Background We examined trends and determinants of unsuppressed VL among PLWH stratified on the basis of HIV exposure over 10 years in BC, Canada.

Methods The analysis included all PLWH in BC from 04/2005 to 03/2016 identified in the provincial STOP-HIV database. This database includes: positive HIV test results, antiretroviral therapy (ART) dispensing information, laboratory data, physician billing data, hospital discharge abstracts and vital statistics linkages. For each year, individuals were classified as having an unsuppressed VL if they: 1) were newly diagnosed; 2) had any VL ≥200 copies/mL measure; or 3) did not have a VL measured. We examined factors associated with unsuppressed VL using generalized estimating equations to build a multivariable logistic regression model.

Results Among 9778 PLWH in BC during the study period, 80.7% were male and the median age at diagnosis was 37 years. Among those with HIV exposure information, 49.0% were men who have sex with men (MSM), 33.6% were people who use injection drugs (PWID), 16.0% had only heterosexual exposures and 1.4% had other exposures. 16.4% had missing exposure information. The proportion of those with unsuppressed VL decreased from 66.5% in 2005 to 24.5% in 2015 (p<0.001, test of trend). Among MSM, unsuppressed VL declined from 60.0% to 19.8%; among PWID from 75.6% to 33.3% and among heterosexuals from 62.0% to 24.5%. In the multivariate model, PWID (aOR=1.72; 95% CI 1.58–1.88) and heterosexuals (aOR=1.20; 95% CI 1.10–1.32) had increased odds of unsuppressed VL, compared to MSM. Age, sex, year ART initiation, ethnicity, health authority residence and hepatitis C antibody status were also associated with unsuppressed VL (p<0.01 for all).

Conclusion Across BC, the proportion of PLWH with unsuppressed VL fell markedly between 2005 - 2015 from 66% to 25%. However, PWID and those with heterosexual exposures require additional supports to maximize the benefits of ART.

Disclosure No significant relationships.