British Columbia (BC) COVID-19 Situation Report
Week 16: April 18- April 24, 2021

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Provincial COVID-19 incidence remains high but has decreased since week 14; hospital and ICU admissions are stabilising

There were 5,364 COVID-19 cases (104 per 100K) in week 16, a decrease since the peak in week 14.

Regional incidence is decreasing:

- Since week 14, Fraser Health incidence decrease (221 to 180 per 100K).
- Since week 13, Vancouver Coastal incidence decreased (194 to 93 per 100K).
- Since week 14, Interior Health incidence decreased (86 to 48 per 100K).
- Since week 13, Island Health incidence decreased (48 to 24 per 100K).
- Since week 13, Northern Health incidence decreased (119 to 50 per 100K).

Most age-specific incidences peaked in week 14 and decreased in weeks 15-16. Most notably, 15-19-year-olds, 20-29-year-olds and 40-49-year-olds peaked in week 14 and have seen the sharpest decline in week 16 from 218 to 127 per 100k, 256 to 162 per 100k and from 176 to 120 per 100k, respectively.

Testing of MSP-funded specimens decreased from week 14 (~66,500 specimens) to week 16 (~57,000 specimens). Positivity of MSP-funded specimens decreased from 12.2% in week 14 to 10.8% in week 16.

Hospital admissions increased from 149 in week 10 to 385 in week 15, but were stable in week 16 (388). ICU admissions also increased from week 10 (29) to week 15 (111), but decreased slightly in week 16 (89). Deaths have been stable since week 7 (average of 25 per week).

There was one new confirmed case of Multi-system Inflammatory Syndrome in children and adolescents (MIS-C) since last report, for a total of 11 cases.

Following increasing vaccination rates in the elderly, the weekly number of deaths in 80+ year-olds decreased by 88% between weeks 50 and 13. Similarly, the number of weekly deaths decreased in 70-79-year olds by 78% between weeks 51 and 14.

By case of earliest onset date, there was one outbreak reported in care settings in week 16. There has been a large and sustained decline in the number of cases and deaths among residents of long-term care settings aged 70+ years old.

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. Vaccination 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 30, 2021, laboratory data on April 30, and variants of concern data on April 29

A. COVID-19 case counts and epidemic curves

Provincially, from week 3 2020 to week 16 2021, there have been 127,322 cases, corresponding to a cumulative incidence of 2,474 per 100K (**Table 1, Figure 1**). As shown in **Figure 1**, after peaking in week 14 at 152 per 100K, incidence decreased in weeks 15-16 (104 per 100k in week 16). These rates may increase further as data by episode date become more complete.

As shown in **Figure 2**, incidence decreased in all health authorities over the past 2-3 weeks. From week 14 to week 16, Fraser Health (FH) incidence decreased from 221 to 180 per 100K and Interior Health (IH) incidence decreased from 86 to 48 per 100K. Incidence decreased in weeks 13 to 16 in Vancouver Coastal Health (VCH), from 194 to 93 per 100K; in Island Health (VIHA), from 48 to 24 per 100K; and in Northern Health (NH), from 119 to 50 per 100K. These rates may increase as data become more complete. Incidence decreased in most health service delivery areas since weeks 13-14. Incidence in the Northwest has decreased steadily since week 10. Fraser East, Fraser South, Richmond and Kootenay Boundary have all decreased since week 15.

Table 1. Episode-based case tallies by health authority, BC[a]
January 15, 2020 (week 3) – April 24, 2021 (week 16) (N= 127,322)

Case tallies by episode date	Health Authority of Residence					Outside Canada	Total
	FH	IH	VIHA	NH	VCH		
Week 16, case counts	3,483	404	206	144	1,122	5	5,364
Cumulative case counts	**73,234**	**10,794**	**4,597**	**7,106**	**31,398**	**193**	**127,322**
Week 16, cases per 100K population	180	48	24	50	93	0	104
Cumulative cases per 100K population	**3,776**	**1,293**	**530**	**2,474**	**2,594**	**0**	**2,474**

Figure 1. Episode-based epidemic curve (bars), surveillance date (line) and health authority (HA), BC[a]
January 15, 2020 (week 3) – April 24, 2021 (week 16) (N= 127,322)

