

RESPIRATORY VIRUS DETECTION REPORT

December 25 to December 31, 2022
(Surveillance Week 2022-52)



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 52 (week ending December 31, 2022) in Canada, participating RVDSS laboratories reported 10,866 detections of SARS-CoV-2 from 69,601 tests (15.6% positive). Among non-SARS-CoV-2 respiratory viruses, where test volumes are lower (range of 9,210 to 33,205 tests), influenza and respiratory syncytial virus (RSV) continue to co-circulate.

- Activity of influenza is decreasing sharply. Influenza A accounts for nearly all influenza detections in Canada, and activity of influenza A is now below average levels typical of this time of year (2,818 detections; 8.5% 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 (3,028 detections; 10.0% 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.
 - Data for weeks 51 and 52 are considered preliminary; retroactive data updates are expected.

Abbreviations

ADV: Adenovirus

AtI: 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

© His Majesty the King in Right of Canada, as represented by the Minister of Health, 2021

ISSN: 2564-2359 | Cat.: HP38-7E-PDF | Pub.: 210284

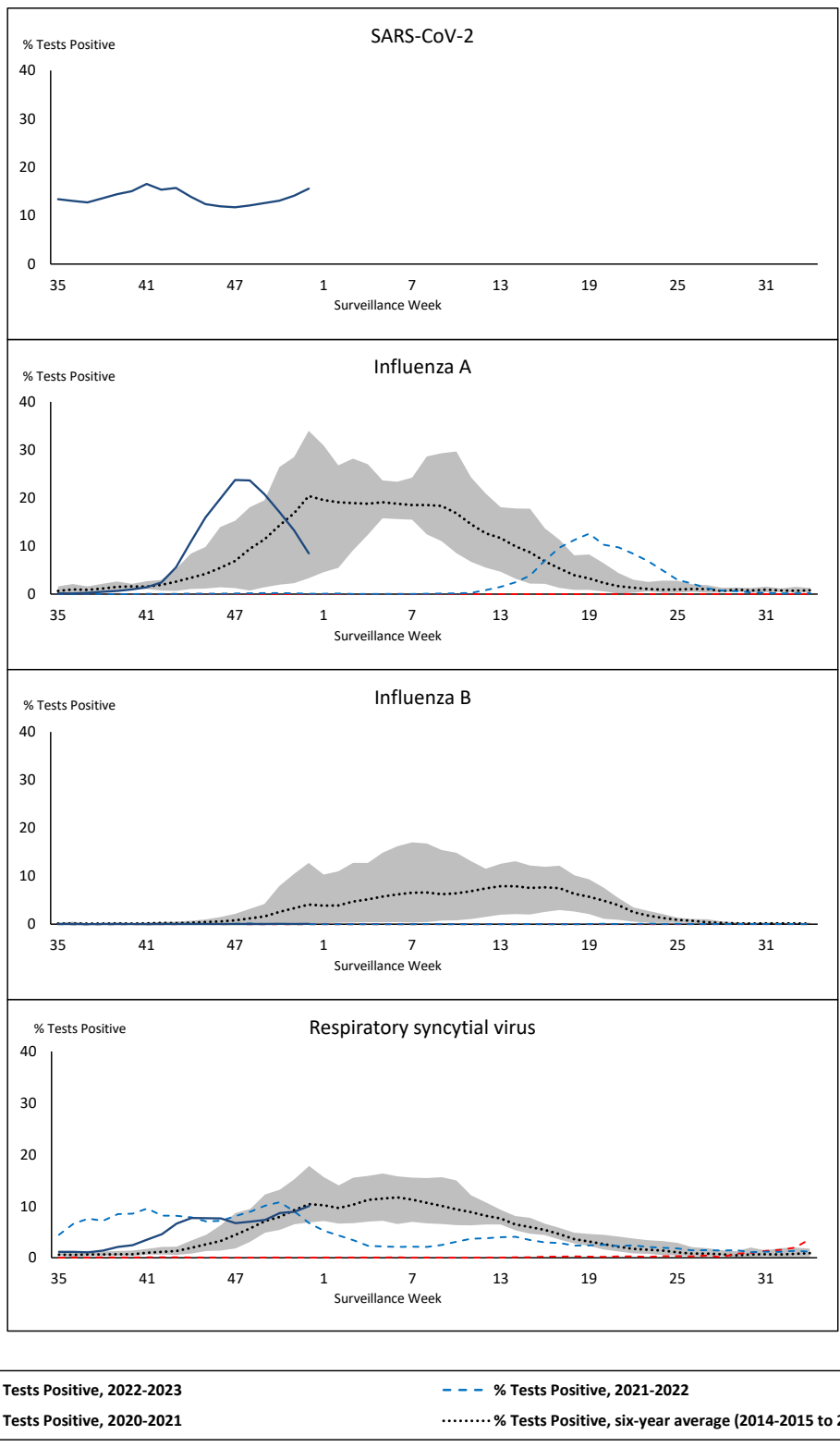


Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

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



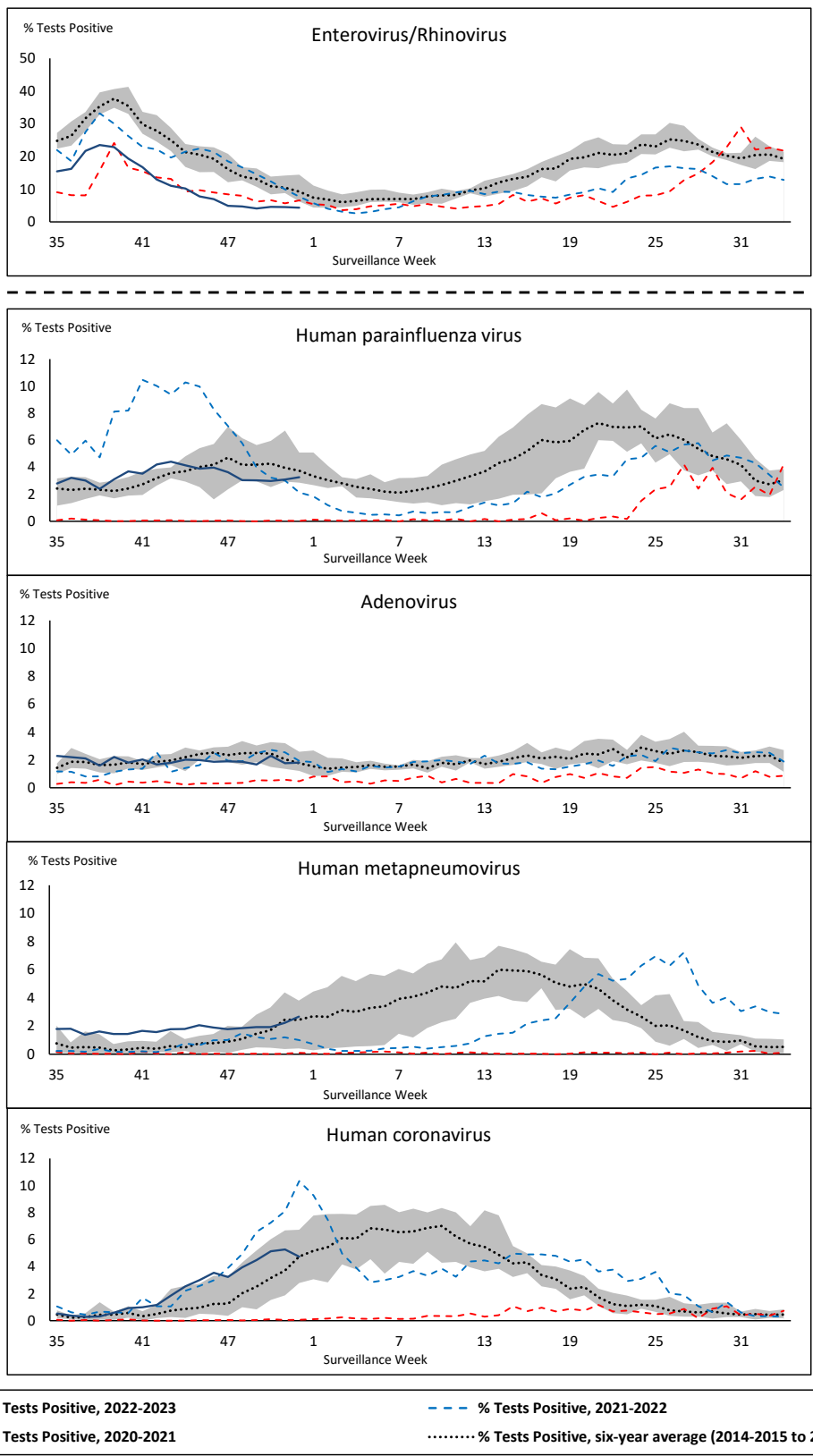
Shaded area represents the maximum and minimum % of respiratory virus tests positive reported by week from seasons 2014-2015 to 2019-2020

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 31, 2022 (surveillance week 2022-52)

Reporting Laboratory	SARS-CoV-2 Tested	SARS-CoV-2 Positive	Flu Tested	A(H1N1)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	586	108	493	0	0	85	85	0	493	17	493	0	3	3	1	0	493	8	493	18	493	22	493	30	
Prince Edward Island	782	166	184	0	2	11	13	0	184	22	24	0	0	4	0	0	24	2	24	0	24	4	24	4	
Nova Scotia	3481	876	1878	0	0	154	154	0	1878	165	23	0	0	3	0	0	23	0	23	0	23	1	23	2	
New Brunswick	3609	493	2369	0	7	202	209	0	2114	165	98	0	0	4	0	0	98	3	98	8	98	12	98	10	
Atlantic	8458	1643	4924	0	9	452	461	0	4669	369	638	0	3	14	1	0	638	13	638	26	638	39	638	46	
Région Nord-Est	3302	414	2204	0	0	491	491	0	948	116	40	1	0	1	0	0	40	6	38	6	N.C.	N.C.	40	3	
Québec-Chaudière-Appalaches	5157	768	1482	0	0	306	306	0	1387	82	263	0	0	1	0	0	266	14	263	8	N.C.	N.C.	263	9	
Centre-du-Québec	4578	852	696	0	0	63	63	5	559	38	23	0	0	1	0	0	23	1	23	1	N.C.	N.C.	23	2	
Montréal-Laval	4414	677	4236	0	0	267	267	8	1782	79	653	3	1	11	0	0	653	39	659	15	N.C.	N.C.	653	51	
Ouest du Québec	3573	548	1185	0	0	132	132	0	841	54	19	0	0	0	0	0	19	5	19	3	N.C.	N.C.	19	2	
