British Columbia (BC) COVID-19 Situation Report
Week 14: April 4- April 10, 2021

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Provincial COVID-19 incidence at highest levels since start of the pandemic, with continued increase in hospital and ICU admissions

There were 7,038 COVID-19 cases (137 per 100K) in week 14.

Regional incidence is mostly increasing:

- Since week 4, Fraser Health incidence increased (from 70 to 204 per 100K).
- Since week 13, Vancouver Coastal incidence decreased (193 to 161 per 100K).
- Since week 10, Interior Health incidence increased (from 24 to 65 per 100K).
- Since week 10, Island Health incidence slightly decreased (from 48 to 41 per 100K).
- Since week 11, NH incidence decreased (from 116 to 85 per 100K).

From week 10 to 14, the steepest, ongoing incidence increases were observed among the 0-19 year age groups. In week 14, the highest incidences were in the 15-19-year-olds and the 20-29-year-olds, reaching 203 per 100k and 238 per 100k, respectively.

Testing of MSP-funded specimens increased from week 11 to 14 and positivity increased from 8.9% to 12.2%.

Hospital admissions doubled from 148 in week 10 to 299 in week 14. ICU admissions also increased since week 10 from 30 to 94. Deaths were stable since week 7 (average of 24 per week).

Following increasing vaccination rates in the elderly, the weekly number of deaths in 80+ year olds has decreased by 82% between weeks 50 and 14 (from 85 to 15). Similarly, the number of weekly deaths has decreased in 70-79-year olds by 78% between weeks 51 and 14 (from 23 to 5).

By case of earliest onset date, there has been 1 outbreak reported in care settings in week 14. There has been a large and sustained decline in the number of cases and deaths among residents of long-term care settings 70+ years old.

SARS-CoV-2 variants of concern have been identified in 5,864 cases in BC: 3,898, 70 and 1,896 with the B.1.1.7, B.1.351 and P.1 variants, respectively.

Table of pandemic phases defined by implementation or relaxation of population-level mitigation measures in BC:

Pre-Phase 1 Jan 15 (wk 3) to Mar 13 (wk 11) 2020	Phase 1 Mar 14 (wk 11) to May 18 (wk 21) 2020	Phase 2 May 19 (wk 21) to Jun 23 (wk 26) 2020	Phase 3A Jun 24 (wk 26) to Sept 12 (wk 37) 2020	Phase 3B Sept 13 (wk 38) to Nov 7 (wk 45) 2020	Phase 3C Nov 8 (wk 46) to Current wk, 2021
From earliest symptom onset date	Initial restrictions	Re-opening of services	Broader re-opening	From 1st epiweek of 2020-21 school year	Core bubble interaction only

Table of vaccination phases defined by vaccine eligibility of target populations in BC:

Vaccination Phase 1 Dec 2020 to Feb 2021	Vaccination Phase 2 Feb to April 2021	Vaccination Phase 3 April 2021 to Present
Target populations include residents, staff and essential visitors to long-term care settings; individuals assessed and awaiting a long-term care placement; health care workers providing care for COVID-19 patients; and remote and isolated Indigenous communities.	Target populations include seniors, age ≥80; Indigenous peoples age ≥65 and Indigenous Elders; Indigenous communities; hospital staff, community general practitioners and medical specialists; vulnerable populations in select congregate settings; and staff in community home support and nursing services for seniors. Vaccinations of populations within each phase is staggered depending on vaccine availability and health region.	Target populations include people aged 60-79 years, Indigenous peoples aged 18-64 and people aged 16-74 who are clinically extremely vulnerable.

BELOW ARE IMPORTANT NOTES relevant to the interpretation of data displayed in this bulletin:

- Episode dates are defined by dates of illness onset. When those dates are unavailable, earliest laboratory date is used (collection or result date); if also unavailable, then public health care report date is used. Analyses based on episode date (or illness onset date) may better represent the timing of epidemic evolution. Episode-based tallies for recent weeks are expected to increase as case data, in particular onset dates, are more complete.
- The weekly tally by surveillance date (result date, if unavailable then report date) includes cases with illness onset date in preceding weeks. Episode dates for hospital admission, ICU, and death are defined by admission and death dates. When unavailable, surveillance date is used.
- Per capita rates/incidences are based on PEOPLE2020 population estimates (n=5,139,568 for BC overall).
- Laboratory data include Medical Service Plan (MSP) funded (e.g. clinical diagnostic tests) and non-MSP funded (e.g. screening tests) specimens.
- Case data were extracted on April 19, 2021, laboratory data on April 16 , and variants of concern data on April 19th

A. COVID-19 case counts and epidemic curves

Provincially, from week 3 2020 to week 14 2021, there have been 114, 460 cases, corresponding to a cumulative incidence of 2,223 per 100K (**Table 1, Figure 1**). As shown in **Figure 1**, after a gradual increase in incidence from week 5 to week 10, incidence increased by >80% in week 14 compared to week 10 (from 74 to 137 per 100K). These rates may increase further as data by episode date become more complete.

Recent provincial incidence trends have been driven by FH and VCH. As shown in **Figure 2**, incidence up to week 14 has been increasing since week 4 in Fraser Health (FH) from 70 to 204 per 100K and since week 10 in Interior Health (IH) from 24 to 65 per 100K. Incidence has decreased slightly from week 13 to 14 in Vancouver Coastal Health (VCH) from 193 to 161 per 100K; Island Health (VIHA) from 48 to 41 per 100K; Northern Health (NH) from 116 to 85 per 100K. These rates may increase as data become more complete.

