



# Dolutegravir-containing ART regimens are not independently associated with weight changes among British Columbians living with HIV

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# Background

- Dolutegravir-based ART regimens have been associated with weight gain
- We assessed the effects of ART regimens on weight change among adults living with HIV participating in the BC Centre for Excellence in HIV/AIDS Drug Treatment Program (DTP)



# Methods

- We analyzed data from Clinical Status Report Forms (CSRF) for DTP participants aged  $\geq 18$  years
- CSRFs were sent to ART prescribers in the DTP to capture information on AIDS defining illnesses, chronic diseases, blood pressure, weight, height and smoking status on an annual basis
- Participants were included in this analysis if their prescriber submitted  $> 2$  CSRFs  $\geq 12$  months apart, between June 2014 and September 2019.
- We analyzed weight changes, ART regimens, clinical and demographic factors.
- Participants with outliers for weight change thought to be due to recording errors were excluded.
- Multivariable linear regression was used to evaluate factors associated with weight change.



# Results



- 1,611 participants were included with a median of 3 CSRFs
- The median age was 50.4 years, and 1,277 (79.3%) were male.
- 187 (11.6%) participants were receiving dolutegravir at baseline
- Median weight change was 0.00 kg/year (Q1-Q3: -1.21 to 1.48).
- Compared to other “third drugs”, participants receiving dolutegravir at baseline gained the most weight (0.38 kg/year; Q1-Q3: -1.10 to 2.46).

Class of 3rd Drug when the First CSRF was Received	Univariable linear regression			
	Slope	95% CI		p-values
Protease inhibitor [ref]	0.00			0.0938
NNRTI	-0.32	-0.72	0.07	
Dolutegravir	0.49	-0.02	1.01	
Other INSTI	-0.01	-0.58	0.56	
Other/>=1 3rd drug	-0.27	-0.82	0.27	
Not on ARV	0.07	-1.00	1.13	
<b>3rd Drug Switch Status between First and Last CSRF</b>				0.3580
No switch [ref]	0.00			
to Protease inhibitor	-0.77	-1.74	0.20	
to Dolutegravir	0.09	-0.41	0.59	
to other INSTI	-0.28	-1.22	0.66	
to Other/NNRTI	-0.93	-2.05	0.19	
Treatment Interruption	-0.08	-0.49	0.34	



## Results (continued)

- Neither baseline ART regimen nor switching to dolutegravir were independently associated with weight change and were not selected for inclusion in the final model (previous slide)
- In the multivariable model variables independently associated with weight change were:
  - **HCV seropositivity** (-0.41 kg; 95% CI: -0.73, -0.09),
  - **age** (-0.16 kg per 10-year increment; 95% CI: -0.3, -0.03),
  - **baseline CD4 counts** (-0.09 kg per 100 cells/ $\mu$ L increment; 95% CI: -0.15, -0.04)

## Conclusions

- In our analysis, the relationship between weight gain and dolutegravir-containing ART regimens appears to be explained by HCV negative serostatus, younger age, and lower CD4 cell counts among those receiving dolutegravir-based regimens.