Montérégie	4007	588	871	0	0	29	29	2	817	36	3	0	0	1	0	0	3	0	3	0	N.C.	N.C.	3	0	
Province of Québec	25031	3847	10674	0	0	1288	1288	15	6334	405	1001	4	1	15	0	0	1004	65	1005	33	N.C.	N.C.	1001	67	
P.H.O.L. - Ottawa	743	226	230	1	11	4	16	0	230	30	113	0	0	0	0	1	113	0	113	2	113	2	113	4	
EOURLA	2109	215	675	0	0	59	59	0	675	100	27	0	0	5	0	0	27	2	27	2	27	3	27	2	
P.H.O.L. - Kingston	525	109	102	0	4	8	12	0	102	6	78	0	0	0	0	3	78	0	78	6	78	3	78	2	
UHN / Mount Sinai Hospital	2416	241	707	0	3	16	19	1	707	16	92	0	0	0	0	0	92	0	92	0	92	1	92	1	
P.H.O.L. - Toronto	1391	393	977	2	51	2	18	1	977	83	790	0	0	0	0	31	790	11	790	17	790	36	790	44	
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	2589	323	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	2589	127	2599	0	0	0	0	20	2599	25	2621	25	2621	67	2621	43	
P.H.O.L. - Sault Ste. Marie	13	1	8	0	1	0	1	0	8	0	8	0	0	0	0	1	8	0	8	3	8	0	8	0	
P.H.O.L. - Timmins	173	19	36	0	4	0	4	0	36	8	36	0	0	0	0	1	36	0	36	1	36	2	36	3	
St. Joseph's - London	2883	362	893	0	0	52	52	1	893	65	59	0	0	0	0	4	59	5	59	2	59	4	59	5	
P.H.O.L. - London	980	292	504	0	18	2	20	0	504	70	394	0	0	0	0	22	394	3	394	0	394	22	394	15	
P.H.O.L. - Orillia	41	22	95	0	4	0	4	0	95	19	80	0	0	0	0	4	80	0	80	4	80	7	80	5	
P.H.O.L. - Thunder Bay	135	39	24	0	1	0	1	0	24	9	22	0	0	0	0	5	22	0	22	0	22	1	22	1	
P.H.O.L. - Sudbury	57	17	34	0	1	0	1	0	34	3	16	0	0	0	0	0	16	0	16	0	16	0	16	0	
P.H.O.L. - Hamilton	731	275	433	0	4	6	10	0	433	26	280	0	0	0	0	18	280	2	280	5	280	15	280	13	
P.H.O.L. - Peterborough	101	10	61	0	0	0	0	0	61	21	45	0	0	0	0	1	45	0	45	6	45	3	45	1	
St. Joseph's - Hamilton	2772	510	1584	0	0	72	72	0	1584	178	1584	0	0	55	0	0	1584	19	1584	15	1584	82	0	0	
Sault Area Hospital	421	45	420	0	10	19	29	0	420	6	86	4	0	9	0	0	86	1	86	7	86	2	86	7	
Province of Ontario	18080	3099	6783	3	112	240	318	3	9372	767	6309	4	0	69	0	111	6309	68	6331	95	6331	250	4747	146	
Manitoba	2106	219	1360	2	6	73	81	0	1360	148	109	0	0	13	0	0	109	5	123	6	109	7	123	12	
Saskatchewan	4010	264	1379	0	0	68	68	1	1206	176	547	3	1	27	0	0	544	9	544	44	544	29	547	32	
Alberta	5842	931	2666	64	116	19	199	2	2196	416	1313	8	1	33	1	0	1312	16	1311	61	1302	67	1313	35	
Prairies	11958	1414	5405	66	122	160	348	3	4762	740	1969	11	2	73	1	0	1965	30	1978	111	1955	103	1983	79	
British Columbia	5877	849	5339	16	115	5	394	2	4981	743	874	7	9	26	1	0	874	18	874	24	841	32	841	99	
Yukon	96	3	35	0	0	0	7	0	35	4	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.C.	N.R.	N.R.	N.C.	N.C.
Nunavut	101	11	45	0	2	0	2	0	45	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	197	14	80	0	2	0	9	0	80	4	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	69601	10866	33205	85	360	2145	2818	23	30198	3028	10791	26	15	197	3	111	10790	194	10826	289	9765	424	9210	437	

