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?**

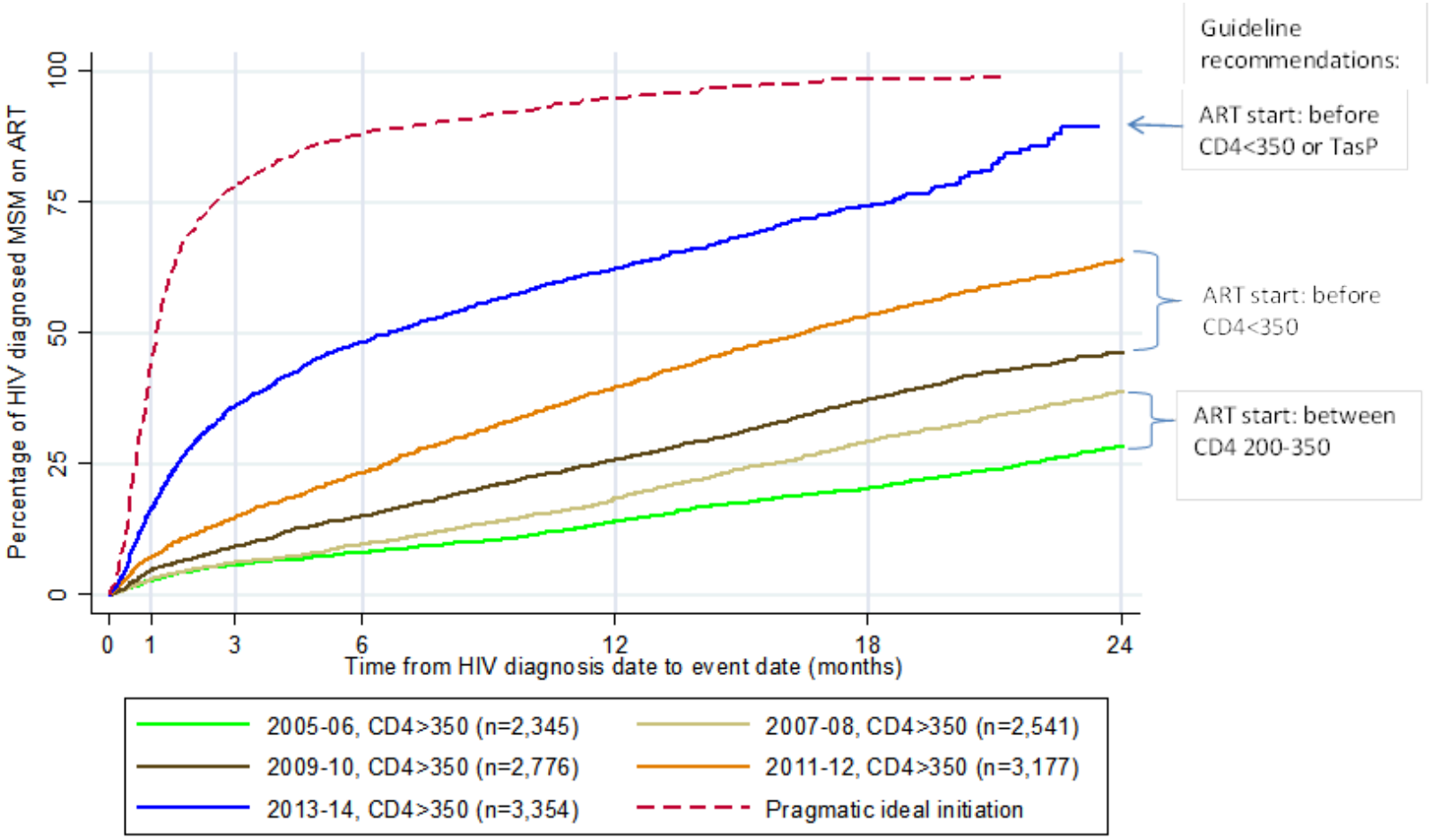
   - **What conditions affect cost-effectiveness in the current epidemic, health service & public funding situation?**
   - **What assumptions give us high confidence of cost-effectiveness?**

