Community Respiratory Illness Surveillance Program (CRISP) Situation Report: December 22 (Reporting Period Dec 04 – Dec 17, 2022)

Summary

- COVID-19 lab-confirmed cases and test positivity decreased this week.
- Influenza case counts decreased from 411 to 257 lab-confirmed cases and remains the highest test positivity among respiratory organisms at 14.3%.
- RSV activity is increasing – from 83 to 149 cases with a test positivity of 10.5%.
- The majority of respiratory virus hospitalizations continue to be COVID-19, followed by influenza. RSV hospitalizations are fewer in number but have increased.
- Weekly visits to Saskatchewan emergency departments for respiratory-like illness (RLI) gradually declined over the past month from 56 visits per 1,000 to 32 per 1,000 visits last week. Calls to 811 HealthLine for RLI have also declined over the past month, but remain high (from 155 to 100 per 1,000 calls).
- Students absent from school for reasons of illness remains steady at 13.2% in the most recent week.

COVID-19

- COVID-19 test positivity in Saskatchewan decreased slightly this week to 5.8% from 6.6% last week.
- In the last week, viral load in wastewater is low to moderate range across the province. Viral load has decreased in Saskatoon and South Central. It increased in North West and North Central.
- The number of new COVID-19 outbreaks in high-risk settings remained steady at four to seven per week over the past month.
- BA.5 and its sublineages are the most commonly detected variants (92.4% of current reporting period), followed by BA.2 (3.7%) and BA.4 (2.6%).
- COVID-19 hospitalizations decreased in the most recent reporting period, from 116 to 105 admissions per week.
- COVID-19 ICU admissions remain stable at approximately seven admissions per week. The majority were 60+ years old.
- The proportion of staffed inpatient beds occupied by COVID-19 patients in Saskatchewan has decreased from 8.4% to 7.4% in the most recent week compared to the previous week.
- COVID-19 deaths have dropped from an average of 19 deaths per week in the previous three weeks to five reported deaths in the most recent week.
- With the exception of Regina, all areas of the province have less than 50% of their population up-to-date[1] for COVID-19 vaccines. Less than half of individuals aged 50+ have had more than one booster dose (46%).
- Of those aged five and older, 21% have received their latest booster dose in the last six months. Only 18% of individuals aged 12+ years have received a bivalent booster dose (n = 184,225 doses).

[1] *Up-to-date = completed a primary series and at least one additional booster, age 5+ years*

Influenza

- Influenza detections decreased to from 411 cases to 257 cases this reporting period.
- Influenza test positivity has nearly dropped in half (from 29% week ending November 20 to 14.3% week ending December 17). However, it does remain the respiratory organism with the highest test positivity in the province.
- Test positivity remains highest in the Far North East (La Ronge and area) at 46.5% and North East (Melfort and area) at 43.8%.
- Influenza cases are predominately in the 20 – 64 year age group (42%).
- Influenza outbreaks in high-risk settings decreased from seven to four in the past week.
- Influenza hospitalizations decreased in this reporting period. Influenza ICU admissions also decreased.
- Deaths due to Influenza continue to occur, with three deaths reported in the last two weeks.
- The influenza immunization campaign launched October 11, 2022. To date, less than one-quarter of the Saskatchewan population (24%) have received an influenza vaccine, a small increase (2%) from the previous reporting period. This is a 12% decrease in doses administered compared to the same time last year.

Other Respiratory Viruses[2]

- RSV detections in Saskatchewan have increased this reporting period, from 83 to 149 cases; test positivity has nearly doubled (from 5.4% to 10.5%).
- RSV cases are largely in the pediatric age group – in the most recent surveillance week 94 cases, 63%, were aged 0 – 4 years.
- RSV hospitalizations have increased over 1.5 times – from 23 hospitalizations to 37 in the most recent surveillance period. The majority of RSV hospitalizations occurred in children aged 0 – 19 years.
- 'Other' respiratory viruses increased from 121 to 155 lab confirmations in the current reporting period.
- Outbreaks of 'other' viruses in high-risk settings increased from zero to four outbreaks in the most current reporting period.

