COVID-19 Integrated Epidemiology Situation Report

Week of April 10-16, 2022

Purpose

This report provides COVID-19 surveillance information at the provincial and COVID-19 reporting zone levels on a weekly basis. Surveillance information is used for a variety of public health purposes including public communications and decision-making, both strategic and operational. The reporting week for most public health surveillance data runs from Sunday to Saturday and the data are analysed early the following week.
The hospital census data are compiled on a Wednesday to Wednesday cycle to ensure the most up-to-date information is available.

The report provides a snapshot of key indicators for the previous week. Where appropriate, longer term comparisons are offered to provide context on the profile of COVID-19 in Saskatchewan. New information is also introduced in this report, such as sentinel surveillance. Sentinel surveillance involves the collection of information about respiratory illness from a variety of sites across the province. For example, analysis of visits to emergency departments for COVID-like illness provides information about community transmission of respiratory illnesses in the province.

Highlights for the week

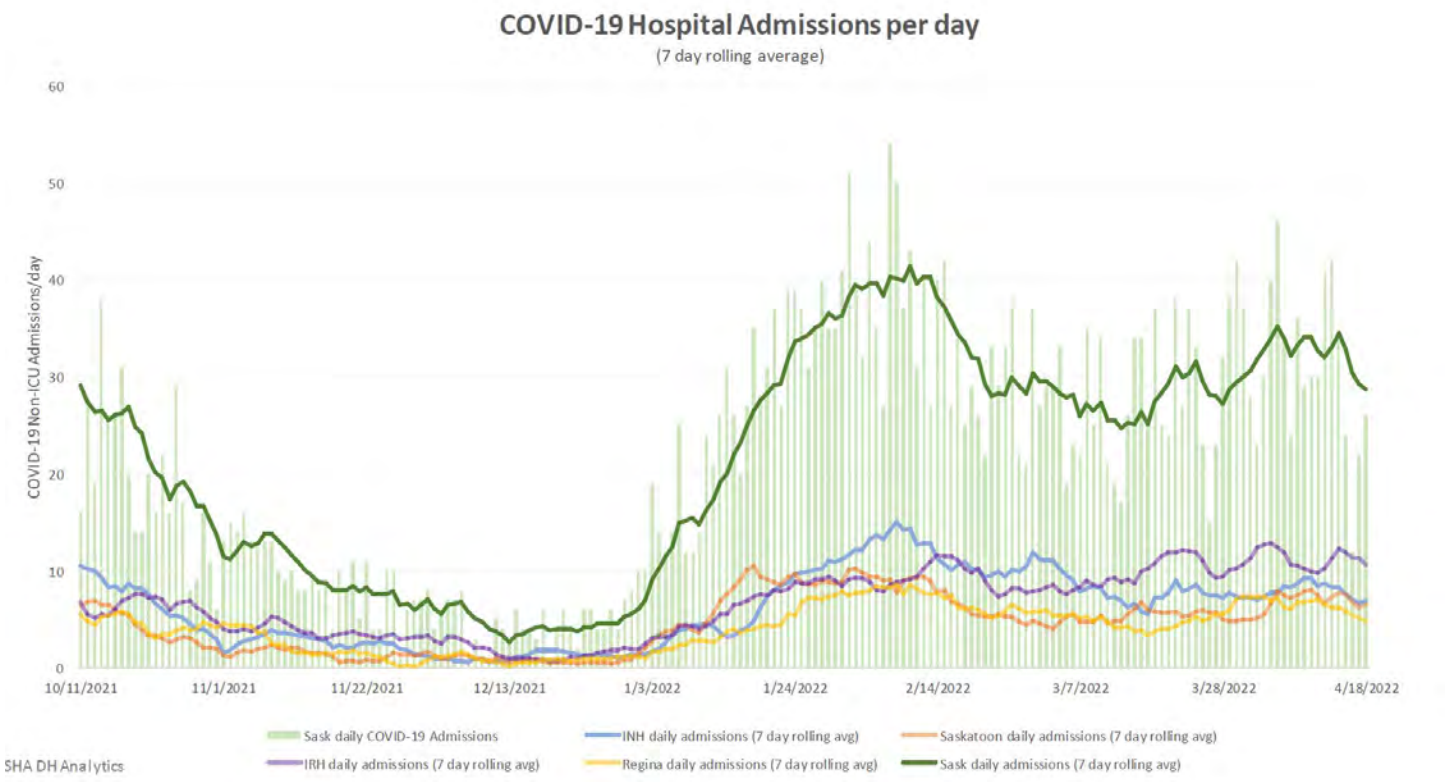
- 7,354 laboratory tests were performed in Saskatchewan reflecting 6.1 tests performed per 1,000 population.
- The number of tests was lower than the number of tests in the previous week (7,996).
- Slightly more than one in nine laboratory tests were positive (weekly test positivity of 11.7%), which is lower compared to the previous week (13.0%).
- 890 new cases were confirmed reflecting about 0.7 laboratory-confirmed cases per 1,000 population.
- The number of new laboratory-confirmed cases was lower than the number of new cases in the previous week (1,050).
- There were 539 new lineage results reported this week. Of the 539 variants of concern identified by whole genome sequencing, 100% were Omicron.
- The Omicron BA.2 sublineage accounted for 61.4% of the VOCs reported this week, which was higher compared to the previous week.
- There were 22 newly-reported COVID-19 deaths, 10.0% higher than in the previous week (20).
- During the two months period, from February 13 to April 16, 2022, the risk of hospitalization, ICU admission and death was five, nine and seven times higher respectively, among unvaccinated individuals compared to those vaccinated with three doses.
- There were 39.5 COVID-like illness patients per 1,000 emergency department visits which is higher than the average weekly rate in the previous six weeks (34.2 per week/1,000 visits).
- 18 confirmed COVID-19 outbreaks in long-term care and care home settings were reported this week.
- As of April 16, 2022, of the population five years and older, 85.8% received at least one dose of a two-dose COVID-19 vaccine and 80.8% completed a series.
- Among the population 18 years and older, 51.7% had received at least one booster vaccination.

Weekly COVID-19 Hospitalization Indicators: April 13, 2022 as compared to April 20, 2022

	13-Apr	20-Apr	Change from last reporting period
Total Covid Hospitalized	403	417	+14
Total Covid Adult ICU/ICU Surge	25	25	0
Average Daily Admissions over past 7 days	32	26	-6
Total Covid Related Illness	152	160	+8
Total Incidental Covid Infection	232	225	-7
Total Patient Under Investigation	19	32	+13

