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HIV transmission in the UK within Black African communities: how common is it and how do we prevent it?

Dr Valerie Delpech

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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 UK

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Key findings: HIV in the United Kingdom, 2013

Heterosexual men and women

An estimated 59,500 people living with HIV in 2013 in the UK had acquired their infection through heterosexual contact. There has been a decline in the number of new HIV diagnoses reported among heterosexual men and women in recent years (from 4,890 in 2004 to 2,490 in 2013) due to fewer diagnoses among people born in sub-Saharan Africa. This has also resulted in a decline in the number and proportion of people diagnosed late (from 3,100 (65%) in 2004 to 1,200 (58%) in 2013). However, the number of reports among people who probably acquired HIV in the UK remains high at around 1,500 per year.

The large majority of black-African people living in the UK do not have HIV. Nevertheless, in 2013, an estimated 38,700 black-Africans were HIV positive and this group constitutes two-thirds (65%, 38,700) of all heterosexual people living with HIV. The HIV prevalence rate among black-African heterosexuals is 56 per 1,000 population aged 15-59 years (41 per 1,000 in men and 71 per 1,000 in women). Almost two in five (38%) black-African men and one in three (31%) black-African women living with HIV remained unaware of their infection. Rates of undiagnosed infection were higher outside of London at 50% and 41%, respectively.

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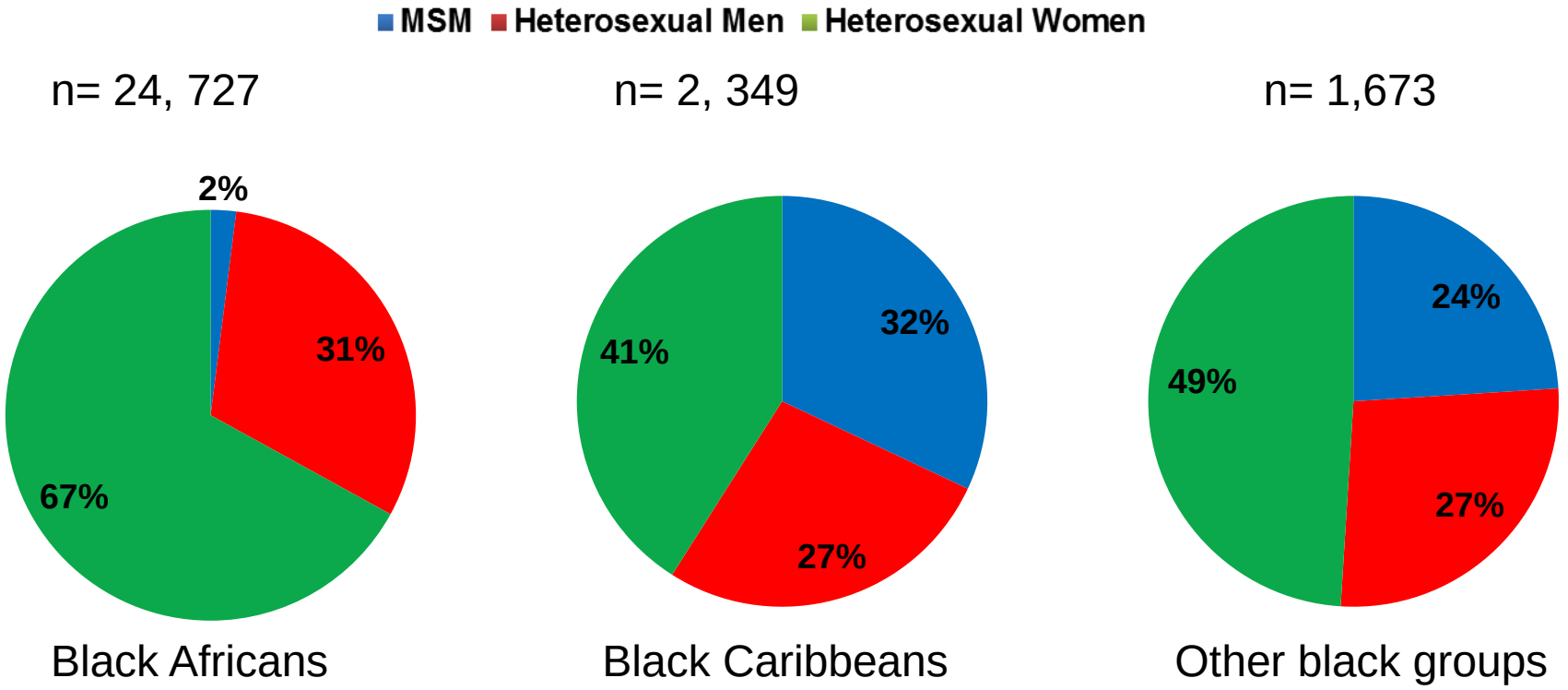
Persons of black ethnicity living with HIV by probable route of exposure, UK : 2013



