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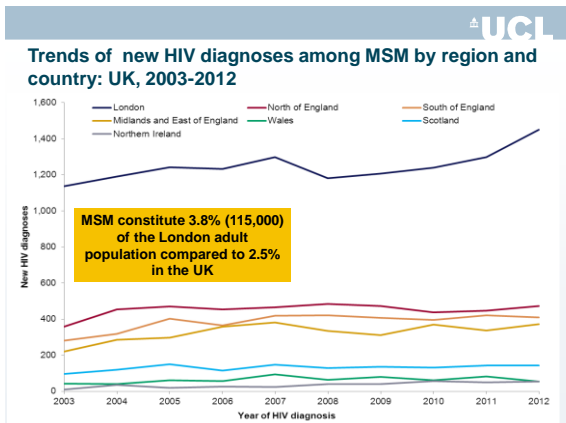
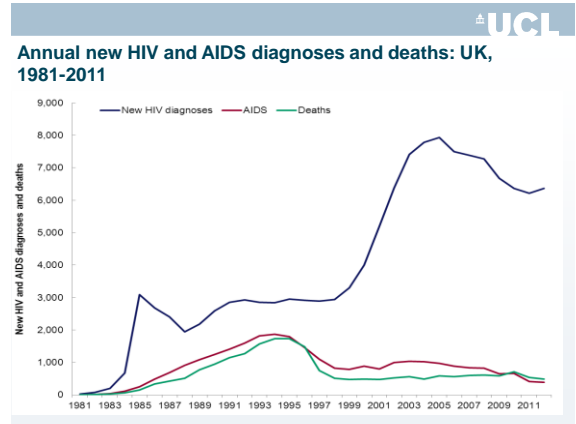
Trends in HIV testing and undiagnosed HIV in men who have sex with men in London, United Kingdom (UK) 2000-2013: implications for HIV prevention

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Public Health England



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Antiretroviral treatments

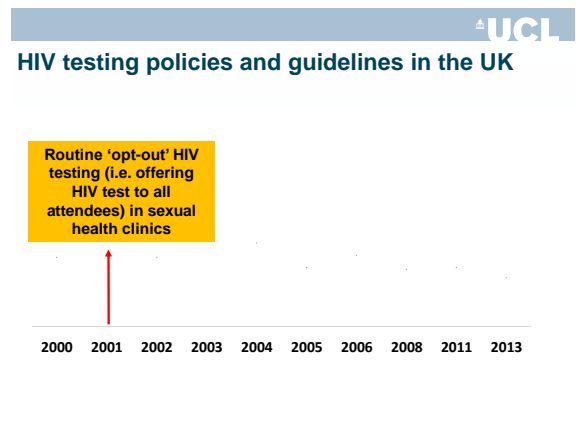
- Reduction in morbidity and mortality
- Prevention of mother to child transmission
- Prevention of sexual transmission of HIV

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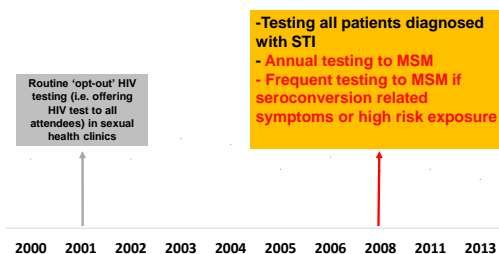
Antiretroviral treatments

- Reduction in morbidity and mortality
- Prevention of mother to child transmission
- Prevention of sexual transmission of HIV
- Prevention of acquisition of HIV (PrEP)

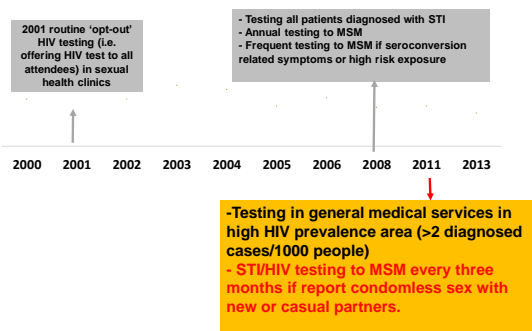
Voluntary HIV testing



HIV testing policies and guidelines in the UK



HIV testing policies and guidelines in the UK



Aims

- Using the London Gay Men's Sexual Health Survey data to examine trends between **2000-2013**
 - HIV prevalence
 - Overall

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 - HIV testing
 - Ever
 - Testing in the last year

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 - HIV prevalence
 - Overall
 - Undiagnosed HIV prevalence
 - *Sexual health clinic attenders in the last year*
 - *Non-sexual health clinic attenders in the last year*
 - HIV testing
 - Ever
 - Testing in the last year
- **To examine factors associated with undiagnosed HIV (only 2011-13 data)**

