

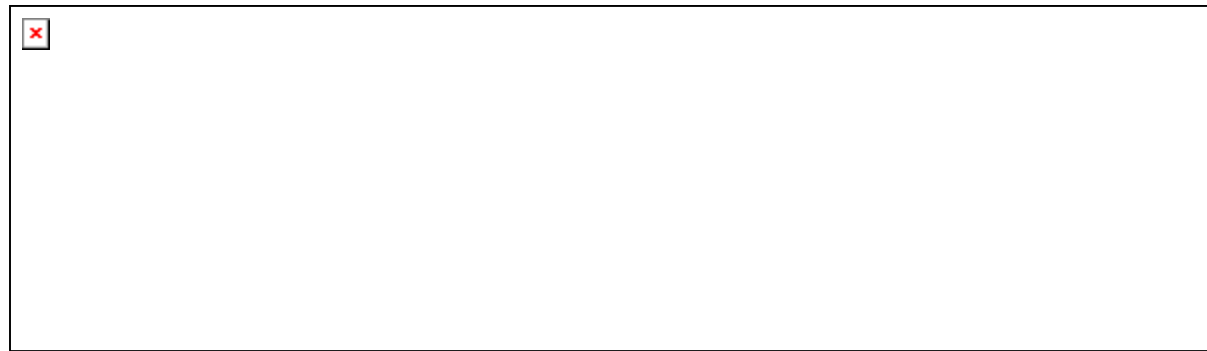


# Conflict of Interest Disclosure

- I have no conflicts of interest



# Factors associated with recent HIV testing among Montreal men who have sex with men (MSM): Results from the ARGUS 2005 and 2008 surveys



Groupe de recherche et surveillance en

Agence de la santé  
et des services sociaux  
de Montréal





# Background

- An estimated 26% of 65,000 Canadians who are HIV-positive are unaware they are positive<sup>1</sup>
- MSM account for 48% of prevalent cases with around 20% of HIV-positive individuals estimated to be unaware<sup>1</sup>

<sup>1</sup> Public Health Agency of Canada. (2009). *Summary: Estimates of HIV Prevalence and Incidence in Canada, 2008.*



# Objectives of the analysis

- Examine the correlates of recent testing between 2005 and 2008 to see if any changes emerged between both cycles.
  - Determine whether individuals who are the most at risk of acquiring HIV are getting screened

# Methods

- Study design
  - ARGUS: Cross-sectional bio-behavioural surveillance project
  - Data collected in two cycles:
    - January 2005 - August 2005
    - March 2008 - March 2009


# Methods

- Population of interest:
  - 18 years or older
  - Engaged in sexual activity with a male at least once in their lifetime
  - Functional understanding of French or English
- Sampling methodology
  - Men systematically recruited from areas where MSM are known to congregate (i.e., bars, bathhouses, etc.)
    - In 2005, convenience sampling of venues
    - In 2008, time-location sampling of venues

# Methods

- Data collection
  - Men approached by study staff
  - Anonymous questionnaire
  - ~ 15 minutes to complete
  - Biological samples collected
  - \$10 provided for inconvenience

# Methods

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- Measures:
    - Outcome:
      - Having had at least one HIV test in the previous six months
    - Variables of interest:
      - Socio-demographic
      - Alcohol and drug consumption
      - Locations where partners were looked for or met
      - Sexual practices and health
      - Opinions/beliefs regarding HIV



# Methods

- Sample restriction for analysis:
  - Men residing on the island of Montréal
  - HIV-negative or of unknown status
  - One-time participation only

# Methods

- Missing data
  - Multiple imputation used
    - $M = 10$  data sets
- Logistic regression
- Threshold significance of  $p \leq 0.25$  at univariate stage selected for variable importance
- Multivariate analysis undertaken to select most important variables within conceptually-similar clusters

# Results

- N = 2,865
  - 1,775 in 2005
  - 1,090 in 2008
  - Most men recruited from bars (50%), fixed site (25%), cafés (10%), saunas (9%), and gay-oriented events/association (6%).
  - Average age of participants: 38.8 ( $SD = 12.4$ )
    - 2005: 38.5 ( $SD = 12.5$ )
    - 2008: 39.6 ( $SD = 12.1$ )
  - Tested in previous 6 months: 31%
    - 26% in 2005
    - 40% in 2008
  - HIV-positive among analyzed sample
    - 4% in 2005
    - 2% in 2008

# Results (univariate)

	2005 OR (95% C.I.)	2008 OR (95% C.I.)
<b>Age</b>		
<i>18 - 28 years</i>	REF	REF
<i>29 - 38 years</i>	1.28 (0.97 - 1.70)	1.08 (0.76 - 1.54)
<i>39 - 47 years</i>	0.86 (0.63 - 1.16)	0.75 (0.53 - 1.06)
<i>48 years and above</i>	0.62 (0.45 - 0.86)	0.52 (0.36 - 0.76)
<b>Birthplace</b>		
<i>Québec</i>	REF	REF
<i>Canada (Elsewhere)</i>	1.29 (0.90 - 1.85)	1.24 (0.93 - 1.63)
<i>Outside of Canada</i>	1.84 (1.38 - 2.47)	1.72 (1.39 - 2.13)
<b>Education</b>		
<i>Primary/Secondary degree</i>	REF	REF
<i>Cégep/Technical</i>	1.22 (0.91 - 1.65)	0.93 (0.65 - 1.33)
<i>University degree</i>	1.51 (1.16 - 1.96)	1.02 (0.75 - 1.39)
<b>In a new relationship (&lt; 6 months)</b>	1.34 (0.86 - 2.07)	1.49 (1.09 - 2.05)