4) **How many need PrEP?**

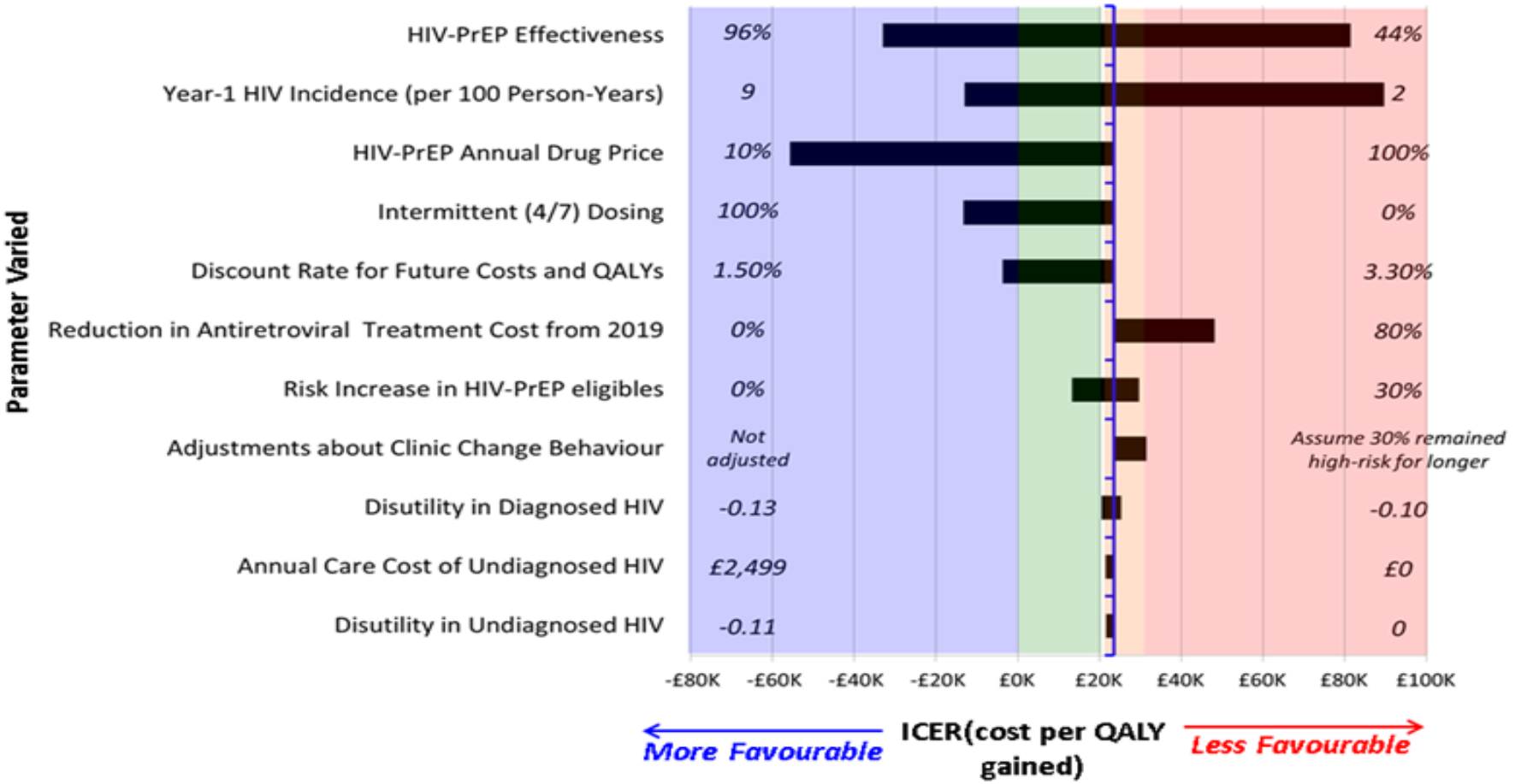
5) **What public health and budgetary impact might be expected?**

[1] McCormack S et al. (2015) (http://dx.doi.org/10.1016/S0140-6736(15)00056-2)
[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
Coverage				***24%***	***34%***	***36%***

Public Health, Budgetary Impact, & Price

Year	2017	2018	2021
(PrEP Policy Year)	1	2	5
Realistic Scenario			
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
Budgetary Impact with Price Discount			
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.