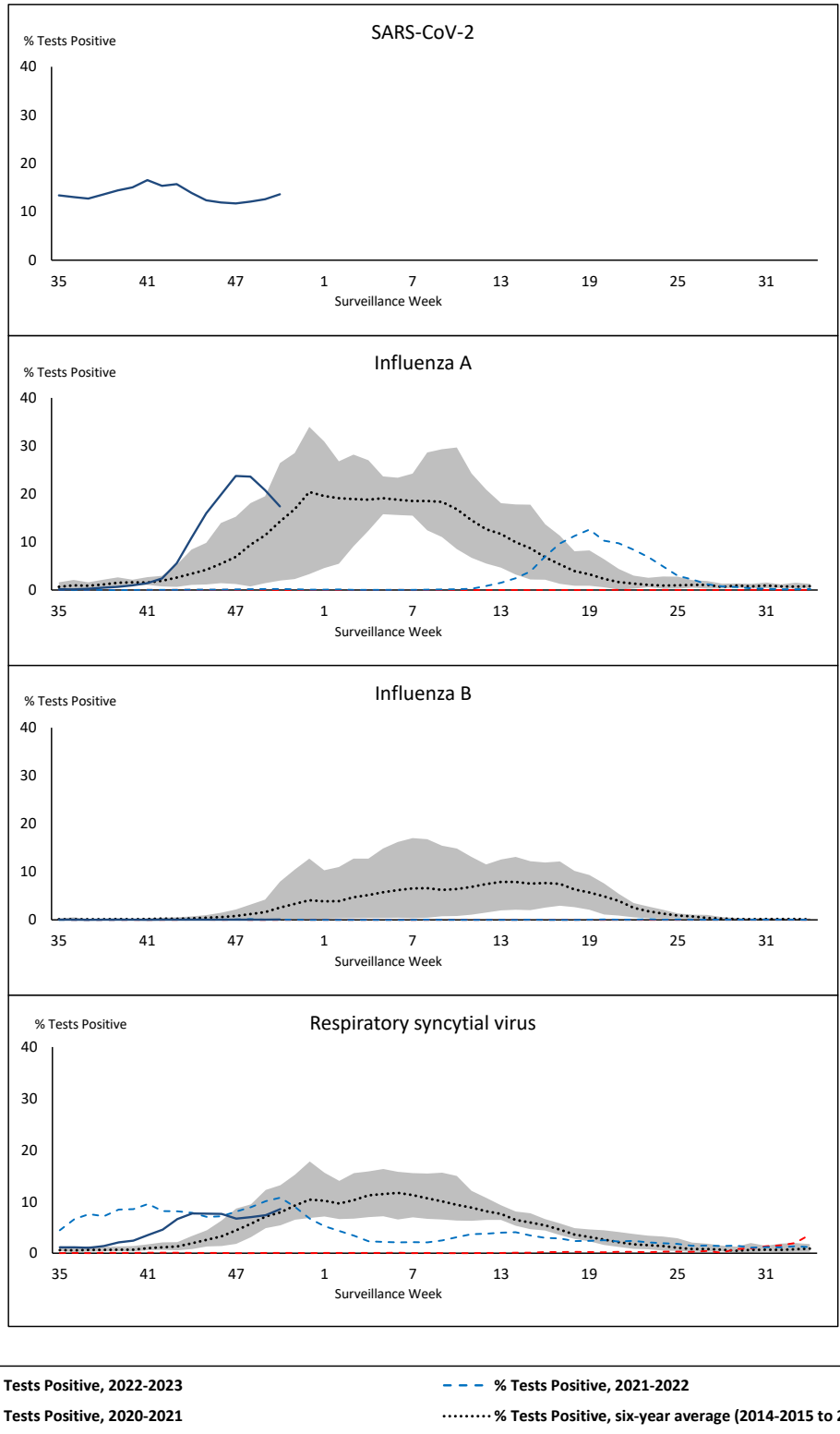


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Figure 1: Positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), influenza, and respiratory syncytial virus tests (%) reported by participating laboratories in Canada by surveillance week compared to average and range from 2014-2015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