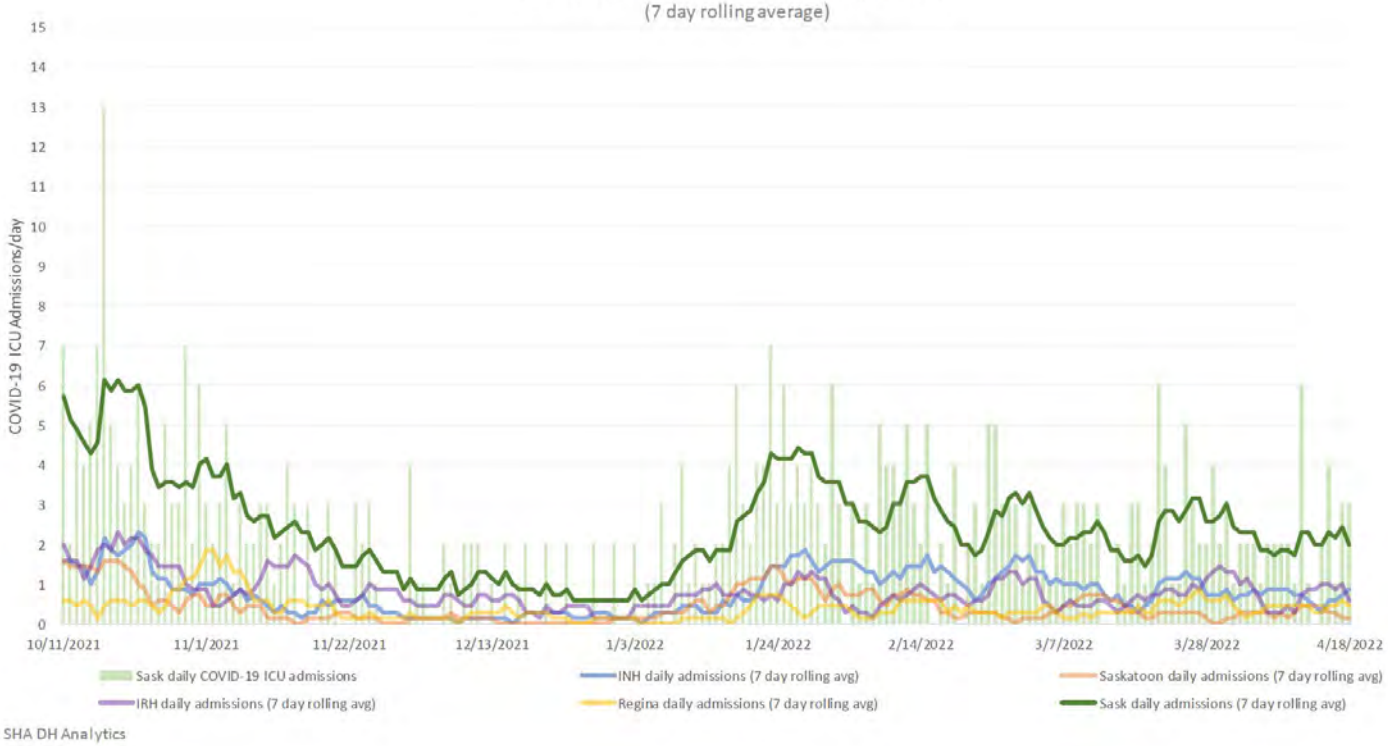
All data is reflective of the 12:00pm (noon) snapshot with the exception of the average daily admissions over past 7 days, which is reflective of the previous Wednesday to Tuesday reporting cycle.

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.



COVID-19 ICU Admissions per day

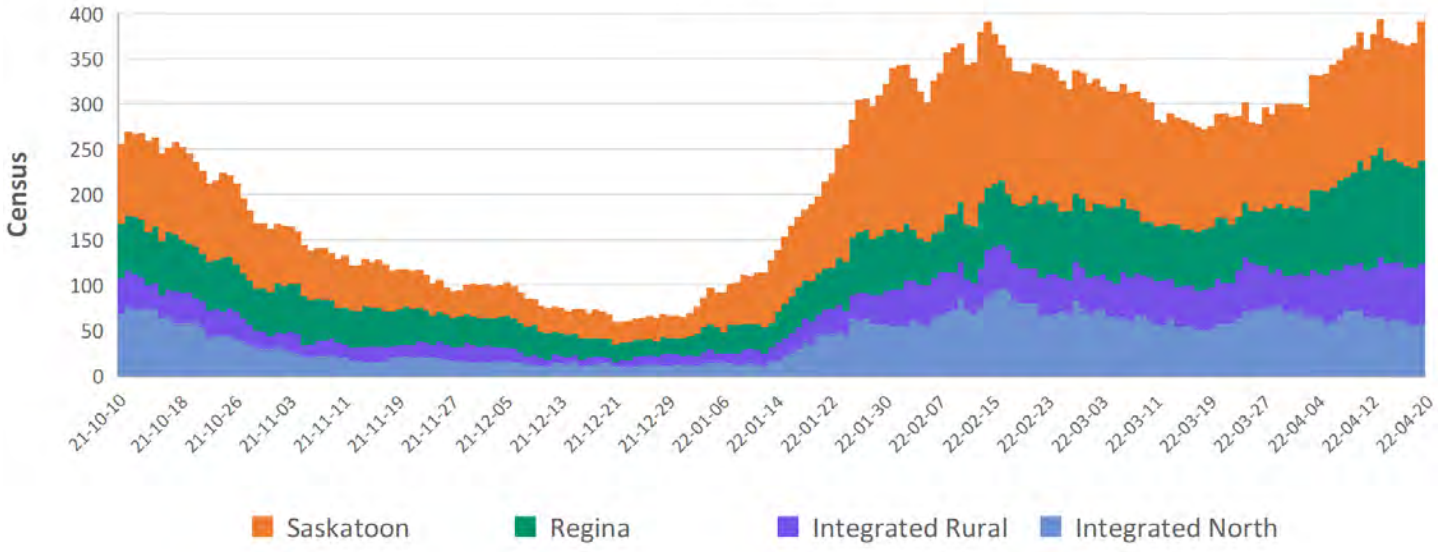
(7 day rolling average)

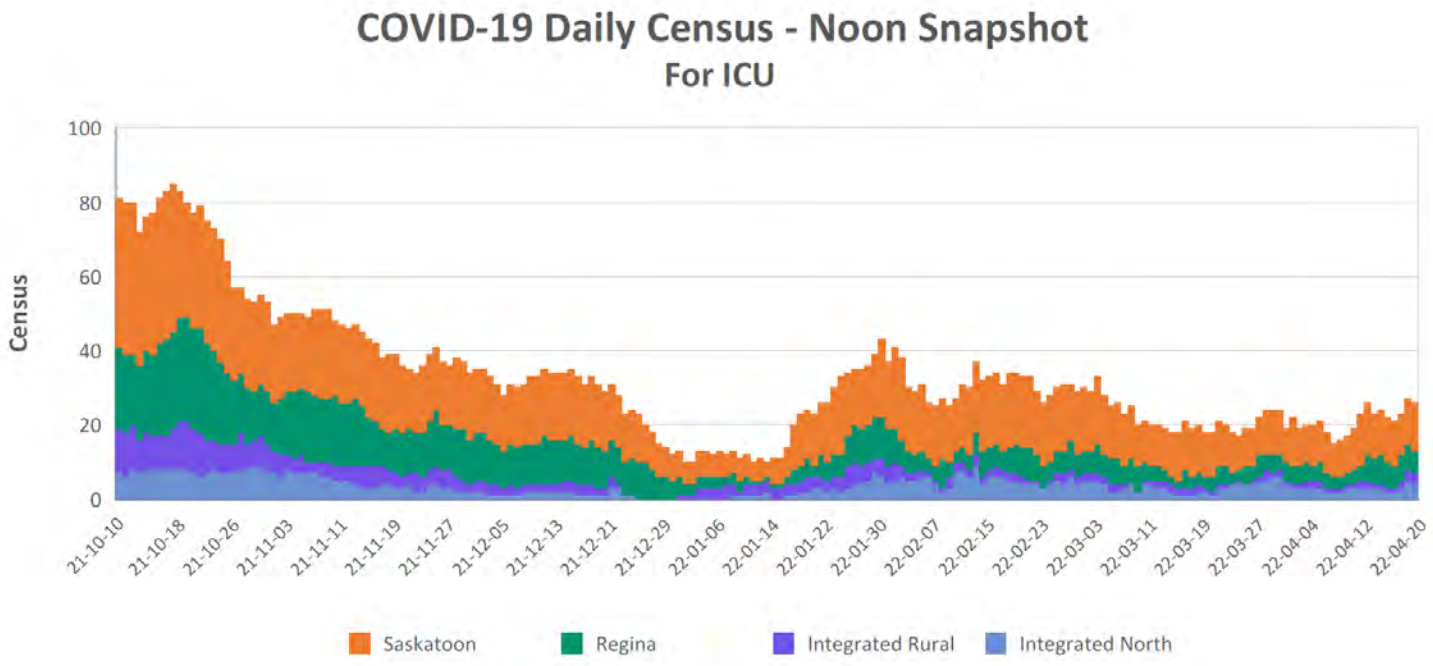


SHA DH Analytics

COVID-19 Daily Census - Noon Snapshot

For Inpatient





Distribution of Rapid Antigen Tests in Saskatchewan by Streams from November 2020 to April 15, 2022

