Community Respiratory Illness Surveillance Program (CRISP) Situation Report: May 24, 2024 (Reporting Period April 21 – May 18, 2024)

Note: CRISP reports are transitioning to a monthly schedule during the summer as the prevalence of respiratory viruses in the warmer month's declines. Regular bi-weekly CRISP reporting will resume in the fall.

Summary

- The number of **positive tests for COVID-19 has remained stable** over the past 4 weeks from 66 tests in the week ending April 27 to 61 tests in the week ending May 18. The test positivity increased from 4.9% to 5.2% in the same period.

- The **test positivity for influenza continues to decrease this week** (4.1%) compared to the week ending April 27 (6.8%). In the most recent week, the proportion of laboratory-confirmed influenza cases was highest among those 5-19 years of age (61.3%). Of the influenza A viruses subtyped, the majority were H1N1 (83.8%).

- The number of **Respiratory Syncytial Virus (RSV) positive tests has decreased** over the past four weeks. RSV test positivity was 1.4% in the most recent surveillance week. In the most recent week, the proportion of RSV cases was highest in the 0-4 age group (60.0%)**.** 'Other' respiratory virus test positivity increased to 30.5%.

- COVID-19, Influenza, RSV, other respiratory viruses, and co-infected cases accounted for 32.3%, 15.9%, 14.3%, 34.9%, and 2.6% respectively of the viral respiratory illness hospitalizations in the province during this reporting period. The total number of hospital admissions for respiratory viruses increased by 3.8% from 182 for the previous two weeks to 189 for the most recent two weeks.

- Sentinel surveillance indicators of respiratory virus transmission in the community continue to fluctuate:

    - Data for weekly emergency department visits for respiratory-like illnesses (RLI) is not available for the reporting period of May 5 - May 18 due to data definition changes at triage. This indicator will be available, incorporating the new definitions, for fall respiratory season.
    - School absenteeism decreased from 11.8% to 10.4% in the week ending May 18.
    - RLI calls to the HealthLine has decreased over the 4-week period from 81.5 per 1,000 calls for the week ending April 27, to 68.0 per 1,000 calls in the week ending May 18.
    - Two out of five samples tested at the sentinel provider sites were positive for respiratory viruses. Rhinovirus was the most detected respiratory virus during this period.
    - Wastewater data indicated consistently low to medium levels of SARS-CoV-2 across the surveyed areas of the province, with no elevated quantities of respiratory viruses detected over the observed period.

COVID-19

- In the most recent week, the proportions of laboratory-confirmed COVID-19 cases were highest among those 65 and older (56.3%), followed by individuals 20-64 years of age (29.7%).

- COVID-19 outbreaks in high-risk settings increased to five for the most recent two weeks compared to three for the previous two-week period.

- From March 31 to May 11, 2024, JN.1 and its sublineages (denoted as JN.1*) were the most commonly detected variants (95%), followed by EG.5* (1.2%) and XBB.1.16* (0.6%). The proportion of JN.1* is 100% for the week ending May 11.

- COVID-19 hospitalizations remained stable at 30 for the most recent two weeks. COVID-19 ICU admissions decreased from 3 for the previous two weeks to 1 for the most recent two weeks.
- The proportion of staffed inpatient beds occupied by COVID-19 patients has remained stable (ranging from 1.6% to 1.8%) over the last four weeks.
- No COVID-19-associated deaths were reported over the past four weeks.
- The COVID-19 immunization campaign launched October 10, 2023. As of April 20, 2024, 18.4% of those aged six months and older have received a COVID-19 vaccine dose.

Influenza

- Positive influenza tests decreased for the last three consecutive weeks from 85 in the week ending May 4, 2024, to 36 in the current surveillance week.
- No influenza-associated deaths were reported over the past four weeks.
- Influenza hospitalizations have remained stable at 15 for the most recent two weeks. Influenza ICU admissions also remained stable at 1 for the most recent two weeks.
- The influenza immunization campaign launched October 10, 2023. As of April 20, 2024, 24.9% of the Saskatchewan population have received an influenza vaccine.

RSV and Other Respiratory Viruses[1]

- RSV outbreaks remained stable. One outbreak was reported over the past four weeks.
- RSV hospitalizations have decreased from 17 for the previous two weeks to 10 for the most recent two weeks. RSV ICU admissions have remained stable at 1 for the most recent two weeks. Hospitalizations for 'Other' respiratory viruses have remained stable at 34 for the most recent two weeks. 'Other' respiratory viruses ICU admissions have increased from 4 for the previous 2 weeks to 8 for the most recent 2 weeks.
- Other respiratory viruses remained stable at 222 positive lab detections in the current two weeks compared to 241 detections in the previous two-week period.
- Outbreaks due to 'other' viruses have increased. Twenty-two were reported in high-risk settings over the past four weeks. Human parainfluenza viruses accounted for 11 of these outbreaks.

Notes:
[1] *'Other' respiratory viruses: Parainfluenza viruses 1 – 4; Adenovirus; Human Metapneumovirus, seasonal Coronavirus and Entero/Rhinovirus;*
** Represents all sublineages of Omicron*

Table 1: Viral indicators by surveillance period, April 21 – May 18, 2024

Report date	SARS-CoV-2 positive laboratory test	SARS-CoV-2 test positivity	COVID-19 outbreaks	Influenza positive laboratory test	Influenza test positivity	Influenza outbreaks	RSV positive laboratory test	RSV test positivity	RSV Outbreaks	'Other'[1] positive laboratory test	'Other'[1] sample positivity	'Other'[1] outbreaks
May 12 – May 18	61	5.2%	3	36	4.1%	0	11	1.4%	0	107	30.5%	5
May 5 – May 11	53	4.4%	2	59	6.0%	0	13	1.5%	0	115	30.3%	4
Apr 28 – May 4	58	4.2%	2	85	7.4%	0	14	1.5%	0	120	28.1%	4
Apr 21 – Apr 27	66	4.9%	1	77	6.8%	1	24	2.5%	1	121	27.7%	9

Notes: [1]*Parainfluenza viruses 1 – 4; Adenovirus; Human Metapneumovirus, seasonal Coronavirus and Entero/Rhinovirus. See Technical Notes for details.*

[#]*Starting with the week of Oct 22-28, the method for calculating test positivity for "Other" respiratory viruses has changed to more accurately reflect the number of positive results in laboratory samples tested for "other" respiratory viruses. For example, during the week of Oct 22-28, 64 of 347 samples tested for "Other" respiratory viruses were positive for one or more of these viruses, which results in a test positivity of 18.4%. Samples that tested positive for more than one of the "Other" viruses are counted only once.*

Table 2: Lab-confirmed respiratory illness by age group, May 12 – May 18, 2024

Age group (Years)	COVID-19 case count	Influenza case count	RSV case count	'Other' virus case count[1]
0 – 4	4 (6.3%)	5 (16.1%)	6 (60.0%)	107
5 – 19	5 (7.8%)	19 (61.3%)	2 (20.0%)	
20 – 64	19 (29.7%)	6 (19.4%)	1 (10.0%)	
≥65	36 (56.3%)	1 (3.2%)	1 (10.0%)	
Total	**64 (100.0%)**	**31 (100%)**	**10 (100%)**	**107 (100%)**