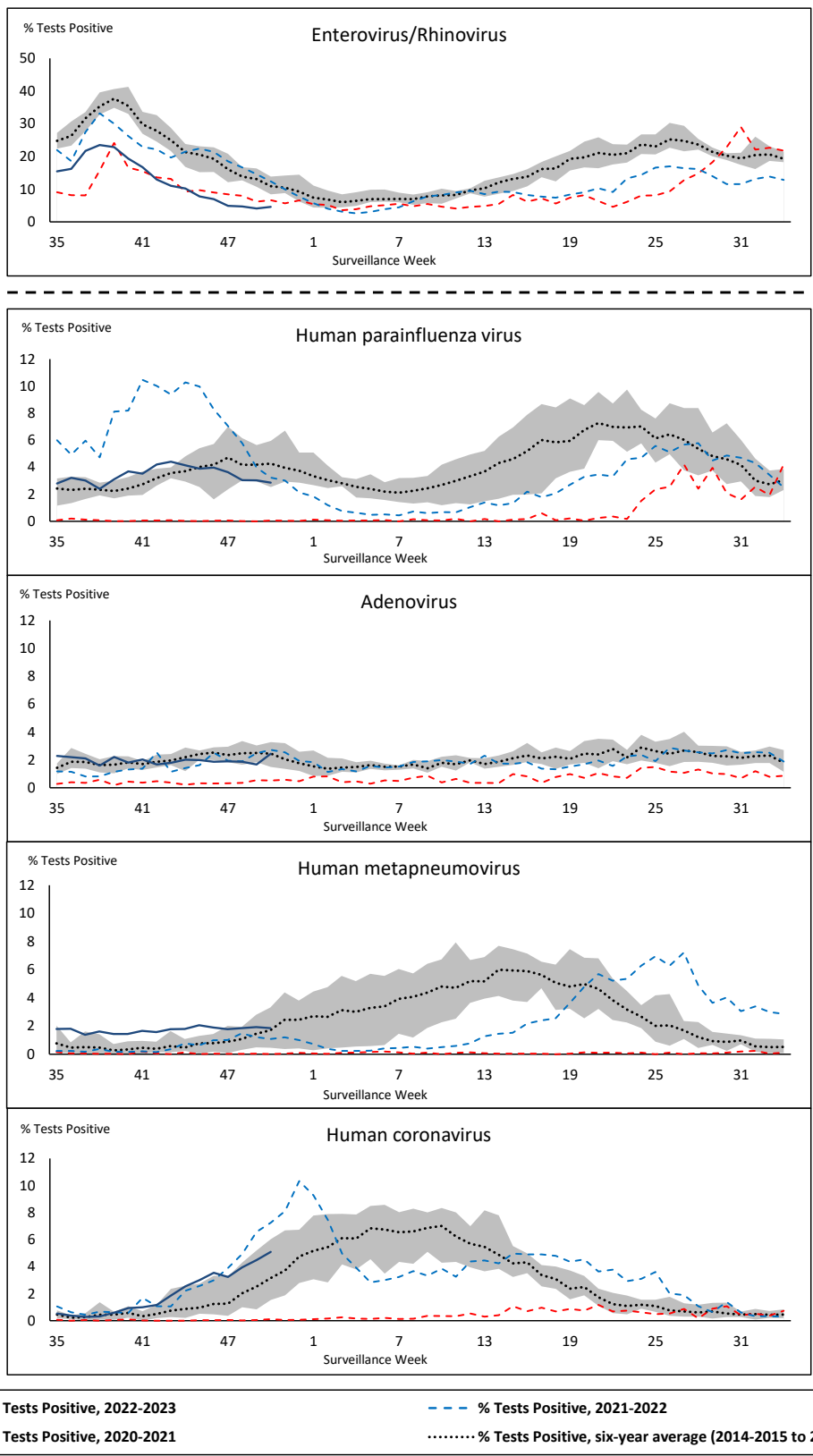
Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

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 17, 2022 (surveillance week 2022-50)