Methods

- Gay Men's Sexual Health Survey conducted annually/biannually between 2000-2013
- Social venues in London
- Self completed questionnaires
- HIV antibody testing using Orasure oral fluid collection device
- Barcode linked survey to Orasure device



Definitions

• Undiagnosed HIV:

Positive Orasure specimen (Ab+) and either:

- *had never had an HIV test*
- *believe current status negative or don't know*
- *result of my last HIV test was negative or didn't know*

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• Seroconcordant condomless sex:

condomless sex in last year **only** with persons of known same HIV status as themselves

• Serodifferent condomless sex:

condomless sex in last year with persons not known to have same status as themselves

Analysis

• Trends analysis

- Logistic regression to examine association between survey year modelled as a linear term and variables of interest
- Linearity was assessed using LRT relative to the model with year included as categorical variable

• Factors associated with undiagnosed HIV

- Stepwise backward model selection procedure including variables associated with outcome in univariate analysis ($p < 0.2$)

Results

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Study population

- 2000-2013 (n=11,876)

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Location	Percentage
Saunas	5.6
Clubs	12.4
Bar	82

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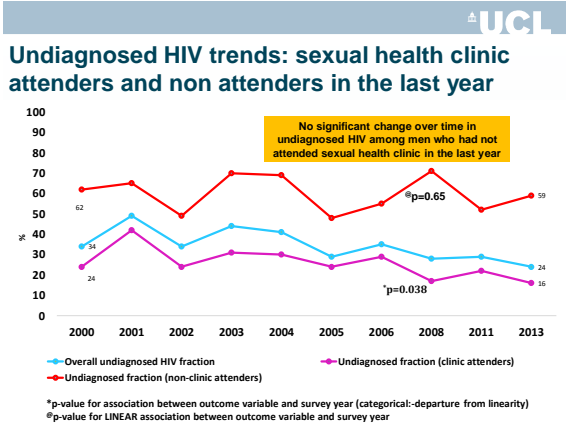
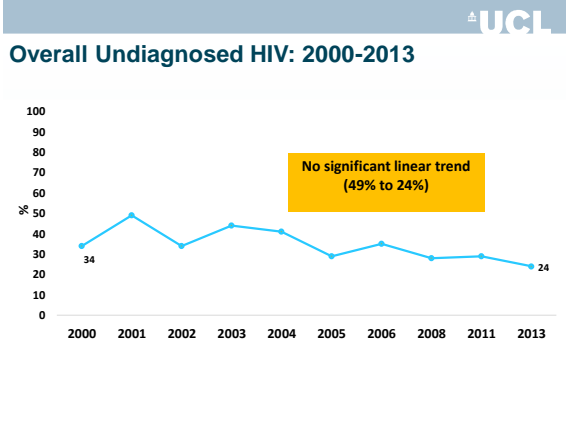
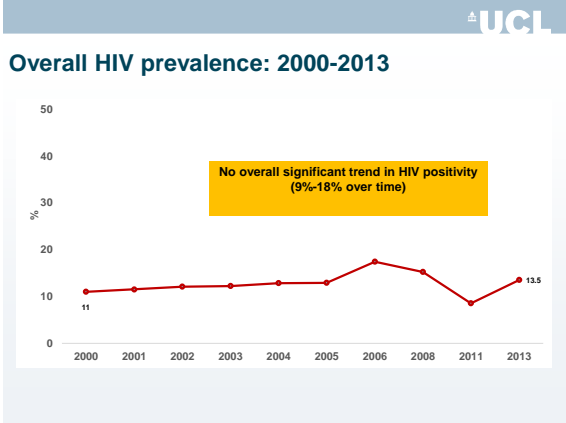
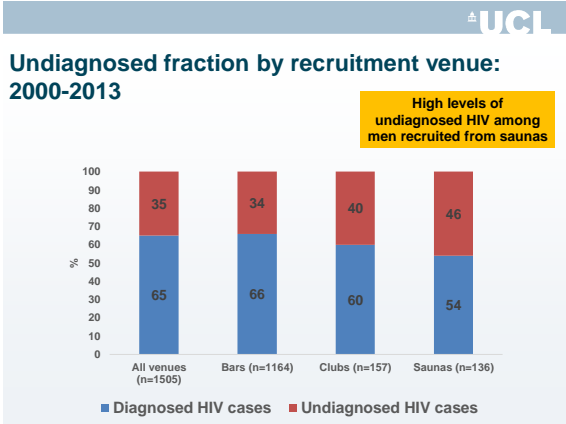
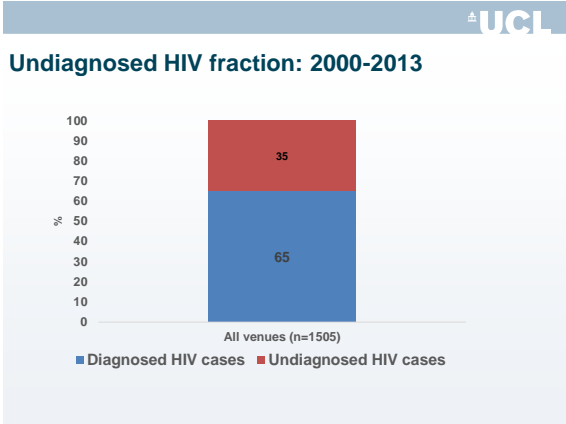
Trends in HIV testing: ever and in the last year