Notes: *[1]Parainfluenza viruses 1 – 4; Adenovirus; Human Metapneumovirus, seasonal Coronavirus and Entero/Rhinovirus; age-specific data is unavailable for other respiratory pathogens. Individuals with co-infection of "Other" viruses are only counted once. Due to the rounding, total percentage may not add to 100%. See Technical Notes for further details.*

Table 3: Sentinel* indicators by surveillance period, April 21 – May 18, 2024

Report date	School illness absenteeism[1]	RLI** ED visits per 1,000[2]	RLI** 811 calls per 1,000	SARS-CoV-2 Wastewater indicator[3]	Sentinel provider test positivity[4]	Most commonly detected virus: Sentinel providers[4]
May 12 – May 18	10.4%	No data	68.0	Low (n= 8), Medium (n= 0), Medium-high (n= 0), High (n= 0)	40% (n=2)	Rhinovirus
May 5 – May 11	11.0%	No data	69.7	Low (n= 7), Medium (n= 2), Medium-high (n= 0), High (n= 0)	50% (n=3)	COVID, Adenovirus, Rhinovirus
Apr 28 – May 4	11.8%	14.0	73.1	Low (n= 6), Medium (n= 3), Medium-high (n= 0), High (n= 0)	40% (n=2)	Parainfluenza virus 3
Apr 21 – Apr 27	10.9%	15.9	81.5	Low (n= 8), Medium (n= 0), Medium-high (n= 1), High (n= 0)	50% (n=5)	Influenza B, Rhinovirus

*Notes: *Sentinel surveillance are sampling programs representative of the population; [1]School absenteeism is the proportion of scheduled children who were absent from the class due to illness. The type of illness is not specified. [2]Respiratory-like illnesses (RLI) reports are unavailable for the week May 5 – 11 and May 12 – May 18 due data definition changes at triage. Respiratory-like illnesses (RLI) are based on reports from ten of thirteen reporting areas for the week of April 21-27 and April 28 – May 4. [3]Count of wastewater treatment facilities reporting low, moderate or high levels of viral load causing COVID-19 infection. See Technical Notes and appendix for details [4]Most commonly detected virus in Sentinel providers: COVID-19, Influenza A/B, Respiratory Syncytial Virus (RSV), Adenovirus, Metapneumovirus, Rhinovirus, Parainfluenza viruses (PIV) 1-4, and seasonal Coronaviruses (229E, HKU1, NL63, and OC43).*

Table 4: Outcome, health care capacity, and immunization coverage indicators by surveillance period, Saskatchewan, April 21 – May 18, 2024¥

Report date	Hospital admissions – COVID-19[1]	ICU admissions – COVID-19	Hospital admissions – Influenza	ICU admissions – Influenza	Hospital admissions – RSV	ICU admissions – RSV	% of staffed inpatient beds occupied by COVID-19 patients[2]	Deaths – COVID-19	Deaths – Influenza[3]	Proportion of population with COVID-19 vaccine administered[4]	Proportion of population immunized for Influenza vaccine[4]
May 12 – May 18	7	0	8	1	5	0	1.6%	0	0	18.4%	24.9%
May 5 – May 11	23	1	7	0	5	1	1.8%	0	0		
Apr 28 – May 4	12	1	6	0	9	1	1.7%	0	0		
Apr 21 – Apr 27	19	2	9	2	8	0	1.6%	0	0		

*¥Additional information on hospital admission stratified by respiratory organism and age group is provided below in **Figure 3** and **4** respectively. Viral infection may not be the main reason for the admission.*

Cases by respiratory organisms across the age groups

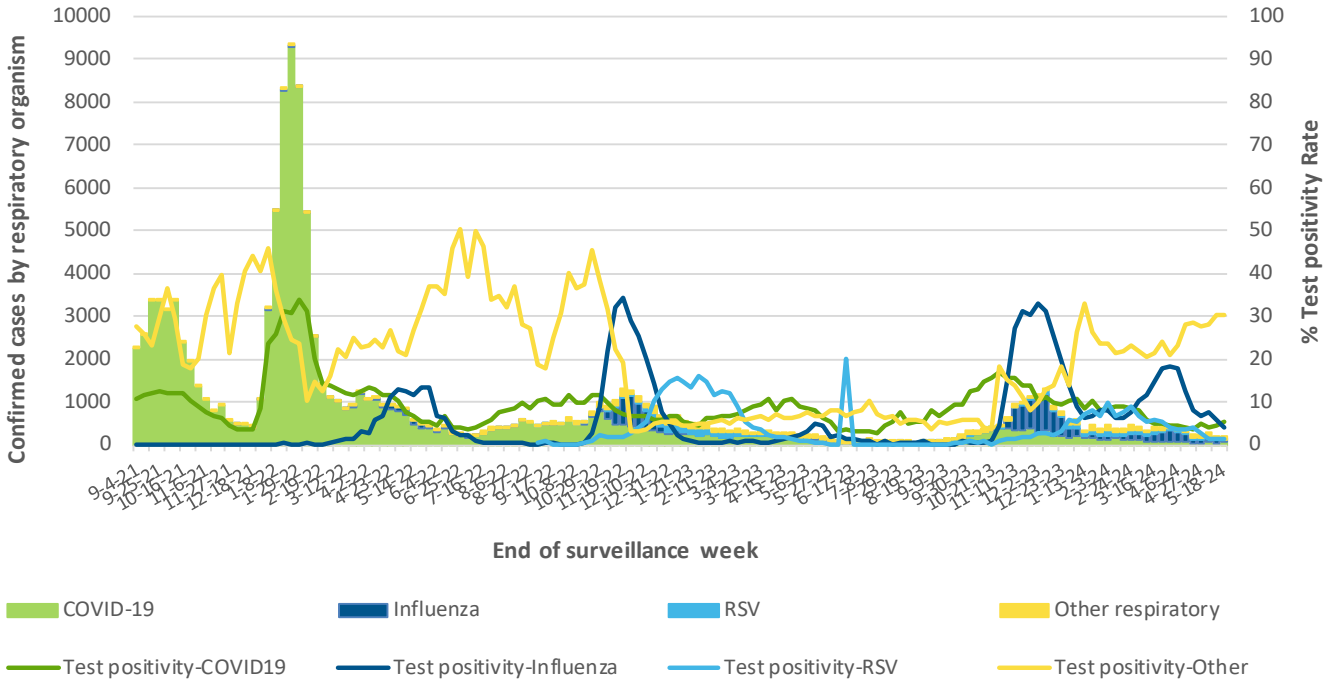
- From April 21 to May 18, there were 189 respiratory illness cases hospitalized with lab-positive COVID-19 (61), influenza (30), RSV (27), other respiratory illnesses (66), and co-infected cases (5). The COVID-19 lab positives were among the age groups of 0-19 (4), 20-59 (7) and ≥60 (50). The Influenza lab positives were among the age groups of 0-19 (15), 20-59 (10) and ≥60 (5). The RSV lab positives cases were among the age groups of 0-19 (16), 20-59 (2) and ≥60 (9). The other respiratory lab positives were in the age group of 0-19 (43), 20-59 (12), and ≥60 (11). The Co-infection lab positives were in the age groups of 0-19 (5).
- From April 21 to May 18, there were 23 respiratory illness cases admitted to the ICU with lab-positive Covid-19 (4), influenza (3), RSV (2), other respiratory illnesses (12) and co-infected cases (2). The COVID-19 lab positives were among the age groups of ≥60 (4). The Influenza lab positives were among the age group of 0-19 (2) and ≥60 (1). The RSV lab positives were among the age groups of 0-19 (1) and ≥60 (1). The other respiratory lab positives were in the age groups of 0-19 (2), 20-59 (8), and ≥60 (2). The Co-infection lab positives were in the age groups of 0-19 (2).
- ***Notes:*** *[1] The delay in date tested result affects the total number of Influenza (A/B), RSV and other respiratory virus admissions for a particular day. This lag in data impacts mostly the last couple of days from the day the report is updated. The counts for influenza, RSV, and other respiratory virus-associated hospital and ICU admissions refer to individuals with laboratory or point of care tests positive for influenza, RSV, and other respiratory viruses, respectively, occurring within four days before the admission date AND/OR at any point during the hospital stay. The counts for COVID-19 hospital and ICU admissions refer to individuals with laboratory tests positive for COVID-19 virus, occurring within 21 days before the admission date and/or at any point during the hospital stay or 7 days from the discharge. Episodes of care considers patients total movement within the health system related to their condition. It combines 2 or more admission from 2 or more different facilities if they are transfers (No break in care). Transfer: Admission to any other hospital within 24 hours of discharge from previous hospital. Co-infected cases: positive for influenza and RSV or, positive for influenza and other respiratory virus or positive for RSV and other respiratory viruses or, positive for COVID-19 and influenza or, positive for COVID-19 and RSV or, Positive for COVID-19 and other respiratory viruses. Other includes Parainfluenza 1-4, Adenovirus, Enterovirus, Human Metapneumovirus, Rhinovirus, Seasonal Coronavirus (O43, NL63, 229E, HKU1f.)*