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	826	120	669	0	10	177	187	0	669	14	669	0	3	2	2	0	669	12	669	27	669	39	669	25	
Prince Edward Island	933	186	161	1	11	34	46	0	161	10	70	0	1	5	0	0	70	3	70	0	70	6	70	4	
Nova Scotia	4395	654	2281	0	0	494	494	0	2281	181	37	0	1	0	0	0	36	1	36	0	36	3	36	3	
New Brunswick	5627	674	3443	0	18	779	797	0	2810	190	212	0	1	14	0	0	212	24	212	1	212	39	212	25	
Atlantic	11781	1634	6554	1	39	1484	1524	0	5921	395	988	0	6	21	2	0	987	40	987	28	987	87	987	57	
Région Nord-Est	4779	746	2755	0	1	795	796	4	1314	112	75	0	1	2	0	0	75	8	74	8	N.C.	N.C.	75	5	
Québec-Chaudière-Appalaches	7871	846	1764	0	0	624	624	2	1764	108	357	0	0	4	0	0	369	25	357	11	N.C.	N.C.	357	22	
Centre-du-Québec	5579	887	940	0	0	224	224	2	892	56	40	0	0	0	0	0	40	2	40	2	N.C.	N.C.	40	6	
Montréal-Laval	6276	1011	4821	0	0	661	661	10	2274	87	825	3	0	9	0	0	825	43	826	22	N.C.	N.C.	825	39	
Ouest du Québec	4319	622	1448	0	0	326	326	2	1005	54	29	0	0	2	0	0	29	3	29	3	N.C.	N.C.	29	3	
Montérégie	5451	773	1334	0	0	186	186	0	1276	38	6	0	0	0	0	0	6	0	6	1	N.C.	N.C.	6	0	
Province of Québec	34275	4885	13062	0	1	2816	2817	20	8525	455	1332	3	1	17	0	0	1344	81	1332	47	N.C.	N.C.	1332	75	
P.H.O.L. - Ottawa	775	204	271	0	19	9	28	0	271	23	165	0	0	0	0	2	165	2	165	2	165	7	165	3	
EOURLA	2782	251	843	0	0	186	186	0	843	101	31	0	0	1	0	0	31	2	31	1	31	5	31	2	
P.H.O.L. - Kingston	714	100	151	0	17	2	19	0	151	13	110	0	0	0	0	11	110	2	110	3	110	7	110	6	
UHN / Mount Sinai Hospital	2687	232	844	1	1	36	38	2	844	31	33	0	0	0	0	0	33	0	33	0	33	0	33	1	
P.H.O.L. - Toronto	1722	480	1528	5	226	27	132	0	1525	140	1259	0	0	0	0	46	1259	17	1259	15	1259	50	1259	88	
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	2455	183	2455	8	85	47	140	0	2455	154	2300	0	0	0	0	24	2300	21	2308	8	2308	43	2308	64	
P.H.O.L. - Sault Ste. Marie	50	5	35	0	3	2	4	0	35	0	27	0	0	0	0	7	27	0	27	1	27	0	27	0	
P.H.O.L. - Timmins	271	27	83	0	19	0	17	0	83	4	75	0	0	0	0	3	75	3	75	1	75	1	75	1	
St. Joseph's - London	3373	377	965	0	0	110	110	0	965	83	50	0	0	0	0	2	50	2	50	0	50	5	50	4	
P.H.O.L. - London	965	185	565	1	63	14	77	0	565	69	434	0	0	0	0	14	434	5	434	10	434	17	434	22	
P.H.O.L. - Orillia	24	15	117	0	17	0	17	0	117	31	111	0	0	0	0	5	111	4	111	1	111	4	111	13	
P.H.O.L. - Thunder Bay	215	50	33	0	2	0	2	0	33	4	27	0	0	0	0	2	27	2	27	0	27	1	27	2	
P.H.O.L. - Sudbury	87	21	57	0	15	1	15	0	57	5	55	0	0	0	0	1	55	0	55	0	55	4	55	4	
P.H.O.L. - Hamilton	740	205	498	3	33	13	49	0	498	34	317	0	0	0	0	16	317	3	317	1	317	14	317	19	
P.H.O.L. - Peterborough	227	45	70	0	1	2	3	0	70	2	37	0	0	0	0	3	37	0	37	0	37	0	37	3	
St. Joseph's - Hamilton	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.
Sault Area Hospital	421	39	417	0	23	40	63	0	417	7	91	3	0	2	1	0	91	4	91	5	91	2	91	2	
Province of Ontario	17508	2419	8932	18	524	489	900	2	8929	701	5122	3	0	3	1	136	5122	67	5130	48	5130	160	5130	234	
Manitoba	2219	251	1757	0	19	220	239	0	1757	120	194	0	0	6	0	0	194	4	220	5	194	18	220	13	
Saskatchewan	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.
Alberta	7594	999	3860	79	344	82	505	0	3215	567	1272	7	1	31	2	0	1272	20	1270	38	1255	52	1272	55	
Prairies	9813	1250	5617	79	363	302	744	0	4972	687	1466	7	1	37	2	0	1466	24	1490	43	1449	70	1492	68	
British Columbia	6963	747	4473	14	281	0	719	4	4158	552	676	5	4	22	3	0	676	22	676	12	645	56	645	54	
Yukon	123	8	49	0	7	0	19	0	49	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	112	22	88	0	28	0	28	0	88	2	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	88	7	N.C.	N.C.
Nunavut	106	18	64	0	8	0	8	0	64	3	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	341	48	201	0	43	0	55	0	201	5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	88	7	N.C.	N.C.	
CANADA	80681	10983	38839	112	1251	5091	6759	26	32706	2795	9584	18	12	100	8	136	9595	234	9615	178	8299	380	9586	488	

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.

