

# BCCDC Data Summary

7 October 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 Oct 5

- The majority of new cases and hospitalizations are among unvaccinated individuals.
- New hospitalizations are elevated and stable provincially; hospital/critical care census is stable provincially, but there is variation across BC; new deaths are low but slowly increasing.
- Hospitalization rates among children continue to remain very low.
- Case rates are increasing in NH and FH, stable and elevated in IH, and stable in VCH and VIHA.
  - All health authorities have local health regions with high case rates
- Test positivity among public tests is stable (~6% provincially), and is high and stable in NH (18%).
  - Testing rates are high and continue to increase in children (<18 years) and adults 30-44 years.
- Vaccine coverage in BC, 5 Oct, 1 dose (2 doses): 79% (73%) of total population, 88% (82%) of 12+ eligible population. Lower vaccine coverage in Interior and Northern and among younger individuals.
- The Delta variant continues to account for ≈100% of all positive tests in BC.



# Sep 30 to Oct 05: BC COVID-19 Profile



**191,124** total cases  
**4,879** new this week



**1,992** total deaths  
**39** new this week

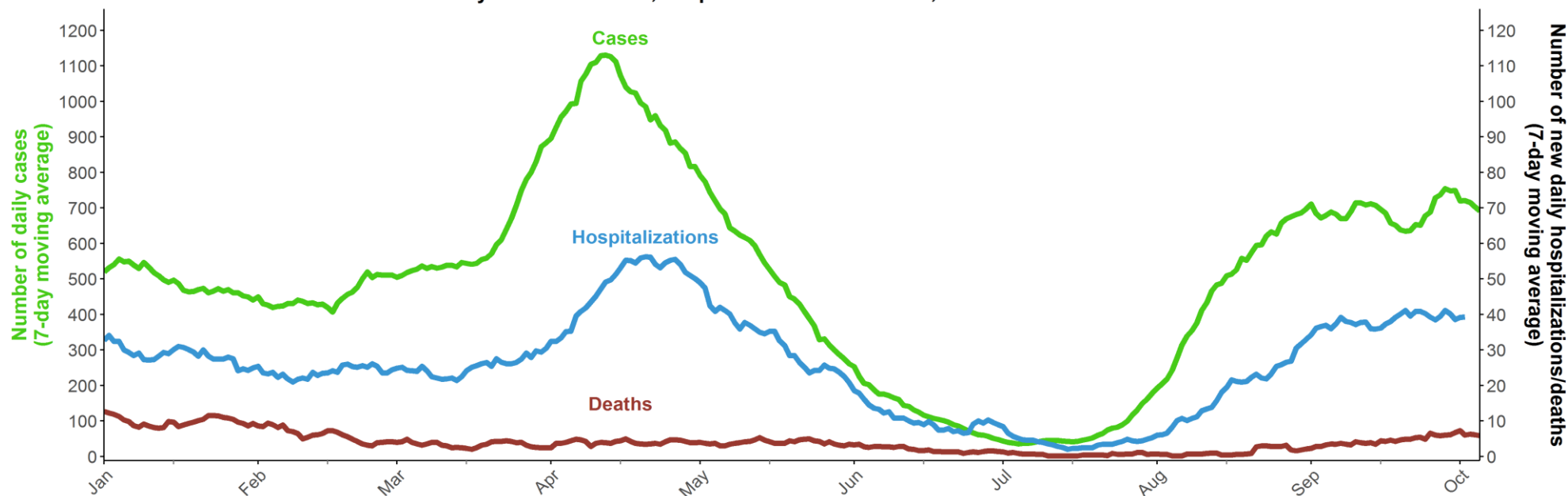


**10,162** ever hospitalized  
**289** new this week



**182,786** removed from isolation  
**5,057** new this week

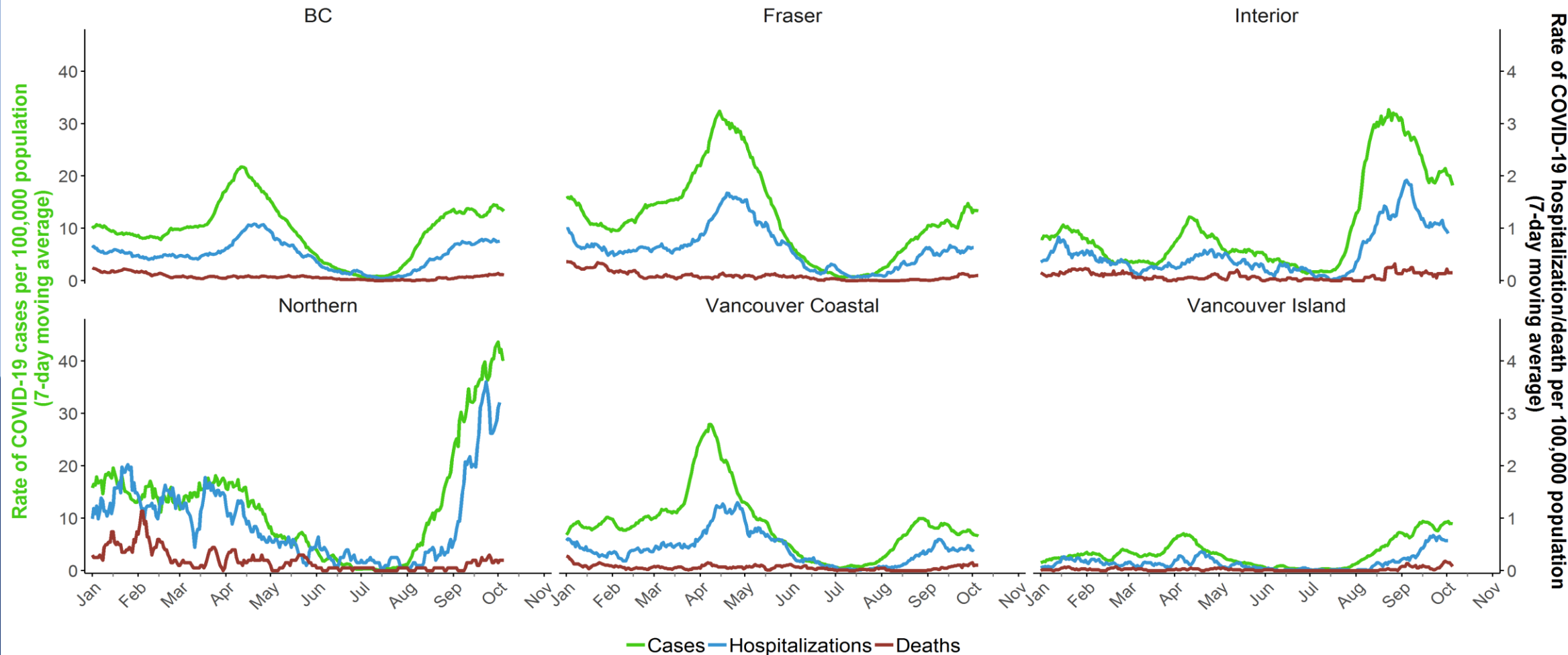
New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Oct 05 2021



\* Data are by surveillance date for cases and deaths, and admission date for hospitalizations  
Data source: PHRDW Oct-06-2021

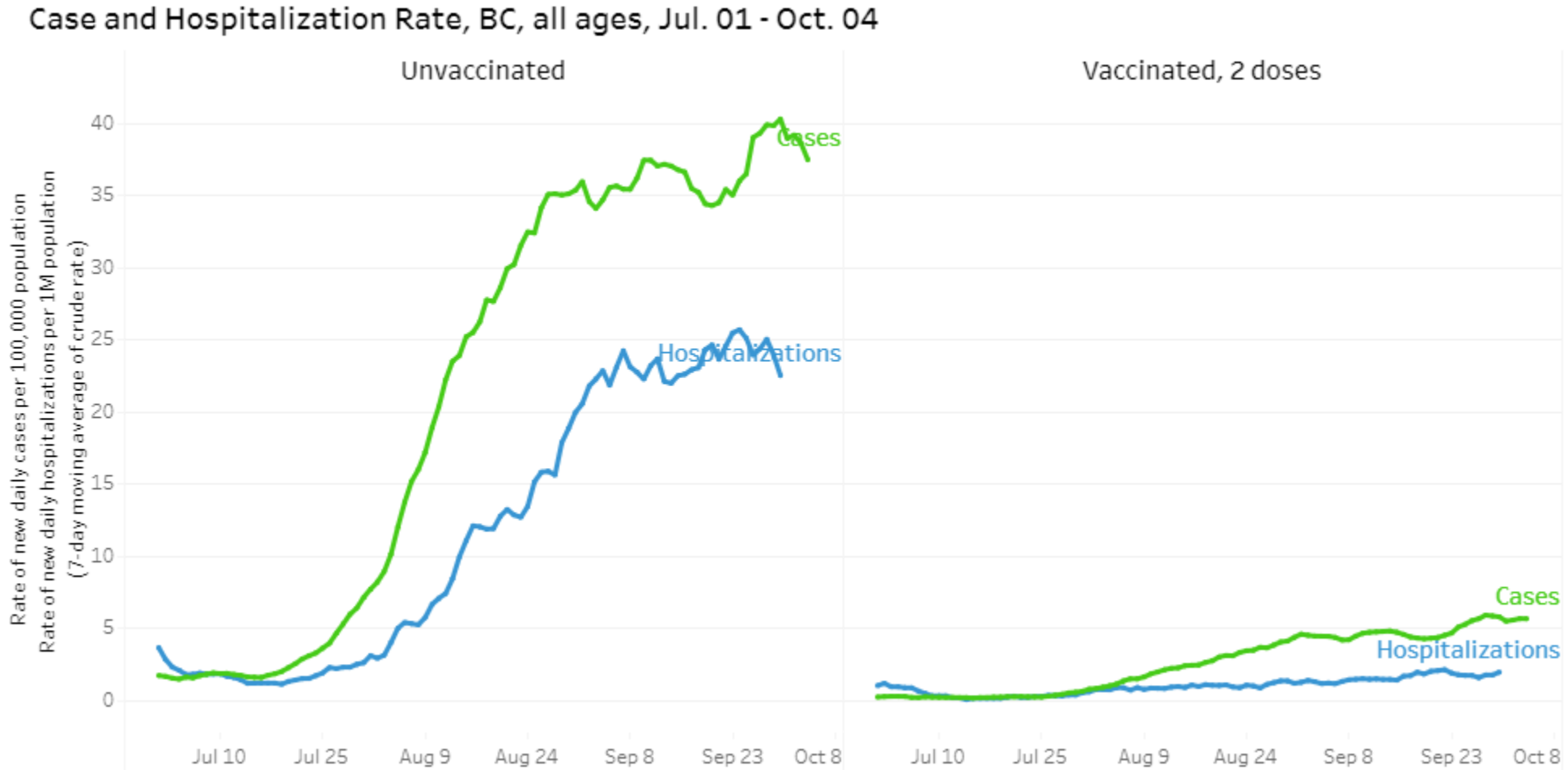
Case rates and new hospitalizations are elevated and stable at provincial level, but trends differ by HA – note the steep rise in Northern region; new deaths are low but slowly increasing.

Rate of COVID-19 case, hospitalization and death, Jan 01 2021 - Oct 05 2021

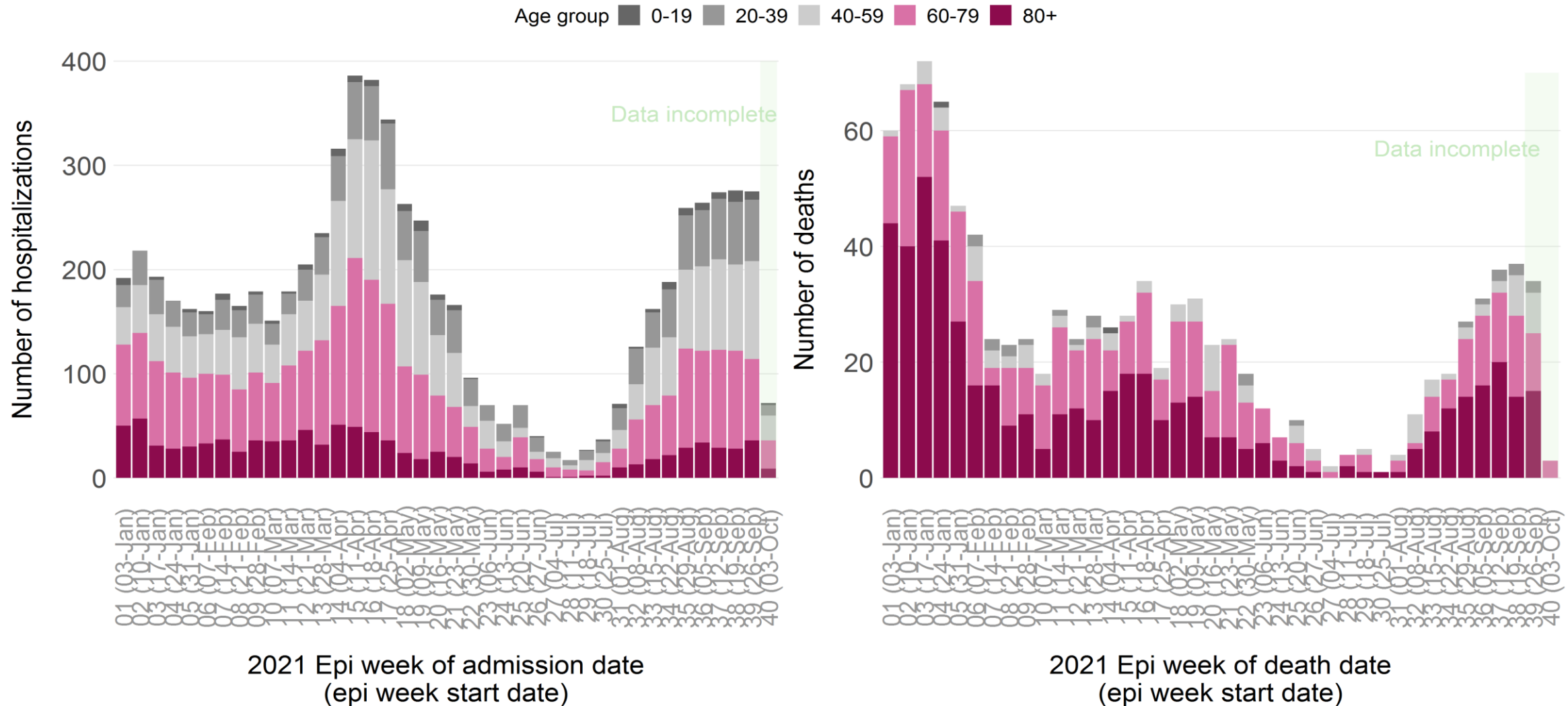


\* Data are by surveillance date for cases and deaths, and admission date for hospitalizations  
Data source: PHRDW Oct-06-2021

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

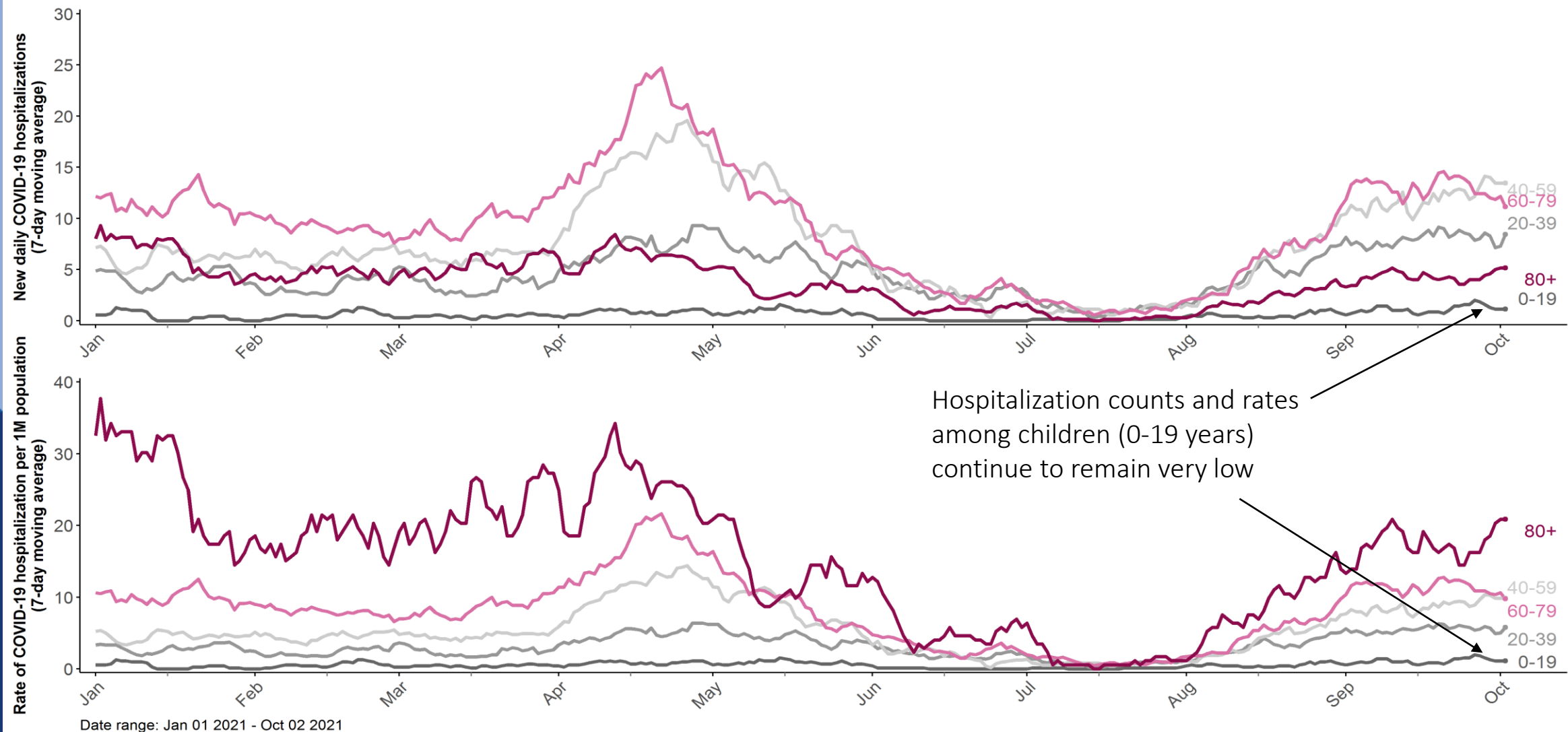


Number of new hospital admissions elevated and relatively stable. Deaths are low, but have increased in individuals 40-59 years in last couple of weeks.



Data extracted on 2021-10-06; hospitalization and death data from health authority case line list data

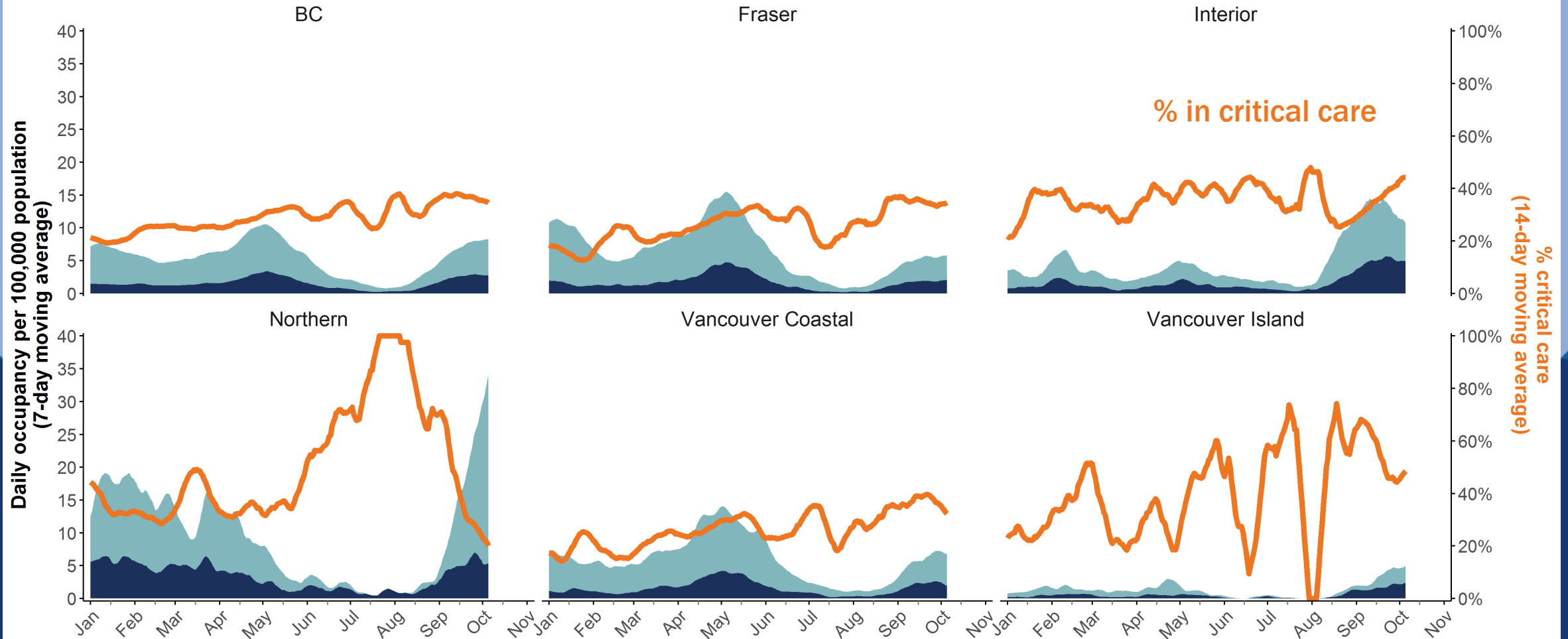
# Trends in number and rate of new hospitalizations by age group, BC, 1 Jan – 2 Oct 2021



# Hospital census is elevated and increasing in NH, elevated and decreasing in IH and stable elsewhere. Critical care census is stable across province.