[2]7-day average of percentage of acute inpatient beds staffed and in operation that are occupied by COVID-positive patients as of 8AM census

[3] Includes deaths entered into Panorama IOM among lab-confirmed cases. Deaths reported based on the actual date of death. Deaths reported in previous periods subject to change due death reporting data lags. Based on Panorama update, one death was added in week 46; and one death removed from each week from week 47-50.

[4]The fall immunization campaign for COVID-19 and influenza started on October 10, 2023. The first doses of COVID-19 and influenza vaccines arrived in SK the week of September 18. Coverage is based on doses administered on or after September 18, 2023. The most recent rate is as of April 20, 2024.

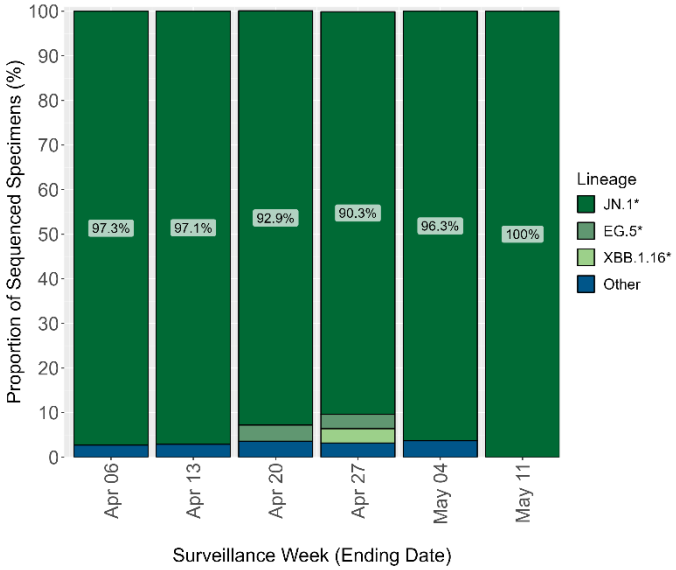
Figure 1: Epidemic curve, respiratory illness by organism and test positivity, August 29, 2021 – May 18, 2024



Data sources: Panorama IOM extracted on May 22, 2024 (COVID-19 cases)
Respiratory Virus Detections Surveillance System (influenza and other respiratory) (RRPL extracted May 21, 2024)
As of September 4, 2022, COVID-19 cases include new and reinfections.
For the four weeks of April 21 to May 18, 2024, there were:

- *196 COVID-19 cases (18 were 0 to 19 years; 46 were 20 to 59 years; and 132 were 60 years and older).*
- *257 influenza lab detections*
- *62 RSV detections*
- *463 other viral lab detections (parainfluenza, adenovirus, human metapneumovirus, rhinovirus, coronavirus)*

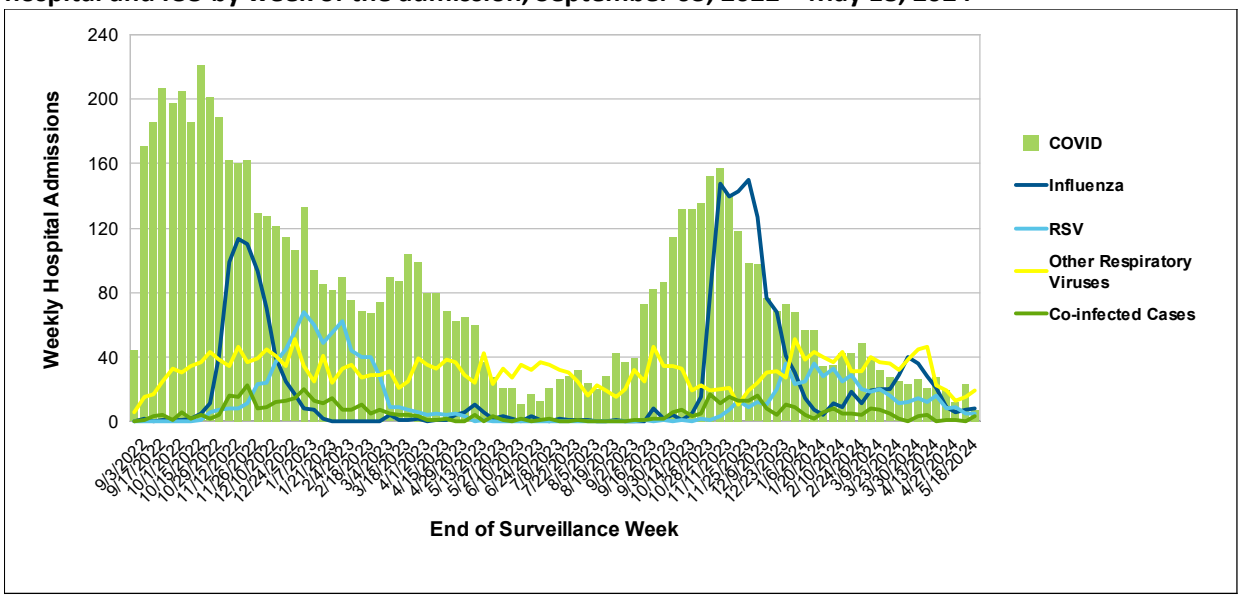
Figure 2: Percentage of SARS-CoV-2 variants, March 31 – May 11, 2024¥*