Sector	SPSA	SHA	Sector Totals
SHA Internal	0	4,027,208	**4,027,208**
NITHA/ISC	2,554,085	433,720	**2,987,805**
Schools	1,104,875	1,390,000	**2,494,875**
Congregate Living	235,610	427,082	**662,692**
Law Enforcement & Fire Depts.	162,760	37,440	**200,200**
EMS	0	15,615	**15,615**
Test to Protect & Unclassified	0	307,600	**307,600**
Public Distribution Centres	7,697,025	1,327,660	**9,069,685**
Total Tests:	**11,754,355**	**8,011,325**	**19,765,680**

- There are currently 659 public distribution centres in the province. The full list is available at https://www.saskatchewan.ca/government/health-care-administration-and-provider-resources/treatment-procedures-and-guidelines/emerging-public-health-issues/2019-novel-coronavirus/testing-information/rapid-testing/locations-for-rapid-antigen-self-test-kits
- Previously reported rapid testing tables included all rapid test types, including Abbot ID Now tests which are a rapid PCR test used exclusively in healthcare settings. The table has been updated for the week ending March 31 to report rapid antigen tests only.

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A. Laboratory Surveillance

Overview of COVID-19 Laboratory Tests

Table 1: Summary of COVID-19 laboratory tests for the week of April 10 to 16, 2022, by zone

Zone	Current Week (April 10 to 16, 2022)			Previous Week (April 3 to 9, 2022)			Change from Previous Week	
	Total Number of Tests Performed	% Tested Positive*	Tests performed per 1,000 population	Total Number of Tests Peformed	% Tested Positive	Tests performed per 1,000 population	Test Positivity	Tests performed per 1,000 population
FNW	142	10.6%	4.8	132	9.8%	4.4	↑ 0.8	↑ 0.4
FNC**	20	-5.0%	7.6	12		4.5	↓ -5.0	↑ 3.1
FNE	86	3.5%	3.5	84	9.5%	3.5	↓ -6.0	→ 0.0
NW	342	9.6%	4.2	354	10.5%	4.3	↓ -0.9	↓ -0.1
NC	295	10.5%	3.3	276	11.2%	3.1	↓ -0.7	↑ 0.2
NE	218	10.1%	5.2	234	13.7%	5.6	↓ -3.6	↓ -0.4
ST	1,402	14.7%	4.1	1,582	15.9%	4.7	↓ -1.2	↓ -0.6
CW	110	16.4%	3.0	116	20.7%	3.1	↓ -4.3	↓ -0.1
CE	543	12.2%	5.5	494	16.0%	5.0	↓ -3.8	↑ 0.5
RE	540	11.5%	2.0	670	17.9%	2.5	↓ -6.4	↓ -0.5
SW	185	14.1%	4.8	167	9.6%	4.3	↑ 4.5	↑ 0.5
SC	277	13.4%	4.6	320	11.9%	5.3	↑ 1.5	↓ -0.7
SE	270	13.7%	3.0	291	16.8%	3.3	↓ -3.1	↓ -0.3
Unknown	2,924	10.5%		3,264	10.5%		→ 0.0	
SK	**7,354**	**11.7%**	**6.1**	**7,996**	**13.0%**	**6.6**	↓ **-1.3**	↓ **-0.5**

Source: RRPL Daily Test Count Table by new zones, extracted April 18, 2022; Covered Population, 08-Jul-2021 Ministry of Health version (2021 Version 1).
As of February 7, 2022 RRPL PCR testing was reserved for populations deemed to be at an elevated risk for severe outcomes (see details in Technical Notes)
*Test positivity is based on the number of tests that were positive and does not necessarily equal the number of cases in Table 2.
** This week's negative test positivity result for FNC zone was associated with retraction of one (1) previously confirmed case by the SHA due to one or more of the following reasons: identification of cases from out of province, rejection of specimens, or amendment of reports.

For the week of April 10 – 16, 2022:

- 7,354 laboratory tests were performed in Saskatchewan.
- The number of tests per 1,000 population was 6.1. This was lower than the previous week (April 3 to 9, 2022) by 0.5 tests per 1,000 population. It was also lower than the average for the previous four weeks (March 13 to April 9, 2022) by 0.3 tests per 1,000 population where the weekly average rate was 6.4 tests per 1,000 population.
- The Far North Central zone had the highest testing rate at 7.6 tests per 1,000 population. The Regina zone had the lowest testing rate at 2.0 tests per 1,000 population.
- 11.7% of tests in the province were positive. This was 1.3 percentage points lower than in the previous week (April 3 to 9, 2022) and the average for the previous four weeks (March 13 to April 9, 2022) where the average was 12.5%.
- The Central West zone (16.4%) had the highest test positivity. Of zones with positive cases, the Far North East zone had the lowest test positivity (3.5%).

Overview of COVID-19 Laboratory-Confirmed Cases

Table 2: Summary of new laboratory-confirmed COVID-19 cases per 1,000 population for the week of April 10 to 16, 2022 by zone

Zone	New cases		Previous Week		Change in Cases per 1,000 from Previous Week	Weekly Rate in Previous Four Weeks		Change from Previous 4-week Rate
	Confirmed cases	Cases[1] per 1,000	Confirmed cases	Cases[1] per 1,000		Confirmed cases	Cases[1] per 1,000	
FNW	19	0.6	13	0.4	0.2	18	0.6	0.0
FNC			1	0.4	-0.4	0	0.1	-0.1
FNE	8	0.3	9	0.4	-0.1	14	0.6	-0.3
NW	66	0.8	64	0.8	0.0	106	1.3	-0.5
NC	54	0.6	56	0.6	0.0	48	0.5	0.1
NE	31	0.7	43	1.0	-0.3	42	1.0	-0.3
ST	258	0.8	302	0.9	-0.1	267	0.8	0.0
CW	38	1.0	44	1.2	-0.2	34	0.9	0.1
CE	90	0.9	114	1.2	-0.3	112	1.1	-0.2
RE	134	0.5	207	0.8	-0.3	196	0.7	-0.2
SW	34	0.9	20	0.5	0.4	26	0.7	0.2
SC	52	0.9	52	0.9	0.0	58	1.0	-0.1
SE	56	0.6	71	0.8	-0.2	81	0.9	-0.3
Pending	50		54			42		
SK	**890**	**0.7**	**1,050**	**0.9**	**-0.2**	**1,042**	**0.9**	**-0.2**

Source: RRPL line list April 18, 2022.

[1] Proportion per 100,000 calculated using the Saskatchewan 2021 Covered Population, 08-Jul-2021 Ministry of Health SAS version (2021 Version 1)

Data should be interpreted with caution because they do not include cases detected by home rapid-antigen-test kits.

For a given week, the number of cases in Table 2 can be different from the number of tests used to calculate test positivity in Table 1, because the RRPL test dates may be in a different week than case dates used in Panorama. Due to continuous revision of records, the number of cases may change from week to week.