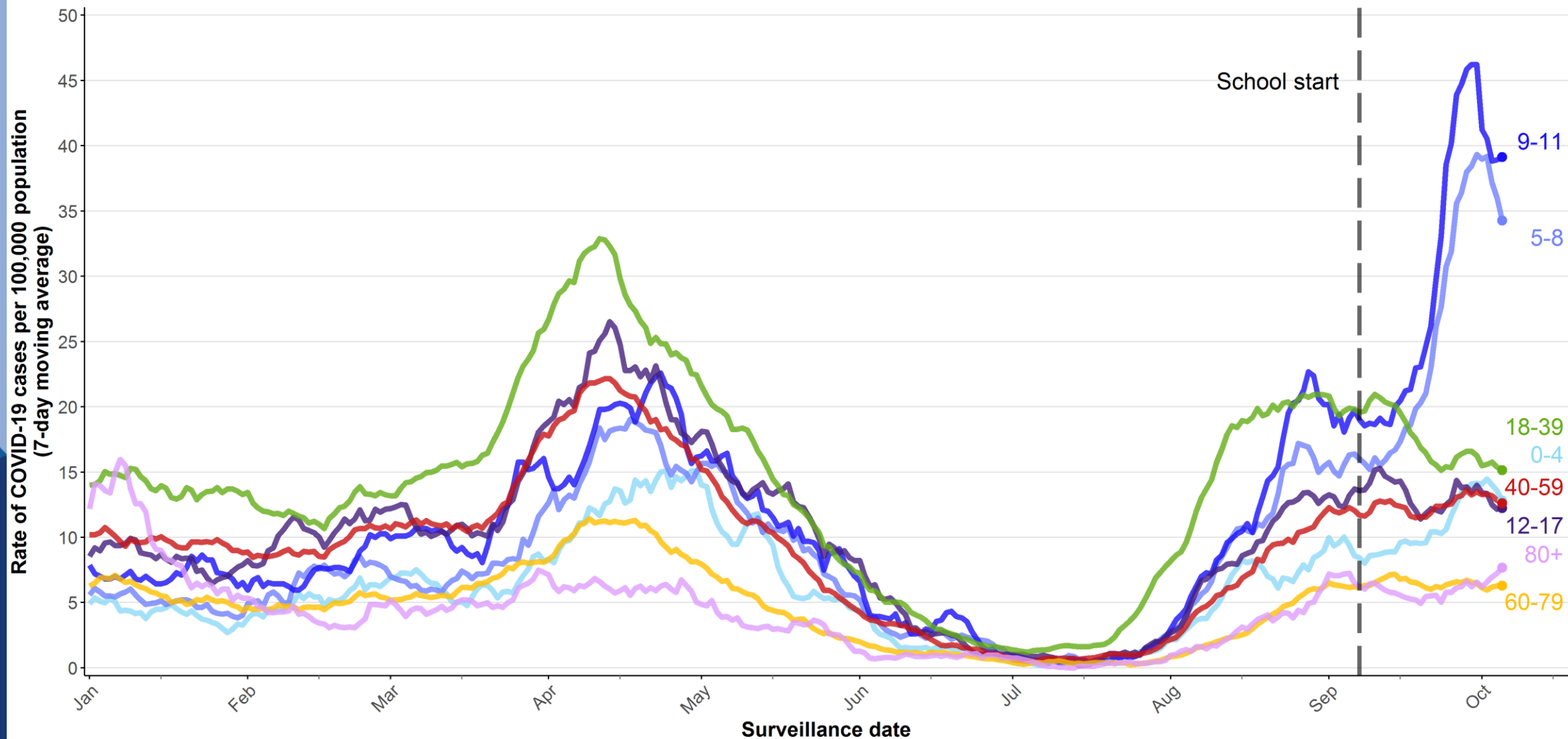
Current COVID-19 hospitalizations in BC, Jan 01 2021 - Oct 05 2021

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



\* Data are by census date for hospitalizations  
Data source: PHSA Provincial COVID19 Monitoring Solution (PCMS) Oct-06-2021

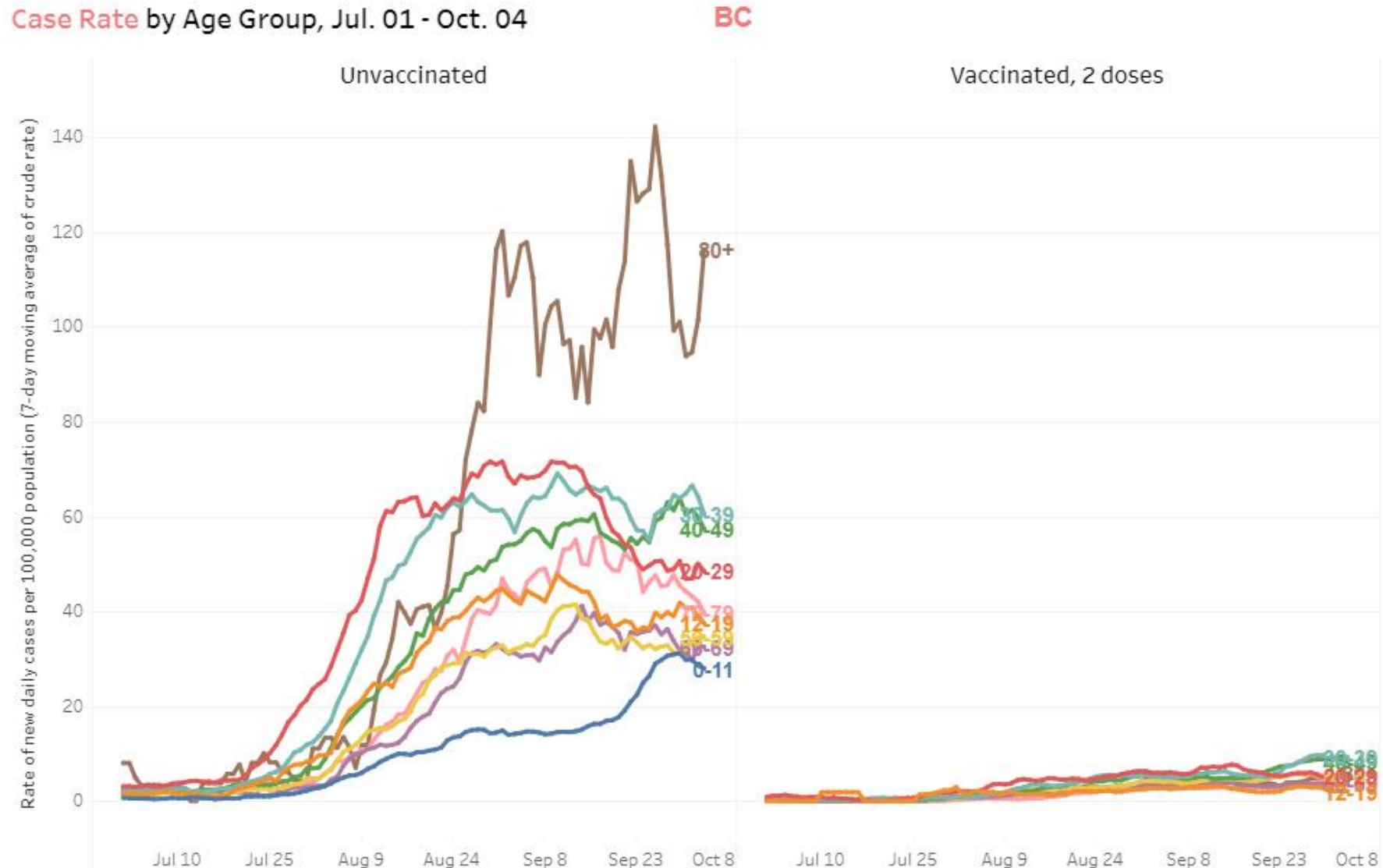
Incidence among 0-11 year olds is elevated, but decreasing.  
Note: testing rates among children are very high, see slides 44 and 45



\* Data based on surveillance date (i.e. lab result date, or when not available, date reported to public health)  
Data range: Jan 01 2021 - Oct 05 2021

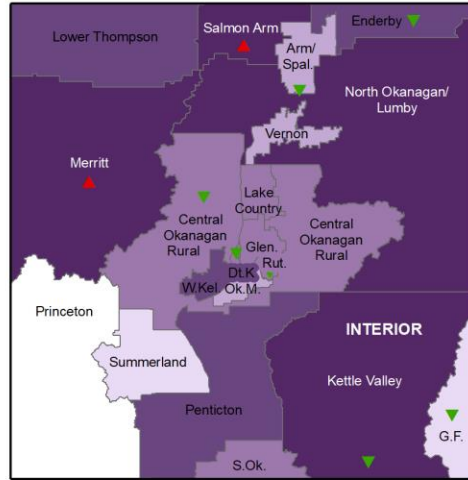


For all age groups, those who are vaccinated have very low case rates. Among those unvaccinated, case rate is the lowest in the 0-11 age group even with higher testing rates.

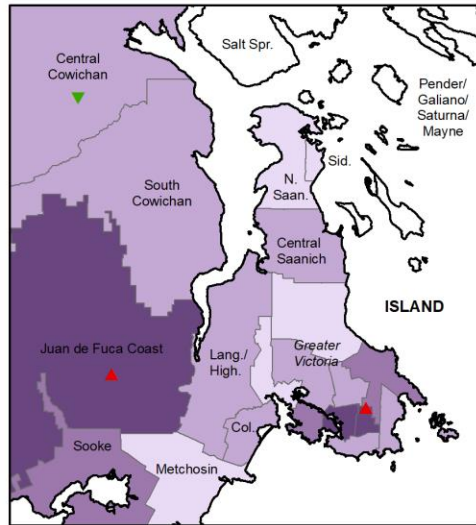




Okanagan Inset  
(Community Health Service Areas)



Greater Victoria Inset  
(Community Health Service Areas)



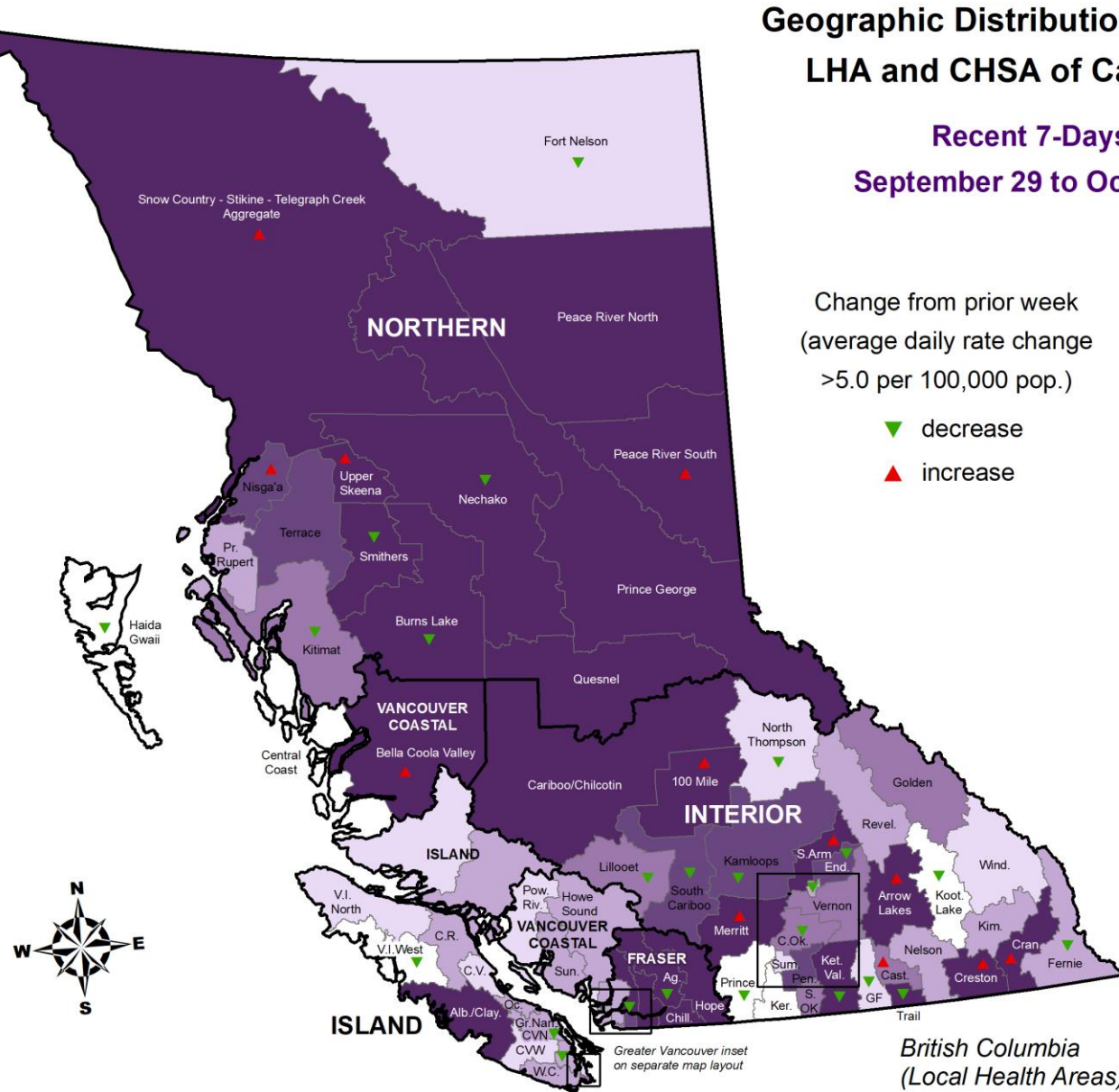
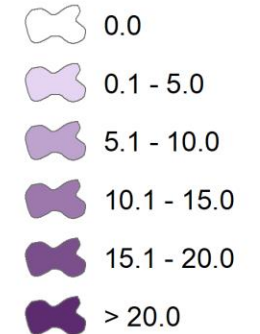
## Geographic Distribution of COVID-19 by LHA and CHSA of Case Residence

Recent 7-Days Cases  
September 29 to October 5, 2021

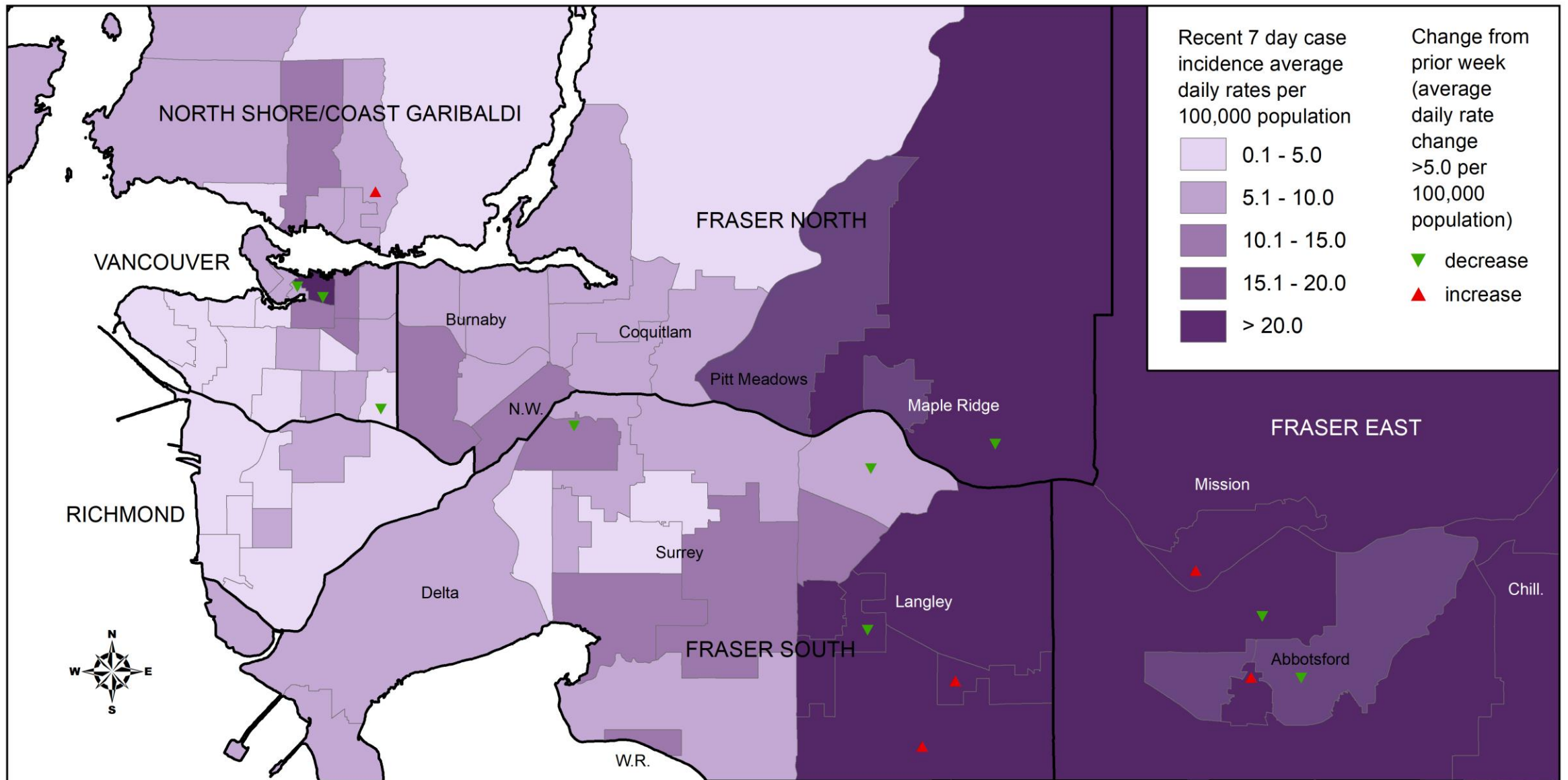
Change from prior week  
(average daily rate change  
>5.0 per 100,000 pop.)

- ▼ decrease
- ▲ increase

Average daily rate per  
100,000 population

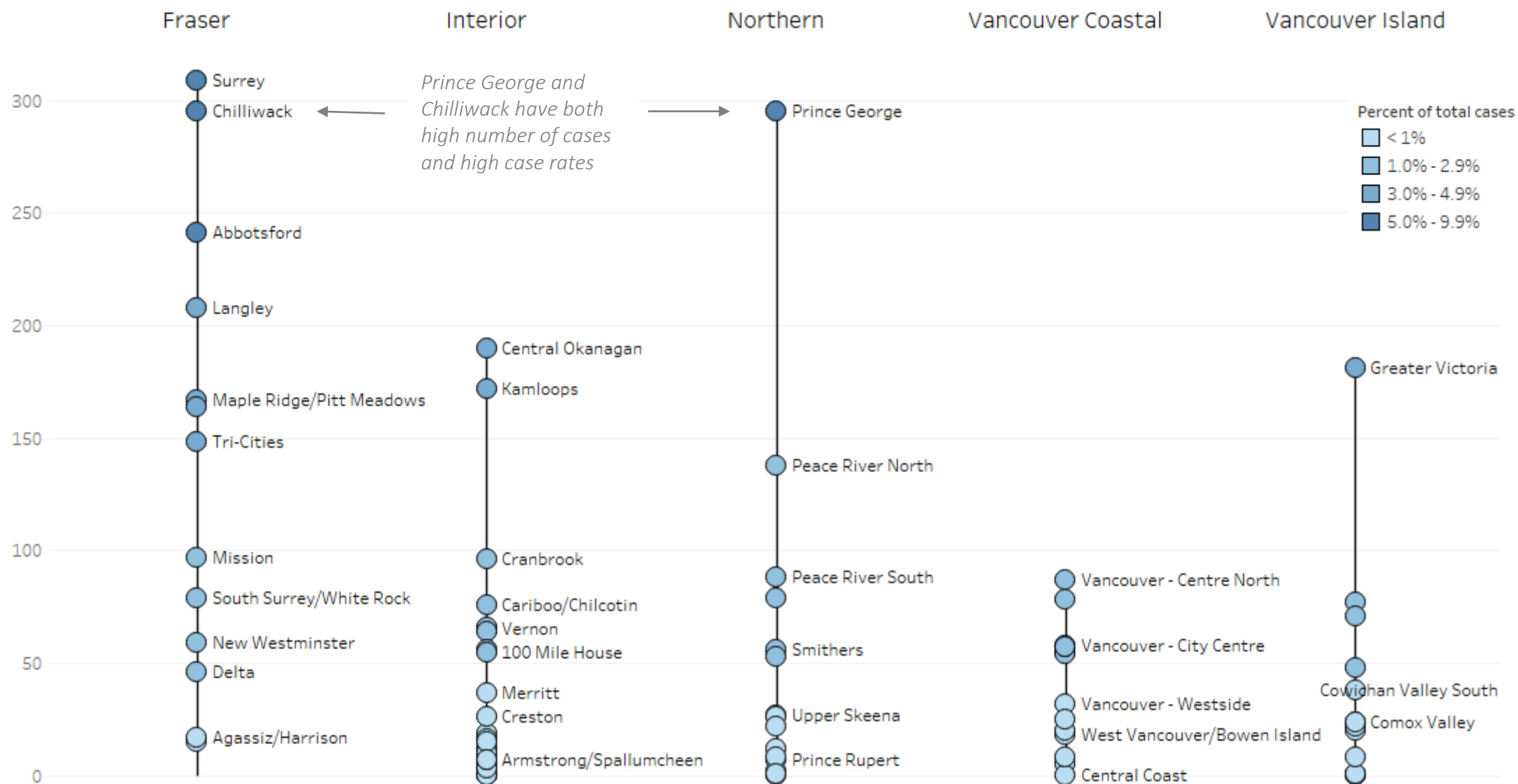


Data source: Public Health Reporting Data Warehouse (PHRDW) integrated COVID dataset; we operate in a live database environment and case information is updated as it becomes available. Cases are mapped by location of residence; cases with unknown residence and from out of province are not mapped. Data 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.



