

# STI and HIV Testing Behaviours Prior to HIV Diagnosis among People Living with HIV in Ontario

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## Background

- The Ontario HIV Treatment Network (OHTN) Cohort Study (OCS) is a longitudinal, 15-site clinical and questionnaire-based study of people living with HIV (PLWH) in Ontario.
- Examining the patterns of STI and HIV testing among PLWH prior to their HIV diagnosis can provide valuable insights into prevention and missed opportunities.

## Methods

- This study analyzed participants who were diagnosed with HIV for the first time in Ontario between 2011 and 2021, and who were interviewed between 2020 and 2021, with more detailed STI testing questions in 2021.
- Self-reported HIV and bacterial STI (Syphilis or rectal Gonorrhea or rectal Chlamydia) testing habits prior to HIV diagnosis were analyzed.
- Multinomial logistic regression was performed to determine the HIV testing behaviors prior to HIV diagnosis (never, once/twice, routinely).

## Results: Sample size=460

### Age

- 29% <36 years
- 39% 36-49 years
- 31% 50+ years

### Race/Ethnicity

- 54% white
- 22% Black
- 24% Other/Mixed/Unknown

### Income

- 27% <\$20,000
- 24% \$20,000-39,999
- 12% \$40,000-\$59,999
- 37% \$60,000 or more

### Prior to HIV diagnosis, HIV testing frequency

- 33.7% routinely
- 34.1% once/twice
- 32.3% never

### Sex/sexual orientation

- 21% female
- 17% male heterosexual
- 62% male non-heterosexual

### Year of HIV diagnosis

- 20% 2011-2012
- 33% 2013-2015
- 29% 2016-2018
- 18% 2019-2021

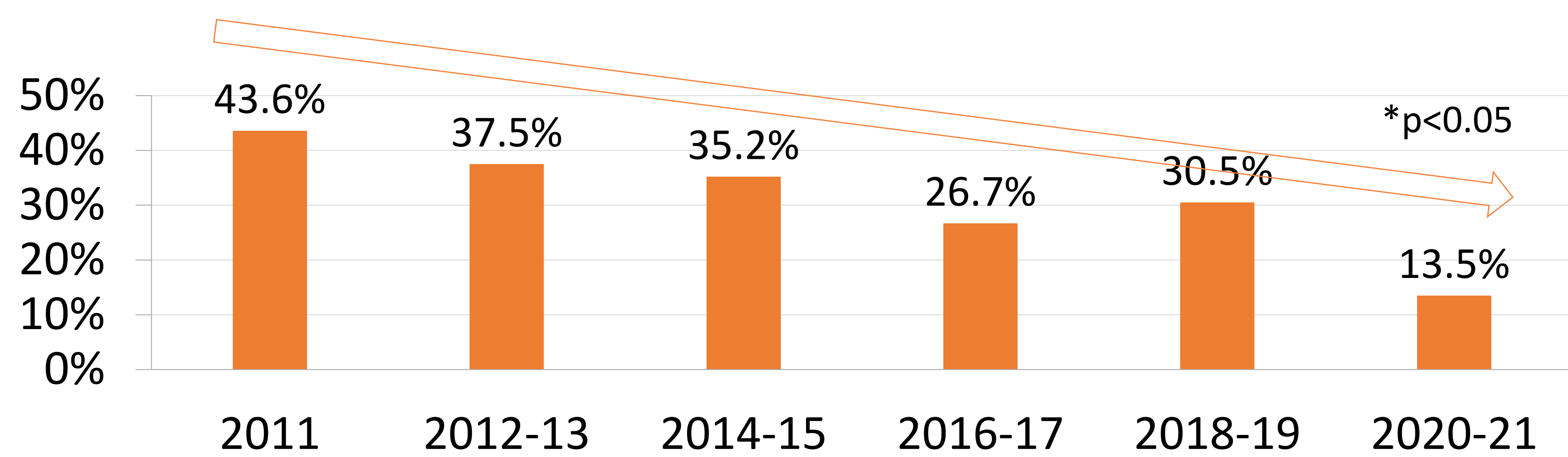
## Multinomial logistic regression - HIV testing behaviours

- Non-heterosexual males were significantly more likely to be routine testers or once/twice HIV testers compared to females.
- Middle-aged individuals (36-49 years) were significantly more likely to be routine testers or once/twice HIV testers compared to those aged 50 years or older.
- Those more recently diagnosed with HIV were more likely to test routinely or once/twice for HIV.