Table 1. Episode-based case tallies by health authority, BC[a]
January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114, 460)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 14, case counts	3,948	539	352	243	1,954	2	7,038
Cumulative case counts	**65,343**	**9,661**	**4,118**	**6,649**	**28,507**	**182**	**114,460**
Week 14, cases per 100K population	204	65	41	85	161	0	137
Cumulative cases per 100K population	**3,370**	**1,157**	**475**	**2,315**	**2,355**	**0**	**2,223**

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and health authority (HA), BC [a]
January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114, 460)

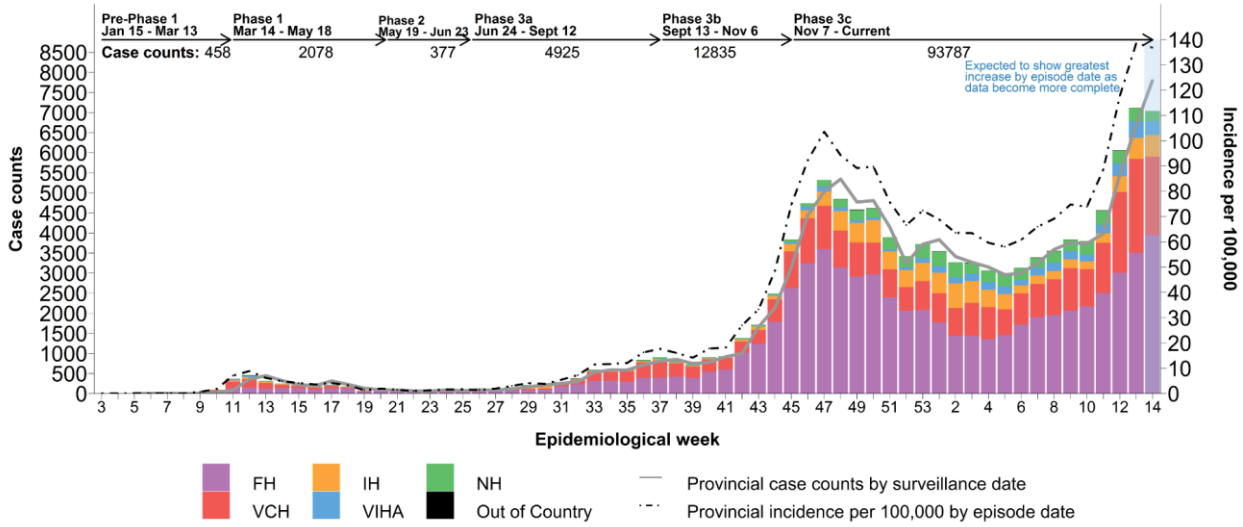
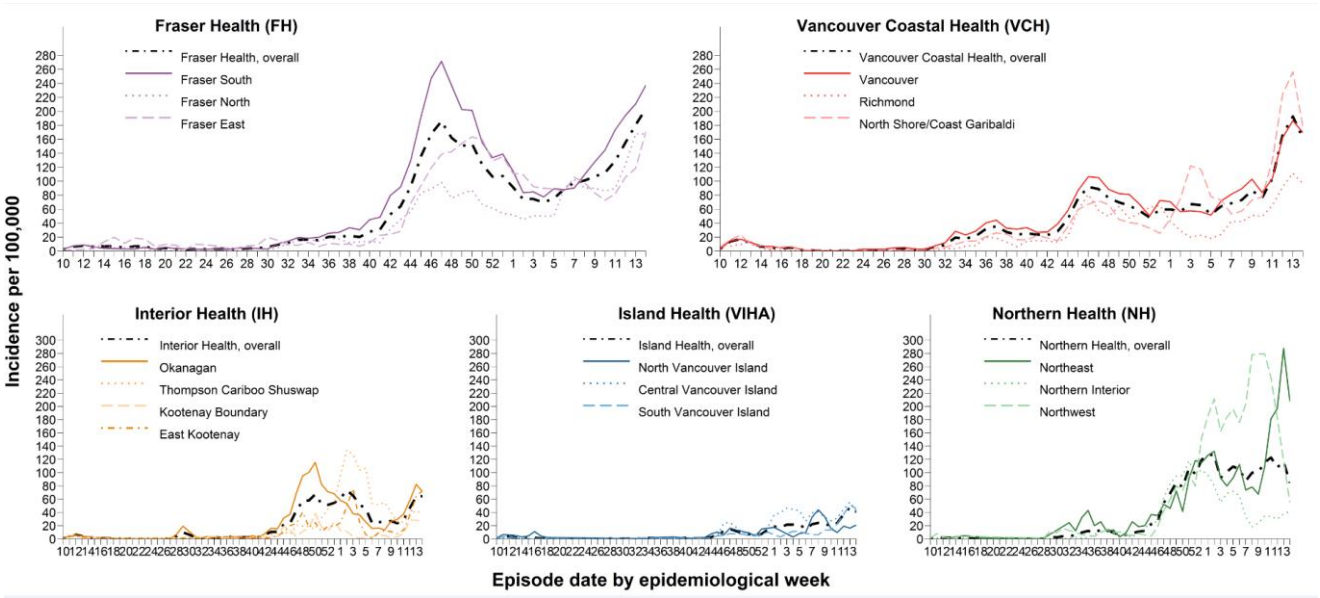


Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC
March 1, 2020 (week 10) – April 10, 2021 (week 14) (N= 114, 460)



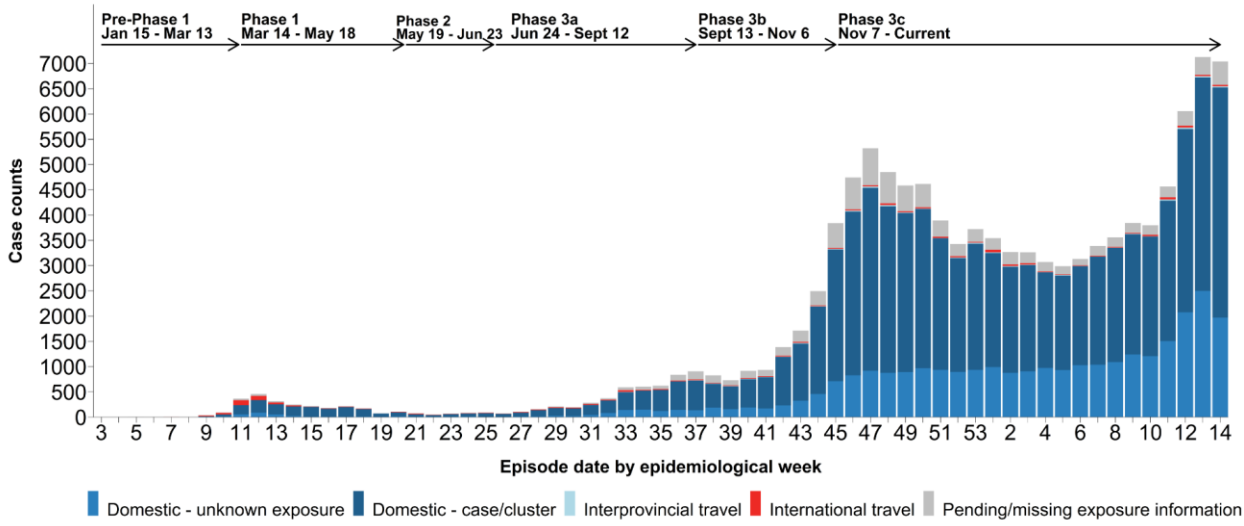
B. Likely sources of infection

As shown in **Table 2** and **Figure 3,** domestic contact with a known case or cluster has been the most commonly reported source of infection across the pandemic to date.