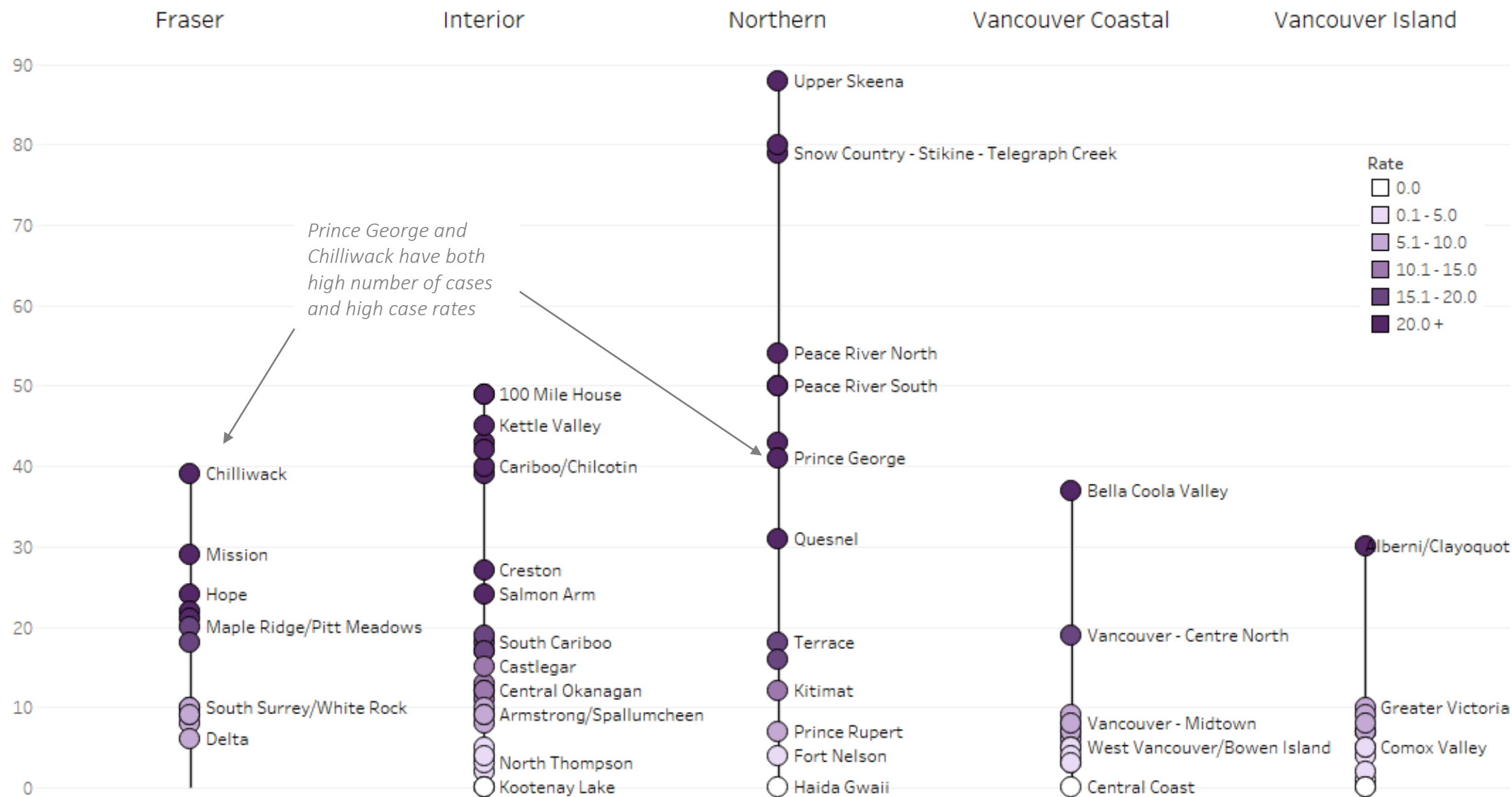
COVID-19 Recent 7-Day Case Incidence Rates by CHSA (September 29 to October 5, 2021)

## Total cases by local health area, Sep 29 - Oct 05, 2021





# Average daily **case rate** of new cases per 100,000 population, by local health area, Sep 29 - Oct 05, 2021

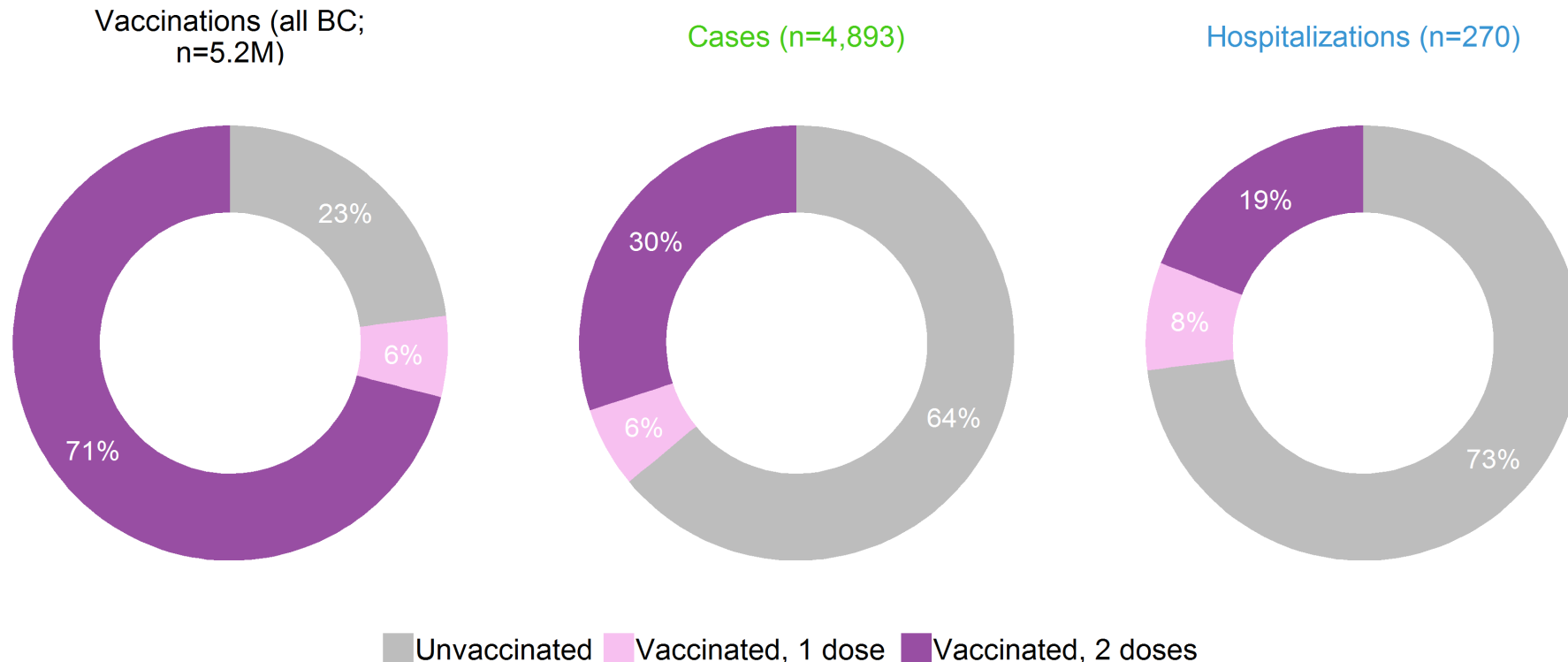


# Key messages – Outcomes by vaccine status

- 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
  - $\approx 10x$  more likely to become a case
  - $\approx 52x$  more likely to be hospitalized
  - $\approx 44x$  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 1<sup>st</sup> dose; <10% of unvaccinated cases)
- Partially vaccinated = 1 dose:  $\geq 3$  weeks since receipt of 1<sup>st</sup> dose and <2 weeks after 2<sup>nd</sup> dose
- Fully vaccinated = 2 doses: 2 weeks or more after receipt of 2<sup>nd</sup> dose

Over the past **week**, fully vaccinated individuals represented **71%** of BC's total population, but accounted for only **30%** of cases and **19%** 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.

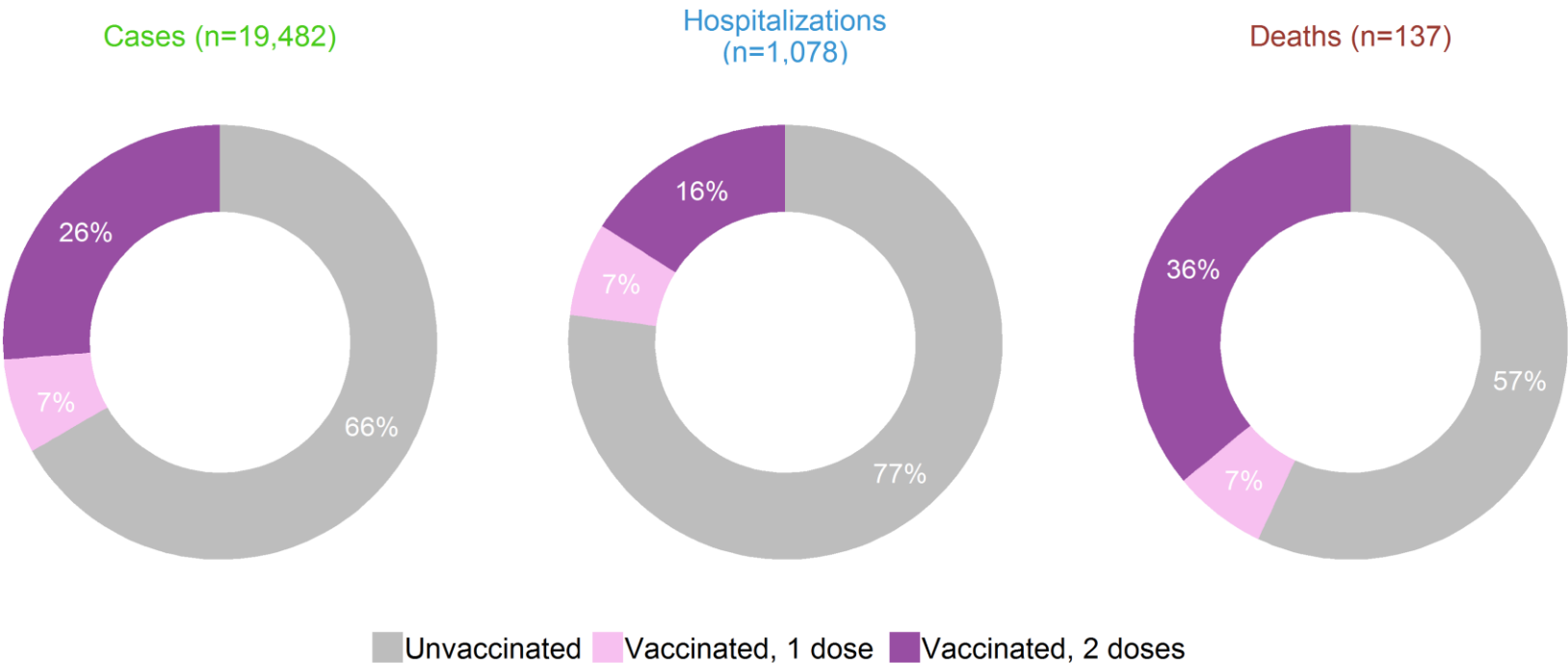


Data include cases from Sep 28-Oct 04, and hospitalizations from Sep 25-Oct 01, 2021

*We operate in a live database environment and data get updated retrospectively. These figures were run on Tuesday Oct 5 and 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 Aug 24<sup>th</sup> may not be captured by our surveillance system until Aug 29<sup>th</sup>.*

Over the past **month**, fully vaccinated individuals accounted for **26%** of cases and **16%** 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.



A large proportion of deaths is among older (80+) individuals, >90% of whom are fully vaccinated, which explains the higher relative % of deaths among the fully vaccinated.

Data include cases from Sep 07-Oct 04, and hospitalizations from Sep 04-Oct 01, 2021

We operate in a live database environment and data get updated retrospectively. These figures were run on Oct 5<sup>th</sup> and thus will 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 Aug 24<sup>th</sup> may not be captured in our surveillance system until Aug 29<sup>th</sup>.

# COVID-19 health outcomes by vaccination status and age, BC, Sep 7 – Oct 4, 2021

Trend in % total population vaccinated with at least 1 dose



Vaccinations (all BC; n=5.2M)



Number of people

Trend in daily cases per 1M

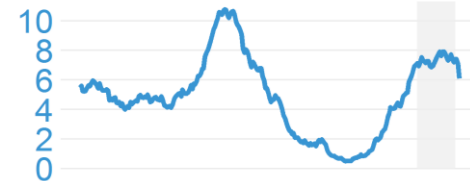


Cases (n=19,482)

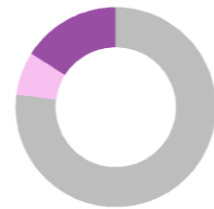


Number of cases

Trend in daily hospitalizations per 1M



Hospitalizations (n=1,078)



Number of hospitalizations

Trend in daily deaths per 1M

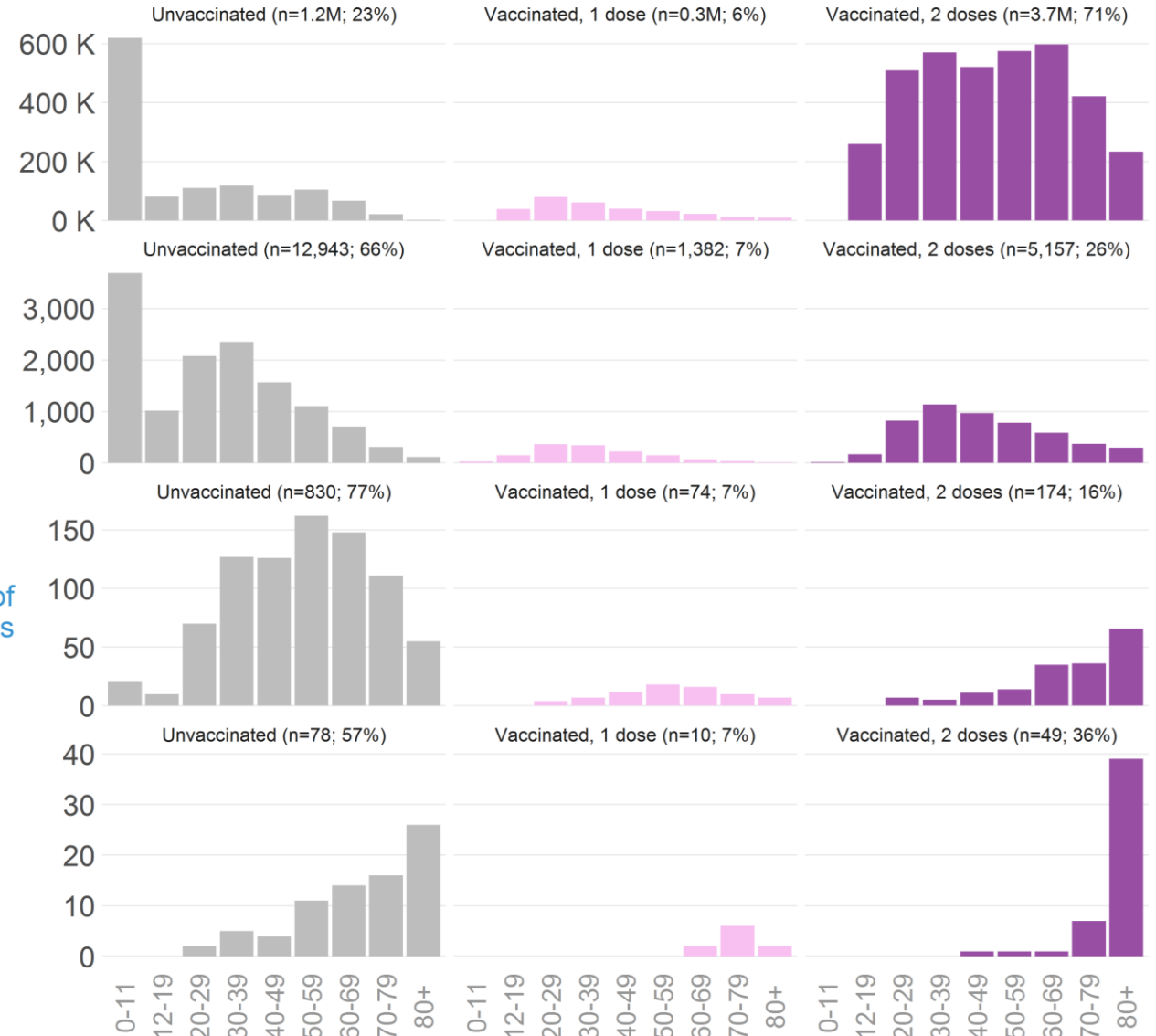


Deaths (n=137)



Number of deaths

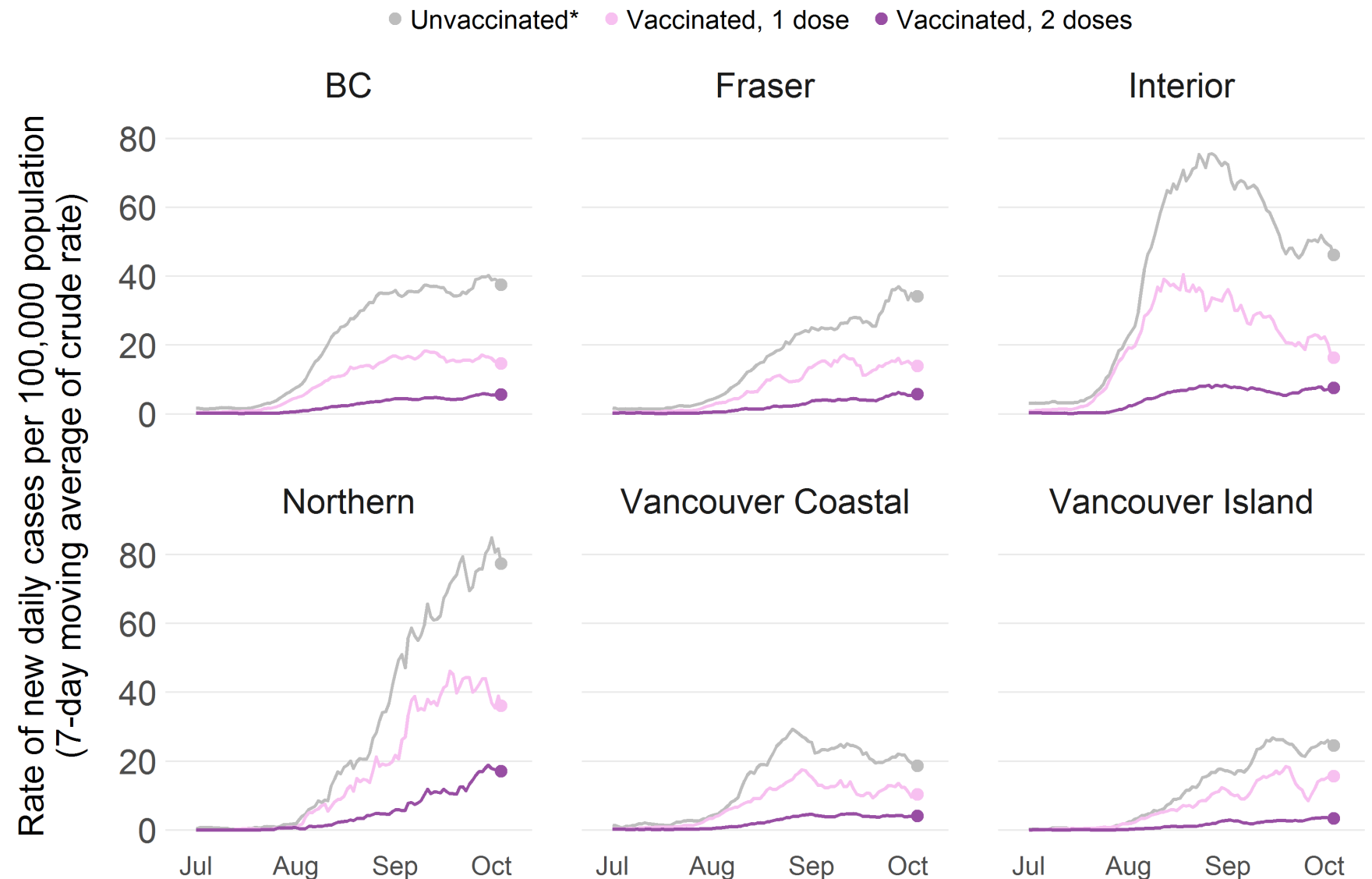
Unvaccinated Vaccinated, 1 dose Vaccinated, 2 doses