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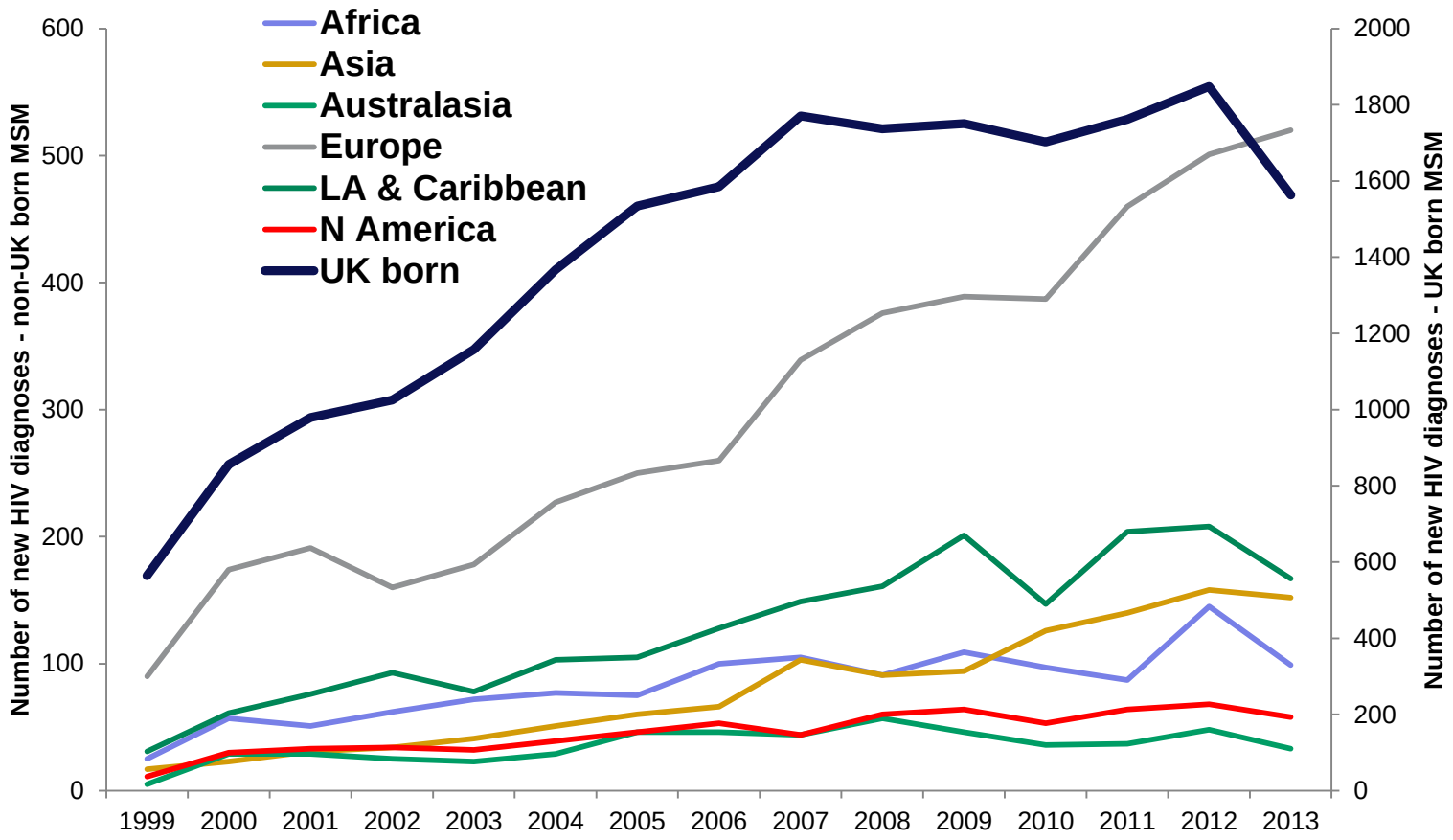
Number of new HIV diagnoses by region of birth, MSM, UK: 1999-2013



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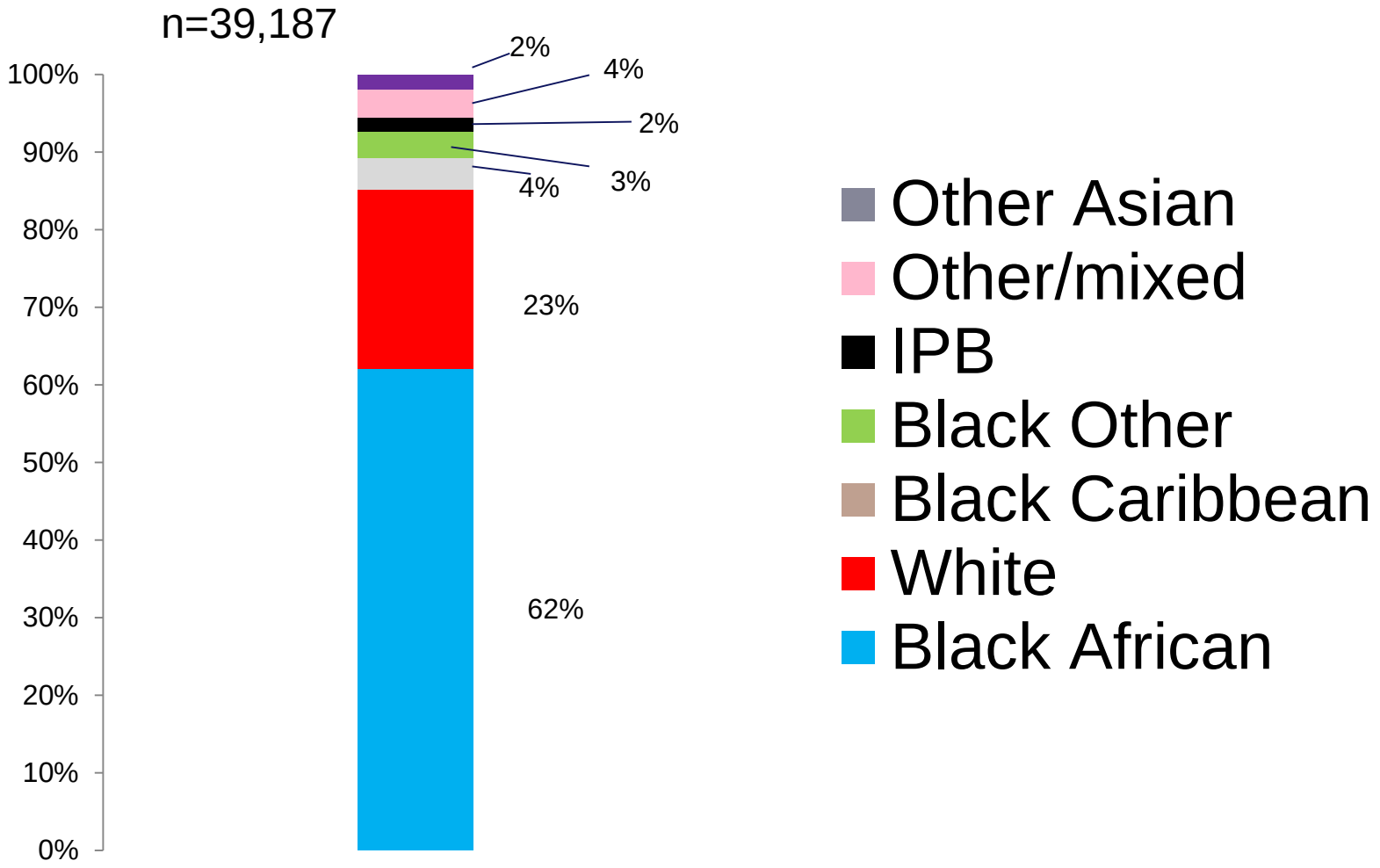
Heterosexual men and women living with diagnosed HIV infection, by ethnicity: UK, 2013