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 31, 2022 (surveillance weeks 2022-35 to 2022-52)

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	10361	2239	5663	1	233	599	833	0	5663	196	5663	3	25	29	16	0	5663	117	5663	217	5663	513	5663	131	
Prince Edward Island	21984	5605	1631	1	116	217	334	0	1631	87	905	15	25	68	5	0	905	52	905	11	905	294	905	19	
Nova Scotia	84023	16396	19331	0	4	3451	3455	1	19330	1386	741	4	16	17	2	0	740	33	730	1	740	158	740	13	
New Brunswick	71039	10397	23796	1	112	4245	4358	3	17958	974	1795	3	19	100	7	0	1795	122	1795	22	1795	366	1740	108	
Atlantic	187407	34637	50421	3	465	8512	8980	4	44582	2643	9104	25	85	214	30	0	9103	324	9093	251	9103	1331	9048	271	
Région Nord-Est	52394	7372	24034	0	1	3101	3102	7	8258	814	651	7	3	41	0	0	651	31	644	43	N.C.	N.C.	651	31	
Québec-Chaudière-Appalaches	116125	11439	12877	0	0	2505	2505	10	12736	1443	3877	20	4	36	0	0	4103	258	3877	188	N.C.	N.C.	3877	169	
Centre-du-Québec	91883	13291	9377	0	0	1664	1664	12	8289	761	494	12	0	17	0	0	494	35	494	54	N.C.	N.C.	494	21	
Montréal-Laval	130441	17335	44321	0	8	5552	5560	48	26184	2022	11916	118	13	196	9	0	11925	451	12013	573	N.C.	N.C.	11601	299	
Ouest du Québec	70581	9869	10545	0	7	2046	2053	5	8192	769	651	20	0	47	1	0	650	120	651	37	N.C.	N.C.	651	26	
Montérégie	92549	11024	11916	0	0	1535	1535	11	11418	836	72	0	2	2	0	0	72	1	72	4	N.C.	N.C.	72	1	
Province of Québec	553973	70330	113070	0	16	16403	16419	93	75077	6645	17661	177	20	339	10	0	17895	896	17751	899	N.C.	N.C.	17346	547	
P.H.O.L. - Ottawa	18986	4765	2209	4	122	55	176	0	2209	154	1743	0	0	0	0	41	1743	5	1743	15	1743	123	1743	35	
EOURLA	55018	6030	8554	0	0	1302	1302	2	8554	1008	719	7	3	24	16	0	719	34	719	21	719	175	719	50	
P.H.O.L. - Kingston	19501	3142	1378	2	85	38	125	1	1377	84	1225	0	0	0	0	59	1226	19	1226	19	1225	155	1226	46	
UHN / Mount Sinai Hospital	57886	4615	10900	3	43	307	353	13	10900	160	580	0	0	4	0	0	547	1	580	0	580	18	580	32	
P.H.O.L. - Toronto	38070	7867	13253	52	2288	131	1023	1	13226	684	11575	0	0	0	0	503	11578	163	11575	117	11575	883	11575	422	
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	47996	3430	42834	26	1231	671	1928	6	47998	1656	25270	4	0	16	0	290	25283	205	25383	107	25330	628	25224	476	
P.H.O.L. - Sault Ste. Marie	1250	240	316	1	45	12	50	0	316	1	268	0	0	0	0	20	268	0	268	16	268	9	268	2	
P.H.O.L. - Timmins	6189	698	587	0	158	6	153	0	586	24	568	0	0	0	0	40	568	9	568	9	568	45	568	17	
St. Joseph's - London	78838	10321	7838	0	0	838	838	7	7838	674	971	0	0	0	0	39	1005	31	1005	4	1005	162	593	42	
P.H.O.L. - London	23209	4998	4941	7	567	55	613	1	4940	472	4364	0	0	0	0	237	4365	58	4365	27	4364	335	4365	164	
P.H.O.L. - Orillia	380	208	1458	4	255	22	281	0	1458	177	1407	0	0	0	0	97	1407	27	1407	18	1407	177	1407	75	
P.H.O.L. - Thunder Bay	5960	1232	527	0	106	3	109	0	526	37	464	0	0	0	0	14	464	13	464	2	464	41	464	12	
P.H.O.L. - Sudbury	1414	217	368	1	54	4	55	0	368	22	318	0	0	0	0	17	318	5	318	4	318	20	318	17	
P.H.O.L. - Hamilton	17104	4258	4153	5	285	82	372	3	4150	346	3210	0	0	0	0	140	3210	37	3210	23	3210	249	3210	129	
P.H.O.L. - Peterborough	2829	512	660	0	62	8	70	0	660	54	599	0	0	0	0	25	599	7	599	12	599	93	599	21	
St. Joseph's - Hamilton	54397	8496	21486	0	0	2572	2572	8	21486	1734	21486	0	0	607	0	0	21486	185	21486	89	21486	1564	0	0	
Sault Area Hospital	8587	1489	5300	1	252	236	489	0	5300	44	1662	30	0	32	1	0	1662	35	1662	81	1662	181	1662	25	
Province of Ontario	437614	62518	126762	106	5553	6342	10509	42	131892	7331	76429	41	3	683	17	1522	76448	834	76578	564	76523	4858	54521	1565	
Manitoba	42355	8265	18345	15	189	1664	1868	0	18345	834	3114	1	4	111	6	0	3104	96	3182	123	3114	531	3182	85	
Saskatchewan	107770	9430	22439	0	0	3789	3789	8	16837	785	7351	21	36	339	8	0	7353	164	7355	380	7353	679	7351	282	
Alberta	142867	23722	56181	708	6997	1259	8964	18	46403	3182	22717	128	58	455	22	0	22710	266	22683	361	22328	2190	22717	760	
Prairies	292992	41417	96965	723	7186	6712	14621	26	81585	4801	33182	150	98	905	36	0	33167	526	33220	864	32795	3400	33250	1127	
British Columbia	155891	14866	66694	287	4164	284	8252	35	62476	4005	14392	131	151	484	84	6	14380	301	14380	268	13978	2283	13978	454	
Yukon	3525	239	389	0	120	0	129	0	386	10	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	2635	241	1374	3	227	3	233	0	1374	32	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	7099	606	2624	5	461	3	478	0	2621	75	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	1634976	224374	456536	1124	17845	38256	59259	200	398233	25500	150768	524	357	2625	177	1528	150993	2881	151022	2846	133260	12082	128143	3964	