\*Figures include cases from Sep 07-Oct 04, and hospitalizations and deaths from Sep 04-Oct 01, 2021



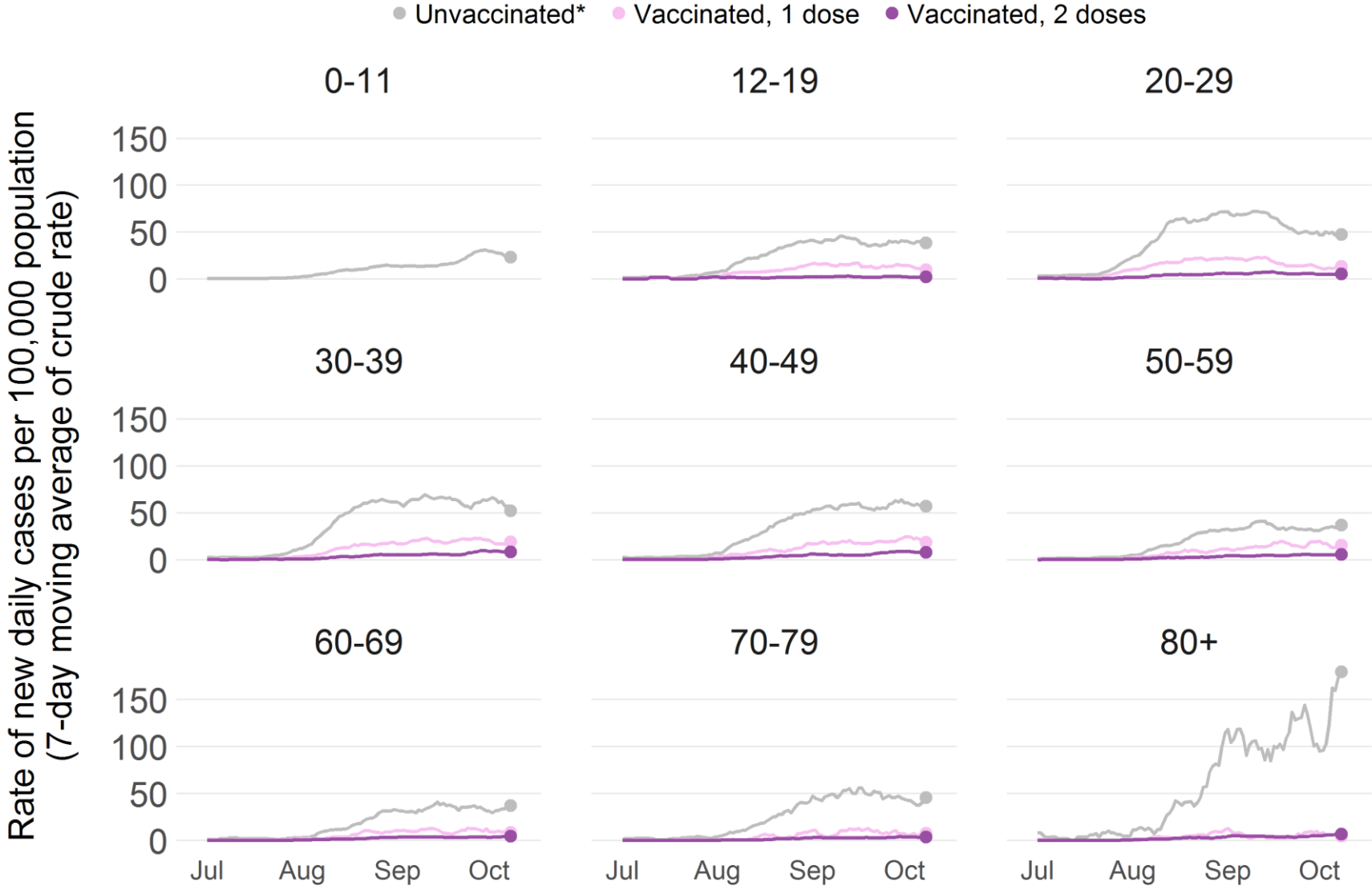
# COVID-19 **case** rate by vaccination status and Health Authority, July 1 – Oct 6, 2021



*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 7% of the total unvaccinated cases since 1 July 2021.  
Data extracted from health authority case line list on 06 Oct 2021

COVID-19 **case** rate by vaccination status and age, July 1 – Oct 6, 2021

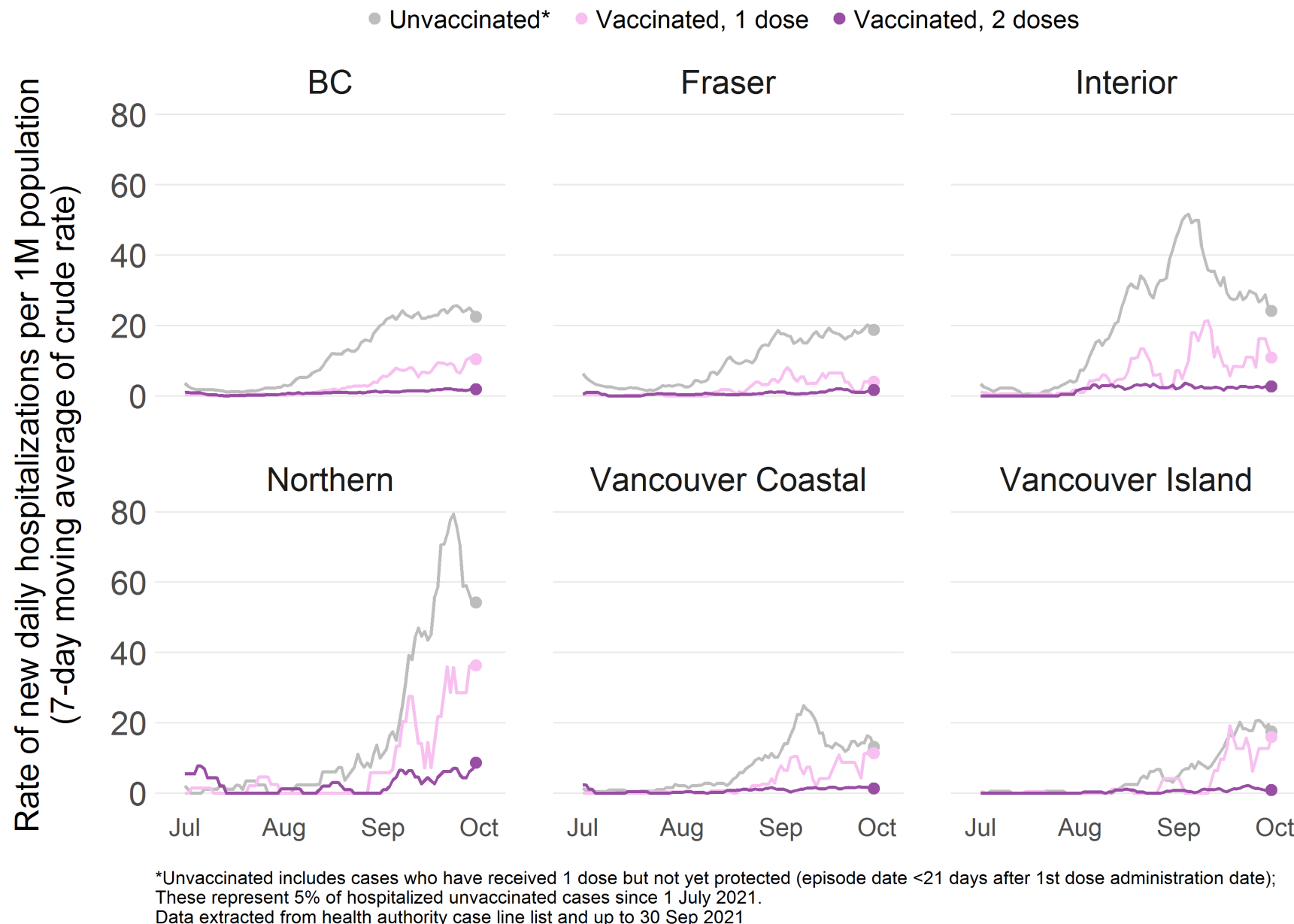


*Denominators for each vaccine status group are dynamic and change daily as people flow from being unvaccinated to protected by 1 dose to protected by 2 doses. Therefore, the denominators are different across groups and over time.*

\*Unvaccinated includes cases who have received 1 dose but not yet protected (episode date <21 days after 1st dose administration date); These represent 7% of the total unvaccinated cases since 1 July 2021.  
Data extracted from health authority case line list on 10 Oct 2021

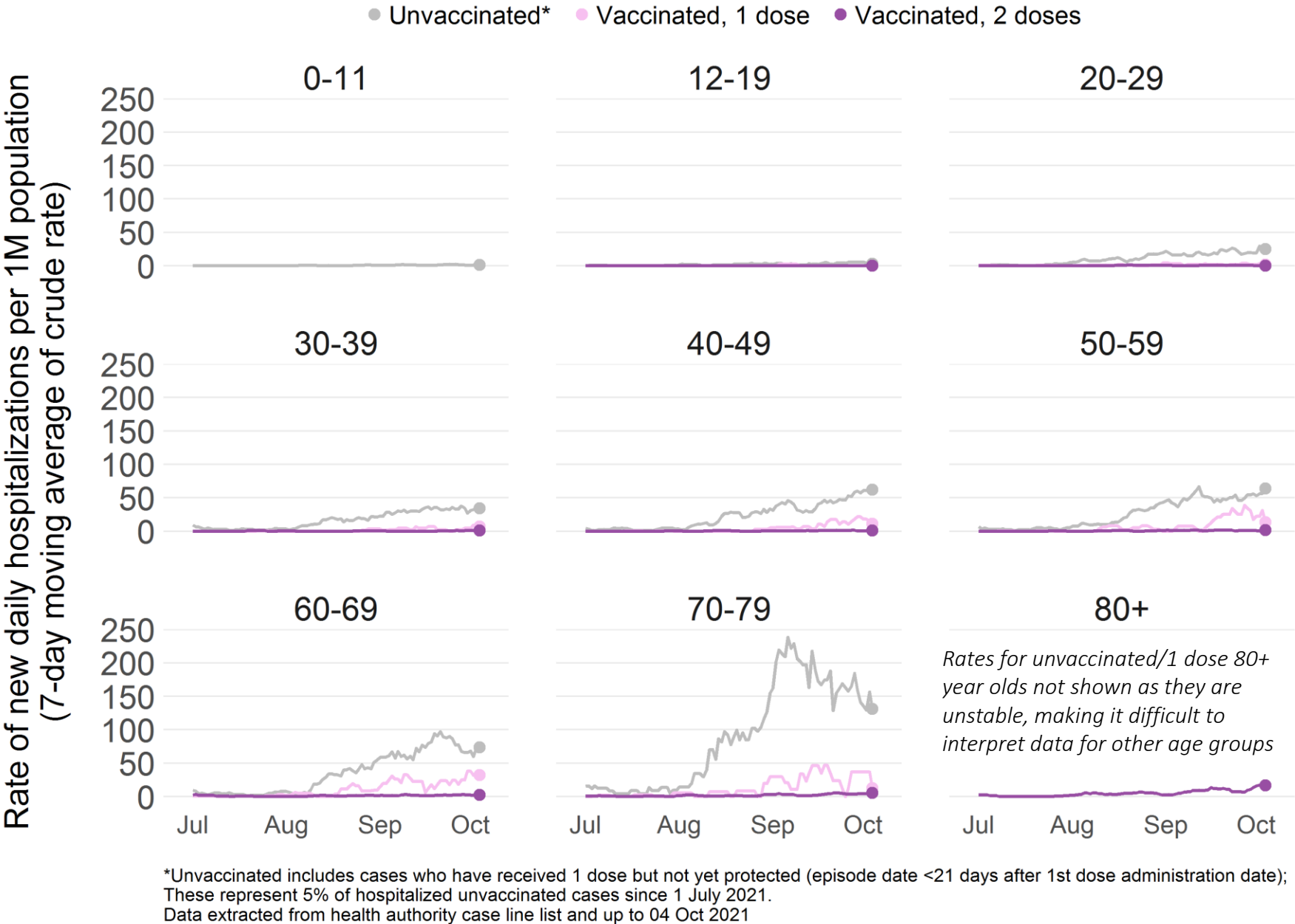
# COVID-19 hospitalization rate by vaccination status, July 1 – Sept 30, 2021

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.



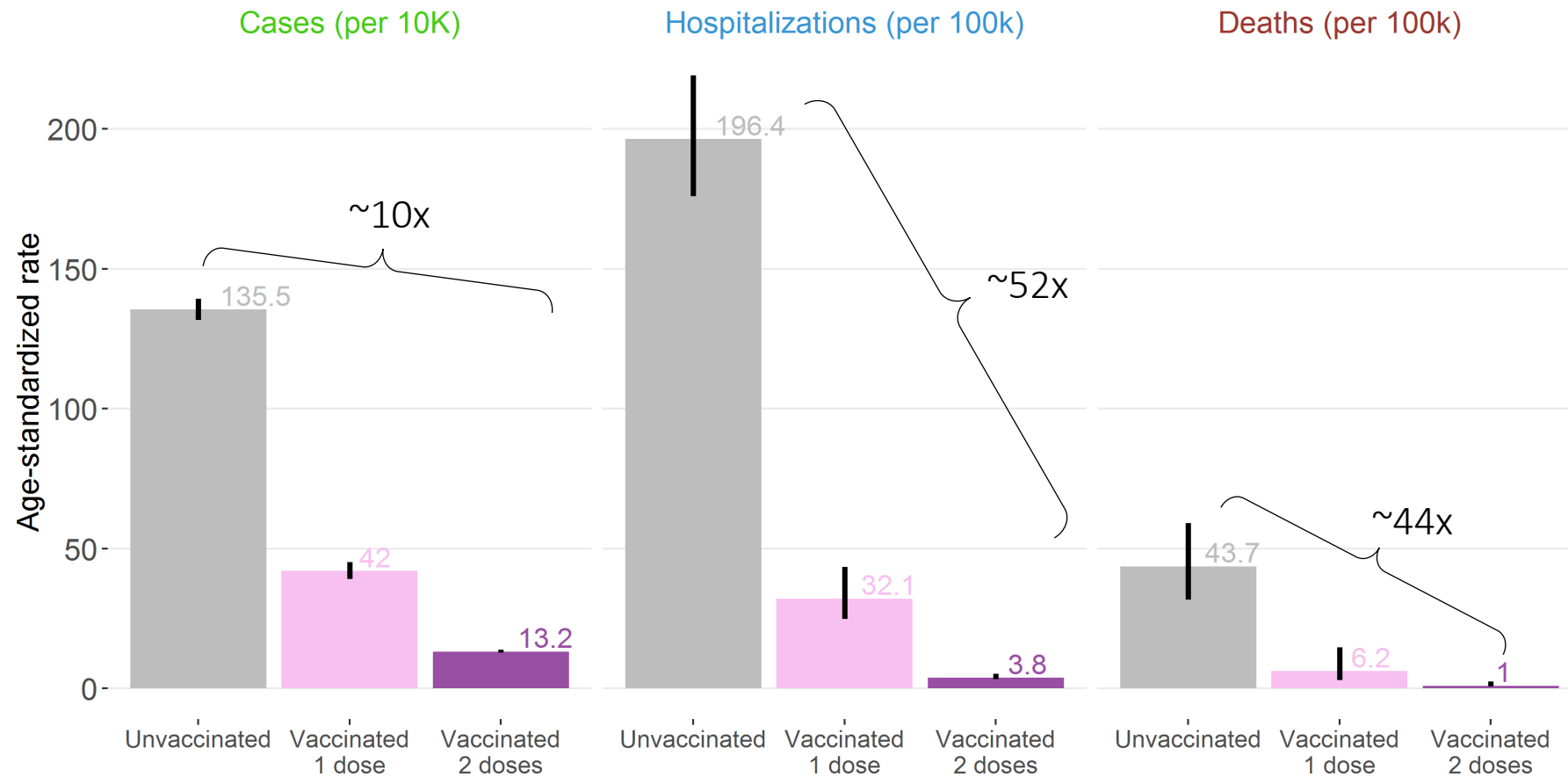
# COVID-19 hospitalization rate by vaccination status and age, July 1 – Sept 30, 2021

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.



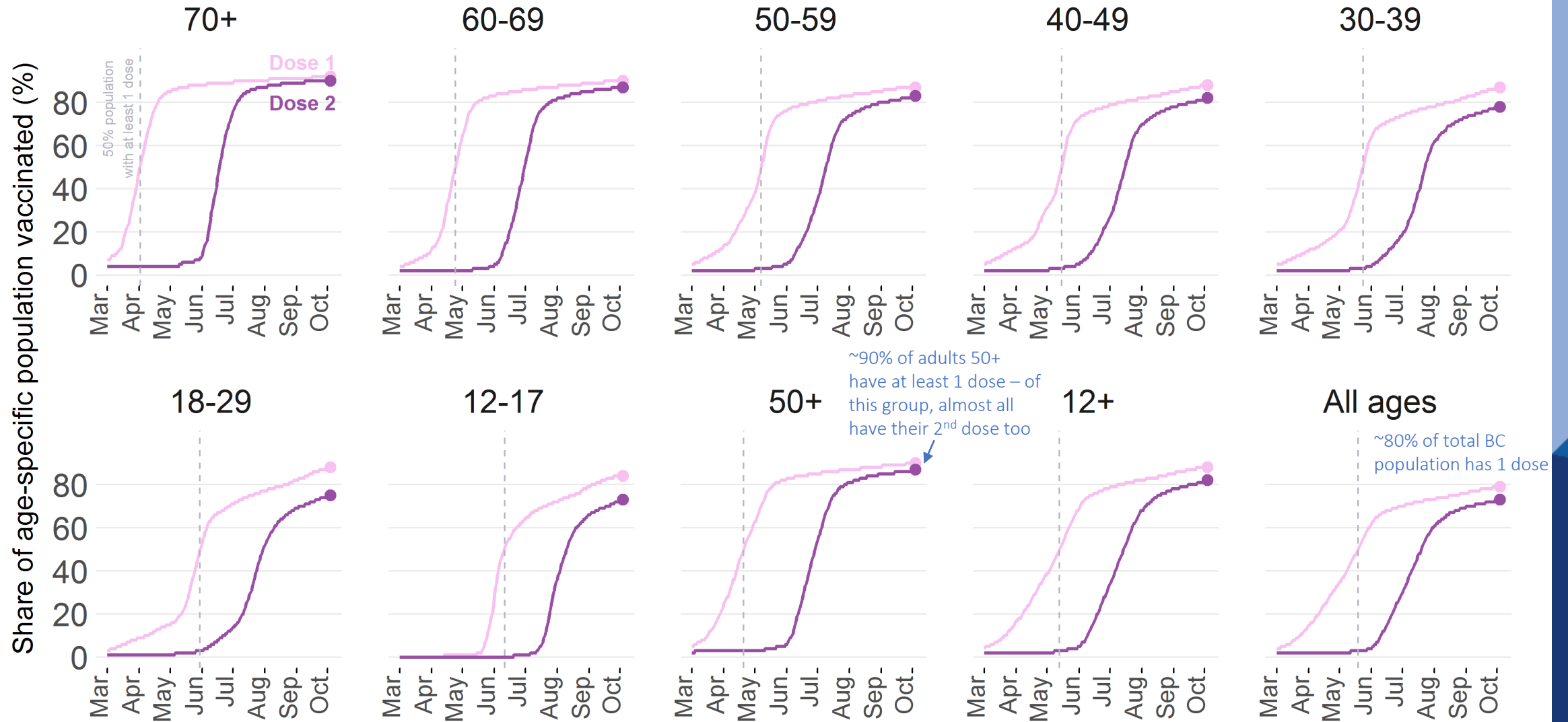
# After adjusting for age, unvaccinated individuals continue to be at a significantly higher risk of infection, hospitalization, and death from COVID-19 compared with fully vaccinated

Relative rate fluctuates over time (see graph to the right). These figures do not represent vaccine effectiveness.