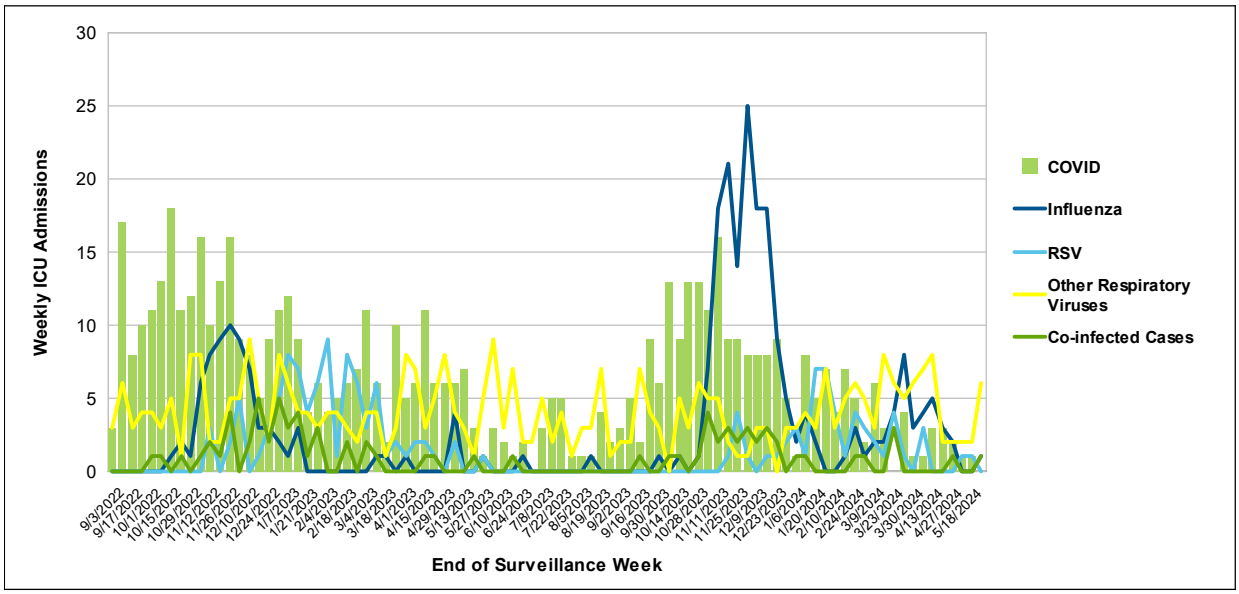


Lineage	Apr 06	Apr 13	Apr 20	Apr 27	May 04	May 11
JN.1*	36	33	26	28	26	3
EG.5*	0	0	1	1	0	0
XBB.1.16*	0	0	0	1	0	0
Other	1	1	1	1	1	0
Total	37	34	28	31	27	3

Data Source: *Roy Romanow Provincial Laboratory, Saskatchewan Health Authority, as of May 22, 2024*
¥ Surveillance weeks correspond to specimen collection date.
** Parent lineage reported also includes all sublineages derived from this parent lineage.*
"Other" represents non-VOC variant groups and their sublineages. For the current period of March 31 to May 11, the Other category includes XDP (4 cases) and XDP.1 (1 case).

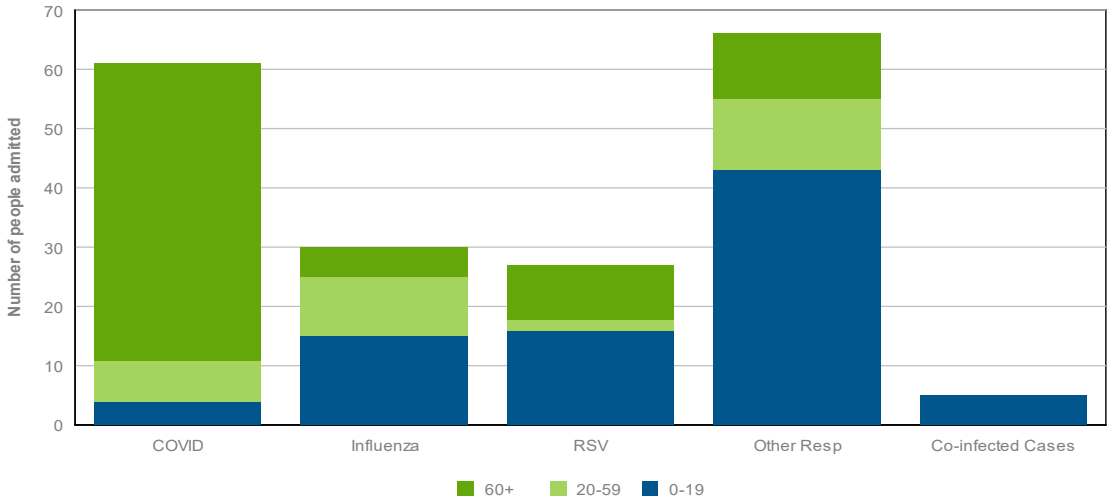
Figure 3: The number of COVID-19, influenza, RSV, other respiratory viruses, and co-infected cases admitted to hospital and ICU by week of the admission, September 03, 2022 – May 18, 2024*





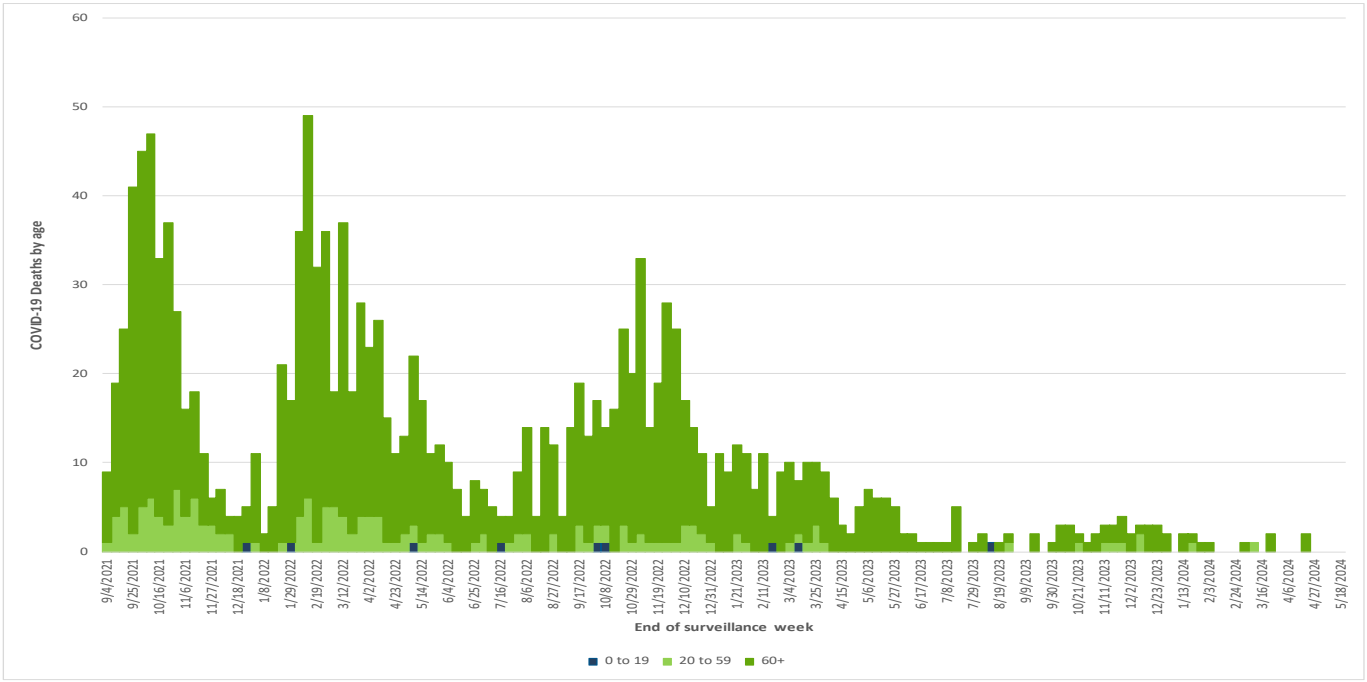
Data source: *Digital Health Analytics, Saskatchewan Health Authority, Episode of Care methodology (Admission, Discharge, Transfer Database (ADT, RRPL, Panorama); data extracted on May 21, 2024* Viral infection may not be the main reason for the admission.*
Note: *The delay in date tested result affects the total number of COVID 19 admissions for a particular day. This lag in data impacts mostly the last couple of days from the day the report is updated. Includes lab or point of care positive for influenza, RSV, other respiratory viruses, four days prior to date of admission AND/OR at any point during admission. Episode of Care considers patients total movement within the health system related to their condition. It combines 2 or more admissions from 2 or more different facilities, if they are transferred (no break in care). Transfer = admission to any other hospital within 24 hours of discharge from previous hospital admission. Co-infected cases = positive for Influenza and RSV, or Influenza and 'other', or RSV and 'other', or, COVID-19 and Influenza, or, COVID-19 and RSV, or COVID-19 and 'other'.*

