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90 90 90 targets
achievable?
will it result in the end of HIV/AIDS?

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Public Health England



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*We gratefully acknowledge
persons living with HIV,
clinicians, health advisors, nurses, microbiologists,
public health practitioners, data managers and other
colleagues who contribute to
the surveillance of HIV and STIs in the United Kingdom*



Cascade/ Continuum of care

- Very helpful public health tool to assess success of testing and treatment programs
- Highlight key breakdowns in service delivery
- Relies on good data – however these are often insufficient or missing
- Few published ‘cascades’ ? representative of national picture
- Need for additional insights into failures and successes



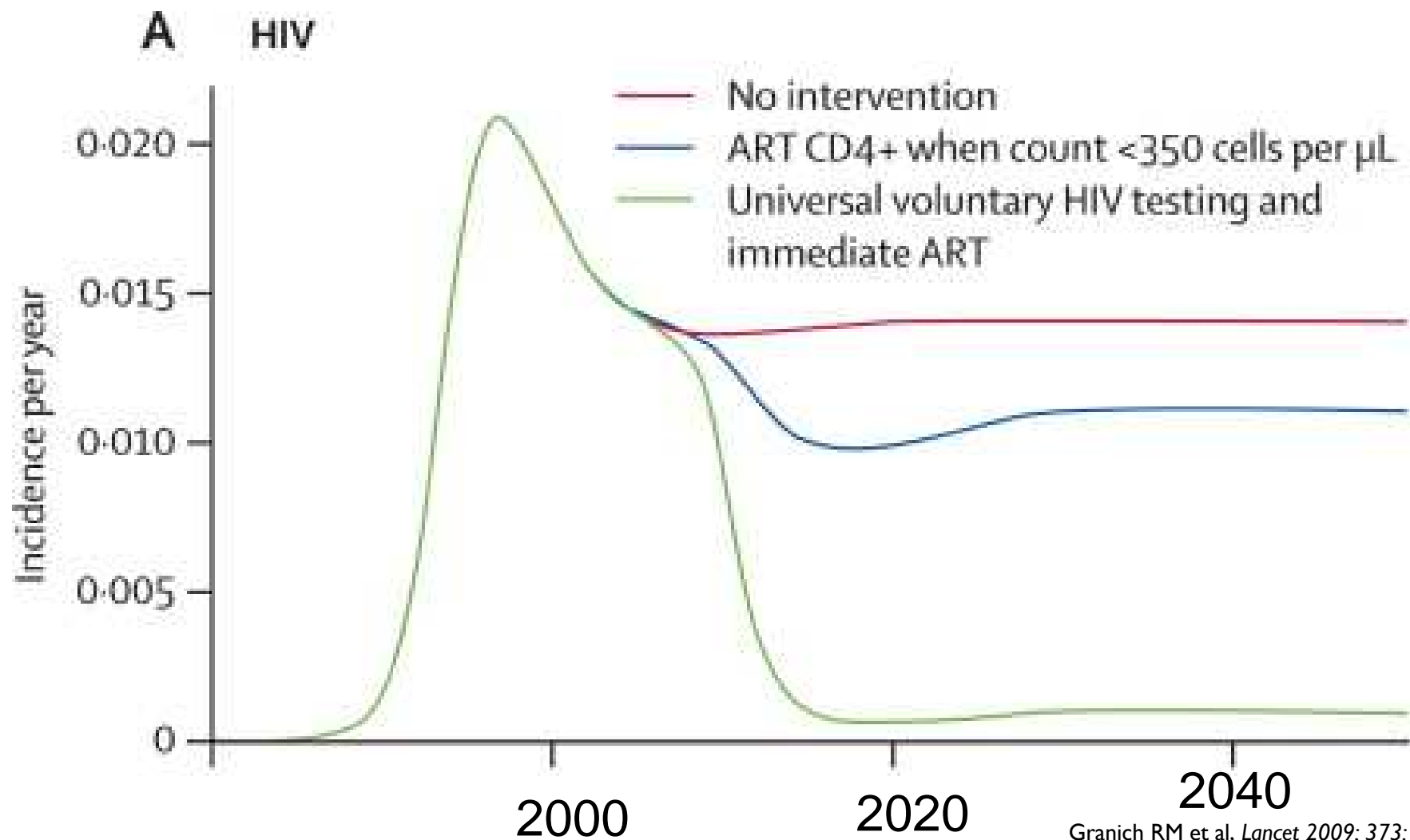
UNAIDS has ambitious and aspiring targets of the continuum of care

By 2020

- 90% of all people living with HIV to know their status
 - 90% of all those diagnosed to receive sustainable antiretroviral therapy
 - 90% of treated persons to have a durable viral suppression
- ‘This would result in the end of AIDS and make HIV transmission rare by 2030’



Predicted Impact of test and treat on HIV incidence



Granich RM et al, *Lancet* 2009; 373: 48–57



- Are the UNAIDS goals achievable?
- Will it result in the end of AIDS?
- and a near elimination of HIV?



HIV in the UK: 2013

HIV diagnoses, AIDS & deaths

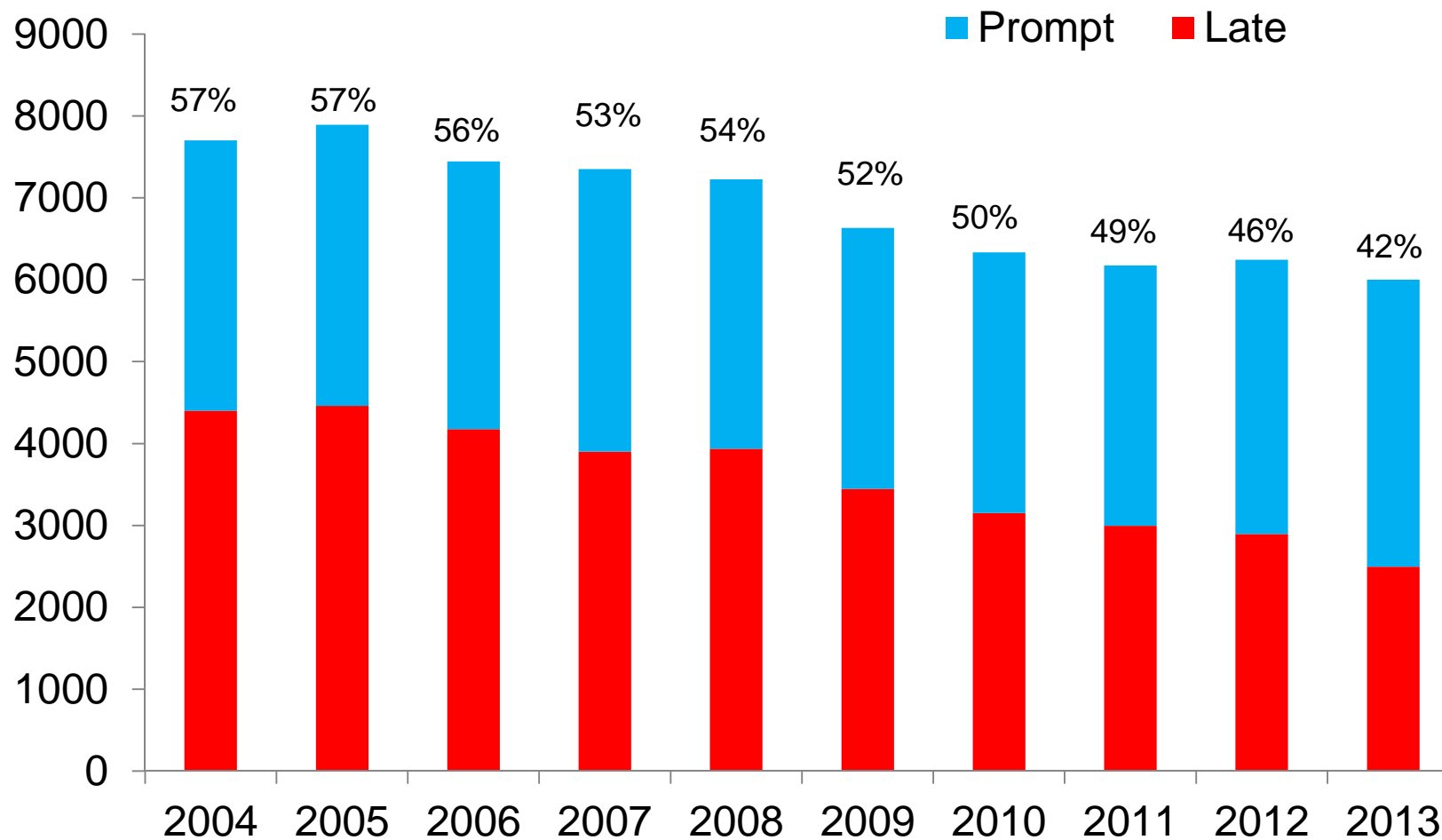
- 6,000 new HIV diagnoses
- 42% diagnosed late
- 319 reports of AIDS
- 577 deaths – 75% are late diagnosed