Data include cases from Sep 07-Oct 04, and hospitalizations and deaths from Sep 04-Oct 01, 2021

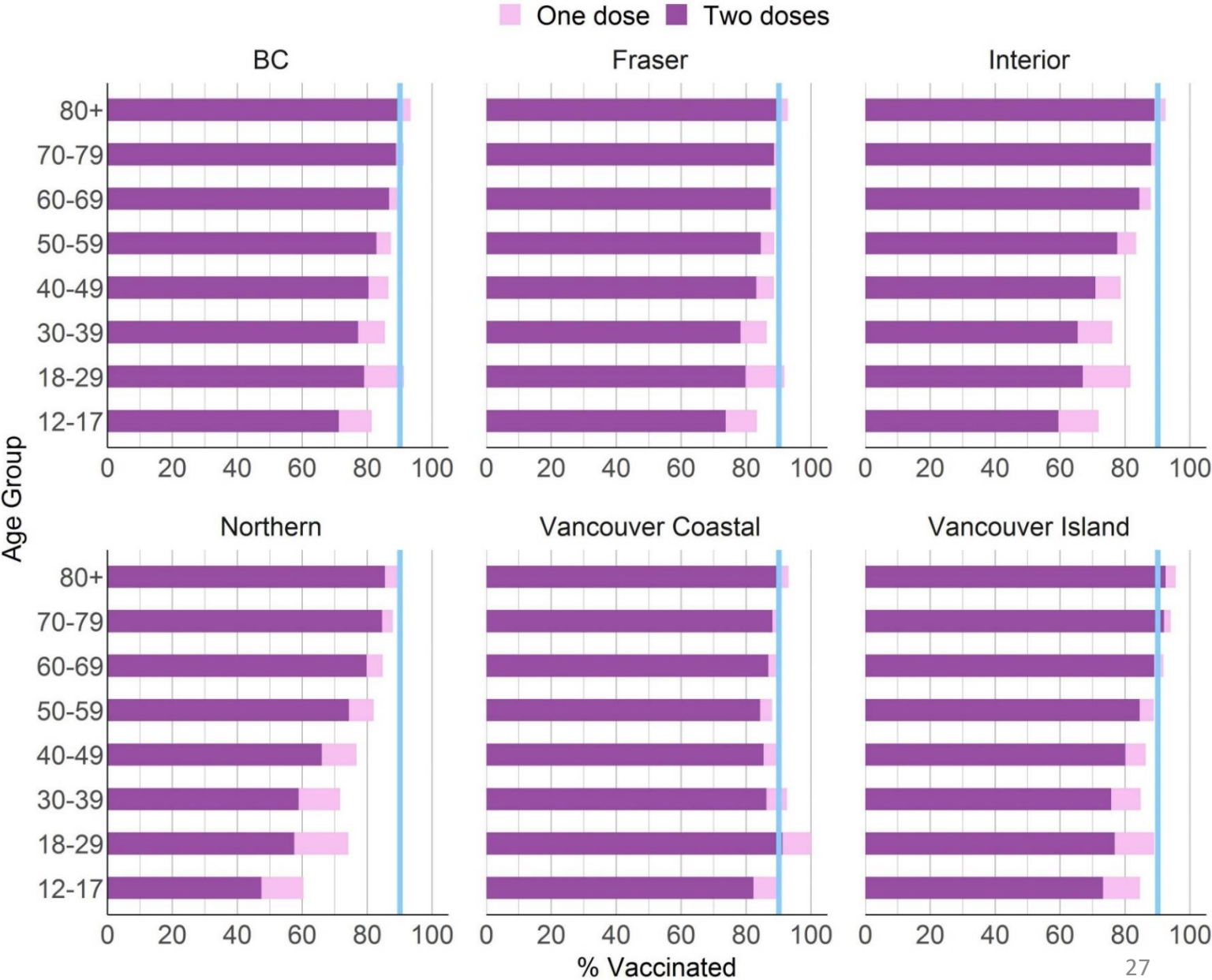
# Vaccination progress in BC over time by age group and dose number up to Oct. 5, 2021



Data updated 2021-10-05  
Data Source: Provincial Immunization Registry, PHSA

# Vaccination progress in BC and by Health Authority as of Oct 5, by age group and dose number (%)

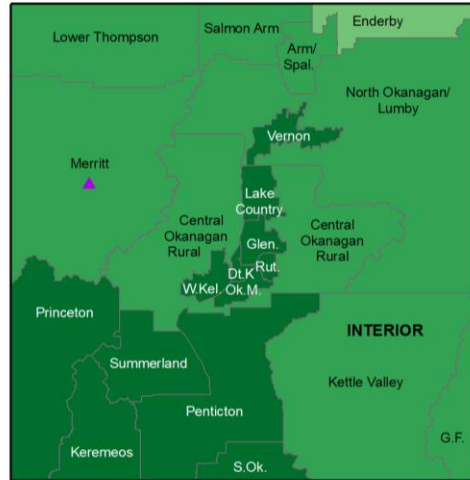
Denominator for this graph is Client Roster maintained by the BC Ministry of Health. Client Roster population data are sourced from a list of all residents registered with Medical Services Plan as of March 12, 2021. Since this date, people may have moved, permanently or temporarily, and have been vaccinated 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.



Data updated 2021-10-05  
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

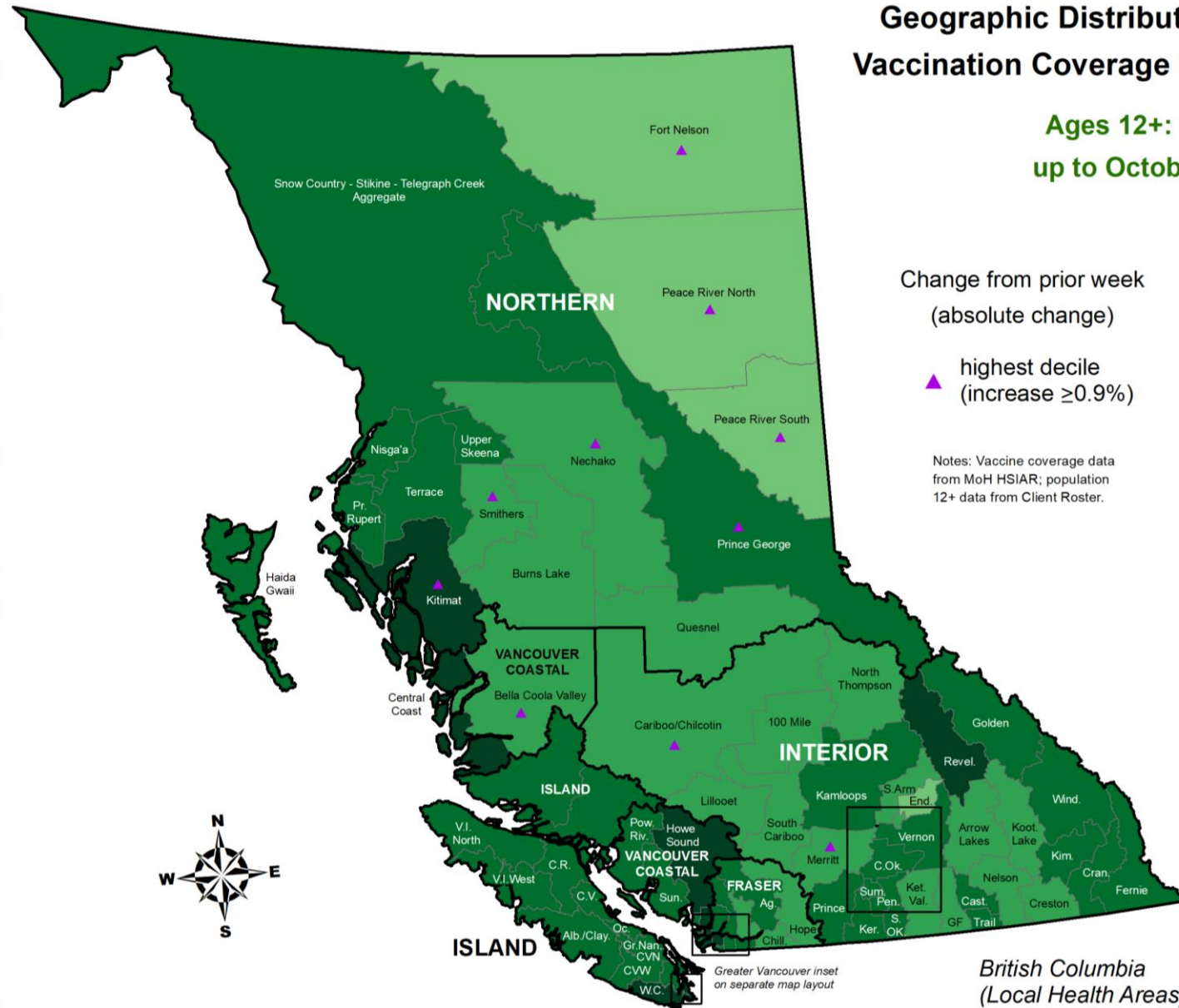
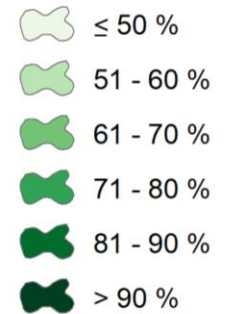
**Ages 12+: 1st Dose  
up to October 4, 2021**

Change from prior week  
(absolute change)

▲ highest decile  
(increase  $\geq 0.9\%$ )

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

Vaccination coverage  
rate (%) of persons 12+

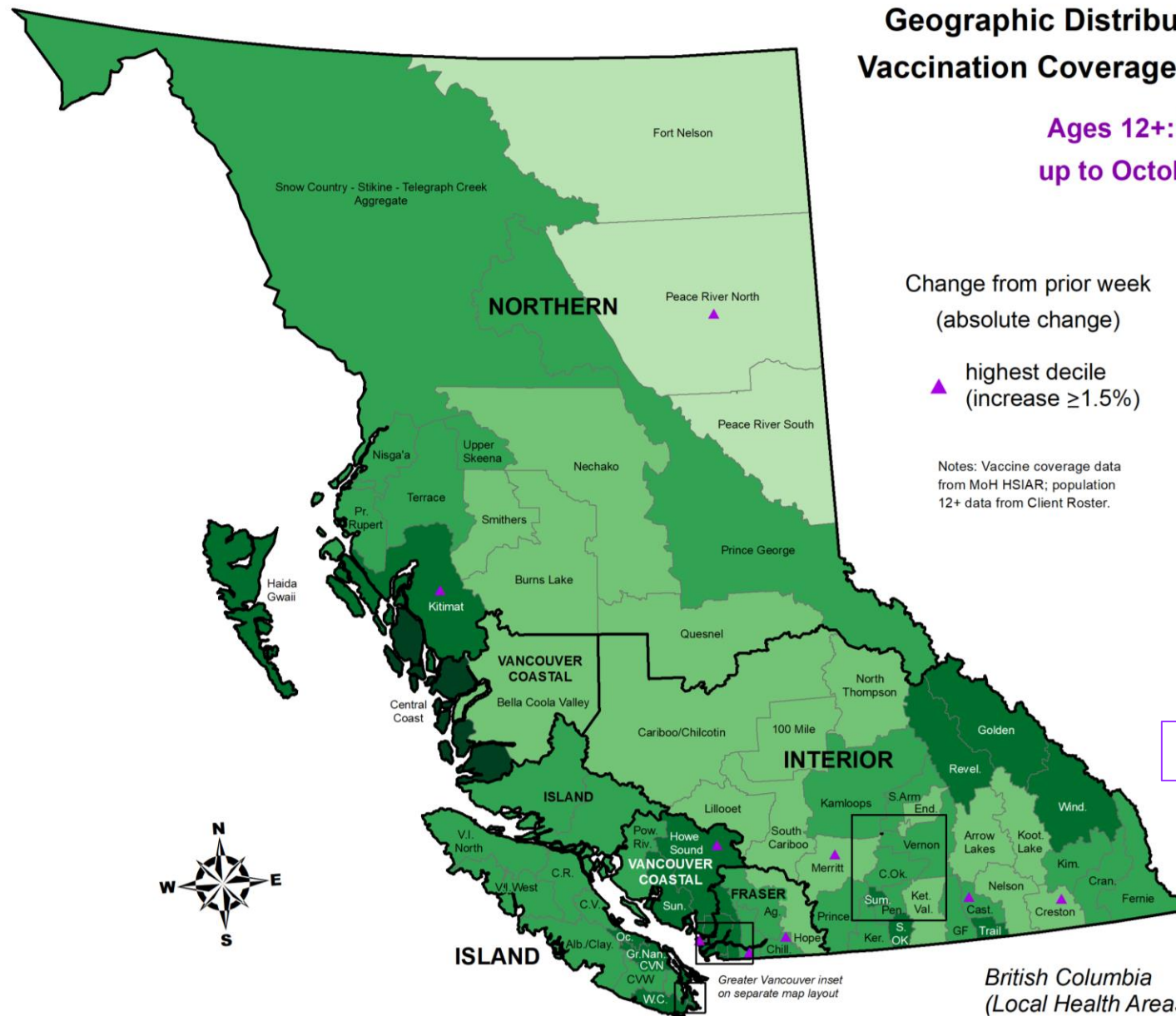


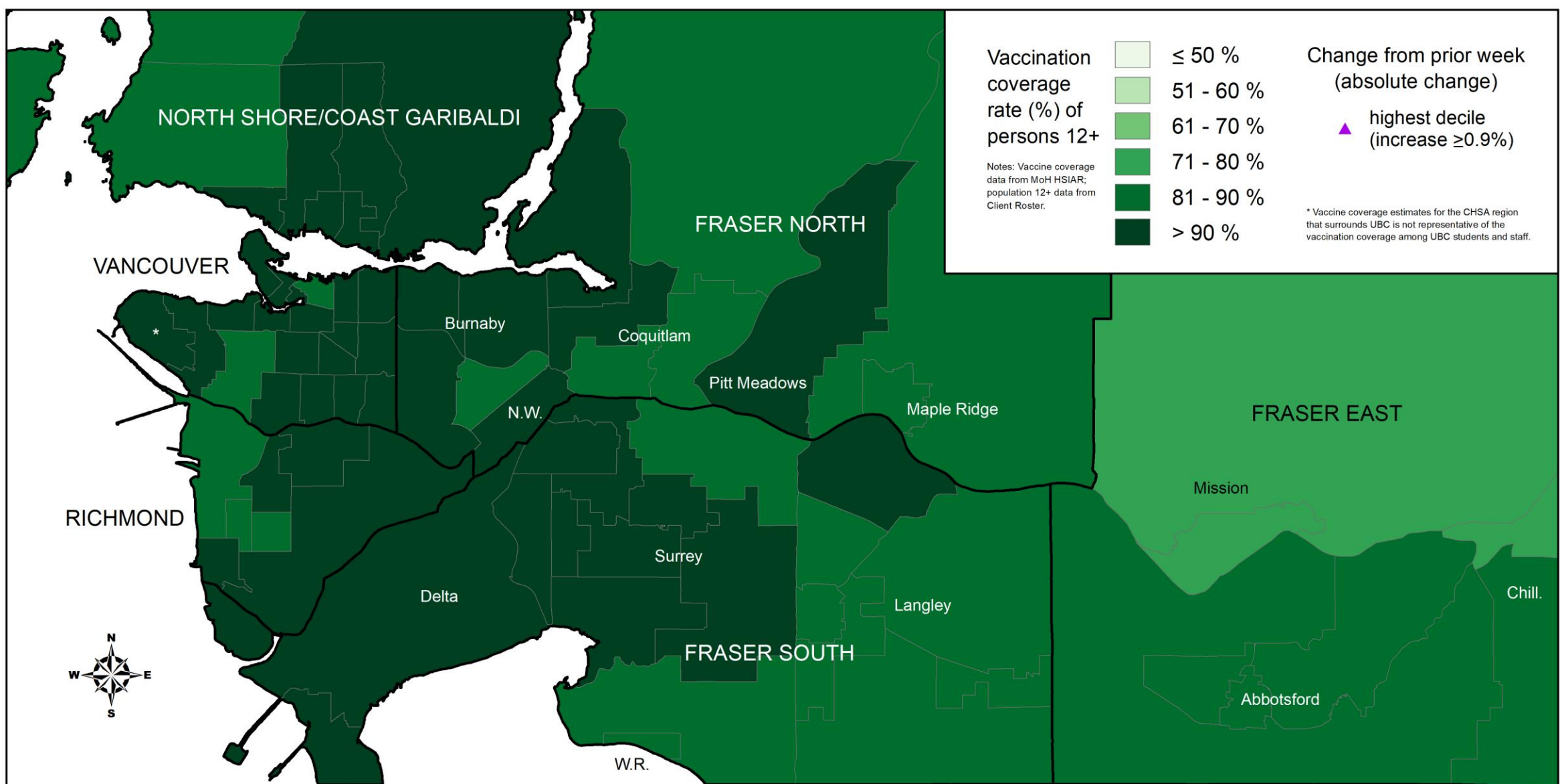
British Columbia  
(Local Health Areas)



A map of the Okanagan Valley region in British Columbia, Canada. The map shows various communities and regions. Communities marked with purple triangles include Merritt, Vernon, Lake Country, Glen, Rut., W. Kel., Ok. M., Princeton, Summerland, and Keremeos. Other labeled areas include Lower Thompson, Salmon Arm, Arm/Spal., Enderby, North Okanagan/Lumby, Central Okanagan Rural, and S. Ok. The map also shows the Kootenai River and the Okanagan River.

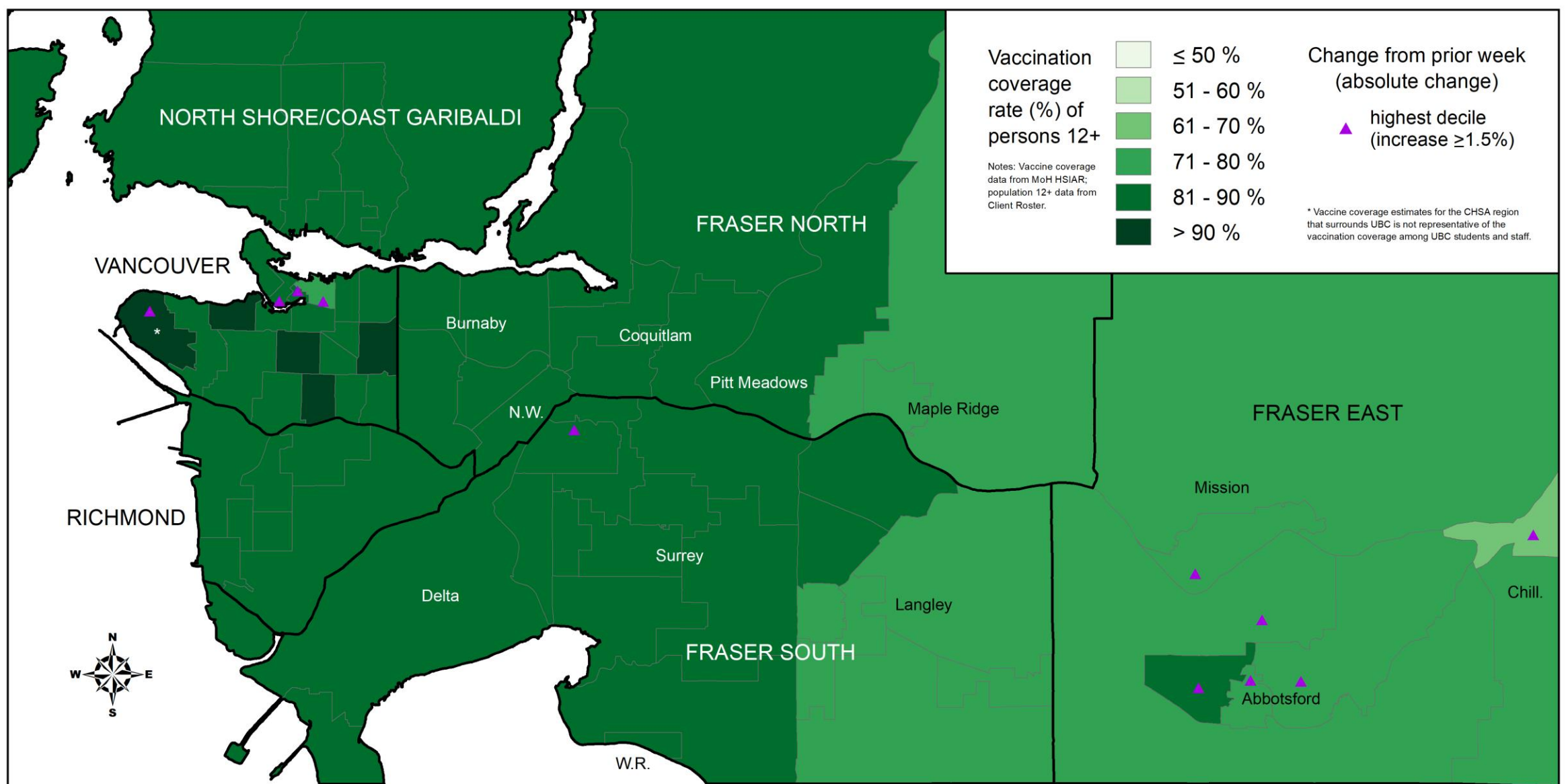
*British Columbia  
(Local Health Areas)*





COVID-19 Vaccination Coverage by CHSA: Ages 12+ 1st Dose (up to October 4, 2021)





COVID-19 Vaccination Coverage by CHSA: Ages 12+ 2nd Dose (up to October 4, 2021)

# Lab - Key Messages

- **Test positivity** among publicly funded tests has decreased in last few weeks (current ~6%)
  - Test positivity varies by HA, ranging from 4.0% in VCH to 18.4% in NH.
  - Test positivity is high in Fraser East and most HSDAs in NH and IH
- Publicly funded **testing** increased 8% this week (~80K total public tests)
  - Testing rates remain elevated in children (<19 years) and adults (30-44 years)
- The provincial weekly median **turnaround time** (time from specimen collection to lab result) remains low at 18 hours, indicating good testing capacity; 3 in 4 tests took  $\leq 25$  hours to result.
- **Delta** is the most prevalent COVID-19 variant in BC representing ~100% of all sequenced specimens in most recent week.
- 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

3,898,543	total specimens tested
103,893	new this epi week
199,434	total positive specimens
5,088	new positive this epi week
19 hr	mean turnaround time (TAT)
18 [11-25]	Median [Q1 – Q3] TAT

