

BCCDC COVID Data Summary

18 November 2021

Purpose

The surveillance deck is a summary of COVID-19 related indicators that can help inform the pandemic response in British Columbia. This surveillance monitoring constitutes the medical chart for population health assessment that guides the public health community of practice. As such this is a working document that reflects a snapshot in time and may differ from other published reports.

Data Sources

The collection, use and disclosure of case data is subject to the Public Health Act. COVID-19 cases are reported under the Public Health Act to the health authority of residence. Public health case notification, clinical management, contact tracing and follow-up contributes surveillance data for regional and provincial COVID-19 monitoring. Each regional health authority have their own workflows and information systems for capture of relevant data. This data foremost serves the public health and clinical management of the case and their contacts.

Disclaimer

- Data and key messages within these documents are not finalized and considered to be work in progress that is subject to retroactive changes as more data and information become available.
- Accurate interpretation of figures may be difficult with the limited inclusion of data notes and methodology descriptions in this document.

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Overall Summary for surveillance data to Nov 18

- **Case rates** are elevated but continue to decline provincially; decreasing in FH and VCH and relatively stable in NH, IH and VIHA.
- **Test positivity** among public tests is stable (~5.6% provincially), and remains high in NH (22%).
 - Testing rates remain higher than historical trends among <12 year olds
- **New hospitalizations** and **hospital/critical care census** is relatively stable provincially, but there is regional variation across BC; **new deaths** are relatively low and stable.
- Hospitalization rates among **children** continue to remain very low.
- The **majority of new cases and hospitalizations** continue to be among **unvaccinated** individuals.
- **Vaccine** coverage in BC, 16 Nov, 1 dose (2 doses): ~81% (78%) of total population, ~91% (87%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern.
- The Delta **variant** continues to account for ~100% of all positive tests in BC. There are 2 main sub-lineages circulating in BC: AY.25 and AY.27.

Nov 11 to Nov 16: BC COVID-19 Profile



213,682 total cases
2,924 new this week



2,281 total deaths
47 new this week

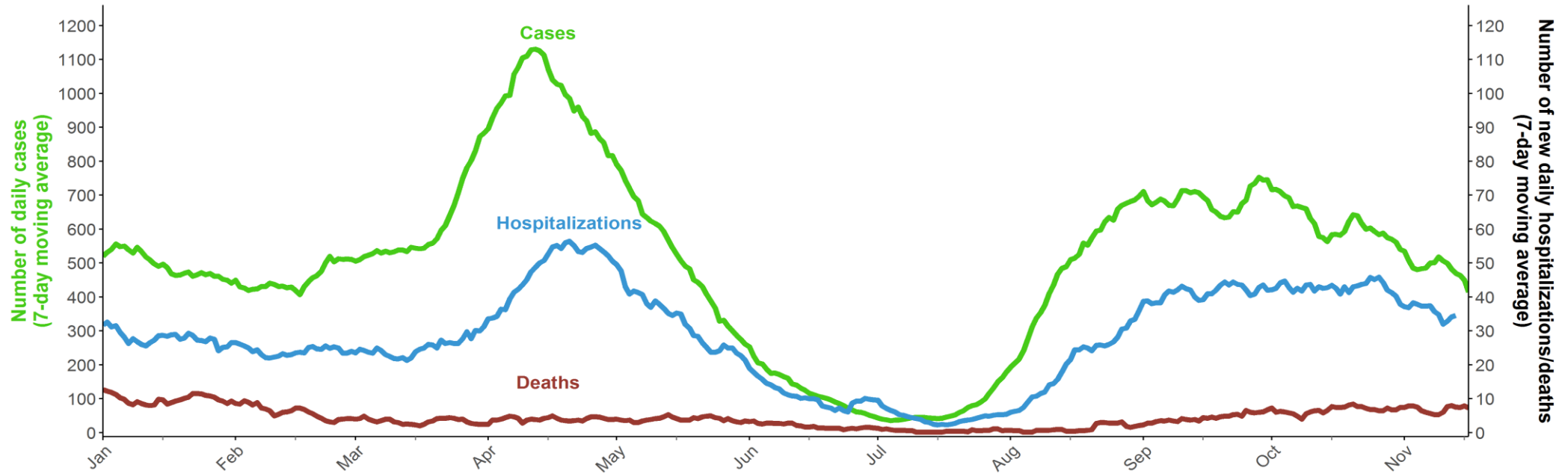


12,003 ever hospitalized
216 new this week



207,779 removed from isolation
3,870 new this week

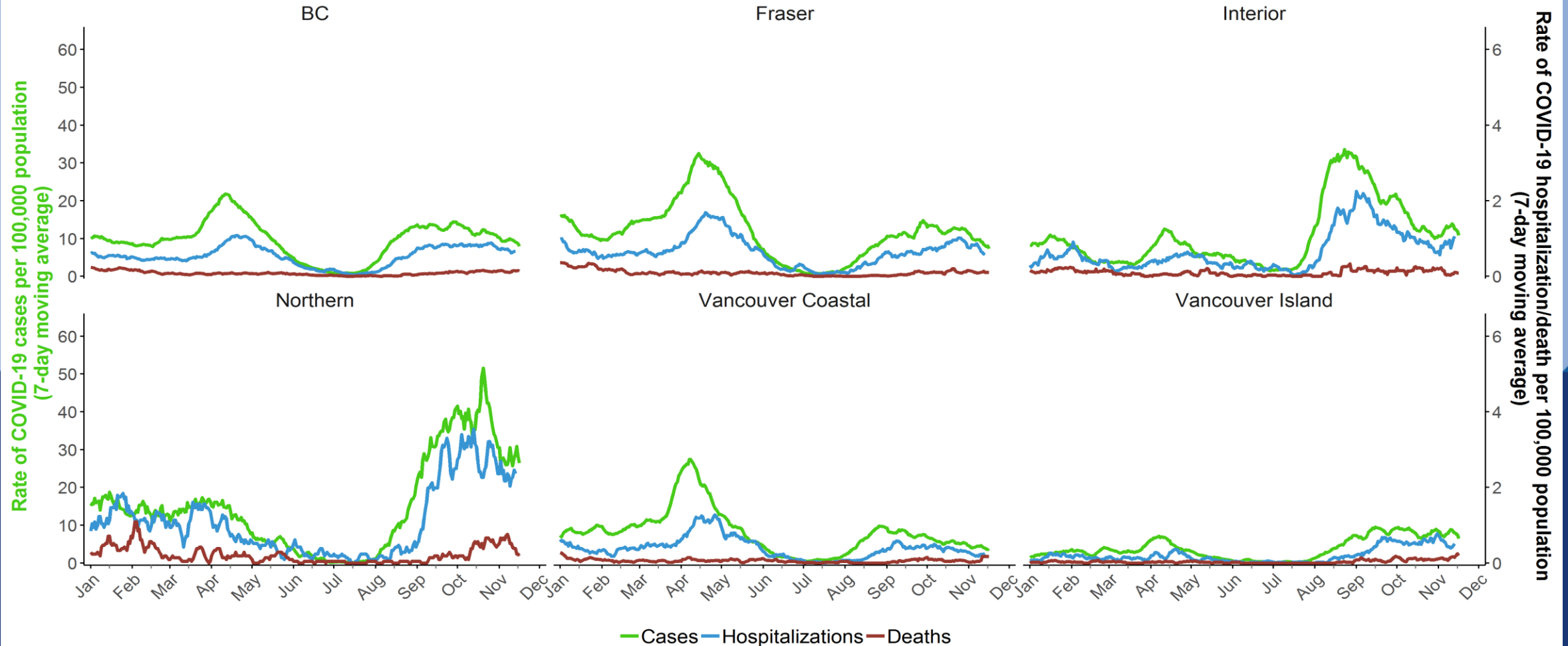
New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Nov 16 2021



* Data are by surveillance date for cases and deaths, and admission date for hospitalizations
Data source: PHRDW Nov-17-2021

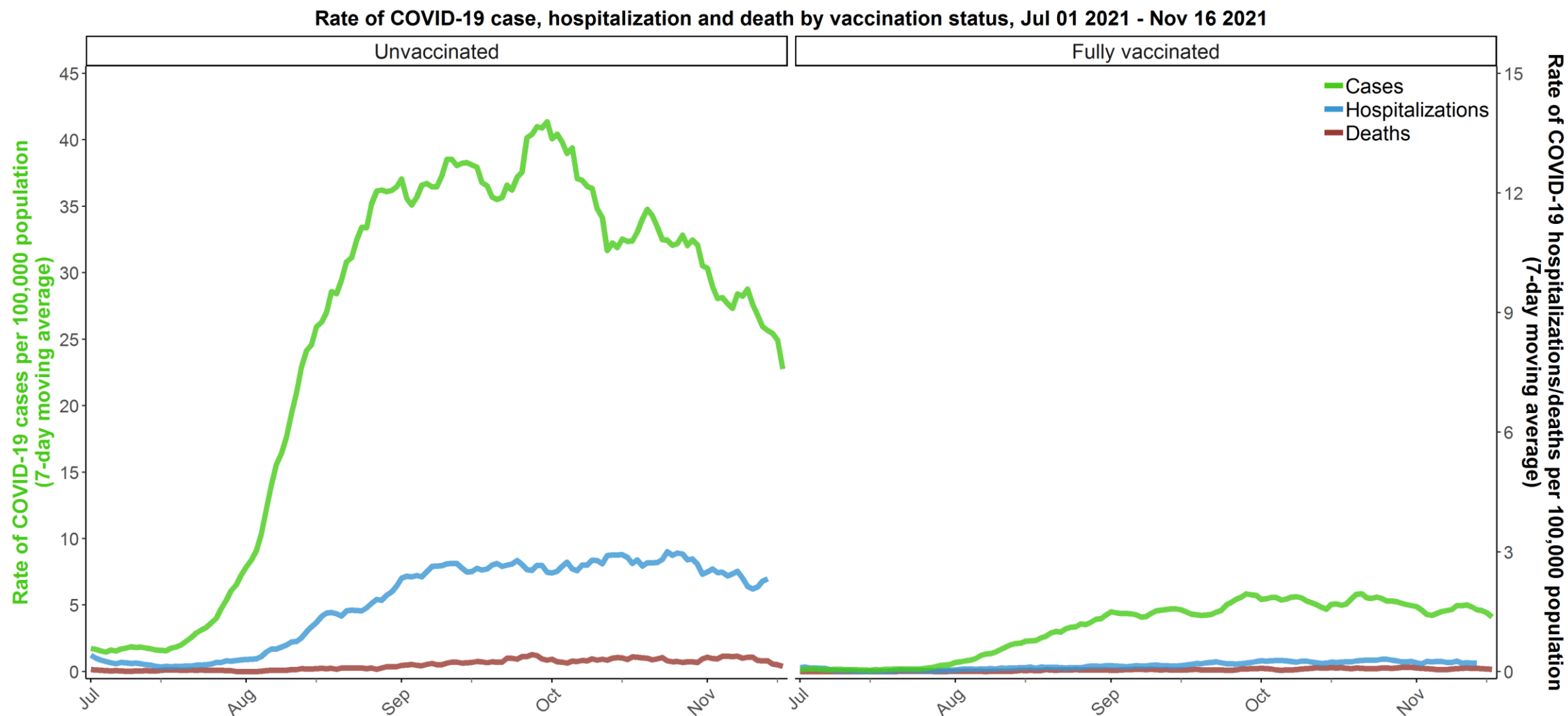
Case rates are elevated but continue to decrease provincially; new hospitalizations are relatively stable provincially; new deaths are relatively low and stable. Note the regional variation.

Rate of COVID-19 case, hospitalization and death, Jan 01 2021 - Nov 16 2021



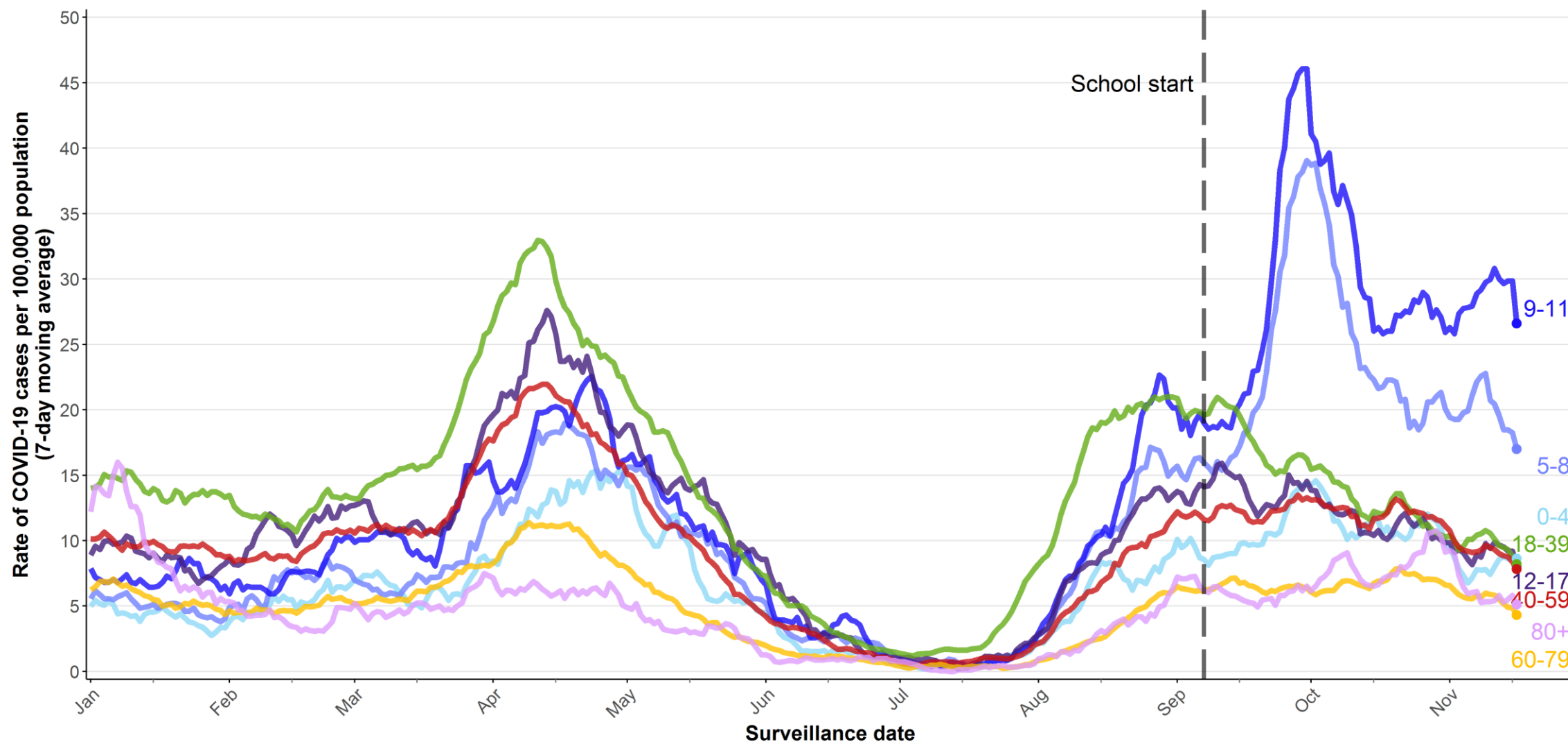
* Data are by surveillance date for cases and deaths, and admission date for hospitalizations
Data source: PHRDW Nov-17-2021

The majority of new cases and hospitalizations continue to be among unvaccinated individuals



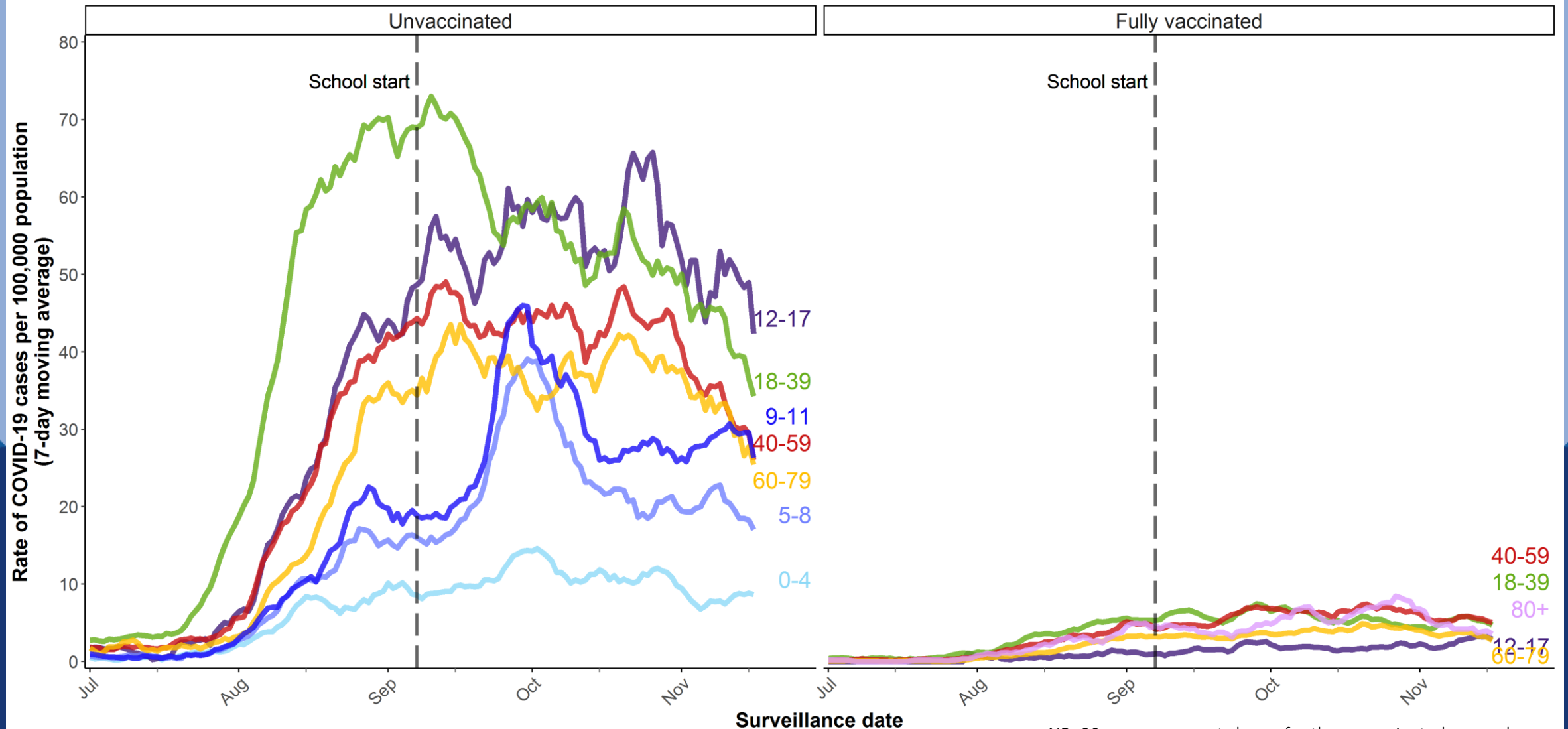
* Data are by surveillance date for cases, death date for deaths, and admission date for hospitalizations
Data source: PHRDW Nov-17-2021

Incidence is elevated among 5 to 11 years (currently unvaccinated), and relatively stable or decreasing in all age groups. Note: this graph looks different once separated out by vaccine status (next slide)



* Data based on surveillance date (i.e. lab result date, or when not available, date reported to public health)
Data range: Jan 01 2021 - Nov 16 2021

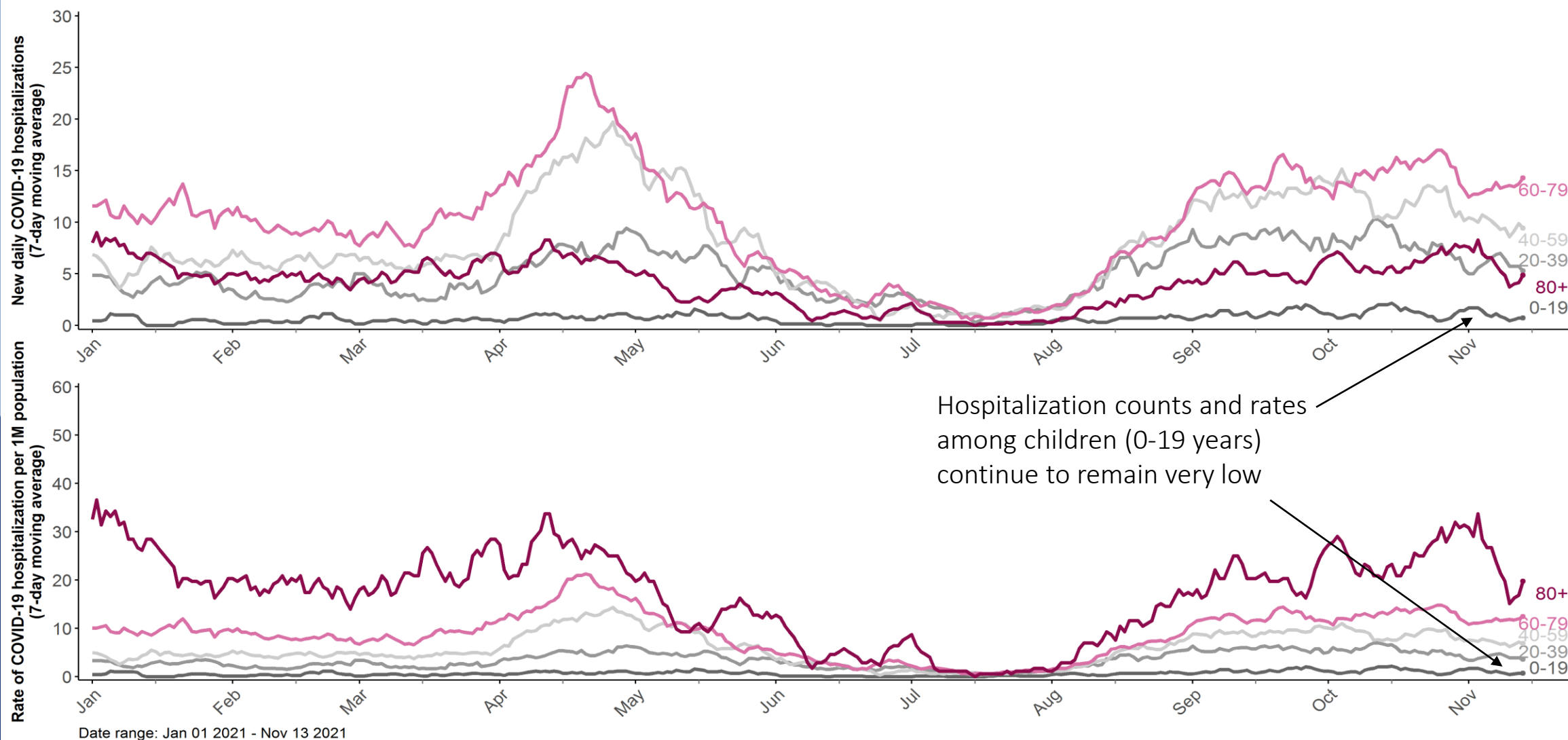
For all age groups 12+, those who are vaccinated have very low case rates. Among those unvaccinated, case rates are lowest among children.