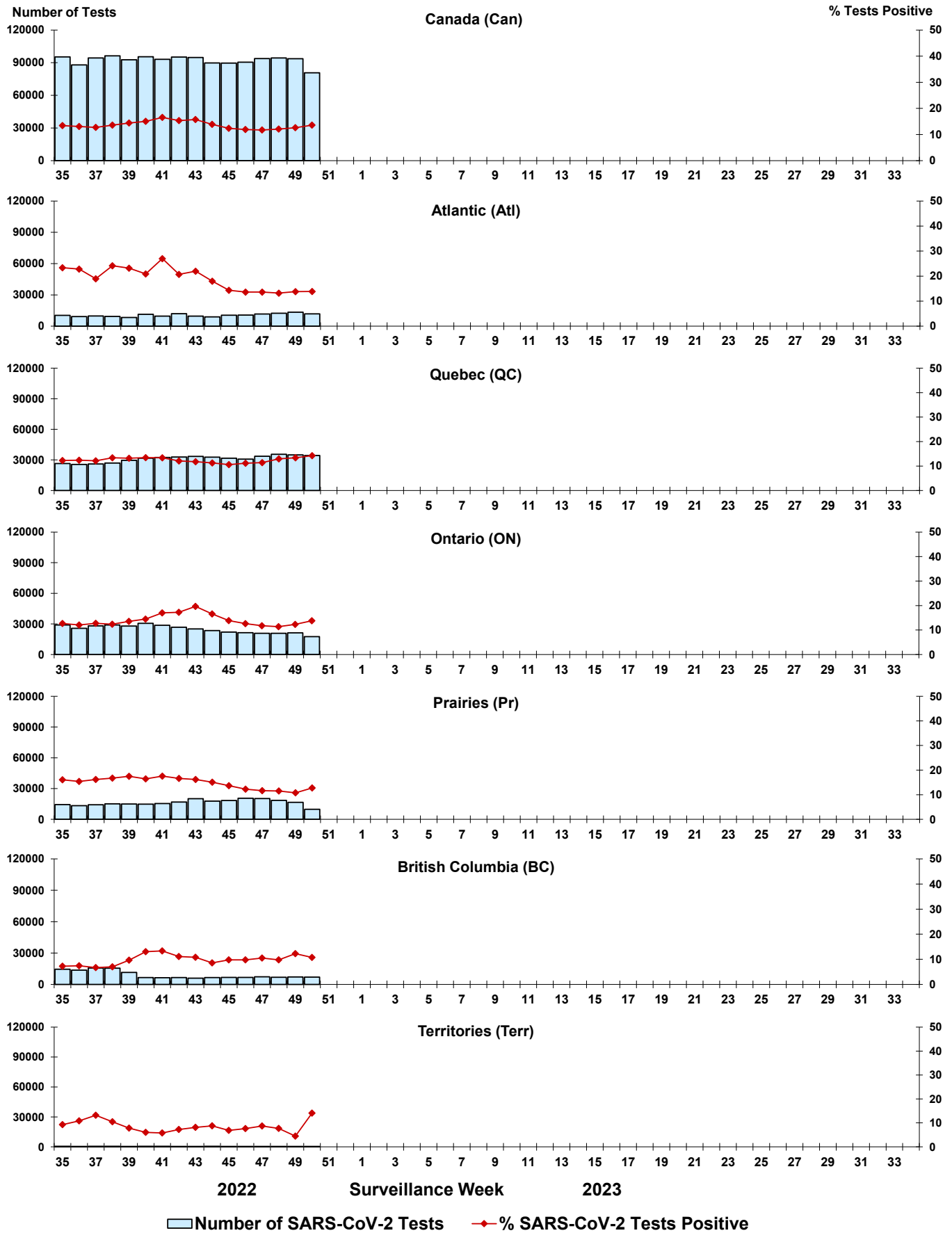
Some specimens from Yukon (YT) are sent to reference laboratories in British Columbia and reported results reflect specimens identified as originating from YT.

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.