Table 2. Likely source of COVID-19 infection by episode date, BC
January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114, 460)

Likely exposure (row %)	International travel	Interprovincial travel	Domestic – case/cluster	Domestic – unknown	Pending/ missing
Week 14, Exposures	26 (<1)	25 (<1)	4,553 (65)	1,970 (28)	464 (7)
Cumulative Exposures	**1177 (1)**	**430 (<1)**	**74,108 (65)**	**29,261 (26)**	**9,484 (8)**

Figure 3. Likely source of COVID-19 infection by episode date, BC
January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114, 460)

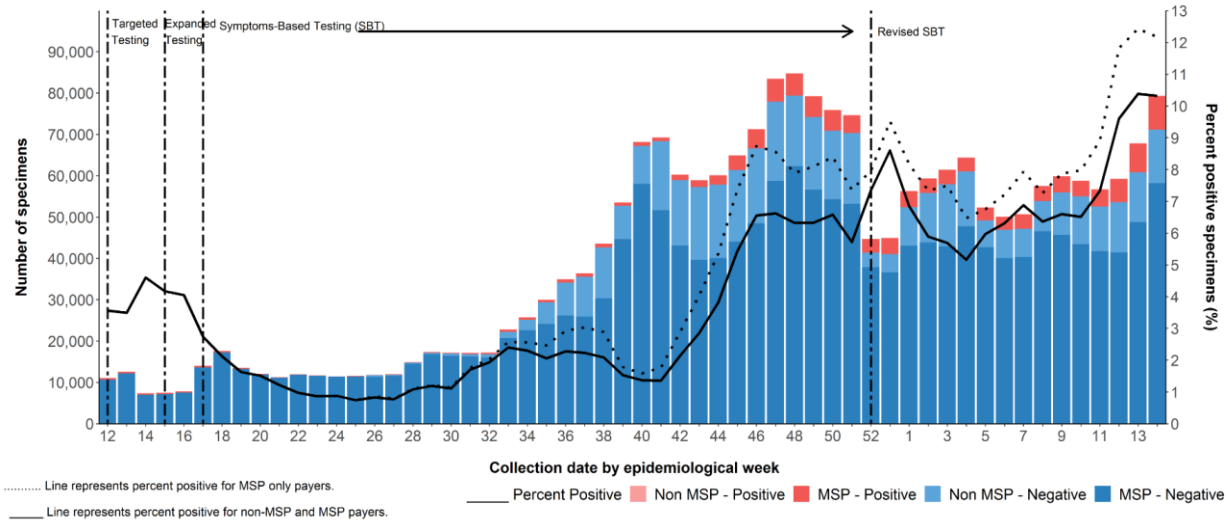


C. Test rates and percent positive

As shown by the darker-colored bars in **Figure 4**, testing of MSP-funded specimens has increased since week 11 (from ~46,000 to ~66,500 specimens). Concurrently, positivity of MSP-funded specimens increased from 8.9% in week 11 to 12.2% in week 14.

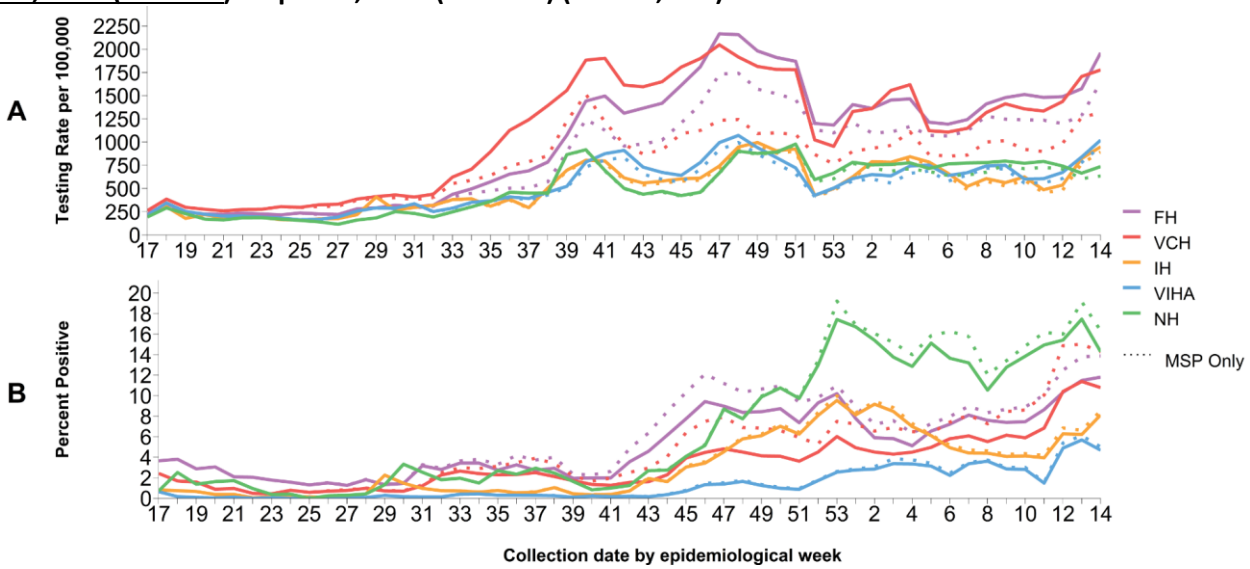
As shown in **Panel A** of **Figure 5**, the per capita testing rates for MSP-only specimens in week 14 continue to be highest in FH and VCH; the testing rate has increased in FH and VCH since week 12 and week 11, respectively. Since week 11, the testing rate has been decreasing in NHA, whereas it has been increasing in IHA and VIHA. As shown in **Panel B**, percent positivity for week 14 MSP-funded tests remains highest in NH at 16.3% and VCH at 14.2%, followed by FHA at 13.9%, IH at 8.5%, and lowest in VIHA at 5.0 %. Percent positivity has remained stable or decreased in all HAs except IHA since week 12-13: NH has decreased in week 14 (14.3%), FH has stabilized (11.8%), VCH has stabilized (10.8%), IH has slightly increased (8.1%) and VIHA has remained stable (4.7%).

