

Substance Use Trends Among Young Men Who Have Sex With Men (MSM) in Vancouver and Relation to High-risk Anal Intercourse, 1997-2002

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Background

The Vanguard Project is an ongoing prospective study of HIV-1 seroincidence and risk behaviors among young MSM in Vancouver, British Columbia. Between 1997-2002, we observed an increase (11% to 16%, $P=0.01$) in reported unprotected receptive anal intercourse (URAI) during the previous year with casual partners. Qualitative interviews linked recreational drug use with HIV-1 seroconversion.

Objective

- Assess recent trends in substance use among young MSM
- Relate substance use and URAI with casual partner

Methods

- Fixed cohort of HIV-negative MSM under age 35 followed annually
- Analysis was restricted to participants seen at least once in each of 1997-8, 1999-2000, and 2001-2
- Substance use during the 12 months was assessed by self-administered questionnaire
- Unprotected receptive anal intercourse (URAI) was defined as at least one encounter during the previous 12 months
- Odds ratios (OR) and calendar year trend tests were computed using generalized estimating equations (GEE) to adjust for intra-subject correlation

Results

- Of 569 men involved in the Vanguard Project during 1997-8, 288 (51%) were eligible for inclusion in the 1997-2002 trends analysis
- Compared to men not eligible for analysis, those eligible reported less sex trade involvement, injection drug use and substance use at enrollment (**Table 1**)

During 1,394 study visits over an average 4.4 years follow-up between 1997-2002

- Significant overall increases were observed in the percentage of men reporting recent use of crystal meth (12% to 20%, $p=0.0001$), ecstasy (17% to 28%, $p<0.001$), and marijuana (53% to 59%, $P=0.02$) (**Figure**)
- Increased use of poppers was non-significant (26% to 31%, $P=0.09$) (**Figure**)
- No significant increase/decrease from 1997 levels of use of cocaine (22%), crack (4%), non-meth speed (6%), or heroin (4%) were observed (**Figure**)
- Use of hallucinogens decreased significantly (12% to 5%, $P<0.001$) (**Figure**)
- Controlling for calendar year of study visit, URAI with casual partners was significantly associated with use of poppers, hallucinogens, marijuana, crystal meth, and ecstasy (**Table 2**)

Study Limitations

- Self-reported substance use measures are qualitative (yes/no) rather than quantitative (frequency)
- Generalizability of results to non-cohort MSM not known
- Timing of substance use in relation to unprotected sex during the year not defined

Table 1. Comparison of Vanguard cohort participants, by inclusion in 1997-2002 substance use trends analysis

	Eligible for Analysis (N=288)	Ineligible for Analysis (N=281)	P-value
Median age (IQR)	25 (22.5, 30)	25 (23, 28)	0.16
Ethnicity, Caucasian (%)	76	72	0.31
High school graduate (%)	89	89	0.85
Employed full-time (%)	50	43	0.07
Sex trade involvement* (%)	9	16	0.01
Year enrolled (%)			0.001
1995	33	19	
1996	37	37	
1997	19	28	
1998	11	15	
Injecting drug use* (%)	4	8	0.03
Drugs used (%)*			
Marijuana/hash	58	70	0.003
Poppers	28	29	0.80
Smoke crack/cocaine	5	11	0.008
Amphetamines	7	12	0.03
Hallucinogens	16	19	0.42
Snort cocaine	22	35	0.001
Heroin	4	8	0.02
Crystal Meth	11	18	0.002
Ecstasy	14	24	0.001

*During the 12 months prior to enrollment

Figure. Percent substance use of Vanguard Participants

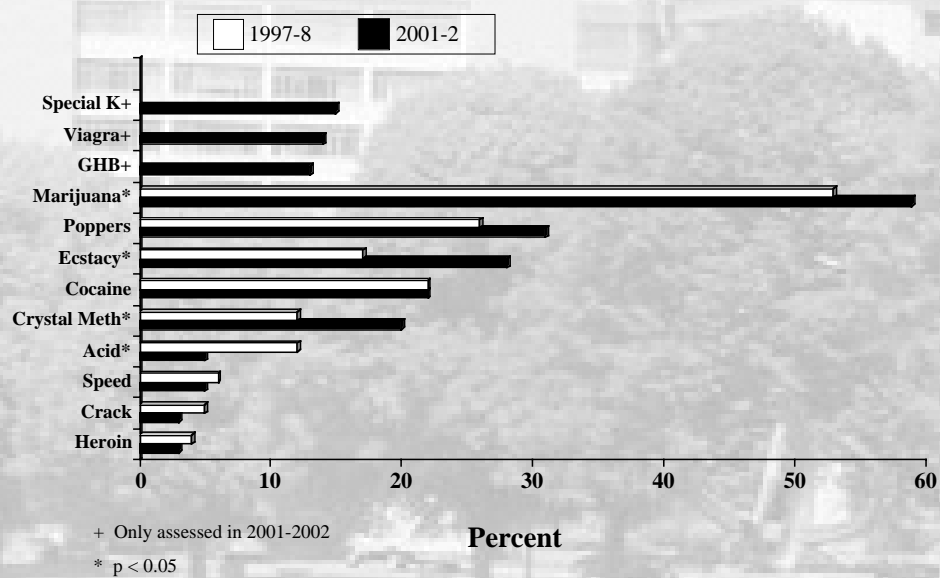


Table 2. Odds Ratios for URAI with casual partners in relation to substance use, adjusted for calendar year

Substance Used	Odds Ratio (95% CI)
Poppers	2.27 (1.61 - 3.21)
Marijuana	1.60 (1.10 - 2.33)
Hallucinogens	2.41 (1.41 - 4.14)
Crystal Meth	1.78 (1.18 - 2.69)
Ecstasy	1.46 (1.00 - 2.15)

Conclusions

Temporal increases in use of crystal meth, ecstasy, and marijuana were reported by these young MSM; use of each substance was positively associated with URAI with casual partners.

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