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Number of new HIV diagnoses % with CD4 <350 cells, UK





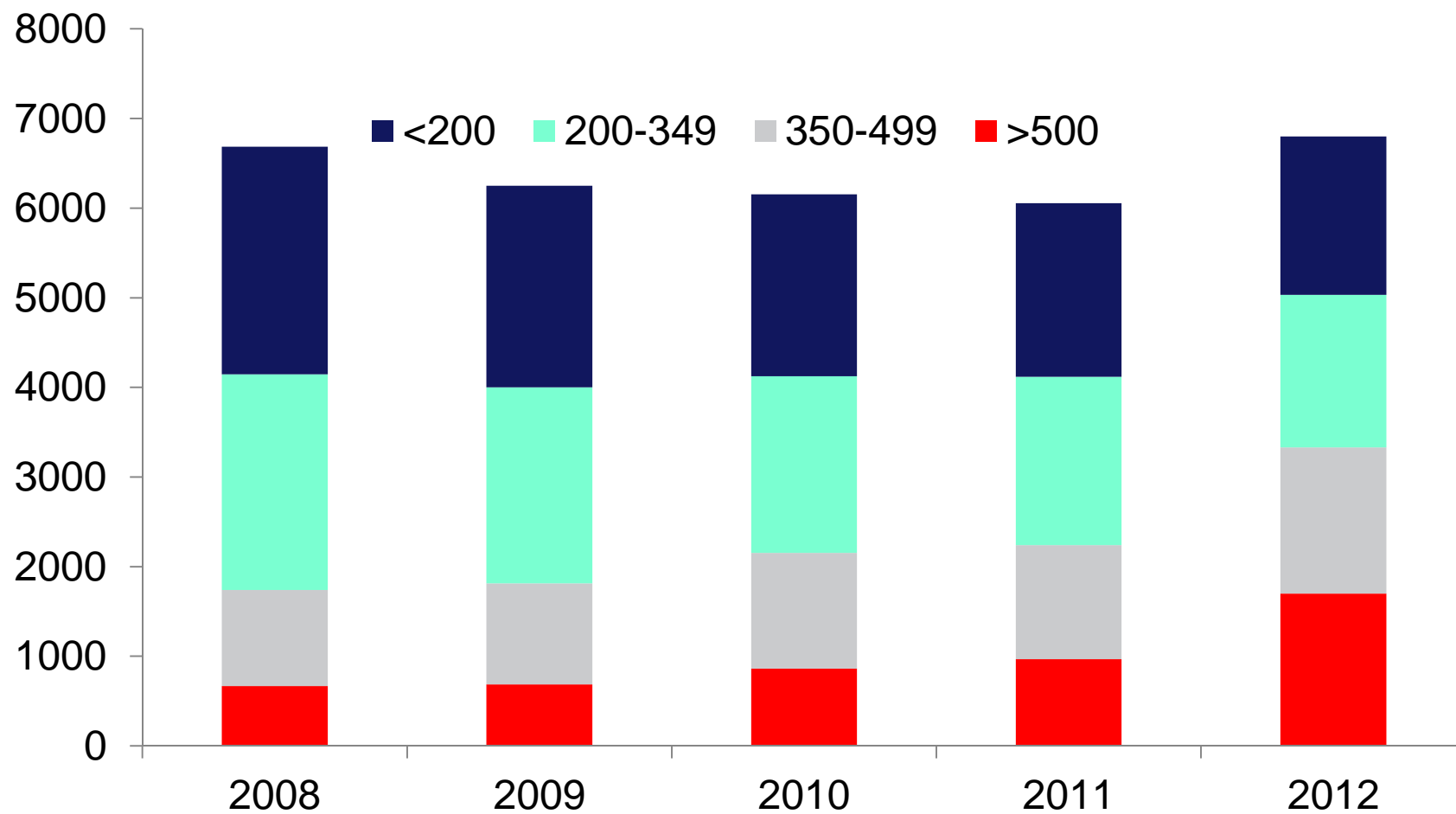
Breakdown of patients on ART, UK, 2008-2012

Year	Total ¹	On ART ¹ No. (%)	Started ART ²		Number untreated ¹
			< report year	In report year	
2008	59,657	45,167 (76)	38,394	6,686	14,490
2009	63,605	49,615 (78)	43,316	6,250	13,990
2010	67,709	55,358 (82)	49,162	6,154	12,351
2011	72,559	60,668 (84)	54,580	6,055	11,891
2012	76,705	65,487 (85)	58,662	6,800	11,218



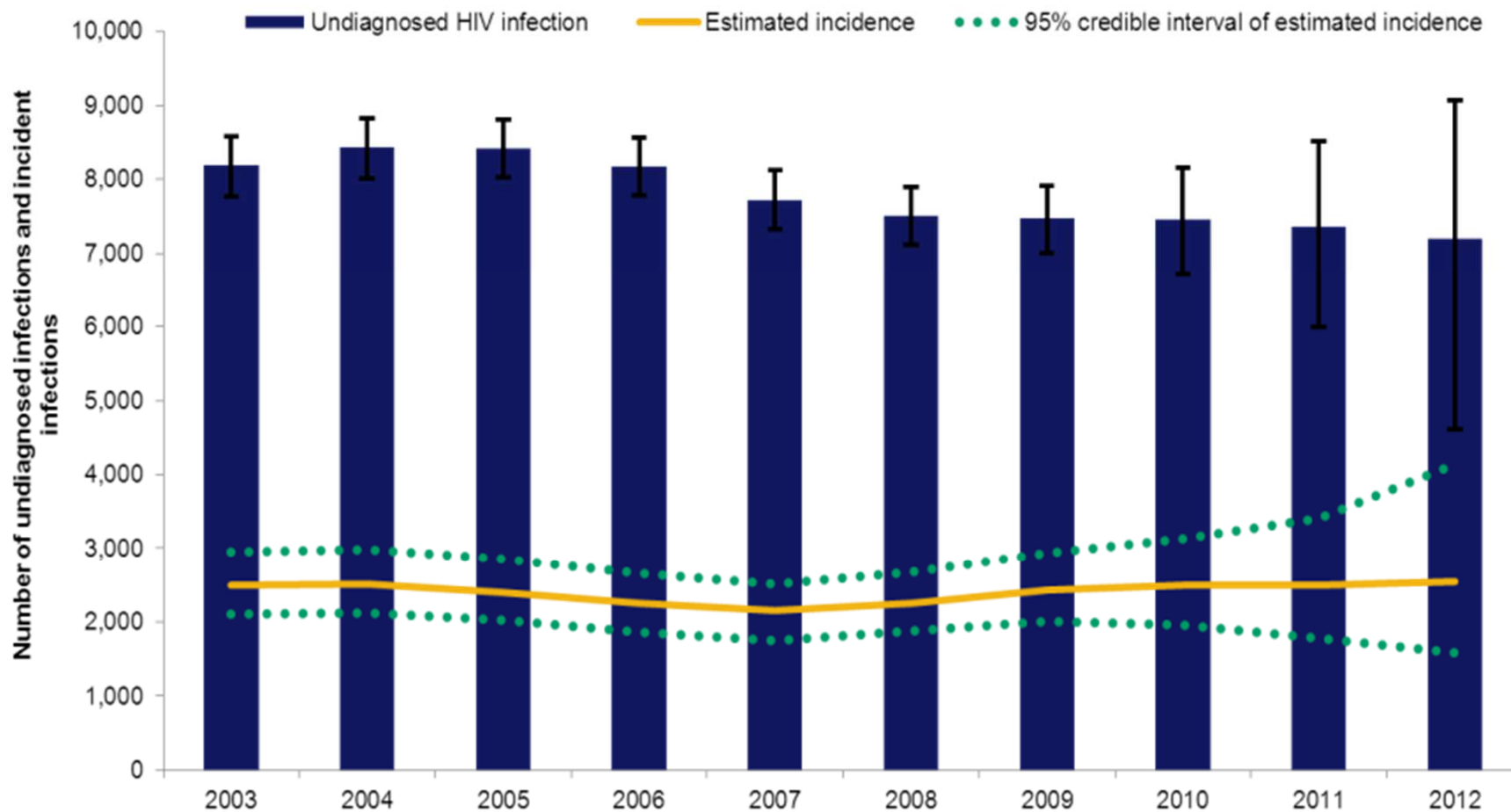
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Number of patients initiating ART by CD4 count at initiation, UK, 2008-2012