[2] *Parainfluenza viruses 1 – 4 (PIV 1 – 4); Adenovirus (ADV); Rhinovirus (RV); Human Metapneumovirus (HMPV); NOTE: RSV test positivity now exceeds 1% and reported separately.*

Table 1: Viral indicators by surveillance period, Nov 20 – Dec 17, 2022

Report date	COVID-19 positive lab test	COVID-19 test positivity	COVID-19 outbreaks	Influenza positive lab test	Influenza test positivity	Influenza outbreaks	RSV positive lab test	RSV test positivity	'Other'[1] positive lab test	'Other'[1] test positivity	'Other'[1] outbreaks
Dec 11 – Dec 17	376	5.8%	6	257	14.3%	4	149	10.5%	155	5.1%	4
Dec 04 – Dec 10	427	6.6%	4	411	20.1%	7	83	5.4%	121	3.5%	0
Nov 27 – Dec 03	461	6.6%	7	596	25.4%	8*	70	3.8%	161	4.0%	0
Nov 20 – Nov 26	489	6.8%	6	697	29.0%	3	43	2.6%	118	3.7%	2

Notes: *[1]Parainfluenza viruses 1 – 4; Adenovirus; Human Metapneumovirus, seasonal Coronavirus. See Technical Notes page 8 for further details. *some outbreaks in the previous CRISP report were attributed to the incorrect surveillance week.*

Table 2: Patient-confirmed respiratory illness by age group, Dec 11- Dec 17, 2022

Age group (Years)	COVID-19 case count	Influenza case count	RSV case count	Others case count[1]
0 - 4	23 (7%)	57 (23%)	94 (63%)	N/A
5 - 19	13 (4%)	49 (19%)	22 (15%)	
20 - 64	146 (45%)	106 (42%)	24 (16%)	
≥65	141 (44%)	41 (16%)	9 (6%)	
Total	323	253	149	155

Notes: *[1]Parainfluenza viruses 1 – 4; Adenovirus; Human Metapneumovirus, seasonal Coronavirus; age-specific data is unavailable for other respiratory pathogens. See Technical Notes page 8 for further details.*

Table 3: Sentinel* indicators by surveillance period, Nov 20– Dec 17, 2022

Report date	School illness absenteeism >=10%[1]	RLI** ED visits per 1,000[2]	RLI** 811 calls per 1,000	COVID-19 Wastewater indicator[3]	Sentinel provider test positivity[4]	Most commonly detected virus: Sentinel providers[4]
Dec 11 – Dec 17	13.2%	32.0	99.7	Low (n=3); Moderate (n=4);	No data	No data
Dec 04 – Dec 10	14.0%	47.0	115.6	Low (n=3); Moderate (n=3); Moderate-High (n=1)	No data	No data
Nov 27 – Dec 03	15.0%	38.5	133.0	Low (n=2); Moderate (n=4); Moderate-High (n=1)	22.9%	Rhinovirus
Nov 20 – Nov 26	-	55.7	150.3	Low (n=1); Moderate (n=4); High (n=1)	20.0%	Rhinovirus

Notes: **Sentinel surveillance are sampling programs representative of the population; **Respiratory-like illness (RLI); [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]Dec 04-Dec 10 based on reports from nine of thirteen reporting areas; Dec 11-Dec 17 based on reports from eight of thirteen reporting areas; [3]Count of wastewater treatment facilities reporting low, moderate or high levels of viral load causing COVID-19 infection (see Technical Notes page 8 for details); [4]Respiratory Virus Panel (RVP) Report covering the period December 4 to December 17, 2022 is unavailable.*

Table 4: Outcome, health care capacity and immunization coverage indicators by surveillance period, Nov 20 – Dec 17, 2022¥

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[3]	Deaths – Influenza[3]	Total eligible population up-to-date – COVID-19 vaccine[4]	Total eligible population Immunized for Influenza vaccine[5]
Dec 11 – Dec 17	105	4	37	4	37	1	7.4%	5	1	45.8%	24%
Dec 04 – Dec 10	116	7	71	8	23	0	8.4%	16	2	45.8%	23%
Nov 27 – Dec 03	126	9	92	9	23	5	9.4%	20	5	45.7%[6]	22%[6]
Nov 20 – Nov 26	162	16	113	10	11	2	10.2%	21	2	46.5%	21%

*¥Additional information on hospital admission stratified by respiratory organism and age group is provided below in **Figure 4** and **5** respectively. Viral infection may not be the main reason for the admission*