* Data based on surveillance date (i.e. lab result date, or when not available, date reported to public health)
Date range: Jul 01 2021 - Nov 16 2021

NB: 80+ age group not shown for the unvaccinated group due to high and very unstable rates, reflecting a small denominator

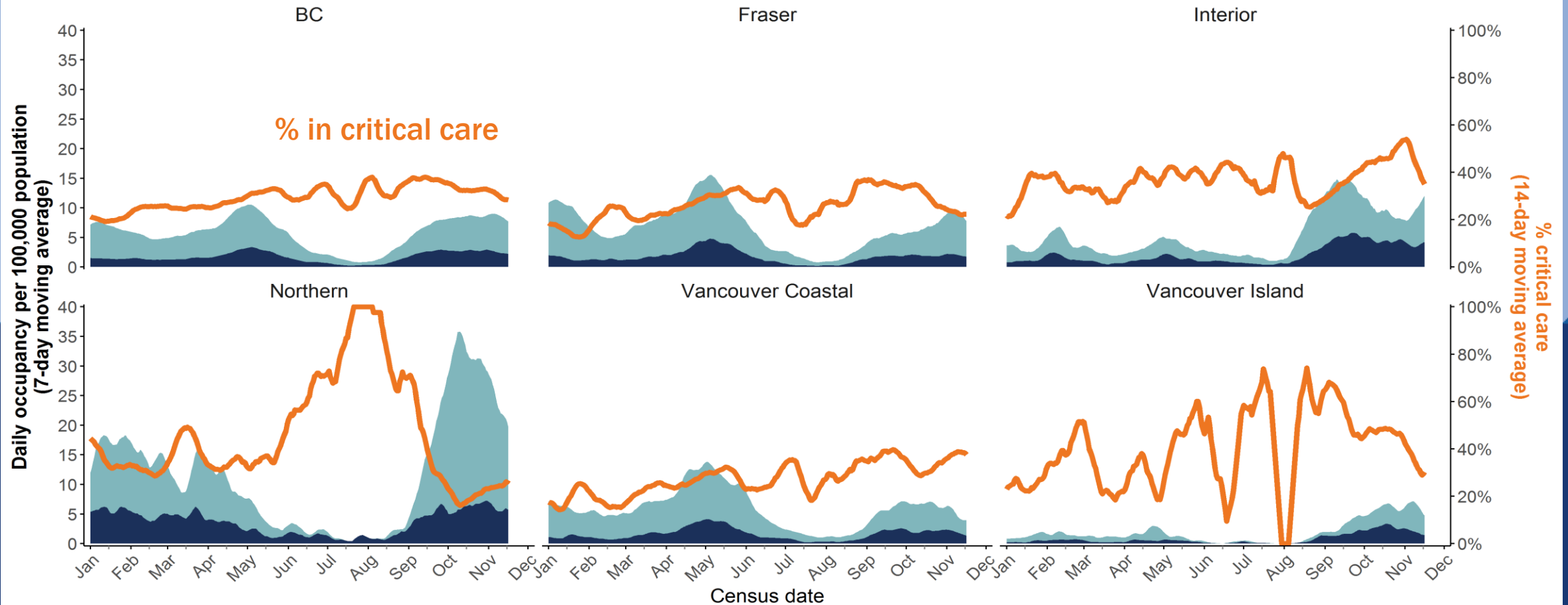
Trends in number and rate of new hospitalizations by age group, BC, 1 Jan – 13 Nov 2021



Critical care census is relatively stable provincially, but there are regional differences: general declines across the province, except the recent increase in IH*

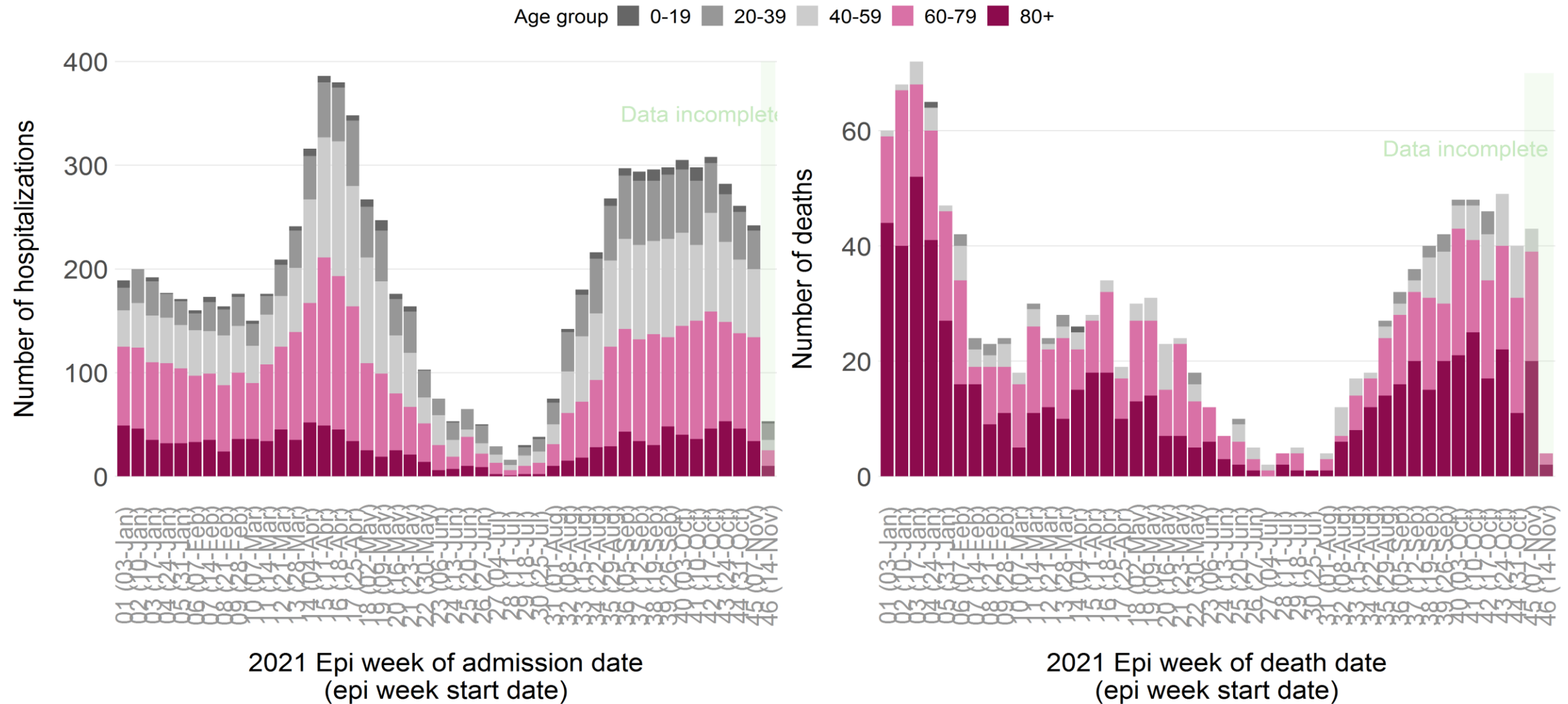
Current COVID-19 hospitalizations in BC, Jan 01 2021 - Nov 16 2021

■ In the hospital but not in critical care ■ In critical care



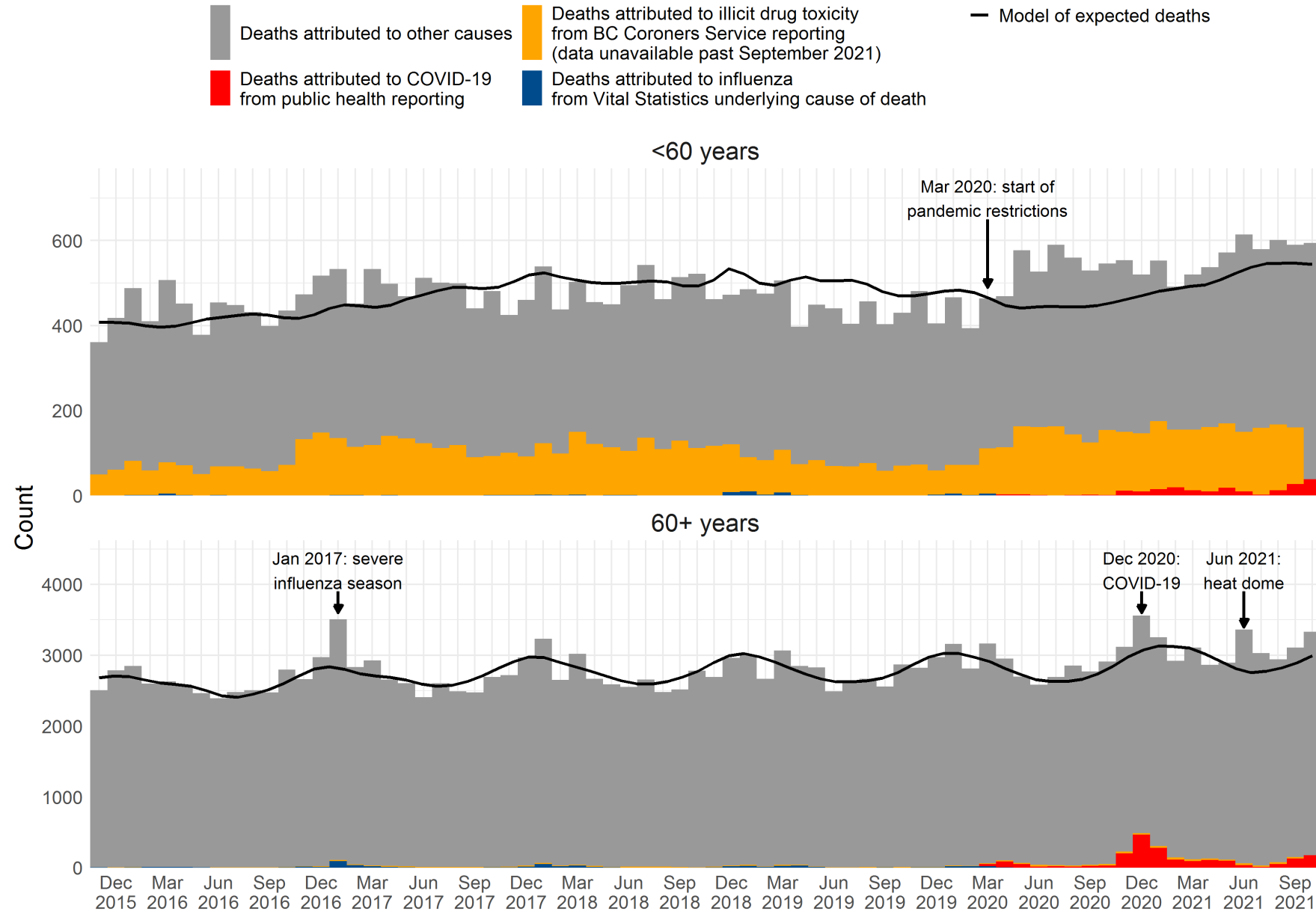
* Data are presented by health authority of hospitalization; some patients are hospitalized in a different health authority than they live in
Data source: PHSA Provincial COVID19 Monitoring Solution (PCMS) Nov-17-2021

Number of new hospital admissions is elevated and starting to decline. The majority of deaths are in individuals ≥ 60 years.

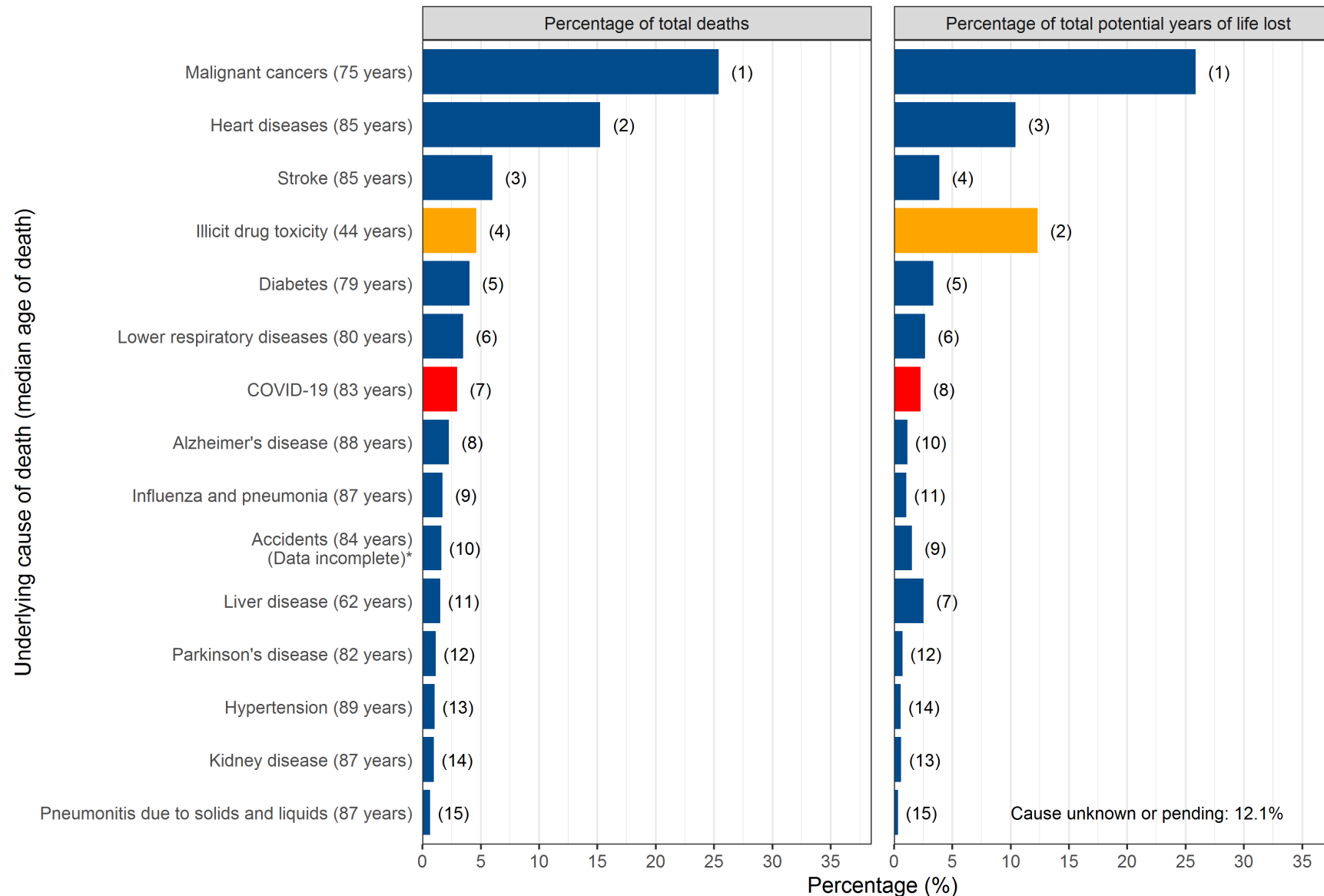


Data extracted on 2021-11-17; hospitalization and death data from health authority case line list data

Monthly mortality in British Columbia by cause and age group, November 2015 to October 2021



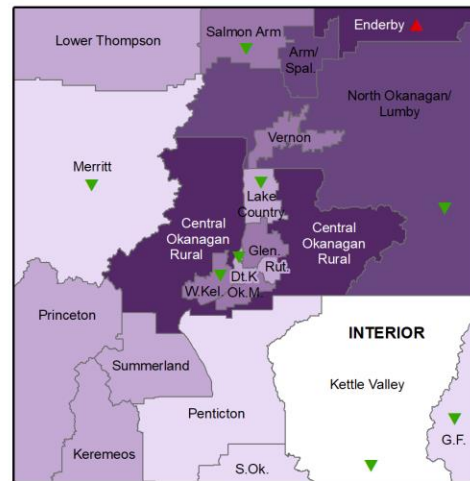
Top 15 causes of death (ranking) in British Columbia from March 2020 to September 2021



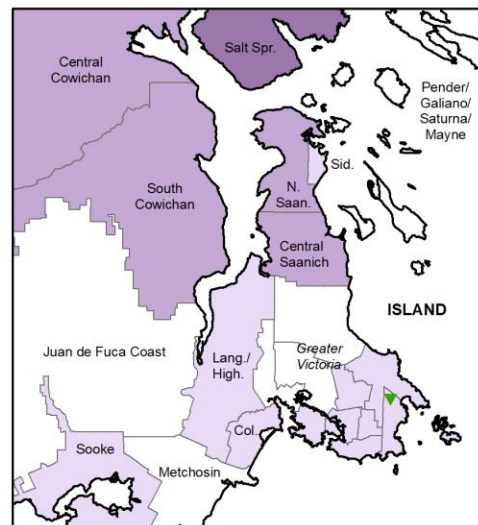
*External causes of death (other than illicit drug toxicity) incomplete due to reporting delay and will rise in ranking as data become complete.

Data sources: 1) BC Vital Statistics; 2) Data on illicit drug toxicity deaths provided to BCCDC by BC Coroners Service; 3) Statistics Canada Table 13-10-0114-01 Life expectancy and other elements of the life table, Canada, reference period 2017-2019.

Okanagan Inset
(Community Health Service Areas)



Greater Victoria Inset
(Community Health Service Areas)



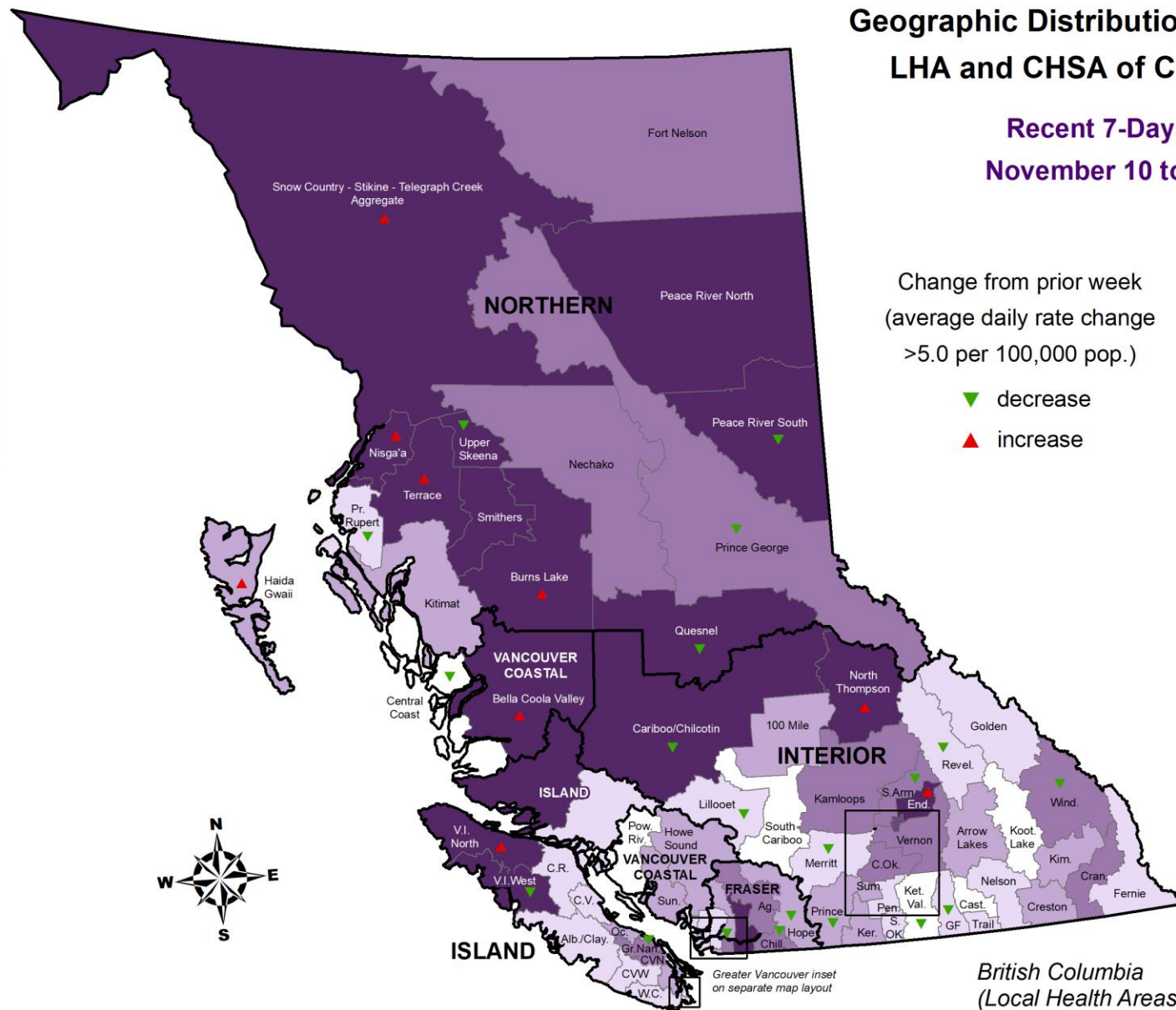
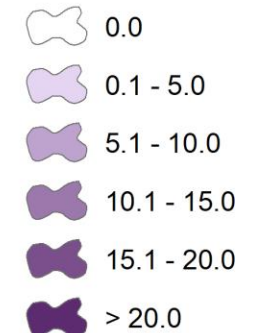
Geographic Distribution of COVID-19 by LHA and CHSA of Case Residence

Recent 7-Days Cases
November 10 to 16, 2021

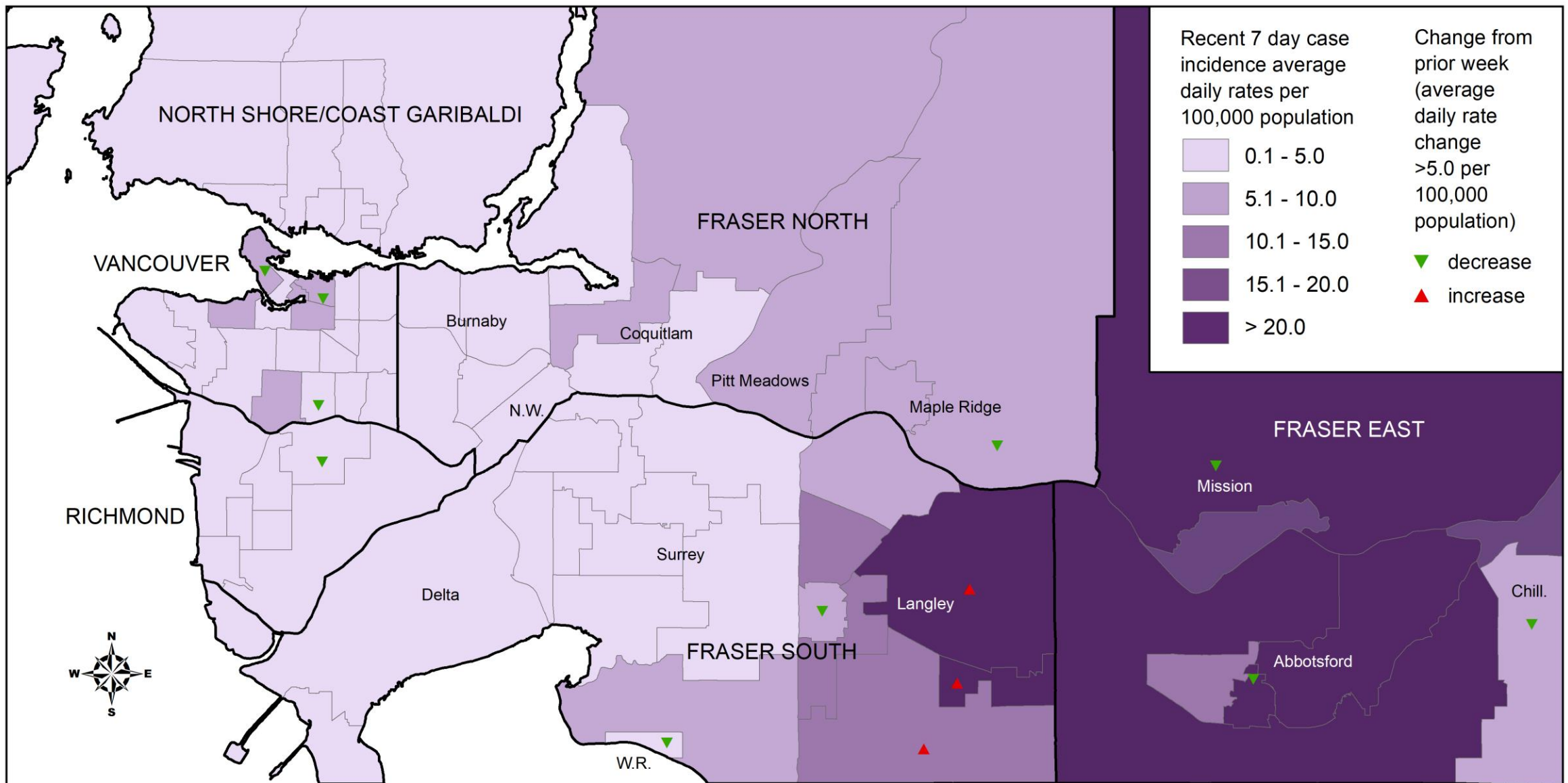
Change from prior week
(average daily rate change
>5.0 per 100,000 pop.)

