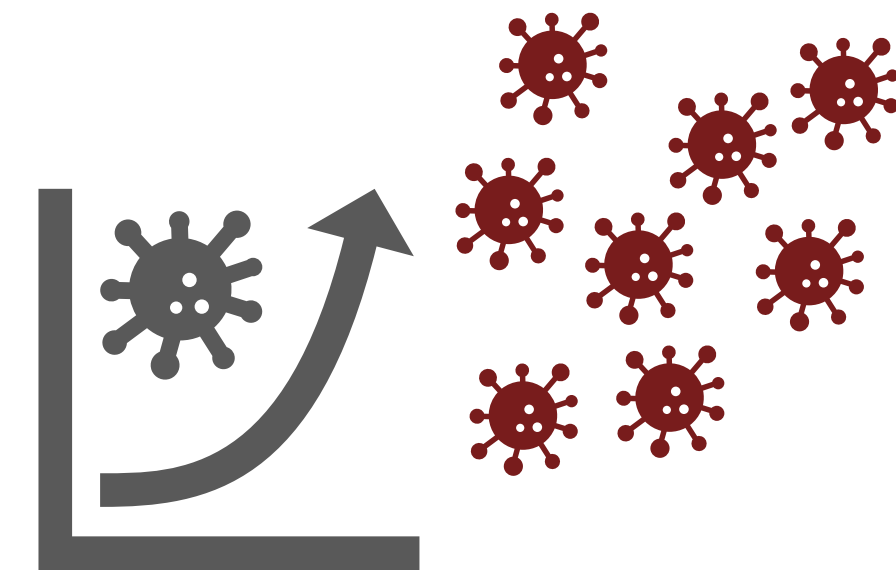


Introduction

Human Immunodeficiency Virus (HIV) infection continues to be a major public health issue that extends beyond immune compromise to include inflammatory and thrombotic complications. HIV Infection impairs long-term immune function and may predispose individuals to chronic inflammation and increased thrombotic risk, a concern for both infected individuals and public health systems.



Aims

This study examined the prevalence of HIV positivity in Alberta, stratified by demographic and socioeconomic factors. Identifying at-risk factors in this study will inform targeted public health interventions that address the direct effects of HIV and associated risks of inflammation and thrombosis. Understanding the distribution and social determinants of HIV in Alberta offers critical insights for tailored approaches to prevention, care, and management for vulnerable populations.

Methods

Patients who received HIV testing between 2018 and 2023 were analyzed using data from the ProvLab Laboratory Information System.