For the week of April 10 – 16, 2022

- 890 new cases were confirmed by a positive laboratory test.
- The proportion of new laboratory-confirmed cases was 0.7 per 1,000 population, a decrease from 0.9 last week
- It was also lower than the average weekly rate for the previous four weeks (March 13 to April 9, 2022) by 0.2 cases per 1,000 population.
- The highest proportion of new cases for the week was in Central West zone, at 1.0 per 1,000 population. Of zones with positive cases, the Far North East had the lowest proportion (0.3 per 1,000 population).
- Compared with last week's proportion of cases, two zones increased, FNW and SW. The remaining zones decreased or remained unchanged.
- Rates should be interpreted with caution because they do not include cases detected by home rapid-antigen test kits.

Figure 1: Map of new laboratory-confirmed COVID-19 cases by zone and area for the week of April 10 to 16, 2022

For the week of April 10 to 16, 2022:

- 27 new cases in the Far North (FNW, 19 cases; FNC, 0 cases; FNE, 8 cases);
- 151 new cases in the North (NW, 66 cases; NC, 54 cases; NE, 31 cases);
- 258 new cases in the Saskatoon area;
- 128 new cases in the Central area (CW, 38 cases; CE, 90 cases);
- 134 new cases in the Regina area; and
- 142 new cases in the South (SW, 34 cases; SC, 52 cases; SE, 56 cases).
- 50 new cases still have pending residence information.

Source: RRPL line list April 18, 2022.
The zones include cases reported by First Nations (FN) jurisdictions based on the location of the FN community.
Far North – Far North West, Far North Central, Far North East;
North – North West, North Central, North East; Saskatoon;
Central – Central West, Central East; Regina; South – South West, South Central, South East.

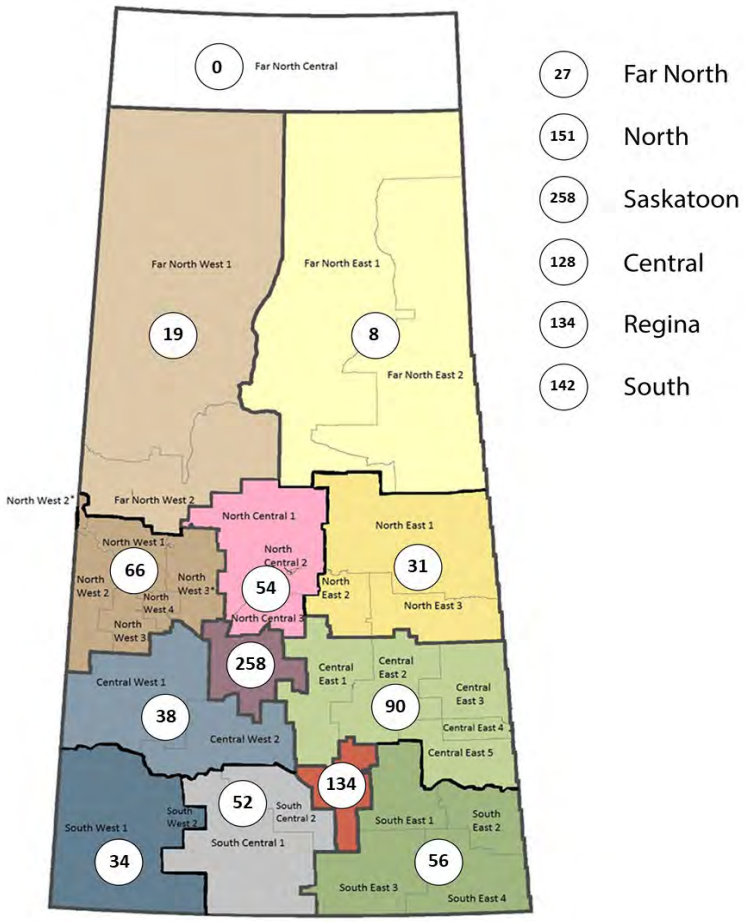
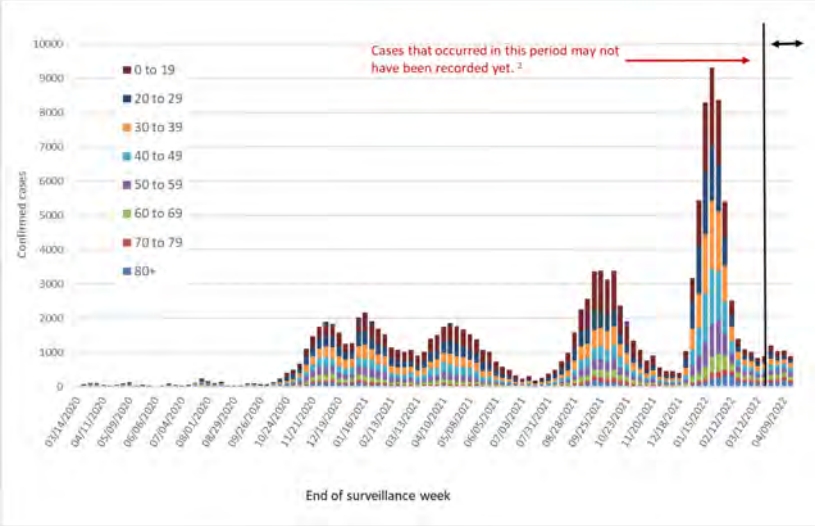


Figure 2: Laboratory-confirmed cases[1], by age group and week, March 8, 2020 to April 16, 2022

- From March 8, 2020 to April 16, 2022, there were 135,099 laboratory-confirmed cases.
- Close to half of the cases were between 20 and 49 years of age and over one-quarter were younger than 20 years of age.



Source: Panorama IOM April 18, 2022.
[1] Panorama IOM record.
[2] Due to data entry lag, cases for this period may be under-reported and not captured in this figure.

Variants of Concern

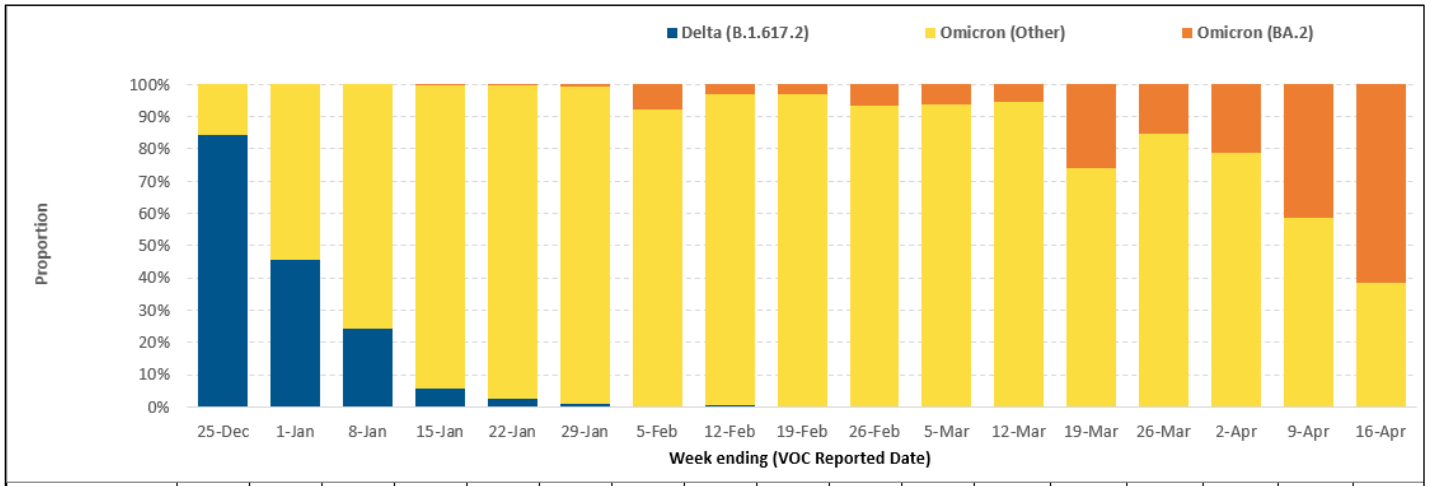
Table 3: Distribution of Variants of Concern (VOC) among sequenced COVID-19 cases for the week April 10 to 16, 2022 by zone