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.

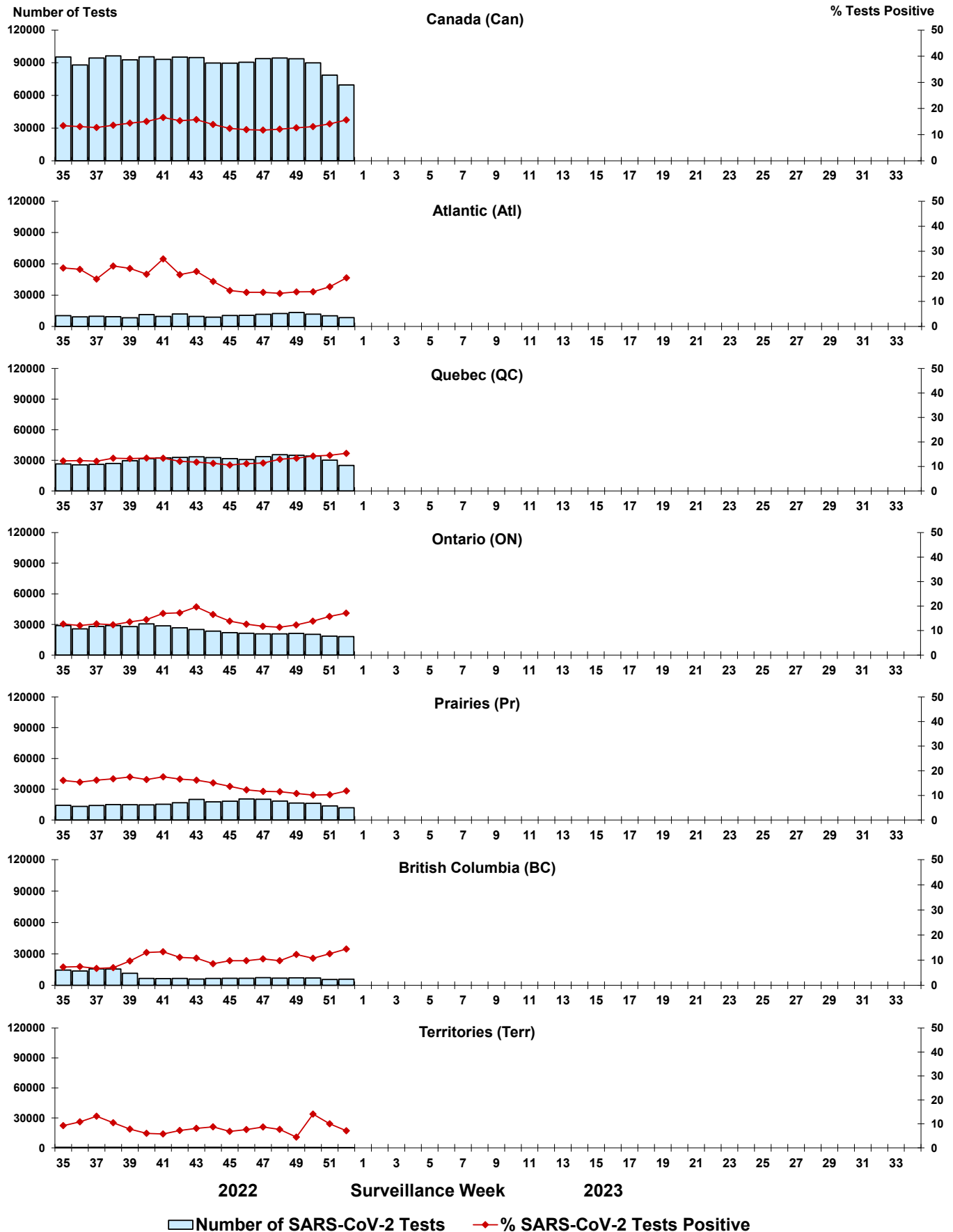
Some specimens from Yukon (YT) are sent to reference laboratories in British Columbia and reported results reflect specimens identified as originating from YT.

