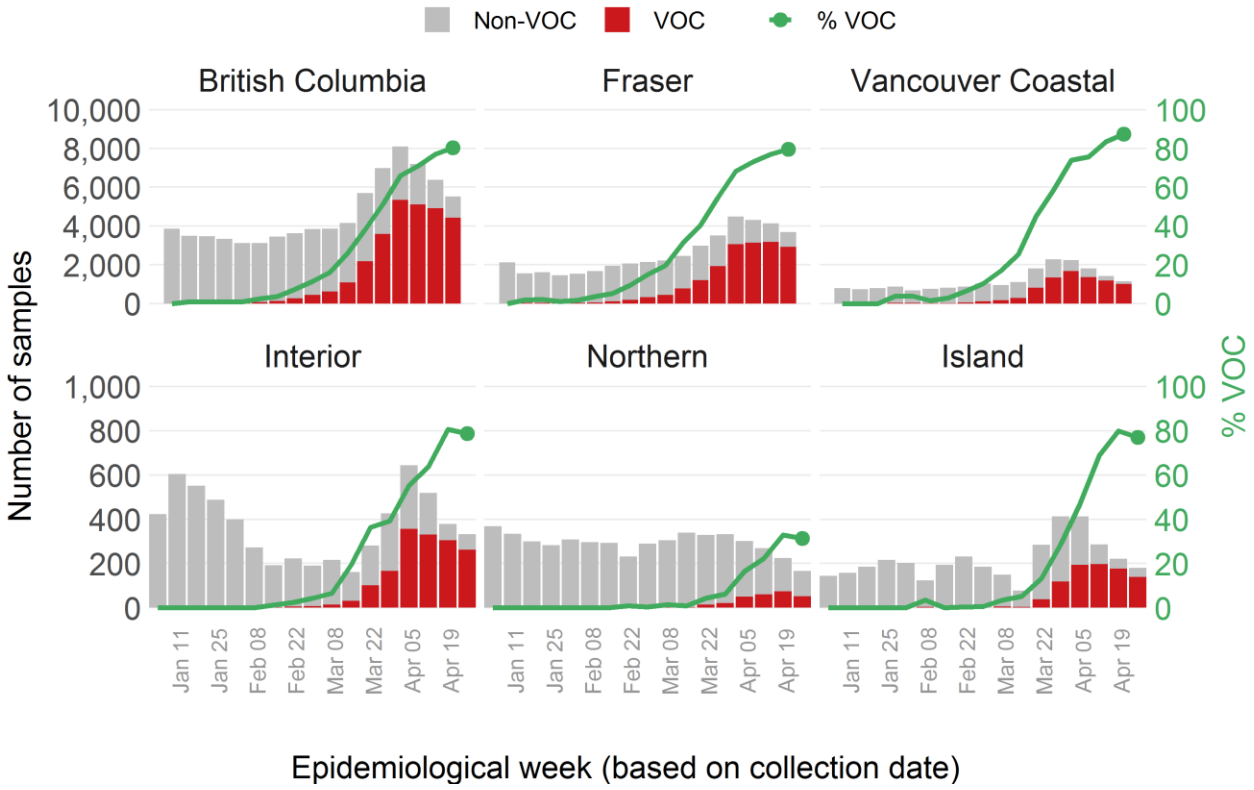
Weekly update on Variants of Concern (VOC)

May 6, 2021

Of all screened samples in epi week 17 (Apr 25 - May 01) in BC, ~ 80% were presumptive VOCs (Figure 1). VOC prevalence was similar across Health Authorities, except in Northern Health, where it was lower, at 31.4%. However, please note that not all screening results are back for the Health Authorities, and these estimates could change.