MoH Zone	Current week (April 10 – 16 , 2022)				Previous week (April 3 – 9 , 2022)			
	Omicron VOC		Delta VOC	Total	Omicron VOC		Delta VOC	Total
	BA.2 sublineage	Other sublineage			BA.2 sublineage	Other sublineage		
Far North West	66.7%	33.3%		**3**	25.0%	75.0%		**8**
Far North Central				**0**				**0**
Far North East	16.7%	83.3%		**6**		100%		**4**
North West	80.0%	20.0%		**75**	42.4%	57.6%		**59**
North Central	78.9%	21.1%		**19**	23.1%	76.9%		**13**
North East	55.6%	44.4%		**9**	26.7%	73.3%		**15**
Saskatoon	55.4%	44.6%		**148**	39.5%	60.5%		**76**
Central West	83.3%	16.7%		**6**	70.0%	30.0%		**10**
Central East	59.2%	40.8%		**71**	39.5%	60.5%		**43**
Regina	59.3%	40.7%		**108**	47.5%	52.5%		**59**
South West	84.6%	15.4%		**13**	76.9%	23.1%		**13**
South Central	50.0%	50.0%		**32**	54.1%	45.9%		**37**
South East	56.1%	43.9%		**41**	22.2%	77.8%		**36**
Pending	62.5%	37.5%		**8**	50.0%	50.0%		**2**
Total	**61.4%**	**38.6%**	**0**	**539**	**41.3%**	**58.7%**	**0**	**375**

Source: Panorama April 18, 2022.
Notes:
Results are based on the date Variants of Concern (VOC) were reported by the provincial laboratory (RRPL).
MoH zones are assigned based on information as available in the Panorama database.
Pending cases are those whose geograpical information is not available at the time of reporting.

- There were 539 VOCs reported during the current week (April 10 - 16) compared to 375 in the previous week (April 3 - 9).
- Of the total VOCs reported in the past two weeks, 100% were of Omicron lineage.
- 61.4% of Omicron VOC were of sublineage BA.2 which was higher in comparison to last reporting week.

Figure 3: Distribution of VOCs among sequenced COVID-19 cases (N=7,341), between weeks ending on December 25, 2021 and week ending on April 16, 2022



	25-Dec	1-Jan	8-Jan	15-Jan	22-Jan	29-Jan	5-Feb	12-Feb	19-Feb	26-Feb	5-Mar	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr
Delta counts	304	43	190	66	11	5		1				1					
Omicron (other)	56	51	594	1,058	453	613	83	233	157	472	597	330	109	338	346	220	208
Omicron (BA.2)				3	1	5	7	8	5	34	40	19	38	62	94	155	331
Total	**360**	**94**	**784**	**1,127**	**465**	**623**	**90**	**242**	**162**	**506**	**637**	**350**	**147**	**400**	**440**	**375**	**539**

Data source: Panorama IOM; data extraction: April 18, 2022
VOC reported date are based on date VOC reported by the provincial lab (RRPL)
Results are based on the number of samples sequenced and the date VOCs were reported by RRPL.

- The Omicron VOC was first reported in South Africa, and the World Health Organization designated Omicron as a variant of concern on November 26, 2021.
- Of all 7,341 positive samples sequenced between December 19, 2021 and April 16, 2022, 8.5% (621) were Delta VOC and 91.5% (6,720) were Omicron VOC.
- The proportion of Delta VOC declined rapidly, and none has been reported in the past five reporting weeks.
- The Omicron VOC rapidly increased since the first week of January and became the dominant variant in Saskatchewan.

B. Description of Severe COVID-19 Cases

Table 4: Number and proportion of COVID-19 deaths newly reported during the week of April 10 to 16, 2022

- For the week of April 10 to 16, 2022, there were 22 newly reported COVID-19 deaths.
- More than one-quarter, six (6), of the newly reported deaths were in the Regina zone and about one-quarter, five (5), were in NW zone.
- Of this week's newly reported deaths, 13 occurred within the week. Eight (8) deaths occurred in previous weeks (March 24 to April 9, 2022), but were reported this week. One death did not report a date of death, as yet.
- Death rates should be interpreted with caution because of small numbers.

	Deaths	
Zone	**Number**	**[1]Deaths per 100,000 population**
FNW		
FNC		
FNE		
NW	5	6.1
NC	2	2.2
NE		
ST	1	0.3
CW		
CE	3	3.0
RE	6	2.2
SW		
SC	3	5.0
SE	2	2.2
Pending		
SK	**22**	**1.8**

Source: Panorama IOM April 18, 2022.
[1] Proportion per 100,000 calculated using the Saskatchewan 2021 Covered Population, 08-Jul-2021 Ministry of Health SAS version (2021 Version 1).
This week's newly reported deaths did not necessarily occur in this past week. They may have occurred in previous weeks but only reported in this week.

Table 5: Age and sex distribution of deaths with COVID-19, newly reported the week of April 10 to 16, 2022

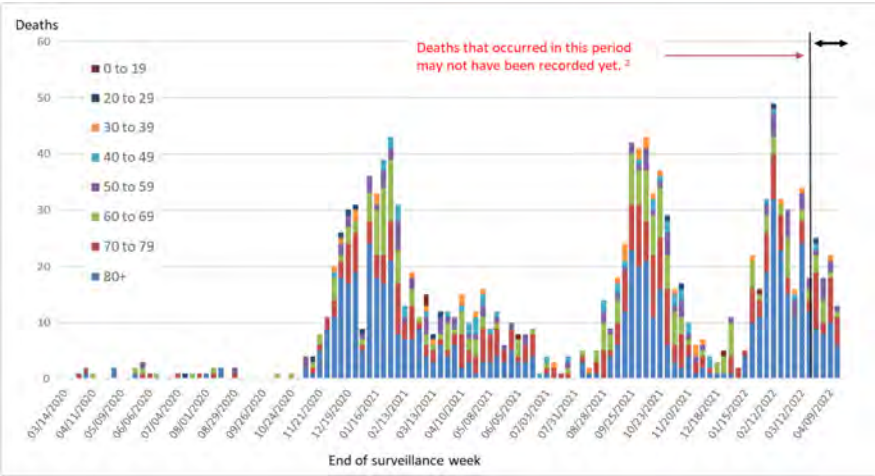
- For the week of April 10 to 16, 2022, there were 22 newly reported COVID-19 deaths.
- Three (3) of the newly reported deaths, about 14.0%, were among those 69 years and younger.
- Nineteen of 22, more than 86.0%, of the deaths were among those 70 years of age or older.
- More females, almost 60.0% of the total, than males recorded deaths this past week.
- Of this week's newly reported deaths, 13 occurred within the week. Eight (8) deaths occurred in previous weeks (March 24 to April 9, 2022), but were reported this week. One death did not report a date of death, as yet.

Age and sex distribution		Deaths	
		n	**%**
Age (years)	19 and younger		
	20 to 39		
	40 to 59	1	5
	60 to 69	2	9
	70 to 79	7	32
	80 or older	12	55
	TOTAL	**22**	**100**
Sex	Female	13	59
	Male	9	41
	TOTAL	**22**	**100**

Source: Panorama IOM April 18, 2022

Figure 4: Deaths[1] in COVID-19 cases, by age group and week of death, March 8, 2020 to April 16, 2022

- From March 8, 2020 to April 16, 2022, there were 1,295 cases with a fatal outcome.
- More than one in five deaths (288 or 22.2%) were in the 70 to 79 year age group and about one-half (597 or 46.1%) were in the 80 years and older age group.
- Five (5), or 0.4% of deaths, were reported in the age group 19 years and younger.