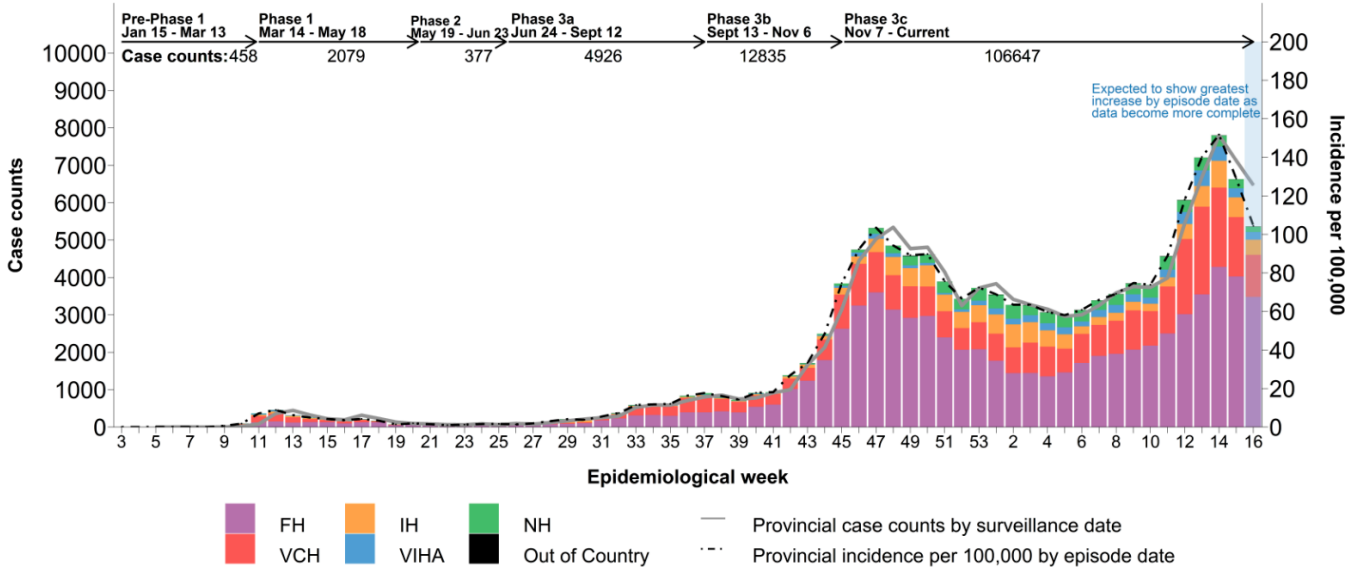
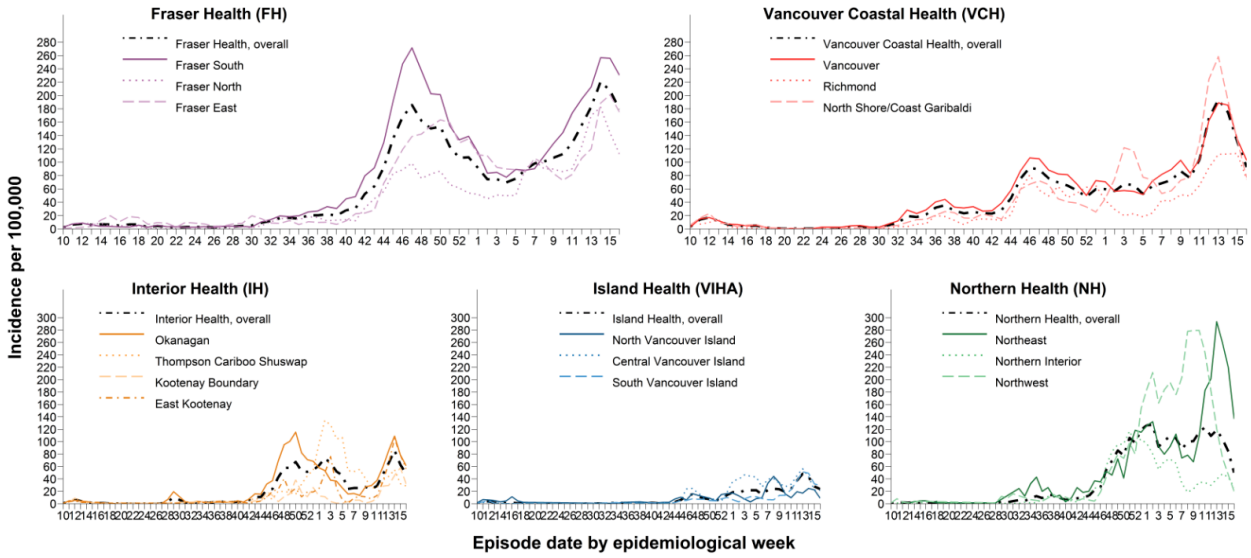


Figure 2. Weekly episode-based incidence rates by HA and health service delivery area (HSDA), BC
March 1, 2020 (week 10) – April 24, 2021 (week 16) (N= 127,322)



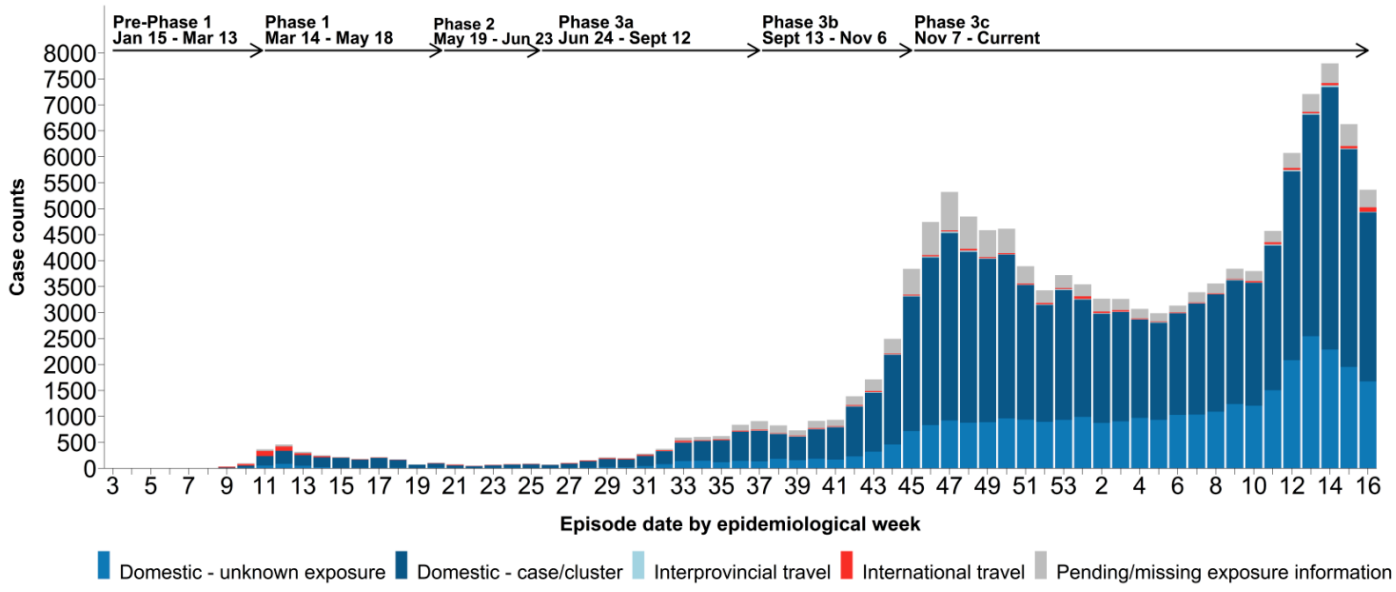
B. Likely sources of infection

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 24, 2021 (week 16) (N= 127,322)

