

# Demographic associations with gonorrhoea infections in Brighton

Lauren Amor, Dr Fiona Cresswell, Angela Dunne, Dr Gillian Dean, Dr Joanna Peters,  
Dr John Paul

Brighton and Sussex Medical School  
Brighton and Sussex University Hospitals

# Background

- Gonorrhoea is a public health problem:
  - rising incidence
  - antimicrobial resistance
- Understanding drivers of infection locally is important for planning public health interventions



# Aims

- Describe GC infections in Brighton:
  - **demographics**
  - **lifestyle factors**
  - **antimicrobial resistance**

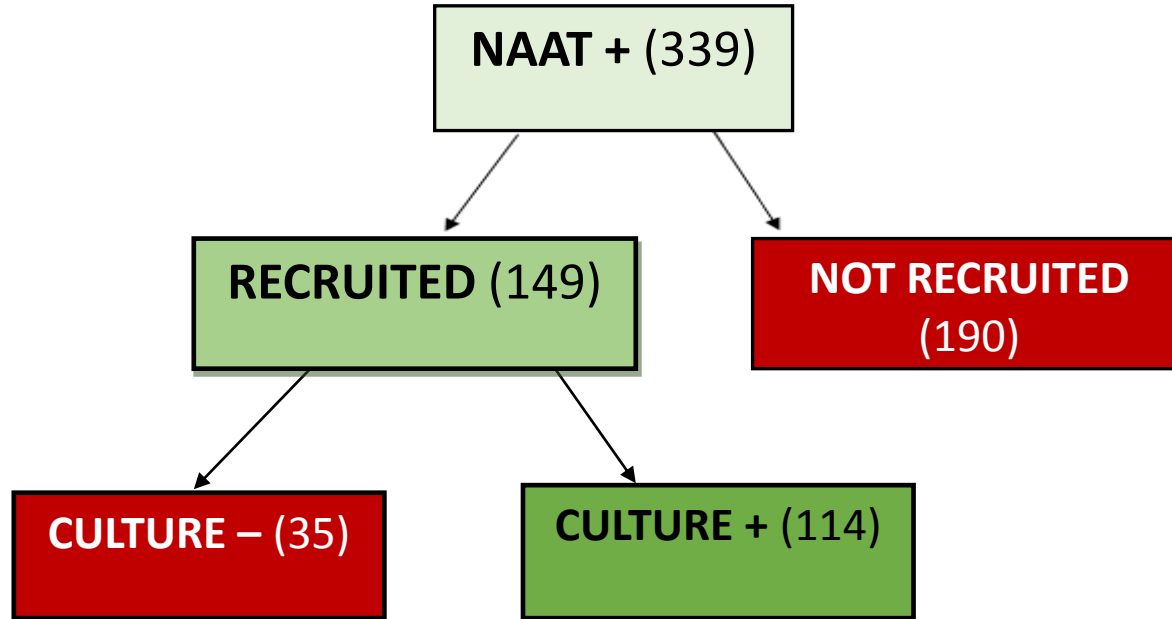
# Methods

**149 individuals with GC  
recruited**



**Questionnaire, cultures  
and sensitivities**

# Results



Demographics		Frequency (N)	N %
Gender	Male	107	93.9%
	Female	7	6.1%
Ethnicity	White	101	89.4%
	Black/ black British	4	3.5%
	Asian/Asian British	3	2.7%
	Mixed	4	3.5%
	Chinese	1	0.9%
Sexuality	Homosexual	90	80.4%
	Heterosexual	15	13.4%
	Bisexual	7	6.2%
HIV status	Positive	38	33.6%
	Negative	60	53.1%
	Unsure	13	11.5%
	Missing	2	1.8%
Age group (years)		24	21.4%
	18-24		
	25-34	35	31.2%
	35-44	36	32.1%
	45-54	15	13.4%
	55+	2	1.8%