Figure 4. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC March 15, 2020 (week 12) – April 10, 2021 (week 14) (N= 114, 460)[a,b,c]



a. Invalid (n=1,243) and indeterminate (n=6,128) results have been excluded.

Figure 5. Testing rates and percent SARS-CoV-2 positive by health authority and collection week, BC March 15, 2020 (week 12) – April 10, 2021 (week 14) (N= 114, 460)[b,c]



b. PLOVER extract on April 16, 2021.

D. Age profile – Testing and cases

Testing rates and percent positivity by age group

As shown by the coloured bars in **Figure 6**, compared to prior weeks of Phase 3c, testing rates in week 14 were higher in all age groups except in elderly adults >80 years of age. The highest testing rate in week 14 was among adults 20-39 years of age, surpassing weeks 46-11 of phase 3c.

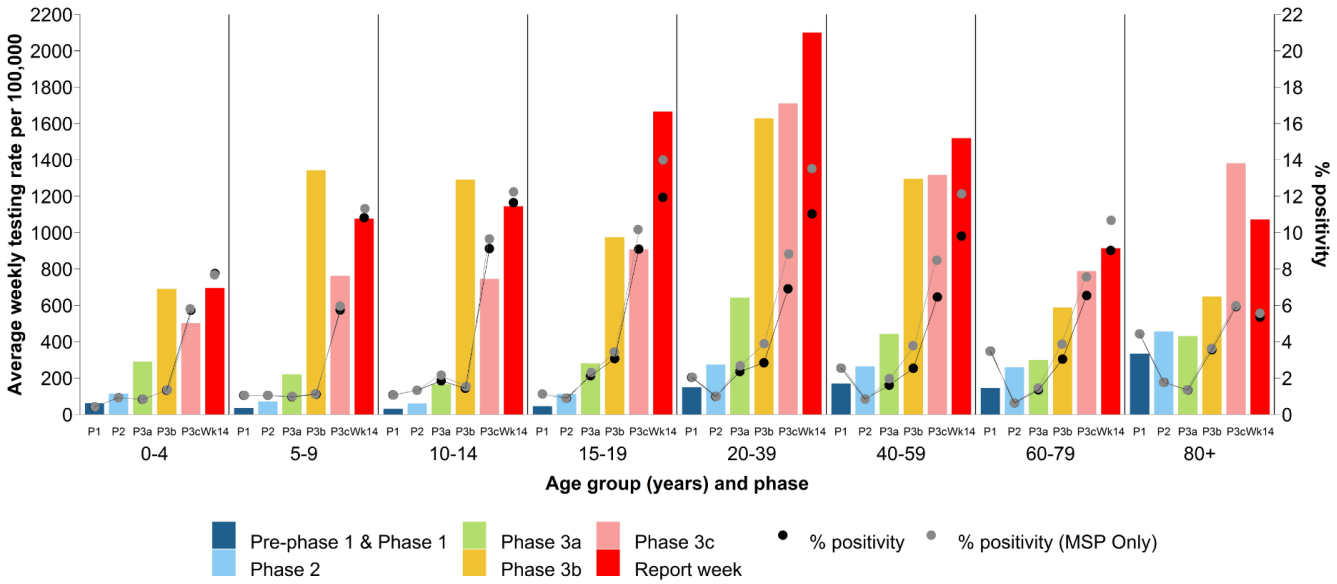
As shown by the grey dots in **Figure 6**, the percent positivity for MSP-only specimens in week 14 was higher in all age groups compared to prior weeks of Phase 3c, most prominently in the 5-9-year-olds (from 5.9% to11.3%) and 15-19-year-olds (from 10.2% to 14.0%) and 60-79-year-olds (from 7.5%-10.7%), except in the 80+ year-olds where positivity was similar.

Case distribution and weekly incidence by age group

As shown in **Figure 7**, the percentage contribution of age groups <10 years and 15 to 19 years increased from week 13 to week 14 by 1.6% and 1.0%, respectively, and was met mainly by a decrease in the 30-39-year-olds by 2%. The remaining age groups' contributions remained relatively stable.

As shown in **Figure 8,** in week 14, age specific incidences continue to increase in the age groups 0-29 years but decreased slightly in those 30+ years old. From weeks 10 to 14, the steepest, ongoing incidence increases were among the 0-19 year age groups. Specifically, increases in the <10-year-olds were from 42.0 to 103.5 per 100K, in the 15-19-year-olds were from 86 to 203 per 100K, and in the 20-29-year-olds were from 123 to 238 per 100K. The highest incidence rates were in the 15-19-year-olds and 20-29-year-olds, reaching 203 per 100k and 238 per 100k, respectively. However, between weeks 11 and 14, incidence in elderly adults 80+ remained stable at ~35 per 100K; in 70-79-year olds at 54 per 100k and in 50-59-year olds at 113 per 100k. Week 14 age-specific incidences are likely to increase as data become more complete.

Figure 6. Average weekly SARS-CoV-2 testing rates and percent positive by known age group and phase[a], BC January 20, 2020 (week 4) – April 10, 2021 (week 14)[b]



a. Phase based on specimen collection date, of which January 20 was the earliest. The average weekly rate by phase is derived as the phase-specific per capita test rate divided by the number of weeks for Pre-Phase 1 + Phase 1 (P1: 17 weeks), Phase 2 (P2: 5 weeks), Phase 3a (P3a: 11.5 weeks), Phase 3b (P3b: 8 weeks), and Phase 3c, excluding the current report week (P3c: 21 weeks). The current report week, although part of Phase 3c, is excluded from Phase 3c as displayed here to enable comparison.

b. Testing rates displayed are based on all specimens (MSP and non-MSP).