Likely exposure (row %)	International travel	Interprovincial travel	Domestic – case/cluster	Domestic – unknown	Pending/ missing
Week 16, Exposures	84 (2)	11 (<1)	3,255 (61)	1,675 (31)	339 (6)
Cumulative Exposures	**1,326 (1)**	**471 (<1)**	**82,028 (64)**	**33,294 (26)**	**10,203 (8)**

Figure 3. Likely source of COVID-19 infection by episode date, BC
January 15, 2020 (week 3) – April 24, 2021 (week 16) (N= 127,322)

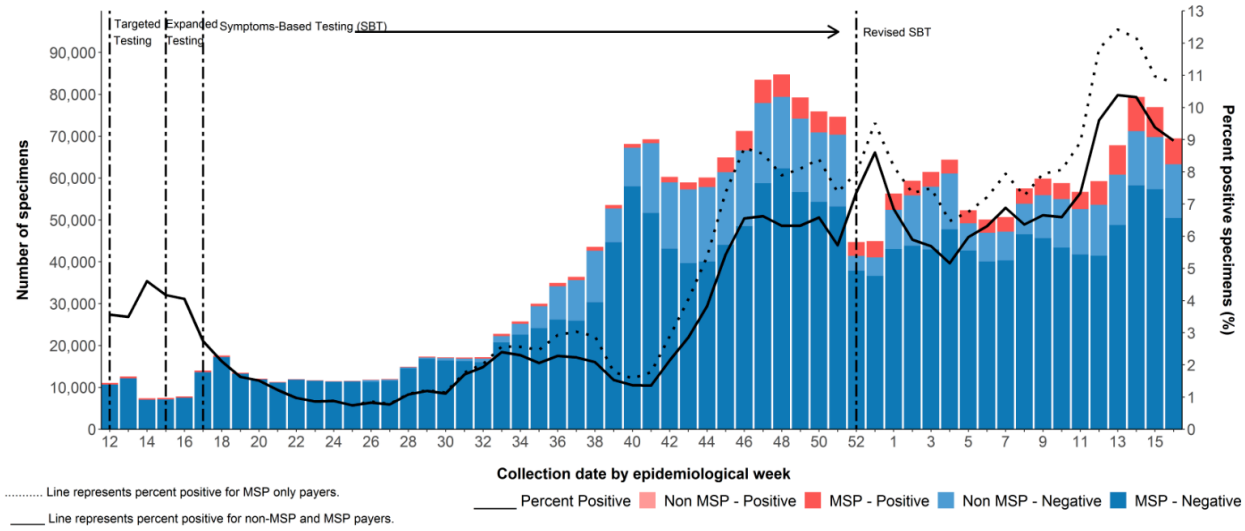


C. Test rates and percent positive

As shown by the darker-colored bars in **Figure 4**, testing of MSP-funded specimens decreased from week 14 (~66,500 specimens) to ~57,000 in week 16. Concurrently, positivity of MSP-funded specimens decreased from 12.2% in week 14 to 10.8% in week 16.

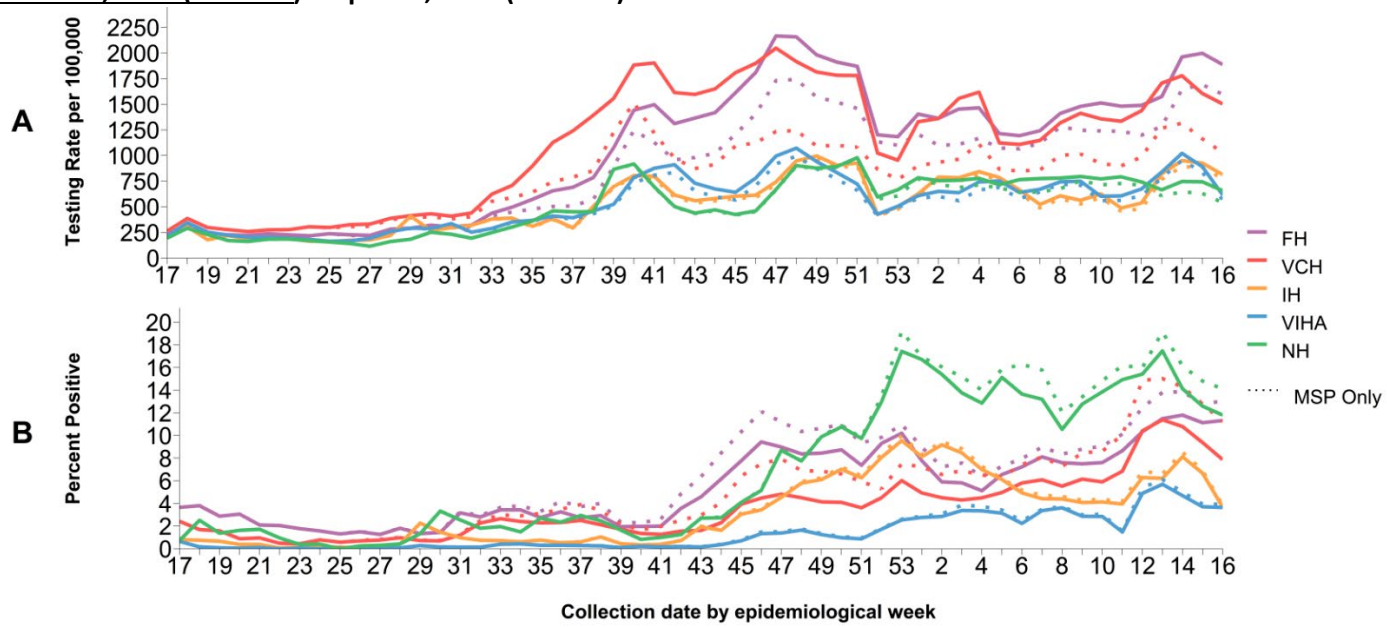
As shown in **Panel A** of **Figure 5**, the per capita testing rates for MSP-only specimens in week 16 continue to be highest in FH and VCH; the testing rate has decreased in FH since week 15, and in VCH, IH, VIHA and NH since week 14. As shown in **Panel B**, percent positivity for week 16 MSP-funded tests remains highest in NH at 14.1% followed by FH at 13.0%, VCH at 11.2%, and lowest in VIHA and IH at 3.9% and 3.8% respectively. Percent positivity has remained stable or decreased in all HAs since weeks 13-14.