Figure 4: The number of COVID-19, influenza, RSV, other respiratory viruses, and co-infected cases admitted to hospital by age group, April 21 – May 18, 2024



Data source: *Digital Health Analytics, Saskatchewan Health Authority, Episode of Care methodology (Admission, Discharge, Transfer Database (ADT, RRPL, Panorama); data extracted on May 21, 2024* Viral infection may not be the main reason for the admission.*
Note: *The delay in date tested result affects the total number of COVID 19 admissions for a particular day. This lag in data impacts mostly the last couple of days from the day the report is updated. Includes lab or point of care positive for influenza, RSV, other respiratory viruses, four days prior to date of admission AND/OR at any point during admission. Episode of Care considers patients total movement within the health system related to their condition. It combines 2 or more admissions from 2 or more different facilities if they are transferred (no break in care). Transfer = admission to any other hospital within 24 hours of discharge from previous hospital admission. Co-infected cases = positive for Influenza and RSV, or Influenza and 'other', or RSV and 'other', or, COVID-19 and Influenza, or, COVID-19 and RSV, or COVID-19 and 'other'.*

Figure 5: COVID-19 deaths by age group and week, September 4, 2021 – May 18, 2024*



Source: Panorama May 21, 2024
In the past four weeks, April 21 to May 18, 2024, zero deaths were reported among COVD-19 cases.
**Total COVID-19 deaths from March 2020 to date; n=2,060*

Table 5: Community Respiratory Infection Surveillance Program Indicators by zone, May 12 – May 18, 2024

Location	Test positivity – SARS-CoV-2 [1] (positive lab tests)	Test positivity – Influenza (positive lab tests)	Test positivity – RSV (positive lab tests)	RLI* visits to EDs per 1,000[2]	RLI* 811 calls per 1,000[3]	School illness absenteeism[4]	Wastewater indicator†
Far North West (Meadow Lake & area)	0.0% (0)	0.0% (0)	2.8% (1)	No data	-	7.6%	Low
Far North Central	0.0% (0)	0.0% (0)	0.0% (0)	No data	-	6.5%	No data
Far North East (La Ronge & area)	5.6% (2)	6.3% (3)	2.1% (1)	No data	-	8.5%	No data
North West (Lloydminster & area/North Battleford)	6.1% (4)	5.2% (6)	0.0% (0)	No data	92.2	9.8%	Low
North Central (Prince Albert & area)	10.0% (8)	4.2% (3)	3.2% (2)	No data	-	10.1%	No data
North East (Melfort & area)	18.5% (5)	3.3% (1)	3.3% (1)	No data	85.7	10.6%	No data
Saskatoon	3.9% (13)	2.4% (4)	1.2% (2)	No data	53.2	11.3%	Low
Central West (Kindersley & area)	11.1% (2)	6.3% (1)	0.0% (0)	No data	-	7.3%	No data
Central East (Yorkton/Melville & area)	0.0% (0)	5.3% (4)	3.8% (2)	No data	-	8.1%	Low
Regina	4.8% (7)	0.8% (1)	0.0% (0)	No data	82.6	11.1%	Low
South West (Swift Current/ Maple Creek & area)	10.0% (3)	8.5% (4)	0.0% (0)	No data	72.5	8.7%	Low
South Central (Moose Jaw &area)	9.1% (3)	1.9% (1)	1.9% (1)	No data	-	9.2%	Low
South East (Weyburn/Estevan & area)	11.1% (4)	0.0% (0)	2.9% (1)	No data	37.7	11.1%	Low
Unknown/Out of Province	3.6% (10)	13.8% (8)	0.0% (0)	No data	-	12.3%	
SASKATCHEWAN	**5.2% (61)**	**4.1% (36)**	**1.4% (11)**	No data	**68.0**	**10.4%**	

Notes: [1]By week of lab detection; effective Oct 30, 2022, includes cases who tested positive more than once >= 90 days apart; ^ [1]For COVID-19 test positivity, all tests reported were performed within the province. [2]Respiratory-like illnesses (RLI) reports are unavailable for the week May 12 – May 18 due data definition changes at triage. [3] 811 data available at the six Integrated Service Areas geographical level; [4] Unknown represents the number of students who were absent from the class due to illness with no known geography for the school. School absenteeism is the proportion of scheduled children who were absent from the class due to illness. The type of illness is not specified. †SK overall estimate is currently unavailable as this metric tends to overestimate and underestimate WW level due to varied patterns across regions, which is difficult to synchronize with the population size of each region.

Technical Notes

1. Laboratory surveillance: Conducted through epidemiological analyses and Laboratory surveillance: Conducted through epidemiological analyses and positivity rate monitoring (counts and proportion of positive specimens, week of specimen collection, age category, geographical area, etiological type where applicable) of selected respiratory specimens submitted to the provincial laboratory in SK. Whole genome sequencing is conducted to detect changes (emergence of sub-lineages, variant proportion, etc) of clinical and public health importance among circulating respiratory organisms.

2. Sentinel health providers: Comprise a geographical-based network in practices across the province (n = 13 zones) who submit one to two specimens weekly to the Virology Section of the Roy Romanow Provincial Laboratory (RRPL), Saskatchewan Health Authority, from patients presenting with respiratory-like symptoms. Specimens are tested for a wider complement of respiratory organisms to monitor respiratory illness activity in the community. Assessment of co-infection (infected by more than one respiratory virus organism concurrently) occurs through sentinel provider submissions.

3. Wastewater data: Provided by the Roy Romanow Provincial Laboratory Wastewater Testing Team. Viral load for each zone was used to determine risk levels (Low, Medium, Medium-High, and High) based on viral copies per unit volume and weekly change percentage. Locations sampled include Saskatoon, Regina, Moose Jaw, North Battleford, Swift Current, Yorkton, Weyburn, Estevan, Meadow Lake, Melville, Town of Battleford, La Ronge, Unity, Assiniboia, Maple Creek, Lumsden, Watrous, Île-à-la-Crosse, Birch Hills, Southey, and Pasqua First Nation.

4. Respiratory-Like Illness (RLI) cases in Emergency Departments (EDs) across different regions of Saskatchewan are recorded using two primary systems: the Sunrise Clinical Manager (SCM) and the local public health offices (LPHO).