Figure 7. COVID-19 case distribution by known age group (years) and episode date, BC
March 15, 2020 (week 12) – April 10, 2021 (week 14) (N= 113,924)

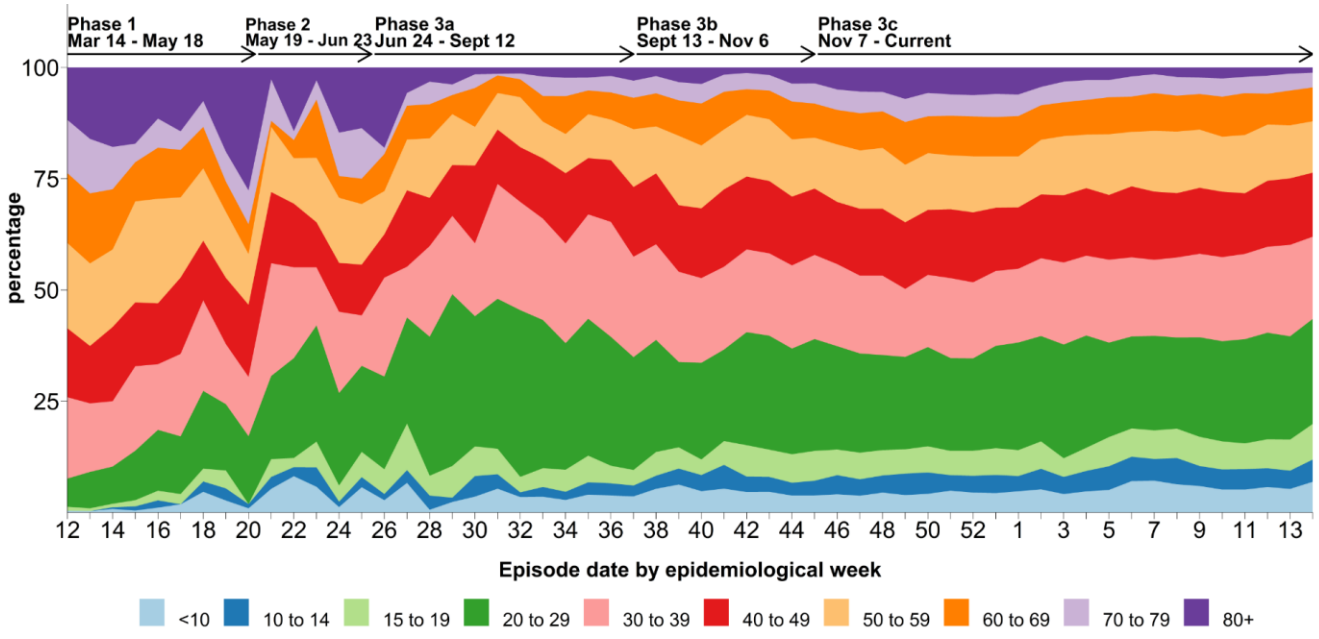
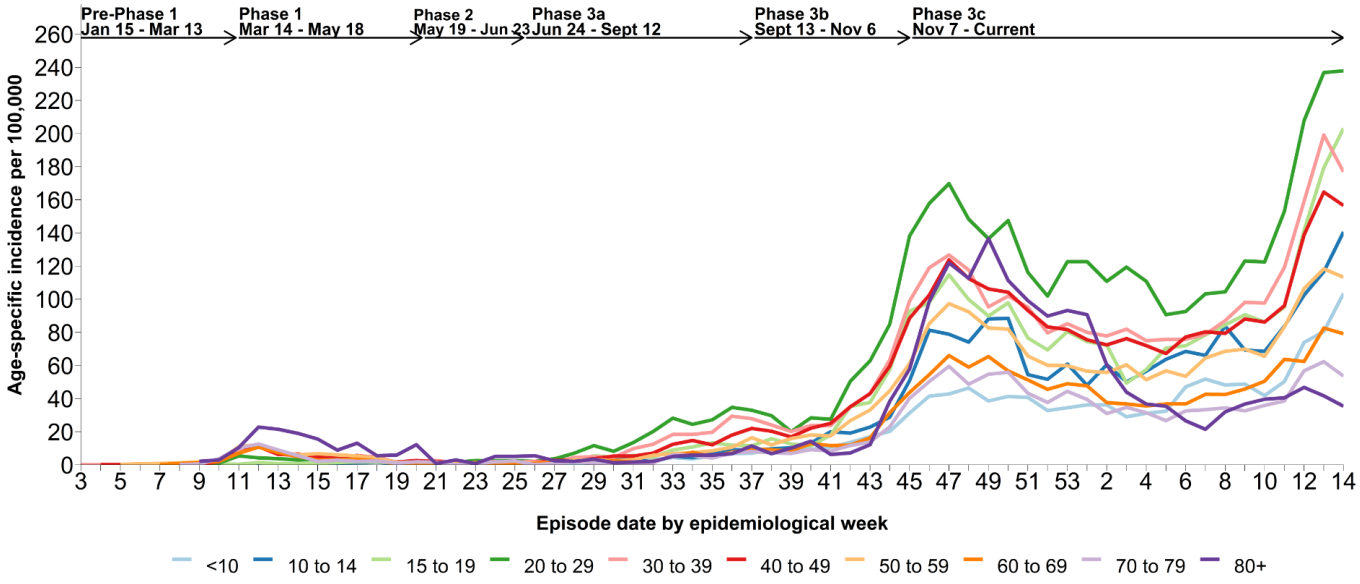


Figure 8. Weekly age-specific COVID-19 incidence per 100K population by epidemiological week, BC
January 15, 2020 (week 3) – April 10, 2021 (week 14) (114,437)



E. Severe outcome counts and epi-curve

The number of weekly hospital admissions has doubled since week 10 from 149 to 299 hospitalizations in week 14. The number of intensive care unit (ICU) admissions has more than tripled since week 10 from 30 to 95 admissions in week 14. The number of deaths has been stable from week 7 to 14 with an average of 24 deaths per week (**Table 3, Figure 9**). These numbers may increase in future reports as more data become available.

