

Prospects for PrEP in England – Need, Policy, Cost & Impact

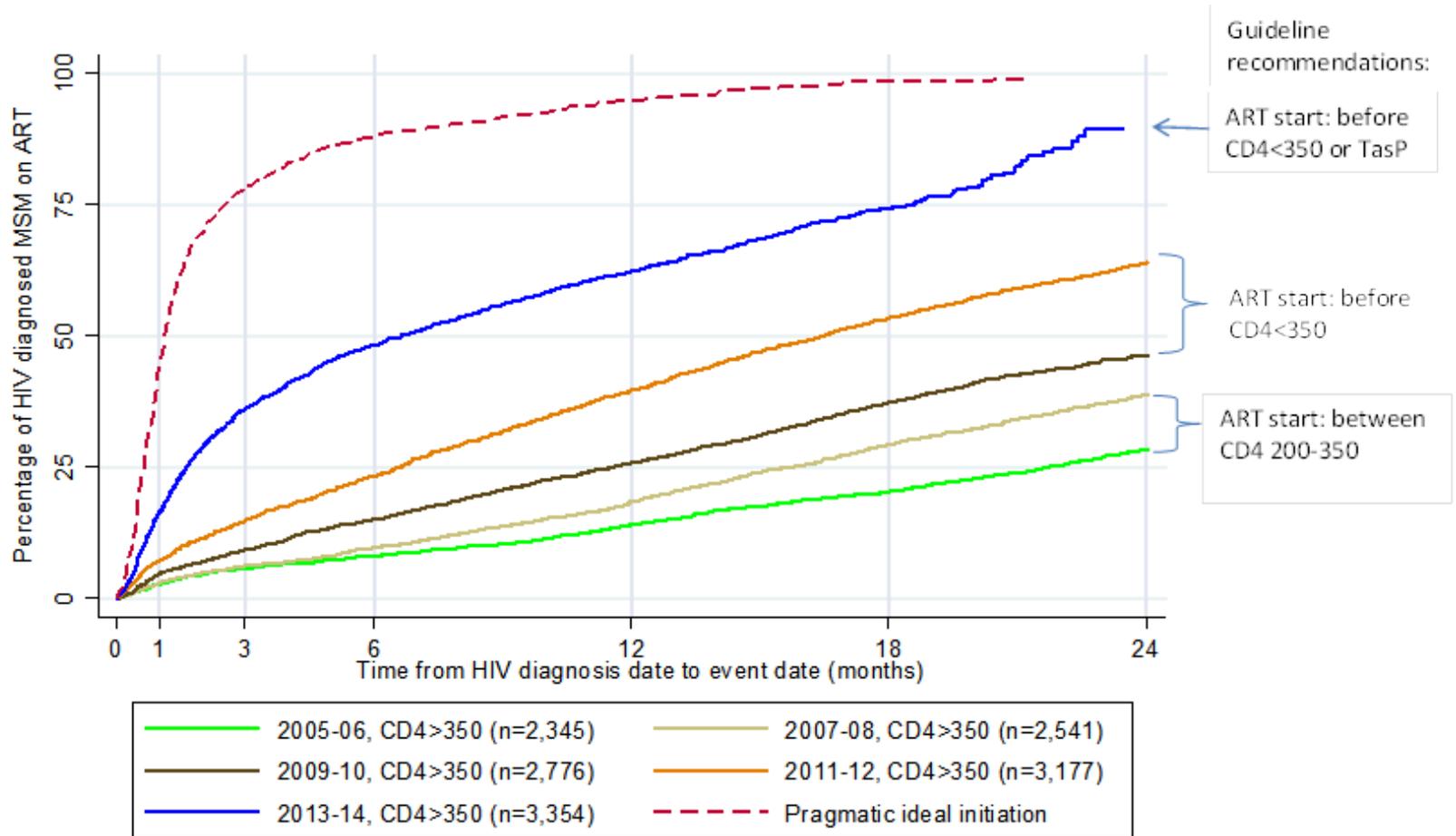
Noel Gill & PHE colleagues

- 1) **Clinical effectiveness of PrEP to prevent HIV acquisition established^[1,2].**
- 2) **What has been the impact of TasP?**
- 3) **Is PrEP cost-effective?**
 - **What conditions affect cost-effectiveness in the current epidemic, health service & public funding situation?**
 - **What assumptions give us high confidence of cost-effectiveness?**
- 4) **How many need PrEP?**
- 5) **What public health and budgetary impact might be expected?**