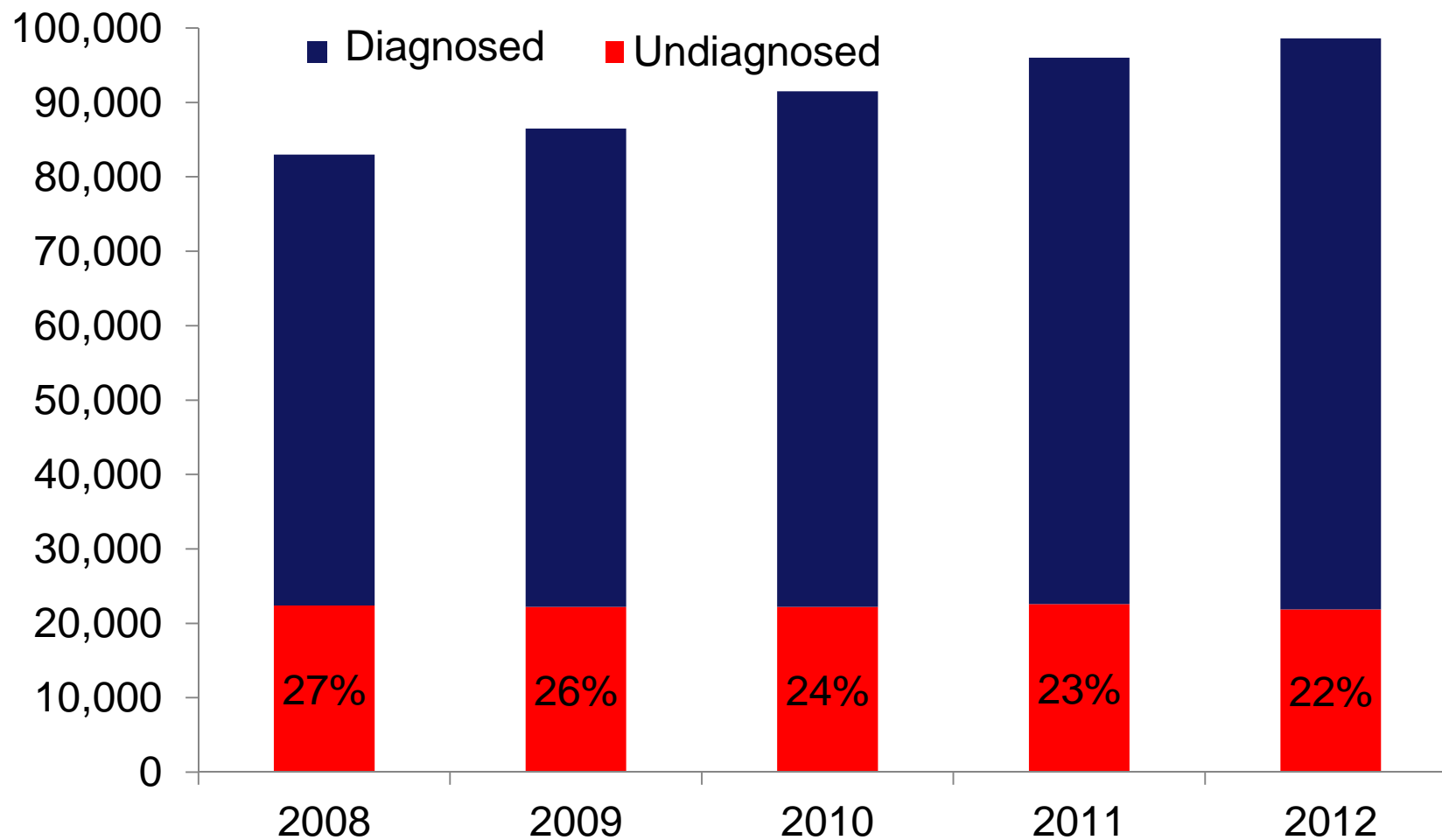
Back-calculation estimate of HIV incidence and prevalence of undiagnosed infection among MSM: UK, 2003-2012



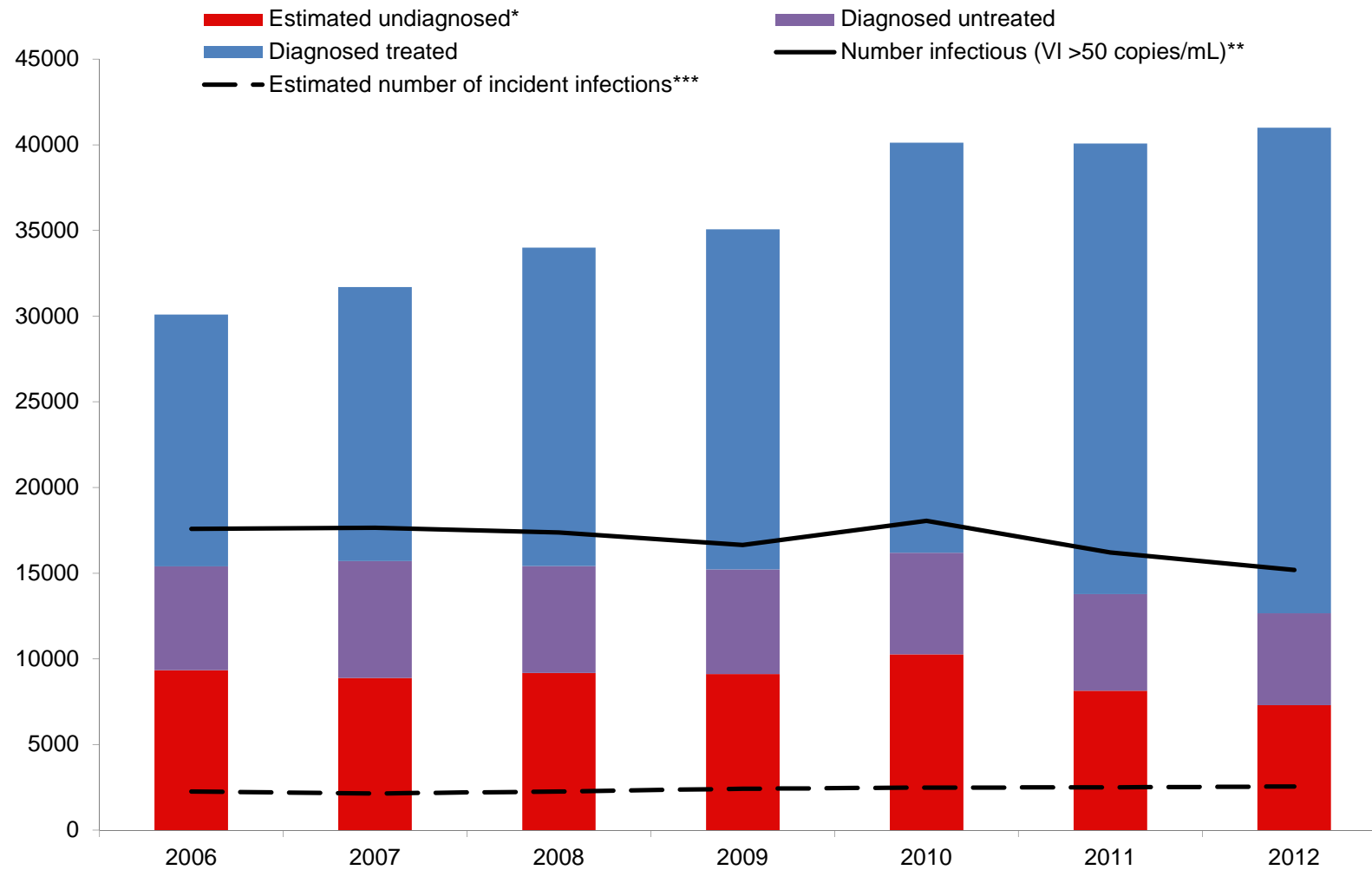


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Estimated number persons living with HIV infection (diagnosed and undiagnosed), UK