Cases by respiratory organisms across the age groups

- From December 4 – 17, 2022, there were 476 respiratory illness cases hospitalized with lab-positive Covid19 (221), influenza (108), RSV (60), other respiratory illnesses (72), and co-infected cases (15). Among the 476 cases, 221 Covid19 lab positives were among age groups of 0-19 (12), 20-59 (51), and ≥60 (158). Influenza lab positives (108) were among age groups of 0-19 (27), 20-59 (33), and ≥60 (48). For RSV lab positives (60), cases were among the age groups of 0-19 (48), 20-59 (8) and ≥60 (4). For other respiratory lab positives (72), cases were in the age group of 0-19 (39), 20-59 (15), and ≥60 (18). For Co-infections lab positives (15), cases were in the age group of 0-19 (10), 20-59 (3), and ≥60 (2).
- From December 4 - 17, 2022, there were 42 respiratory illness cases admitted to the ICU with lab-positive Covid19 (14), influenza (12), RSV (1), other respiratory illnesses (12), and co-infected cases (3). Among the 42 cases, 14 Covid19 lab positives were among age groups of 0-19 (1), 20-59 (4) and ≥60 (9). Influenza lab positives (12) were among age groups of 0-19 (1), 20-59 (5) and ≥60 (6). For RSV lab positives (1), cases were only in the age group of 0-19 (1). For other respiratory lab positives (12), cases were in the age group of 0-19 (6), 20-59 (3), and ≥60 (3). For Co-infections lab positives (3), cases were in the age group of 0-19 (2 and, 20-59 (1).

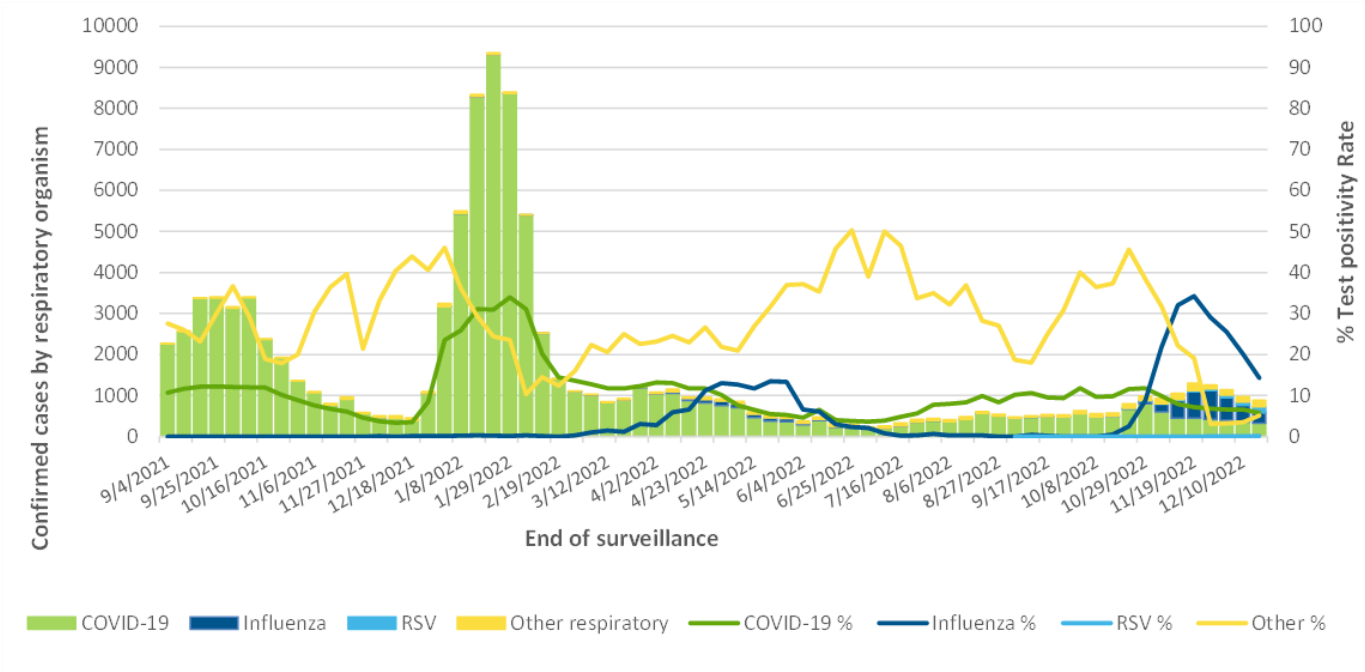
Notes:

[1] Because of the delay in date tested result, it 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 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 Coronovirus (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

