



Public Health
England

Estimating the impact of pre-exposure prophylaxis for Men who have Sex with Men (MSM) in England

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Background

- Biological efficacy of pre-exposure prophylaxis (PrEP)
 - FDA licensed Truvada (2012)
- Number guidelines recommend offer of PrEP to Men who have Sex with Men (MSM)¹
- Targeted PrEP programme for high-risk MSM may be cost-effective²
- Sexual health of MSM in England
 - Population most at-risk from HIV
 - Network of 200 open access free sexual health clinics
 - PrEP only available in UK through PROUD pilot study

1: US CDC 2014, WHO 2014

2: Desai 2008, Juusola 2012, Schneider 2014



Aims and objectives

Aim: To explore the potential impact of different eligibility criteria for PrEP for MSM attending Genitourinary Medicine (GUM) clinics in England to inform the development of a targeted programme by determining possible:

- Size: number MSM eligible
- Impact on the HIV epidemic: number of infections averted
- Effectiveness: number needed to treat (NNT)



Methods

Dataset: GUMCAD (GUM Clinic Activity Dataset)

Variables: Observed HIV incidence in repeat attenders, annual attendees

7 possible criteria investigated:

1. all MSM attending GUM clinics
2. Sexual partner reported as HIV + or unknown
3. Prior bacterial STI (chlamydia, gonorrhoea, syphilis (1/2/early latent), LGV, NSGI, chancroid, donovanosis)
4. ≥ 10 sexual partners in the past 6 months
5. Frequent HIV tester (≥ 2 tests per annum)
6. Prior infection with chlamydia in past 12 months
7. Prior infection with gonorrhoea in past 12 months