Number of MSM living with HIV by diagnostic and treatment stats, number infectious (VL>50copies/mL) and estimated number of incident infections, UK, 2006-12



* MPES model, Presanis et al

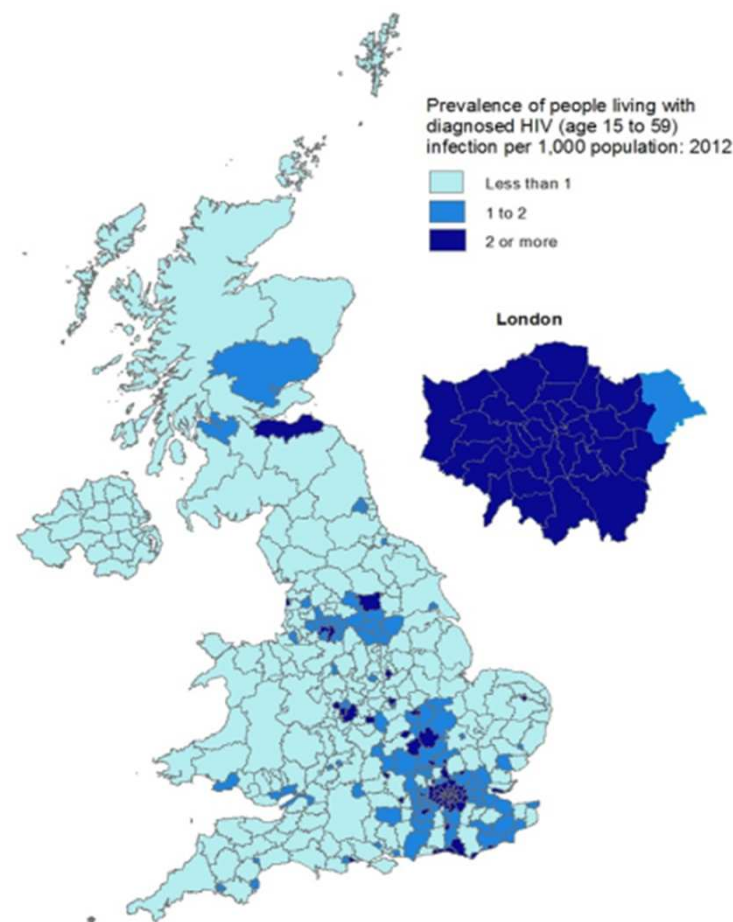
** Assuming undiagnosed had same proportion with VL >50 copies/mL as those newly diagnosed and untreated

*** Birrell, data for England and Wales only, pers comm

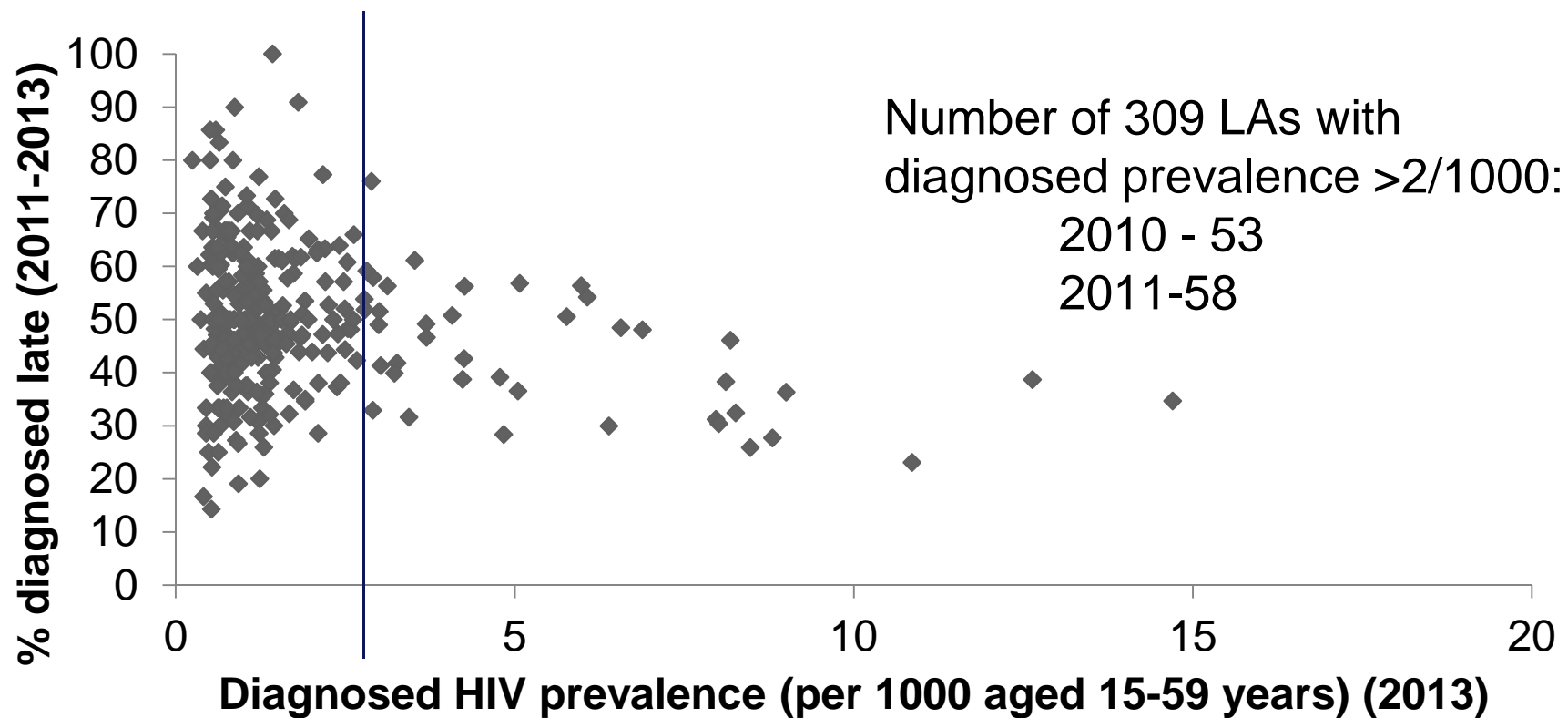


So why can we not eliminate HIV in the UK?

- Undiagnosed remain too high
- Failure to implement testing guidelines
 - low uptake in key populations and not frequent enough
 - geographical testing not working – is 2/1,000 threshold still relevant?
- Failure of partner notification policies
- Low investment in primary prevention