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

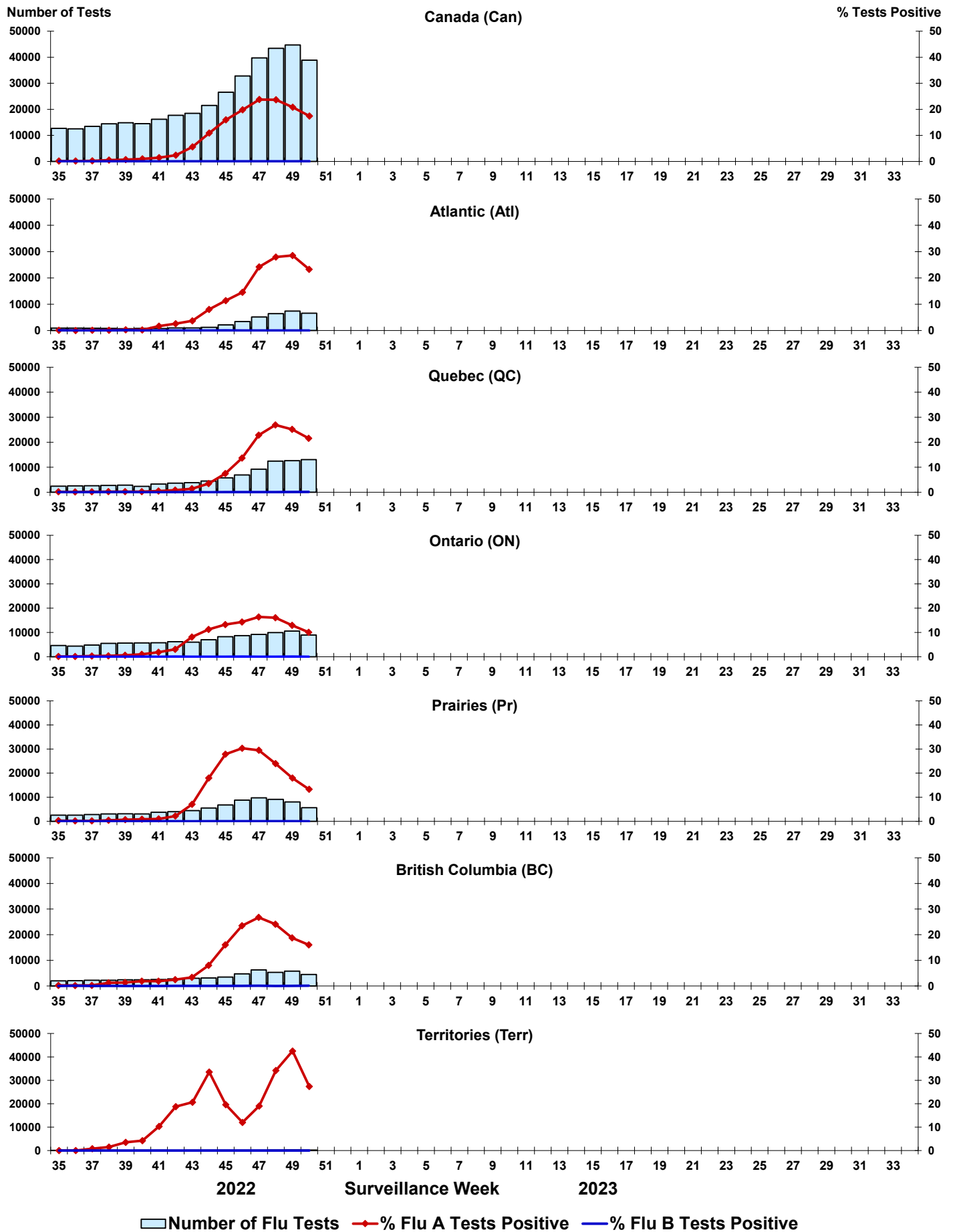


Figure 5: Positive Respiratory syncytial virus (RSV) tests (%) in Canada by region by surveillance week

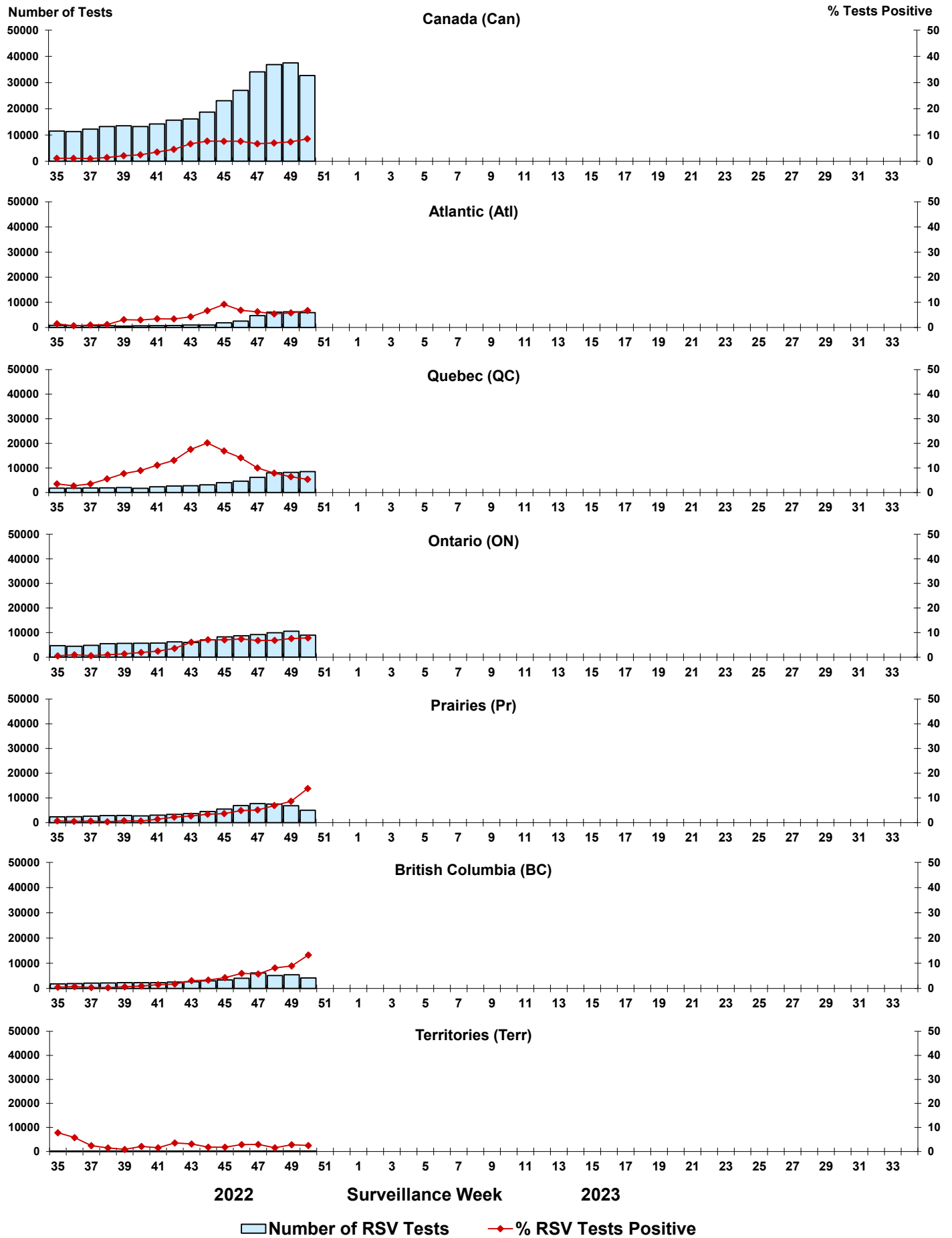


Figure 6: Positive Human parainfluenza virus (HPIV) tests (%) in Canada by region by surveillance week