Male

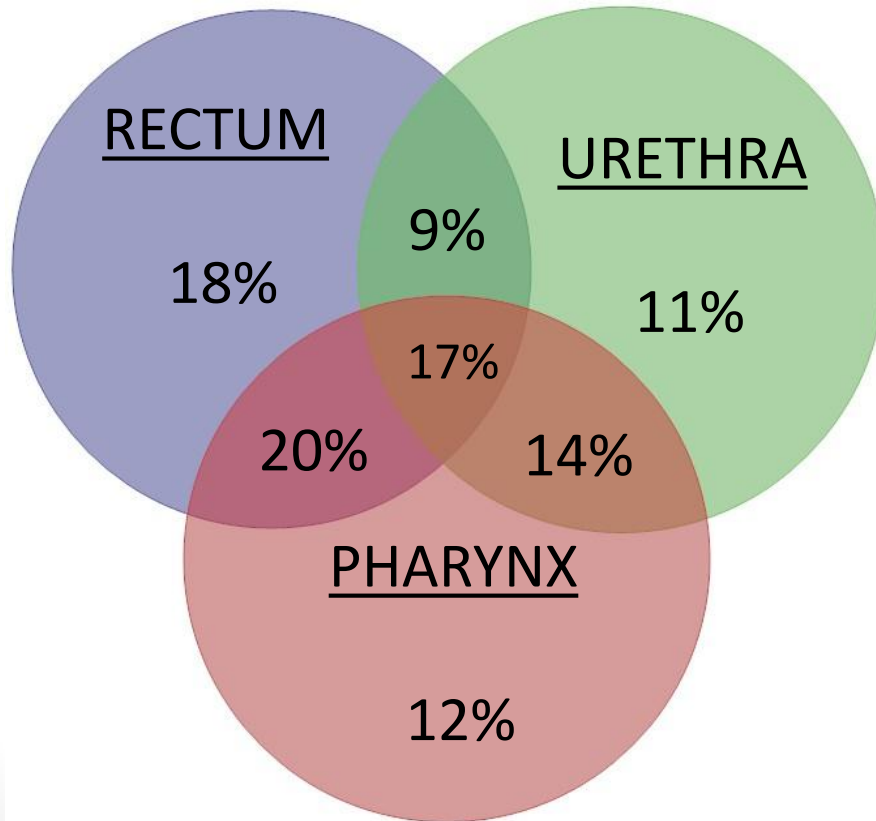
White

MSM

Average  
age = 34

MSM had more sexual  
partners than heteros.  
(8 vs 3 P<0.01)