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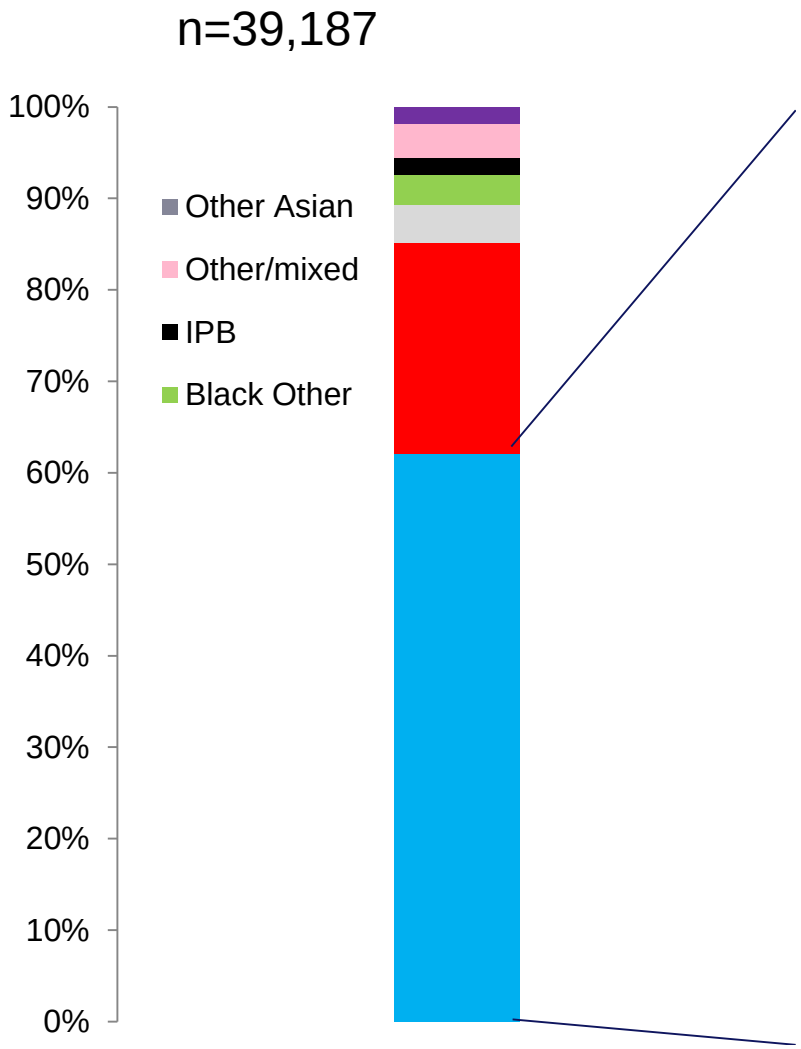

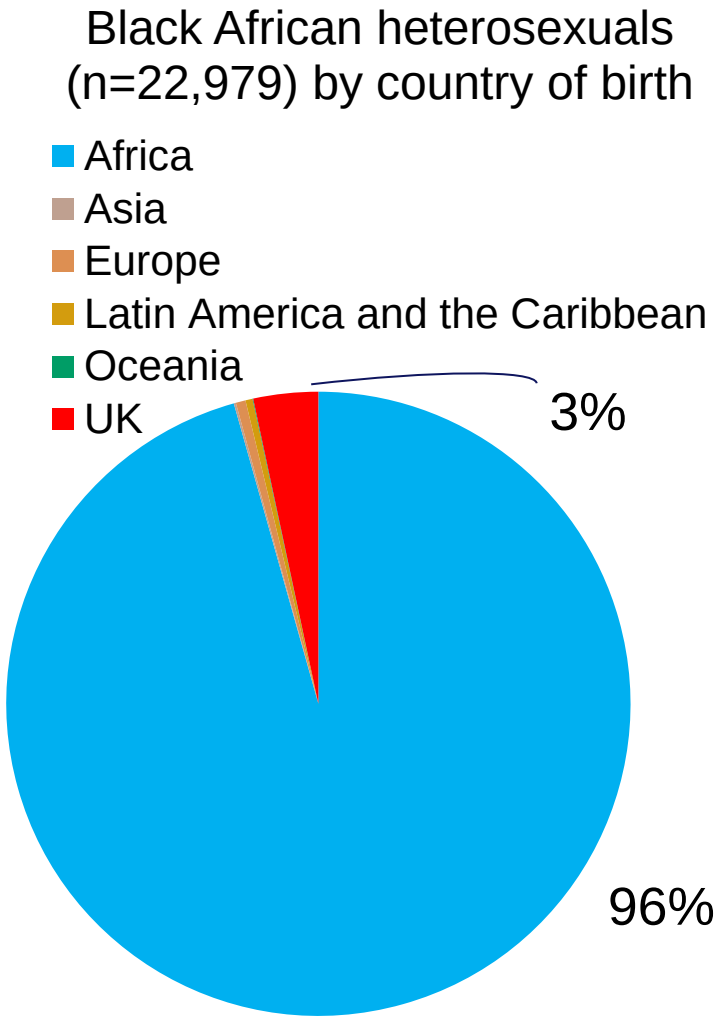

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HIV transmission

- *How do we measure incidence*
- *Importance of CD4 count in public health monitoring*
- *CD4 Back calculation and other incidence models*
- *Probable Country of infection*