Figure 4. Number of specimens tested and percent SARS-CoV-2 positive, by collection week, BC March 15, 2020 (week 12) – April 24, 2021 (week 16) [a,b,c]



a. Invalid (n=1,263) and indeterminate (n=6,561) 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 24, 2021 (week 16) [b,c]



b. PLOVER extract on April 30, 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 16 were higher in all age groups except in elderly adults >80 years of age. The highest testing rate in week 16 was among adults 20-39 years of age.

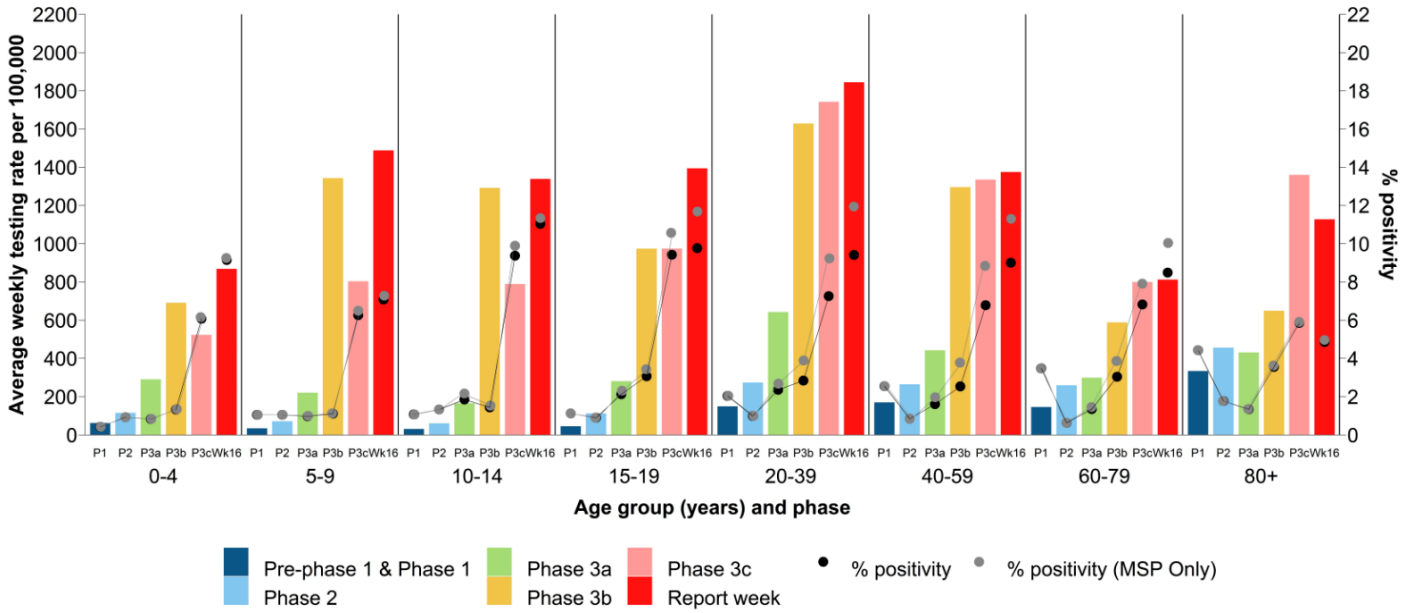
As shown by the grey dots in **Figure 6,** the percent positivity for MSP-only specimens in week 16 was higher in all age groups (except 80+ year-olds) compared to prior weeks of Phase 3c, most prominently in the 0-4-year-olds (from 6.2% to 9.3%), 20-39-year-olds (from 9.2% to 11.9%), 40-59-year-olds (from 8.8% to 11.3%) and the 60-79-year-olds (from 7.9% to 10.0%). On the other hand, in 5-9-year-olds, positivity was comparable at ~7% and in 80+ year-olds, positivity decreased (from 5.9 % to 5.0%).

Case distribution and weekly incidence by age group

As shown in **Figure 7**, the percentage contribution of age groups <10 years and 10 to 14 years increased from week 13 to week 16 by 3.1% and 1.8%, respectively, and was met mainly by a decrease in the 20-29 and 30-39-year-olds, by 2.0% and 1.1% respectively. The remaining age groups' contributions remained relatively stable.

As shown in **Figure 8,** most age specific incidences peaked in week 14 and decreased in weeks 15 and 16. Most notably, 15-19-year-olds, 20-29-year-olds and 40-49-year-olds peaked in week 14 and have seen the sharpest decline in week 16 from 218 to 127 per 100k, 256 to 162 per 100k and 176 to 120 per 100k, respectively. Since week 13, 30-39-year-olds decreased from 201 to 142 per 100k. Since week 12, 80+ year olds have been stable at ~44 per 100K but decreased in week 16 to 34 per 100k. Week 16 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 24, 2021 (week 16)[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: 23 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 24, 2021 (week 16) (N= 126,786)