▼ decrease
▲ increase

Average daily rate per
100,000 population

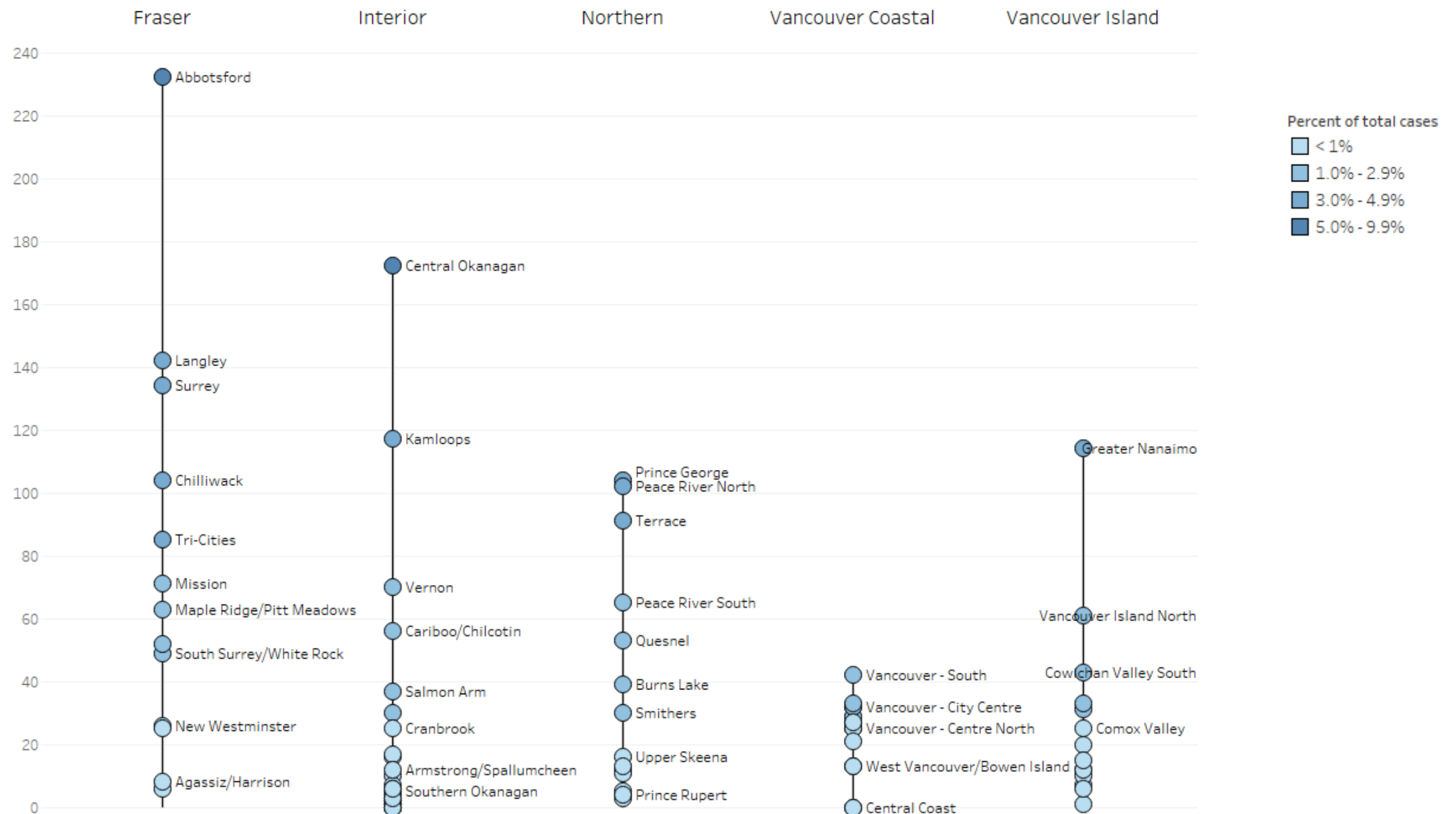


Data source: Public Health Reporting Data Warehouse (PHRDW) integrated COVID dataset; we operate in a live database environment and case information is updated as it becomes available. Cases are mapped by location of residence; cases with unknown residence and from out of province are not mapped. Data are by date of first positive test, or date reported to public health for epi-linked cases. Population denominator from BC Stats PEOPLE estimates for 2021.



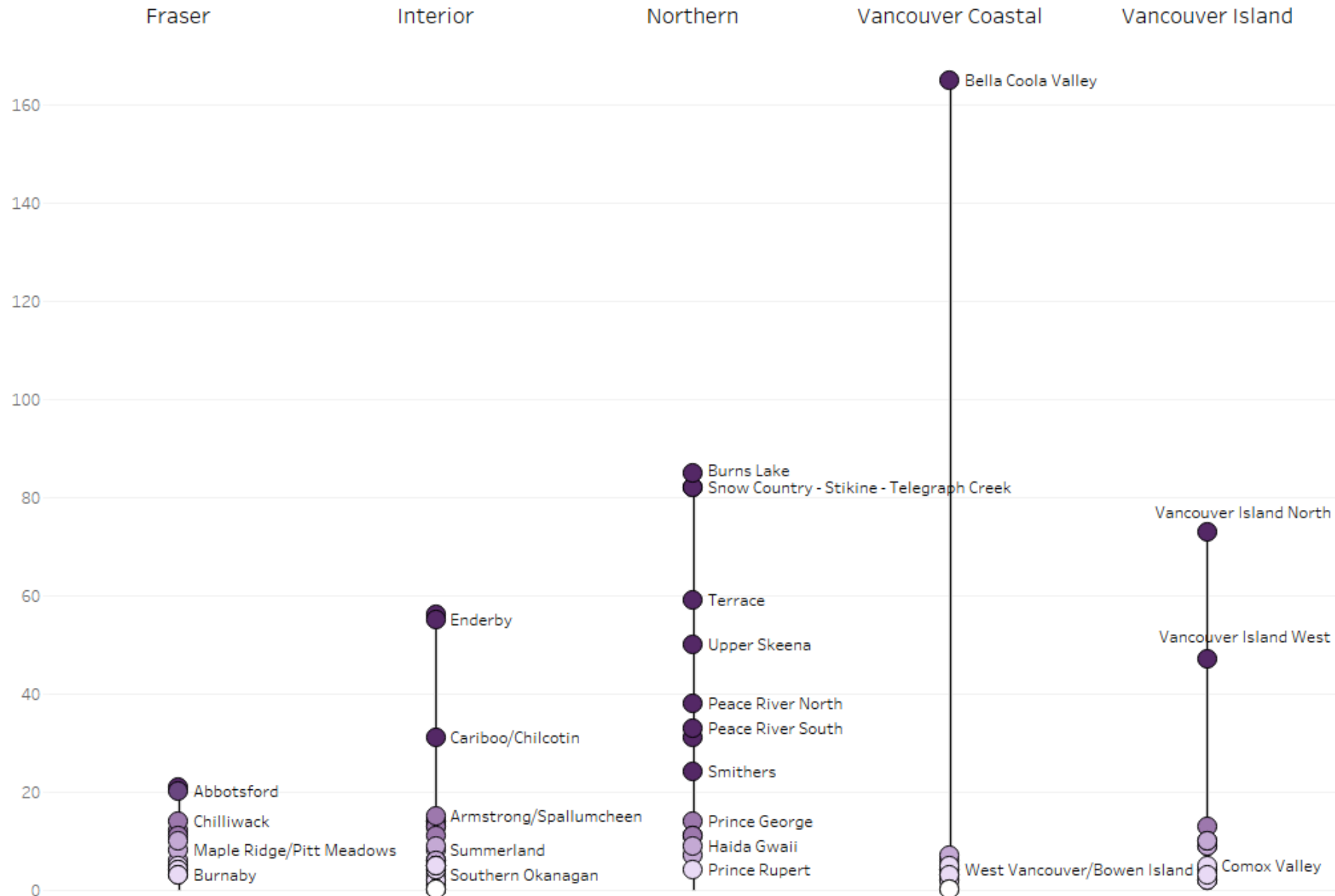
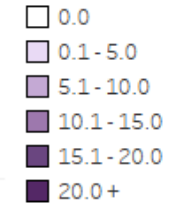
COVID-19 Recent 7-Day Case Incidence Rates by CHSA (November 10 to 16, 2021)

Total cases by local health area, Nov 09 - Nov 15, 2021



Average daily **case rate** of new cases per 100,000 population, by local health area, Nov 09 - Nov 15, 2021

Average daily rate
per 100,000 population

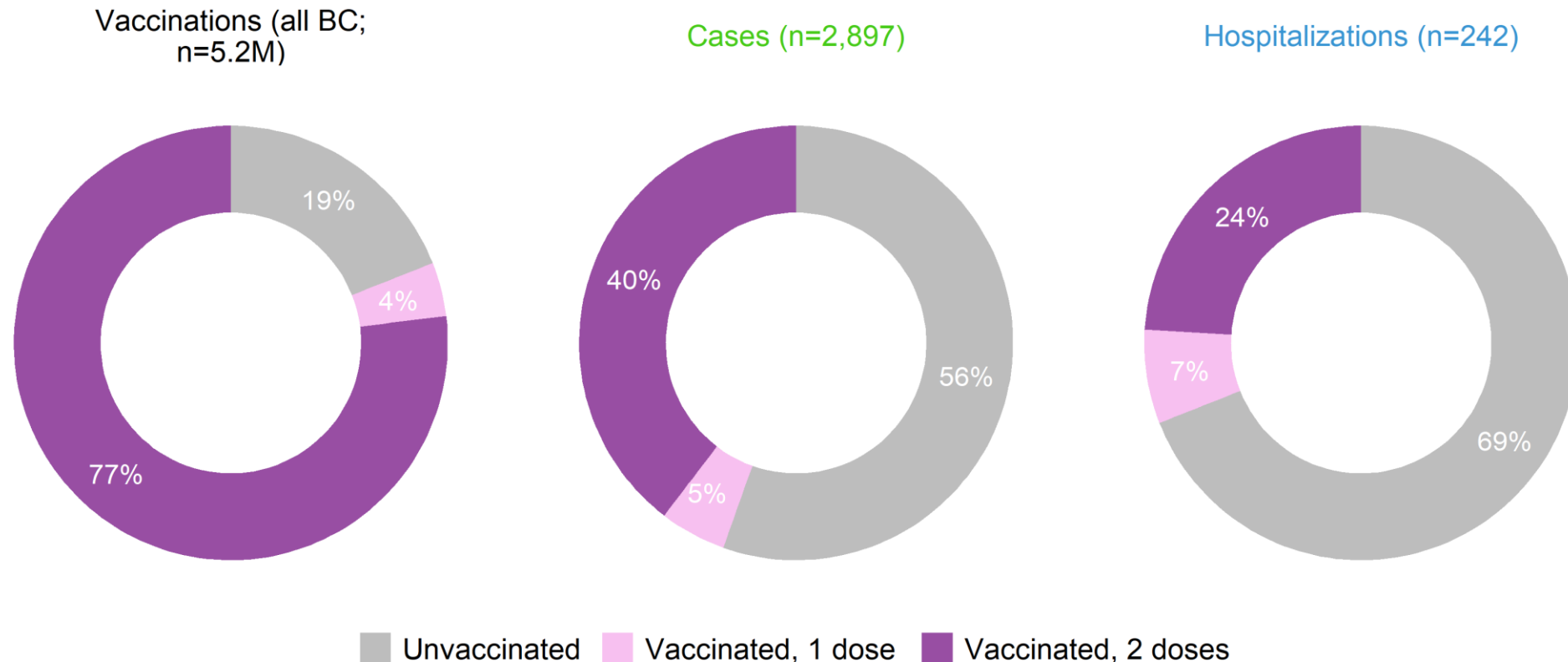


Key messages – vaccination coverage and outcomes by vaccine status

- **Vaccine coverage** in BC, 16 Nov, 1 dose (2 doses): ~81% (78%) of total population, ~91% (87%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern.
- Most of the recent cases and hospitalizations continue to be among unvaccinated individuals
- Based on data over the last 4 weeks, compared with fully vaccinated individuals and after adjusting for age differences, unvaccinated individuals are
 - ≈ **8x** more likely to become a case
 - ≈ **32x** more likely to be hospitalized
 - ≈ **20x** more likely to die
 - NB: relative rates fluctuate over time and do not represent vaccine effectiveness
- **Unvaccinated**: no dose or not yet protected (<3 weeks since receipt of 1st dose; <10% of unvaccinated cases)
- **Vaccinated, 1 dose**: ≥3 weeks since receipt of 1st dose and <2 weeks after 2nd dose
- **Vaccinated, 2 doses**: 2 weeks or more after receipt of 2nd dose

Over the past **week**, fully vaccinated individuals represented 77% of BC's total population, but accounted for 40% of cases and 24% of hospitalizations.

These % fluctuate over time. There are many more vaccinated individuals than unvaccinated individuals, and thus it is important to take the denominator into account. These figures do not represent vaccine effectiveness.

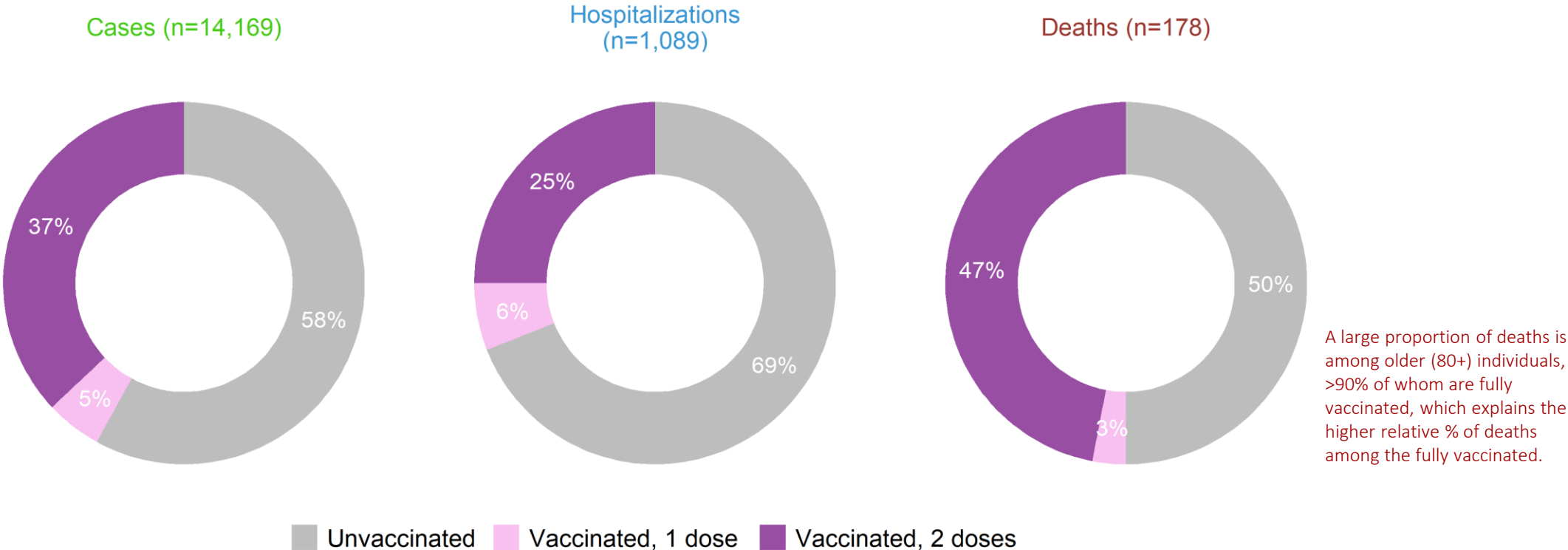


Data include cases from Nov 10-Nov 16, and hospitalizations from Nov 07-Nov 13, 2021

We operate in a live database environment and data get updated retrospectively. These figures may differ slightly from previously reported counts. Cases are captured based on surveillance date. Hospitalizations are by admission date. Please note that there is often a multiple-days lag in recording hospitalizations, e.g. some hospital admissions that occurred on Sept 24th may not be captured by our surveillance system until Sept 29th.

Over the past month, fully vaccinated individuals accounted for 37% of cases and 25% of hospitalizations.

These % are expected to increase over time as more people get fully vaccinated and there are fewer unvaccinated people. If 100% of population gets fully vaccinated (which is almost the case for many long term care residents for example), then any new cases, hospitalizations, or deaths will be among vaccinated people.



Data include cases from Oct 20-Nov 16, and hospitalizations from Oct 17-Nov 13, 2021

We operate in a live database environment and data get updated retrospectively. These figures may differ slightly from previously reported counts. Cases are captured based on surveillance date. Hospitalizations are by admission date. Deaths are by date of death. Please note that there is often a multiple-days lag in recording hospitalizations and deaths, e.g. some hospital admissions that occurred on Sept 24th may not be captured in our surveillance system until Sept 29th.

COVID-19 health outcomes by vaccination status and age, BC, Oct. – Nov. 2021

Trend in % total population vaccinated with at least 1 dose



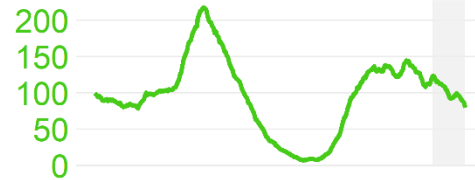
Vaccinations (all BC; n=5.2M)



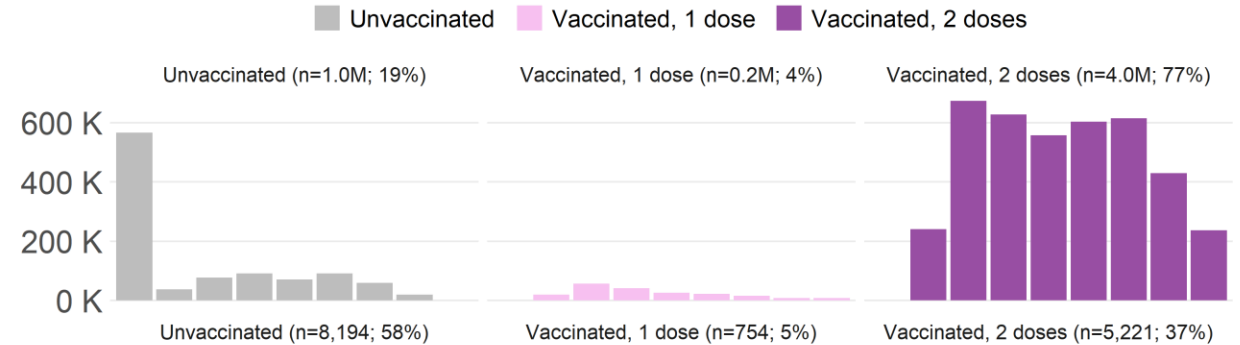
Cases (n=15,539)



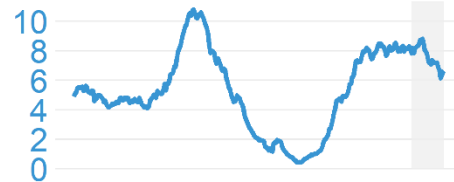
Trend in daily cases per 1M



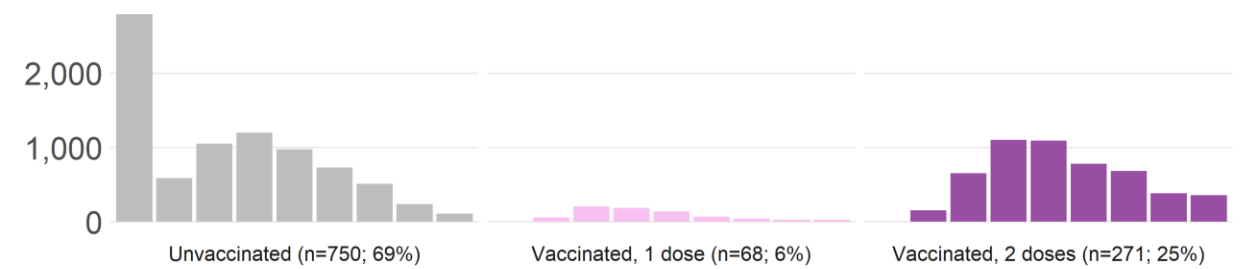
Number of people



Trend in daily hospitalizations per 1M



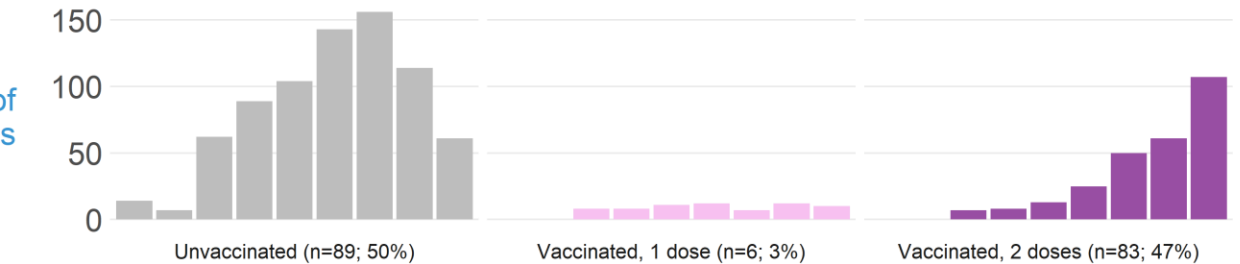
Number of cases



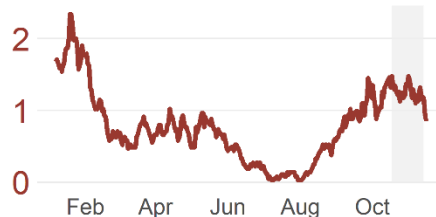
Hospitalizations (n=1,157)



Number of hospitalizations

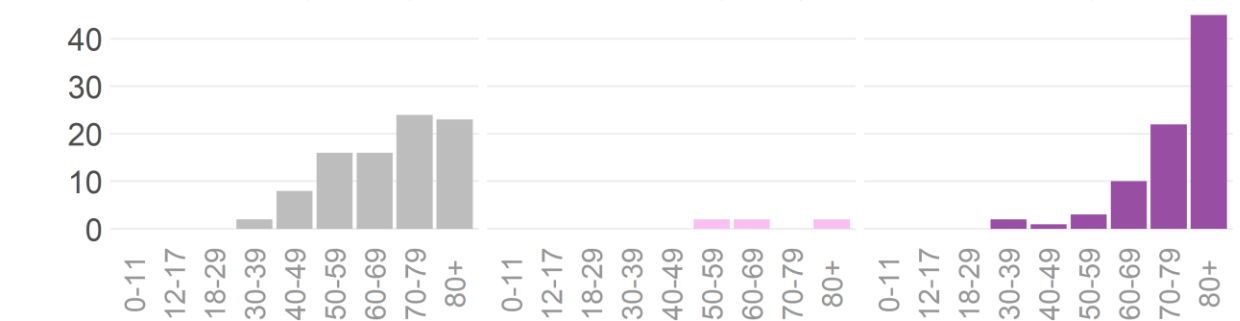


Trend in daily deaths per 1M



Number of deaths

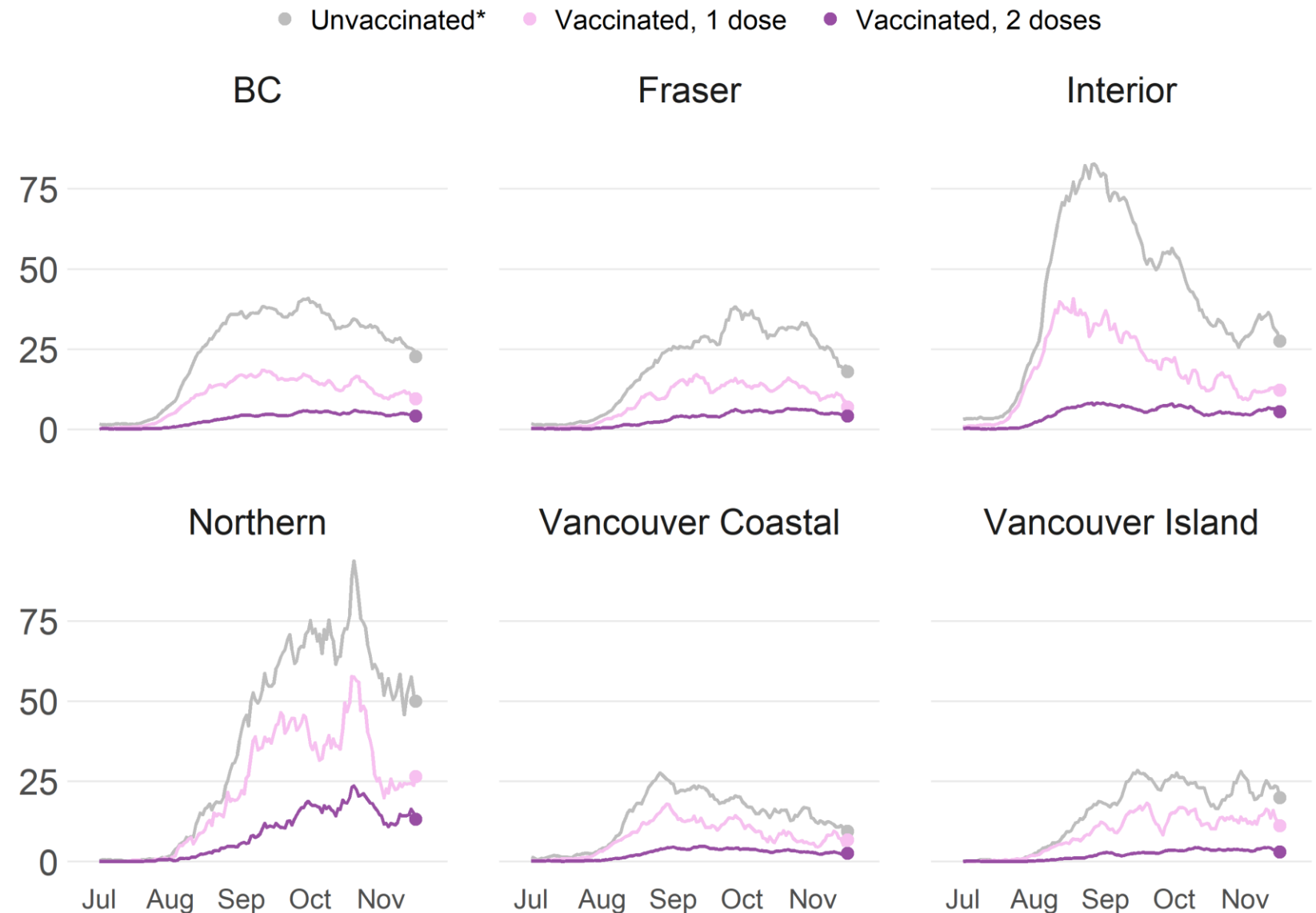
Deaths (n=181)