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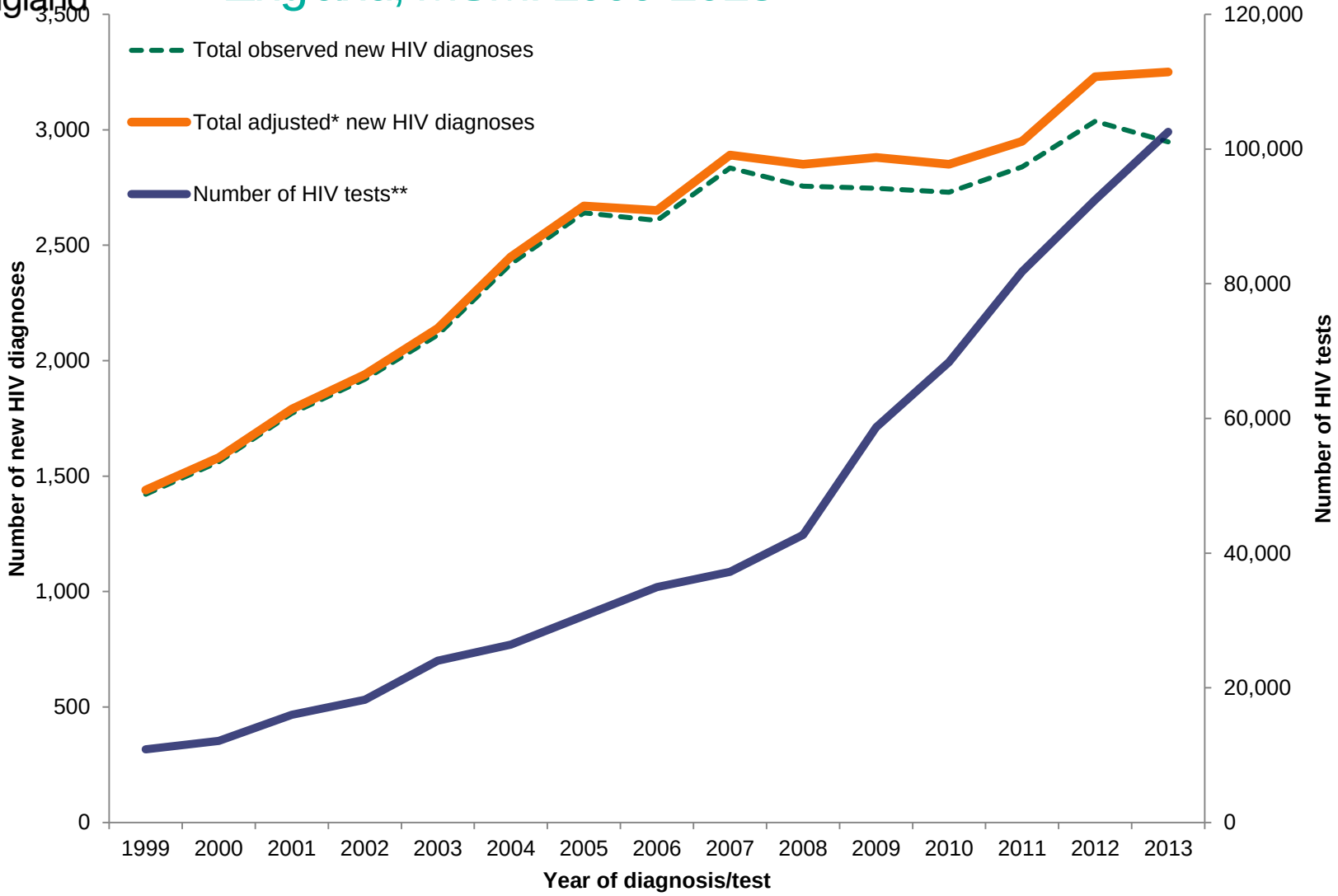
Numbers of new HIV diagnoses and HIV tests England, MSM: 1999-2013



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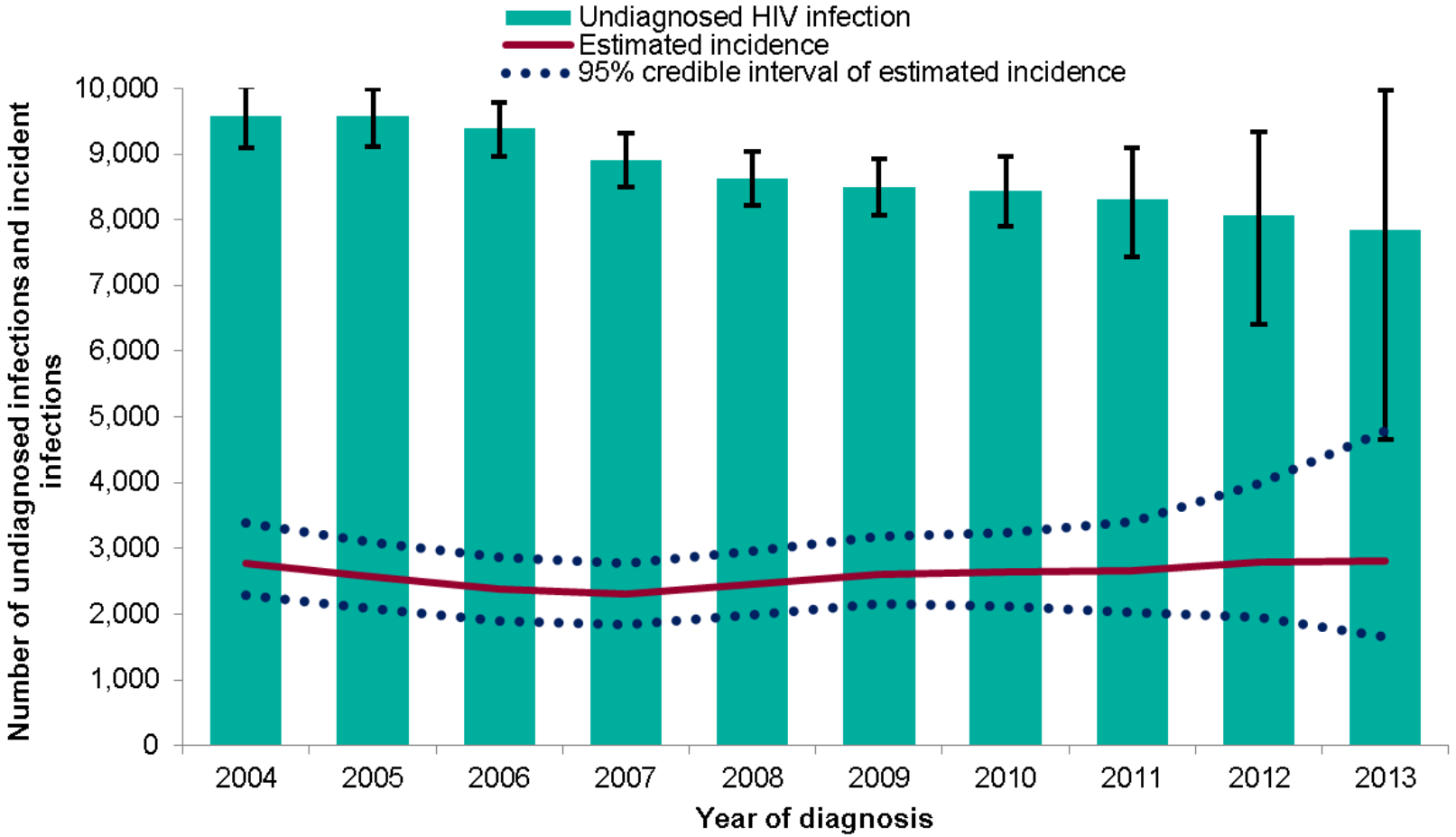
Back-calculation estimate of HIV incidence and prevalence of undiagnosed infection among MSM: UK, 2004-2013