Scatterplot of diagnosed HIV prevalence and late HIV diagnosis, by LA, England



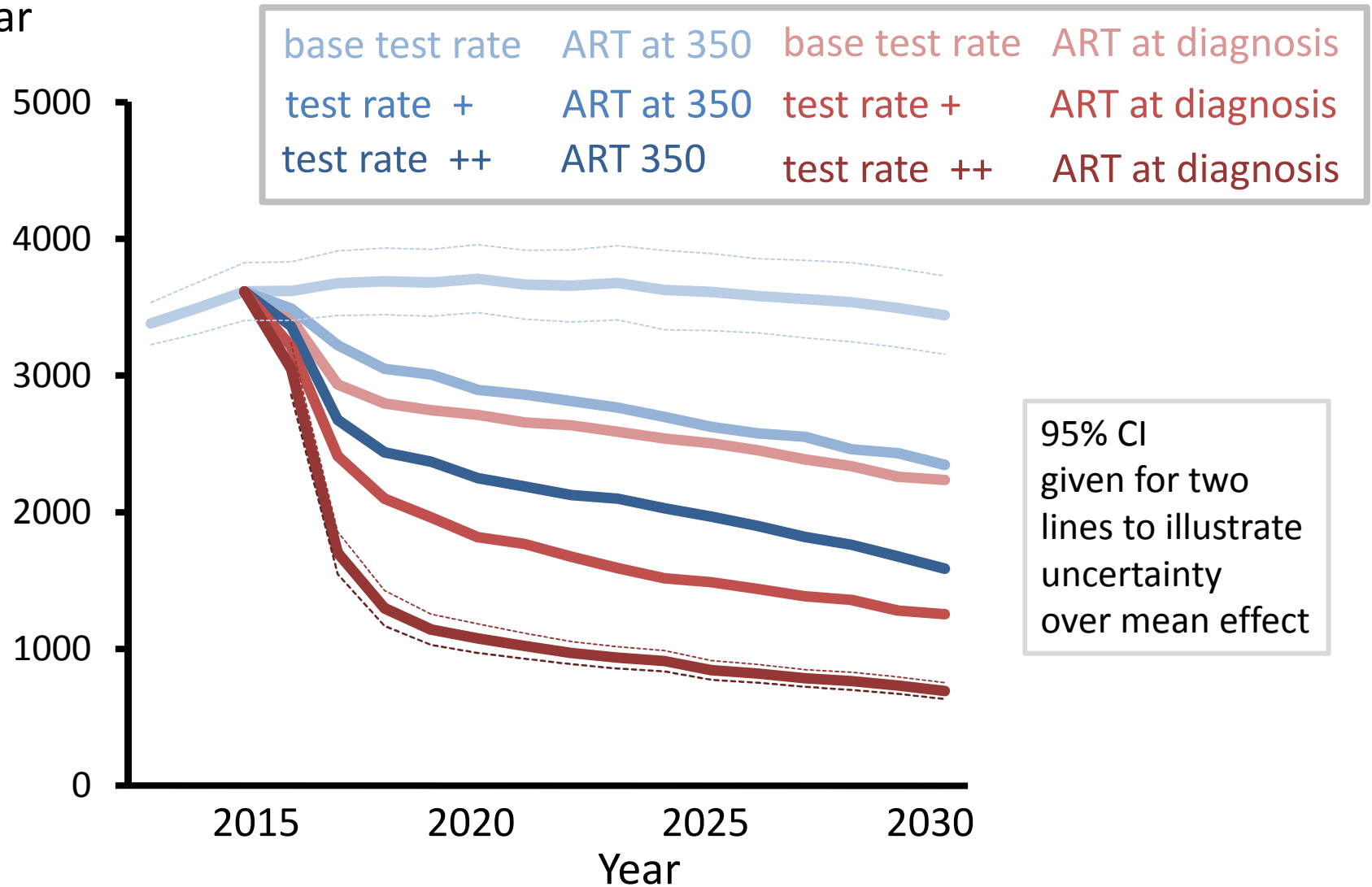
Phillips model of MSM in the UK

Potential increases in testing: probability of diagnosis by time from infection



HIV incidence among MSM, Phillips model

Number of new infections
per year





HIV transmission can we get ahead of the curve?

- ? Role of undiagnosed primary infection
- ? Treatment as Prevention
- ? type of relationships 'regular' vs 'casual', multiple partnerships
- ? Role of STIs and other coinfections
- ? Role of recreational drugs
- ? Role of serosorting
- ? Use of apps and changing social networks
- ? Role of Migration



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What needs to happen



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Know your epidemic and continuum of care

*good epidemiology drives &
monitors policy and prevention and
interventions at all levels*



Surveillance and monitoring

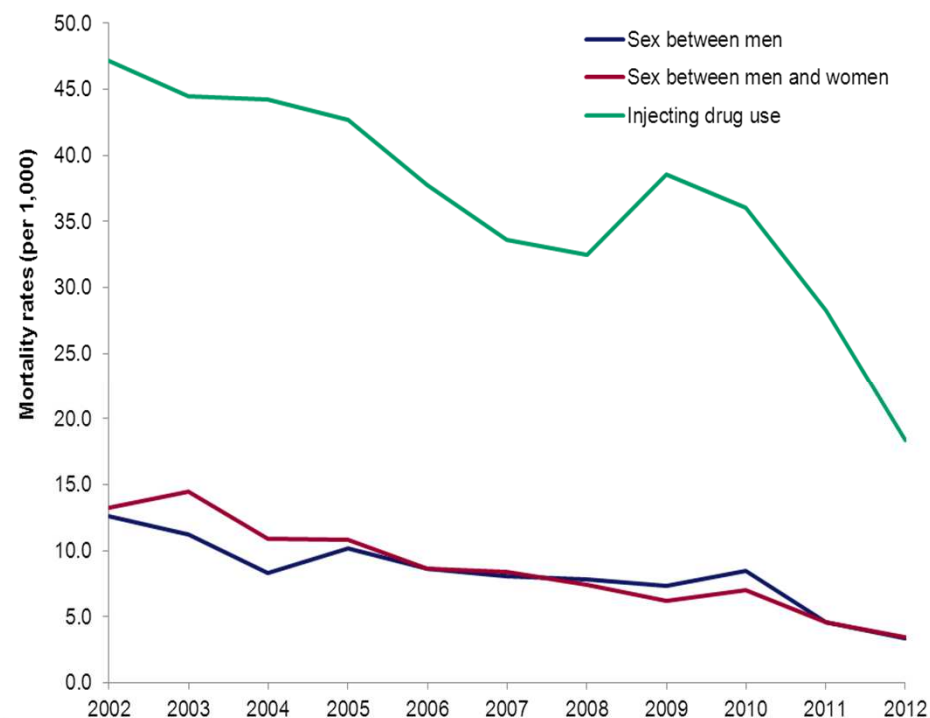
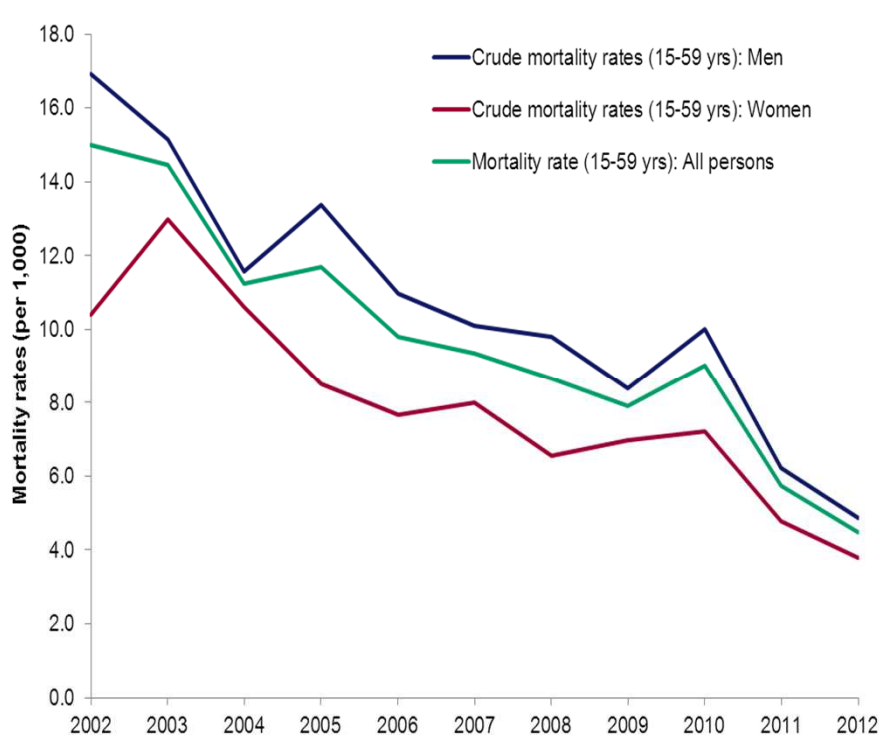
Know your epidemic

- First year of HIV diagnosis – is a good first step
- AIDS deaths – *estimates of deaths are not good enough!*
- No one should die of AIDS in 2014