Year	Ever HIV testing (%)	HIV testing in the last year (%)
2000	63	26
2001	70	32
2002	76	36
2003	77	39
2004	77	42
2005	78	43
2006	81	44
2008	88	51
2011	90	56
2013	91	60

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HIV positivity: 2000-2013

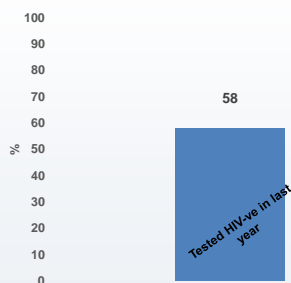
• Overall 12.8% (1505/11876) men were HIV antibody+



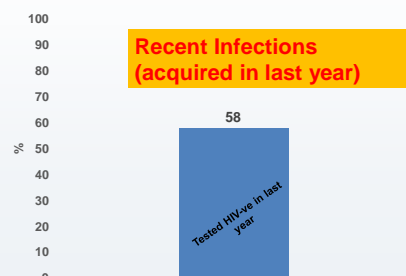
Undiagnosed HIV: recent infections 2011-2013

- 24% (49/188) undiagnosed infections

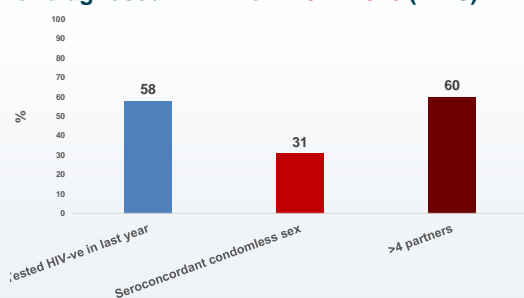
HIV testing in last year among undiagnosed HIV+ men: 2011-2013 (n=49)



HIV testing in last year among undiagnosed HIV+ men: 2011-2013 (n=49)



HIV testing and sexual behaviour of undiagnosed HIV+ men: 2011-2013 (n=49)



Factors associated with undiagnosed HIV: (2011-13 only)

	Adjusted odds ratios (95% CI)	P-value
Employment status		
<i>Employed</i>	1	0.004
<i>Unemployed</i>	2.32 (1.04-5.22)	
Diagnosed with STI in the last year		
<i>No</i>	1	0.01
<i>Yes</i>	2.97 (1.30-6.78)	

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- Age, ethnicity, STI clinic attendance in the last year, none of the sexual behaviour factors were associated with undiagnosed HIV

Summary

- Ever HIV testing has increased; however 40% of men had not tested in the last year
- Despite a non-significant decline, a substantial proportion of HIV infections remain undiagnosed
- Undiagnosed infections remain high among men who had not attended STI clinics in the last year
- Substantial proportion of undiagnosed HIV+ men had engaged only in seroconcordant condomless sex in the last year
- Recent acquisition of undiagnosed infections and seroconcordant condomless sex among undiagnosed HIV+ men potentially explains sustained HIV transmissions in MSM.

Limitations

- Survey design
 - Convenience sample
 - Self-reported data
 - Changing profile of men attending social venues

Strengths

- Repeat surveys 14 years
- Biological specimen

Implications and conclusions

- Increasing testing **frequency** especially among men **recently diagnosed with STI**
- Expansion of testing in **non-sexual healthcare settings**
- Seroconcordant condomless sex among HIV-ve men **not** protective
- Offering **pre-exposure prophylaxis** to HIV-ve MSM

Acknowledgements

- We thank Gary Murphy and Bharati Patel for performing laboratory testing
- We thank all the participants, recruiters, and staff for their valuable contributions