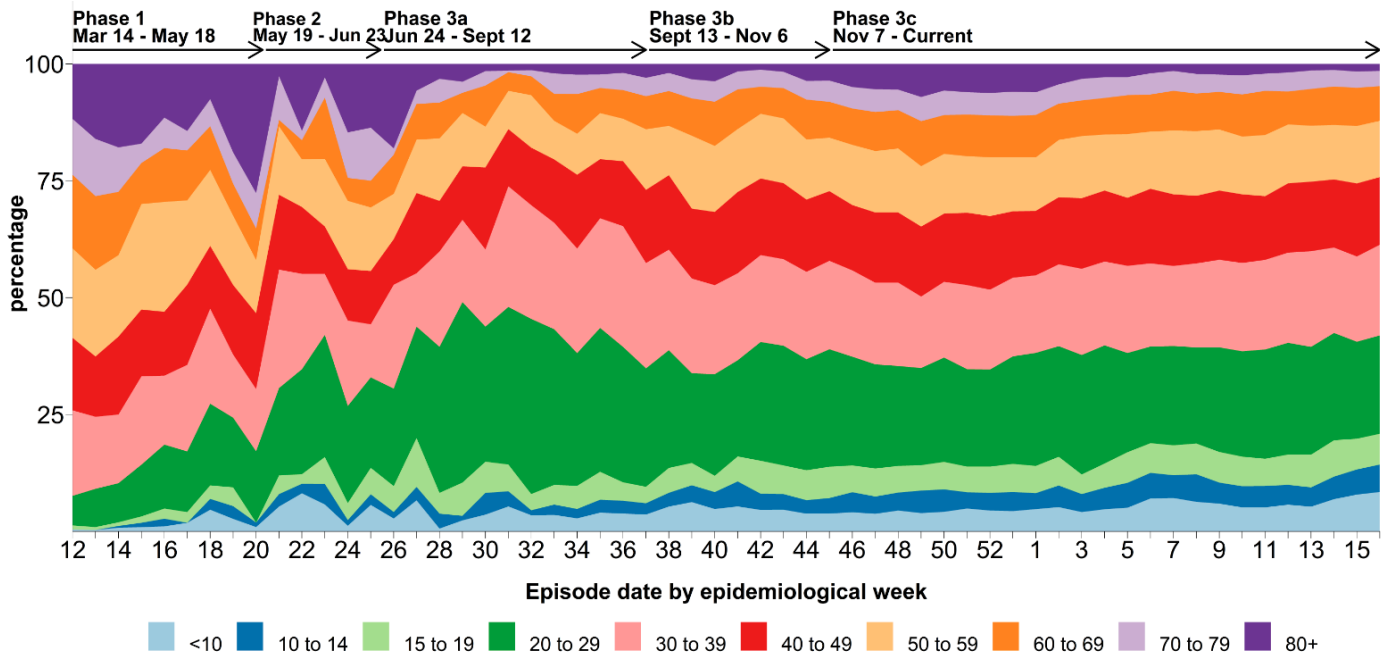
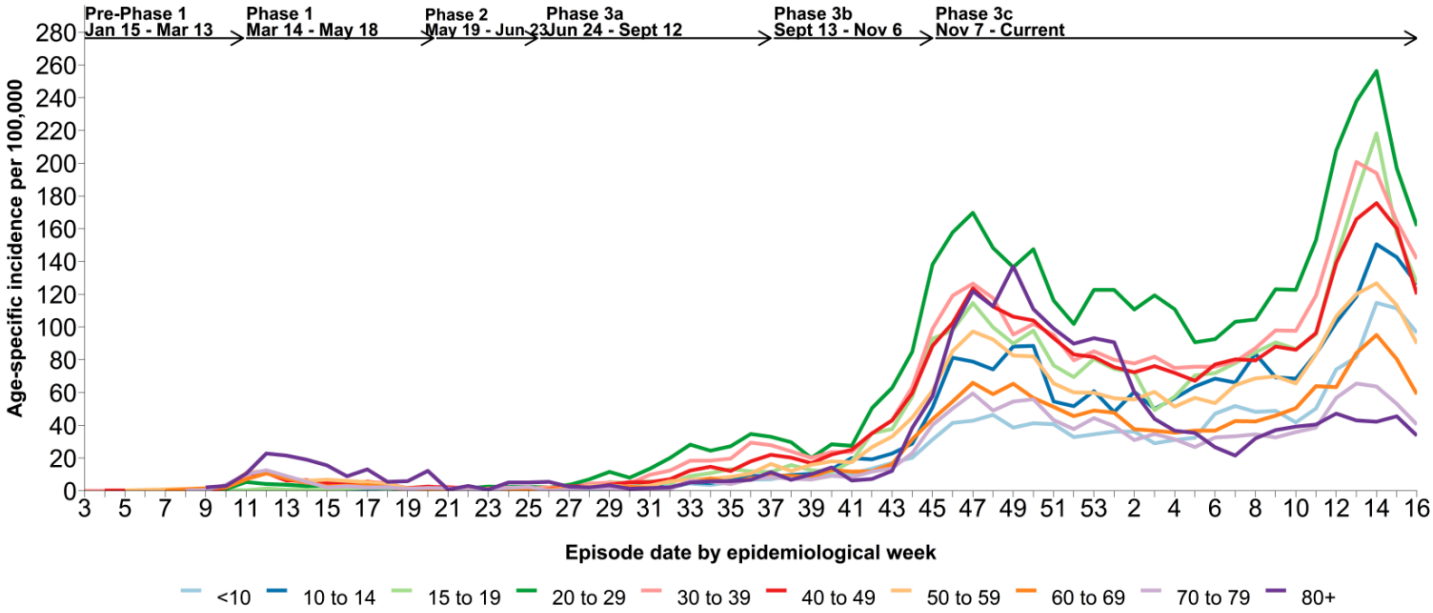


Figure 8. Weekly age-specific COVID-19 incidence per 100K population by epidemiological week, BC
January 15, 2020 (week 3) – April 24, 2021 (week 16) (N= 127,299)



E. Severe outcome counts and epi-curve

The number of weekly hospital admissions has increased more than 2.5 times since week 10 (from 149 to 385 hospitalizations in week 15) however, new hospital admissions were stable in week 16 (388).The number of intensive care unit (ICU) admissions increased from week 10 to 15, from 29 to 111 admissions, with a slight decrease to 89 ICU admissions in week 16. The number of deaths has been stable from week 7 to 16 with an average of 25 deaths per week (**Table 3, Figure 9**). These numbers may increase in future reports as more data become available.