   The SCM ED data encompasses information from eight zones, namely Central East, North Central, North West, Regina, Saskatoon, South Central, South West, and South East (data received from both systems). On the other hand, the LPHO ED data covers three zones: North East, Central West, and South East (data received from both systems). It's important to note that the Far North West, Far North Central, and Far North East regions do not currently participate in RLI Surveillance for ED.

   Digital Health Analytics (DHA) compiles and summarizes SCM data over a 7-day monitoring period, spanning from Sunday to Saturday. In contrast, the LPHO aggregates raw data received from ED's on the prescribed data collection form. The data is monitored for a minimum of 24 hours, on at least one day each week. The specific timing of this monitoring may vary depending on the ED's schedule.

5. HealthLine 811 callers with Respiratory Symptoms (RLI): This count of response protocols collected by HealthLine nurses specific to callers reporting respiratory-like symptoms. HealthLine data is collected for a seven-day week, Monday to Sunday. Data is transformed into the rate of callers with respiratory symptoms from each Integrated Service Area (ISA) per 1000 calls from that ISA concerning any type of symptom.

6. A confirmed outbreak: Defined as two or more lab confirmed respiratory virus cases in high-risk settings where transmission is evident or there is a high level of suspicion of transmission. Outbreaks are reported by the week they were reported to the local public health office and not necessarily in the week that the outbreak began. For this report outbreaks in high-risk settings comprise long term care facilities, personal care homes and group homes.

7. COVID hospitalized admissions is the number of C-19 positive cases that during the surveillance week were admitted as an inpatient to an acute care facility. This includes patients with C-19 related illness, incidental COVID infection, and patients under investigation. COVID ICU admissions is the number of C-19 positive cases that during the surveillance week were admitted to an ICU location in SK. This includes both infectious and non-infectious cases.

8. Influenza, RSV and other respiratory virus admissions: Delays in testing results affect the total number of Influenza, RSV and other respiratory virus admissions for a particular day. This lag in data has the greatest impact on the two days prior to when the report is updated. Counts include individuals who are laboratory positive for influenza, RSV, and other respiratory viruses, within four days prior to date of admission AND/OR at any point during the hospital stay. Episode of Care considers patients' total movement within the health system related to their condition. It combines 2 or more admissions from 2 or more different facilities, if they are transfers (i.e., no break in care). Transfer: Admission to any other hospital within 24 hours of discharge from previous hospital. Co-infected Cases = if positive for Influenza and RSV positive for Influenza and Other Respiratory viruses or, positive for RSV and Other respiratory viruses or, positive for Covid-19 and Influenza or, positive for Covid-19 and RSV or, positive for Covid-19 and Other Respiratory viruses.

9. Variant of Concern (VOC): VOCs are SARS-CoV-2 viruses that have undergone genetic modification or mutation causing altered virus infectivity, replication and pathogenicity. As a result, it can alter host immune response. The Roy Romanow Provincial Laboratory (RRPL) tests for and monitors COVID-19 variants of concern (VOCs) in Saskatchewan. Confirmation of VOC lineages is done by conducting whole genome sequencing (WGS) at RRPL or the National Microbiology Laboratory. It takes one to two weeks to complete WGS from the date a sample is collected. Data sources for VOCs analysis include testing data from the RRPL, and epidemiological information from Panorama. Where geographical zone is missing in RRPL or Panorama data, the Saskatchewan postal code file is used to identify cases' geographical information.

   Lineages BA.2.86, JN.1, XBB, XBB.1.5, XBB.1.9.1, EG.5, XBB.1.16 and XBB.2.3 are all classified under the WHO label of "Omicron". Lineages that are not explicitly indicated in the analysis are aggregated under their corresponding parent lineage. Percentages are shown when a lineage or variant group constitutes 5% or more of total specimens evaluated for a given surveillance week.

10. COVID-19 cases: Effective September 4, 2022, COVID-19 cases are based on lab detection and include cases who tested positive more than once 90 days, or further, apart. Prior to this, cases include, only, first time cases reported and entered into Panorama.

11. COVID-19 Deaths: Includes deaths entered into Panorama IOM among laboratory confirmed cases. Deaths are reported based on the actual date of death. Deaths in previous periods may be adjusted from previous reports due to data lag.

12. COVID-19 Immunizations: Up-to-date (UTD) COVID-19 vaccination is the proportion of people having completed a primary series and one booster for ages five and older divided by the eligible population found in the Saskatchewan Covered Population, 12-Nov-2022 Ministry of Health version (2022 Version 2). Though vaccinated children six months to four years of age may be technically UTD, this specific definition does not apply to them. In addition, UTD in last six months is calculated by the proportion of people having received one or more boosters within the previous six months.

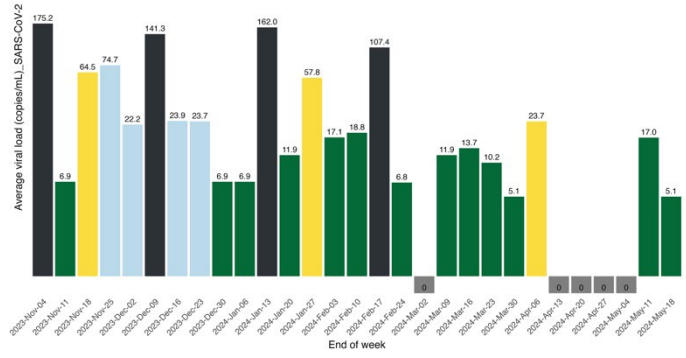
13. Influenza immunizations: UTD Influenza vaccination is the proportion of people, six months and older, having one influenza dose this season divided by the eligible population found in the Saskatchewan Covered Population, 12-Nov-2022 Ministry of Health version (2022 Version 2). Vaccination for the current influenza season officially began October 11, 2022. Some doses were administered prior to the start date.

14. Staffed Inpatient beds: Weekly average COVID Occupancy is a 7-Day average percentage of acute inpatient beds staffed and in operation COVID positive patients occupy. The full calculation of this metric is: Average COVID occupance=$\sum$(8am covid census) ÷ $\sum$(8am beds staffed and in operation) × 100%. Where "bed staffed and in operation = "Planned beds" + "Surge Beds" - "Closed" and $\sum$(...) indicates summation over 7-day period from Sunday to Saturday. 8am COVID census is taken from the ADT patient registration, which is fed to the provincial data-mart and archived hourly. 8am planned bed, surge beds, and closed beds is compiled via data feeds from APF (Saskatoon & Regina) and the provincial bed edits interface (INH &IRH).