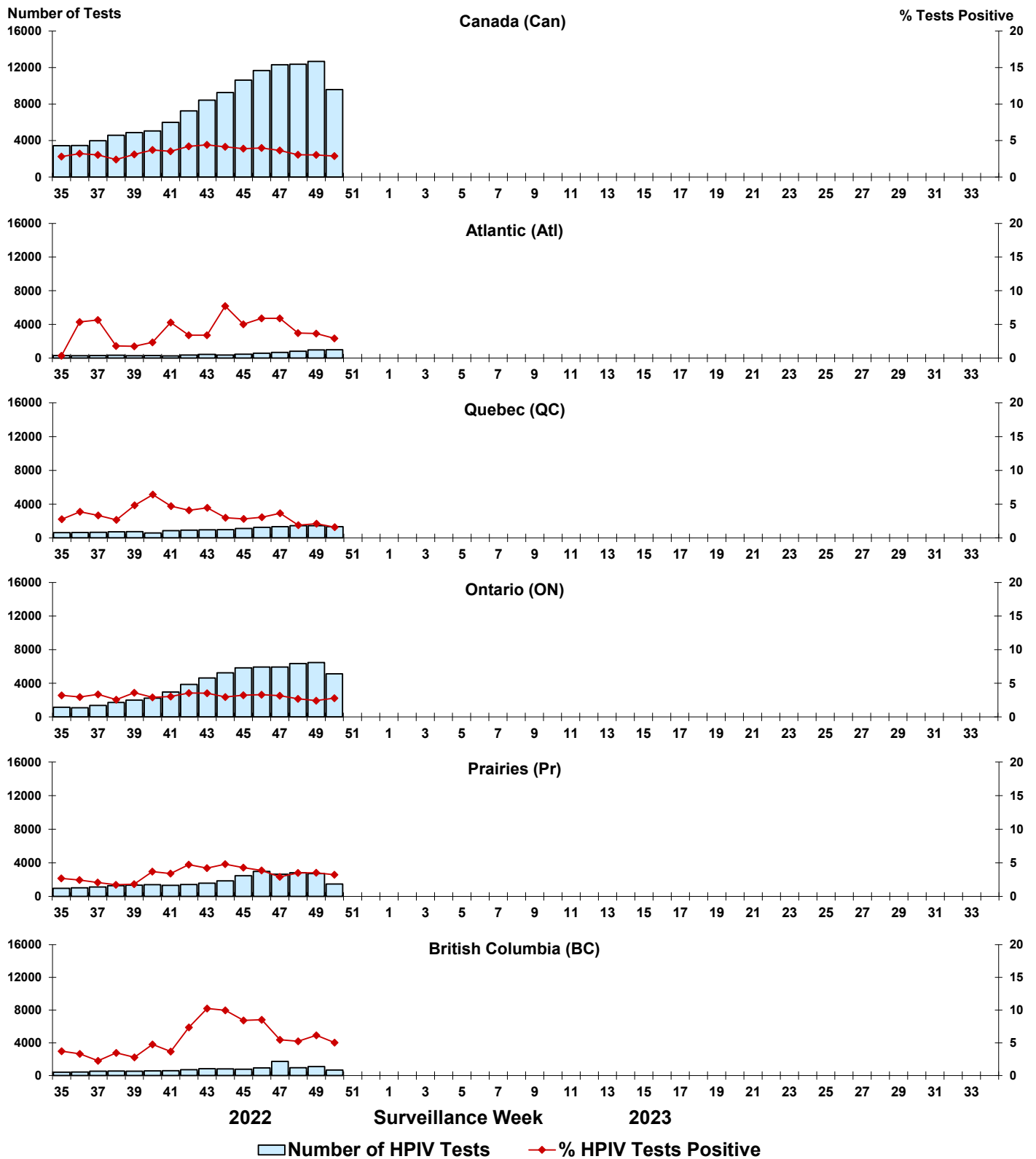


Figure 7: Positive Adenovirus (ADV) tests (%) in Canada by region by surveillance week