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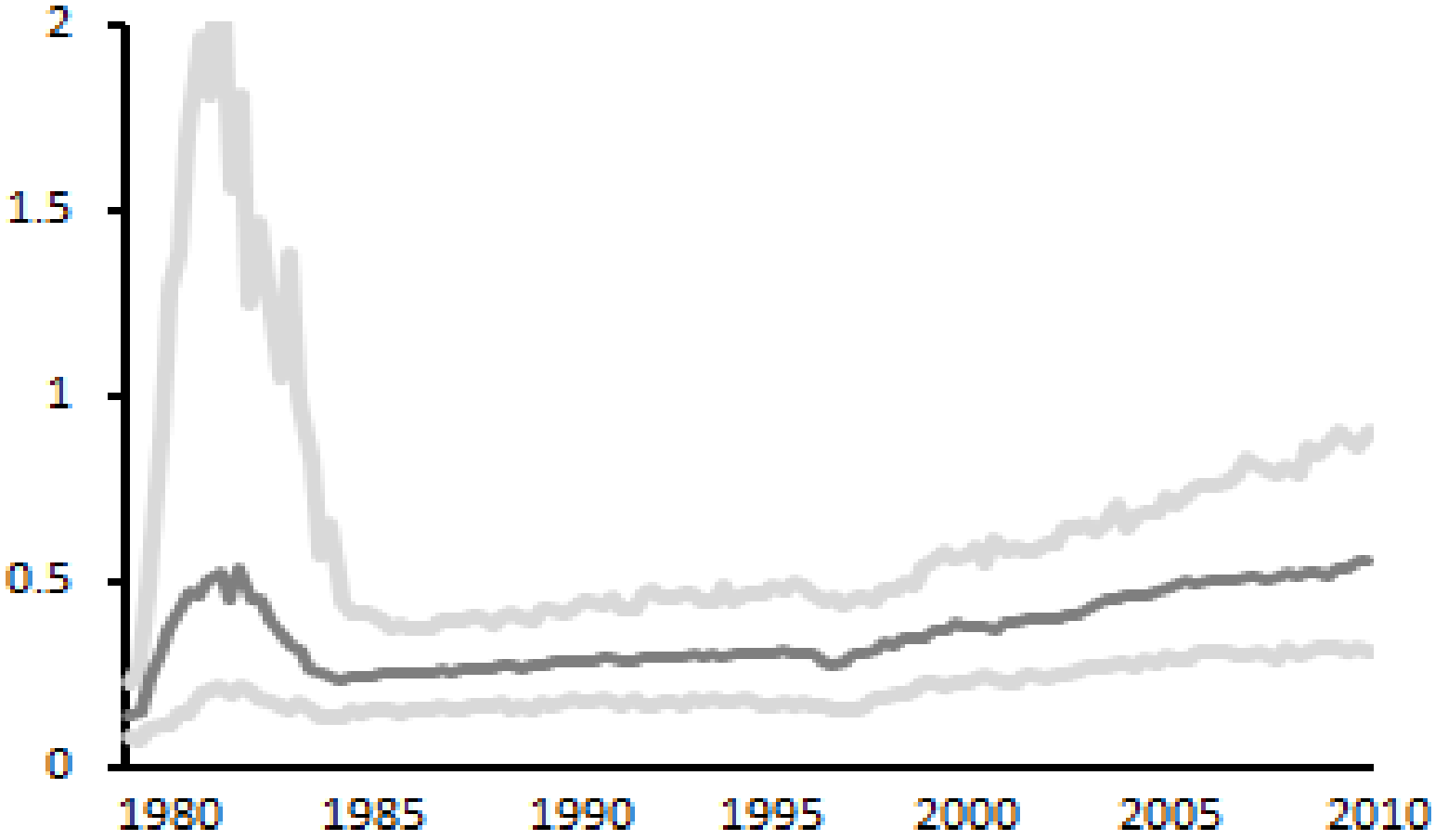
Phillips et al – Plos One 2013