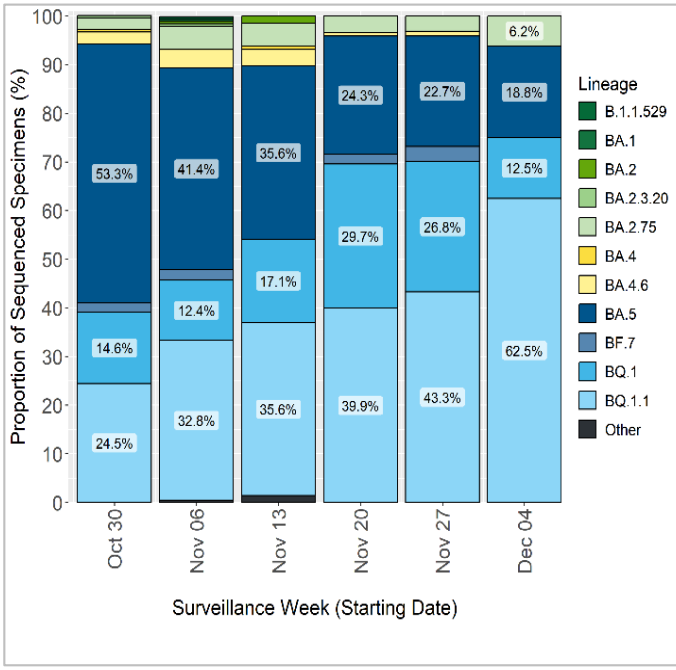
[4] Up-to-date = completed a primary series and at least one additional booster, age 5+ year. [5] Up-to-date = received a vaccination within the current influenza season, age 6 months+ See Technical Notes page 8 for details. [6] Beginning November 27, 2022, the 2022 covered population is used to calculate coverage rates (2022 Saskatchewan Covered Population, 12-Nov-2022, Ministry of Health version (2022 Version 2).

Figure 1: Epidemic curve, respiratory illness by respiratory organism and test positivity, Aug 29, 2021 - Dec 17, 2022



Data sources: *Panorama IOM extracted on December 19, 2022 (COVID-19 cases). Respiratory Virus Detections Surveillance System (influenza and other respiratory) (RRPL extracted December 21, 2022). As of September 4, 2022, COVID-19 cases include new and reinfections. For the two weeks of Dec 4 to Dec 17, 2022, there were 676 COVID-19 cases (69 were 0 to 19 years; 276 were 20 to 59 years; and 331 were 60 years and older). For the two weeks of Dec 4 to Dec 17, 2022, there were 668 influenza lab detections. For the two weeks of Dec 4 to Dec 17, 2022, there were 232 RSV detections. For the two weeks of Dec 4 to Dec 17, 2022, there were 276 other viral lab detections (parainfluenza, adenovirus, human metapneumovirus, rhinovirus, coronavirus)*

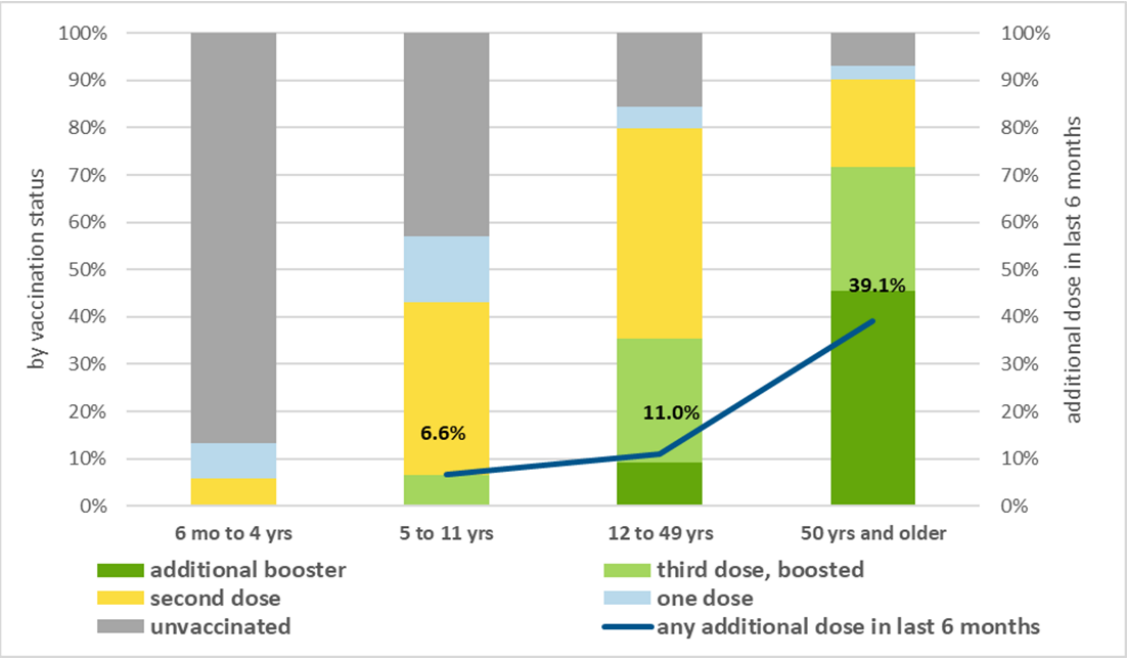
Figure 2: Percentage of SARS-CoV-2 variants by surveillance week*, Oct 30 – Dec 04, 2022