Source: Panorama IOM April 18, 2022
[1]Death means the Panorama IOM record reported outcome-fatal.
[2]Due to data entry lag, deaths for this period may be under-reported and not captured in this figure.

Table 6: Most common pre-existing conditions among severe COVID-19 cases in Saskatchewan between, March 8, 2020 and April 16, 2022**

- There were 2,909 severe cases who reported having one or more underlying pre-existing conditions.
- Of the cases with underlying condition, the most common pre-existing conditions were hypertension (54.3%), diabetes (45.2%), heart disease (36.5%), lung disease (27.8%), obesity (8.0%) and pregnancy (2.1%)

Co-morbidity	Number of cases (N=2,909*)	Percent
Hypertension	1,581	54.3%
Diabetes	1,314	45.2%
Heart Disease	1,062	36.5%
Lung Disease	809	27.8%
Obesity	232	8.0%
Pregnancy	62	2.1%

Source: Panorama IOM April 18, 2022
Note - Some cases reported recently are yet to be reported in Panorama.
*Number of cases represents unique clients who can have more than one underlying condition.
** Severe cases indicate those cases where case investigation showed admitted to hospital and/or ICU, and death.

Figure 5: Comparison of relative risk of hospitalization, ICU admission and death among Saskatchewan residents by vaccination status, from February 13, 2022 to April 16, 2022

Source: SHA Digital Health Analytics
Unvaccinated - Individuals with no record of vaccine received or vaccinated with first dose but less than 21 days from receiving the first dose. Vaccinated with 2 doses - Individuals who have received their second dose for more than 14 days or if their third dose is less than 14 days. Vaccinated with 3 doses - Individuals who have received their third dose for more than 14 days.
Ages 12 years and older
Does not include cases with partial vaccination.

- This chart is updated every two weeks. An updated version of this chart will be included in the April 24-30 weekly report.
- Overall in Saskatchewan, the rates of COVID-19 hospitalization, ICU admission and deaths are higher among people who are unvaccinated than among people with two or three vaccinations.
- In each age group, rates of hospitalization, ICU admission and death are higher among unvaccinated individuals compared to those who have received two or three doses.
- Lower rates of severe outcomes in the three dose group compared to the two dose group are suggestive of the added benefits of the booster dose.
- The predominant variant during the observation period was Omicron, an indication that being fully vaccinated and boosted provides protection against the Omicron variant.
- Unvaccinated people were about seven times more likely to die than people who were vaccinated with three doses.

C. Sentinel Surveillance

Sentinel surveillance, or community surveillance, uses information from health-related sources that reflects human behaviour among people who become ill but who may not be lab tested or become clinically severe with an infection. For example, these individuals may visit an emergency department or call HealthLine seeking health-related advice.

Respiratory viruses detected by the provincial laboratory network in the week of April 10-16 were respiratory syncytial virus (RSV) 20% positive tests, enterorhinovirus (15% positive tests) and influenza (6% positive tests). This compared to COVID-19 at 11.7% of tests that were positive.

The vast majority (75.0%) of RSV this week was among children aged 0 to 4 years, mainly in the far north of the province. More than one-half (53.0%) of influenza A was among school age children (ages 5-19 years), focussed largely in Meadow Lake and Swift Current areas but also scattered geographically.

Emergency Department (ED) visits related to COVID-19-like illness (CLI)

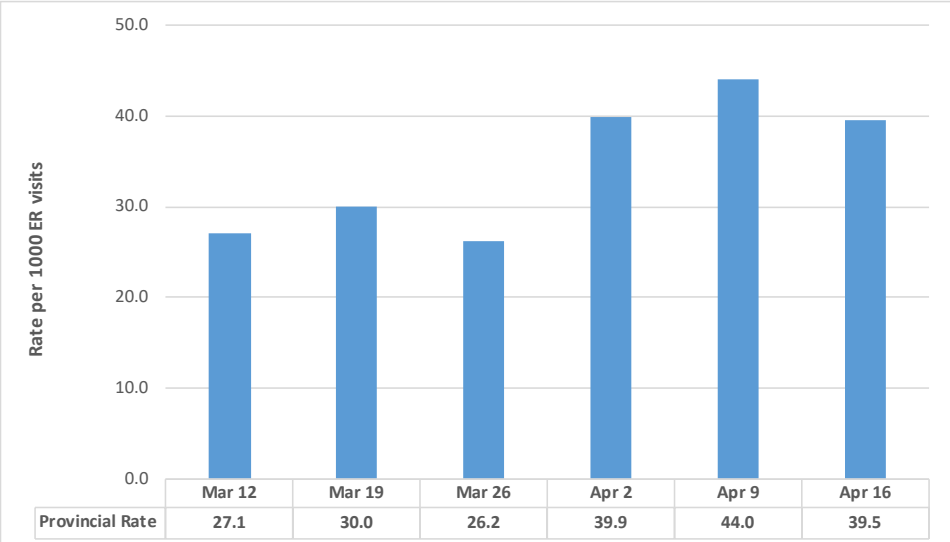
Emergency department (ED) visit data regarding COVID-like illness (CLI) is one component of community-based respiratory illness surveillance. Visitors may access EDs as their primary health care service or come when health provider offices are closed.

Table 7: COVID-19-like illness (CLI) surveillance (rate per 1,000 visits) in emergency departments by zone and week, March 12 to April 16, 2022

COVID-like patients per 1000 ER visits	COVID surveillance zone	Mar 12	Mar 19	Mar 26	Apr 2	Apr 9	Apr 16
Provincial Rate		27.1	30.0	26.2	39.9	44.0	39.5
KYHR	**Far Northwest**	24.9	15.6	11.9	15.9	32.5	32.5
AHA	**Far North Central**	No report	No report	No report	No report	No report	No report
MCHR	**Far Northeast**	No report	No report	No report	No report	No report	No report
PNHR	**North West**	23.5	27.2	29.7	39.4	33.6	37.3
PAHR	**North Central**	No report	No report	No report	No report	No report	No report
KTHR	**North East**	239.1	328.1	156.6	205.5	337.2	355.3
SKHR	**Saskatoon**	8.9	9.7	15.0	20.7	20.4	28.3
HHR	**Central West**	15.6	50.0	No report	80.6	103.7	34.2
SHR	**Central East**	No report	No report	No report	No report	No report	No report
RQHR	**Regina**	44.6	23.2	39.0	42.3	38.0	21.6
CHR	**South West**	No report	136.4	142.9	65.2	78.9	0.0
FHHR	**South Central**	0.0	0.0	0.0	0.0	No report	0.0
SCHR	**South East**	105.3	162.2	No report	166.7	177.6	120.9
Preschool	**1-4 years**	72.6	68.4	52.0	66.4	89.8	43.6
School age	**5 -19 years**	30.7	28.9	31.4	25.3	26.6	39.4
Working age	**20-64 years**	21.4	24.1	19.0	33.2	38.0	37.8
Seniors	**65 + years**	18.3	27.1	25.6	49.5	43.5	41.8

Source: Emergency department surveillance data, April 18, 2022. No report: no report was submitted by the zone. No data: no data reported by ED.

Figure 6: COVID-19-like illness surveillance in emergency departments, March 12 to April 16, 2022



Source: Emergency department surveillance data, April 18, 2022. CLI may present as the gradual onset of respiratory illness with fever and cough or one or more of the following – severe headache, chills, sore throat, arthralgia, myalgia, gastrointestinal disorder, prostration or shortness of breath which could be due to COVID-19.