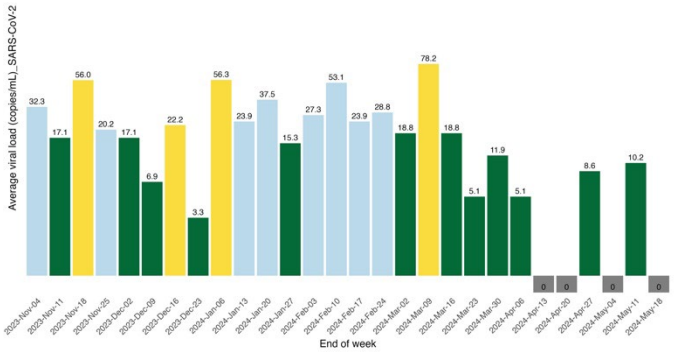
15. Rate of COVID-19 hospitalization (ICU or Death) were calculated by summing the daily number of hospitalizations (ICUs or Deaths) for the period by vaccine status (numerator) divided by the mid period population by respective vaccine status (denominator), multiplied by 100,000. This estimate is further divided by the number of days to obtain the daily rate. Denominator for individuals in the Booster in the past 6-months group are all Saskatchewan residents who have had their booster dose within the last 6 months. To eliminate bias of age all rates are adjusted by age. Direct standardization method is employed using the Saskatchewan population as the standard population. Age at first dose used in the rate calculation. Individuals with unknown age are excluded from age-specific analyses. Estimates of relative risk (i.e., rate ratios) is obtained by comparing vaccinated with 2 doses (Any Booster dose) and unvaccinated. Risk estimates may differ from other reports due to differing methodologies. Relative risk estimates methodology is described elsewhere. See Namrata Bains. *Standardization of Rates* (March 2009).

Appendix: Wastewater Surveillance for SARS-CoV-2 by cities, Saskatchewan

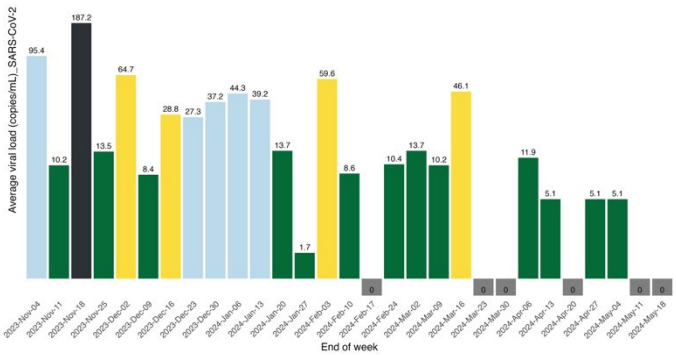
Meadow Lake



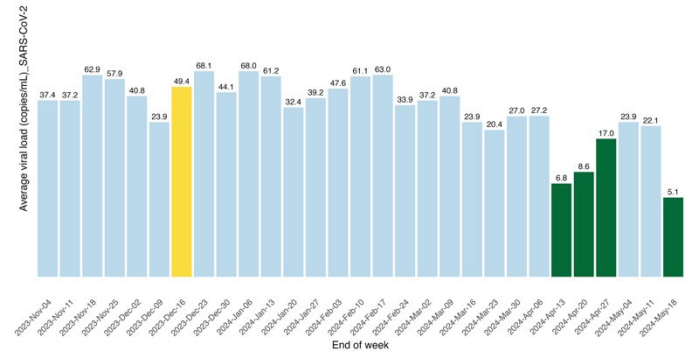
North Battleford



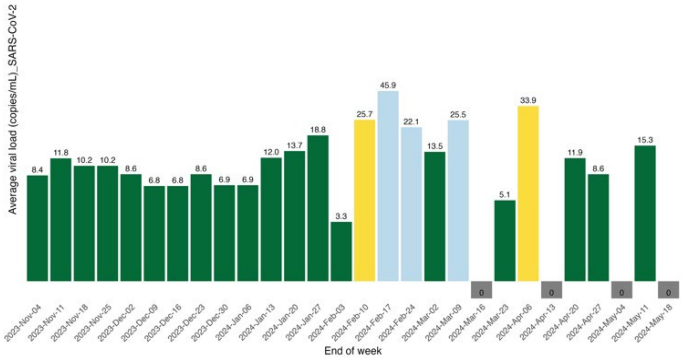
Battleford



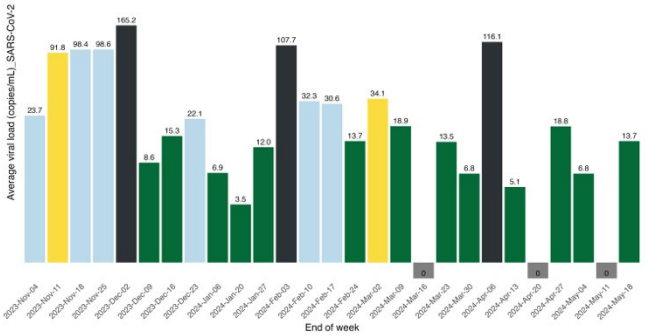
Saskatoon



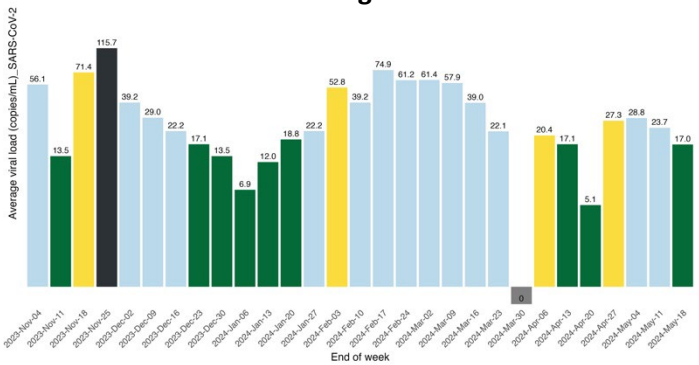
Yorkton



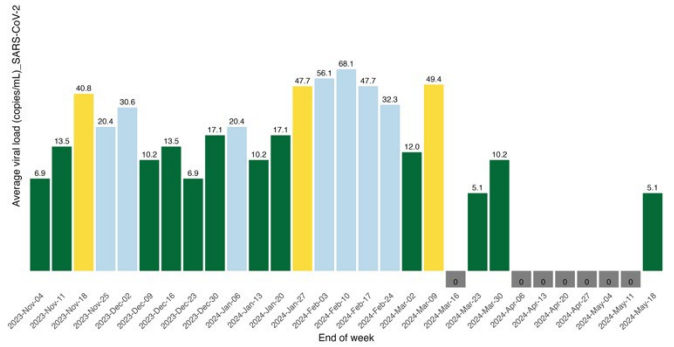
Melville



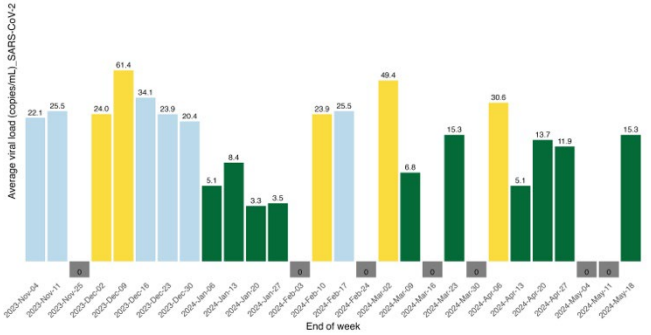
Regina



Swift Current



Maple Creek



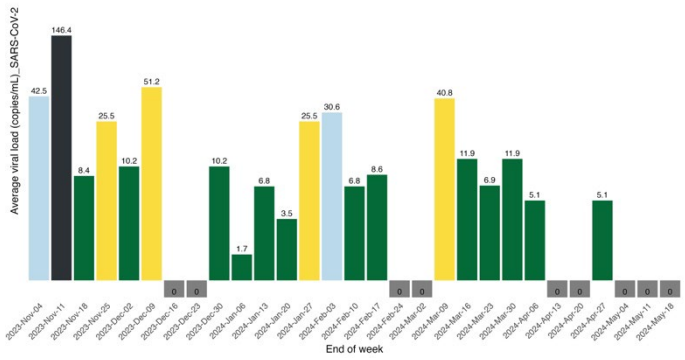
Quantitative Interpretation:

- Low: 0-20 copies per mL.
- Medium: 20-100 copies per mL and weekly change < 100%.
- Medium – High: 20-100 copies per mL and weekly change > 100%.
- High: > 100 copies per mL.