*Figures include cases from Oct 20-Nov 16, and hospitalizations and deaths from Oct 17-Nov 13, 2021

COVID-19 **case** rate by vaccination status and Health Authority, July 1 – Nov 18, 2021

Rate of new daily cases per 100,000 population (7-day moving average of crude rate)

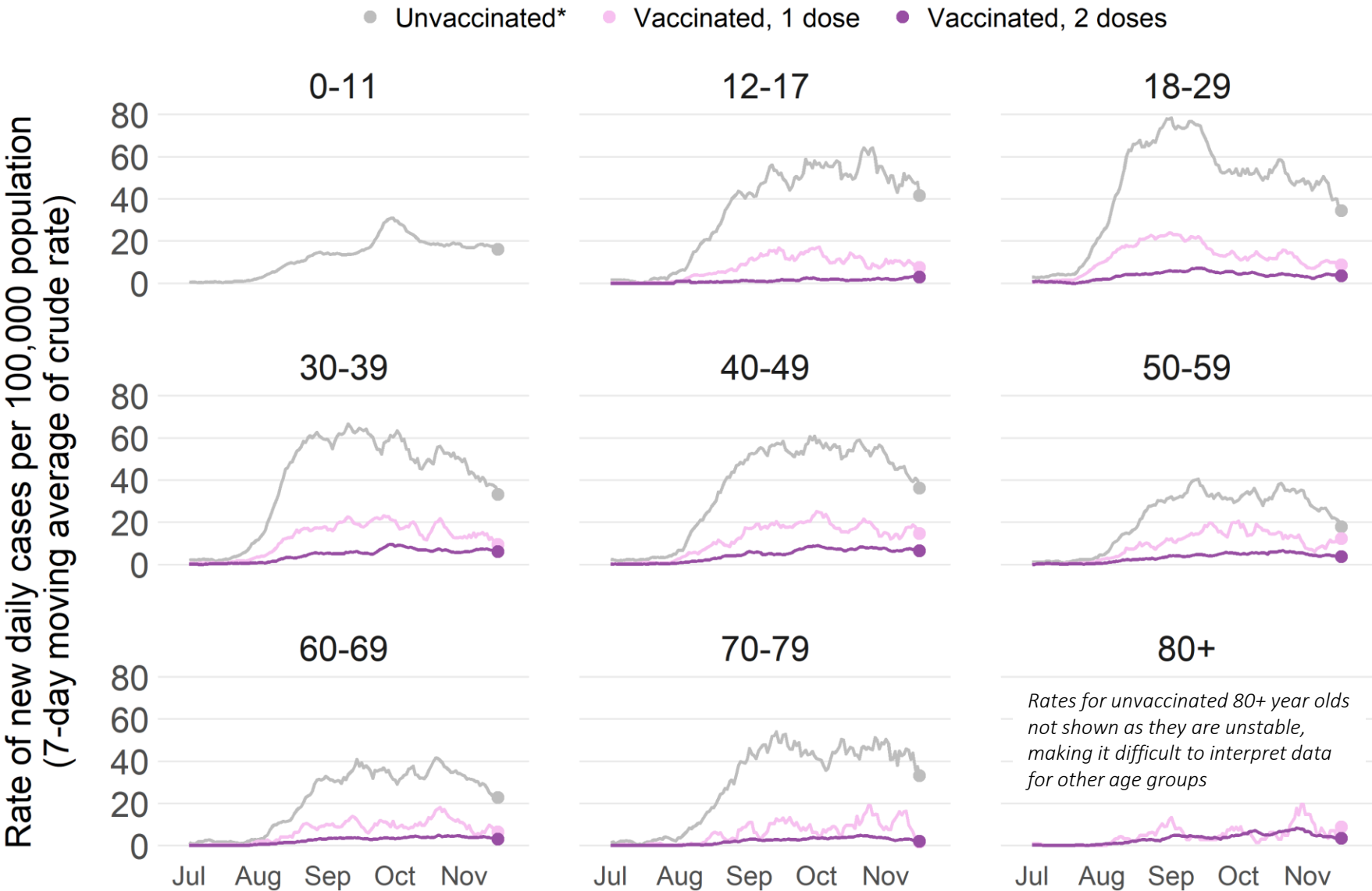


Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.

*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 6% of the total unvaccinated cases since 1 July 2021.
Data extracted from health authority case line list on 18 Nov 2021

COVID-19 **case** rate by vaccination status and age, July 1 – Nov 18, 2021

Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.

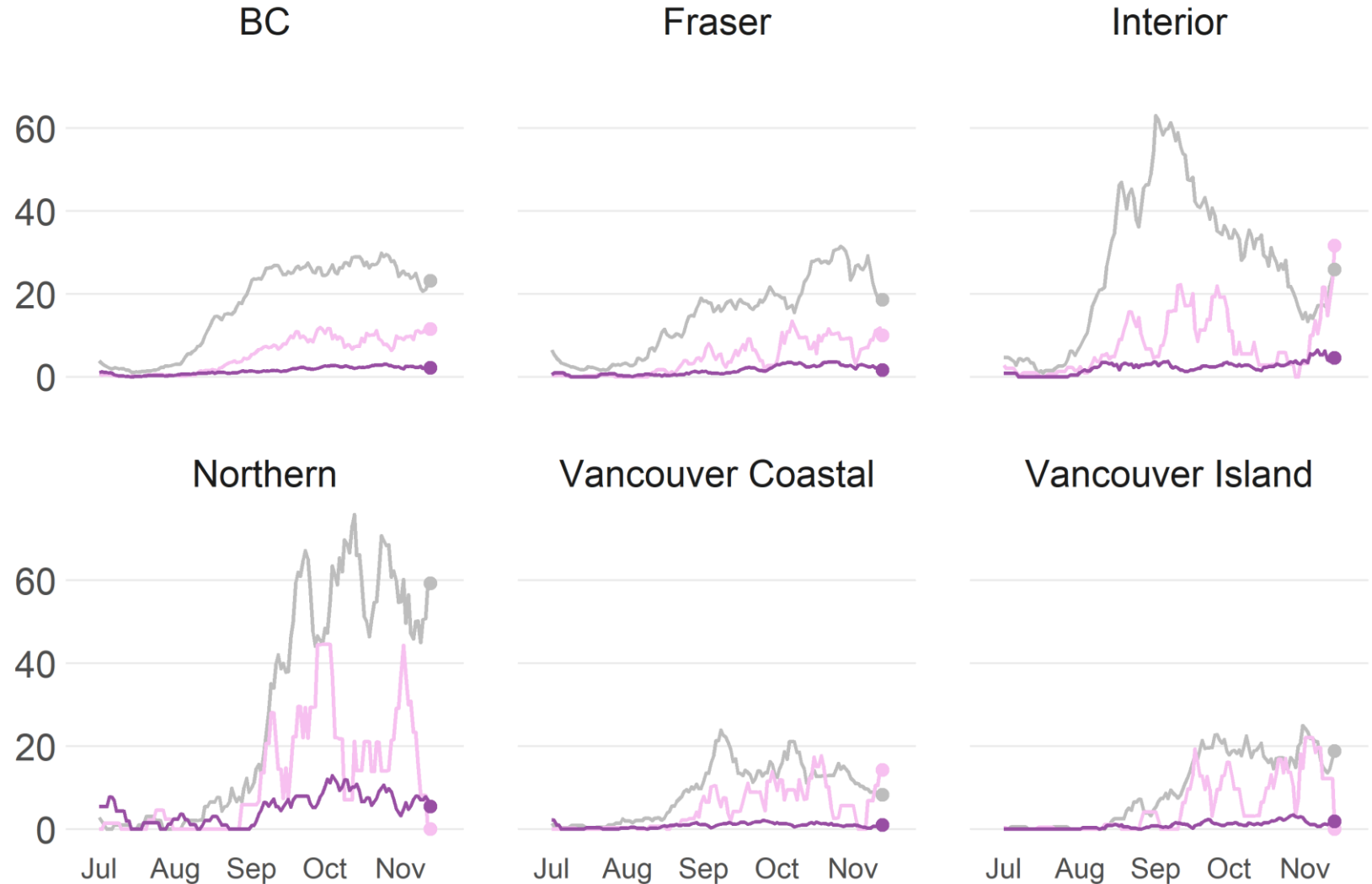


*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 6% of the total unvaccinated cases since 1 July 2021.
Data extracted from health authority case line list on 18 Nov 2021

COVID-19 hospitalization rate by vaccination status, July 1 – Nov 13, 2021

Rate of new daily hospitalizations per 1M population (7-day moving average of crude rate)

● Unvaccinated* ● Vaccinated, 1 dose ● Vaccinated, 2 doses

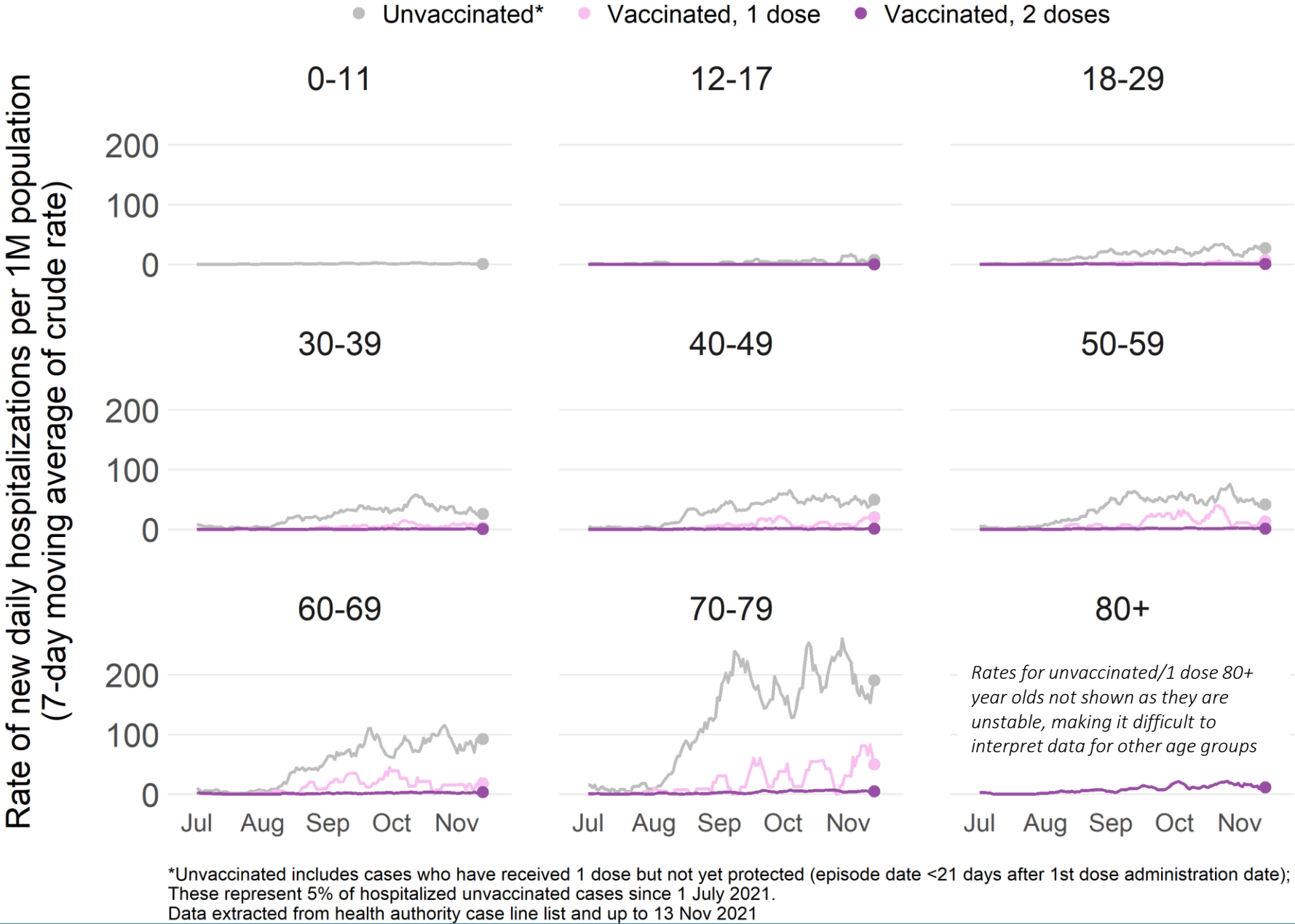


Data by hospital admission date.
Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.

*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 5% of hospitalized unvaccinated cases since 1 July 2021.
Data extracted from health authority case line list and up to 13 Nov 2021

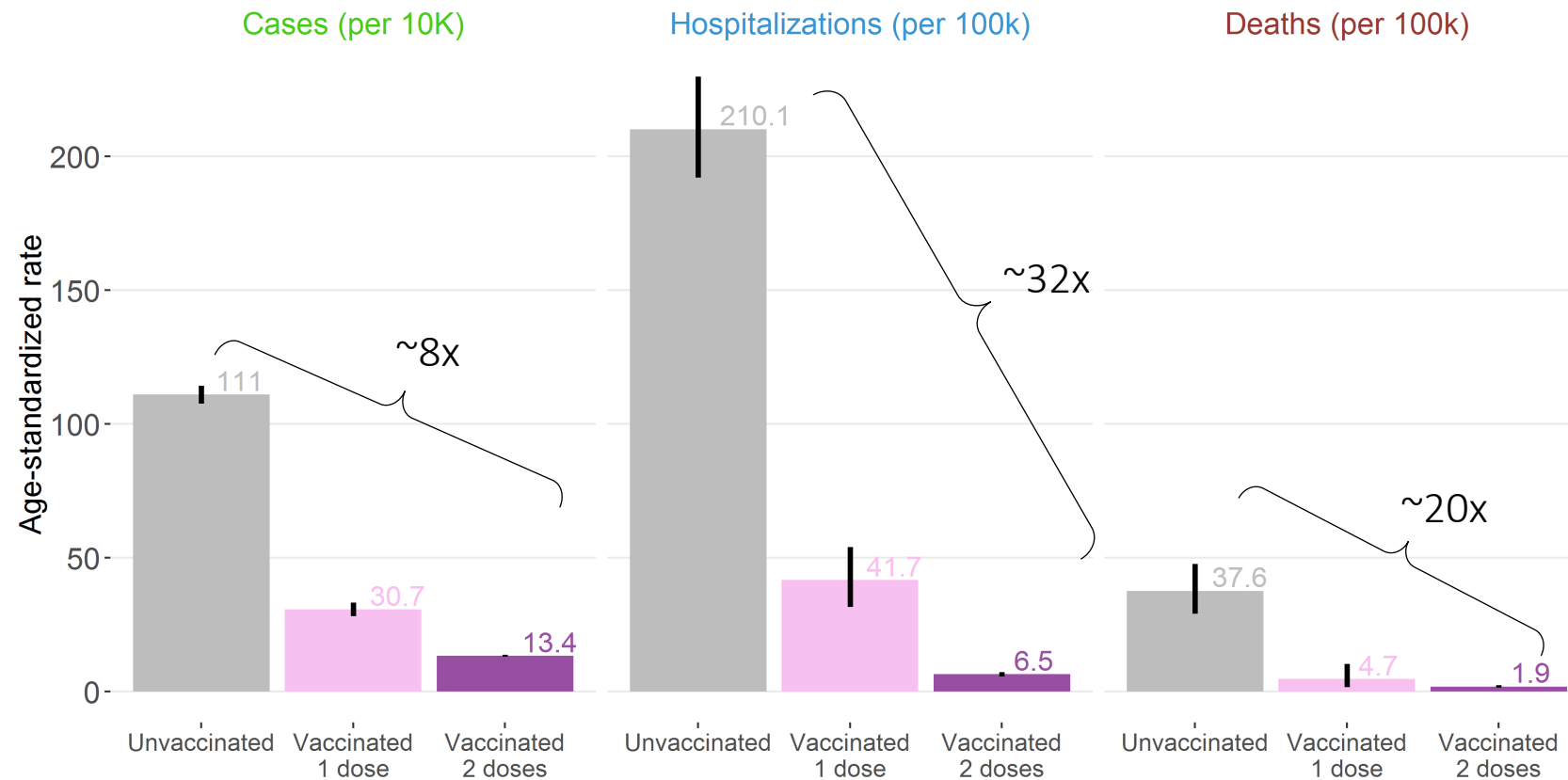
COVID-19 hospitalization rate by vaccination status and age, July 1 – Nov 13, 2021

Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.



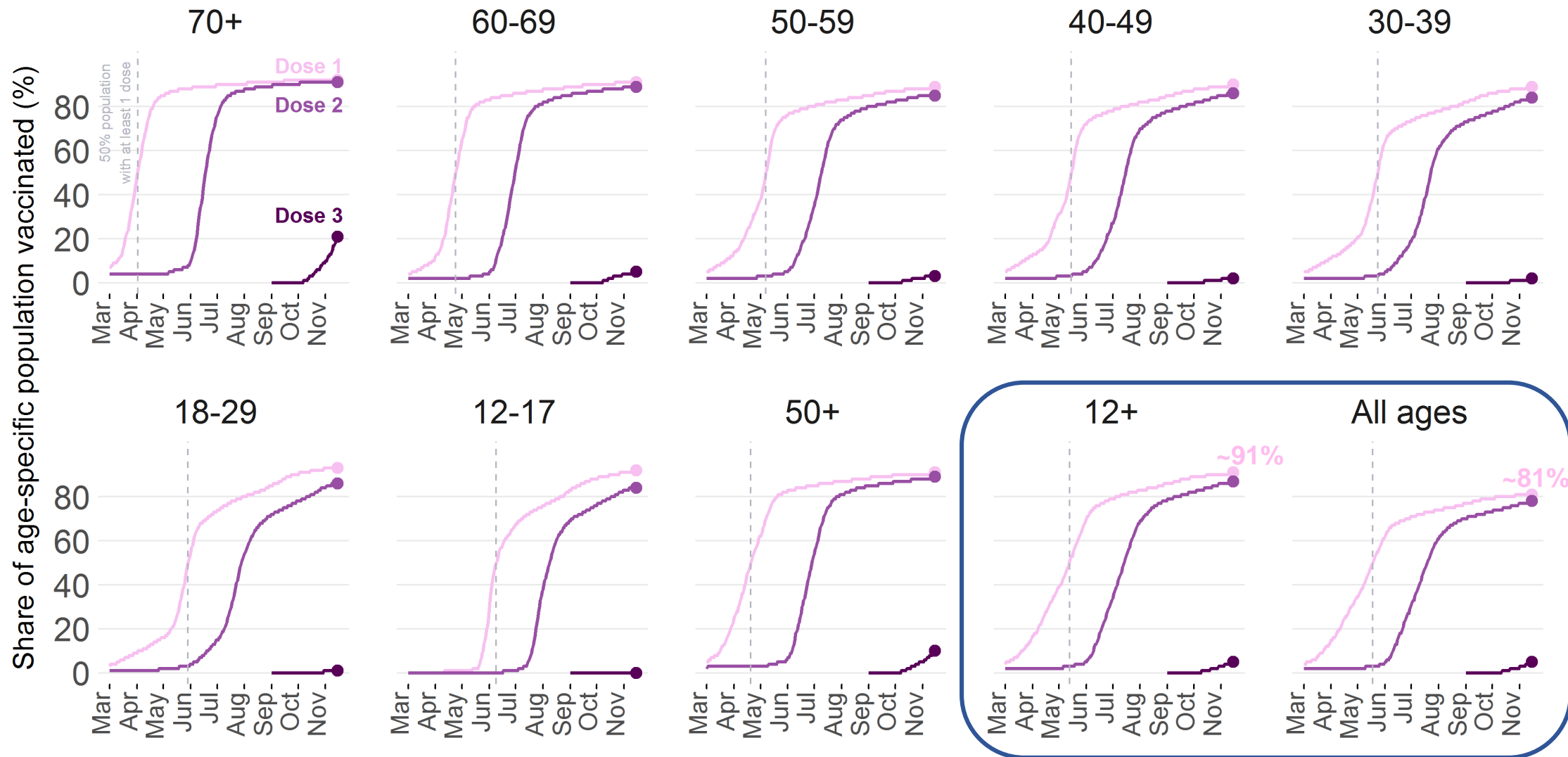
After adjusting for age, **unvaccinated** individuals continue to be at a significantly higher risk of infection, hospitalization, and death from COVID-19 compared with **fully vaccinated**

Relative rate fluctuates over time. These figures do not represent vaccine effectiveness.



