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# Use of Ceftriaxone and Doxycycline when treating Gonorrhoea: Is it prescribed appropriately?

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### Background

- Recommended treatment for gonorrhoea:
  - Ceftriaxone and Azithromycin for non-complicated gonorrhoea

Ceftriaxone and Doxycycline – PID

• Emergence of antimicrobial resistance

UK national guideline for the manageme gonorrhoea in adults, 2011	nt of
gonorrhoea in adults, 2011	
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UK National Guideline for the Management of Pelvic Inflammatory Disease	8 rec
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(updated June 2011)	I
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Jonathan Ross MB ChB MD FRCP (lead author)	100
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What is new in the June 2011 update?	ap
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<ul> <li>The dose of cettriaxone has been increased to 500mg stat to reflect the reduc Neisseria gonorrhoeae to cephalosporins and the current UK treatment uncomplicated gonorrhoea</li> </ul>	
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To identify the patient groups prescribed Ceftriaxone and Doxycycline rather than Ceftriaxone and Azithromycin



 Gonococcal resistance to antimicrobials surveillance programme (GRASP) a national sentinel surveillance programme in England & Wales

• The GRASP dataset contains data on prescriptions among other variables

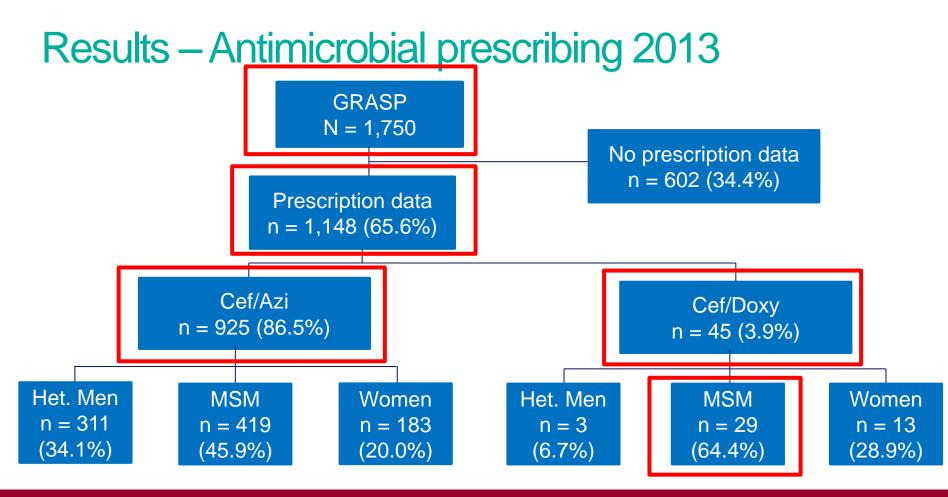
• Patients prescribed either Ceftriaxone and Azithromycin or Ceftriaxone and Doxycycline were identified

 Further information about co-infections for individuals identified in GRASP was taken from GUMCADv2

### Analysis

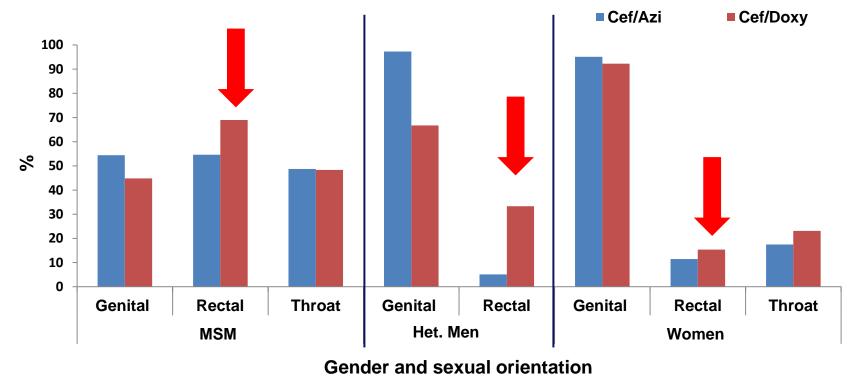
Patient groups were compared by clinical, demographic and behavioural characteristics

- Univariate and multivariate regression analysis were performed to ascertain associations
  - Stratified and developed models based on sexual orientation for analysis



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## Results – Antimicrobial prescribing by site of GC infection



### Factors associated with prescribing Cef/Doxy

Gender & sexual orientation	Patient characteristic	Cef/Doxy n (%)	Cef/Azi n (%)
Women ( <b>N</b> )		13	183
	PID	8 (61.5)	2 (1.1)*
	Rectal CT	0 (0.0)	4 (2.2)
Heterosexual men (N)		3	311
	Rectal CT	0 (0.0)	1 (0.3)
MSM ( <b>N</b> )		29	419
	Rectal CT	7 (24.1)	26 (6.2)*

### Factors associated with prescribing Cef/Doxy: MSM

Patient characteristic	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age	0.96 (0.91-1.00)	0.89 (0.81-0.98)
Outside London	ref	
London	0.20 (0.08-0.50)	0.21 (0.04-1.06)
Concurrent CT	2.40 (1.09-5.47)	-
Non-rectal CT	ref	
Rectal CT	3.9 (0.94-16.61)	5.5 (1.11-27.18)

Only variables with a *P* value less than 0.1 were included in the multivariate model & OR in **bold** are statistically significant i.e. p<0.05

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### **Discussions & conclusions**

 First line treatment of Ceftriaxone and Azithromycin prescribed in the majority of cases - 86.5%

- Use of Ceftriaxone and Doxycycline is statistically associated with:
  - Concomitant rectal chlamydial infection in MSM
  - Numbers small but more use in women with PID

• GRASP 2013 data shows tetracycline resistance is high (72%), this may not provide adequate dual treatment coverage

### Acknowledgements

GRASP clinics and steering group