- Nine (9) of 13 zones submitted data in the reporting week ending April 16. This week's provincial rate of 39.5 COVID-like illness patients per 1,000 visits remained higher than the previous six week average of 34.2/1,000 visits.
- This week's rate represents 137 COVID-like illness patients among 3,470 visitors to the EDs.
- This week's preschool age rate of 43.6/1,000 visits was a decrease from last week (89.8/1,000 visits) and the average rate of 69.5/1,000 visits over the previous six weeks.
- The school age rate at 39.4/1,000 visits is an increase over last week and higher than the previous six-week average rate of 25.9/1,000 visits.
- The working age group rate at 37.8/1,000 visits was similar to the previous week but higher than the average rate in the previous six weeks (28.7/1,000 visits).
- The seniors' age group rate at 41.8/1,000 visits was also similar to the last week but higher than the previous six-week average rate of 34.6/1,000 visits.

HealthLine Callers with COVID-19-like Illness (CLI)

Table 8a: Rate of callers to HealthLine with respiratory-like symptoms per 1,000 calls by integrated service area (ISA)

- In the week ending April 17, of the 1,531 calls to HealthLine 811, 222 callers reported respiratory symptoms similar to COVID-19 and other common respiratory viral infections.
- The provincial rate was 145.0 callers per 1,000 calls, higher than 128.2/1,000 calls last week (see Table 8b) and higher than the average rate in the six weeks prior (115.1/1,000 calls).
- Rate of callers with respiratory symptoms to HealthLine can fluctuate widely week over week, dependent on the number of ill people making calls to 811.

Integrated Service Area	Number of callers with symptoms	Rate per 1,000 calls
North East	22	137.5
North West	16	142.9
Regina	54	131.1
Saskatoon	82	161.7
South East	32	181.8
South West	16	97.6
Saskatchewan	**222**	**145.0**

Source: HealthLine Database April 18, 2022.

Table 8b: Weekly rate trend of callers to HealthLine with respiratory-like symptoms per 1,000 calls by integrated service area

- The rates of callers to HealthLine with respiratory-like symptoms were higher this week than the previous six week average in all the Integrated Service Areas except the South West.
- The rate of callers with viral respiratory symptoms from an ISA to HealthLine fluctuates week over week, however there was a notable increase this week in the South East ISA rate to 181.8 callers per 1,000 calls compared to the previous six-week average of 106.1/1,000 calls for that ISA.

Integrated Service Area	13-Mar	20-Mar	27-Mar	3-Apr	10-Apr	17-Apr
North East	126.3	68.8	90.9	105.0	115.6	137.5
North West	98.4	116.8	133.3	177.4	110.3	142.9
Regina	101.3	92.6	121.5	165.7	134.9	131.1
Saskatoon	79.1	116.6	143.4	148.6	154.4	161.7
South East	79.5	117.0	141.5	149.6	83.8	181.8
South West	94.7	120.3	107.1	148.0	93.7	97.6
Province	**94.6**	**103.5**	**126.5**	**150.5**	**128.2**	**145.0**

Source: HealthLine Database April 18, 2022.

D. Outbreak Surveillance

Table 9: New confirmed COVID-19 outbreaks in long-term care and other care home settings reported for the week of April 10 to 16, 2022, by zone

Surveillance Zones	# COVID-19 Outbreaks in LTC	# COVID-19 Outbreaks in care homes including personal care homes
Far North West		
Far North Central		
Far North East		
North West	1	
North Central		
North East		
Saskatoon	4	3
Central West		
Central East		1
Regina	4	3
South West		
South Central	1	
South East	1	
Total	**11**	**7**

Source: Outbreak line list, PHB, extracted April 18, 2022.
*By date of first notification.

- 18 confirmed new COVID-19 outbreaks in LTC and PCH settings were reported this week.
- 11 outbreaks were reported in long term care facilities. Outbreaks occurred in six (6) personal care homes and one (1) in a group home.

Table 10: COVID-19 outbreaks in high risk settings, weeks ending March 12 to April 16, 2022

High risk setting	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr	6-week total by setting
# COVID-19 Outbreaks in LTC	7	7	8	15	10	11	**58**
# COVID-19 Outbreaks in personal care homes, group homes, shelters	4	4	4	8	8	7	**35**
Total by week	11	11	12	23	18	18	**93**

Source: Outbreak line list, PHB, extracted April 18, 2022

- Over the past six weeks, fifty-eight (58) outbreaks occurred in long term care facilities, 27 in personal care homes, and eight (8) in group homes. Sixty-seven (72.0%) of the 93 outbreaks are ongoing.
- Figures from previous weeks may change as outbreaks reported earlier as suspect have since been confirmed or outbreaks are entered to the Ministry's database.

E. Immunization

Figure 7: COVID-19 immunization coverage (% population 5 years and older) by age group and zone, up to and including April 16, 2022

Notes: Zone is based on the client's address in Panorama. People whose addresses cannot be mapped to a zone are counted only in the Saskatchewan total. The denominator used for coverage calculation is the Saskatchewan 2021 covered population (08-Jul-2021 Ministry of Health SAS version (2021 Version 1)). Completed series is defined as immunized with one dose of a one-dose vaccine or two doses of a two-dose vaccine where the minimum interval criterion is met. Booster doses are additional doses beyond the one or two-dose primary series, with the first additional dose administered 28 days or longer after primary series completion. Although certain sub-populations have been identified as requiring a three-dose primary series, they cannot be reliably identified in the Panorama immunization registry. These doses are therefore counted as booster doses. Lloydminster is in the North West zone. Some Alberta residents living in Lloydminster, AB are included in the numerator but they are not included in the denominator. This results in an overestimation of the percentage of the population immunized in the North West zone. Although proof of vaccination now allows for non-Health Canada approved vaccines (nonHCAVs), they are NOT included in the immunization coverage tables.

As of April 16, 2022:

- Of the population five years and older:
  - 85.8% received at least one dose of a two dose COVID-19 vaccine, up from 85.7% the week earlier, April 9, 2022, and
  - 80.8% completed a series, compared with 80.7% the week earlier.
- Among the population 12 years and older, 48.3% had received at least one booster compared with 48.1% in the previous week.
- Among the population 18 years and older, 51.7% had received at least one booster compared with 51.5% in the previous week.
- Among the youngest age group, five to 11 years of age:
  - 56.4% received one dose and 40.7% completed their series, compared with 56.4% and 40.4% from the week earlier.
- Regina (82.6%), Saskatoon (80.1%), and North East (80.1%) are the only zones reporting more than 80.0% of the eligible population with a completed series. All other zones are below 80.0%

Table 11: Vaccine doses administered, by date and type of dose

Type of dose	Weekly doses - Date provided		Cumulative date provided
	April 10 to 16	Apr 3 to 9 *	Dec 15, 2020 to Apr 16, 2022
First of two	275	215	970,352
Second of two	379	500	911,702
Jansen single dose	6	12	2,233
Total primary series doses	660	727	**1,884,287**
First booster **	1,469	1,438	491,475
Second booster **	8,077	557	29,705
Additional boosters **	7	2	13
Total booster doses	9,553	1,997	**521,193**
TOTAL (including pediatric and boosters)	10,213	2,724	**2,405,480**
- of the total, all pediatric doses	346	460	106,987

* May not necessarily align with last week's report due to data cleaning

** Booster dose is defined as a dose received after completion of a one- or two-dose primary series and meeting the minimum interval criteria. Three-dose primary series cannot be reliably identified in the Panorama immunization registry and as a consequence these third doses will be misclassified as a booster dose.

- During the week of April 10 to 16, 2022, 10,213 doses of COVID-19 vaccine were administered, of which 346 (3.4%) were pediatric doses and 9,553 (93.5%) were booster doses.
- Since the start of the immunization campaign to April 16, 2022, 2.4 million doses of COVID-19 vaccine were administered.
- Of these, about 1.9 million (78.3%) were administered for a primary series, of which 106,987 were pediatric primary doses.