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. 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

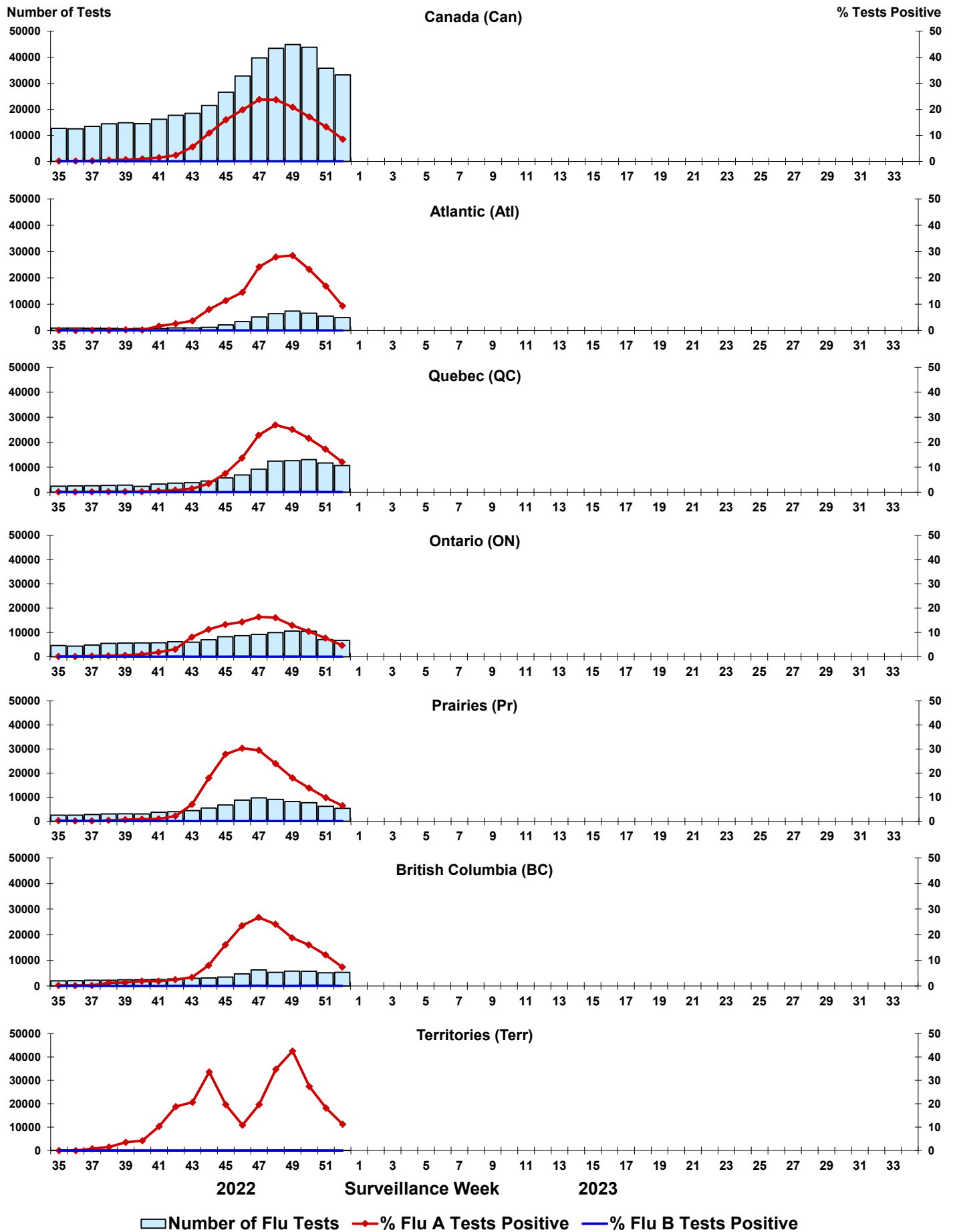


Figure 5: Positive Respiratory syncytial virus (RSV) tests (%) in Canada by region by surveillance week