↑ **5%** relative to last week

↓ **4.9%** positivity  
↓ **0.4%** absolute change from last week

↓ **1%** TAT relative to last week

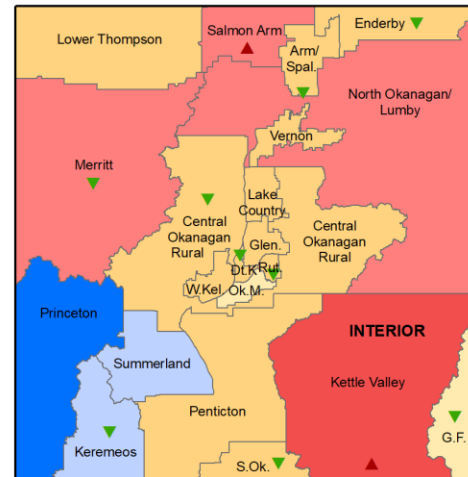
## Weekly Summary of Lab tests paid Publicly

2,949,696	total specimens tested
80,179	new this epi week
196,952	total positive specimens
5,022	new positive this epi week

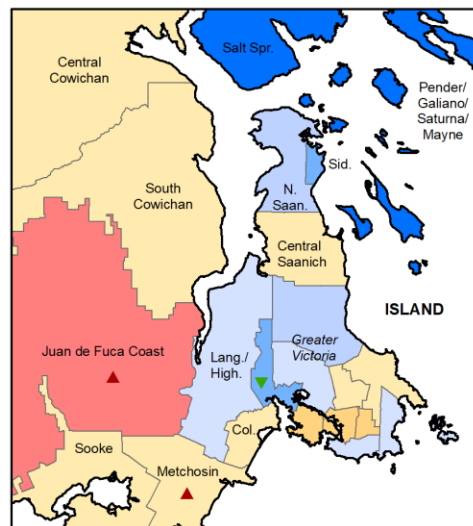
↑ **8%** relative to last week

↓ **6.3%** positivity  
↓ **0.7%** 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  
September 29 to October 5, 2021

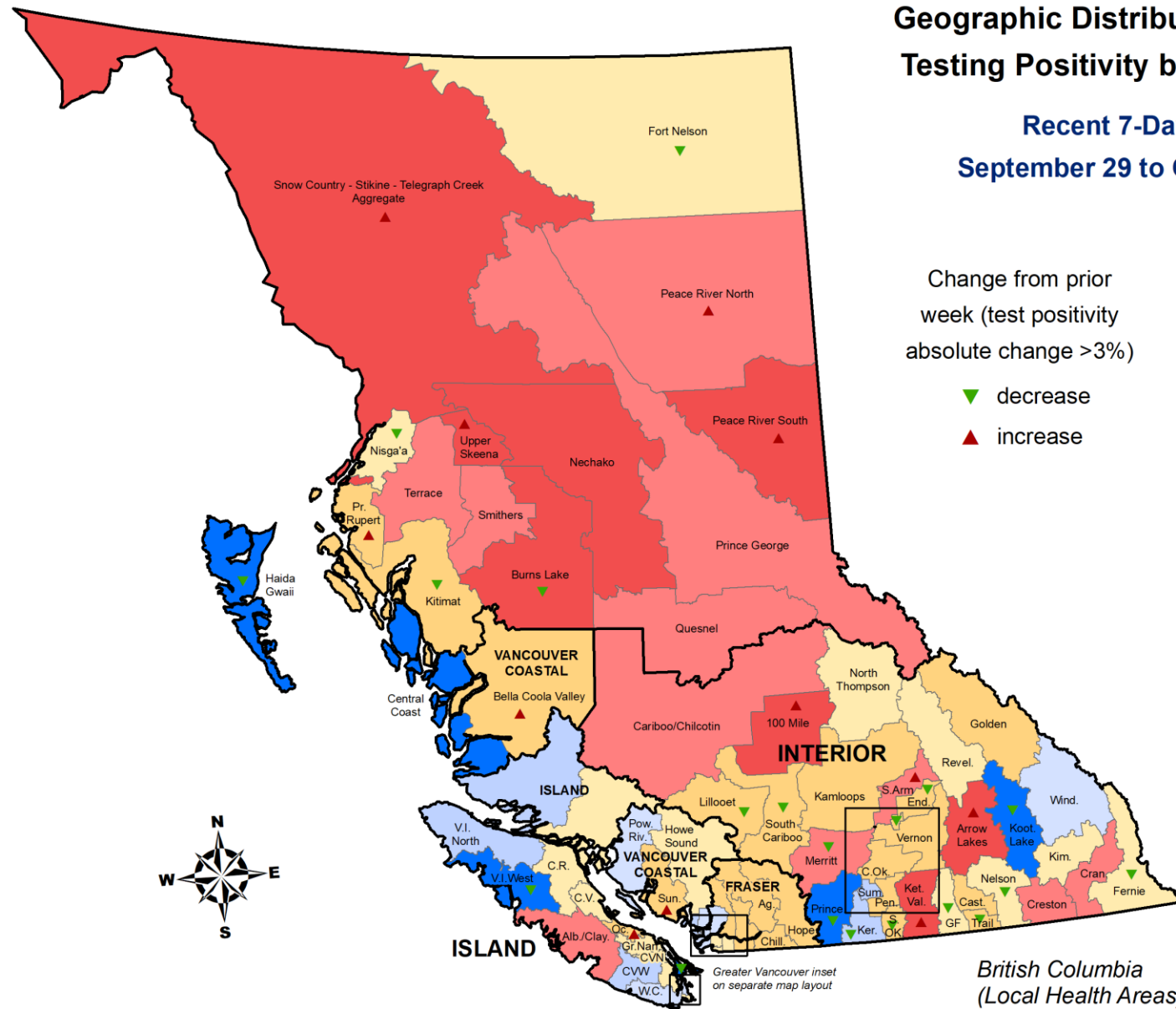
Change from prior  
week (test positivity  
absolute change >3%)

- ▼ decrease
- ▲ increase

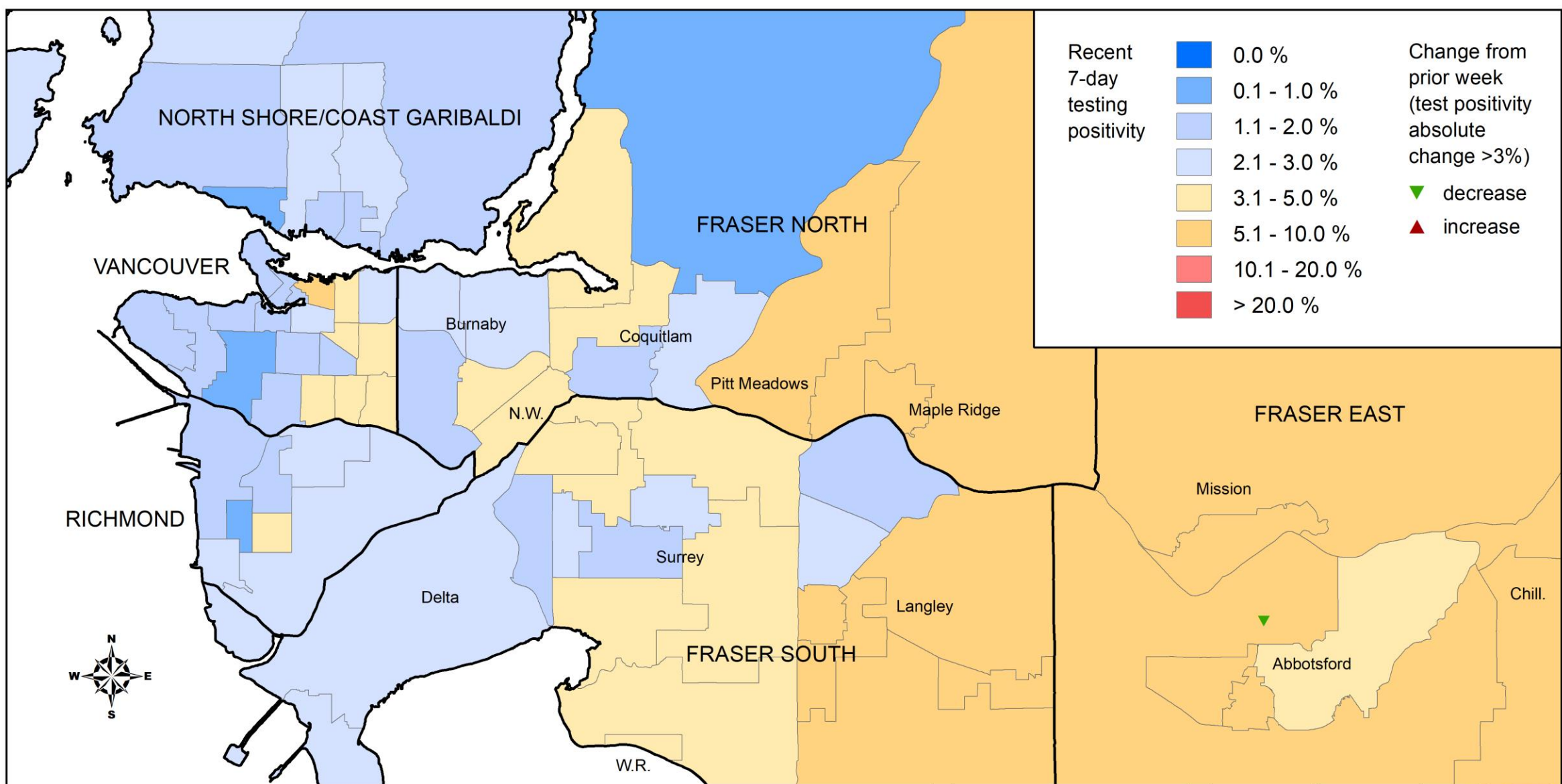
Test positivity rate

- 0.0 %
- 0.1 - 1.0 %
- 1.1 - 2.0 %
- 2.1 - 3.0 %
- 3.1 - 5.0 %
- 5.1 - 10.0 %
- 10.1 - 20.0 %
- > 20.0 %

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.



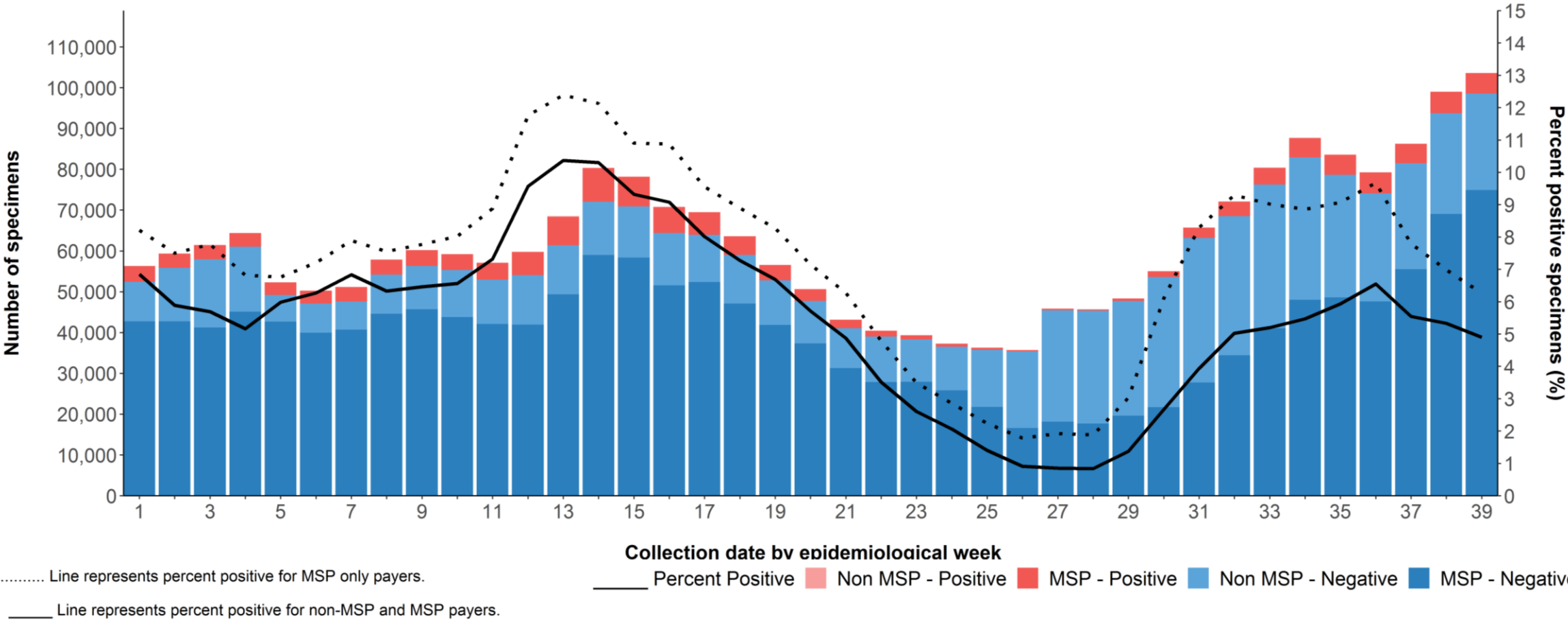




COVID-19 Recent 7-Day Test Positivity by CHSA (September 29 to October 5, 2021)

Includes all tests

Percent positivity decreased slightly in the most recent week (~6%), in parallel with an increase in the number of publicly funded specimens tested.



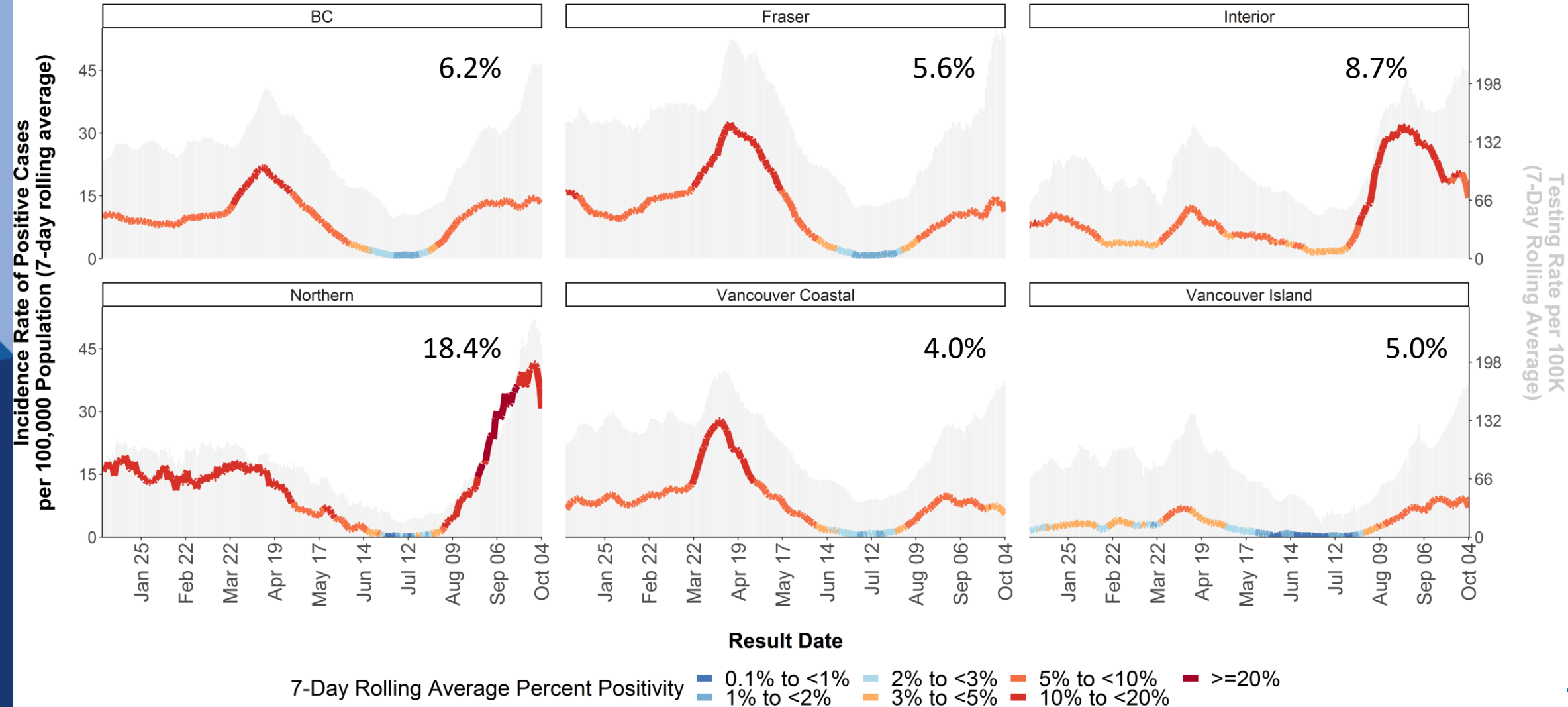
Note: Invalid (n = 1525) and indeterminate (n = 6042) results have been excluded

Data source: PLOVER 06-Oct-2021



Case incidence rates decreased or remained stable in all HAs.  
Fraser Health and Northern Health Authorities have the highest testing rates in the province

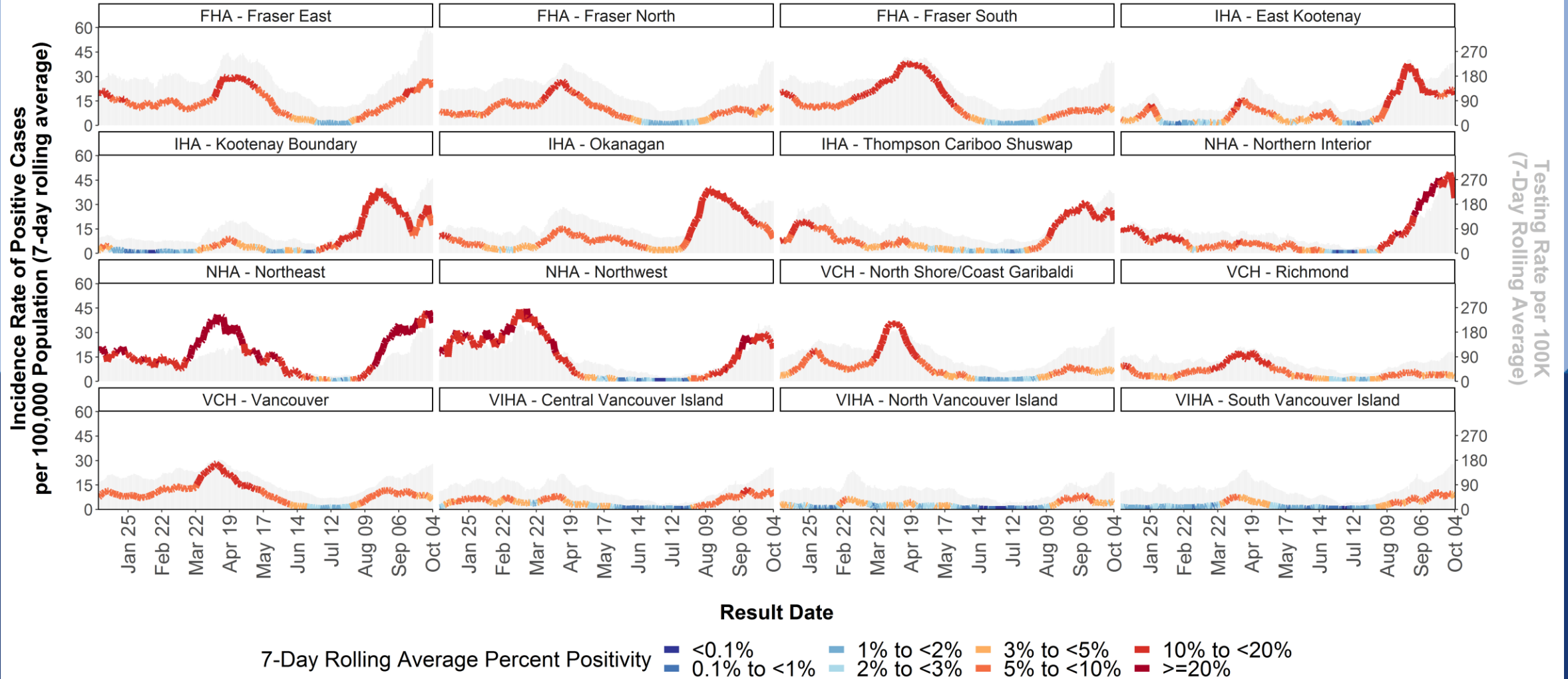
Case incidence rate, test percent positivity, and testing rate (Public Payers Only). Jan 1 2020 - Oct 4, 2021.



Data source: PLOVER 04-Oct-2021

# Test positivity high in NH and East Kootenay; incidence is increasing in Fraser East and NHA and remains elevated in IH, NH and Fraser East.