Data include cases from Oct 20-Nov 16, and hospitalizations and deaths from Oct 17-Nov 13, 2021

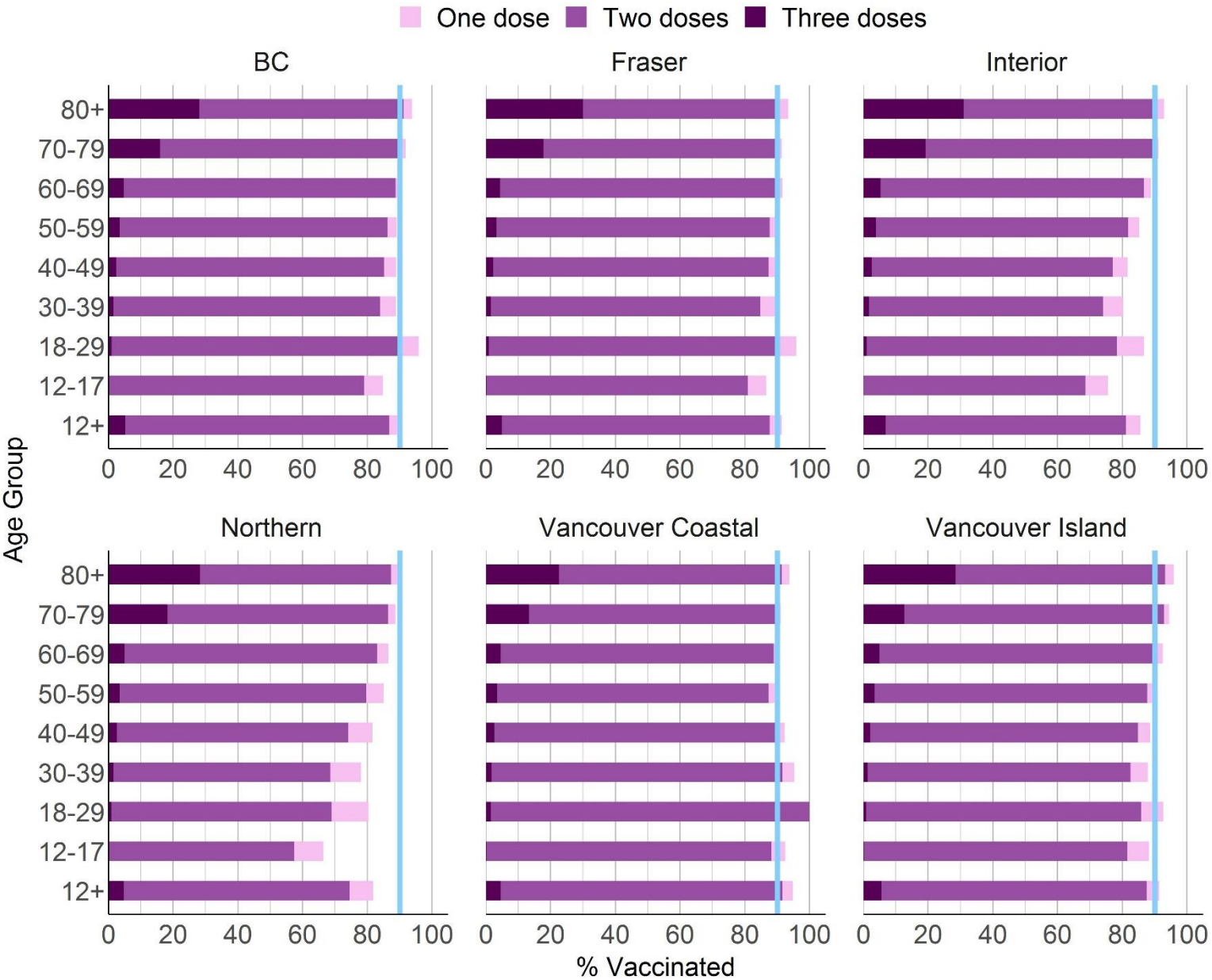
Vaccination progress in BC over time by age group and dose number up to Nov. 16, 2021



Data updated 2021-11-16
Data Source: Provincial Immunization Registry, PHSA

Vaccination progress in BC and by Health Authority as of Nov. 16, by age group and dose number (%)

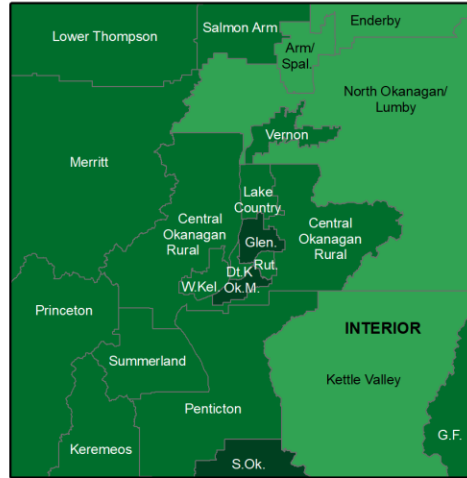
Denominator for this graph is Client Roster maintained by the BC Ministry of Health. Client Roster population data are sourced from a list of all residents registered with Medical Services Plan as of March 12, 2021. Since this date, people may have moved, permanently or temporarily, and have been vaccinated or reported their vaccination status. As a result, there are areas in BC where there will be more people vaccinated than there were living in that area in March 2021. The Client Roster likely underrepresents new arrivals into a region such as young adults relocating to attend post-secondary institutes and workers at major construction project areas. An alternative denominator would be based on projections derived from Census 2016, which is also not representative of the current BC population. There is no perfect denominator.



Blue line is for visual reference only

Data updated 2021-11-16
 Data Source: Ministry of Health

Okanagan Inset
(Community Health Service Areas)



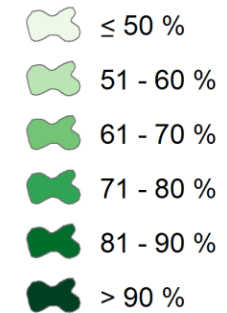
Greater Victoria Inset
(Community Health Service Areas)



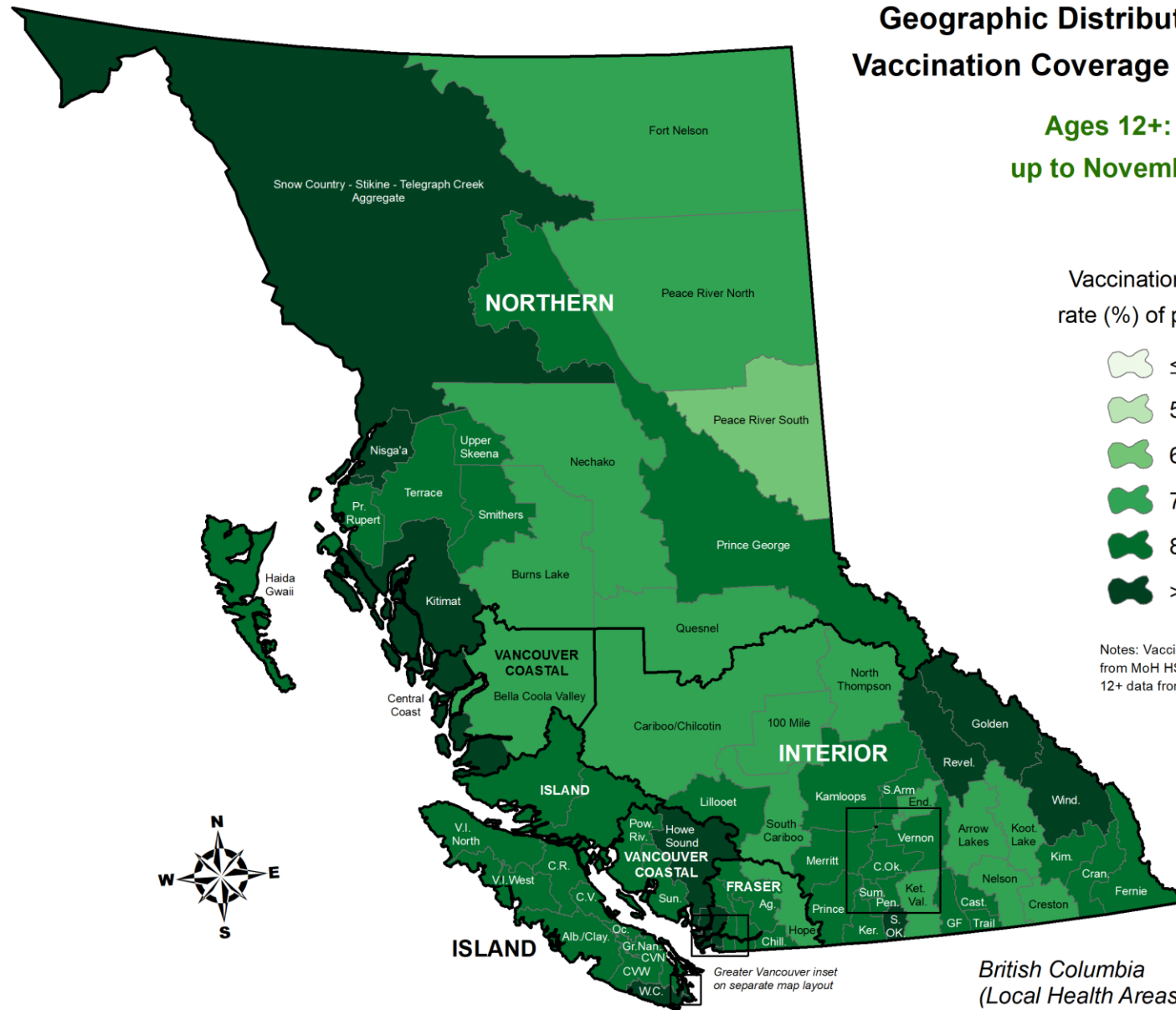
Geographic Distribution of COVID-19 Vaccination Coverage by LHA and CHSA

**Ages 12+: 1st Dose
up to November 15, 2021**

Vaccination coverage
rate (%) of persons 12+

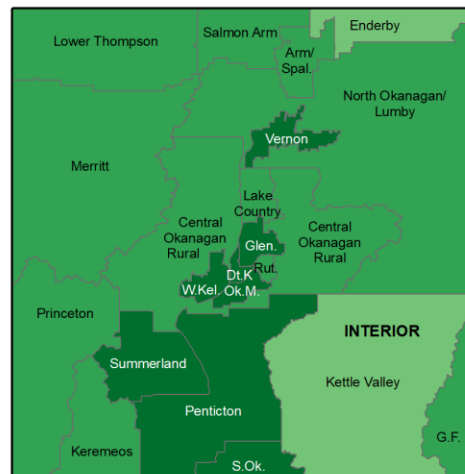


Notes: Vaccine coverage data
from MoH HSIAR; population
12+ data from Client Roster.



British Columbia
(Local Health Areas)

Okanagan Inset
(Community Health Service Areas)



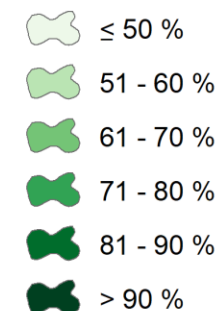
Greater Victoria Inset
(Community Health Service Areas)



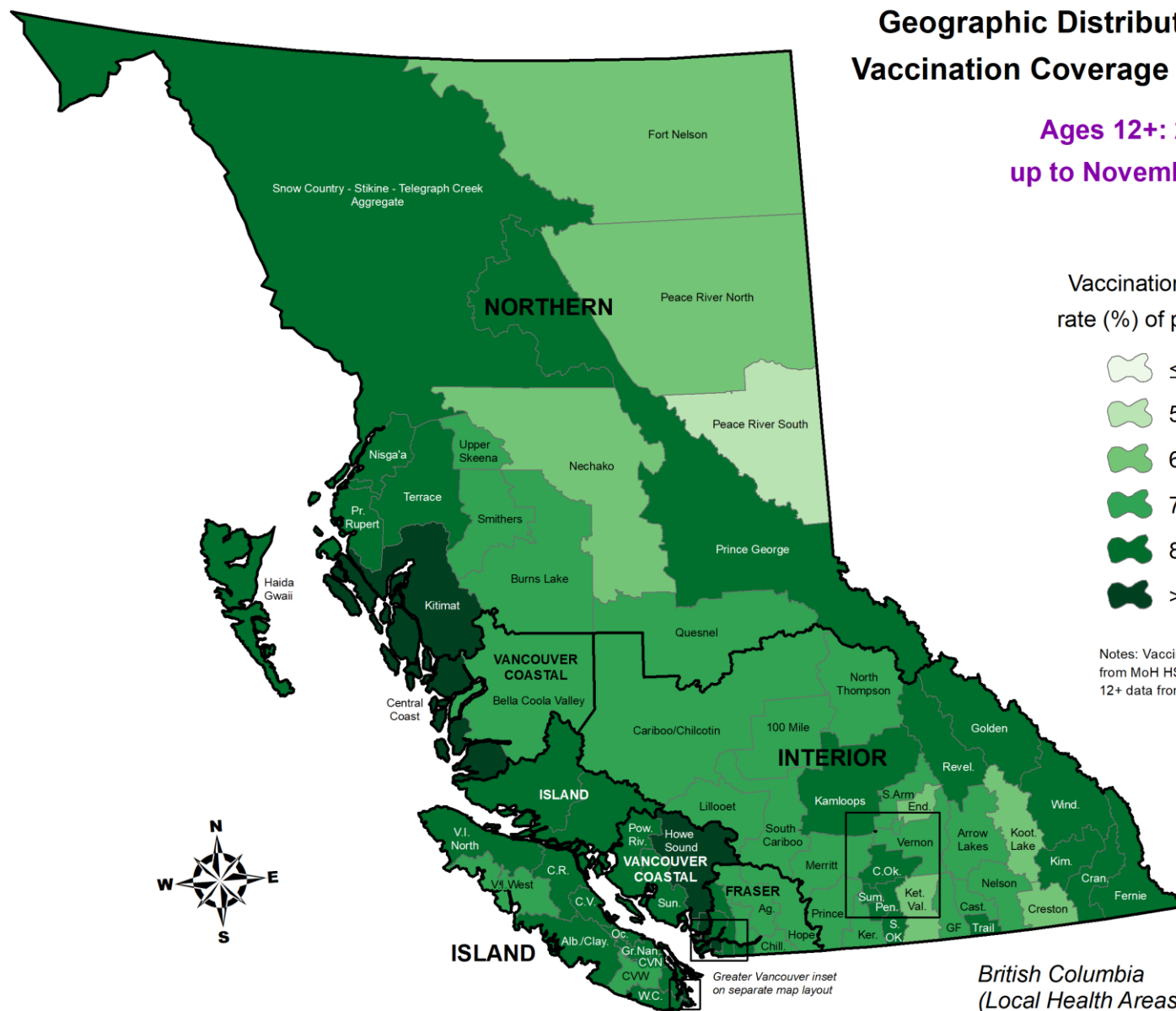
Geographic Distribution of COVID-19 Vaccination Coverage by LHA and CHSA

Ages 12+: 2nd Dose
up to November 15, 2021

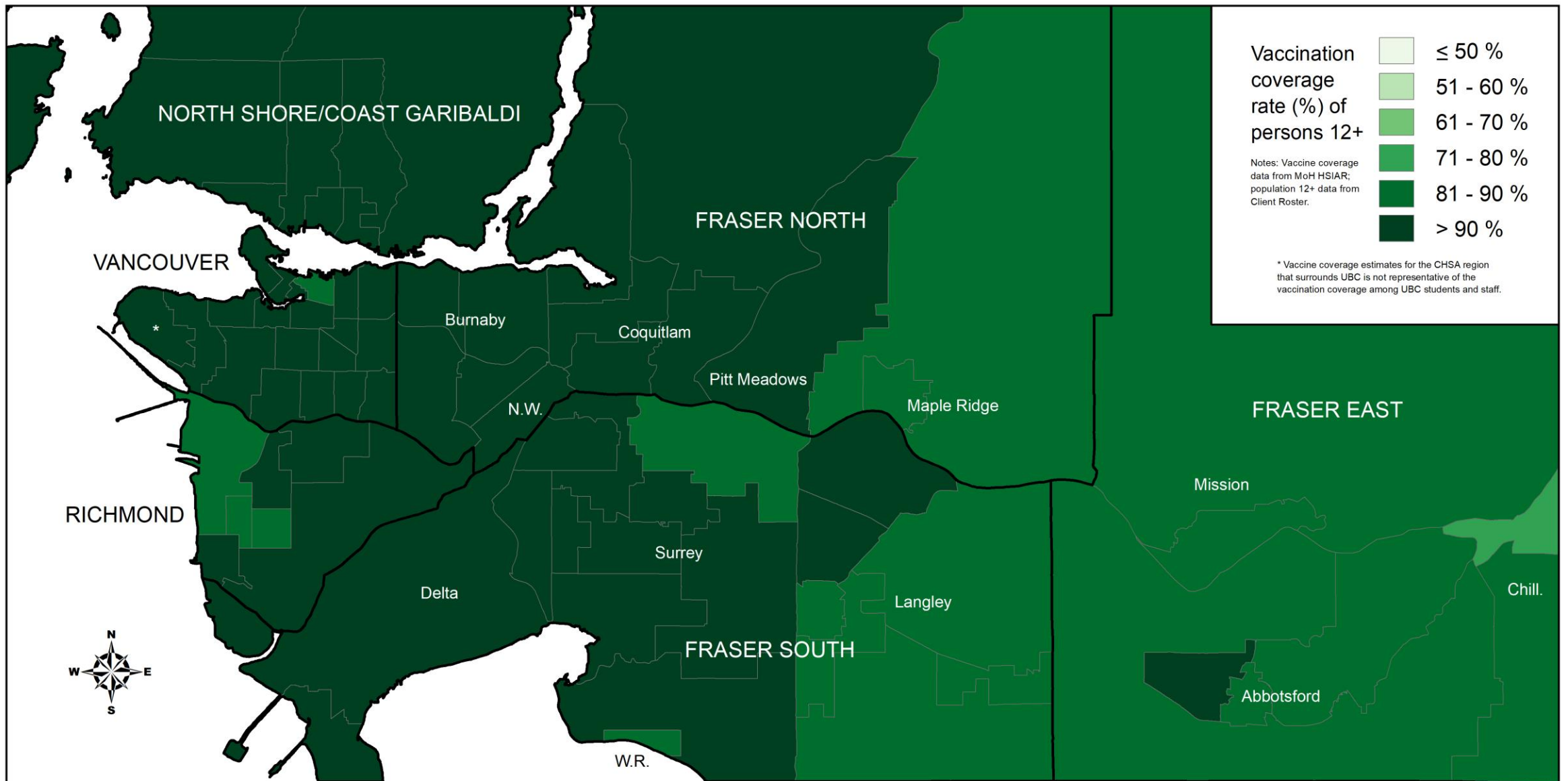
Vaccination coverage
rate (%) of persons 12+



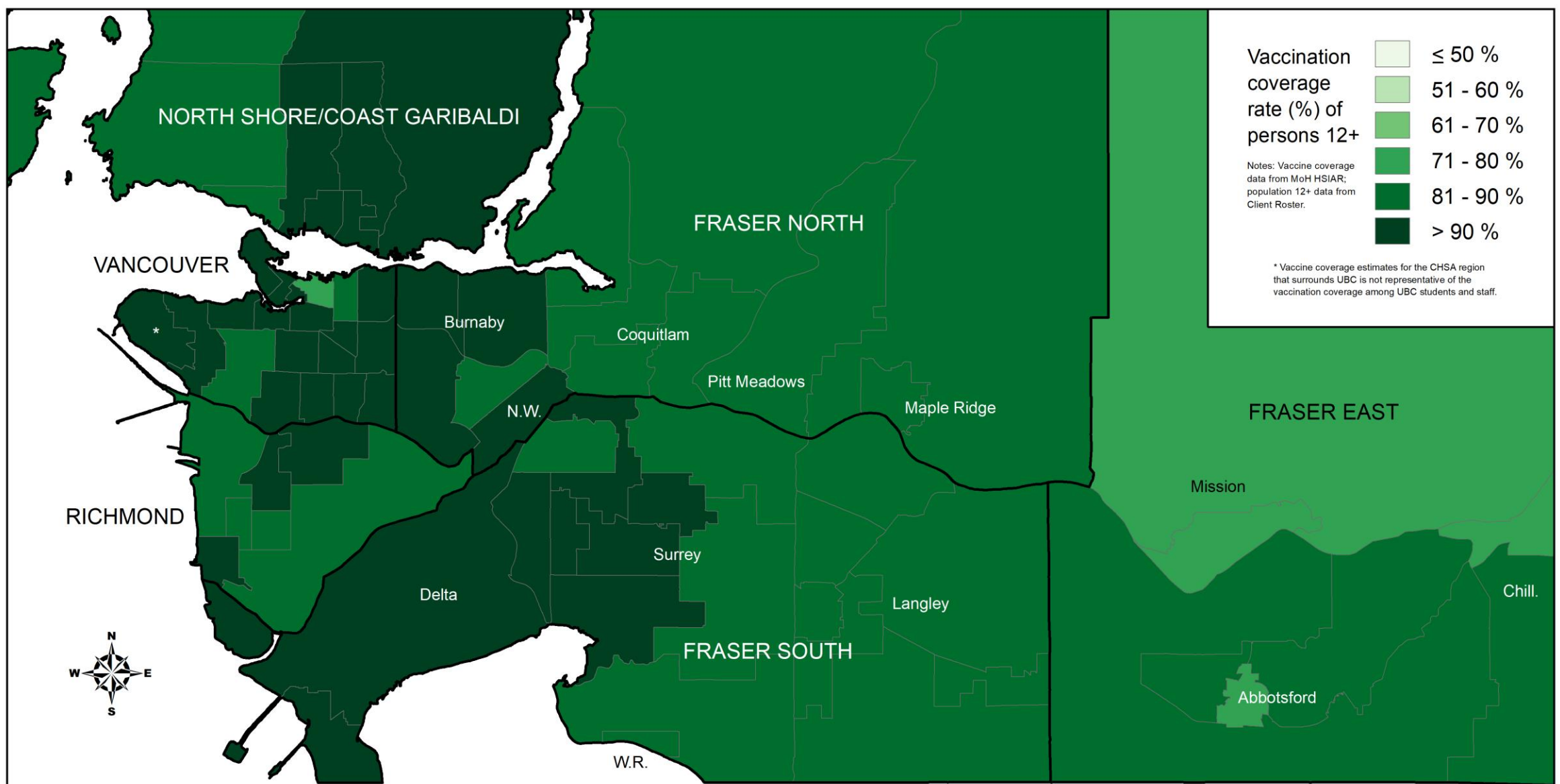
Notes: Vaccine coverage data
from MoH HSIAR; population
12+ data from Client Roster.