Incidence of HIV per 100 MSM-year, UK



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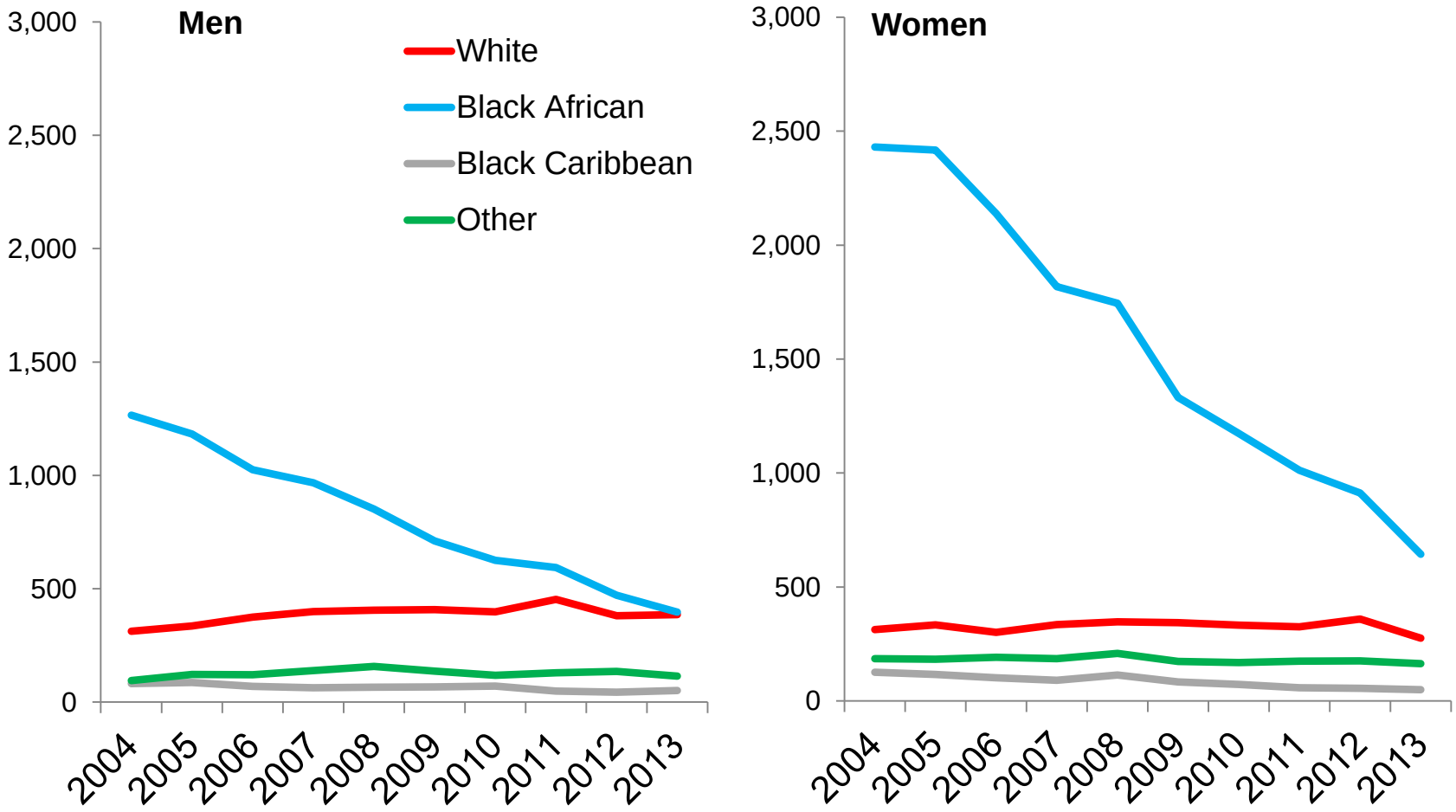
New HIV diagnoses among heterosexuals by ethnicity and gender: UK, 2003-2014



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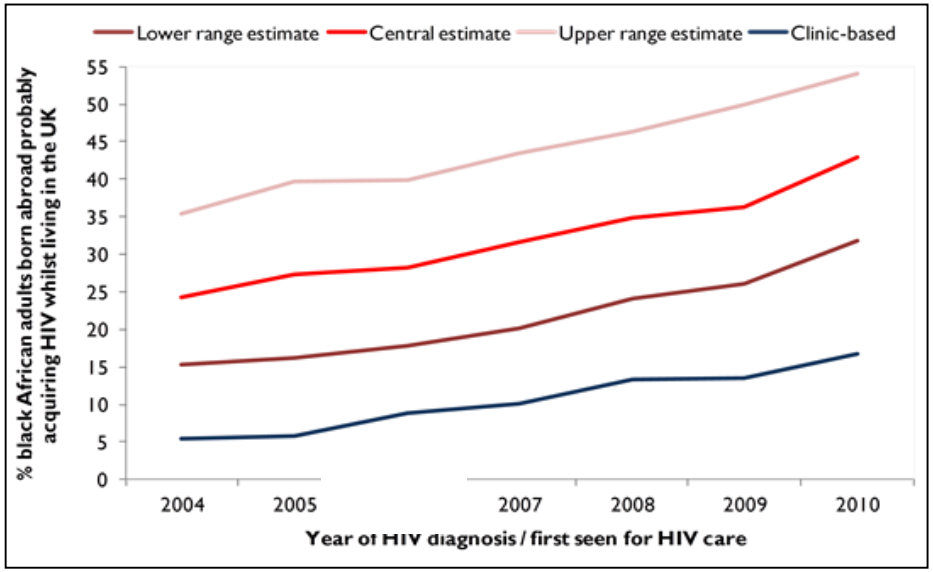
Estimates of UK-acquired HIV infection among persons born abroad



A new method to assign country of HIV infection among heterosexuals born abroad and diagnosed with HIV

Brian D. Rice[a,b], Jonathan Elford[b], Zheng Yin[a] and Valerie C. Delpech[a]

Objective: To apply a new method to ascertain likely place of HIV infection among persons born abroad and diagnosed with HIV in the United Kingdom (UK).

Design: Analyses of heterosexual adults born abroad, diagnosed with HIV in the UK between 2004 and 2010, and reported to the national HIV diagnoses database.

Methods: Year of infection was ascertained by applying an estimated rate of CD4 cell count decline between an individual's CD4 cell count at diagnosis and estimates of CD4-cell count at infection. A person was classified as having probably acquired HIV while living in the UK if estimated year of infection was later than reported year of arrival in the UK.

Results: Of 10612 heterosexual adults born abroad included in the analyses, 85% (9065) were of black-African ethnicity. We estimate that 33% (26–39%) of persons acquired HIV while living in the UK. This percentage increased from 24% (16–39%) in 2004 to 46% (31–50%) in 2010 ($P < 0.01$). The estimate of 33% is three times higher than national estimates of HIV acquired in the UK based on clinic reports (11%) ($P < 0.01$).