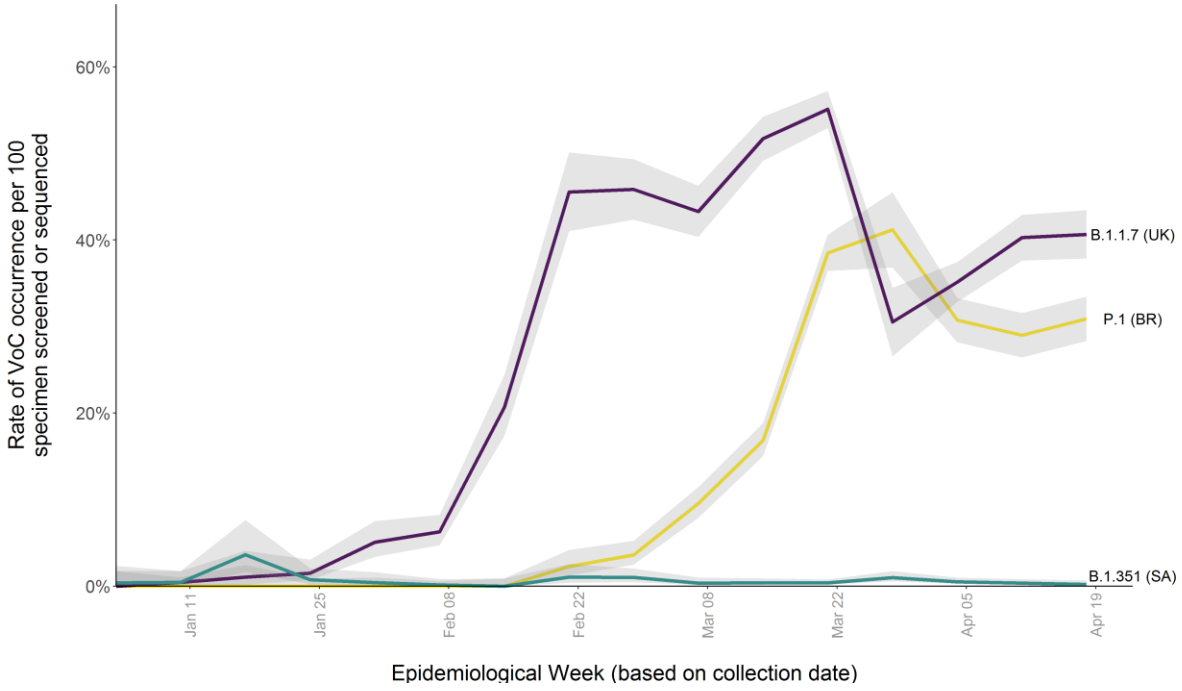
Figure 1. Presumptive VOC prevalence in BC by epi week and by Health Authority, Jan 3 – May 1, 2021



Data from the PLOVER system at the BCCDC Public Health Lab. Estimated based on proportion of presumptive VOC among screened samples for epi weeks 9-17. Estimates for weeks 5-8 are based on expected growth rate from international trajectories and BC point prevalence study.

The main circulating variants are B.1.1.7 and P.1, with their relative proportion accounting for 57 % and 43% respectively in epi week 16 (Apr 18 - Apr 24).
Please note that the estimated sample prevalence in BC, which is the rate of occurrence per 100 samples sequenced or screened (Figure 2), for latest epi week (16) may change as more sequencing results are analyzed.

Figure 2. Estimated Sample prevalence† of VOCs by lineage by epi week, Jan 3 – May 1, 2021.



† Sample percentage estimated from the proportion of presumptive VOC from screening and the proportion of confirmed VOC via sequencing (excluding outbreak and targeted surveillance). As of week 13 (March 28, 2021), based on current prevalence, VOC screening results with both E484K and N501Y mutations are assumed to be P.1.

Table 1. Presumptive VOC prevalence and approximate distribution by VOC lineage in BC and Health Authorities, latest available estimates. VOC counts are generated from VOC qPCR and WGS data.

Epi week	17 (Apr 25 - May 01)		Epi week^	16 (Apr 18 - Apr 24)		
Region	Total positive tests	%VoC*	Prevalence distribution VoCs		Relative Proportion of VoC**	
			%B.1.1.7***	%P.1****	%B.1.1.7	%P.1
BC	5514	80.3	40.7	30.9	57	43
FHA	3680	79.6	46.0	30.2	60	40
IHA	333	78.8	22.3	17.4	56	43
NHA	167	31.4	23.8	7.3	77	23
VCH	1148	87.5	35.0	43.0	45	55
VIHA	181	77.0	8.7	12.8	41	59

^ Note that because sequencing results take longer to be analyzed, relative distribution of VOCs is more delayed than % VOC estimate.

* estimated from the proportion of screened samples testing positive for N501Y or E484K mutation.

**Relative Proportion from the total VoC identified through background surveillance sequencing and non-overlapping screened samples.

