

# Smoking Behaviour Among Men Who Have Sex With Men

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## Background

•Smoking is known to be a serious health risk and treatment of smoking related illnesses is expected to place a significant burden on health care

•Increased smoking among gay men in the United states has been reported by several studies:

- In 2001 an online survey by Harris Interactive reported a smoking rate of 36% among 137 lesbians, gays, and bisexuals
- Stall, RH et al (1996) conducted largest survey which included. 1897 men recruited from bars and by phone. 50.1% of bar recruits and 41.5% of phone recruits reported current smoking.
  - Study linked cigarette smoking with general health, demographics (including income and education) and HIV infection

## Objectives

- compare smoking habits of young men who have sex with men (MSM) in Vancouver BC with the general male population of BC
- describe the characteristics of young MSM who smoke and the differences between non-smokers, occasional smokers, and frequent smokers
- develop a predictive model of smoking behaviour in gay men that might direct smoking prevention campaigns or intervention programs

## Methods

Data sources:

- The Vanguard Project is a prospective cohort started in 1995 to study HIV seroconversion and risky behaviours among MSM living in Vancouver, between the ages of 18 and 35 at enrollment.
- Comparison was made with male subjects who completed the 1999 Canadian National Public Health Survey (NPHS), were living in BC, and had ages in the same range as Vanguard subjects.

Analyses:

- proportion of smokers compared using age-standardized prevalence ratio (SPR)
- univariate associations with smoking habits and descriptive variables examined using rank-sum tests for continuous variables and chi-square tests for categorical variables
- multivariate logistic regression model for predicting smoking constructed in a three step process to select between basic demographic variables, behavioural variables, and finally the depressive symptoms & self-esteem scores

## Results

•345 HIV negative MSM who returned at least one Vanguard questionnaire between 1998 and 2000 were included in this study

•53% of the Vanguard participants reported current smoking as compared with 28.1% of subjects from the NPHS (Table 1)

•SPR=1.94 (95%CI: 1.65, 2.28)

•Within Vanguard, 126(36.5%) subjects reported daily smoking (i.e. >7 cigarettes/week on average) and 58(16.8%) reported smoking occasional smoking (i.e. <7 cigarettes/week on average)

•All factors tested were found to be significantly associated with smoking rates (Table 2)

- Increasing rates were associated with:
  - Lower age, aboriginal ethnicity, lower income, and lower education
  - Higher depressive symptoms score and lower self esteem score
  - Sex trade work and substance use (including injection drugs and alcohol)
  - Having a casual sex partner and not having a regular sex partner

•The multivariate model contained 4 significant predictors of smoking (Table 3):

- Age, aboriginal ethnicity, injection drug use, and depression symptoms score

Table 1: Comparison of smoking prevalence by age group for VANGUARD subjects and the general population of BC

Age Group	General Population		Vanguard Cohort	Risk Ratio (95% CI)
	Observed Prev.	Weighted Prev.	Observed Prev.	
15-19	6/50 (12.0%)	5.58/50 (11.2%)	3/6 (50.0%)	4.48 (1.46, 13.72)
20-24	10/51 (39.2%)	16.74 /51(32.8%)	57/84 (67.9%)	2.07 (1.36, 3.14)
25-29	21/56 (37.5%)	19.98/56 (35.7%)	76/135 (56/3%)	1.58 (1.08, 2.31)
30-34	12/62 (19.4%)	10.63/63 (17.1%)	55/123 (44.7%)	2.61 (1.46, 4.67)
35-39	23/73 (31.5%)	23.03/73 (31.6%)	2/6 (33.3%)	1.06(0.32,3.44)

Table 2: Characteristics of non-smokers, occasional smokers, and daily smokers. Entries give median and IQR for continuous variables, frequencies and percents for categorical.

Variable	Non-smokers	Occasional Smokers	Daily Smokers	P-value for Test of Any Difference
Age	29 (26, 32)	28.5 (25, 31)	26 (23, 29)	<.001
CESD	4 (2, 7)	6 (4, 8)	7 (4.5, 12)	<.001
Self-Esteem	35(31, 38)	33 (29, 37)	32 (27, 37)	0.004
Drinks/week	1.15 (0.5, 3.0)	2.3 (1.0,7.0)	4.0 (1.4,12.0)	<.001
High School Education	153 (95.0%)	52 (91.2 %)	100 (80.7%)	<.001
Aboriginal Ethnicity	7 (4.4%)	2 (3.6%)	23 (18.7%)	<.001
Injection Drug Use*	2 (1.2%)	0 (0.0%)	19 (15.2%)	<.001
Worked in Sex Trade*	7 (4.4%)	1 (1.7%)	30 (24.2%)	<.001
Has Regular Sex Partner*	128 (82.6%)	44 (77.2%)	78 (65.0%)	<.001
Has Casual Sex Partner*	110 (71.9%)	48 (84.2%)	103 (86.6%)	.008

\* In the last 12 months.

Table 3: Multivariate model predicting current smoking among young MSM.

Variable	Crude Odds Ratio (95% CI)	Adjusted OR (95% CI)
Age (per year increase)	.90 (0.85, 0.95)	.93(0.86, 1.00)
Aboriginal Ethnicity	3.55 (1.49, 8.45)	2.42 (0.79, 7.40)
Injection Drug Use	9.21 (2.11, 40.19)	8.28 (0.96,71.86)
Depressive Symptoms Score	0.92 (0.88, 0.97)	1.11 (1.04,1.18)

## Conclusions

- The proportion of smokers among young MSM living in Vancouver is almost twice the proportion among similar aged men in BC.
- Smoking prevalence is positively associated with aboriginal ethnicity, higher depressive symptoms score, and injection drug use, and negatively associated with age.

## References

- Harris Interactive. Gays and Lesbians More Likely to Smoke than Other Adults Despite Risks. May 14, 2001. <http://www.harrisinteractive.com/news/alnewsbydate.asp?NewsID=289>
- Stall RD, Greenwood GL, Acree M, Paul J and Coates TJ. Cigarette smoking among gay and bisexual men. Am J Public Health 1999 Dec; 89(12):1875-8