Conclusion: Assigning place of HIV infection using routinely available clinical and demographic data and estimated rates of CD4 cell decline is feasible. We report a high and increasing proportion of persons born abroad who appear to have acquired their HIV infection while living in the UK. These findings highlight the need for continued targeted HIV prevention efforts, particularly among black-African communities.

AIDS 2012, **26**:1961–1966

Keywords: England, epidemiology, heterosexual, HIV surveillance, Wales and Northern Ireland

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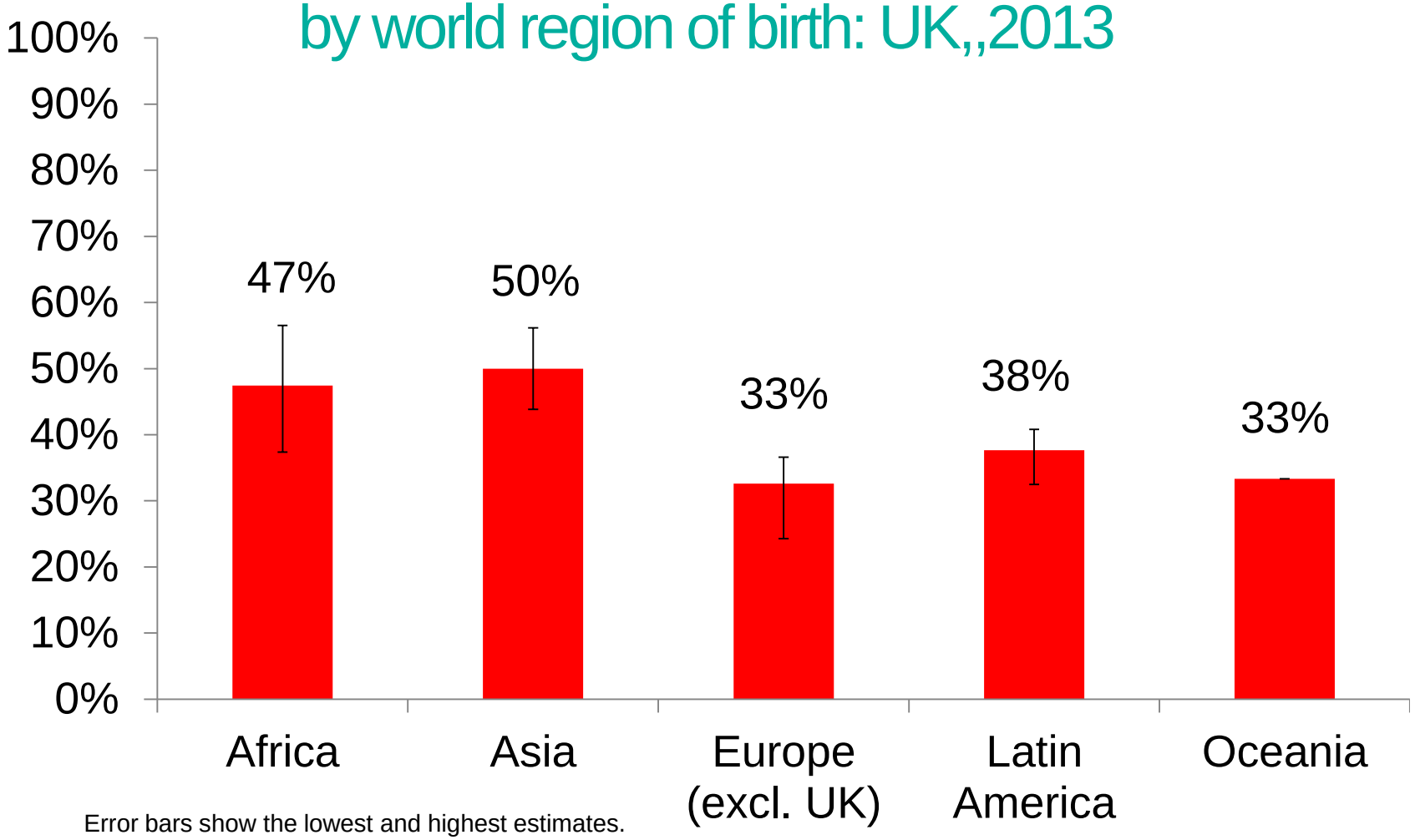
Proportion of heterosexuals born abroad who probably acquired HIV while living in the UK, by world region of birth: UK,,2013



Error bars show the lowest and highest estimates.