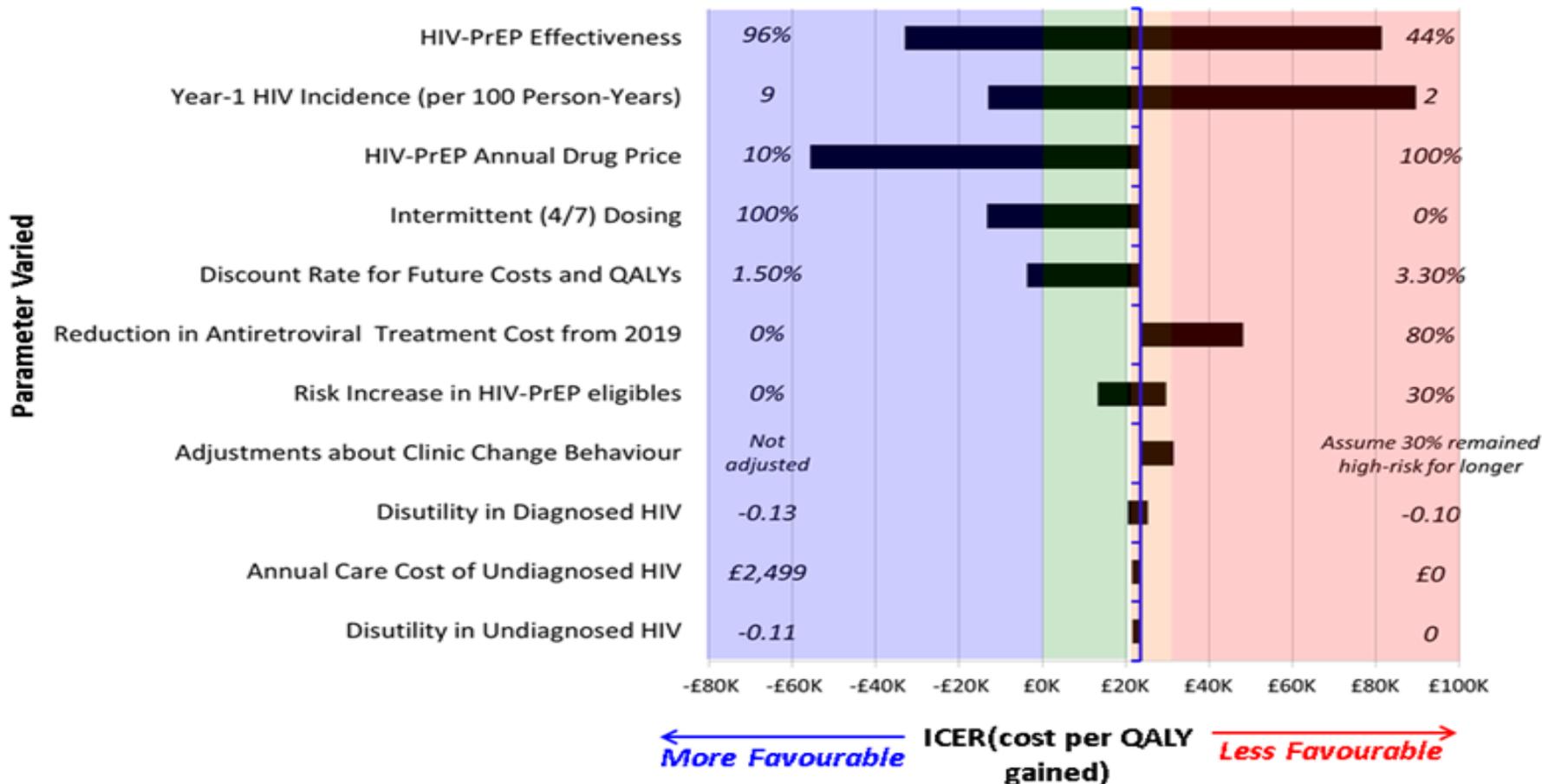
[1] McCormack S et al. (2015) ([http://dx.doi.org/10.1016/S0140-6736\(15\)00056-2](http://dx.doi.org/10.1016/S0140-6736(15)00056-2))

[2] Molina JM et al. (2015) (<http://www.nejm.org/doi/full/10.1056/NEJMoa1506273>)

Months to ART in MSM > 350 CD4 at HIV diagnosis by calendar year cohorts



Sensitivity of ICER* to Plausible Parameter Ranges



5,000 MSM at High Risk during the Initial HIV-PrEP Year[†]; HIV-PrEP Effectiveness 86% *or* 64%;
20% Risk Compensation;

ICER = Cost-Saving *or* £23.5K; Prevents 118 *or* 81 & Delays 19 *or* 13 Lifetime HIV+

[†]Initial year incidence 3.3 per 100 person-years, unless varied;

PrEP Numbers given Policy & Coverage - England

Year	2012	2014	2015	2017	2018	2019
MSM GU Clinic attendees (HIV –ve/unknown)	89K	110K	117K			
MSM GU Clinic attendees (HIV –ve/unknown) AND HIV test –ve 42-365 days prior	19K	25K	29K	36K	39K	40K
Of whom had bacterial STI – prior year or first attendance – 33% for 2017 onwards	6,100	8,200	10,300	11,900	12,700	13,100
Measured and Estimated Annual HIV incidence	3.3%	3.3%		3.3%	3.3%	3.3%
Realistic Scenario numbers on PrEP				2,900	4,300	4,700
<i>Coverage</i>				24%	34%	36%

Public Health, Budgetary Impact, & Price

Year	2017	2018	2021
(PrEP Policy Year)	1	2	5
<u>Realistic Scenario</u>			
Number of MSM eligible	11,900	12,700	13,100
Coverage	2,900	4,300	7,200
Public Health Impact (Annual primary HIV infections averted by PrEP)	54	81	135
<u>Budgetary Impact with Price Discount</u>			
0% discount on BNF list price ¹	£15.8M	£23.2M	£30.1M
50% discount on BNF list price ²	£8.3M	£12.0M	£18.8M
80% discount on BNF list price ³	£3.8M	£5.3M	£7.6M

¹ Apart from 20% reduction in ARV treatment cost and PrEP BNF list price from 2019/20.

² Assuming 50% discount on PrEP BNF list price from 2016/17 and 20% reduction in ARV treatment cost from 2019/20.

³ Assuming 80% discount on PrEP BNF list price from 2016/17 and 20% reduction in ARV treatment cost from 2019/20.

Conclusions

- a) **At current drug prices, cost-effectiveness of PrEP is very sensitive to key parameters about which there is much uncertainty.**

- b) **A substantial reduction in the price of PrEP is needed to give the necessary robust assurance of cost-effectiveness, and for an affordable public health programme of sufficient size.**

- c) **A ‘successful’ PrEP programme in England will be an enormous challenge.**