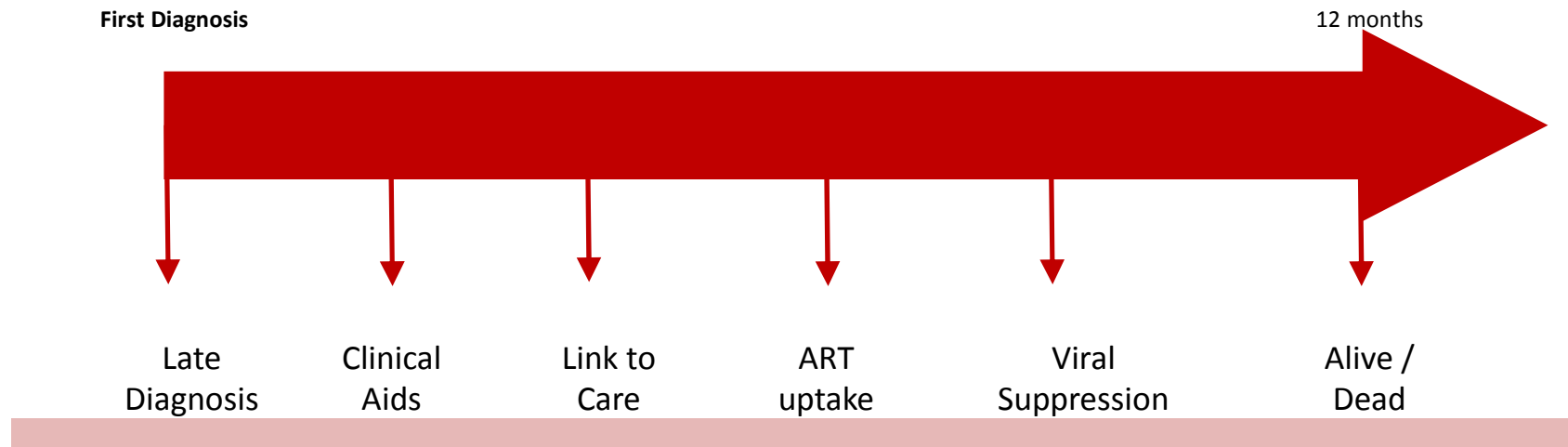
Monitoring of deaths among PLHIV 'No one should die of AIDS in 2014'

- 'Persons diagnosed early can expect a near normal life span' (*May, CHIC 2011*)
- In 2012, death rates among persons with HIV were 3 X that of general population





Monitoring the first year of HIV care





Surveillance and monitoring

Know your epidemic

- First year of HIV diagnosis – is a good first step
- AIDS deaths – *estimates of deaths are not good enough!*
- No one should die of AIDS in 2014

- Need to establish accurate death registers
- Good data collection requires a skilled public health workforce with epidemiological expertise
- Sensitive methods of collecting accurate risk information
- Work closely with modellers and statisticians to estimate undiagnosed & incidence infections

Maintained by Methods Insight for the Specialised Service National Transition Team

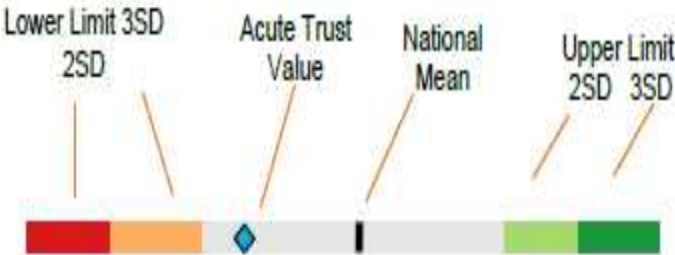
HIV Specialised Service Quality Dashboard

████████████████████ NHS FOUNDATION TRUST

S

Spine Charts

SPC Sparklines



Annual Indicators (2011)		Num	Denom	Exclusions	Value	National Mean	Cha
HIV02b	Proportion of newly diagnosed patients with a CD4 count test done within 1 month of diagnosis	20.0	21.0	5	95.2	94.0	
HIV02c	Proportion of newly diagnosed patients with a CD4 count test done within 3 months of diagnosis	21.0	21.0	5	100.0	98.4	
HIV09aii	Proportion of newly diagnosed patients retained in HIV care one year after diagnosis	27.0	28.0	3	96.4	85.3	
HIV09bii	Proportion of all patients retained in HIV care in the following year	222.0	231.0	0	96.1	95.2	



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Lets not forget primary
prevention

the tool box is full

transfer and adapt what works



Primary prevention

- Greater investment relative to treatment and care
 - Provision of condoms and clean needles
 - Health education, knowledge and negotiation skills
 - Behavioural interventions
 - Harm reduction interventions
 - Addressing chemsex and mental health issues and poor sexual health
-
- *How do we better track successes and failures, and transfer and adapt what works?*
 - *Perhaps great emphasis on published RCTs*



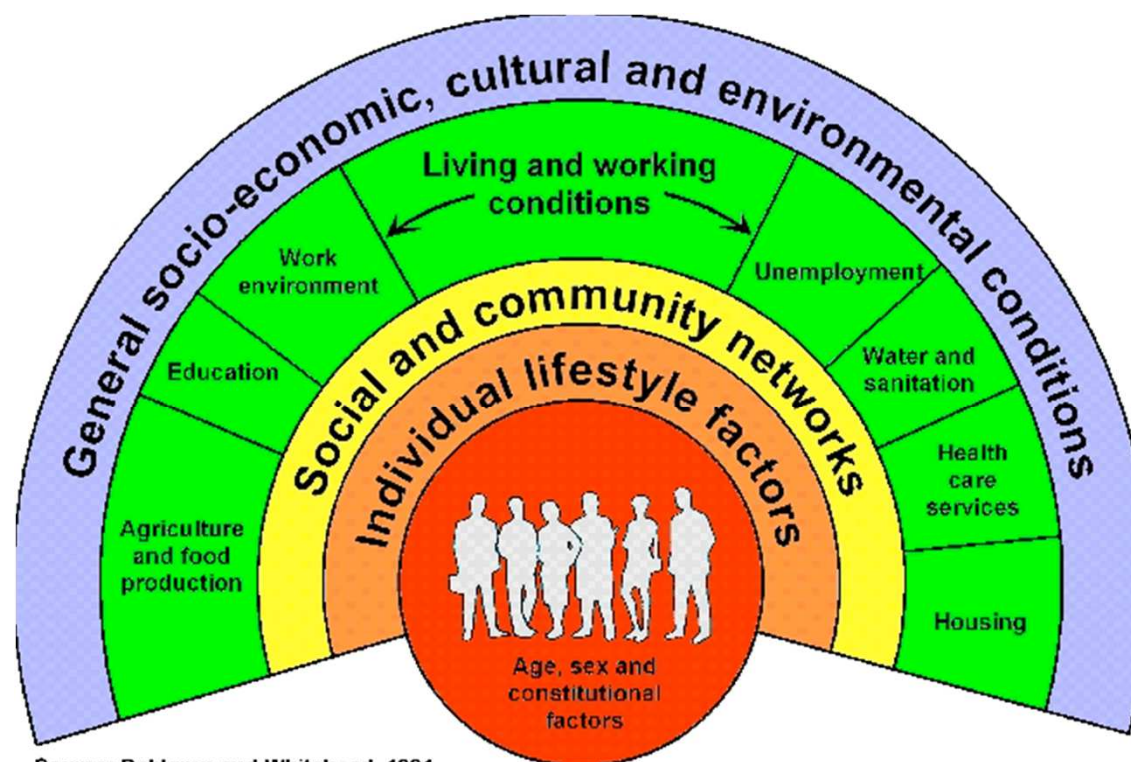
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Whole system approach



Whole system approach

Evidence that particularly sexual risk taking behaviour can only be addressed by tackling syndemic factors including depression, substance use, violence, sexual stigma, homophobia and homelessness