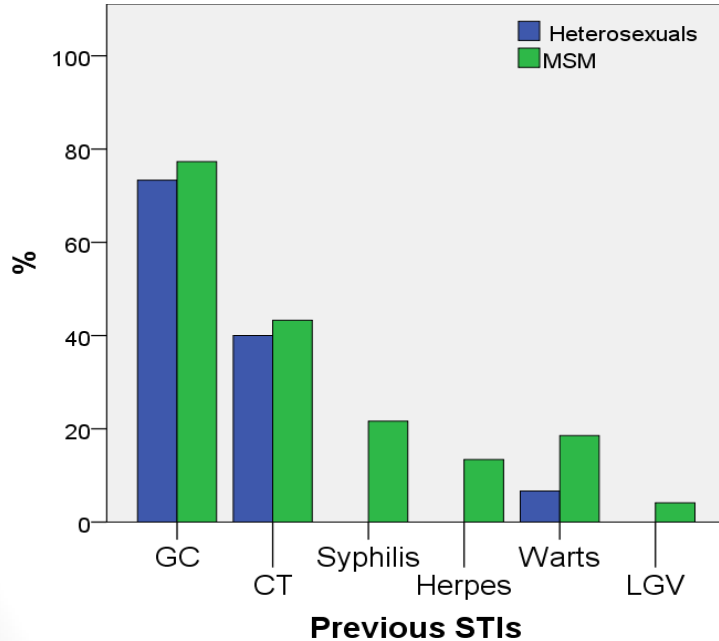
# Infection Site



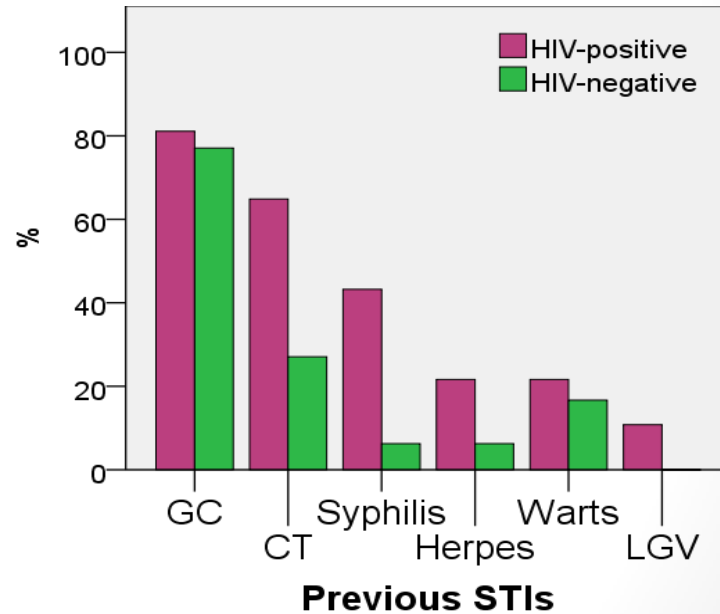
- **72.2%** (n=70) MSM had multi-site infections
- **4 participants** had different resistant profiles in different sites

# Previous STIs

MSM had more previous STIs than  
heterosexuals ( $P=0.03$ )



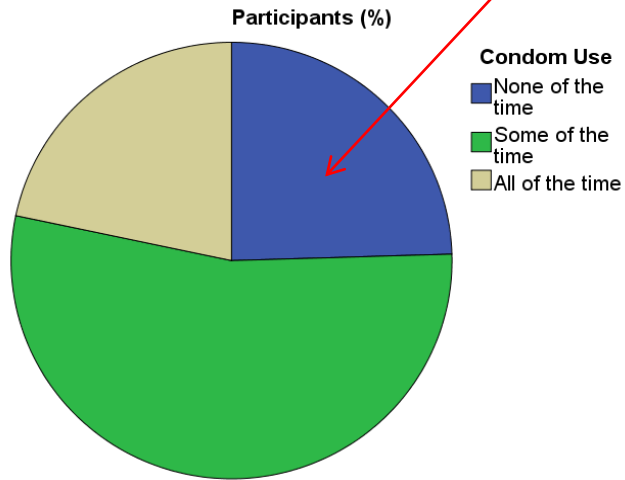
HIV-positive MSM had more previous STIs than  
HIV-negative MSM ( $P<0.01$ )



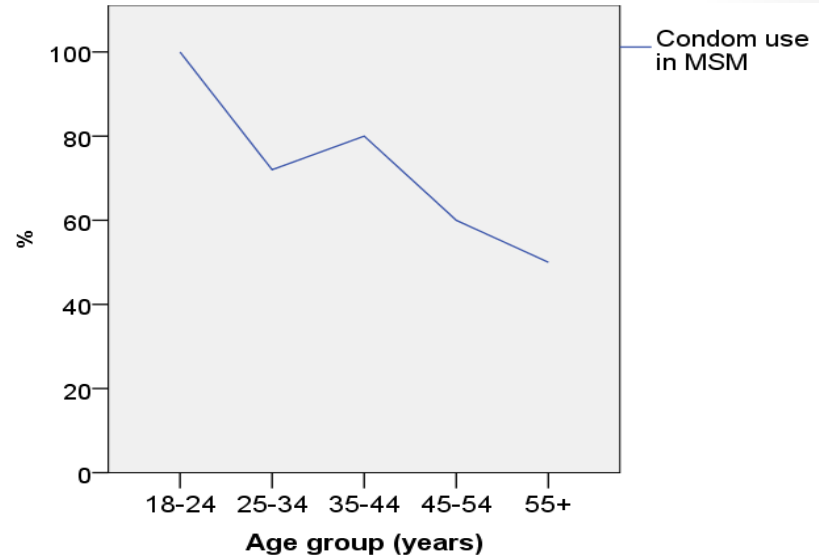


# Condom Use

HIV-positive associated with using condoms none of the time ( $P=0.01$  OR: 4.6)



