



Public Health
England

Protecting and improving the nation's health

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

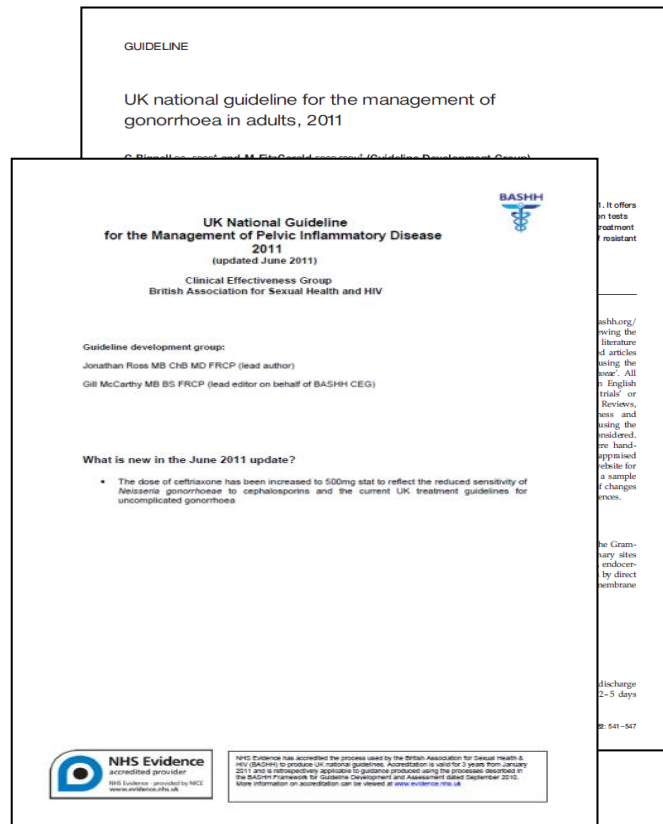
John Were¹, Katy Town¹, Hamish Mohammed¹, Helen Fifer²,
John Saunders¹, Stephanie Chisholm², Gwenda Hughes¹

¹HIV & STI Department, Public Health England

²Sexually Transmitted Bacteria Reference Unit, Public Health England

Background

- Recommended treatment for gonorrhoea:
 - Ceftriaxone and Azithromycin – for non-complicated gonorrhoea
 - Ceftriaxone and Doxycycline – PID
- Emergence of antimicrobial resistance



Objective

To identify the patient groups prescribed Ceftriaxone and Doxycycline rather than Ceftriaxone and Azithromycin