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Tackling socio-political barriers

transfer and adapt what works





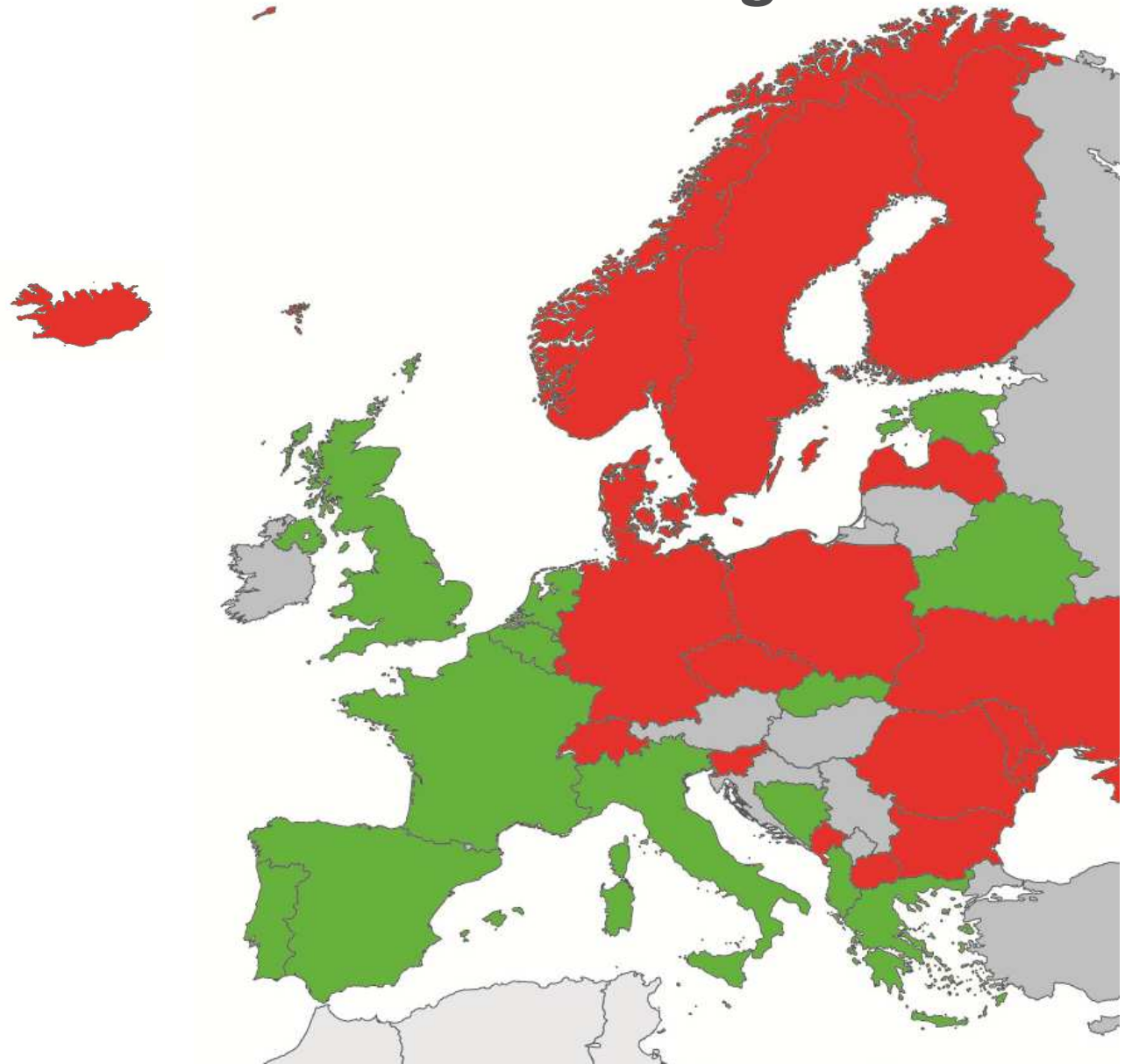
socio-political context

- Legal (human rights, anti-discrimination, drug laws, access to healthcare)
 - High level of stigma and discrimination even in countries where human rights laws are in place
 - Access to ARV – cost, procurement process, stock-outs, limited regimens
 - Affordable diagnostics and resistance testing
 - Structural barriers – greater need for integrated health care aimed at most at risk communities, provision of sex education in schools
 - Cultural barriers – providing friendly, non-judging services in partnership with NGOs
- *How do we better track successes and failures, and transfer and adapt what works?*

Availability of ART for undocumented migrants 2012

- Yes
- No
- Not reporting
- Not applicable

- Liechtenstein
- Luxembourg
- Malta





Promote sexual health among LGBT communities across the lifecycle

- Tackling homophobia and bullying
- Increase use of **high-quality, coordinated** educational, clinical, and other preventive services
- Increase knowledge, communication, and respectful **attitudes** regarding sexual health and drug and alcohol use
- Promoting opportunities to discuss role of **pleasure, satisfaction** and ability to use drugs with the least harm
- Increase healthy, responsible, and **respectful sexual behaviors** and relationships
- Decrease **adverse health outcomes**, including HIV/STDs, viral hepatitis, and sexual violence



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Community Engagement in the design, delivery and monitoring of interventions



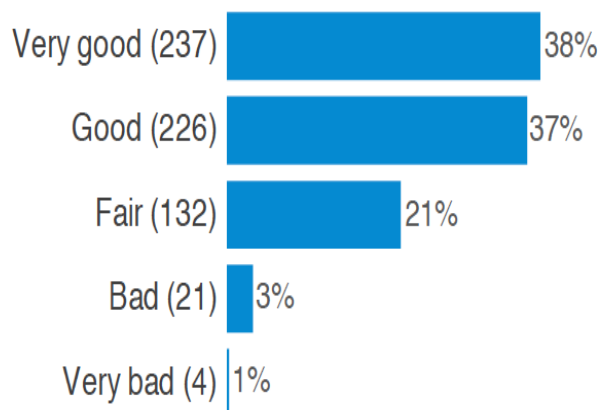
Community engagement

- Stigma and discrimination remains major barrier to testing, link and retention in care and prevention efforts
- Need greater engagement of PLHIV and affected communities at every level
- Tailored messages for individuals recognising diverse nature of community
- Supporting peer-led initiatives and outreach programs
- Sustained funding for NGOs
- Provision of integrated and welcoming, non judging services in partnership with NGOs

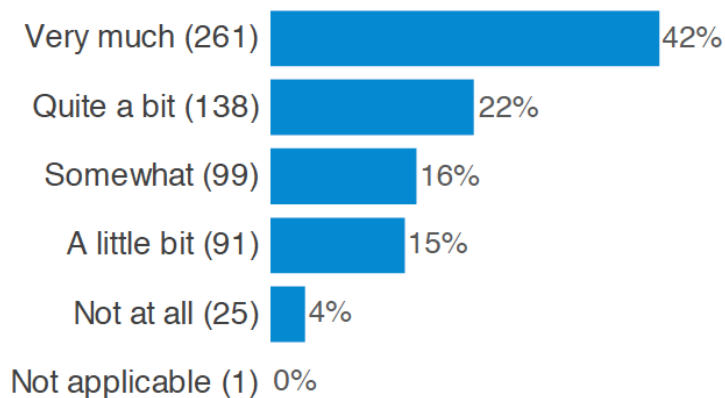


Positive Voices (n=650 PLHIV in the UK)

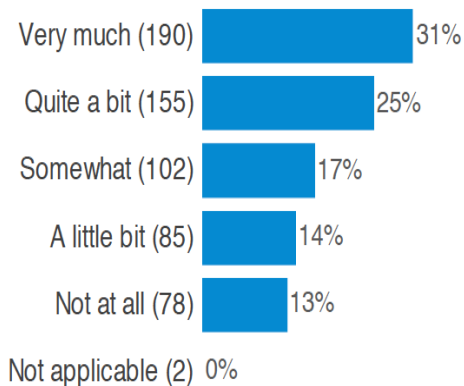
In general, would you say your health is TODAY?



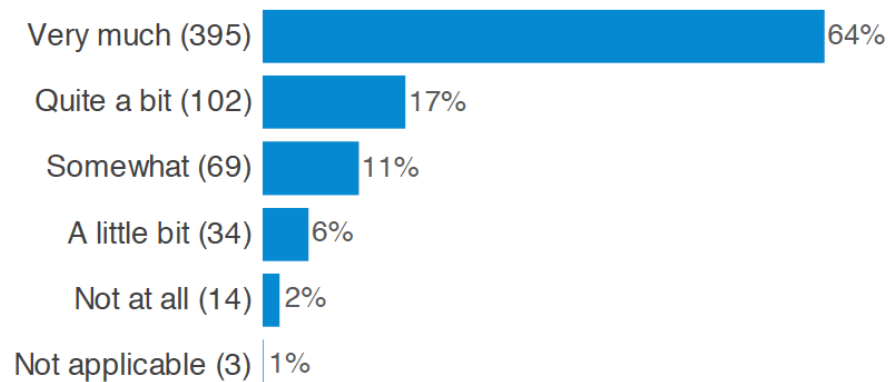
Functional Well-being (I am able to enjoy life)



Functional Well-being (I am content with the quality of my life right now)