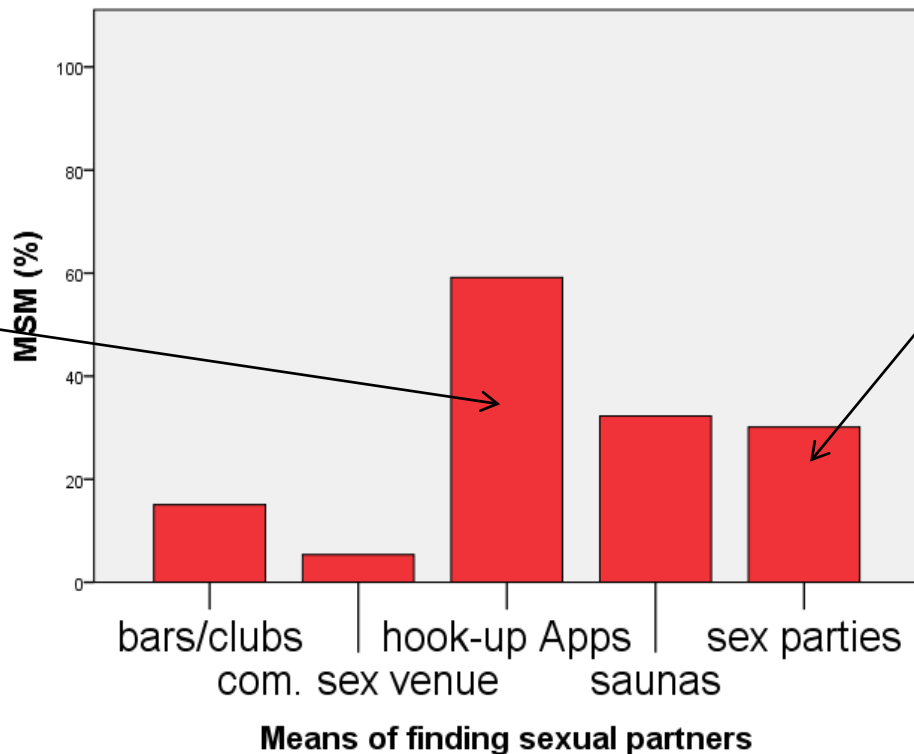
Condom use decreased with age in MSM ( $P=0.05$ )



# Finding Sexual Partners

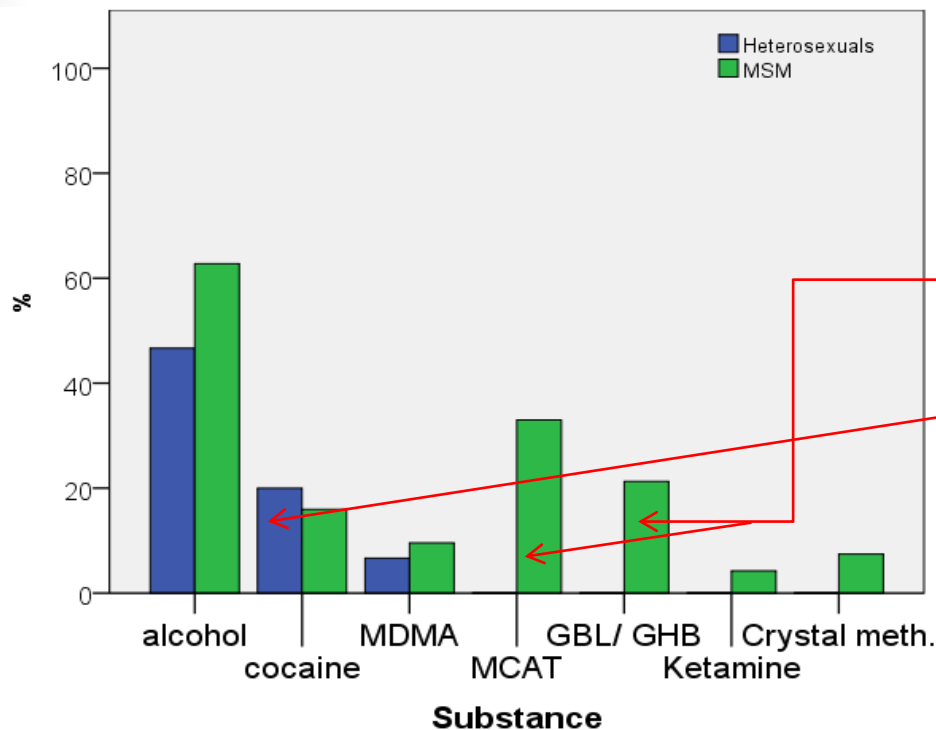
MSM used venues and Apps to find partners more than heterosexuals ( $P < 0.001$  OR: 21.9)