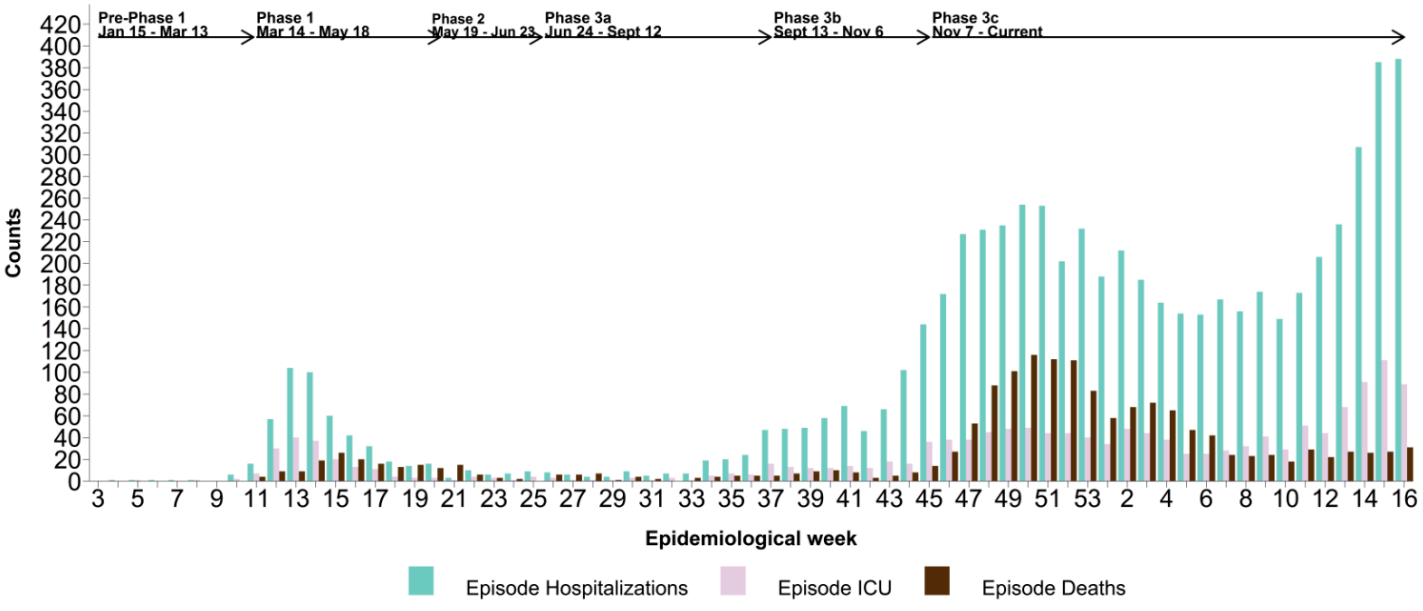
Cumulatively, there have been 11 confirmed cases of Multi-system Inflammatory Syndrome in children and adolescents (MIS-C) in BC since January 1, 2020 (one new confirmed case since last report). The median age of these cases is 6 (range 1-15) years.

Table 3. COVID-19 severe outcomes by episode date, health authority of residence, BC January 15, 2020 (week 3) – April 24, 2021 (week 16)

Severe outcomes by episode date	Health authority of residence					Residing outside of Canada	Total n/N[a] (%)
	FH	IH	VIHA	NH	VCH		
Week 16, hospitalizations	233	31	17	14	93	0	388
Cumulative hospitalizations	**3,558**	**513**	**223**	**601**	**1,542**	**13**	**6,450/127,322 (5)**
Week 16, ICU admissions	44	10	5	3	27	0	89
Cumulative ICU admissions	**723**	**148**	**58**	**146**	**433**	**2**	**1,510/127,322 (1)**
Week 16, deaths	13	6	2	4	6	0	31
Cumulative deaths	**835**	**130**	**35**	**140**	**435**	**0**	**1,575/127,322 (1)**

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 24, 2021 (week 16)



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 16, median age of hospital admissions, ICU admissions and deaths was 60 years, 63 years and 82 years, respectively (data not shown).

As shown in Figure 10, following increasing vaccination rates in the elderly, the weekly number of deaths in 80+ year-olds decreased by 88% between weeks 50 and 13 (from 85 to 10 deaths), with a slight increase in weeks 14-16 (~17 deaths per week). Similarly, the number of weekly deaths decreased in 70-79-year olds by 87% between weeks 51 and 7 (from 23 to 3 deaths) and has remained stable in weeks 8-16, with an average of 7 deaths per week.

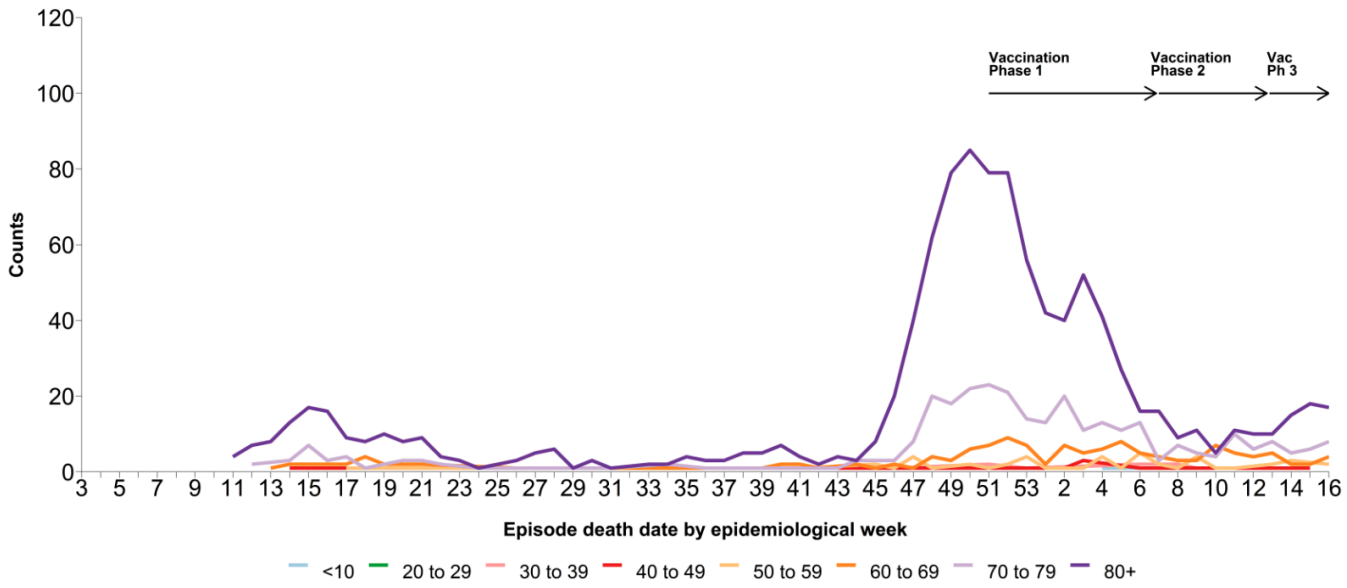
In week 16, 256/5,364 (5%) cases, 113/388 (29%) hospitalizations, 26/89 (29%) ICU admissions, and 25/31 (81%) deaths were in 70+ year-olds (data not shown).