Lineage	Oct 30	Nov 06	Nov 13	Nov 20	Nov 27	Dec 04
B.1.1.529	0	1	0	0	0	0
BA.1	0	1	0	0	0	0
BA.2	0	1	2	0	0	0
BA.2.3.20	1	1	0	0	0	0
BA.2.75	5	9	7	5	3	1
BA.4	1	0	1	0	0	0
BA.4.6	5	7	5	1	1	0
BA.5	113	77	52	36	22	3
BF.7	4	4	0	3	3	0
BQ.1	31	23	25	44	26	2
BQ.1.1	52	61	52	59	42	10
Other	0	1	2	0	0	0
Total	212	186	146	148	97	16

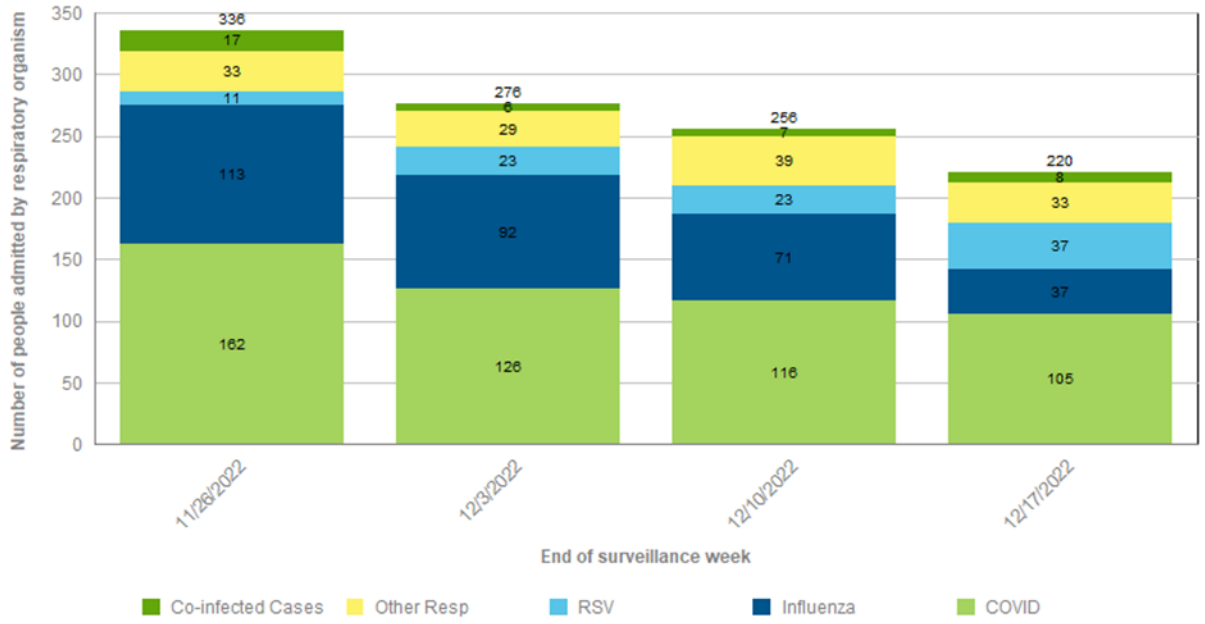
Data Source: *Roy Romanow Provincial Laboratory, Saskatchewan Health Authority, as of December 19, 2022*
The most recent VOC data available from the Provincial database is as of surveillance week ending December 10, 2022
* Surveillance week correspond to specimen collection date.