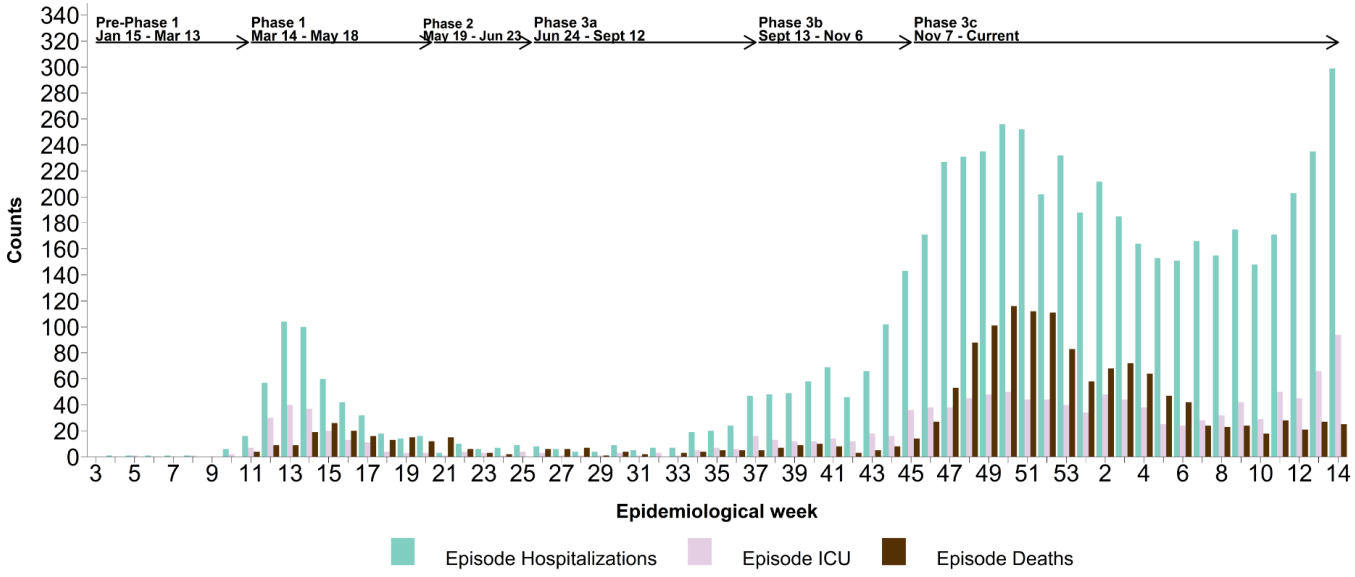
Cumulatively, there have been 10 confirmed cases of Multi-system Inflammatory Syndrome in children and adolescents (MIS-C) in BC since January 1, 2020 (no new confirmed cases since last report). The median age of these cases is 7.5 (range 1-15) years.

Table 3. COVID-19 severe outcomes by episode date, health authority of residence, BC January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114, 460)

Severe outcomes by episode date	Health authority of residence					Residing outside of Canada	Total n/N[a] (%)
	FH	IH	VIHA	NH	VCH		
Week 14, hospitalizations	161	22	9	25	81	1	299
Cumulative hospitalizations	**3,092**	**452**	**184**	**572**	**1,344**	**13**	**5,657/114,460 (5)**
Week 14, ICU admissions	50	10	3	6	25	0	95
Cumulative ICU admissions	**620**	**127**	**49**	**139**	**375**	**2**	**1,312/114,460 (1)**
Week 14, deaths	12	2	3	1	8	0	26
Cumulative deaths	**807**	**120**	**33**	**130**	**424**	**0**	**1,514/114,460 (2)**

a. Cases with unknown outcome are included in the denominators (i.e. assumed not to have the specified severe outcome).

Figure 9. COVID-19 hospital admissions and deaths by episode date, BC January 15, 2020 (week 3) – April 10, 2021 (week 14)



F. Age profile, severe outcomes

Table 4 displays the distribution of cases and severe outcomes as well as the BC population for each age group. In week 14, median age of hospitalizations was 60 years, ICU was 59 years, while median age of death was 82 years (data not shown).

As shown in Figure 10, following increasing vaccination rates in the elderly, the weekly number of deaths in 80+ year olds has decreased by 82% between weeks 50 and 14 (from 85 to 15 deaths). Similarly, the number of weekly deaths has also decreased in 70-79-year olds by 78% between weeks 51 and 14 (from 23 to 5 deaths).

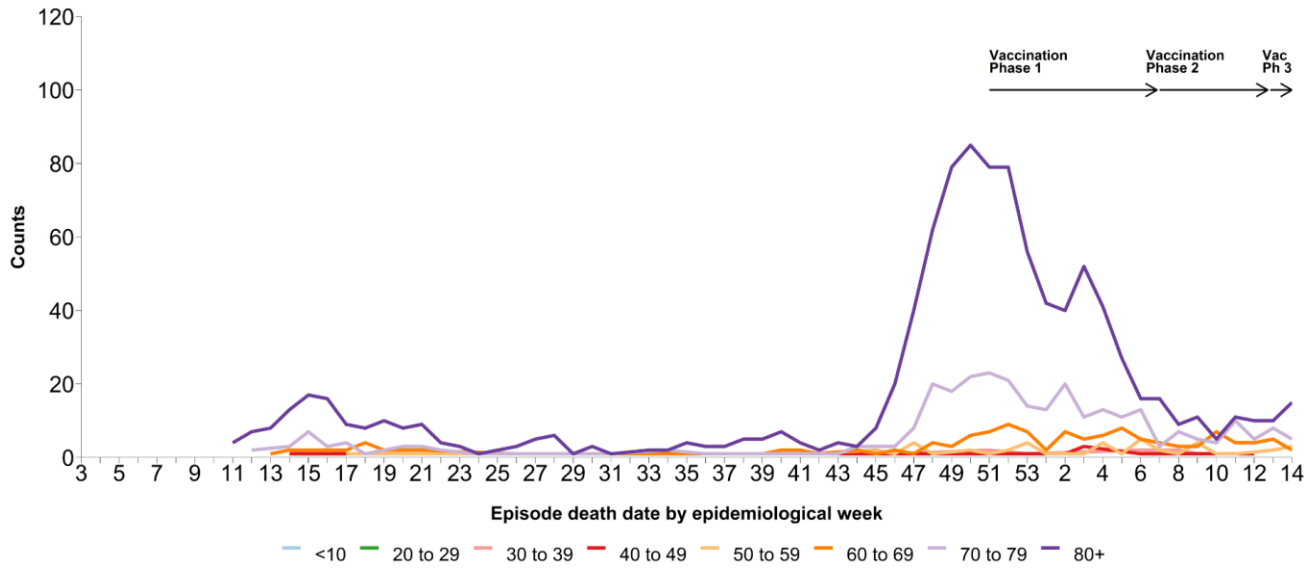
In week 14, 317/7,038 (5%) cases, 106/299 (35%) hospitalizations, 31/95 (33%) ICU admissions, and 20/26(80%) deaths were in 70+ year-olds (data not shown).