Table 4: Age distribution: COVID-19 cases, hospitalizations, ICU admissions, deaths, and BC population by age group January 15, 2020 (week 3) – April 24, 2021 (week 16) (N= 127,299)[a]

Age group (years)	Cases n (%)	Hospitalizations n (%)	ICU n (%)	Deaths n (%)	General BC population n (%)
<10	6,659 (5)	61 (1)	5 (<1)	2 (<1)	469,351 (9)
10-19	13,115 (10)	51 (1)	9 (1)	0 (0)	527,805 (10)
20-29	28,736 (23)	301 (5)	33 (2)	1 (<1)	697,691 (14)
30-39	23,375 (18)	569 (9)	113 (7)	14 (1)	735,052 (14)
40-49	18,882 (15)	678 (11)	151 (10)	19 (1)	646,035 (13)
50-59	16,105 (13)	966 (15)	275 (18)	52 (3)	718,272 (14)
60-69	10,423 (8)	1,186 (18)	374 (25)	137 (9)	673,131 (13)
70-79	5,498 (4)	1,320 (20)	389 (26)	322 (20)	435,062 (8)
80-89	3,091 (2)	979 (15)	145 (10)	575 (37)	187,443 (4)
90+	1,415 (1)	339 (5)	16 (1)	453 (29)	49,726 (1)
Total	**127,299**	**6,450**	**1,510**	**1,575**	**5,139,568**
Median age	**36**	**65**	**65**	**84**	**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 24, 2021 (week 16) (N= 1,575)[a]



G. Care facility outbreaks

As shown in **Table 5** and **Figure 11**, 314 care facility (acute and long-term care setting) outbreaks were reported in total in BC to the end of week 16, with one new outbreak in week 16. Outbreaks in long-term care settings (i.e. long-term care or assisted living facilities) have decreased since week 51 and outbreaks in acute care facilities have decreased since week 9.

Three (7.7%) of the 31 deaths reported in week 16 were associated with an outbreak in a long-term care setting. This compares with a peak of 94 (81%) of 116 deaths associated with a long-term care outbreak in week 50.

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. In contrast, cases among community-dwelling 70+ year-olds increased from weeks 7 to 13 but decreased in weeks 14 to 16, from 367 to 253 cases, following the vaccination of community-dwelling adults aged 70+ years starting in weeks 8 to 14.

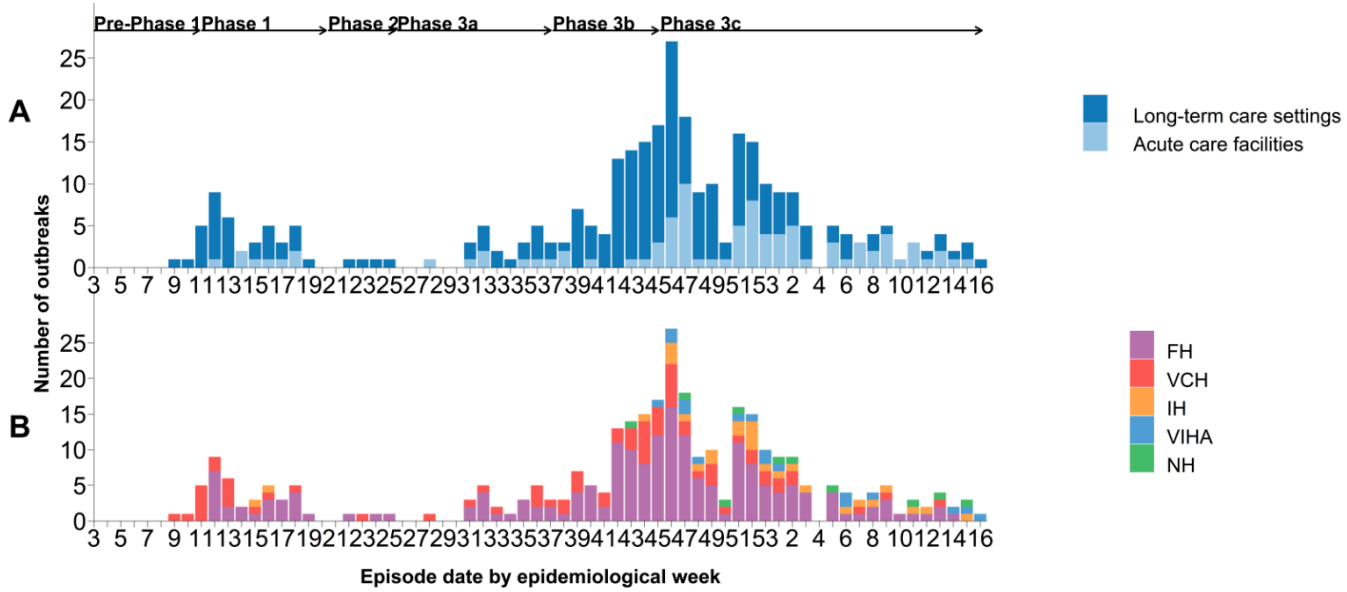
Figure 13 shows a larger decrease in long-term care setting resident deaths 70+ years of age as compared to deaths in the same age group outside of these settings following the start of the vaccination of the LTCF population in week 51. Since week 7, there has been an average of two deaths per week within long-term care these settings, while there has been an average of 17 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 24, 2021 (week 16) (N=314)