Outputs: estimated number of HIV infections averted, NNT to prevent an infection

Assumptions: 90%/60%/30% PrEP coverage and 100% adherence and 100% efficacy

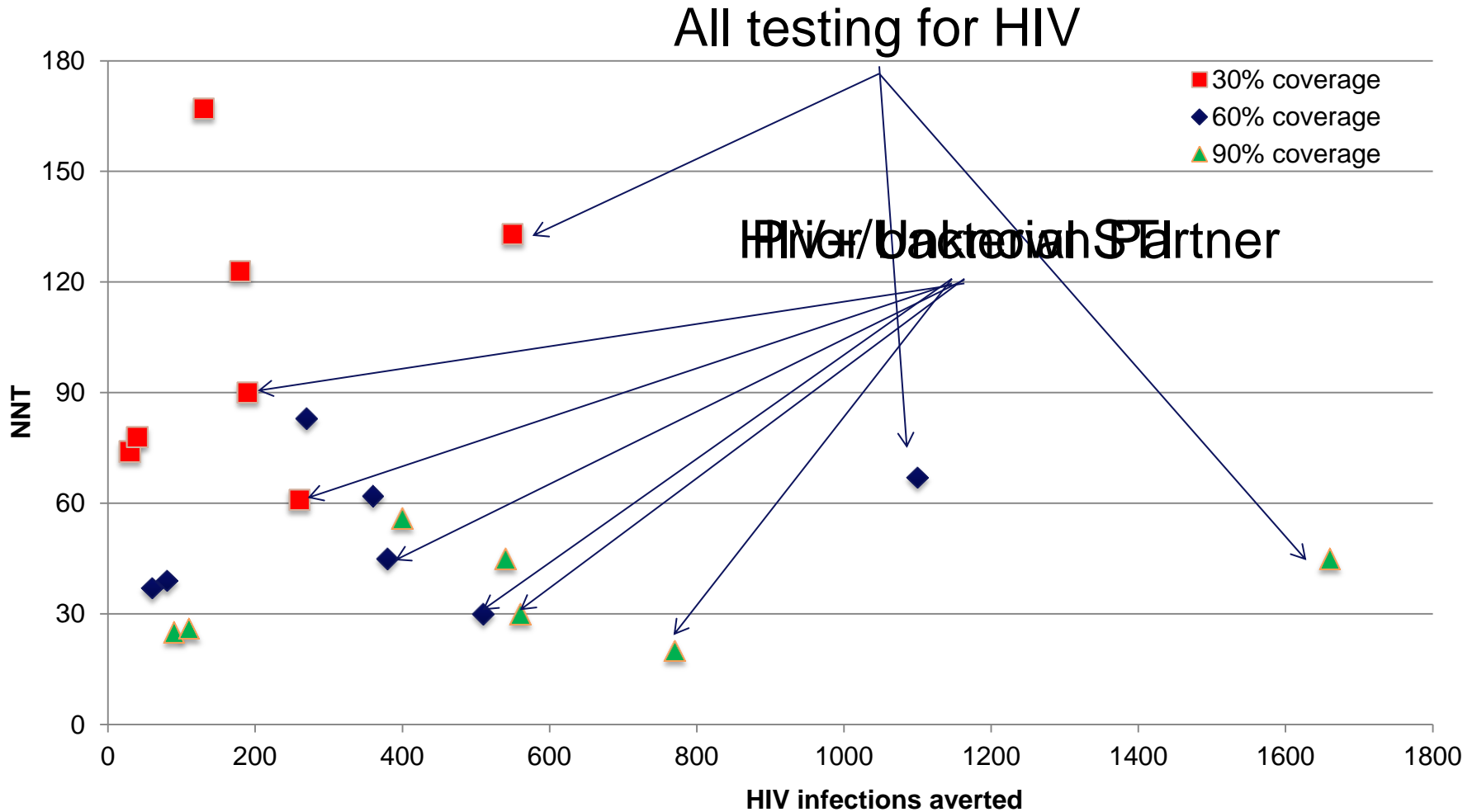


Estimated size of eligible population

Possible PrEP eligibility criteria	Annual Attendees (2012)	Annual Attendees Percent	Observed HIV incidence
Attending for a HIV test	74000	100%	2.5%
Sexual partner HIV+ve or unknown status	15500	21%	5.5%
Prior bacterial STI	17000	23%	3.7%
≥10 sexual partners	22000	30%	2.7%
Frequent HIV tester	22000	30%	2.0%
Prior chlamydia	2000	3%	4.5%
Prior gonorrhoea	3000	4%	4.3%



Estimated impact of PrEP





Conclusion

- Targeted offer of PrEP could have a dramatic impact on the HIV epidemic among MSM in England if offered to MSM:
 - reporting a sexual partner as HIV +/- unknown status or
 - diagnosed with a prior bacterial STI in the past 12 months
- These criteria could avert almost :
 - ~1/3 infections with NNT <30 at 90% coverage or
 - ~1/5 new infections with NNT <45 at 60% coverage
- Cost-effectiveness modelling will determine optimal eligibility criteria for population level benefit



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Thank you



Results

Possible PrEP eligibility criteria	Annual Attendees (2012)	Annual Attendees Percent	Observed HIV incidence	Annual HIV infections averted per PrEP person years								
				PrEP Person Years (90% coverage)	HIV infections averted (100% adherence)	NNT to prevent an infection	PrEP Person Years (60% coverage)	HIV infections averted (100% adherence)	NNT to prevent an infection	PrEP Person Years (30% coverage)	HIV infections averted (100% adherence)	NNT to prevent an infection
Clinic population	88000											
MSM attending GUM clinic for a HIV test	74000	100%	2.5%	66000	1660	45	45000	1100	67	22000	550	133
Eligibility criterion												
Sexual partner reported as HIV+ve/ unknown status	15500	21%	5.5%	14000	770	20	9300	510	30	4700	260	61
Prior bacterial STI (12 mths)	17000	23%	3.7%	15000	560	30	10200	380	45	5100	190	90
Prior 10 or more partners (6 mths)	22000	30%	2.7%	20000	540	45	13200	360	62	6600	180	123
Frequent HIV tester (≥2 tests pa)	22000	30%	2.0%	20000	400	56	13200	270	83	6600	130	167
Prior chlamydia (12 mths)	2000	3%	4.5%	2000	90	25	1300	60	37	600	30	74
Prior gonorrhoea (12 mths)	3000	4%	4.3%	2700	110	26	1800	80	39	900	40	78