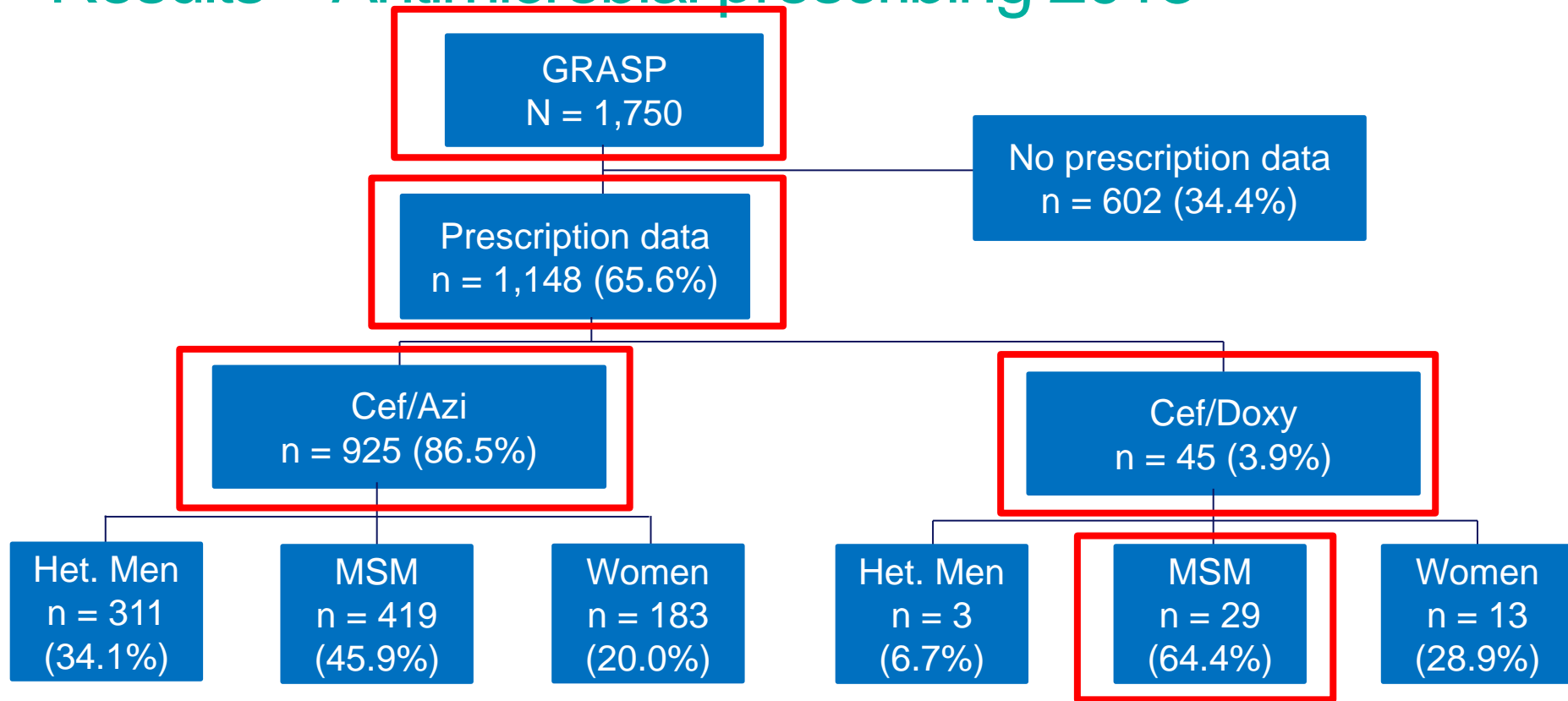
Methods

- 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

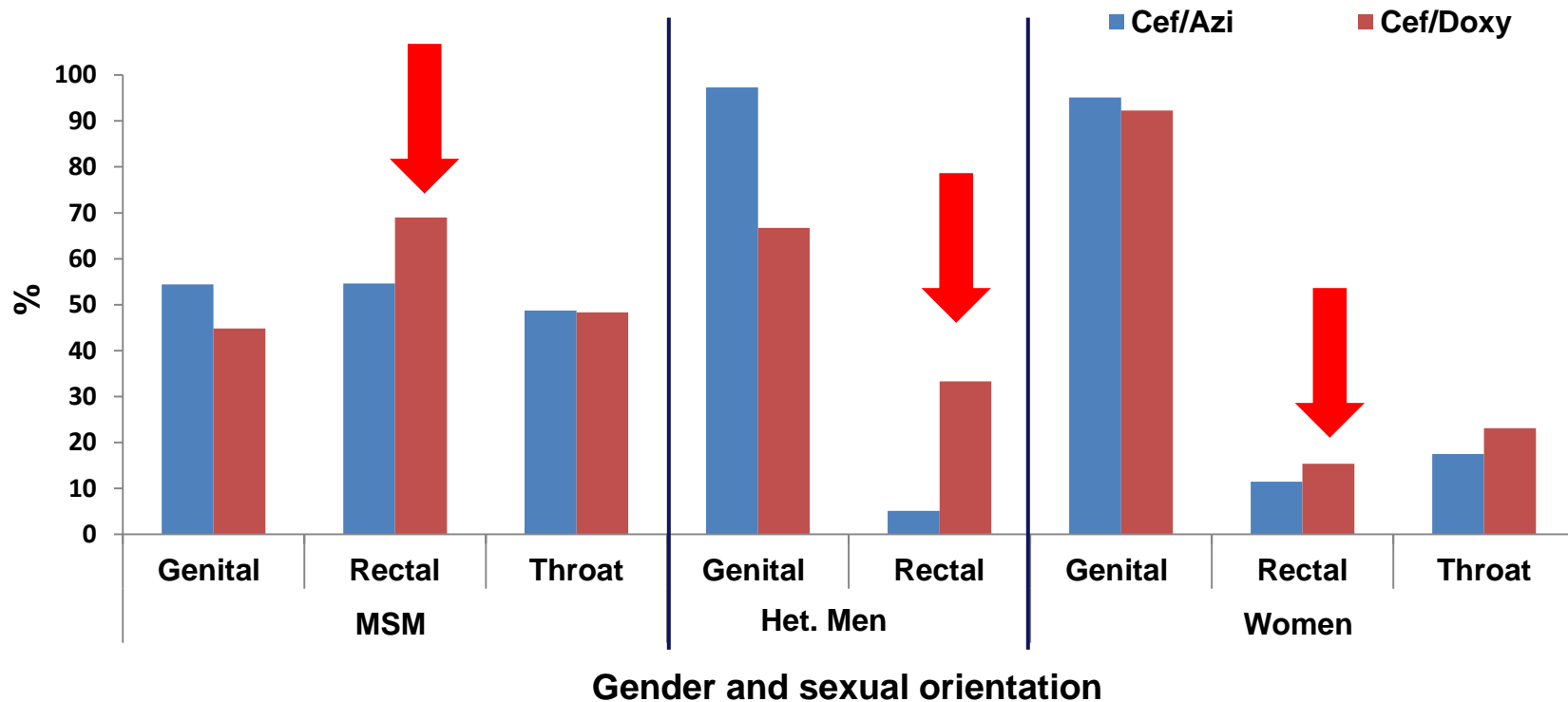
Analysis

- 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

Results – Antimicrobial prescribing 2013



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 (N)		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 (N)		29	419
	Rectal CT	7 (24.1)	26 (6.2)*

* P<0.05

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. $p < 0.05$

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