Figure 3: Proportion of residents by age group and COVID-19 vaccination status to Dec 17, 2022



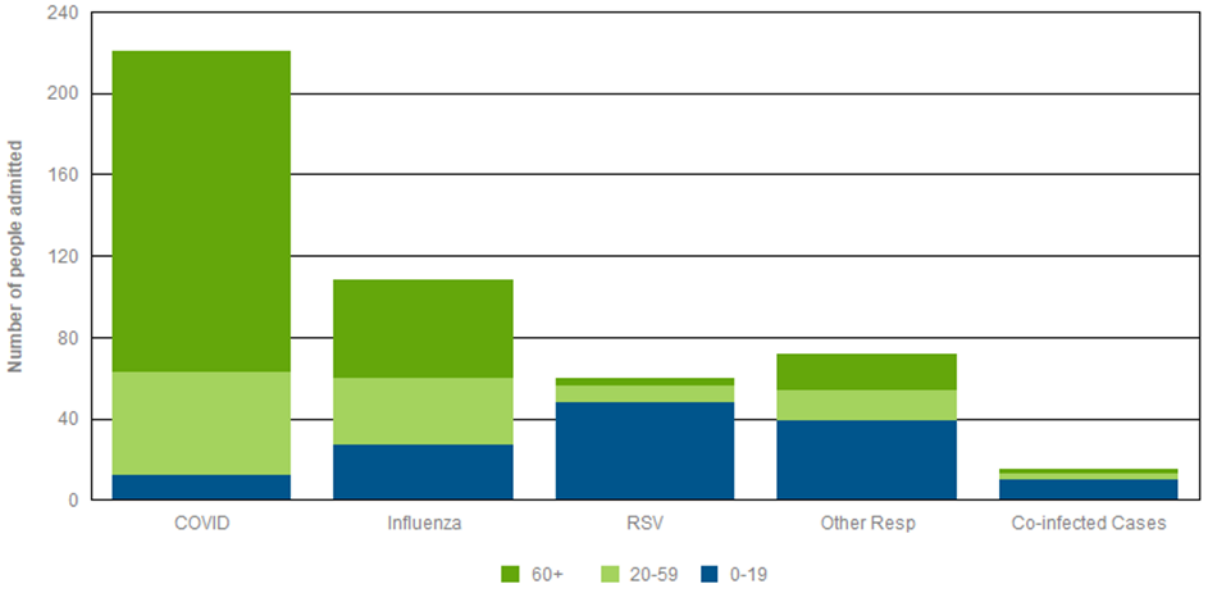
Data source(s): *Data sources: Panorama December 19, 2022; Saskatchewan Covered Population, 12-Nov-2022, Ministry of Health version (2022 Version 2) Note: Of those five years and older: 45.8% have completed their series and received a booster dose. 20.8% have received their latest dose in the last six months. Of those 12 years and older, 17.7% were administered a Moderna or a Pfizer bivalent. As of Dec 17, 2022, cumulatively doses administered are as follows: dose 1, n=991,421; dose 2, n=925,900; dose 3, n=529,467; completed plus 2 or more additional doses, n=353,259; total doses = 2,800,047*

Figure 4: The number of COVID-19, influenza, RSV, other respiratory viruses and co-infected cases admitted to hospital by week of the admission, Nov 20 – Dec 17, 2022*