**Ciprofloxacin  
resistance**  
( $P = 0.03$  OR 2.9)



**HIV-positive**  
( $P < 0.001$ )

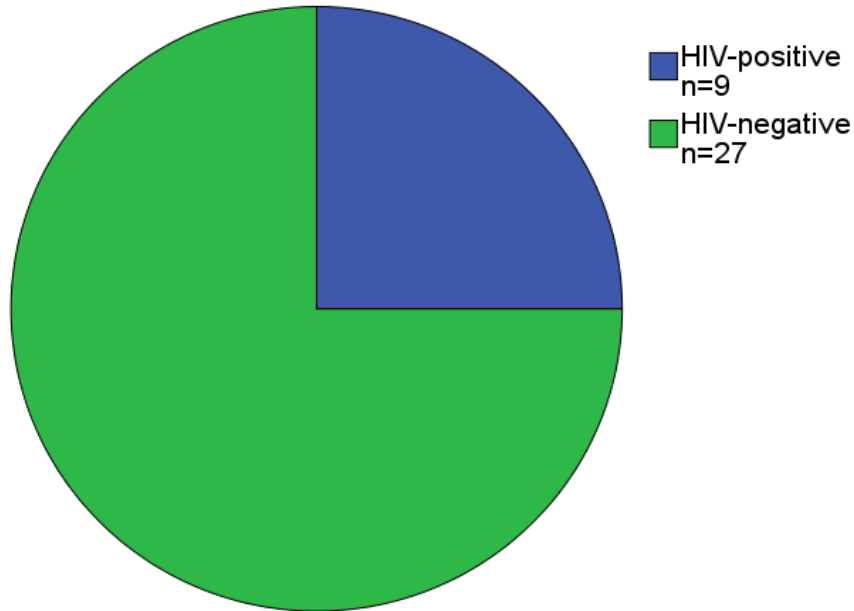
# Drugs and Alcohol



- Sex under the influence was common in all sub-groups
- **Broader range of drug use in MSM**
- MSM preferred mephedrone + GBL/GHB
- Heteros. preferred cocaine
- Slamming in 20% (n=7) HIV-positive and 2.1% (n=1) HIV-negative MSM
- **Slamming associated with being HIV-positive** ( $P < 0.01$  OR: 11.8)

# Sex Outside Brighton

Sex outside Brighton



- 46.8% - outside Brighton
- 19.3% -abroad
- **Associated with being HIV-negative in MSM**  
( $P < 0.01$  OR: 3.7)

# Resistance

- 66.9% of cases were culture-positive
- Resistance to >1 antibiotic occurred in
  - **34.8%** of HIV-positive MSM
  - **9.1%** of HIV-negative MSM
  - **9.1%** of heterosexuals
- No ESC resistance but resistance to older antibiotics

- **Associated with being MSM** (OR 4.05  $P < 0.01$ )
- **Ciprofloxacin resistance associated with hook-up Apps in MSM** ( $P = 0.03$  OR 2.9)

# Conclusion

- Common in both HIV-positive and HIV-negative MSM:
  - condom avoidance
  - frequent partner change
  - sex under the influence of drugs
- Raises concerns about STI (especially HIV) transmission
- HIV-positive MSM used condoms least and in general condom use decreased with age
- No resistance to ESCs but AMR to older antibiotics was significantly more common in HIV-positive MSM
  - Concurring with GRASP data
- AMR was associated with using Apps to find sexual partners
- Effective evidence-based interventions targeting this high-risk group are needed