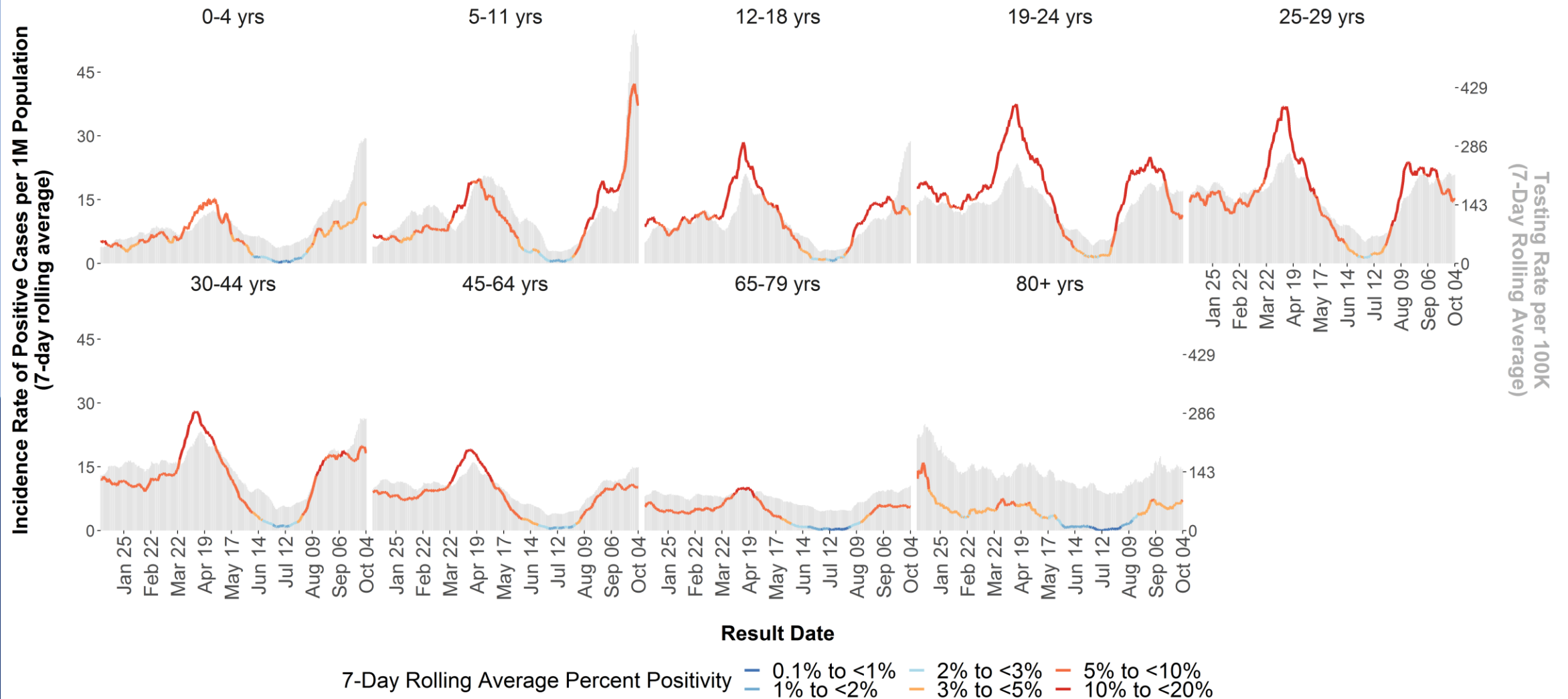
Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).  
Jan 1 2021 - Oct 4, 2021.



Data source: PLOVER 04-Oct-2021

# Testing rates continue to increase for individuals <19 years, and individuals 30-44 years.

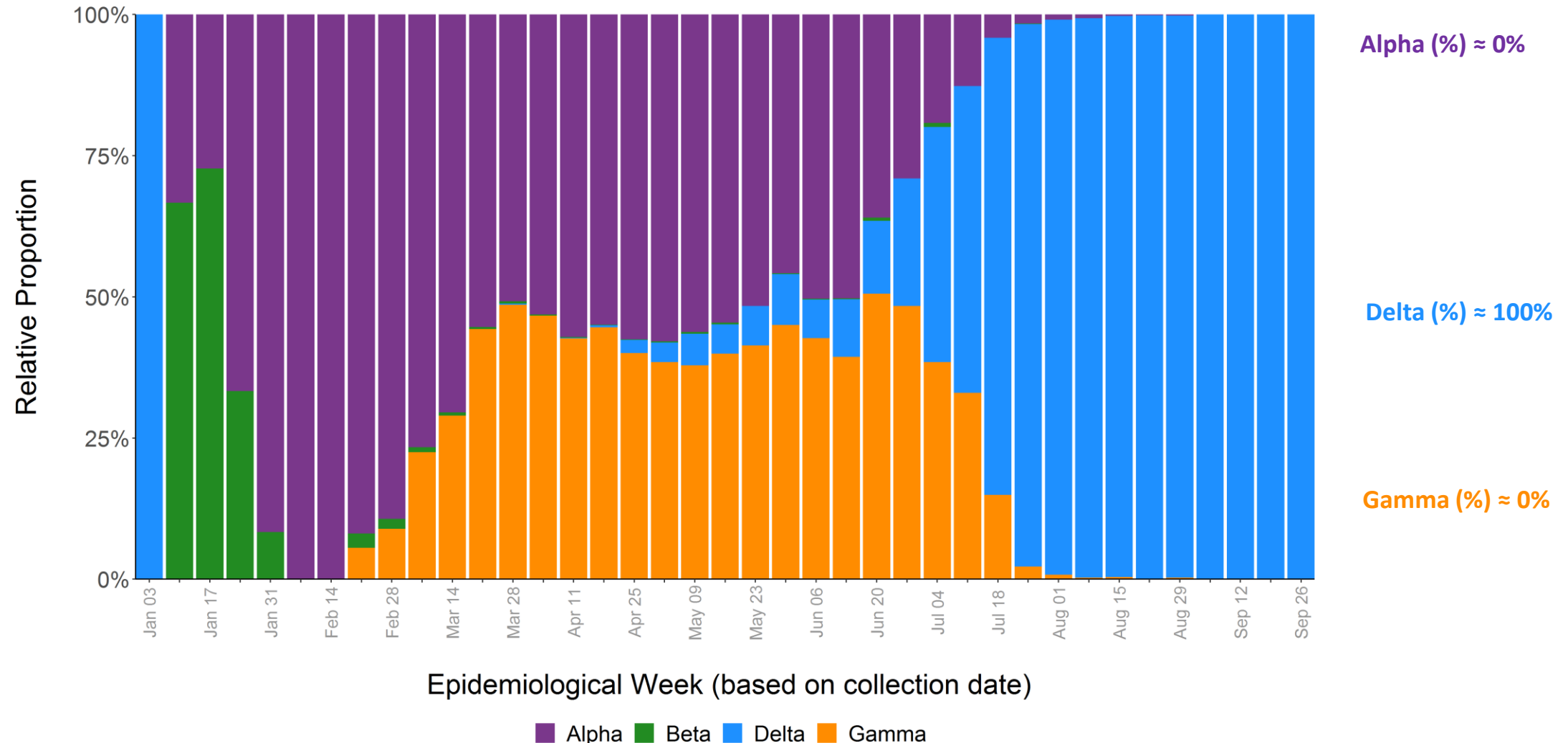
Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Oct 4, 2021.



Data source: PLOVER 04-Oct-2021

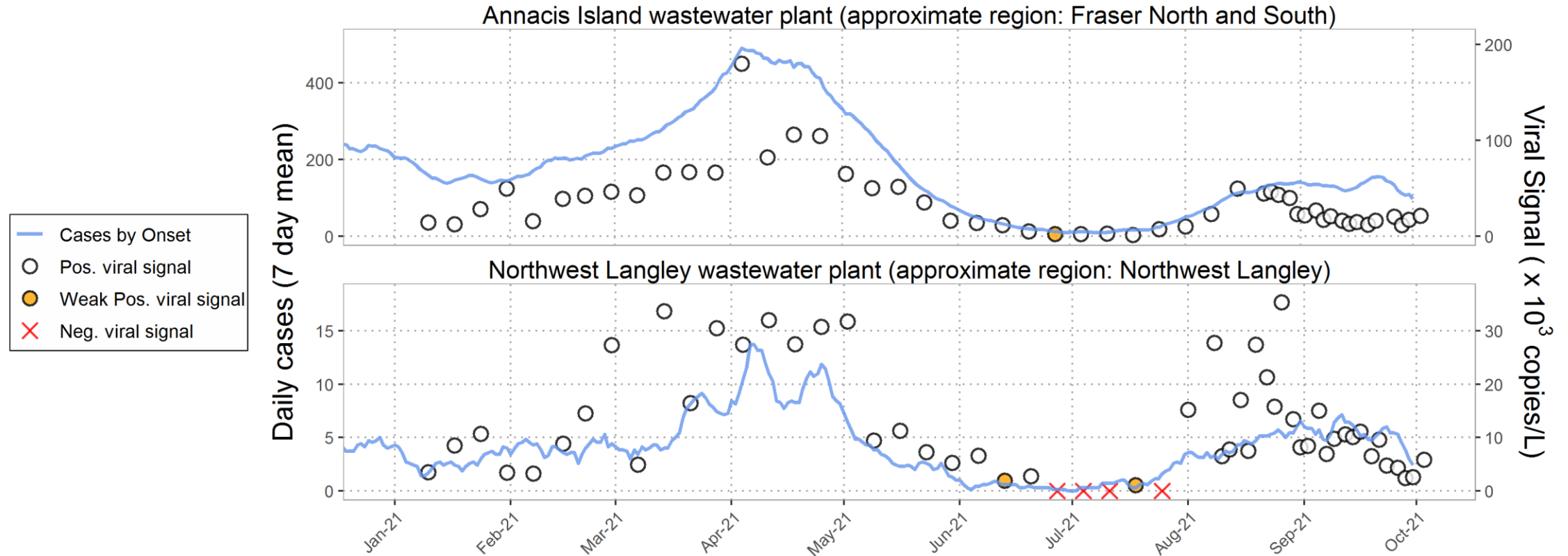
## Among sequenced VOC samples provincially based on information for September 26 to October 2, the dominant VOC continues to be Delta ~100%

Relative Proportion of VoCs in BC by Epiweek of Collection Date



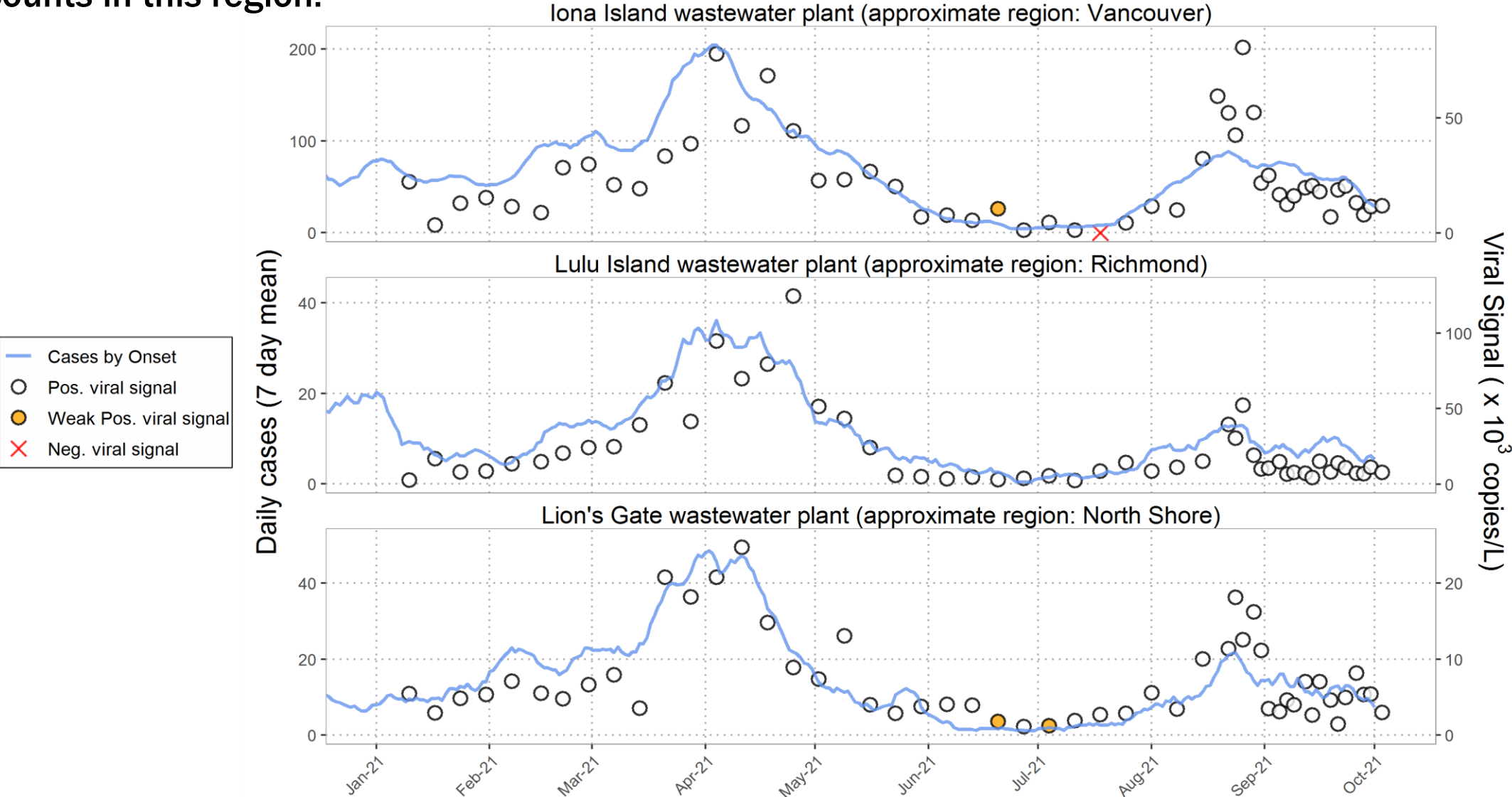
Wastewater samples can act as a population-level sentinel surveillance tool – viral signals found in wastewater are highly correlated with disease incidence in population.

In Fraser Health, 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 Vancouver Coastal Health, the viral signal from wastewater reflects the declining trends in case counts in this region:

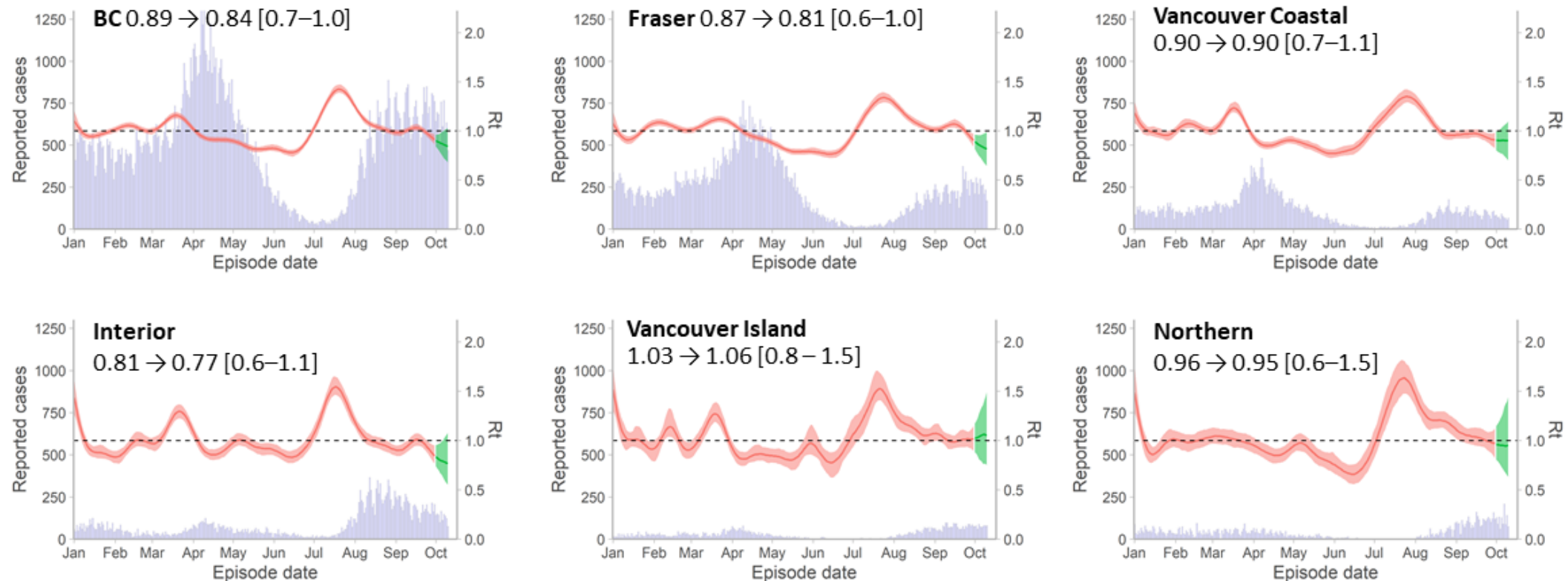


Time-series plots show weekly or bi-weekly viral signals from each wastewater plant (right y-axis), overlaid with rolling 7-day mean of daily new cases within wastewater catchment area (left y-axis). Plot title shows wastewater plant name, followed by approximate catchment area.



# Dynamic modeling: recent trends

Modelling indicates that  $R_t$  remains close to 1 and is stable or declining in most regions. Estimates are shown for last week  $\rightarrow$  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 Oct 10, 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  $\rightarrow$  this week; 5% - 95% credible interval). Only January 2021 onward shown here. Data source: BCCDC HA linelist.

# Pediatric Report - Key Messages

- New mask mandate implemented for school grades K-3
- Case numbers in <18 years remain elevated, but are beginning to decrease
  - Incidence varies regionally: elevated in Fraser East and most of IH and NH; low in VIHA and VCH
  - Incidence highest among elementary school age 5 to 11 years
- Rates are highest in regions with lower 12+ vaccine coverage
- Severe outcomes are very rare in children
- Testing rates remain high for all pediatric age groups

# Sep 30 to Oct 06: Pediatric COVID-19 Profile

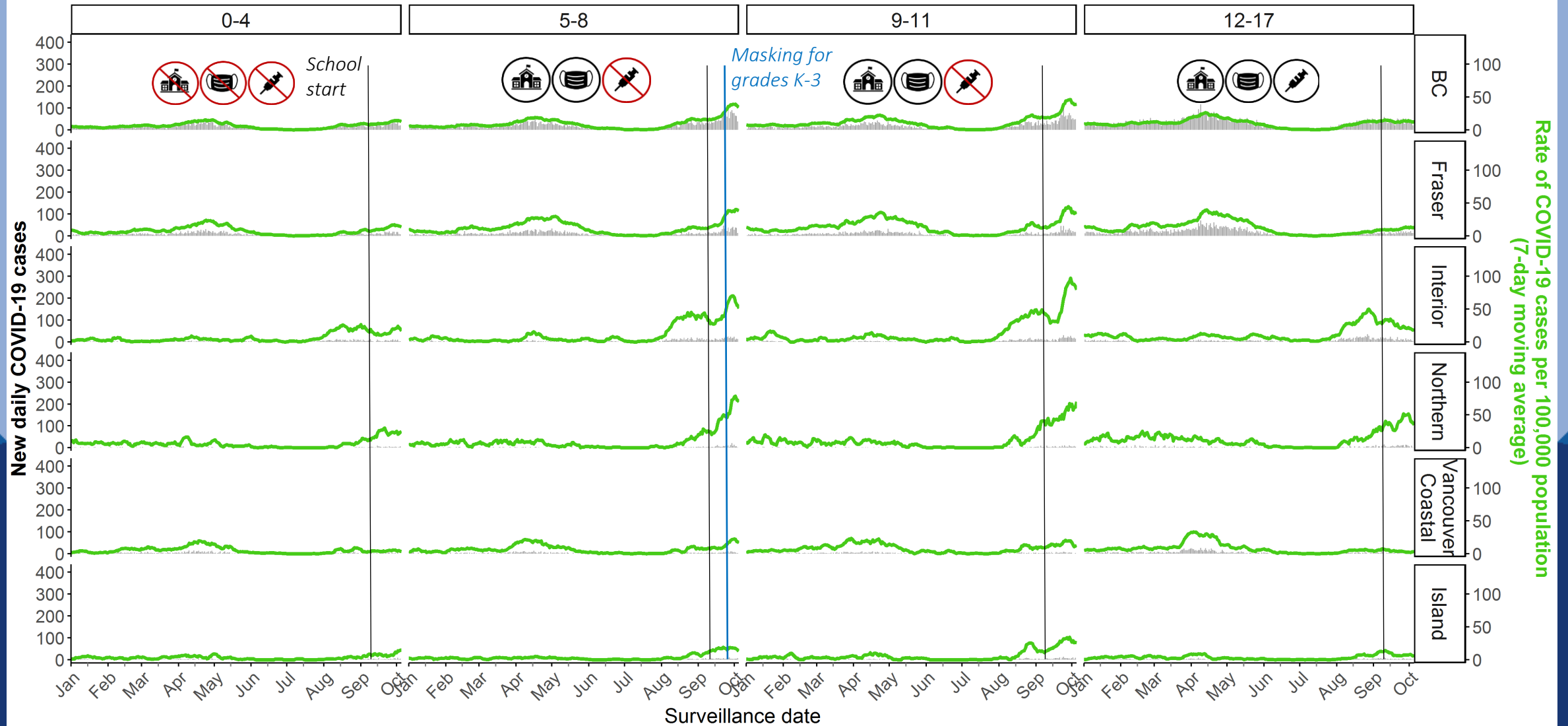


Age group: 0-4		Age group: 0-4		Age group: 0-4		Age group: 0-4	
4,920	total cases	103	ever hospitalized	11	ever in critical care	2	total deaths
204	new this week	3	new this week	1	current this week	0	new this week
Age group: 5-11		Age group: 5-11		Age group: 5-11		Age group: 5-11	
12,132	total cases	44	ever hospitalized	3	ever in critical care	0	total deaths
877	new this week	1	new this week	0	current this week	0	new this week
Age group: 12-17		Age group: 12-17		Age group: 12-17		Age group: 12-17	
11,575	total cases	45	ever hospitalized	7	ever in critical care	0	total deaths
267	new this week	2	new this week	1	current this week	0	new this week