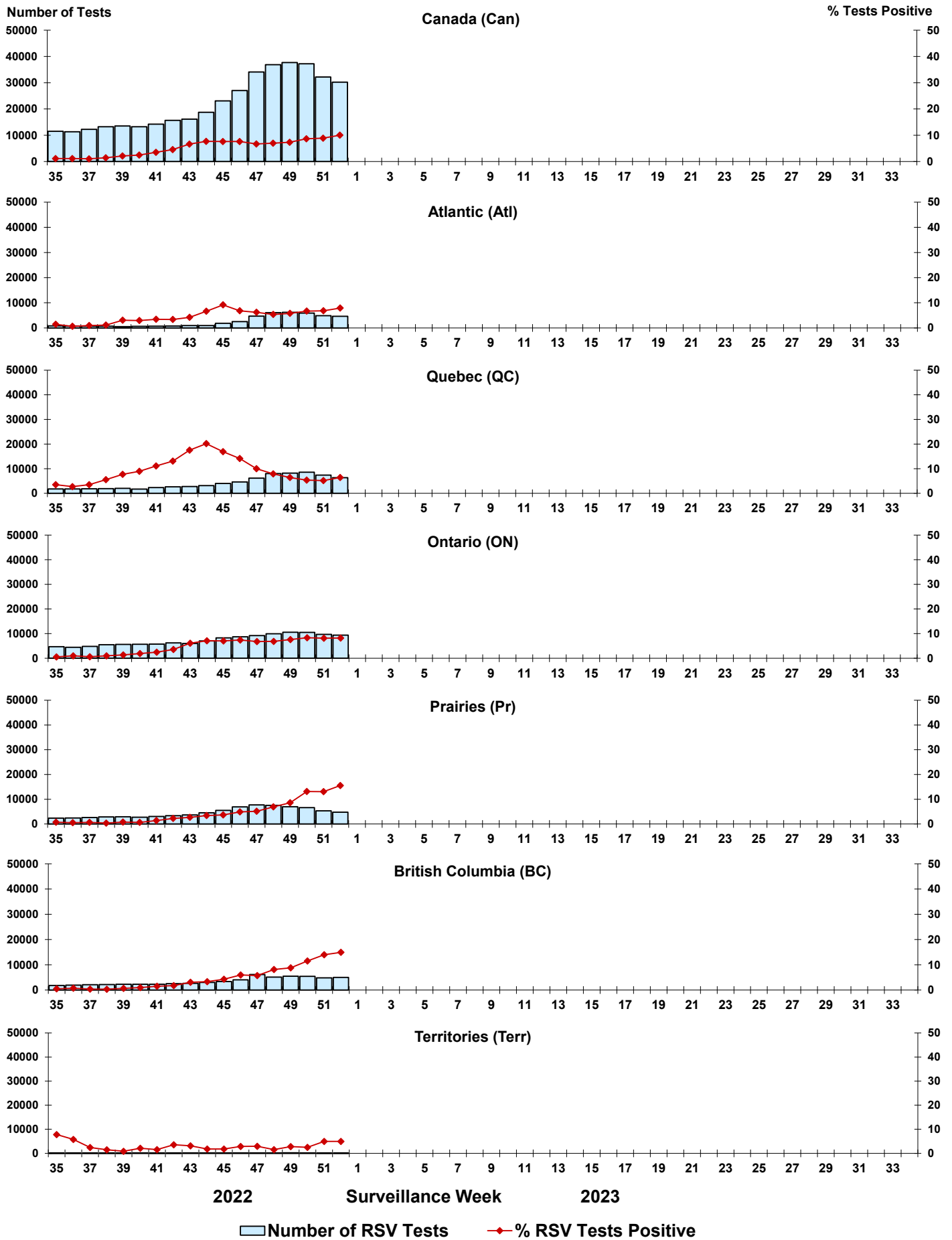


Figure 6: Positive Human parainfluenza virus (HPIV) tests (%) in Canada by region by surveillance week

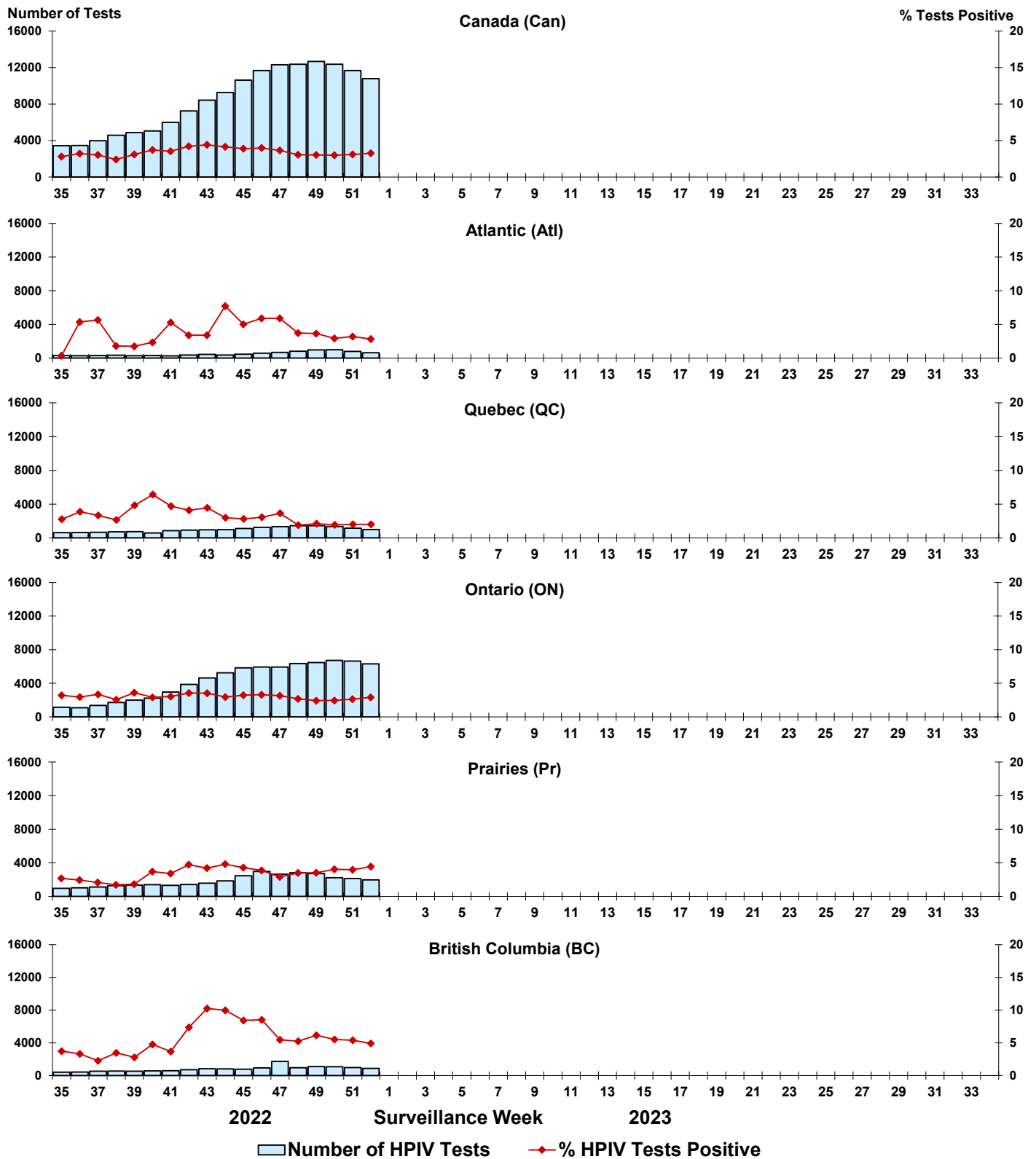


Figure 7: Positive Adenovirus (ADV) tests (%) in Canada by region by surveillance week