Table 4: Age distribution: COVID-19 cases, hospitalizations, ICU admissions, deaths, and BC population by age group January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 114,437)[a]

Age group (years)	Cases n (%)	Hospitalizations n (%)	ICU n (%)	Deaths n (%)	General BC population n (%)
<10	5,623 (5)	57 (1)	5 (0)	1 (<1)	469,351 (9)
10-19	11,572 (10)	41 (1)	5 (0)	0 (0)	527,805 (10)
20-29	26,096 (23)	265 (5)	29 (2)	1 (<1)	697,691 (14)
30-39	20,985 (18)	499 (9)	99 (8)	14 (1)	735,052 (14)
40-49	16,939 (15)	563 (10)	123 (9)	18 (1)	646,035 (13)
50-59	14,532 (13)	831 (15)	234 (18)	50 (3)	718,272 (14)
60-69	9,360 (8)	1,008 (18)	315 (24)	130 (9)	673,131 (13)
70-79	5,032 (4)	1,175 (21)	343 (26)	307 (20)	435,062 (8)
80-89	2,916 (3)	900 (16)	142 (11)	549 (36)	187,443 (4)
90+	1,382 (1)	318 (6)	17 (1)	444 (29)	49,726 (1)
Total	**114,437**	**5657**	**1312**	**1,514**	**5,139,568**
Median age	**36**	**65**	**65**	**85**	**41**

a. Among those with available age information only.

Figure 10. Weekly age-specific COVID-19 deaths by episode date, BC January 15, 2020 (week 3) – April 10, 2021 (week 14) (N= 1,514)[a]



G. Care facility outbreaks

As shown in **Table 5** and **Figure 11**, 308 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 14, with one new outbreak in week 14. Reported outbreaks in long-term care settings (i.e. long-term care or assisted living facilities) have decreased since week 51. The decline in acute care facility outbreaks has been less pronounced. Since week 5, there have been 12 long-term care setting outbreaks (average 1 outbreak per week), whereas there have been 19 acute care facility outbreaks (average 2 outbreaks per week).

Figure 12 displays a decrease in long-term care setting resident cases 70+ years of age as opposed to other cases of the same age group following the start of the vaccination of the LTCF population in week 51. Since week 5, the weekly number of long-term care setting resident cases 70+ years of age has been below 20, while other 70+ years of age cases have been increasing since week 7 with a recent decrease in week 14.

Three (11.5%) of the 26 deaths reported provincially during week 14 were associated with an outbreak in a long-term care setting. This compares with a peak of 78 of 112 (69.6%) deaths associated with a long-term care outbreak in week 51.

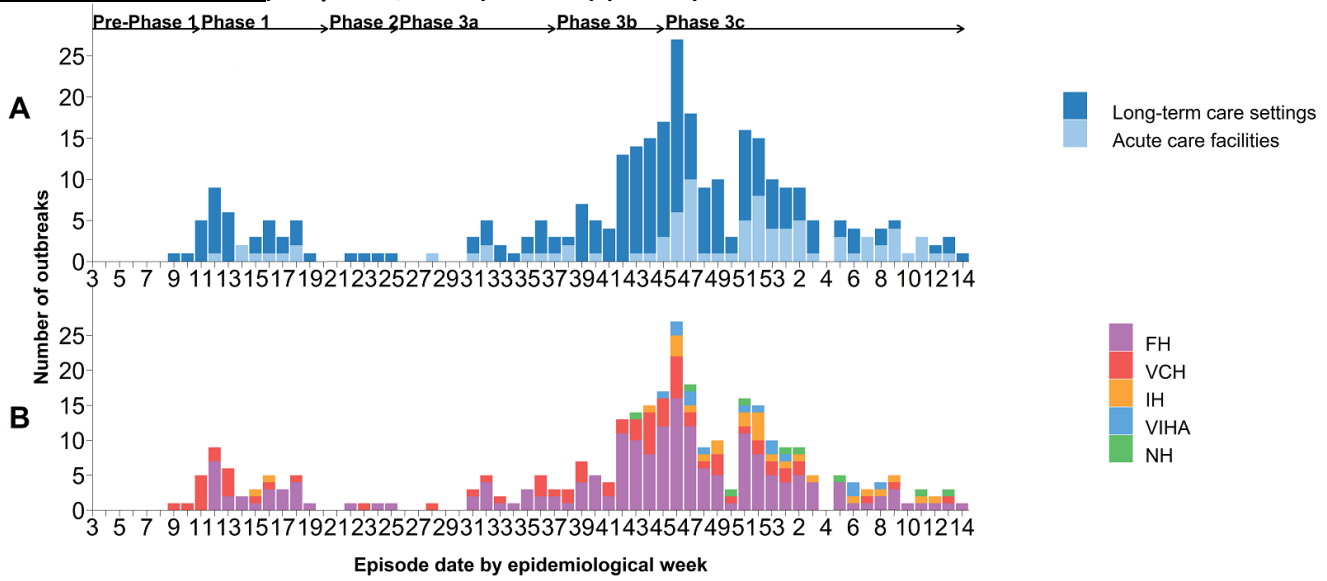
Figure 13 shows a larger decrease in long-term care setting resident deaths 70+ years of age as compared to deaths in the same age group outside of these settings following the start of the vaccination of the LTCF population in week 51. Since week 6, there has been an average of two deaths per week within long-term care these settings, while there has been an average of 16 deaths per week in 70+ years outside these settings.

Table 5. COVID-19 care facility[a,b] outbreaks by earliest case onset[a,c], associated cases and deaths by episode date, BC[d] January 15, 2020 (week 3) – April 3, 2021 (week 14) (N=308)

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/ other	Unknown	Total	Residents	Staff/ other	Unknown	Total
Week 14, Care Facility Outbreaks	1	16	7	0	23	3	0	0	3
Cumulative, Care Facility Outbreaks	**308**	**3,402**	**2,235**	**7**	**5,644**	**982**	**0**	**0**	**982**

a. New outbreaks reported since the last report with an earliest case onset date prior to the current reporting week will be included in the cumulative care facility outbreak total.

Figure 11. COVID-19 care facility[b] outbreaks by earliest case onset[c], facility type (A) and health authority (B), BC[d] January 15, 2020 (week 3) – April 10, 2021 (week 14) (N=308)



b. Care facility settings include acute care or long-term care settings (defined as long-term care facility or assisted living).
c. Earliest dates of onset of outbreak cases are subject to change as investigations and data are updated.
d. As of week 46, VCH and FH no longer declare outbreaks with single staff cases unless there is evidence of transmission within the facility.

