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Factors associated with reported STI prophylaxis (“Doxy-PrEP/Doxy-PEP”) use among HIV-PrEP users in the UK

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Background (1)

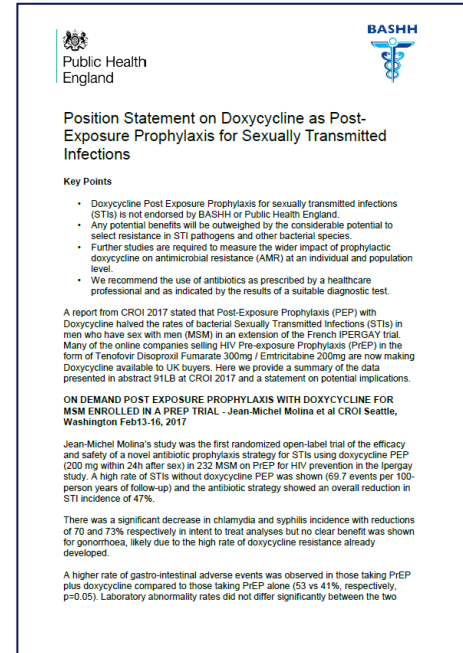
- High prevalence and incidence of STIs among users of HIV PrEP (Ong 2019)


 - Pooled STI prevalence 24% among people initiating HIV PrEP
 - Pooled STI incidence 72.2 per 100 person years during HIV PrEP use
- Doxycycline pre- and post-exposure prophylaxis shown to reduce incidence of chlamydia and syphilis


 - Doxy PrEP: 73% reduction in any bacterial STI (Bolan 2015)
 - Doxy PEP: 70% reduction in chlamydia and 73% reduction in syphilis (Molina 2018)

Background (2)

- Doxy STI prophylaxis not endorsed by PHE or BASHH (PHE-BASHH 2017)
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- Potential benefits outweighed by the considerable potential to select resistance in STIs and other bacterial species
 - Further studies required to measure the wider impact on AMR at an individual and population level



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Position Statement on Doxycycline as Post-Exposure Prophylaxis for Sexually Transmitted Infections

Key Points

- Doxycycline Post Exposure Prophylaxis for sexually transmitted infections (STIs) is not endorsed by BASHH or Public Health England.
- Any potential benefits will be outweighed by the considerable potential to select resistance in STI pathogens and other bacterial species.
- Further studies are required to measure the wider impact of prophylactic doxycycline on antimicrobial resistance (AMR) at an individual and population level.
- We recommend the use of antibiotics as prescribed by a healthcare professional and as indicated by the results of a suitable diagnostic test.

A report from CROI 2017 stated that Post-Exposure Prophylaxis (PEP) with Doxycycline halved the rates of bacterial Sexually Transmitted Infections (STIs) in men who have sex with men (MSM) in an extension of the French IPERGAY trial. Many of the online companies selling HIV Pre-exposure Prophylaxis (PrEP) in the form of Tenofovir Disoproxil Fumarate 300mg / Emtricitabine 200mg are now making Doxycycline available to UK buyers. Here we provide a summary of the data presented in abstract 91LB at CROI 2017 and a statement on potential implications.

ON DEMAND POST EXPOSURE PROPHYLAXIS WITH DOXYCYCLINE FOR MSM ENROLLED IN A PREP TRIAL - Jean-Michel Molina et al CROI Seattle, Washington Feb13-16, 2017

Jean-Michel Molina's study was the first randomized open-label trial of the efficacy and safety of a novel antibiotic prophylaxis strategy for STIs using doxycycline PEP (200 mg within 24h after sex) in 232 MSM on PrEP for HIV prevention in the Ipergay study. A high rate of STIs without doxycycline PEP was shown (69.7 events per 100-person years of follow-up) and the antibiotic strategy showed an overall reduction in STI incidence of 47%.

There was a significant decrease in chlamydia and syphilis incidence with reductions of 70 and 73% respectively in intent to treat analyses but no clear benefit was shown for gonorrhoea, likely due to the high rate of doxycycline resistance already developed.

A higher rate of gastro-intestinal adverse events was observed in those taking PrEP plus doxycycline compared to those taking PrEP alone (53 vs 41%, respectively, $p=0.05$). Laboratory abnormality rates did not differ significantly between the two

Background (3)

- Antibiotic STI Prophylaxis already being used by key populations
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- 9.9% attending Melbourne Sexual Health Clinic (Chow 2019)
- 8% attending 56 Dean Street (Carveth-Johnson 2018)
- 2.2% attending eight STI clinics in the Netherlands (Evers 2019)

- Limited data on factors associated with STI prophylaxis use
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- Injecting drug use in the past 3 months (Chow 2019)



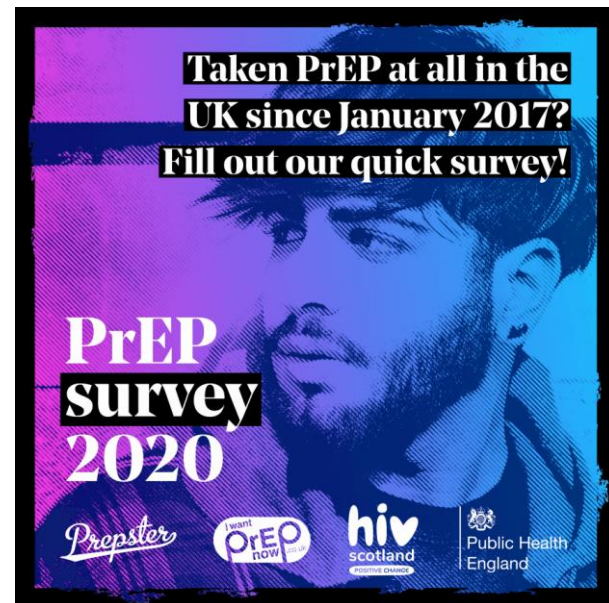
Aims and objectives

To estimate the prevalence and predictors of
antibiotic STI prophylaxis use among UK
HIV PrEP users

Methods (1)

- The PrEP User Survey (O'Halloran 2019)

 - Annual, online, cross-sectional survey since 2017
 - Led by PrEPster and IwantPrEPnow in collaboration with PHE
 - Recruitment through mailing lists, Grindr and social media
 - Aims to characterise experiences of HIV PrEP users, barriers to use and to estimate the number of current users in the UK
 - New question in 2019:
 - Do you buy antibiotics to prevent STI infections, either privately or through the internet?