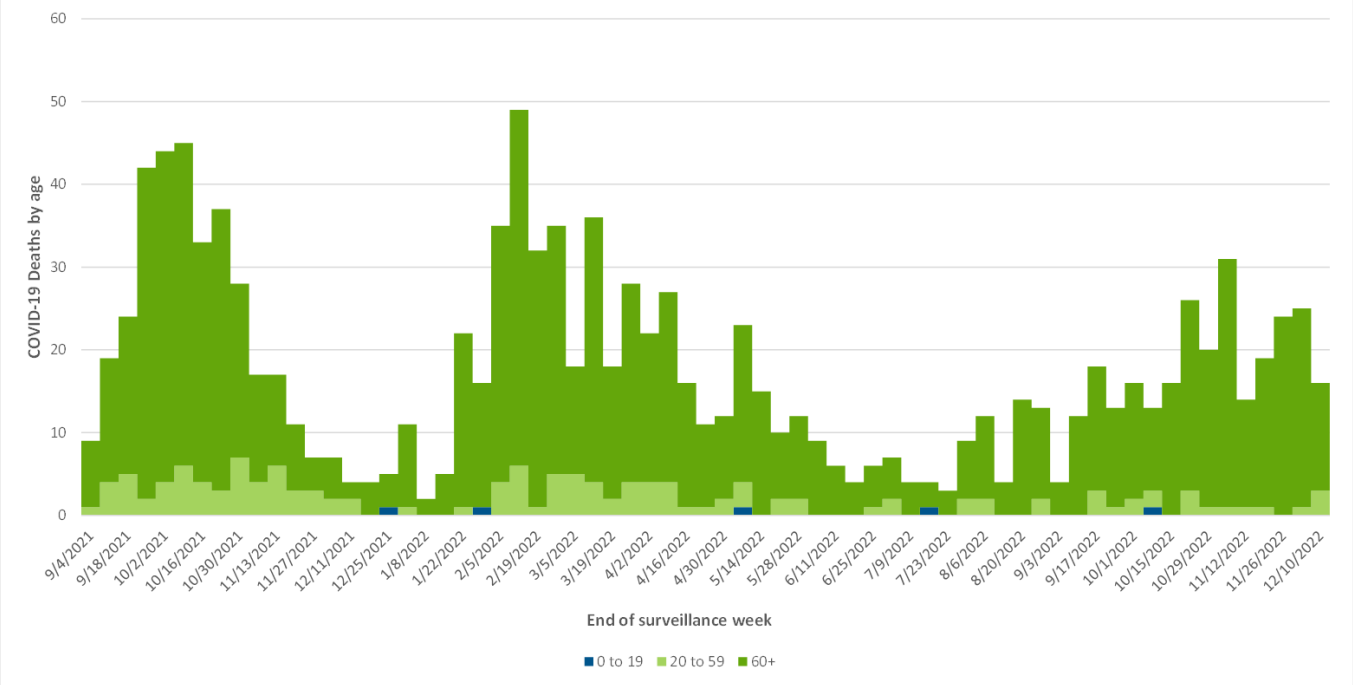
Data source(s): *Digital Health Analytics, Saskatchewan Health Authority, Episode of Care methodology (Admission, Discharge, Transfer Database (ADT, RPPL, Panorama); data extracted on December 5, 2022 * Viral infection may not be the main reason for the admission.*
Note: *Because of the delay in date tested result, it 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 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. 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: The number of COVID-19, influenza, RSV, other respiratory viruses and co-infected cases admitted to hospital by age group, Dec 04 – Dec 17, 2022*



Data source(s): *Digital Health Analytics, Saskatchewan Health Authority, Episode of Care methodology (Admission, Discharge, Transfer Database (ADT, RPPL, Panorama); data extracted on December 5, 2022 * Viral infection may not be the main reason for the admission*
Note: *Because of the delay in date tested result, it 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 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. 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 6: COVID-19 deaths by age group and week, Sep 4 - Dec 17, 2022*



Data source(s): *Panorama December 19, 2022*
In the past two weeks, Dec 4 to Dec 17, there have been 21 deaths in COVD-19 cases, four in the 20 to 59 age group, and 17 in the 60 years or older group.
** Total COVID-19 deaths from March 2020 to December 17, 2022 (n = 1,781)*

Table 5: Community Respiratory Infection Surveillance Program Indicators by zone, Dec 11 – Dec 17, 2022

Location	Test positivity – COVID-19[1]	Test positivity – Influenza	RLI* visits to EDs per 1,000[2]	RLI* 811 calls per 1,000[3]	School illness absenteeism >=10%[4]	Wastewater indicator[5]	Total eligible population up-to-date vaccination – COVID-19[6]	Total eligible population Immunized for– Influenza[7]
Far North West (Meadow Lake and area)	9.3%	12.2%	10.1	-	2.8%	-	24.3%	10%
Far North Central	11.1%	25.0%	No data	-	0.0%	-	14.4%	3%
Far North East (La Ronge and area)	4.3%	46.5%	No data	-	8.7%	-	24.8%	8%
North West (North Battleford/ Lloydminster and area)	9.1%	7.5%	13.3	79.6	14.4%	Moderate	35.3%	17%
North Central (Prince Albert and area)	9.8%	11.6%	No data	-	12.0%	Moderate	40.5%	20%
North East (Melfort and area)	7.9%	43.8%	184.6	78.4	13.3%	-	43.8%	24%
Saskatoon	8.6%	12.7%	7.9	120.4	14.0%	Moderate	48.8%	25%
Central West (Kindersley and area)	6.3%	10.2%	157.4	-	12.3%	-	43.9%	27%
Central East (Yorkton/Melville and area)	7.1%	12.2%	No data	-	10.8%	Low	45.6%	24%
Regina	6.2%	11.1%	51.9	73.7	13.6%	Moderate	51.5%	25%
South West (Swift Current/Maple Creek and area)	6.0%	17.1%	156.9	118.9	14.8%	Low	40.7%	24%
South Central (Moose Jaw and area)	4.1%	10.3%	No data	-	13.1%	Low	44.2%	25%
South East (Weyburn/Estevan and area)	7.4%	21.3%	53.2	124.3	15.9%	-	39.2%	22%
Unknown/Out of Province	4.0%^	13.1%			9.6%			
SASKATCHEWAN	**5.8%**	**14.3%**	**32.0%**	**99.7**	**13.2%**		**45.8%**	**24%**