	HIV testing history (ref: never)	Unadjusted Odds Ratio	95% Confidence Intervals	Adjusted Odds Ratio	95% Confidence Intervals
Male, not heterosexual vs Female	Once or twice	2.5*	1.4-4.4	3.7*	1.8-7.6
Male, not heterosexual vs Female	Routinely	6.3*	3.3-11.9	9.1*	4.0-20.9
Male, heterosexual vs Female	Once or twice	1.2	0.6-2.3	1.2	0.6-2.6
Male, heterosexual vs Female	Routinely	0.7	0.3-1.7	0.6	0.2-1.8
Age 36-49 vs 50+	Once or twice	2.0*	1.1-3.4	2.5*	1.3-4.7
Age 36-49 vs 50+	Routinely	2.5*	1.4-4.4	3.9*	2.0-7.7
Age <36 vs 50+	Once or twice	1.4	0.8-2.6	1.2	0.6-2.2
Age <36 vs 50+	Routinely	1.6	0.9-2.8	1.1	0.5-2.2
Other/Mixed/Unknown vs Black	Once or twice	1.2	0.7-2.3	0.8	0.4-1.8
Other/Mixed/Unknown vs Black	Routinely	1.5	0.7-2.9	0.9	0.4-2.1
White vs Black	Once or twice	1.1	0.6-1.8	1.0	0.5-2.0
White vs Black	Routinely	1.8*	1.0-3.3	1.6	0.7-3.4
Income \$20,000-\$39,999 vs <\$20,000	Once or twice	0.7	0.4-1.3	0.8	0.4-1.7
Income \$20,000-\$39,999 vs <\$20,000	Routinely	0.8	0.4-1.6	1.0	0.4-2.2
Income \$40,000-\$59,999 vs <\$20,000	Once or twice	1.5	0.6-3.6	1.6	0.6-4.0
Income \$40,000-\$59,999 vs <\$20,000	Routinely	2.3	1.0-5.6	1.8	0.7-5.1
Income \$60,000+ vs <\$20,000	Once or twice	1.3	0.7-2.4	1.0	0.5-2.1
Income \$60,000+ vs <\$20,000	Routinely	1.7	0.9-3.1	0.8	0.4-1.8
Year of HIV diagnosis (per year)	Once or twice	1.1*	1.0-1.2	1.2*	1.1-1.3
Year of HIV diagnosis (per year)	Routinely	1.1*	1.0-1.2	1.2*	1.1-1.4

\*Statistically significant p<0.05

## Proportion never tested for HIV prior to diagnosis by year of diagnosis



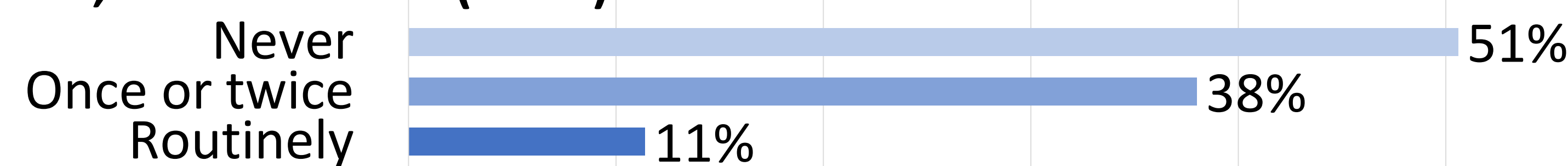
## Sex/Sexual orientation by HIV testing frequency prior to HIV diagnosis

### Males, Non-heterosexual (n=288)

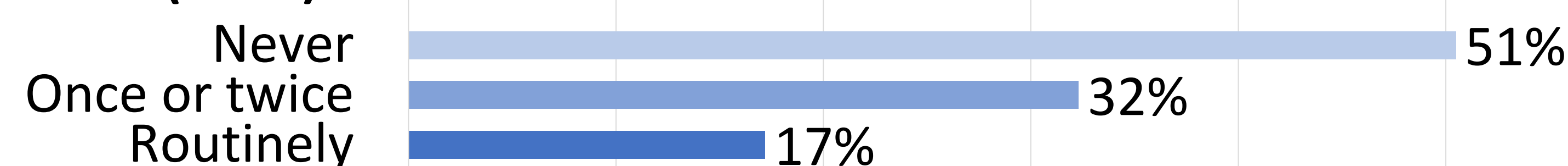
\*Statistically significant p<0.001



### Males, Heterosexual (n=79)

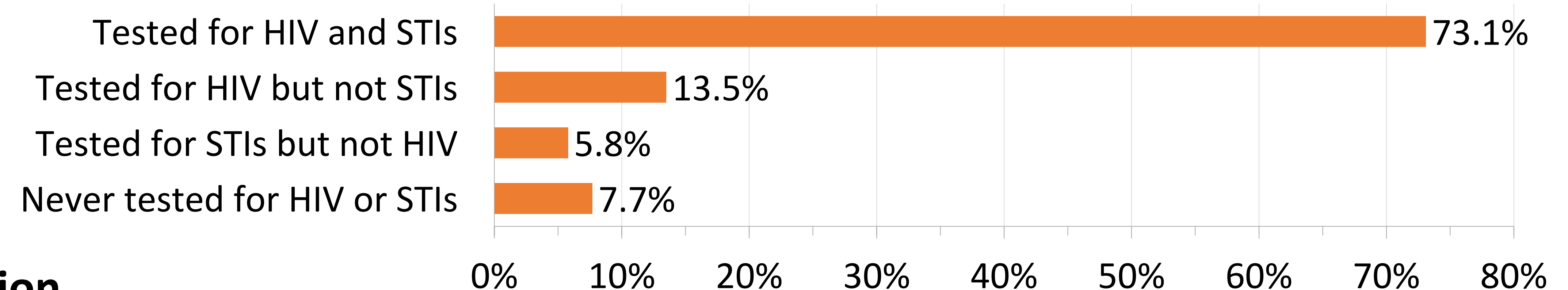


### Females (n=93)



## Among gay/bisexual/queer men (n=52): prior to HIV diagnosis, ever tested for HIV and ever tested for bacterial STIs (syphilis or rectal gonorrhea/chlamydia)

- 21.2% had never tested for an STI, 23.1% tested with all negative results and 55.8% tested with at least one positive result



## Discussion

- Differential uptake of HIV testing existed among OCS participants prior to their HIV diagnosis.
- Non-heterosexual males, middle-aged individuals, and those more recently diagnosed with HIV were more likely to have previously tested for HIV prior to their HIV diagnosis compared to females, those age 50+ and those diagnosed earlier.
- This study identified missed opportunities for HIV prevention interventions, especially for participants who did not test at all or tested for STIs but not HIV prior to their HIV diagnosis.

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