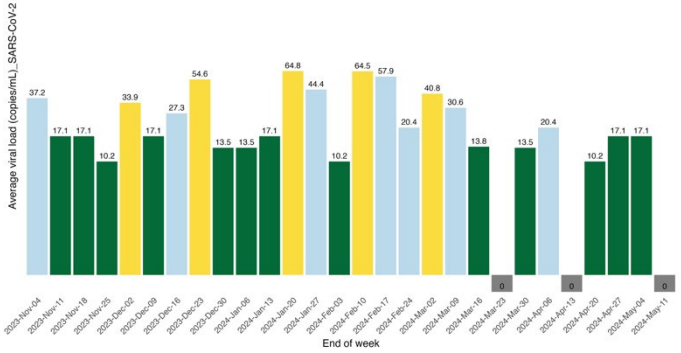
Saskatchewan

Low Medium Medium-High High

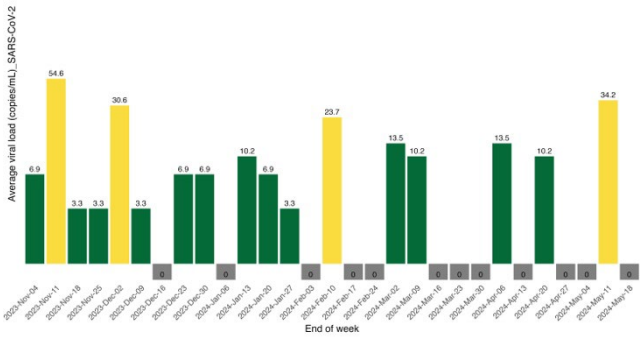
Assiniboia



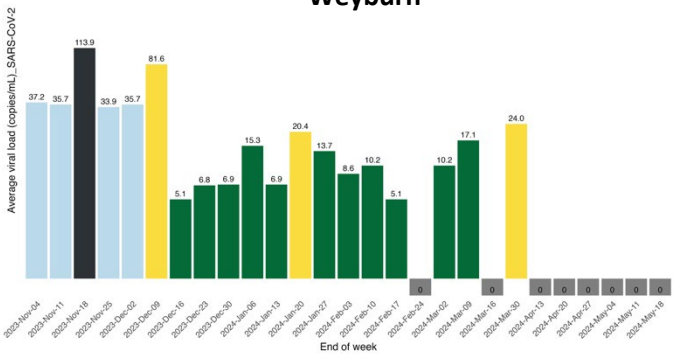
Moose Jaw‡



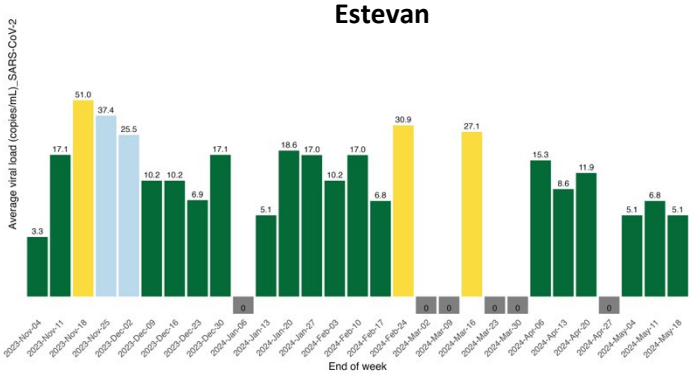
Lumsden



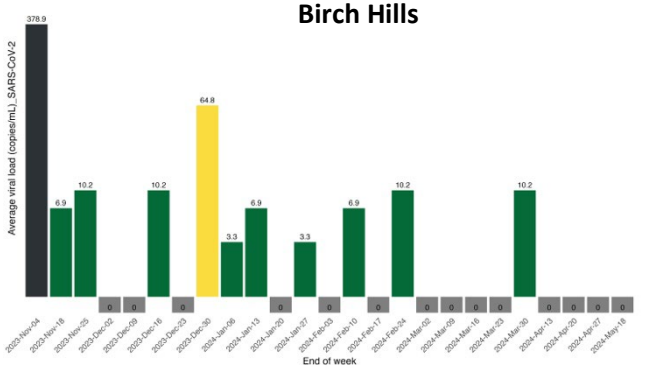
Weyburn



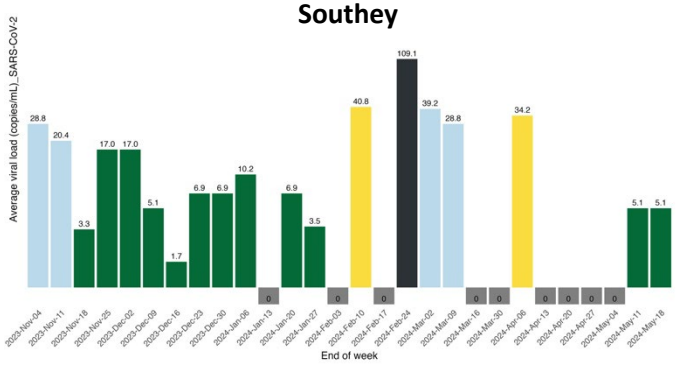
Estevan



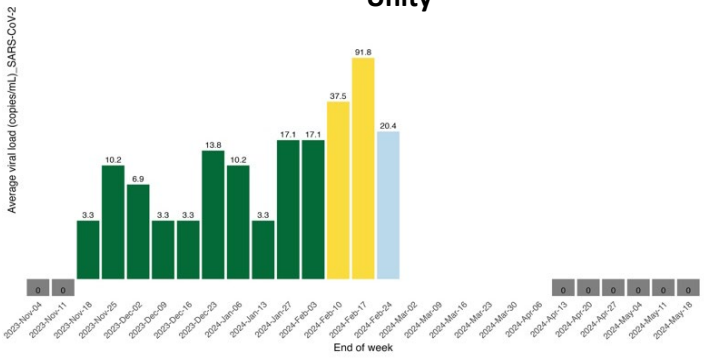
Birch Hills



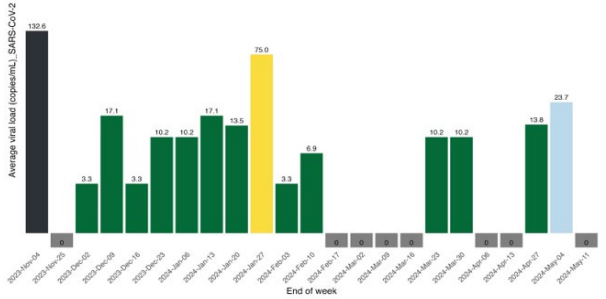
Southey



Unity‡



La Ronge‡



Quantitative Interpretation:

- Low: 0-20 copies per mL.
- Medium: 20-100 copies per mL and weekly change < 100%.
- Medium – High: 20-100 copies per mL and weekly change > 100%.
- High: > 100 copies per mL.

‡Data for the week ending May 18, 2024, (including other specified date gaps) are not available because wastewater samples were not received.

Low Medium Medium-High High