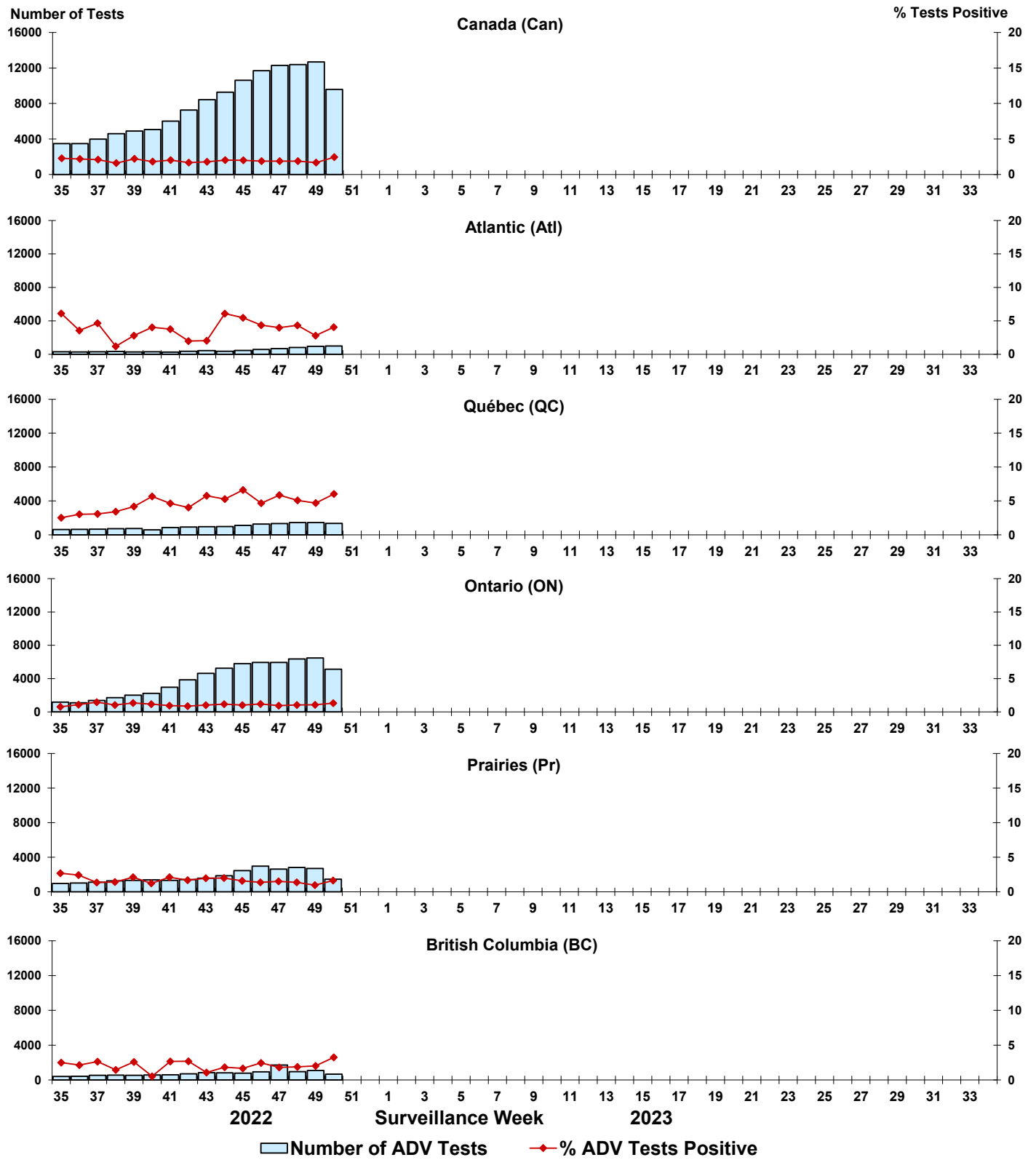


Figure 8: Positive Human metapneumovirus (HMPV) tests (%) in Canada by region by surveillance week