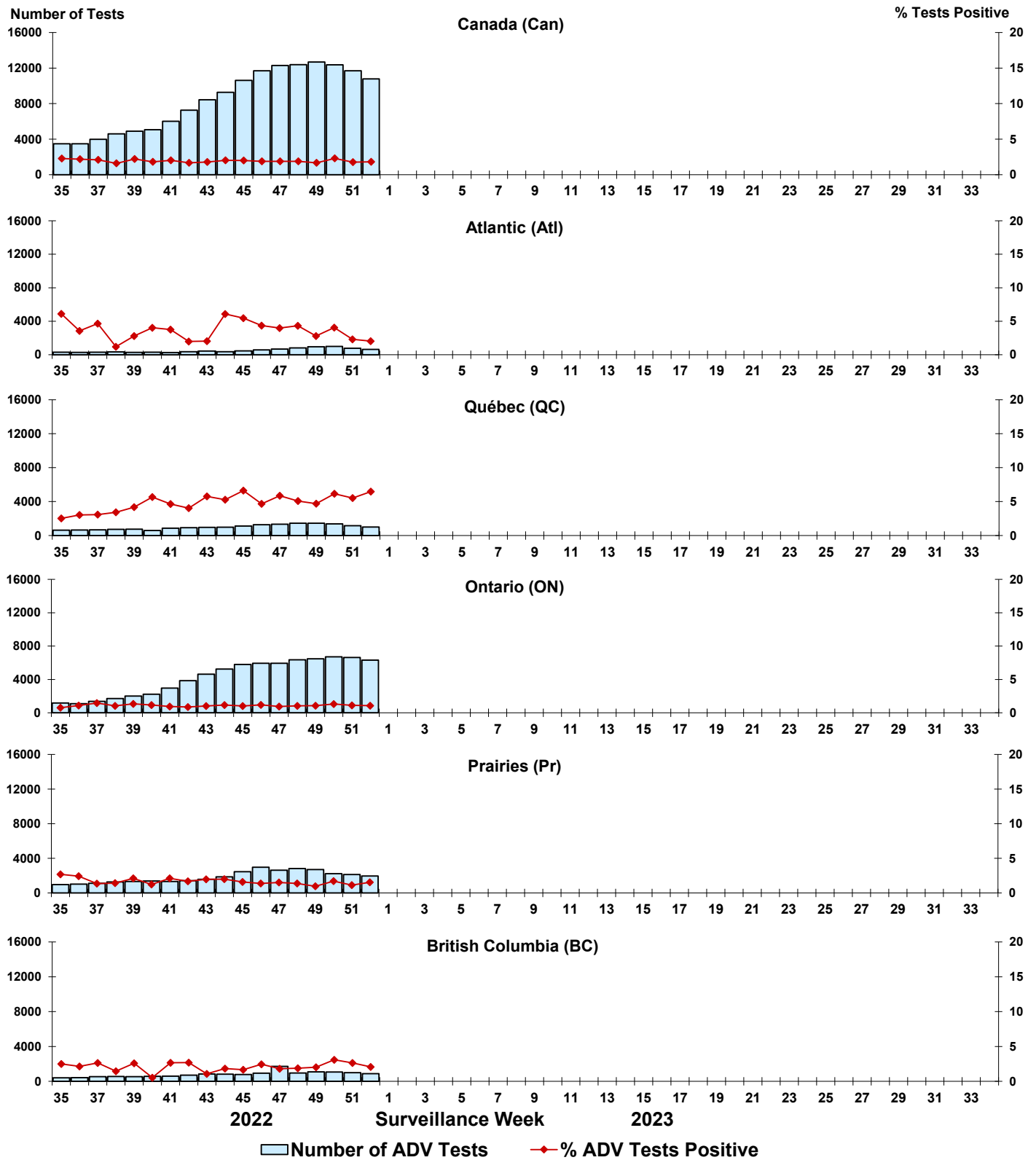


Figure 8: Positive Human metapneumovirus (HMPV) tests (%) in Canada by region by surveillance week