British Columbia
(Local Health Areas)



COVID-19 Vaccination Coverage by CHSA: Ages 12+ 1st Dose (up to November 15, 2021)

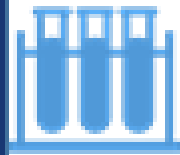


COVID-19 Vaccination Coverage by CHSA: Ages 12+ 2nd Dose (up to November 15, 2021)

Lab - Key Messages

- **Test positivity** among publicly funded tests was stable this week (~5.8%)
 - Test positivity varies by HA, ranging from 3.4% in VCH to 22.0% in NH
 - Test positivity is consistently ~2-3x higher among unvaccinated individuals than in 2 dose recipients
- Publicly funded **testing** are slowly decreasing(~57K total public tests)
 - Testing rates remain higher than historical trends among <12 year olds
 - In each region, testing rates are similar by vaccination status
- The provincial weekly median **turnaround time** (time from specimen collection to lab result) is low at 15 hours, indicating good testing capacity.
- **Delta** is the most prevalent COVID-19 variant in BC representing ~100% of all sequenced specimens in most recent week. There are 2 main sub-lineages circulating in BC: AY.25 and AY.27.
- **Wastewater samples** can act as a population-level sentinel surveillance tool
 - Viral signals in Metro Vancouver wastewater plants have plateaued or are declining slowing, consistent with case-counts in these regions

Weekly Summary of ALL lab tests performed



4,457,363
87,363

total specimens tested
new this epi week

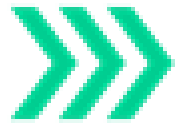


↓ 5% relative to last week



223,767
3,341

total positive specimens
new positive this epi week



3.8% positivity
↓ 0.2% absolute change from last week

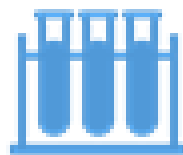
17 hr
15 [10-23]

mean turnaround time (TAT)
Median [Q1 – Q3] TAT



↓ 5% TAT relative to last week

Weekly Summary of Lab tests paid Publicly



3,336,359
56,755

total specimens tested
new this epi week



↓ 6% relative to last week



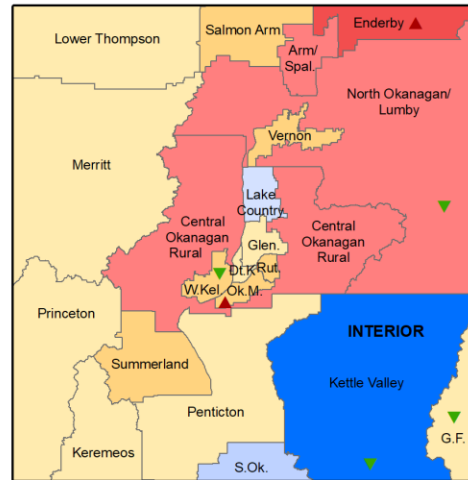
220,939
3,292

total positive specimens
new positive this epi week

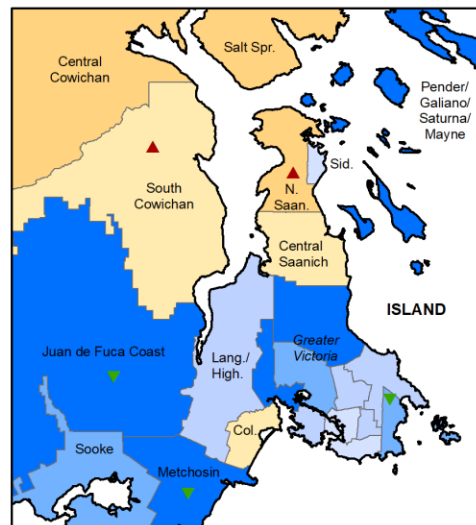


5.8% positivity
↓ 0.2% absolute change from last week

Okanagan Inset
(Community Health Service Areas)

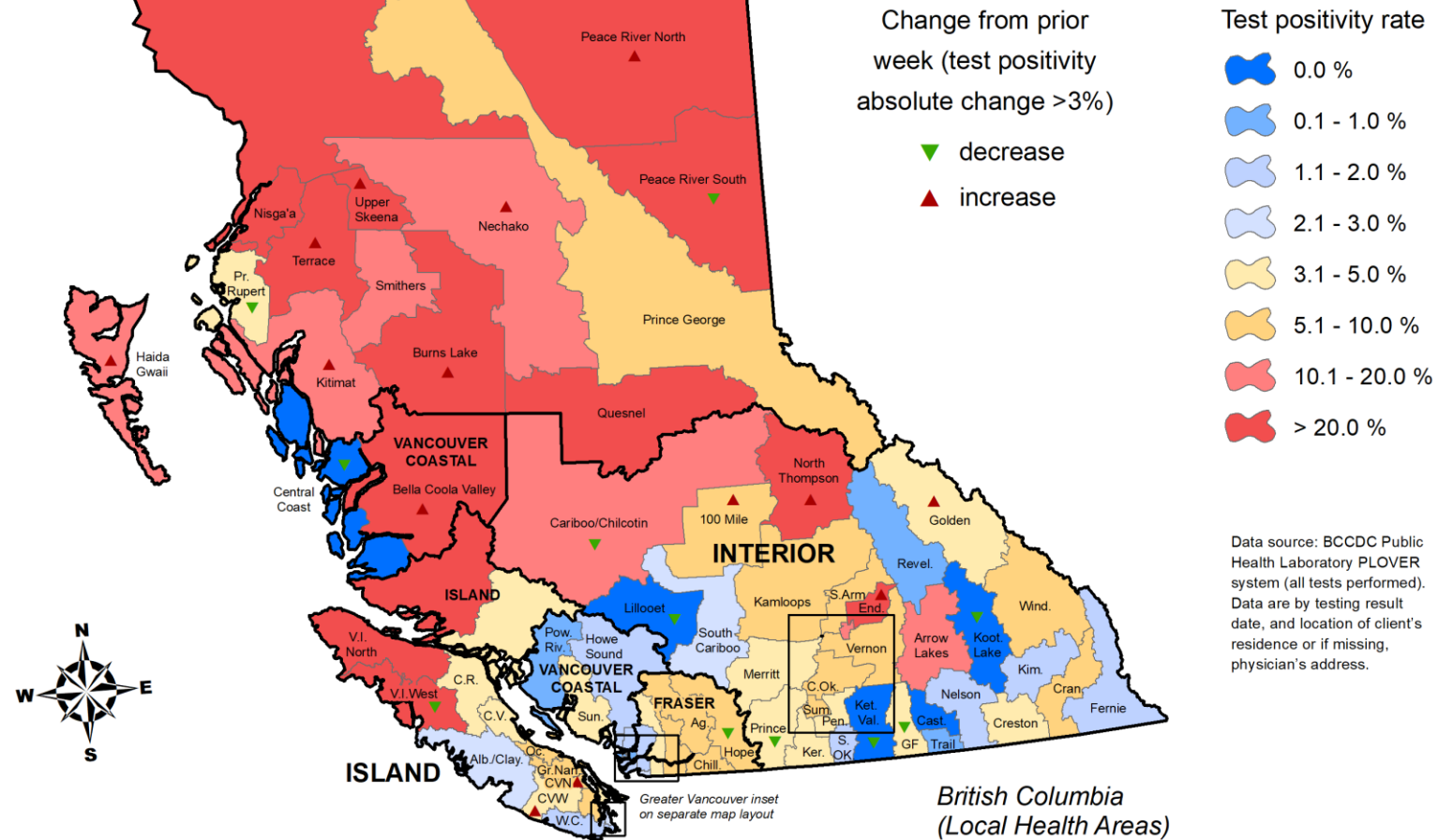


Greater Victoria Inset
(Community Health Service Areas)

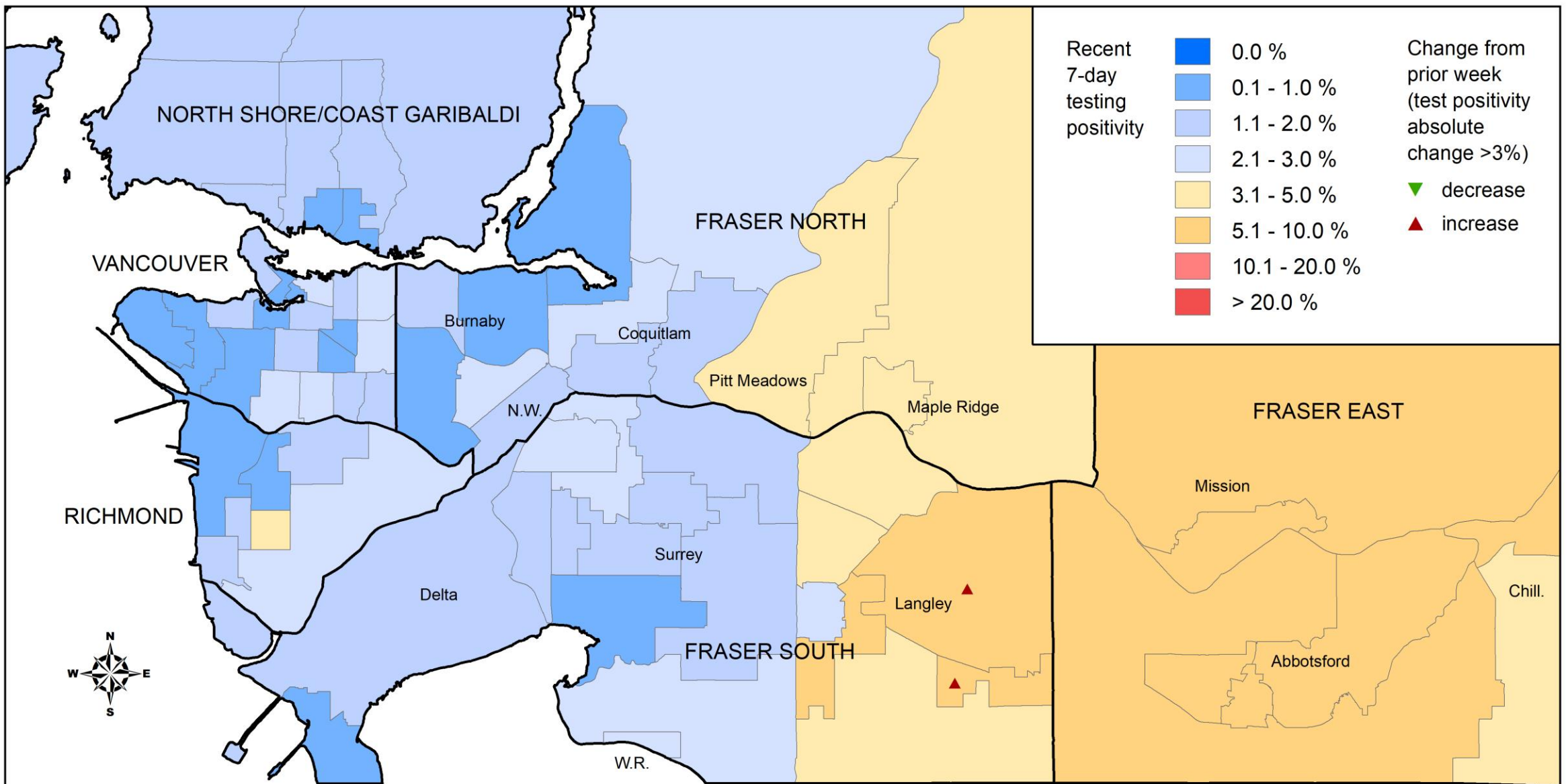


Geographic Distribution of COVID-19 Testing Positivity by LHA and CHSA

Recent 7-Days Testing
November 10 to 16, 2021



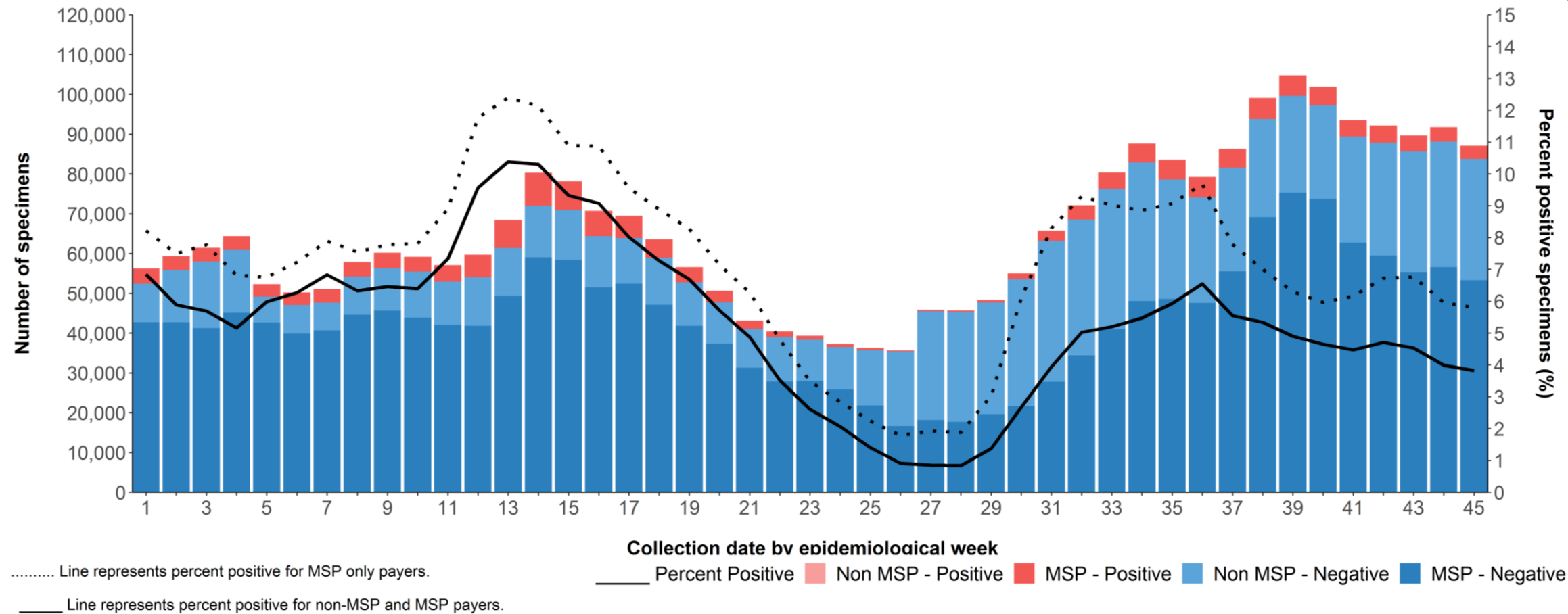
Data source: BCCDC Public Health Laboratory PLOVER system (all tests performed). Data are by testing result date, and location of client's residence or if missing, physician's address.



COVID-19 Recent 7-Day Test Positivity by CHSA (November 10 to 16, 2021)

Includes all tests

Among publicly funded specimens, percent positivity is stable (~6.0%), and testing rates are stable.

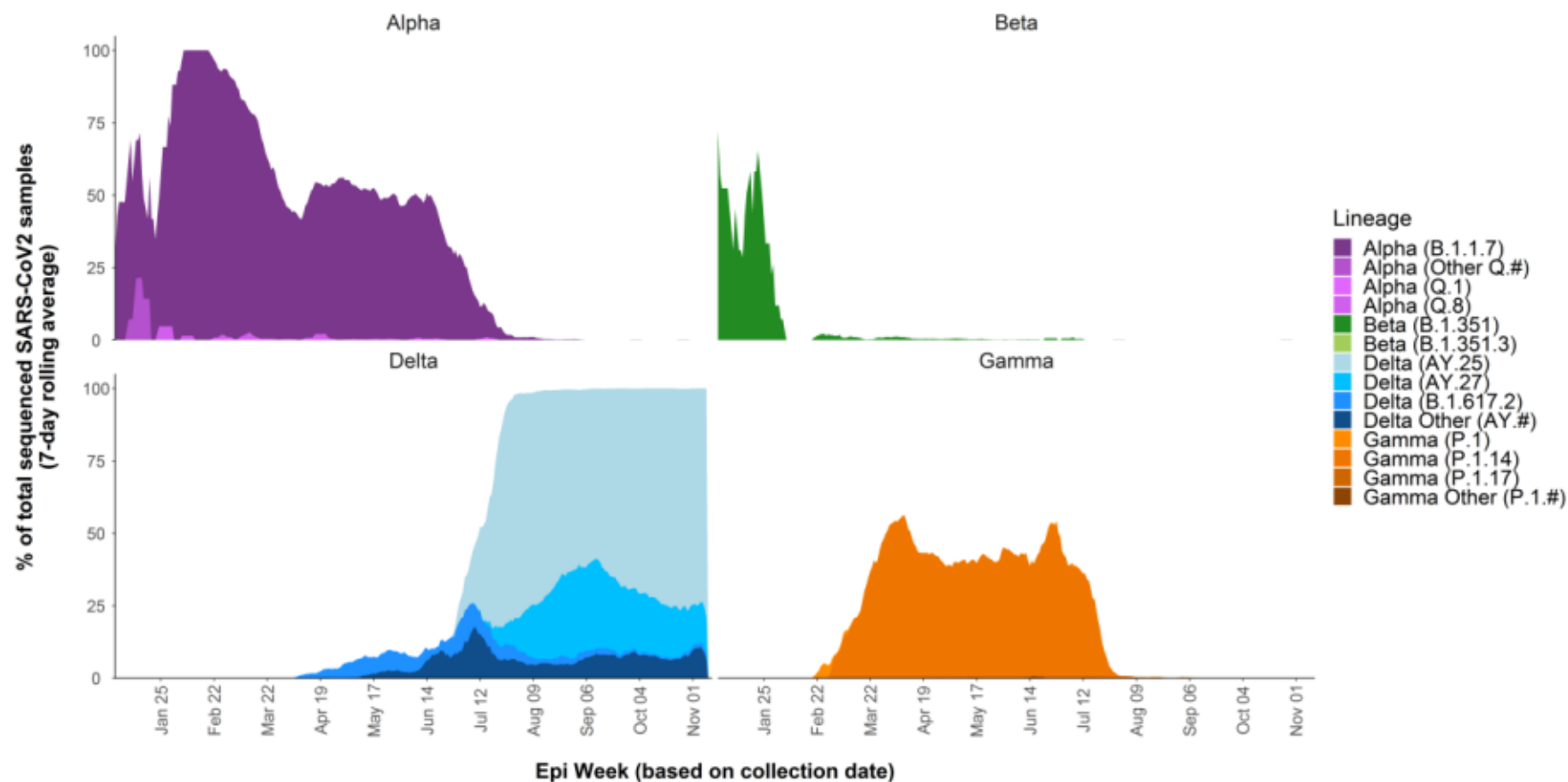


Note: Invalid (n = 1805) and indeterminate (n = 7307) results have been excluded

Data source: PLOVER 18-Nov-2021

Delta is the most prevalent COVID-19 variant in BC representing ~100% of all sequenced specimens in most recent week; there are 2 main Delta sub-lineages: AY.25 and AY.27

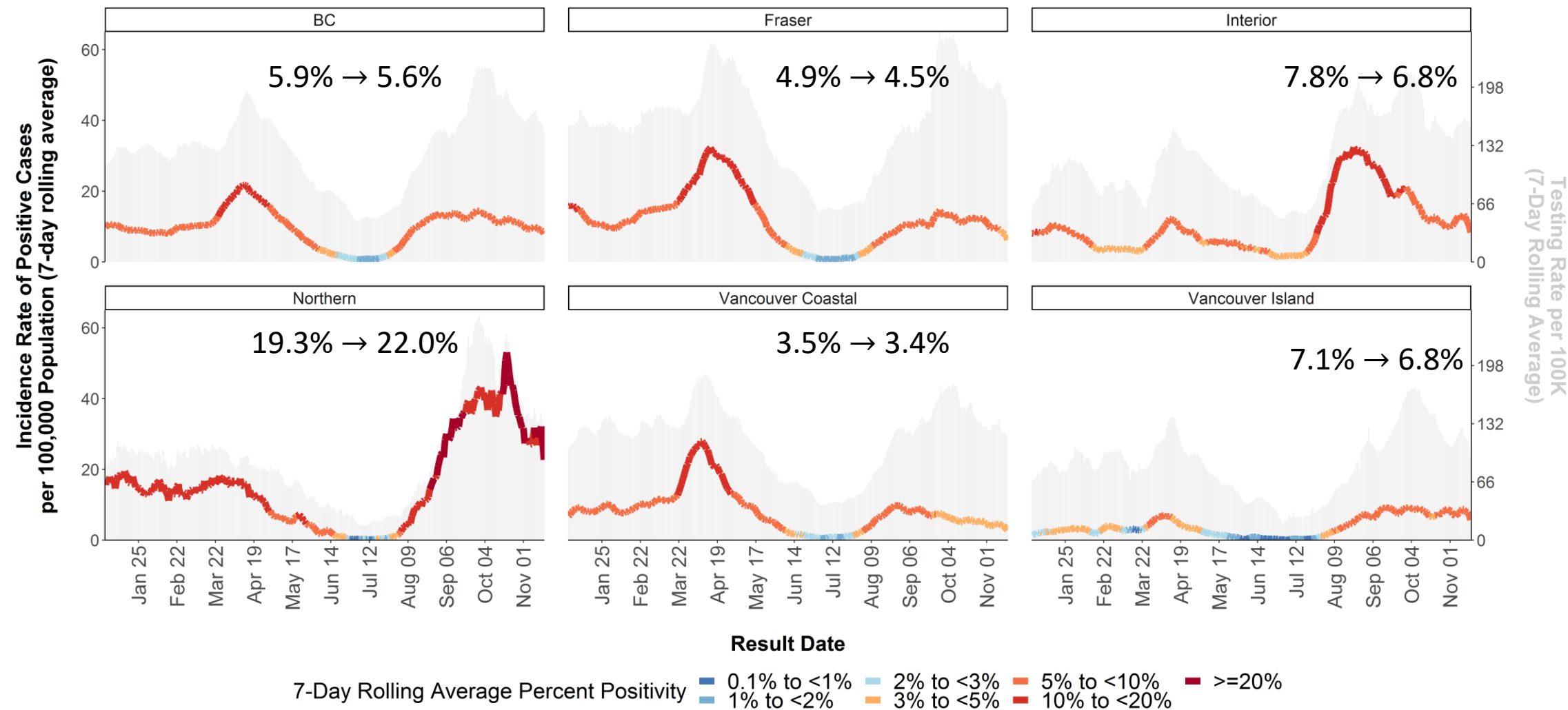
Figure 5. Temporal distribution of the three most prevalent lineages within each Variant of Concern



indicates an additional numerical value (e.g. AY.1)

Percent positivity is slowly declining provincially, but varies by region: lowest in VCH (3%), high in NH (22%).
Testing rates are elevated and declining across the province

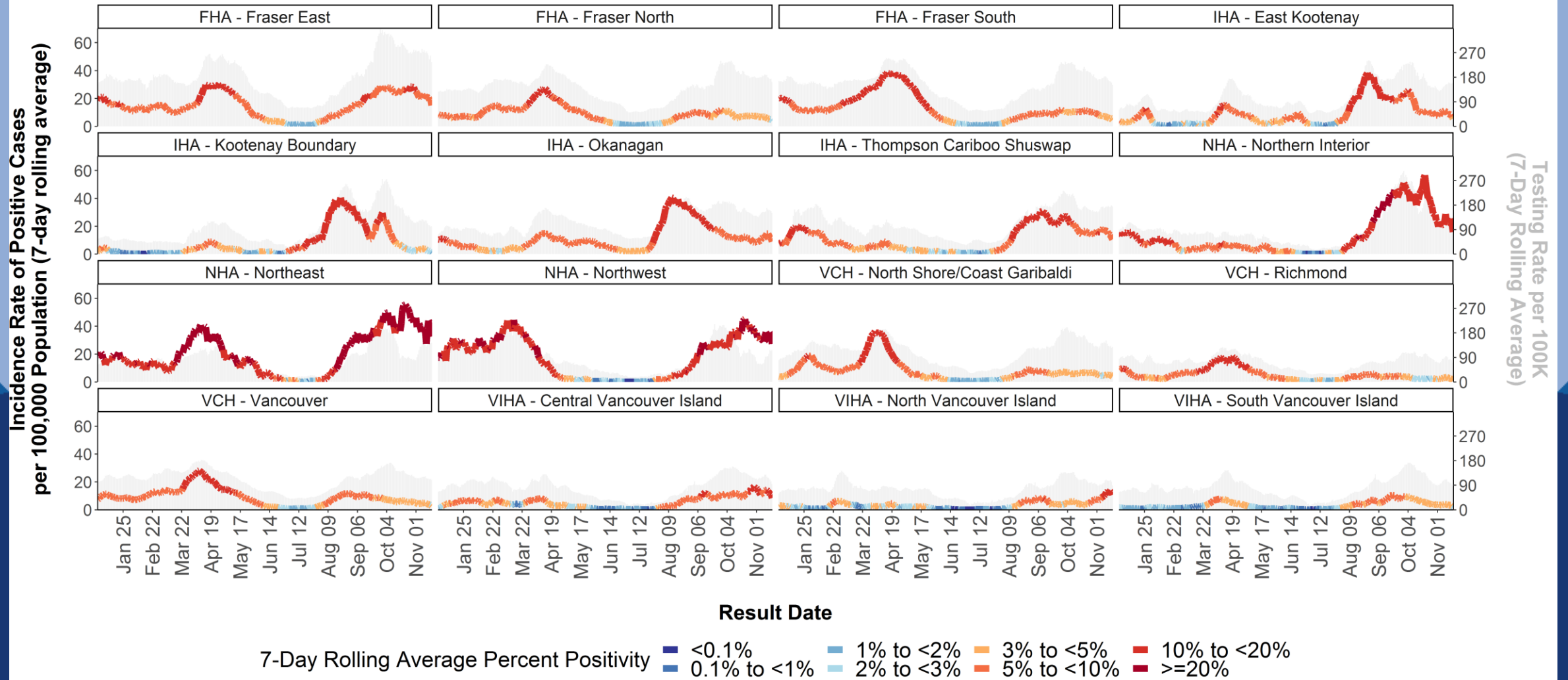
Case incidence rate, test percent positivity, and testing rate (Public Payers Only). Jan 1 2020 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