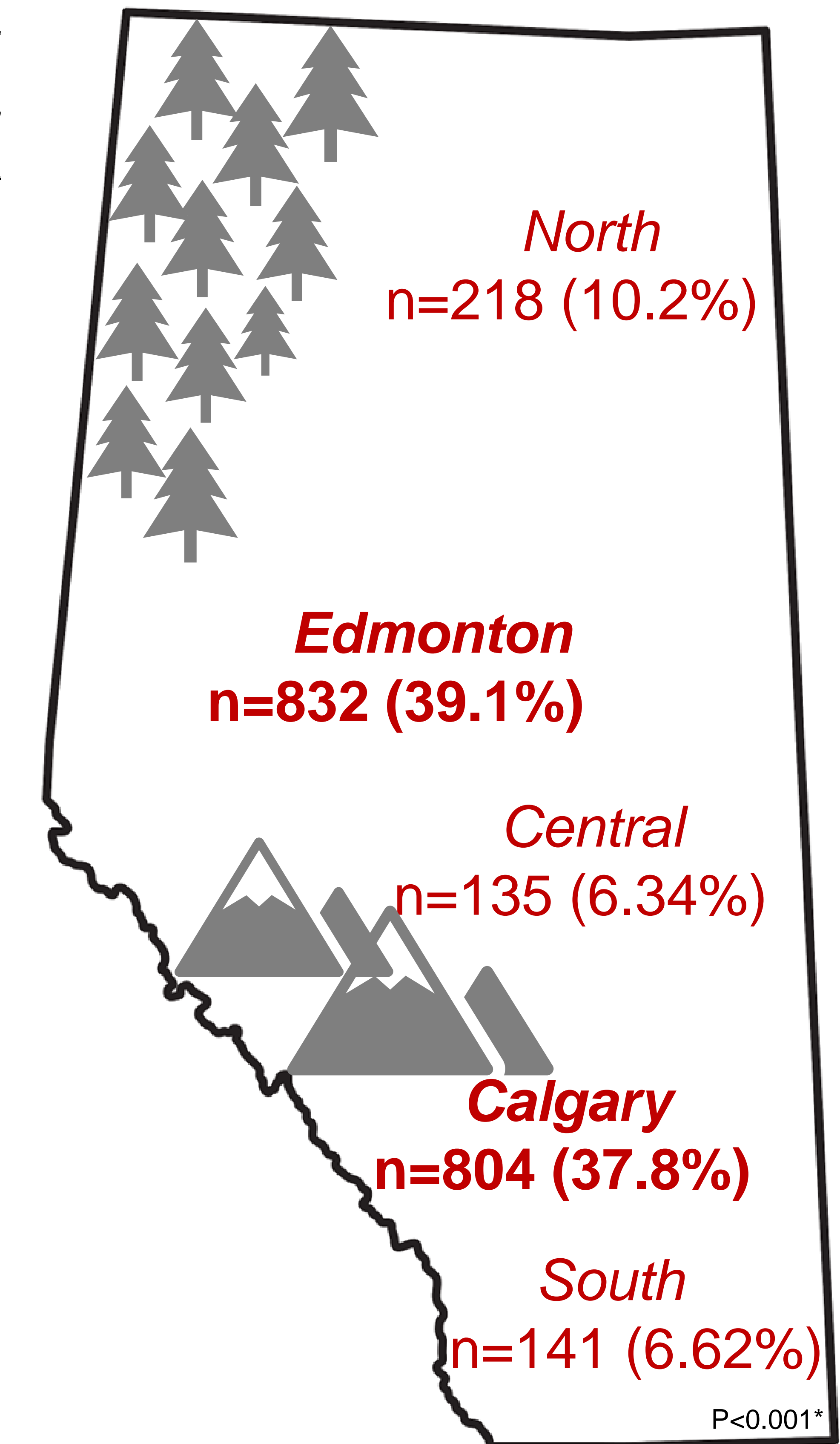
Chi-square test using STATAv17 assessed associations between demographic factors and HIV status, with significance set at $p < 0.05$

Results

Table 1. Descriptive statistics for patients in Alberta with an HIV result between 2018-2023, stratified by age, gender, income quintile, region, and health zone

	HIV negative (n,%)	HIV positive (n,%)	P-value
Age (years) (n=794,692)			<0.001*
31-40	238,195 (30.1)	696 (29.3)	
41-50	92,123 (11.6)	601 (25.3)	
Patient Gender (n=794,765)			<0.001*
Female	487,174 (61.5)	911 (38.3)	
Male	304,737 (38.5)	1,467 (61.7)	
Unspecified	475 (0.06)	1 (0.04)	
Income quintile (n=583,734)			<0.001*
Q1	121,968 (20.9)	629 (37.2)	
Q2	111,436 (19.2)	301 (17.8)	
Q3	109,223 (18.8)	256 (15.2)	
Q4	118,679 (20.4)	264 (15.6)	
Q5	120,739 (20.7)	239 (14.2)	
Geographic Region (n=583,768)			0.134
Metro	403,545 (69.3)	1,209 (71.6)	
Rural	116,131 (19.9)	313 (18.5)	
Urban	62,403 (10.7)	167 (9.89)	

n: sample size, %: percentage of negative and positive cases
*: $p < 0.05$ is significant using Chi-Square test.



Conclusion

- This analysis reveals distinct demographic and socioeconomic patterns in HIV positivity across Alberta, with higher prevalence observed among men, individuals aged 31-50, and those in the lower income quintile. Beyond infection rates, there is a growing recognition of the association between HIV and chronic inflammation and increased thrombotic risk, particularly among those already facing socioeconomic and health vulnerabilities.
- Future policies should aim to provide equitable healthcare access and targeted support for populations most affected by both HIV and its systemic complications

Acknowledgments



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