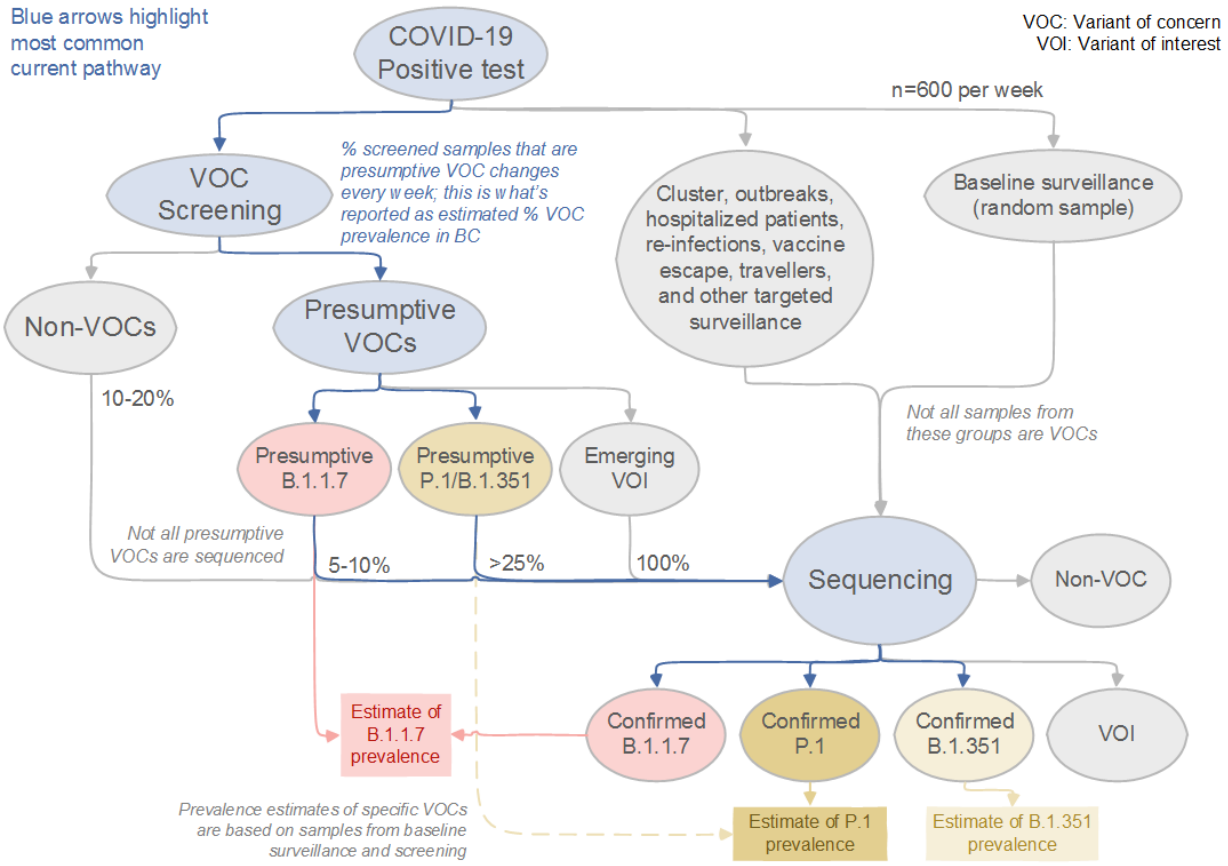
***estimated from the distribution of sequenced samples from background surveillance and non-overlapping subset of screened samples.

****estimated from the distribution of sequenced samples from background surveillance and non-overlapping subset of screened samples testing positive for both the N501Y and E484K mutation

Variants of Interests (VOI)

As illustrated in Figure 3 below, BCCDC Public Health Lab is continuously monitoring for both VOCs and VOIs. There are numerous VOIs, and they may not necessarily become VOCs. Once a VOI becomes a VOC, it will be added to our VOC reporting.

Figure 3. Overview of the screening and sequencing process applied to positive COVID-19 tests in BC, Apr 2021.



Please note the differences in turnaround time for screening and sequencing: screening results usually come back within 1-2 days, while sequencing results come back after approximately one week, but it could also take longer if there are lab backlogs.