Test positivity remains high throughout NH

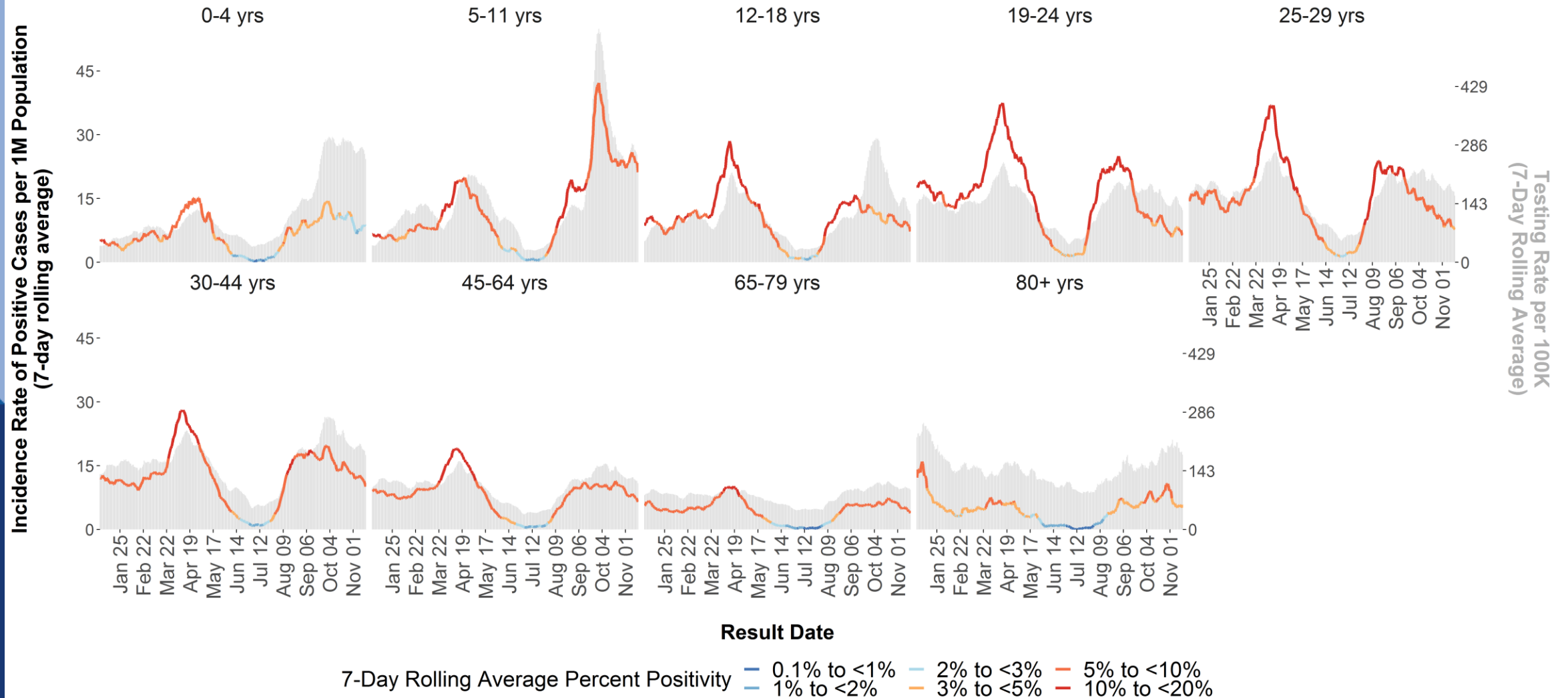
Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).
Jan 1 2021 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

Testing rates remain higher than historical trends among <12 year olds

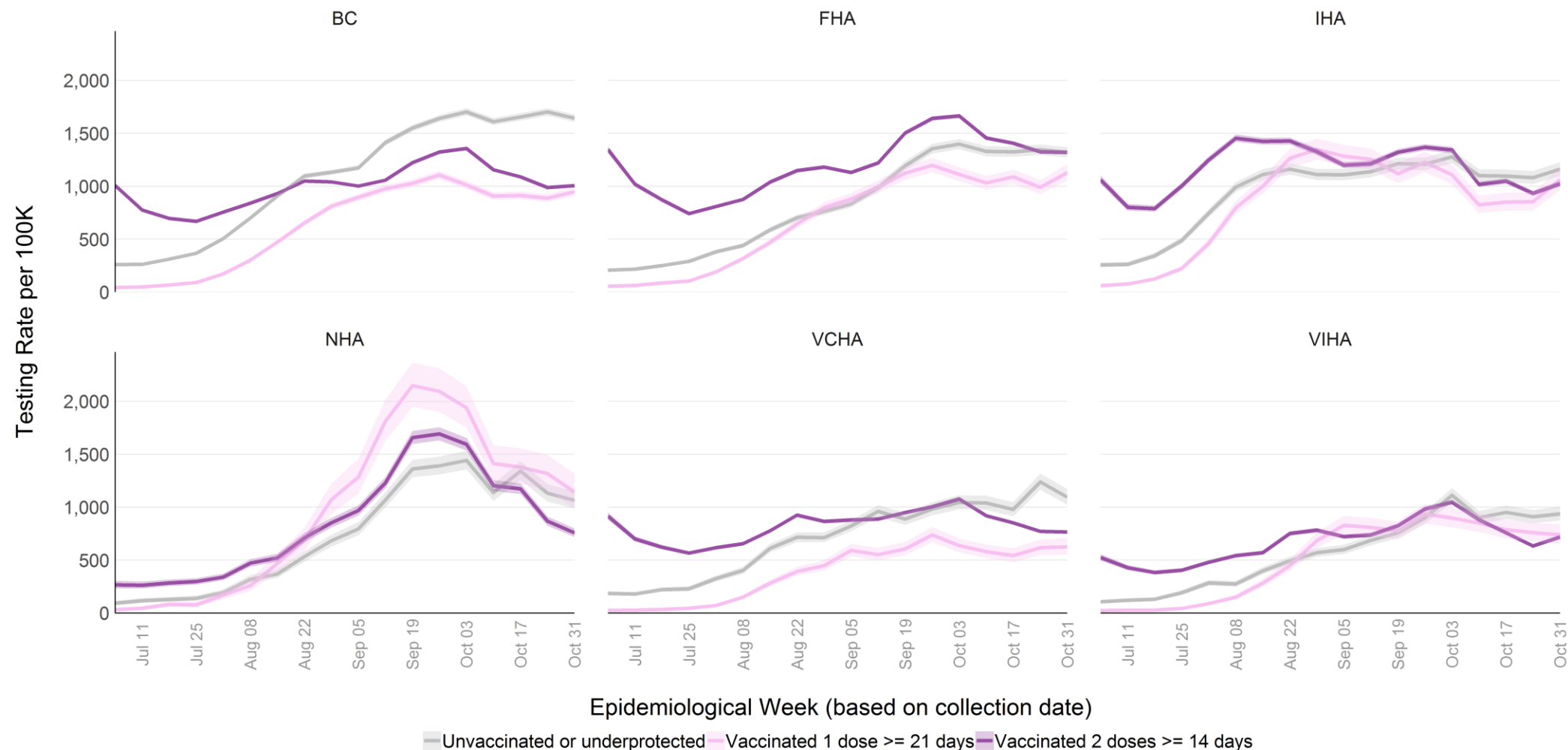
Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

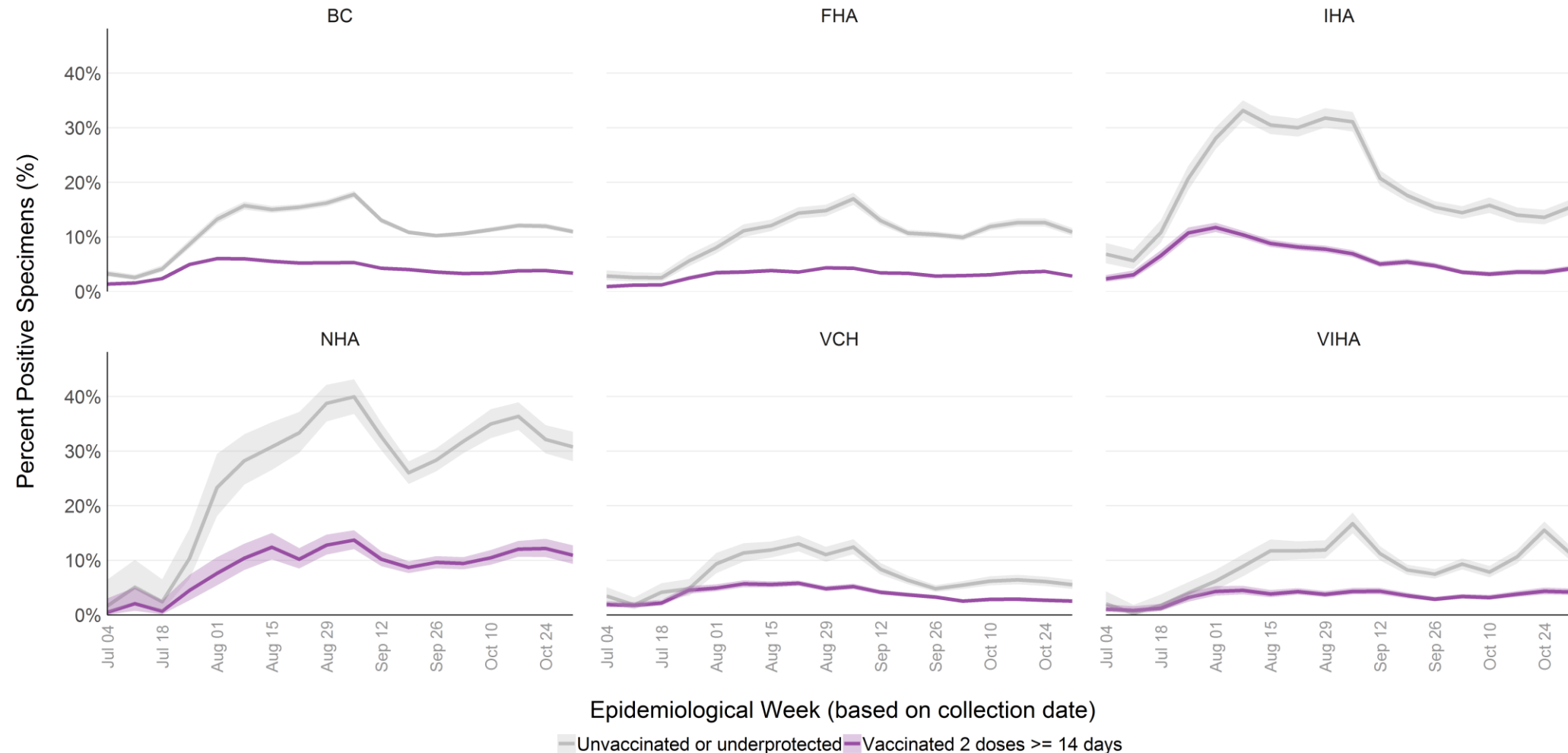
In every region, testing rates are broadly similar by vaccination status

MSP Only Testing Rate by Vaccination Status and Epiweek of Collection Date
(12+ year olds) Jul 4 - Nov 6, 2021

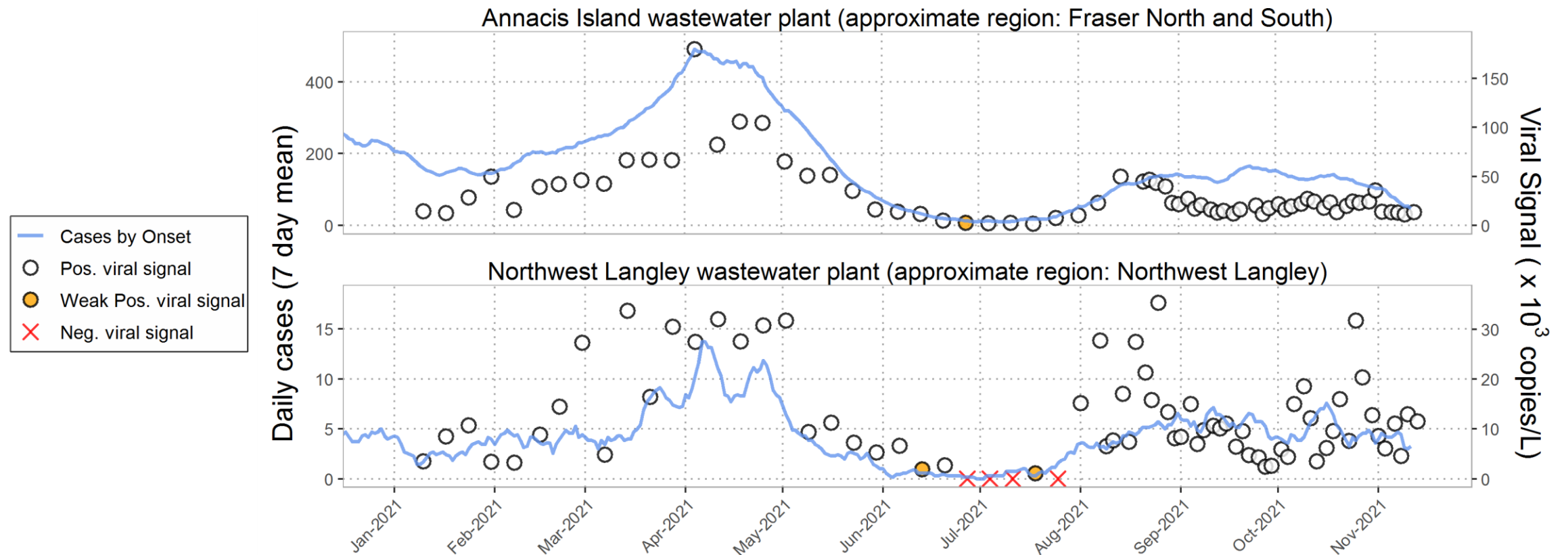


In every region over the past 3 months, test positivity for publicly funded tests has been consistently ~2-3x higher among the unvaccinated than in fully vaccinated individuals

MSP Only Percent Positive Specimens by Vaccination Status and Epiweek of Collection Date
Jul 4 - Nov 6, 2021



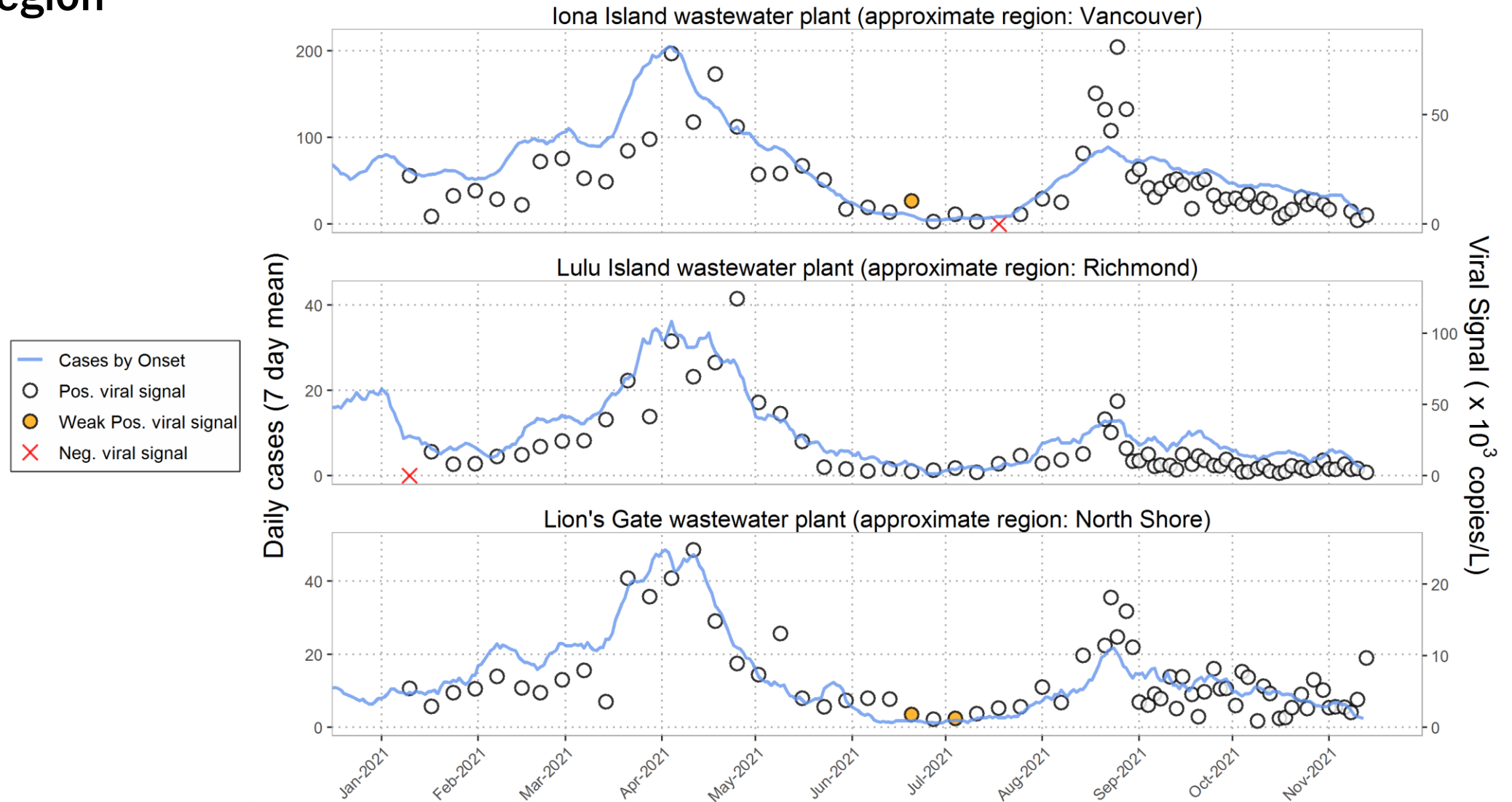
In FHA, the viral signal from wastewater reflects the trends in case counts in this region



Time-series plots show weekly or bi-weekly viral signals from each wastewater plant (right y-axis), overlaid with rolling 7-day mean of daily new cases within wastewater catchment area (left y-axis).

Plot title shows wastewater plant name, followed by approximate catchment area.

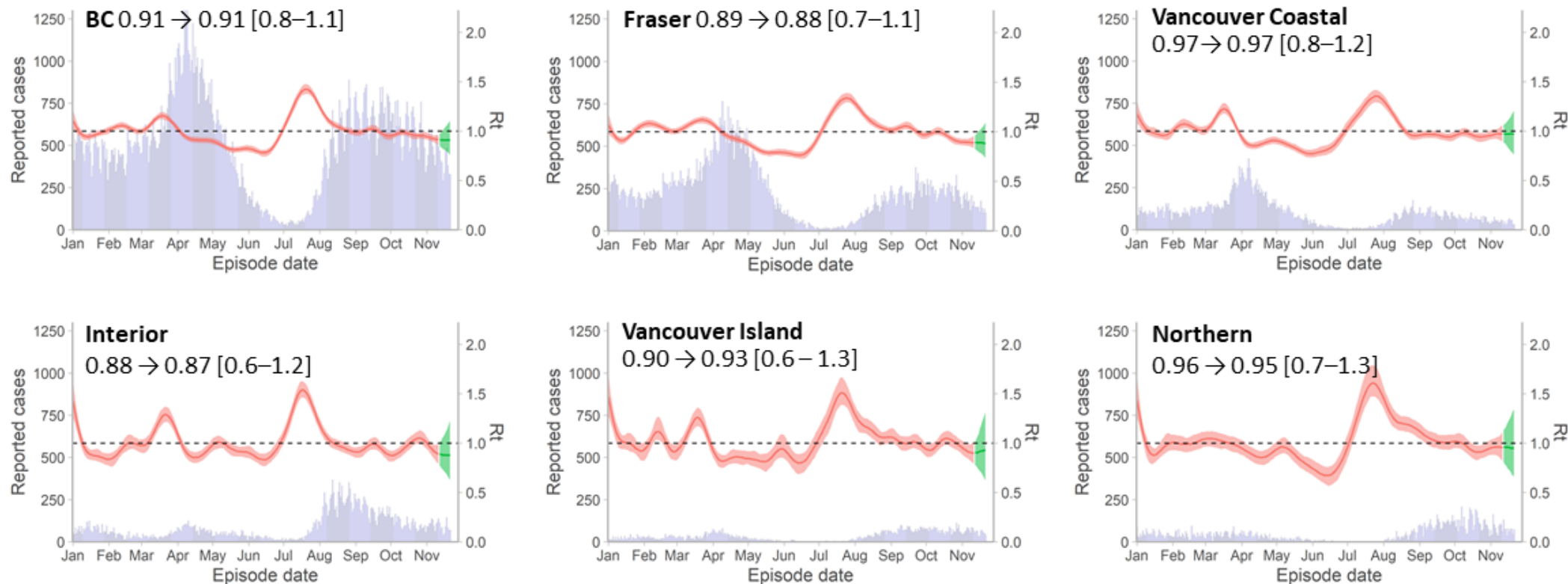
In VCH, the viral signal from wastewater reflects the declining trends in case counts in this region



Time-series plots show viral signals from each wastewater plant (right y-axis), overlaid with rolling 7-day mean of daily new cases within wastewater catchment area (left y-axis). Plot title shows wastewater plant name, followed by approximate catchment area.

Dynamic modeling: recent trends

Modelling indicates that R_t remains near 1 in all regions. Estimates are shown for last week → this week, with 90% range of possible values given next to most recent estimate.



Solid line: median R_t , modeled using all reported cases up to Nov 21, 2021; Red band: 5%-95% credible interval; Green band: estimate based on partial data – each week, current estimates are updated with new data to provide a clearer understanding of the trend. Purple bars: all reported cases. Recent trend shown comparing median R_t estimate from (last week → this week; 5% - 95% credible interval). Only January 2021 onward shown here. Data source: BCCDC HA linelist.

Pediatric Report - Key Messages

- Case numbers in <18 years remain relatively stable
 - Incidence varies regionally and by pediatric age group
- Case rates are highest in regions with lower 12+ vaccine coverage
- Severe outcomes are rare in children
- Among youth 12-17 years old, vaccination coverage is ~84% provincially, but varies significantly by local area

Also see the Data for K-12 Schools October report posted on the BCCDC website:

http://www.bccdc.ca/Health-Info-Site/Documents/COVID_sitrep/K12_Situation_Report/SitRep_K-12_October_2021.pdf

Nov 11 to Nov 17: Pediatric COVID-19 Profile

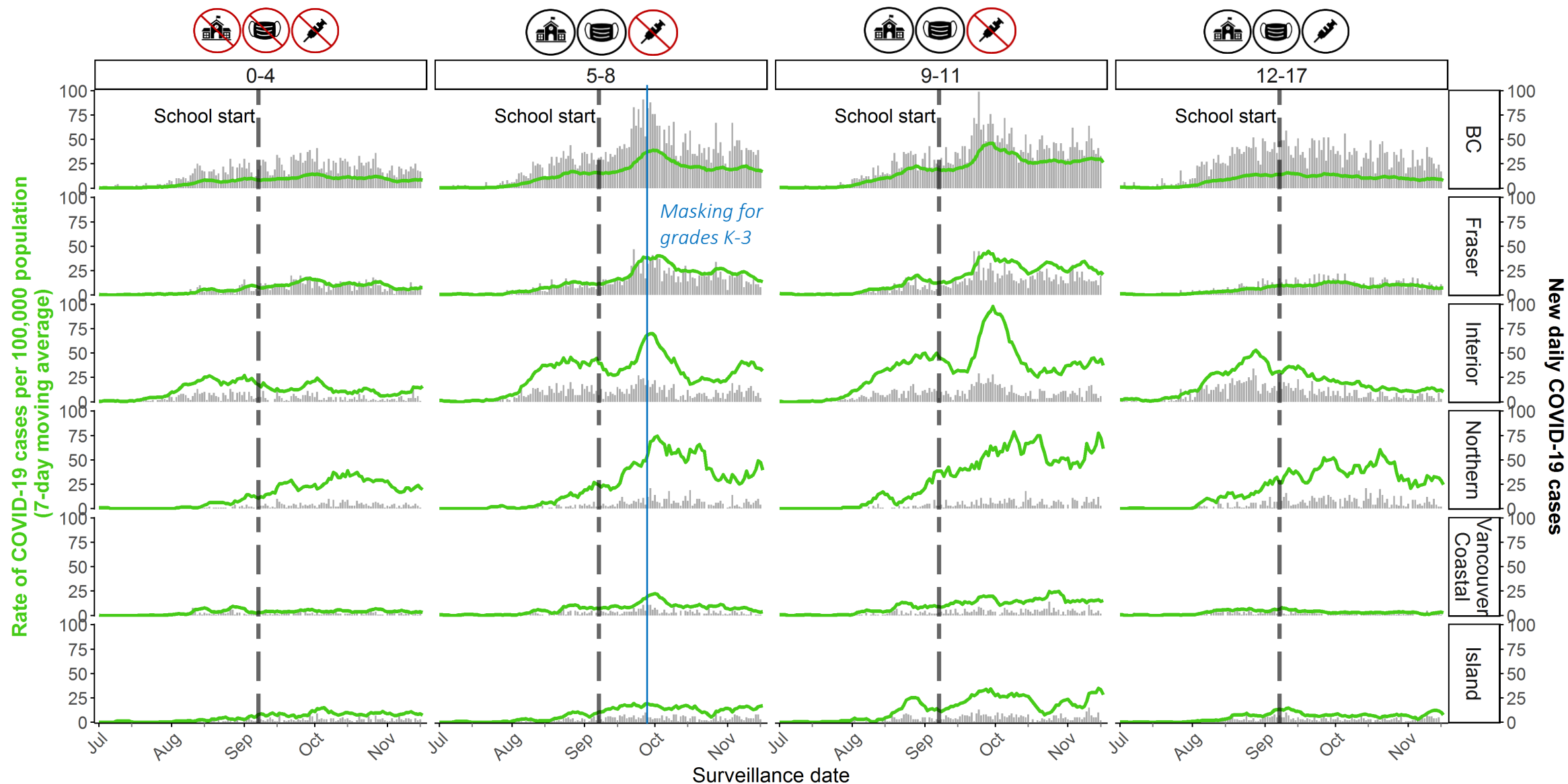


Age group: 0-4		Age group: 0-4		Age group: 0-4		Age group: 0-4	
5,823	total cases	123	ever hospitalized	12	ever in critical care	2	total deaths
136	new this week	4	new this week	0	new this week	0	new this week
Age group: 5-11		Age group: 5-11		Age group: 5-11		Age group: 5-11	
15,558	total cases	60	ever hospitalized	5	ever in critical care	0	total deaths
516	new this week	0	new this week	1	new this week	0	new this week
Age group: 12-17		Age group: 12-17		Age group: 12-17		Age group: 12-17	
12,815	total cases	54	ever hospitalized	8	ever in critical care	0	total deaths
174	new this week	1	new this week	0	new this week	0	new this week