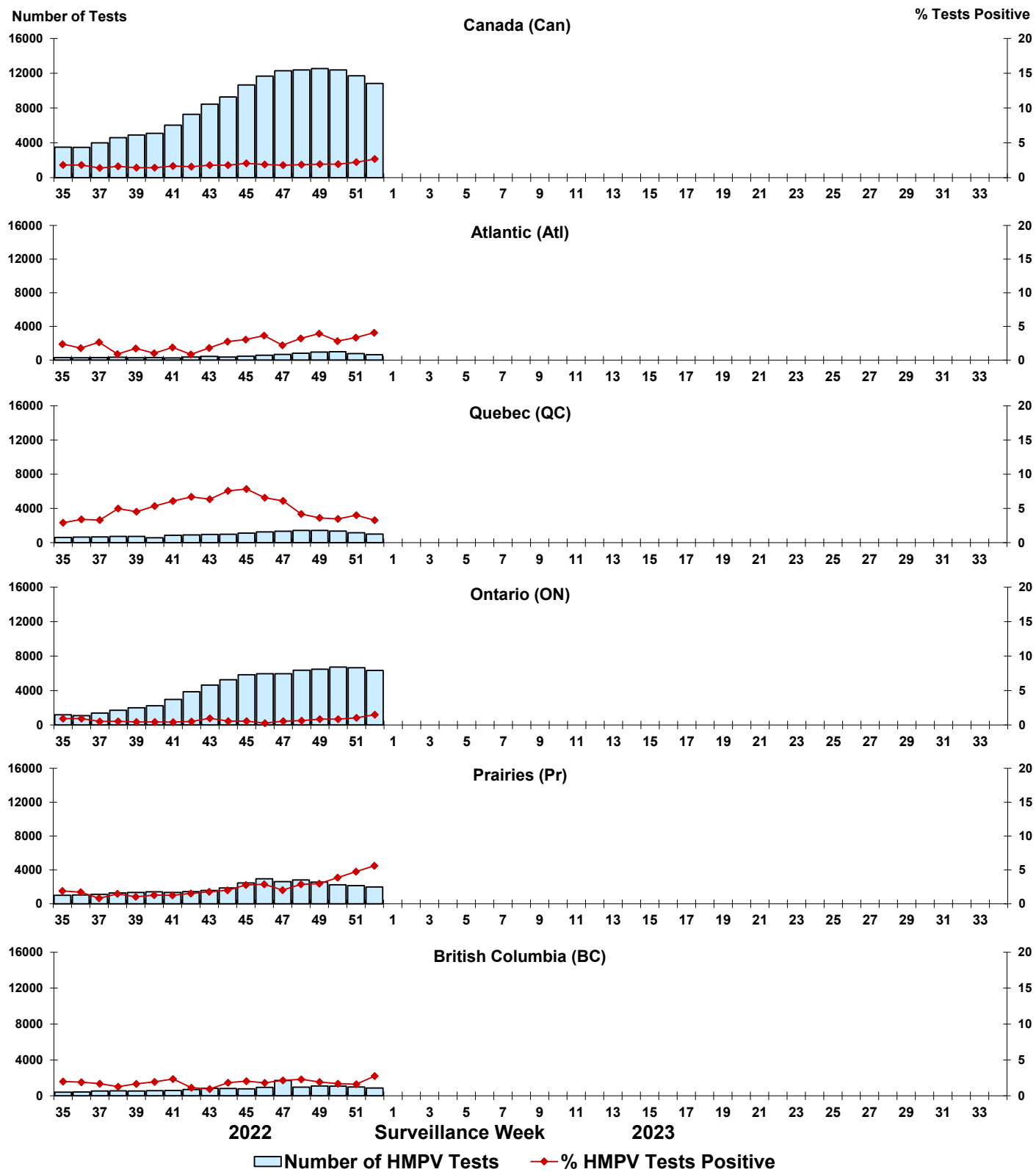


Figure 9: Positive Enterovirus/Rhinovirus (EV/RV) tests (%) in Canada by region by surveillance week

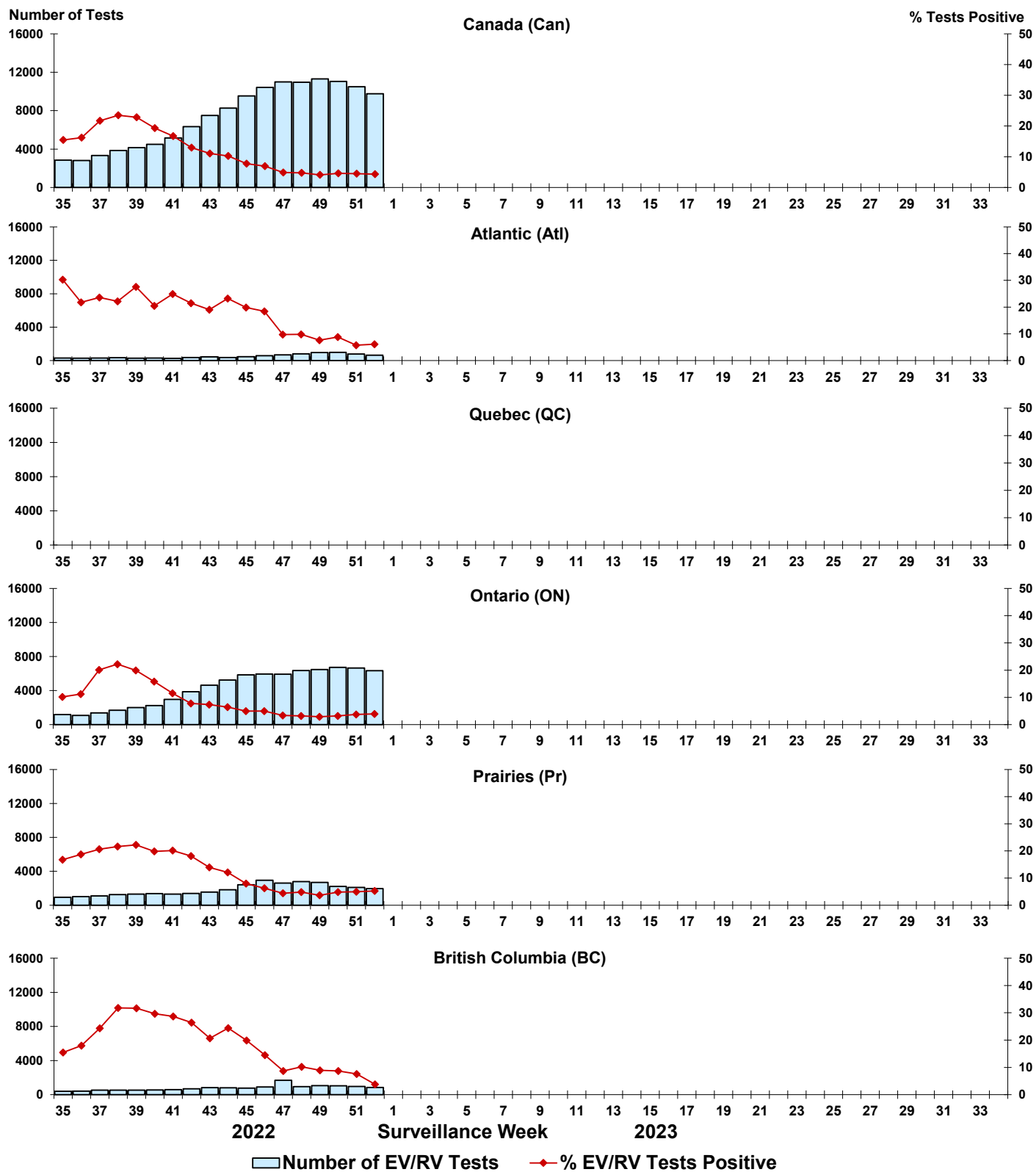


Figure 10: Positive Human coronavirus (HCoV) tests (%) in Canada by region by surveillance week