F. Abbreviations

General

CLI – COVID-19-like illness

ED – emergency department

FNIHB – First Nations and Inuit Health Branch

ICU – intensive care unit

IOM – Investigations and Outbreak Module – Panorama

ISA – Integrated Service Area

LTC – long-term care

NA – not available

NITHA – Northern Inter-Tribal Health Authority

OOP – out of province

PCR – polymerase chain reaction

PHB – Population Health Branch

SHA – Saskatchewan Health Authority

SK – Saskatchewan

SNP – single nucleotide polymorphism

RRPL – Roy Romanow Provincial Laboratory

WGS – whole genome sequencing

WHO – World Health Organization

13 Zones

FNW – Far North West zone

FNC – Far North Central zone

FNE – Far North East zone

NW – North West zone

NC – North Central zone

NE – North East zone

ST – Saskatoon zone

CW – Central West zone

CE – Central East zone

RE – Regina zone

SW – South West zone

SC – South Central zone

SE – South East zone

G. Technical Notes

Case Definition and Methods Overview

Confirmed cases are people with laboratory confirmation of infection with the virus that causes COVID-19 using a Health Canada approved test or confirmed at a reference laboratory (NML or RRPL). It requires detection of at least one specific gene target by nucleic acid amplification tests (i.e., real-time PCR or nucleic acid sequencing).

Laboratory testing is reserved for priority populations at elevated risk for severe outcomes. More information on the priority populations may be found here.

Statistics presented in this report represent counts and crude incidence rates for zones and aggregated to the provincial level.

Data sources are the provincially mandated Panorama database, the Roy Romanow Provincial Laboratory LabWare database, as well as local public health. Confirmed cases must meet the provincial case definition. Surveillance case definitions ensure uniform reporting to allow comparability of surveillance data. The definitions are not intended to be used for clinical or laboratory diagnosis or management of cases. Proportions are calculated using the 2021 SK covered population as the denominator.

The counts and rates presented in this summary report are dependent on the timely reporting by physicians and laboratories to the local Medical Health Officer and timely entry of notifiable disease information into Panorama IOM.

As the counts are constantly being updated, the numbers and rates calculated may differ from previous summary reports. This is a result of a combination of factors including late reporting, data cleaning and verification.

Data on COVID-19 cases use Panorama IOM as the primary source. However, in some instances when the case has not yet been entered into Panorama, the RRPL data becomes the source for the time being (e.g., age, sex, geography) until the case is eventually entered. Additionally, if certain data elements in Panorama are missing or unknown, RRPL also becomes the source to fill in the gaps where the information is available in the RRPL data.

The geographical assignment of cases follows the Panorama IOM rules for documenting geography, as opposed to the assignment of zones by RRPL. As a result, some RRPL location/geography of cases and testing information may not match Panorama IOM (testing information cannot be reconciled because negative tests are not entered into IOM). Panorama IOM geography guidelines take into consideration the client's residence in a certain period, the residence upon diagnosis, and other factors. First Nations individuals under the jurisdiction of the First Nations and Inuit Health Branch (FNIHB) or the Northern Inter-Tribal Health Authority (NITHA) are included in the geographic areas.

Notifiable diseases are generally under-detected and underreported due to a number of factors including client's lack of contact with health care, inability to isolate organism, etc.

Rates based on small numbers may fluctuate dramatically over time and may not have public health significance.

As of February 7, 2022 RRPL PCR testing was reserved for populations deemed to be at an elevated risk for severe outcomes:

- Hospitalized patients, those admitted or transferred between acute, long-term care or personal care homes
- High-risk populations as ordered by the medical health officer: residents in long-term care, personal care homes and congregate living facilities; and international or travellers from areas of concern
- Priority symptomatic persons: health-care workers or essential workers who have a negative rapid antigen test but remain symptomatic; those with chronic illness (diabetes, history of cancer, cardiac failure, etc.)
- Symptomatic people living or working in First Nation and Métis communities
- Surgical patients with symptoms or a positive rapid antigen test if scheduled or expecting to receive surgery within the next 90 days
- Pregnant patients who are symptomatic and more than 30 weeks gestation
- Symptomatic immunocompromised individuals including all transplant donors and recipients prior to and post-transplant; all oncology patients prior to, receiving or post chemotherapy
- Newborns born to COVID-19-positive parents, prior to discharge.

- Health-care workers and workers deemed essential under the current public health order with negative rapid antigen results who remain symptomatic will be eligible for PCR tests.

In 2019/20 about one-third of the SK population aged one year and older had at least one of eight priority chronic conditions (asthma, COPD, diabetes, hypertension, heart failure, ischemic heart disease, stroke, and dementia), making about half of the population eligible for PCR testing.

Fatal Cases (Deaths) Table

- Includes all deaths entered into Panorama IOM.
- For those reported in the specified week, the deaths that were not previously reported are counted, regardless of when the death occurred.

VOC Section

Variant of concern (VOC) cases:

- VOCs are SARS-CoV-2 viruses that have undergone genetic modification or mutation causing in 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. It takes 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.

Severe Case Immunization Status

- The rate of COVID-19 hospitalization, ICU admission or death by the vaccine status was obtained by summing the number of hospitalizations, ICU admissions or deaths (numerator) and dividing by the mid period population by vaccine status (denominator), multiplied by 100,000. This estimate was further divided by the number of days to obtain the daily rate.
- To eliminate bias of age, all rates are adjusted by age. Direct standardization method is employed using the Saskatchewan population as the standard population.
- Estimates of relative risk (i.e. rate ratios) are obtained by comparing vaccinated with two doses (three dose) and the unvaccinated / unprotected group.
- Age at first dose is used in this analysis. Individuals with unknown age are excluded from the age-specific analyses.
- Risk estimates may differ from other reports due to differing methodologies.

Emergency Department Visits

- Data collection from EDs: Monitoring will be done for a twenty-four hour period on at least one week day (the exact time period will vary with the ED schedule). The ED should report to local public health services in their area on Wednesday afternoon and public health will report to the Ministry of Health on Thursday each week. This may increase to include one weekend day in certain areas if CLI activity is increasing and laboratory-confirmations support the need to do so.
- The count of CLI patients in each of four broad age categories, preschool (approximately 0-4 years), school age (approx. 5-19 years), working age group (approx. 20-64 years), seniors (approx. 65 years plus) as a proportion of total ED admissions in those age categories is captured. The age group in which to place a patient is determined in part by the age groups used by the ED's administrative database. The categories are approximate but provide a general profile of the broad age groups most affected by COVID-19.
- 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 in which the ED or health centre is located. This does not preclude monitoring in First Nations health care facilities.

HealthLine callers with Respiratory Symptoms

- A count of protocols specific to callers with viral respiratory-like illness symptoms is completed by HealthLine nurses.
- The respiratory-like illness protocol count is tallied for a designated period each week and transformed into the rate of callers with respiratory symptoms from each

zone per 1000 calls from that zone from callers with any type of symptom.

Outbreaks

- A confirmed outbreak is defined as two or more COVID-19 cases in settings outside a household 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.
- # COVID-19 Outbreaks in LTC: number of COVID 19 outbreaks reported that occurred in a designated special care facility (LTC) (cumulative or in current reporting week).
- # COVID-19 Outbreaks in care homes: number of COVID 19 outbreaks reported that occurred in semi-closed settings where personal care is provided. This includes designated homes where the elderly reside or homes for the developmentally challenged (cumulative or in current reporting week). It also includes homes where residents are under the care of social services and in shelters.

H. Map of Saskatchewan by Zone and Sub-Zone