Figure 12. COVID-19 long-term care setting resident[a] cases (n=2,096) vs other cases (n=6,304) ≥70 years of age, by episode date, BC September 13, 2021 (week 38) – April 10, 2021 (week 14)

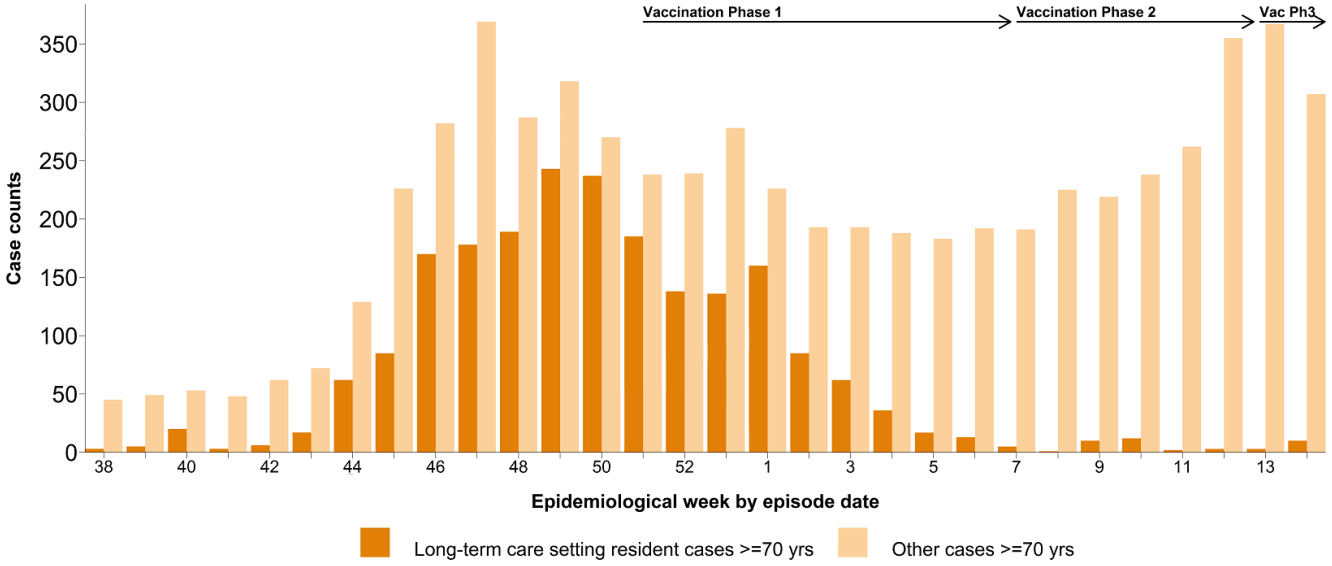
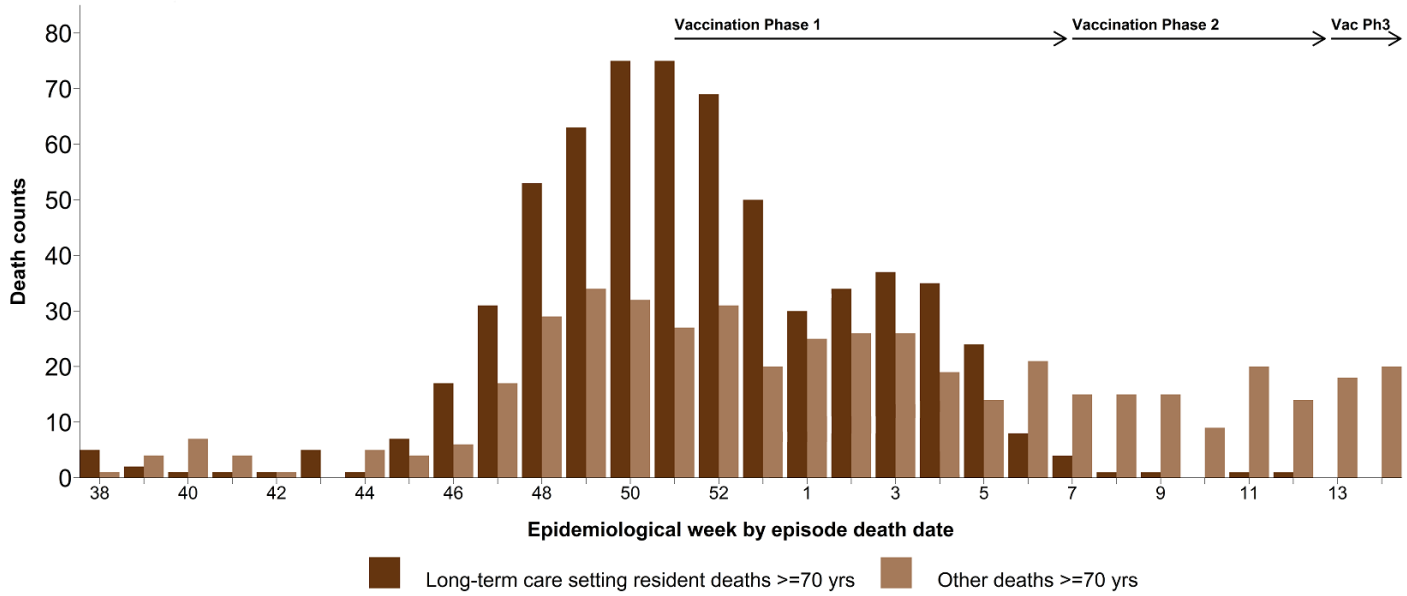


Figure 13. COVID-19 long-term care setting resident[a] deaths (n=632) vs other deaths (n=479) ≥70 years of age, by episode death date, BC September 13, 2021 (week 38) – April 4, 2021 (week 14)



a. Long-term care setting residents are cases within long-term care or assisted living facilities who were part of reportable outbreaks only; these represent the majority of long-term care setting resident cases.

H. Emerging respiratory pathogens update

As of April 19, there were 5,864 cases infected with variants of concern (VOC) (confirmed by sequencing) with onset up to week 14 in BC. Of those, 3,898 (66%) were infected with variant B.1.1.7; 1,896 (32%) were infected with variant P.1; and 70 (1%) were infected with variant B.1.351. Episode dates range from week 51 to week 14. Adults 20-49 years of age comprised 61% of all SARS-CoV-2 VOC cases in BC, and also comprised 2,229 (57%) of the B.1.1.7; 1,291 (68%) of the P.1 variants and 37 (53%) of the B.1.351 that were detected.