* New hospitalizations and critical care census numbers are as of Nov 16 2021

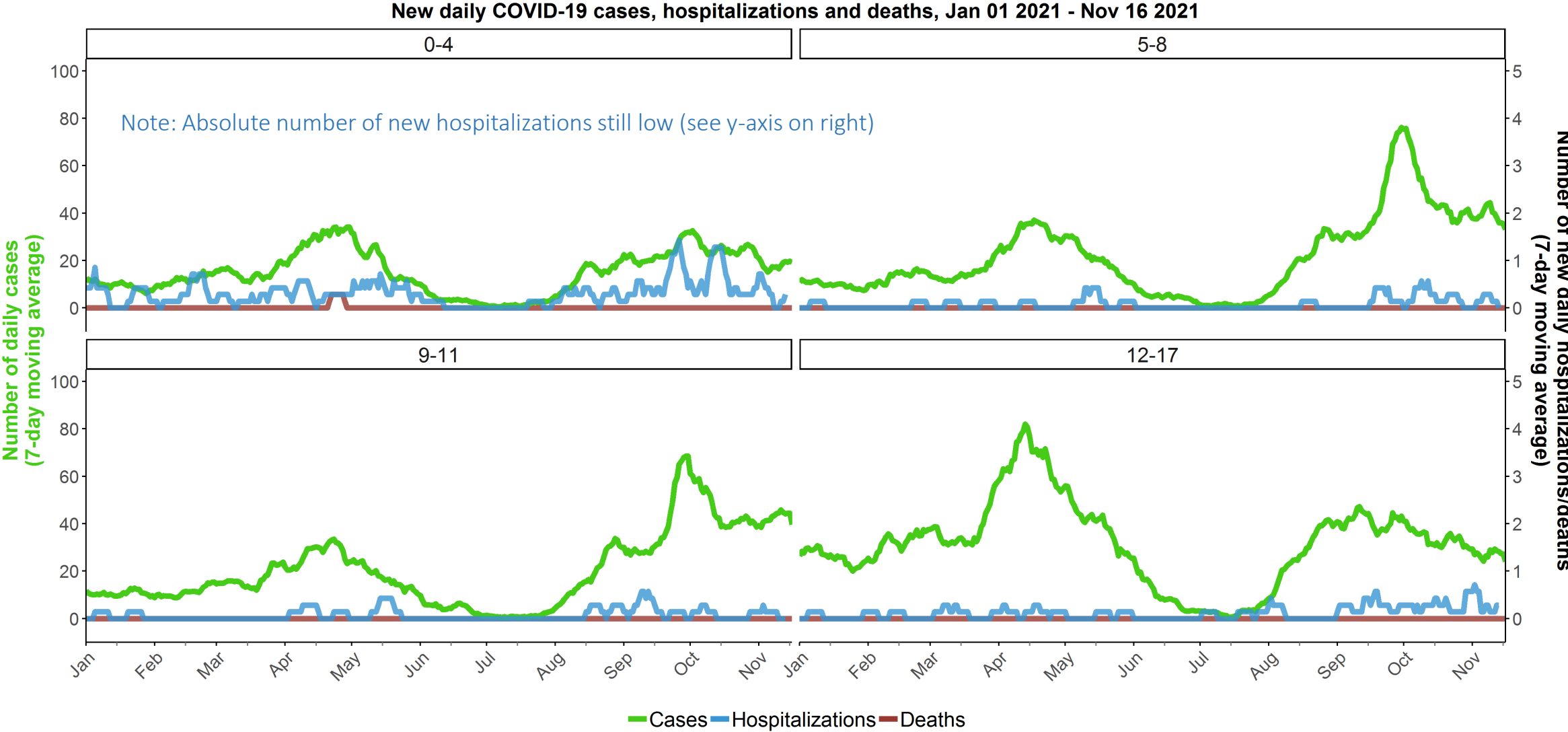
* New cases and new deaths are net new between Line lists of Nov 10 and Nov 17

Incidence varies regionally and by pediatric age group



Date range: Jan 01 2021 - Nov 16 2021
Data source: PHRDW Nov-17-2021

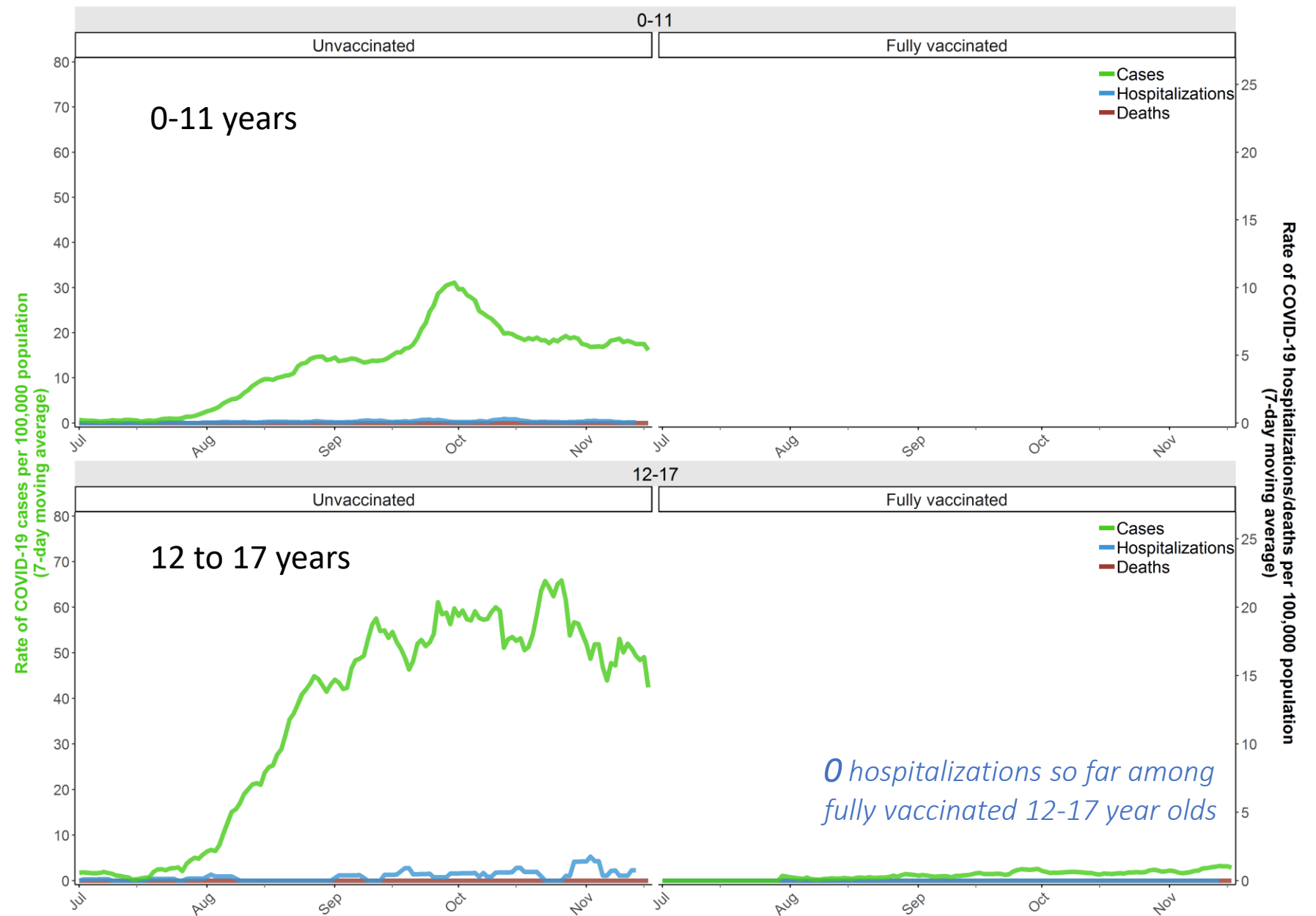
Number of new daily hospitalizations remains very low and stable; deaths are extremely rare



* Data are by surveillance date for cases and deaths, and admission date for hospitalizations
Data source: PHRDW + BCCW Nov-17-2021

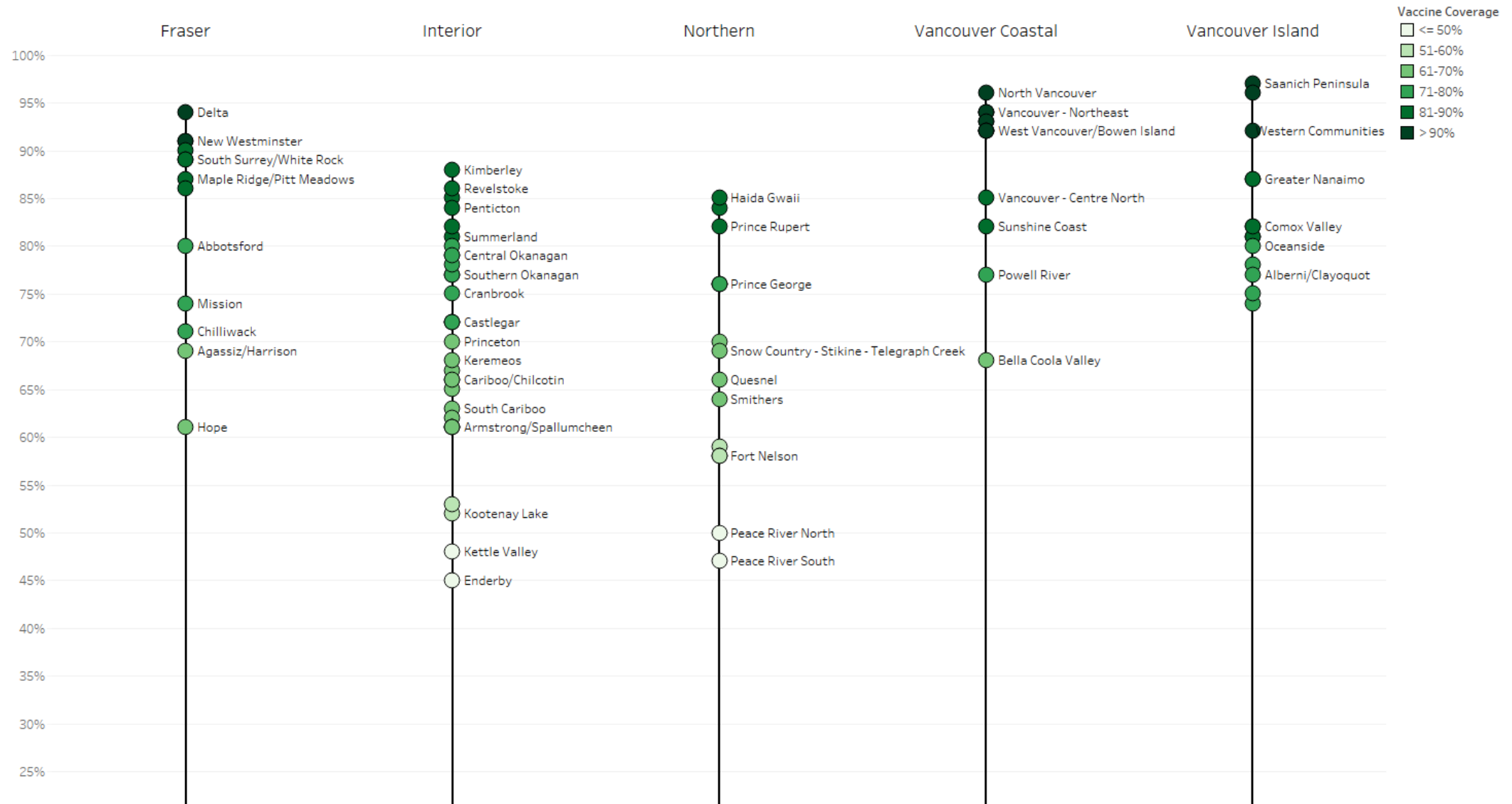
Case rates are relatively stable among children and youth.

Hospitalization rates remain low.



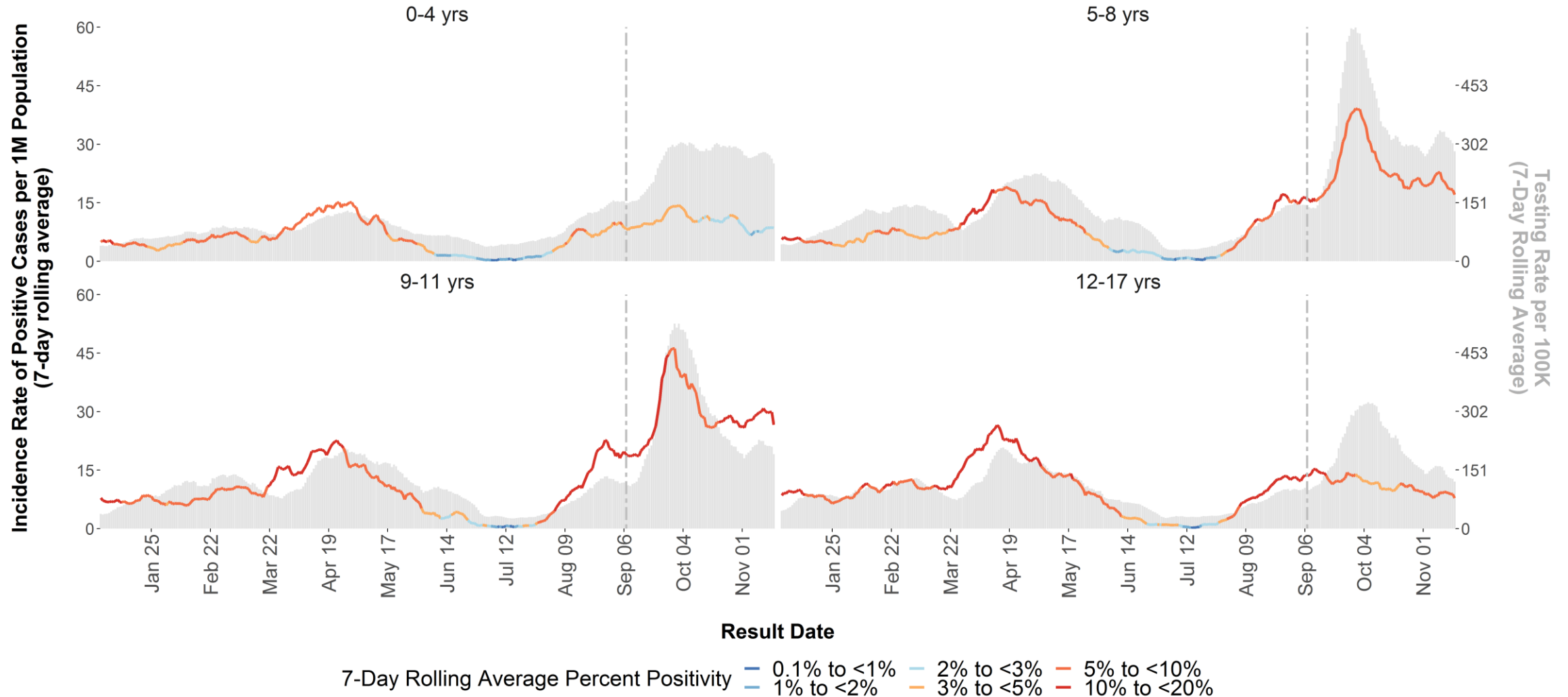
* Data are by surveillance date for cases and deaths, and admission date for hospitalizations
Data source: PHRDW Nov-17-2021

COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, Nov. 15, 2021



Testing rates among 5-17 year olds have recently decreased but remain elevated and stable among 0-4 year olds. Test positivity is highest among 9-11 year olds (>10%) and lowest in the 0-4 year olds (<3%).

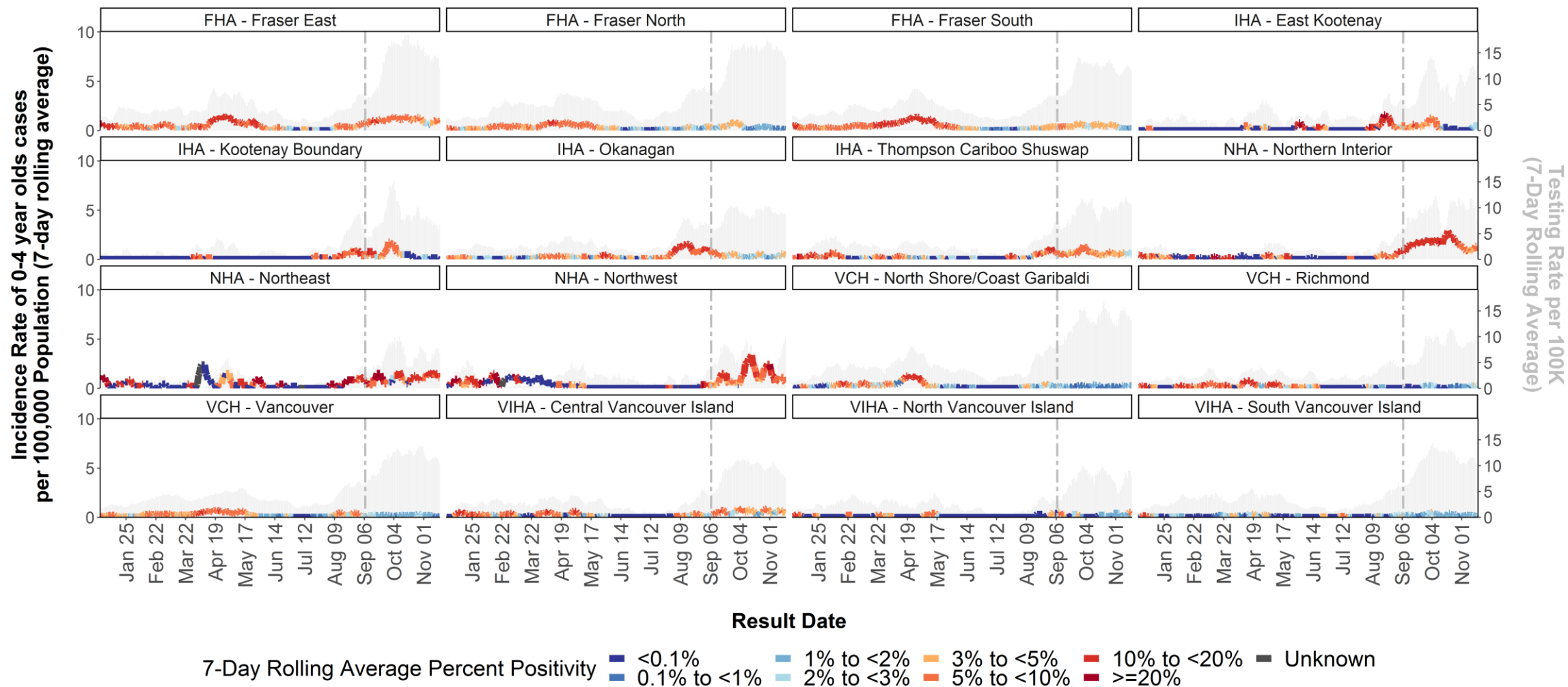
Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

Testing rates among 0-4 year olds remain high in all HSDAs. Percent positivity is variable; very low in VCH.

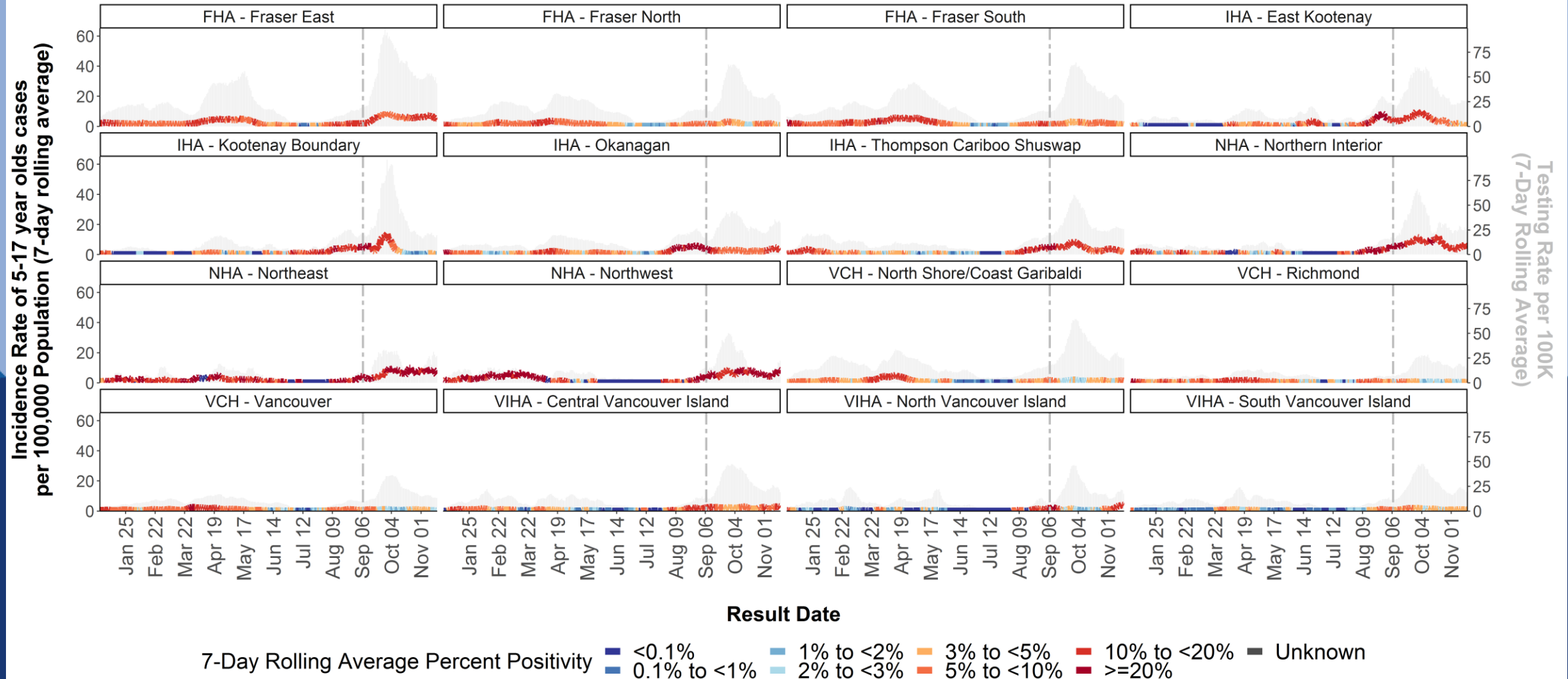
Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).
Jan 1, 2021 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

Testing rates among 5-17 year olds remain high in all HSDAs. Percent positivity is high throughout NH.

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).
Jan 1, 2021 - Nov 16, 2021.



Data source: PLOVER 16-Nov-2021

Additional Resources

- BCCDC COVID-19 Regional Surveillance Dashboard showing maps, vertical plots, and trends by LHA can be found [here](#)
- More BC COVID-19 data, including the latest Situation Report, maps, and BC COVID-19 public dashboard, can be found [here](#)
- For more information on variants of concern and whole genome sequencing, the latest report is posted [here](#)
- To put BC provincial, Health Authority, and HSDA trajectories into national and international context, see [BCCDC COVID-19 Epidemiology app](#)
- [COVID SPEAK 2020 Round 1 Survey results](#)
- Slides for previous public and modelling briefings by Dr. Bonnie Henry can be found [here](#)
- PHAC's COVID-19 Epidemiology update can be found [here](#)