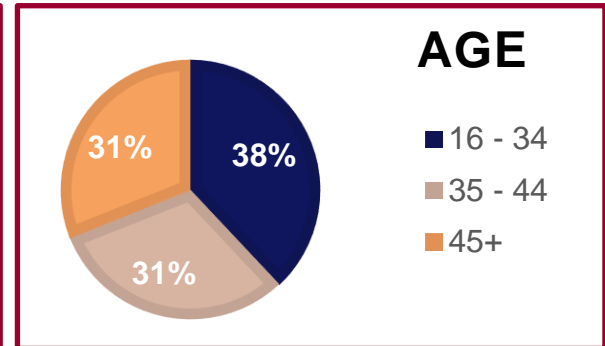
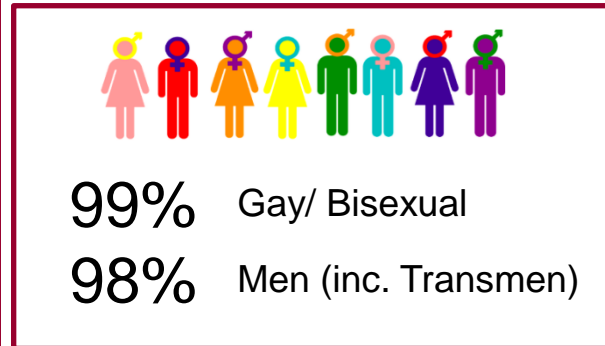
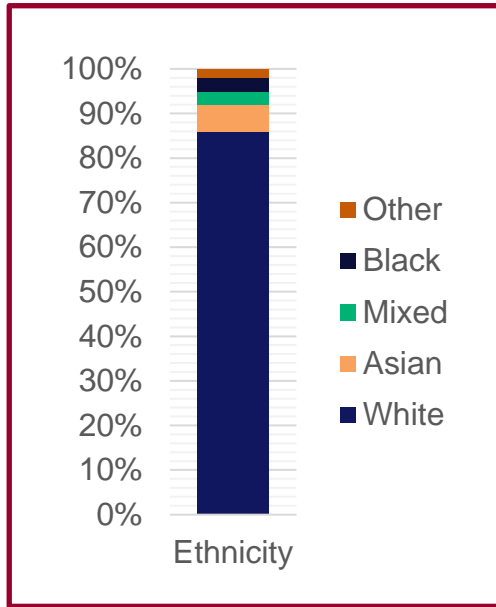
Methods (2)

- Analysis includes participants from 2019 survey round (17th May to 1st July)

- Individuals reporting HIV PrEP use since January 2017
- Factors associated with STI prophylaxis use identified using logistic regression
- Variables included in multivariate analysis if shown to be important in published literature and/or significant at $p < 0.1$ in univariate analysis
- Backwards stepwise approach used for final multivariate model with variables retained if significant at $p < 0.05$ using the likelihood-ratio test

Results (1)

- N = 1,856 reported HIV PrEP use (since 2017)



Results (2)

- N = 1,856 reported HIV PrEP use (since 2017)
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9%
n=167

Purchased antibiotics
to prevent STIs

No response 0.4%, n=8

Results (3)

- Reporting buying antibiotics to prevent STIs not associated with:
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- Gender identity
- Sexual orientation
- Ethnicity
- Age
- Region of residence
- Route of recruitment
- Route of sourcing HIV PrEP
- HIV PrEP dosing regiment
- Injecting drug use

Results (4)

- Reporting buying antibiotics to prevent STIs was significantly associated with:

≥5 condomless sex partners in past 6 months

aOR 1.8 (1.22 – 2.64)

Chemsex*

aOR 1.88 (1.2 – 2.93)

STI diagnosis in past 12 months

aOR 1.54 (1.08 – 2.18)

*crystal methamphetamine, GHB/GBL, mephedrone, ketamine

Limitations and Strengths

- Limitations

- Potential for participation and selection bias, limiting generalisability
- “Do you buy antibiotics to prevent STI infections, either privately or through the internet?”
 - Only asked to HIV PrEP users
 - May not address the actual behaviour of interest
 - No information about what, how and when antibiotics used

- Strengths

- Largest community-based survey of antibiotic use to prevent STIs
- Able to explore demographic and behavioural factors associated with use
- Question developed and improved for subsequent surveys

Conclusion

- 9% of HIV PrEP users responding to the 2019 PrEP User Survey reported having bought antibiotics to prevent STIs
- Similar proportion to 56 Dean Street and MSHC reports
- Associated with higher numbers of condomless sex partners, chemsex and STI diagnosis in last 12 months
- Opportunities for health care workers to discuss STI prophylaxis use with service users
- Planned future work to explore prevalence of use among other key populations, what is used and how, motivations for use and impact on AMR in STIs and other pathogens

Acknowledgments

PrEP User Survey participants



Hester Allen
Qudsia Enayat
Adamma Aghaizu
Amber Newbigging-Lister



Phil Samba



Nathan Sparling