\* Hospital census numbers are as of Oct 05 2021

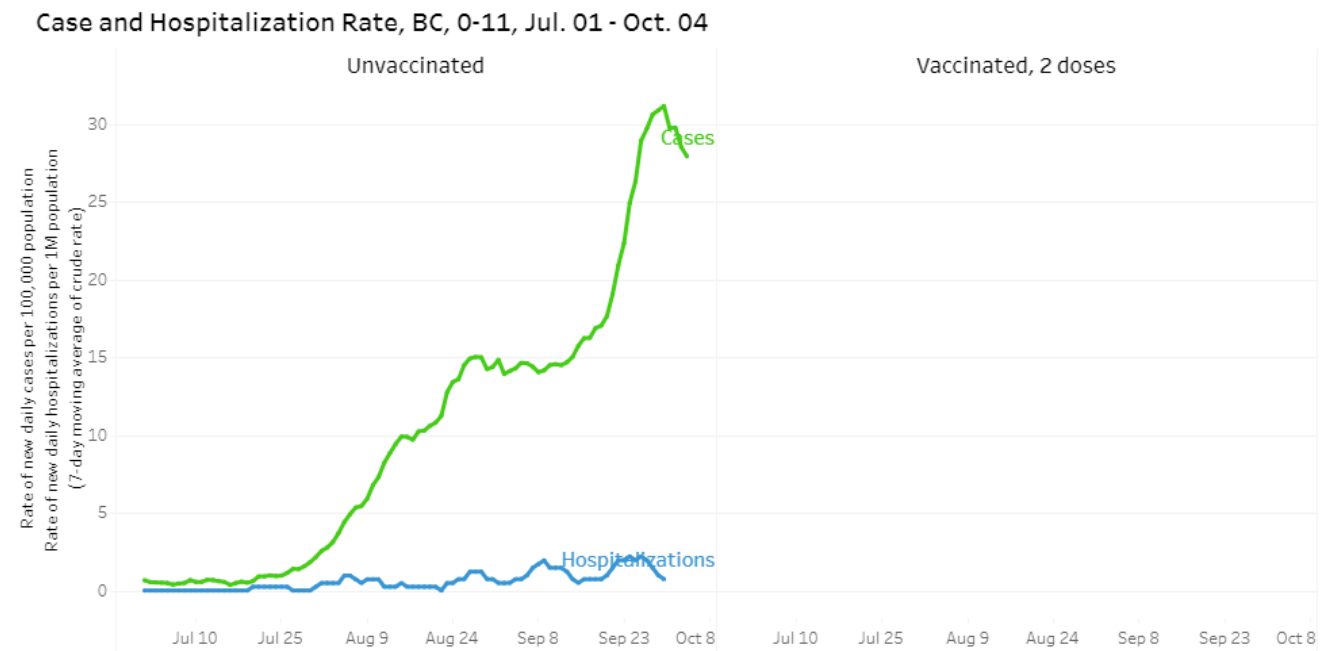
\* New cases and new deaths are net new between Line lists of Sep 29 and Oct 06

In regions with highly vaccinated adult populations, incidence is lower in children. Some of the recent increase in incidence among <17 years started before schools opened.

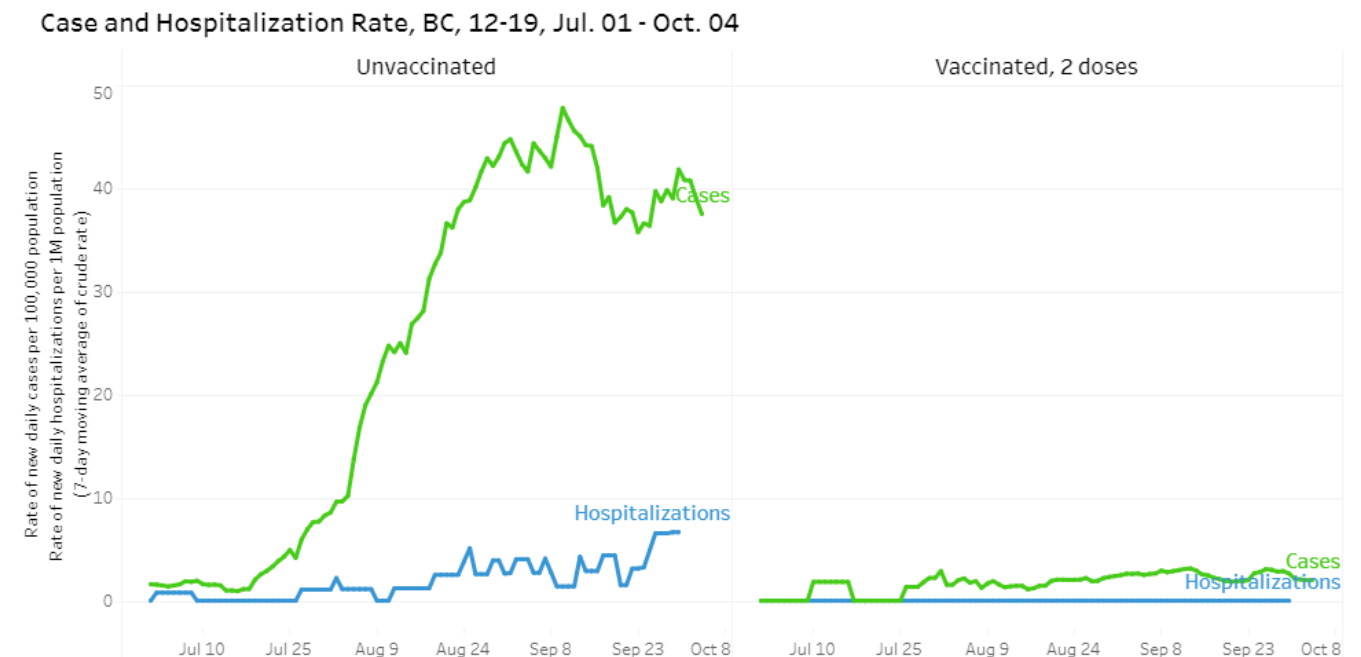


## Elevated case rates in children and youth have not translated into more hospitalizations

0-11 years

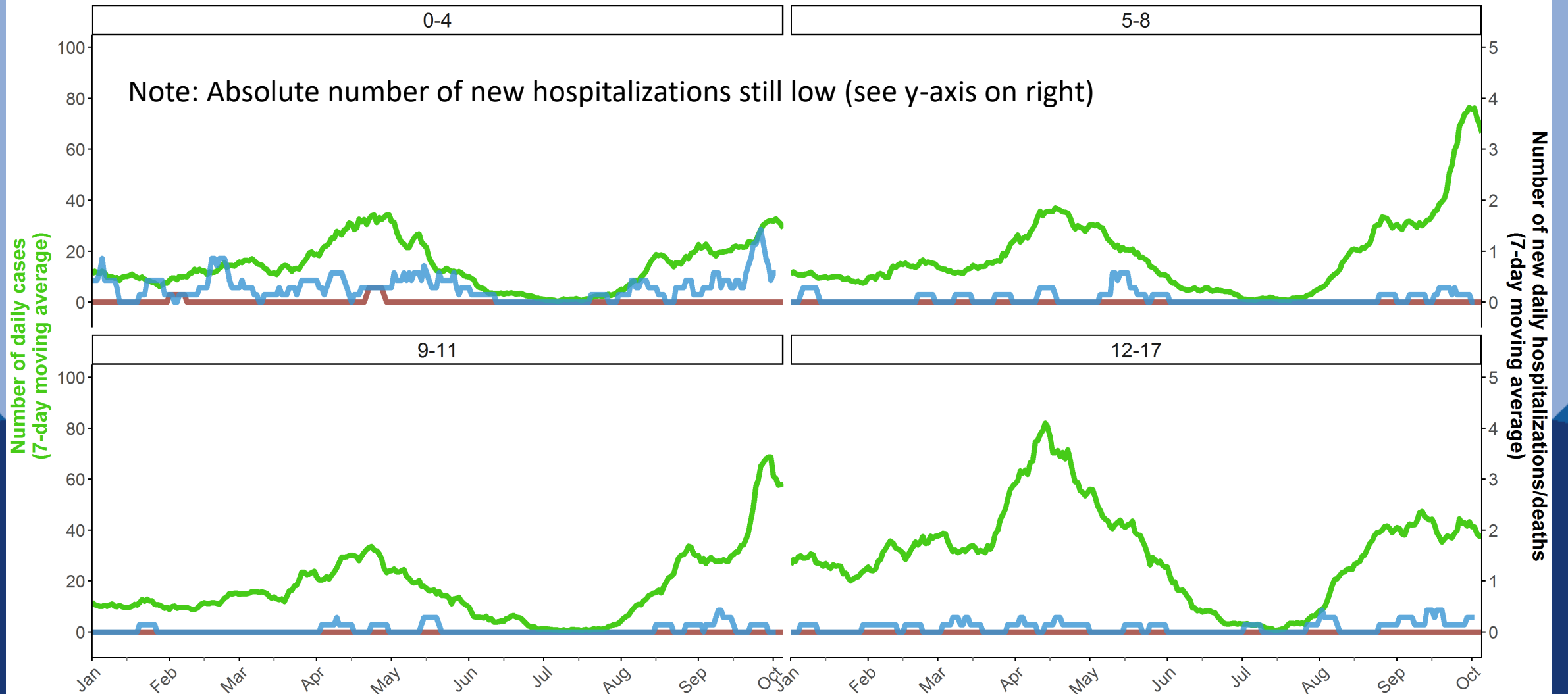


12 to 19 years



# Hospitalization rates remain very low and stable; deaths are extremely rare

New daily COVID-19 cases, hospitalizations and deaths, Jan 01 2021 - Oct 05 2021

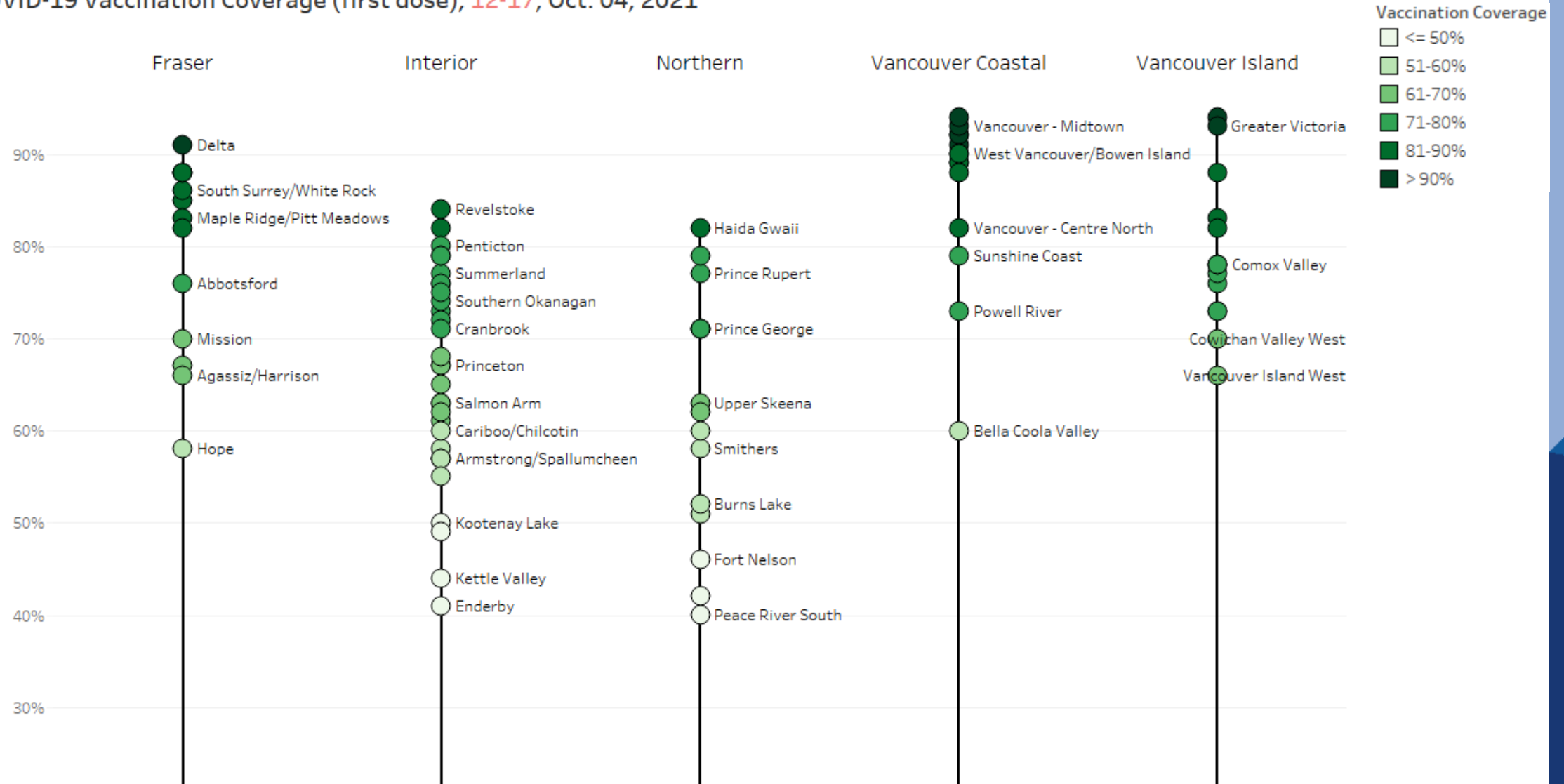


\* Data are by surveillance date for cases and deaths, and admission date for hospitalizations  
Data source: PHRDW + BCCW Oct-06-2021



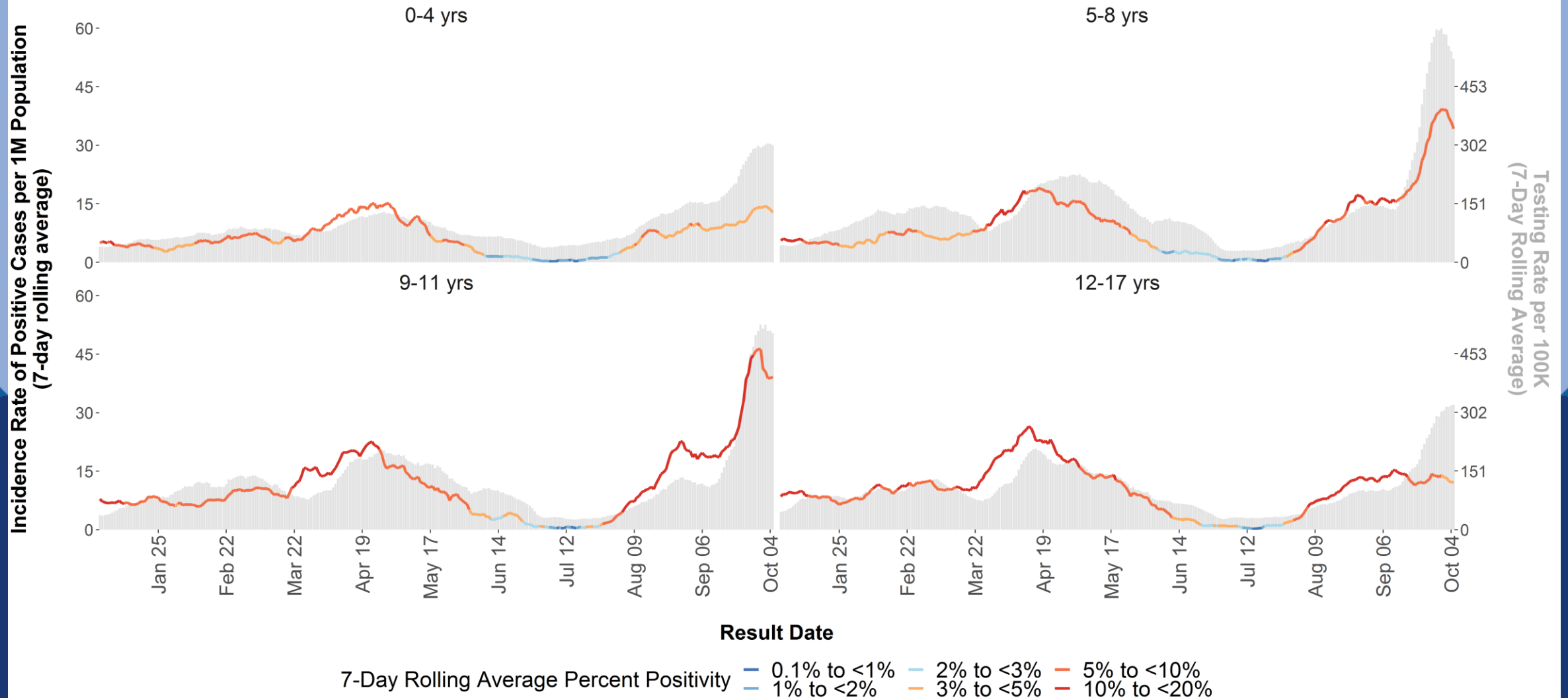
# COVID-19 vaccination coverage with 1st dose among 12-17 year olds, by Local Health Area, up to 4 Oct 2021: there is more variation in this age group compared with older age groups

COVID-19 Vaccination Coverage (first dose), 12-17, Oct. 04, 2021



# Testing rates among all pediatric age groups have recently stabilized but remain high

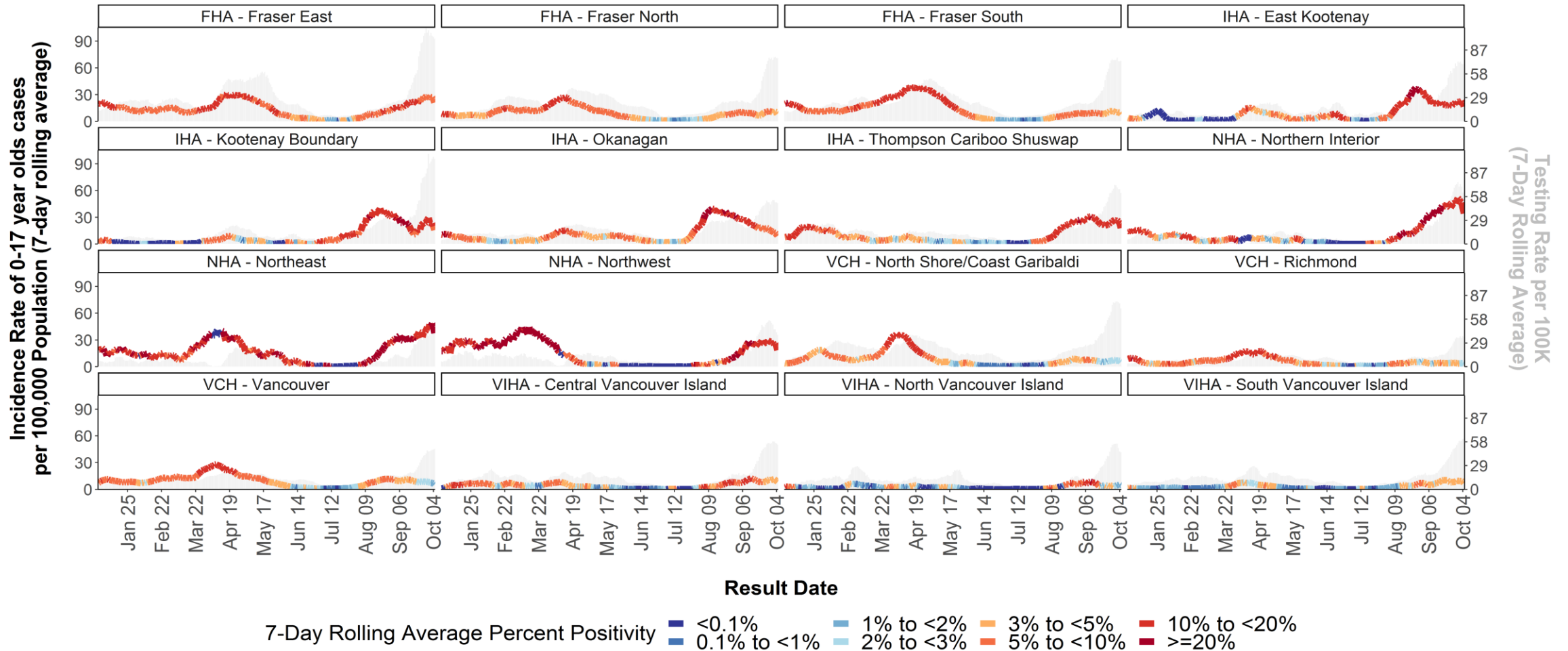
Case incidence rate, test percent positivity, and testing rate by age (Public Payers Only). Jan 1 2020 - Oct 5, 2021.



Data source: PLOVER 05-Oct-2021

Testing rates among **0-17 years** remain high in all HSDAs. Percent positivity is high in NH, East Kootenay, Kootenay Boundary and Thompson Cariboo Shuswap. Incidence is elevated in Fraser East, and across NH and IH.

Case incidence rate, test percent positivity, and testing rate by HSDA (Public Payers Only).  
Jan 1 2021 - Oct 5, 2021.



Data source: PLOVER 05-Oct-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](#)