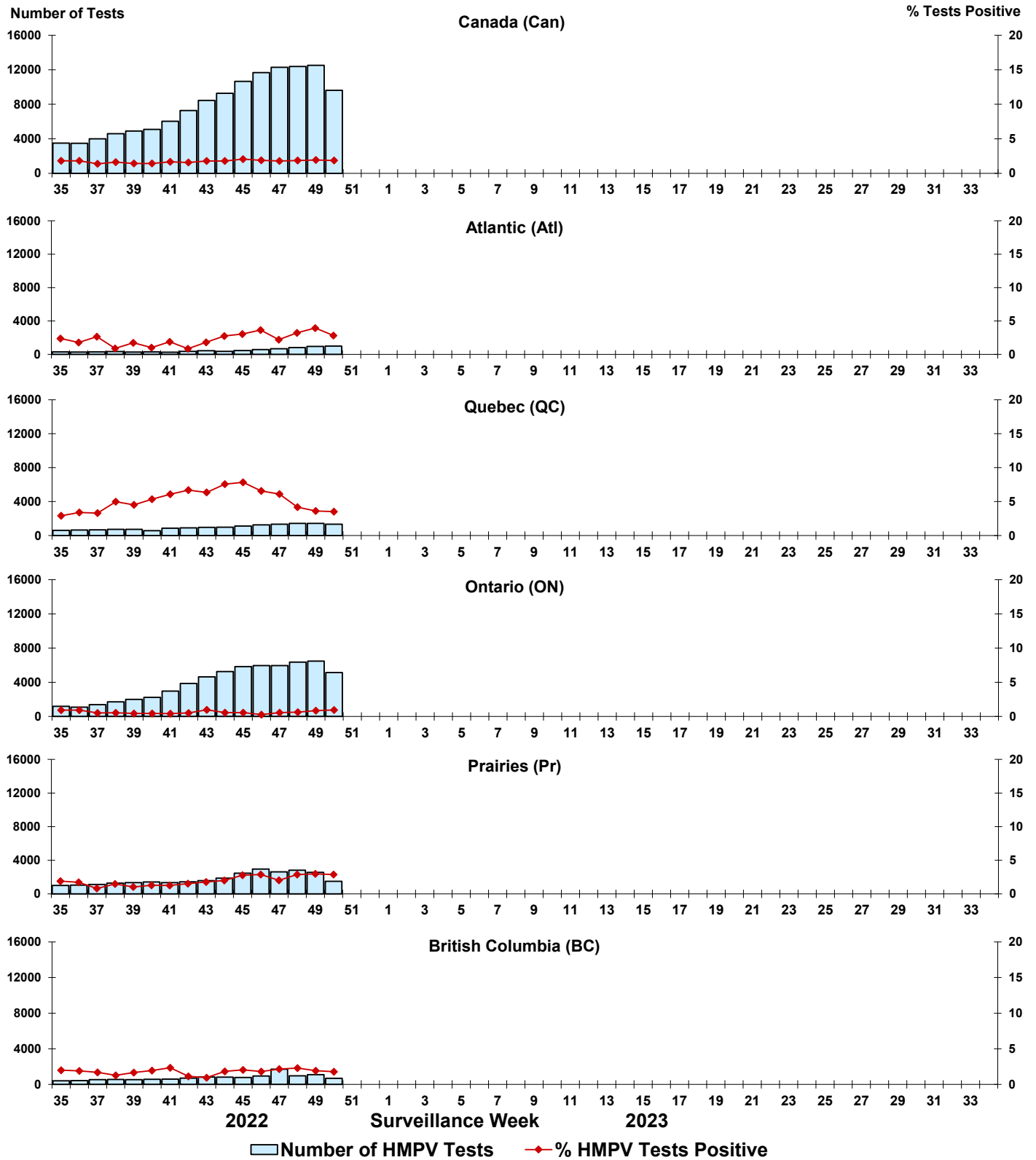


Figure 9: Positive Enterovirus/Rhinovirus (EV/RV) tests (%) in Canada by region by surveillance week

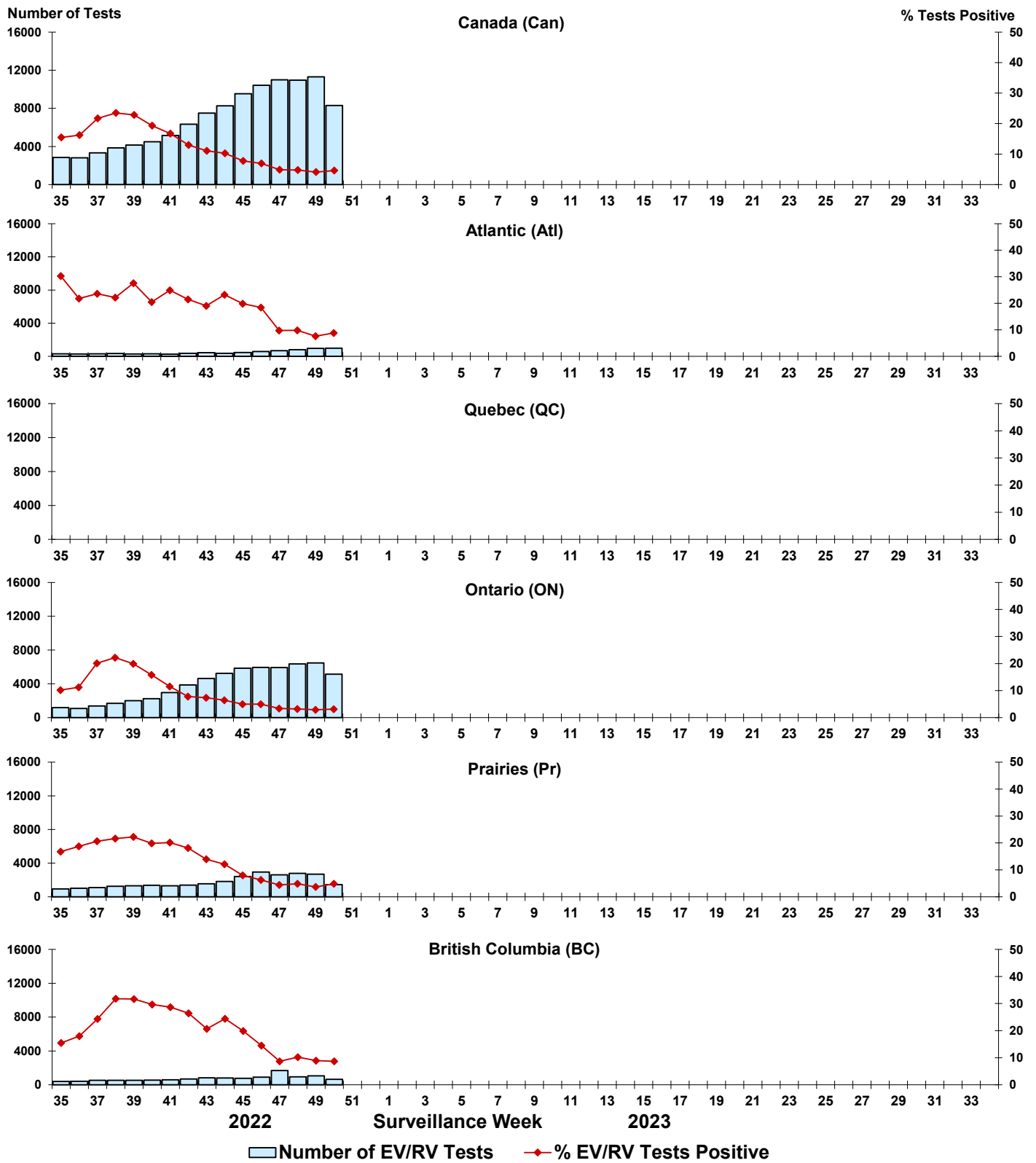


Figure 10: Positive Human coronavirus (HCoV) tests (%) in Canada by region by surveillance week