Care facility outbreaks and cases by episode date	Outbreaks	Cases				Deaths			
		Residents	Staff/ other	Unknown	Total	Residents	Staff/ other	Unknown	Total
Week 16, Care Facility Outbreaks	1	13	8	1	22	3	0	0	3
Cumulative, Care Facility Outbreaks	**314**	**3,438**	**2,245**	**8**	**5,691**	**988**	**0**	**0**	**988**

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 24, 2021 (week 16) (N=314)



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=2,108) vs other cases (n=6,965) ≥70 years of age, by episode date, BC September 13, 2021 (week 38) – April 24, 2021 (week 16)

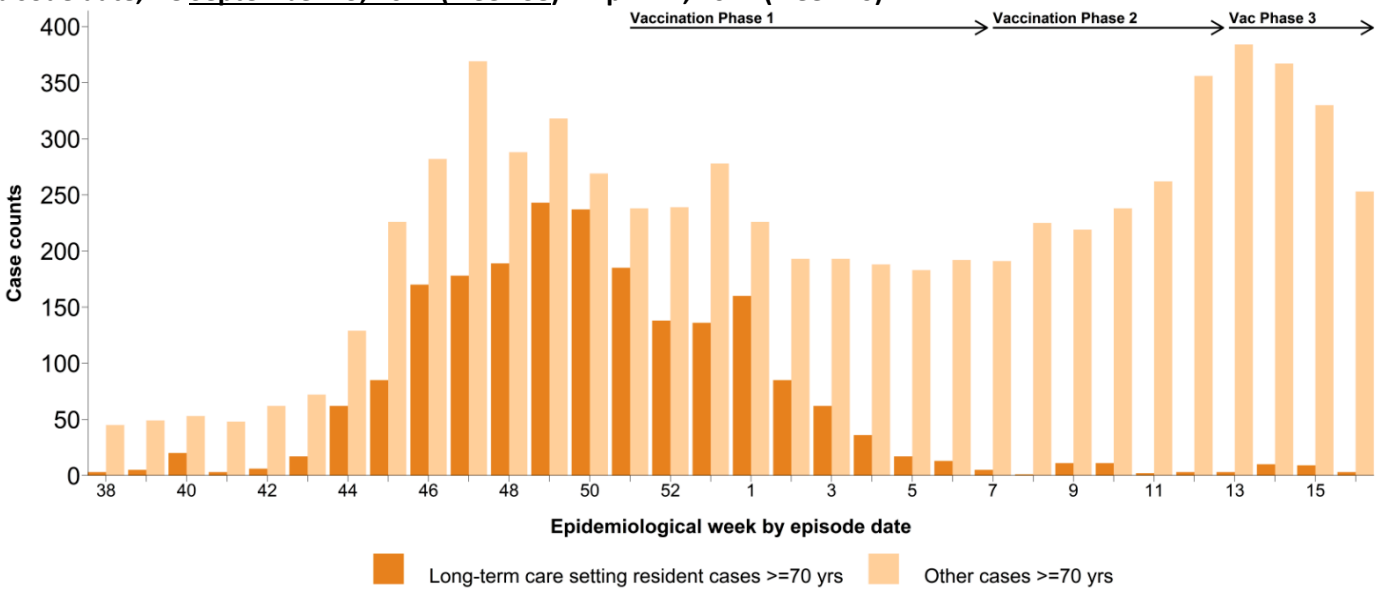
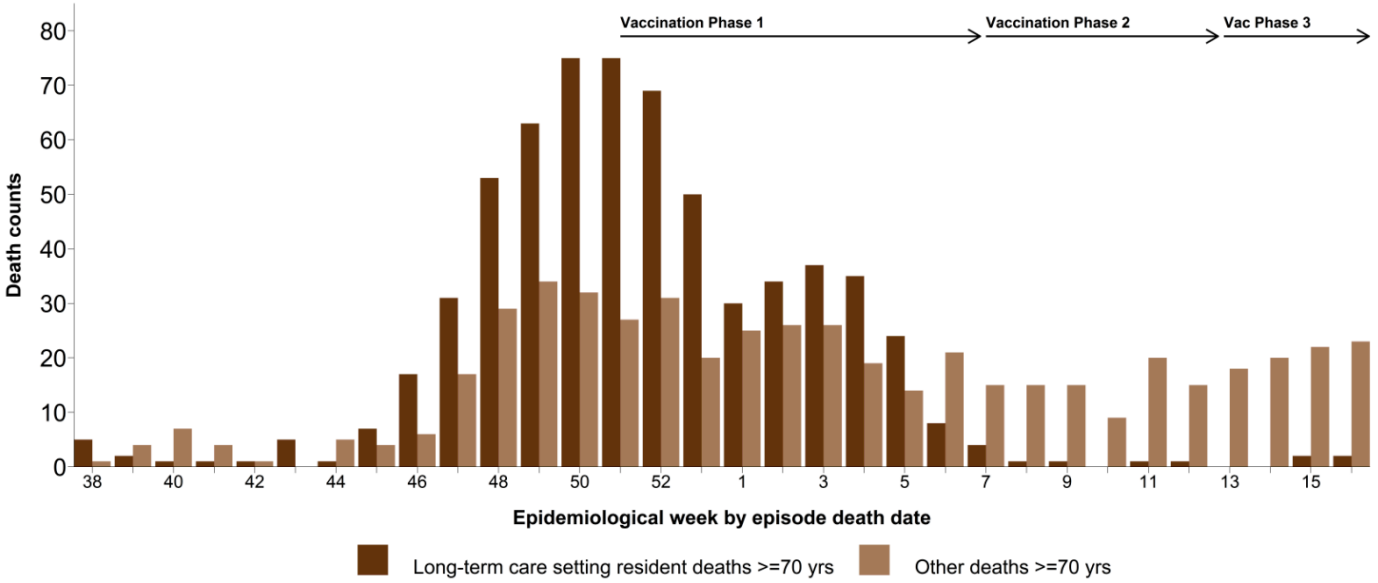


Figure 13. COVID-19 long-term care setting resident[a] deaths (n=636) vs other deaths (n=525) ≥70 years of age, by episode death date, BC September 13, 2021 (week 38) – April 24, 2021 (week 16)



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

Variant of concern (VOC) findings are available weekly here: http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data#variants .