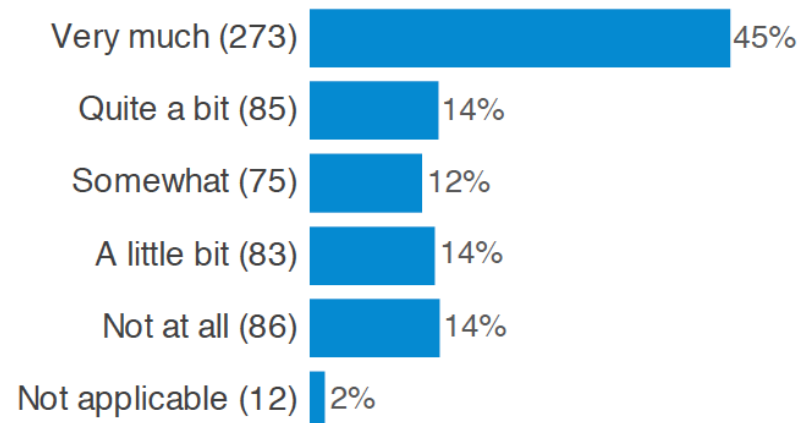
Functional Well-being (I have accepted my HIV diagnosis)



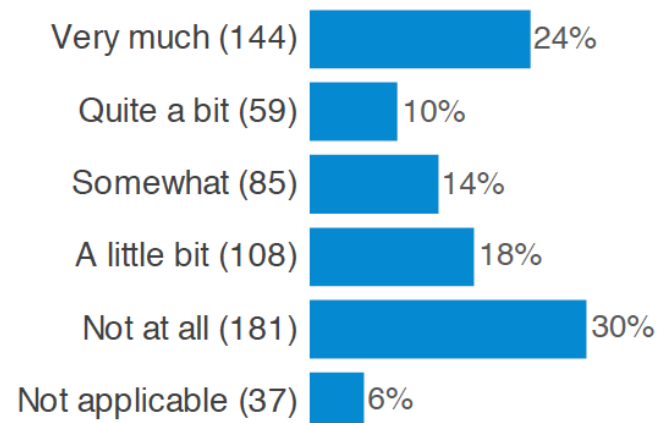


Positive Voices

Emotional Well-being (It is hard to tell other people about my HIV)



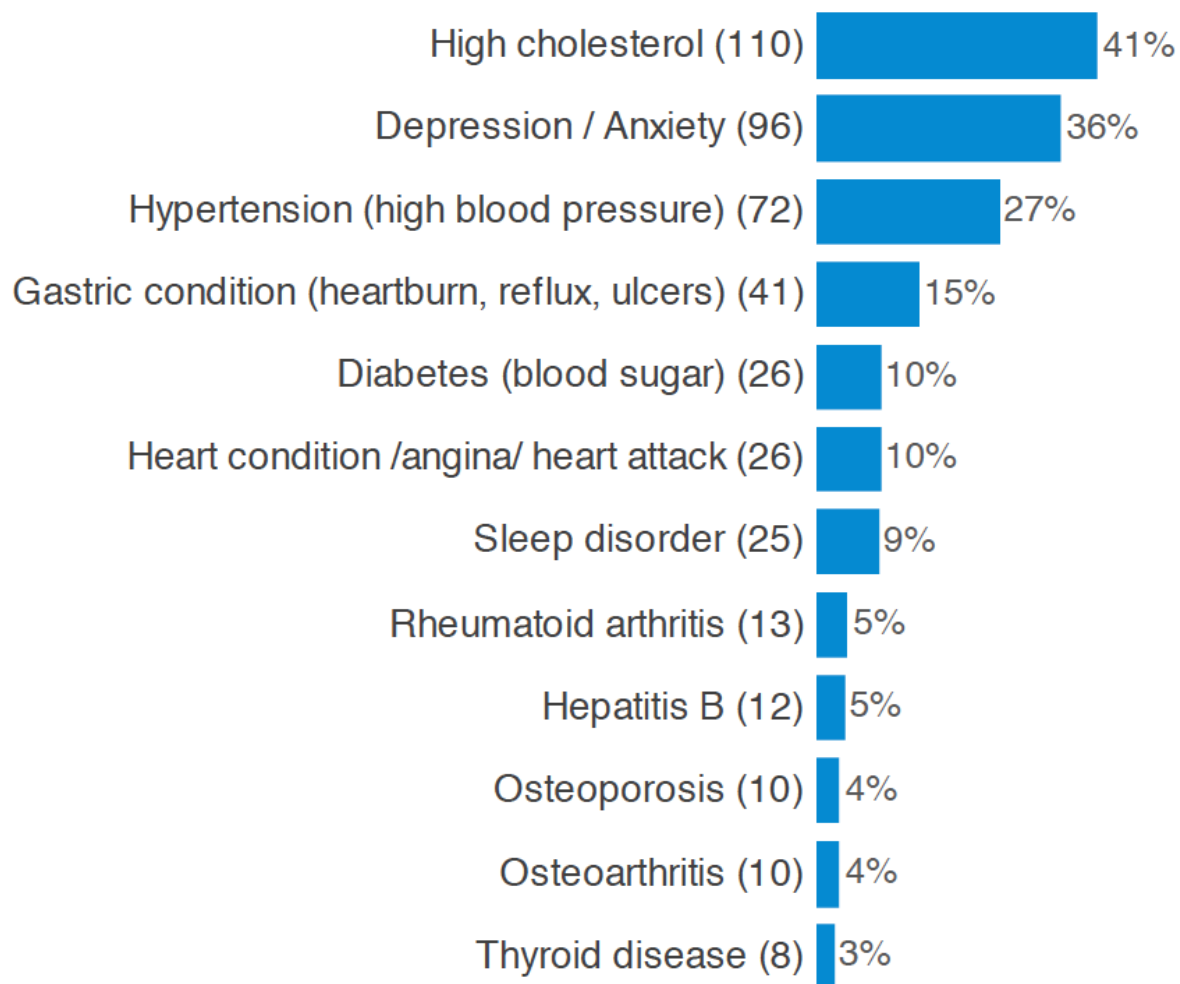
Emotional Well-being (I worry about transmitting HIV to others)





Positive Voices

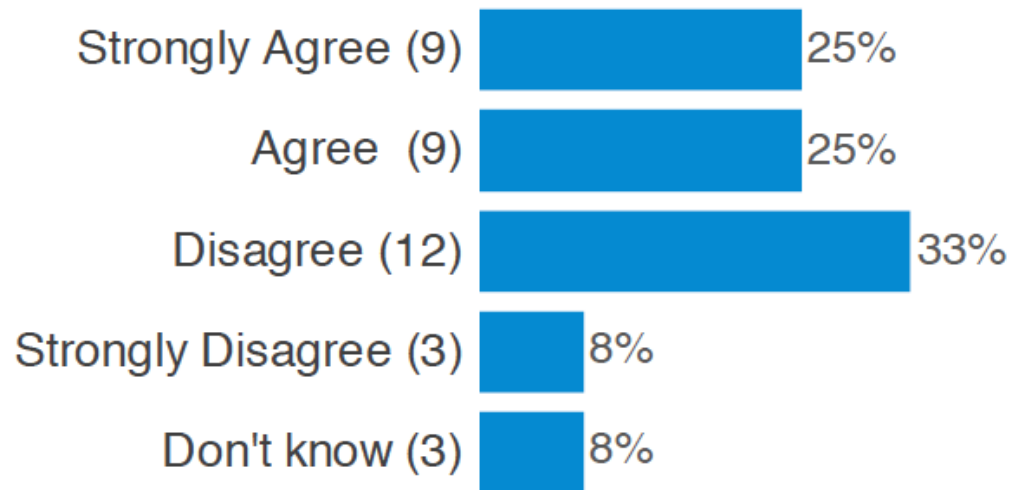
Which of these conditions have you taken prescribed medication or treatment for in the last 4 WEEKS?





Positive Voices

I would prefer to start HIV drugs now, in order to make me less infectious to a sexual partner





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Recently HIV diagnosed man, UK

From the year 2014 as i became hiv, my life just changed. my mum does not want to know me or to see as i told her about my sexuality and her last word was to me that, because i am a muslim and a gay men that's why i am paying for my sins. she also told me that i have chose hell here in this world and also after i will die.



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THANK YOU



Dr Alison Brown and the HIV team at Colindale, PHE

MPES team, Andrew Phillips

Persons living with HIV,

Clinicians, health advisors, nurses, microbiologists, public health practitioners, data managers and other colleagues who contribute to the surveillance of HIV and STIs in the UK