# Results (univariate)

	2005 OR (95% C.I.)	2008 OR (95% C.I.)
<b>Party drug<sup>1</sup></b>	1.45 (1.16 - 1.80)	1.29 (1.00 - 1.68)
<b>Injection drug use</b>	1.65 (1.06 - 2.55)	1.45 (0.73 - 2.85)
<b>STI diagnosis (ever)</b>	1.39 (1.11 - 1.74)	1.15 (0.89 - 1.49)
<b>Risky sexual activity<sup>2</sup></b>	1.90 (1.51 - 2.38)	1.23 (0.93 - 1.61)
<b>Met/looked for a partner at a sauna</b>	1.54 (1.24 - 1.92)	1.41 (1.09 - 1.83)
<b>Met/looked for a partner online</b>	1.83 (1.40 - 2.38)	2.02 (1.61 - 2.53)
<b>Total number of sexual partners</b>		
<i>None</i>	REF	REF
<i>1 - 9</i>	2.19 (1.25 - 3.85)	1.78 (1.19 - 2.65)
<i>10 - 19</i>	4.07 (2.19 - 7.57)	2.51 (1.53 - 4.11)
<i>20 or more</i>	4.79 (2.61 - 8.81)	3.03 (1.88 - 4.95)
<b>Agreed or strongly agreed with:</b>		
<i>"HIV/AIDS has become a controllable disease (like diabetes)"</i>	0.89 (0.66 - 1.20)	1.45 (1.08 - 1.93)



# Results (multivariate)

	2005 aOR (95% C.I.)	2008 aOR (95% C.I.)
<b>Age</b>		
<i>18 - 28 years</i>	REF	REF
<i>29 - 38 years</i>	1.10 (0.81 - 1.49)	1.08 (0.75 - 1.55)
<i>39 - 47 years</i>	0.82 (0.59 - 1.14)	0.80 (0.56 - 1.17)
<i>48 years and above</i>	0.68 (0.48 - 0.96)	0.65 (0.43 - 0.96)
<b>Birthplace</b>		
<i>Québec</i>	REF	REF
<i>Canada (Elsewhere)</i>	1.15 (0.79 - 1.68)	-
<i>Outside of Canada</i>	1.47 (1.07 - 2.02)	-
<b>Education</b>		
<i>Primary/Secondary degree</i>	REF	REF
<i>Cégèp/Technical</i>	1.21 (0.88 - 1.66)	-
<i>University degree</i>	1.52 (1.10 - 2.07)	-
<b>In a new relationship (&lt; 6 months)</b>	-	1.46 (1.04 - 2.05)
<b>Met/looked for a partner online</b>	1.58 (1.24 - 2.01)	1.52 (1.14 - 2.03)
<i>"HIV/AIDS has become a controllable disease (like diabetes)"</i>	-	1.50 (1.11 - 2.02)

# Results (multivariate)

	2005 aOR (95% C.I.)	2008 aOR (95% C.I.)
<b>Total number of sexual partners</b>		
<i>None</i>	REF	REF
<i>1 - 9</i>	1.67 (0.93 - 2.98)	1.38 (0.90 - 2.09)
<i>10 - 19</i>	2.49 (1.30 - 4.75)	2.01 (1.20 - 3.36)
<i>20 or more</i>	2.84 (1.50 - 5.36)	2.42 (1.46 - 4.00)
<b>Injection drug use</b>	1.93 (1.03 - 3.63)	-
<b>STI diagnosis (ever)</b>	1.27 (1.00 - 1.62)	-
<b>Risky sexual activity<sup>1</sup></b>	1.56 (1.23 - 1.99)	-



# Results

## (% recently tested)

	ARGUS 2005	ARGUS 2008
<b>IDU</b>	40%	52%
<b>STI diagnosis (ever)</b>	31%	44%
<b>Risky sexual activity<sup>1</sup></b>	36%	46%
<b>More than 10 partners</b>	39%	51%





# Limitations

- Cross-sectional studies
- Selection bias
- Information bias
- Primary purpose of ARGUS is surveillance, not research

# Discussion

- Few correlates remained similarly associated with the outcome in both cycles:
  - Age, online recruitment of sexual partner
- Usual correlates of HIV acquisition were less strongly associated or no longer associated with having been recently tested for HIV:
  - IDU, sex with a risky sexual partner, STI diagnosis (lifetime), total number of sexual partners

# Discussion

- Could be due to community awareness of the number of HIV-positive MSM who were unaware in 2005
  - Emergence of Spot
  - Increased promotion of HIV-testing in health clinics
  - “Fais-toi tester” promotional campaign

# Discussion

- Increase in testing rates may be due in part to changes in CDC testing guidelines
  - New recommendation are to annually test sexually active MSM
- Increase in percentage of men who were recently tested for HIV (26% vs 40%)
- A large percentage of at-risk men are still not getting tested

# Conclusions

- Increase in testing rate may be due to changes in testing guidelines and/or increased awareness of lack of HIV-status knowledge
- Decrease in percentage of men who were unaware of their positive status shows promise for encouraging regular screening
- Implementation of future HIV testing campaigns should target high-risk individuals

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