*Notes: [1]by week of lab detection; effective Oct 30, 2022 includes cases who tested positive more than once >= 90 days apart; ^ For COVID-19 test positivity all tests reported were performed within the province. [2]Based on reports from eight of thirteen reporting areas; [3]811 data available at the five 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.; *Respiratory-like illness (RLI); [5]Count of wastewater treatment facilities reporting low, moderate or high levels of viral load causing COVID-19 infection, SK overall estimate currently unavailable as this metric tends to overestimate and underestimate wastewater level due to varied patterns across regions, which is difficult to synchronize with the population size of each region; source: University of Saskatchewan and Regina wastewater research teams; [6]Up-to-date = completed a primary series and at least one additional booster, age 5+ years; [7]received a vaccination within the current influenza season, age 6 months+; Does not include doses administered through NITHA or FNIHB, therefore some zones underestimated coverage. ^Includes positive tests with pending locations.*

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 University of Saskatchewan and University of Regina Wastewater Team. Viral load for each zone was used to determine risk level (Low, Medium, Medium-High, High) using a four-bin system based on 100% of early Omicron peak reported. Locations sampled, includes: Saskatoon, Regina, Lumsden, North Battleford, Prince Albert, Yorkton, Swift Current, Moose Jaw, and Weyburn

4. Data collection from Emergency Departments (ED): Monitoring is done for a twenty-four hour period on at least one-week day (the exact time vary with the ED schedule). The ED reports to local public health services in their area on Wednesday afternoon and public health report to the Ministry of Health on Thursday each week. The count of Respiratory Like Illness (RLI) patients as a proportion of total ED admissions is captured.

5. Reporting ED surveillance information: Because there is no centralized data capture source for ED admissions in the province, each health area sets up a mechanism for EDs to report to public health services. Public health aggregates raw data from their EDs on the prescribed data collection form and sends it to the Ministry of Health for overall provincial monitoring. FNIHB and NITHA will report to the local zone which the ED or health centre is located. This does not preclude monitoring in First Nations health care facilities.

6. 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.

7. 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

8. 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.

9. 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 or, 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.

10. 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 linages is done by conducting whole genome sequencing (WGS) at RRPL or the National Microbiology Laboratory. one to two weeks to complete WGS. 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.

11. VOC Lineages B.1.1.529, BA.1, BA.2, BA.2.3.20, BA.2.75, BA.4, BA.4.6, BA.5, BF.7, BQ.1, and BQ.1.1 are all classified under the WHO Label of "Omicron". Omicron lineages BA.2.3.20, BA.2.75, BA.4.6, BF.7, BQ.1, and BQ.1.1 are emerging global variants that RRPL continues to monitor. Lineages that are not explicitly listed are aggregated under their corresponding parent lineage (e.g., BA.1, BA.2, BA.4, or BA.5). Previously, BA.2.3.20 and BA.2.75 were sublineages aggregated with BA.2; BA.4.6 was aggregated with BA.4; BF.7, BQ.1, and BQ.1.1 were aggregated with BA.5. "Other" represents non-Omicron lineages as well as recombinant genomes – these include 1 case of XBB and 2 cases of recombinant genomes that do not have a designated lineage name at the time of this publication. Percentages are shown when a lineage constitutes 5% or more of total specimens evaluated for a given surveillance week. BA.5 and its sublineages (denoted as BA.5*) are the most commonly detected variants (92.4% of current reporting period), followed by BA.2* (3.7%) and BA.4* (2.6%).

12. 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.

13. 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

14. 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 Covered Population, 08-Jul-2021 Ministry of Health version (2021 Version 1). 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.

15. 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 Covered Population, 08-Jul-2021 Ministry of Health version (2021 Version 1). Vaccination for the current influenza season officially began October 11, 2022. Some doses were administered prior to the start date.

16. 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=∑(8am covid census) ÷ ∑(8am beds staffed and in operation) × 100%.** Where "bed staffed and in operation = " Planned beds" + "Surge Beds" - " Closed" and ∑(…) 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).