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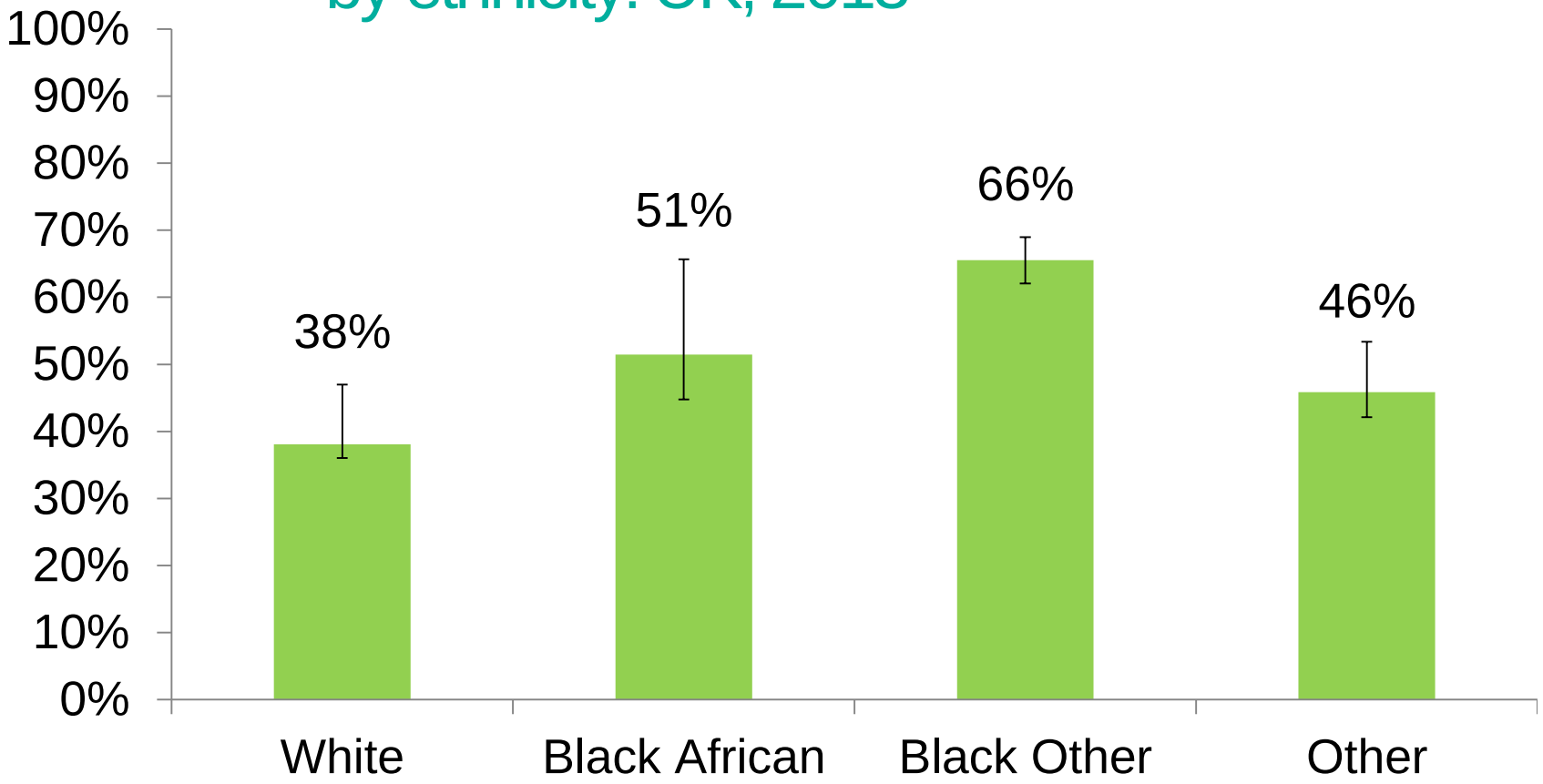
Proportion of heterosexuals born abroad who probably acquired HIV while living in the UK, by ethnicity: UK, 2013



Error bars show the lowest and highest estimates.

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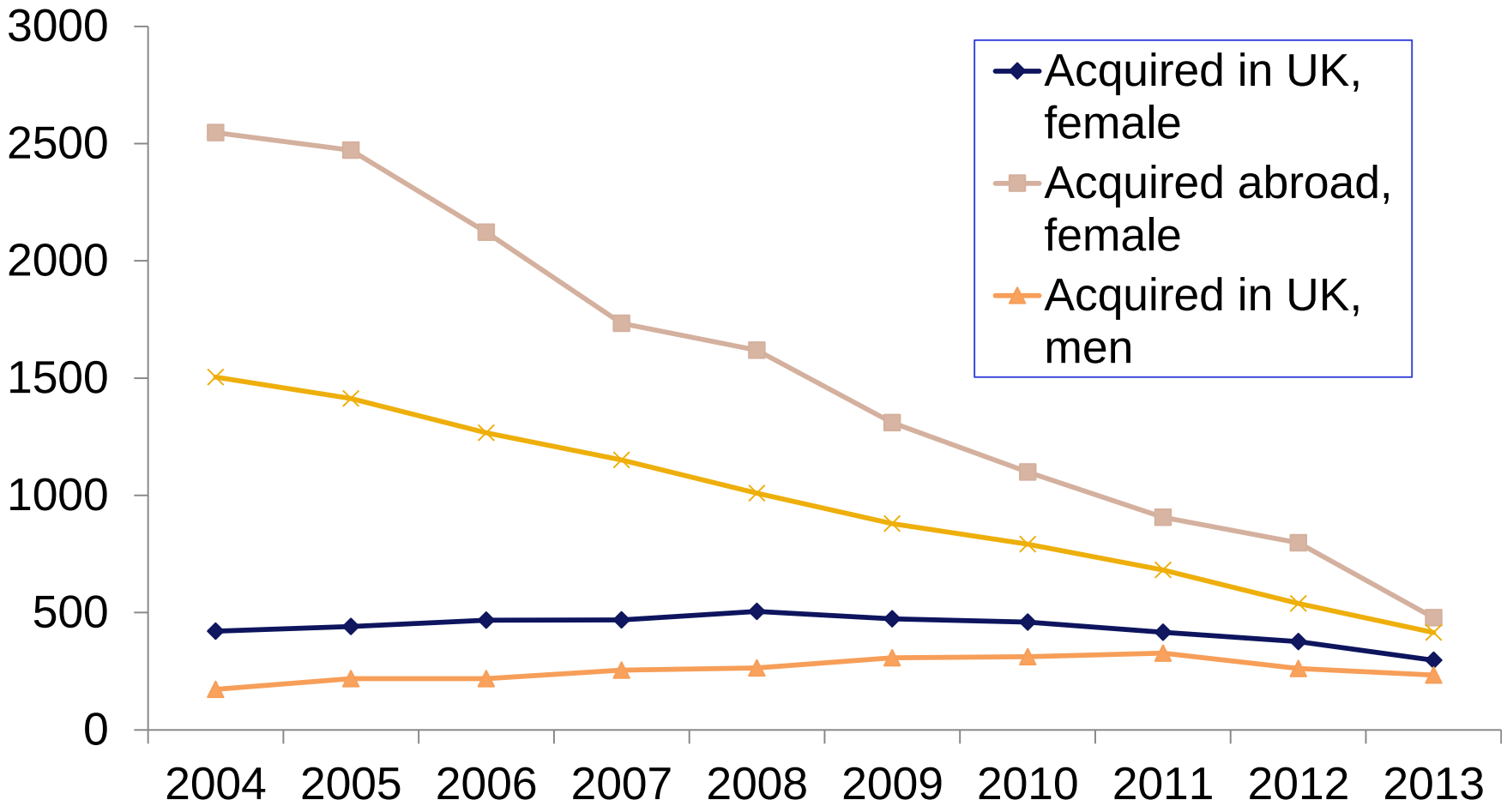
New diagnoses among heterosexual men and women by probable place of acquisition, UK



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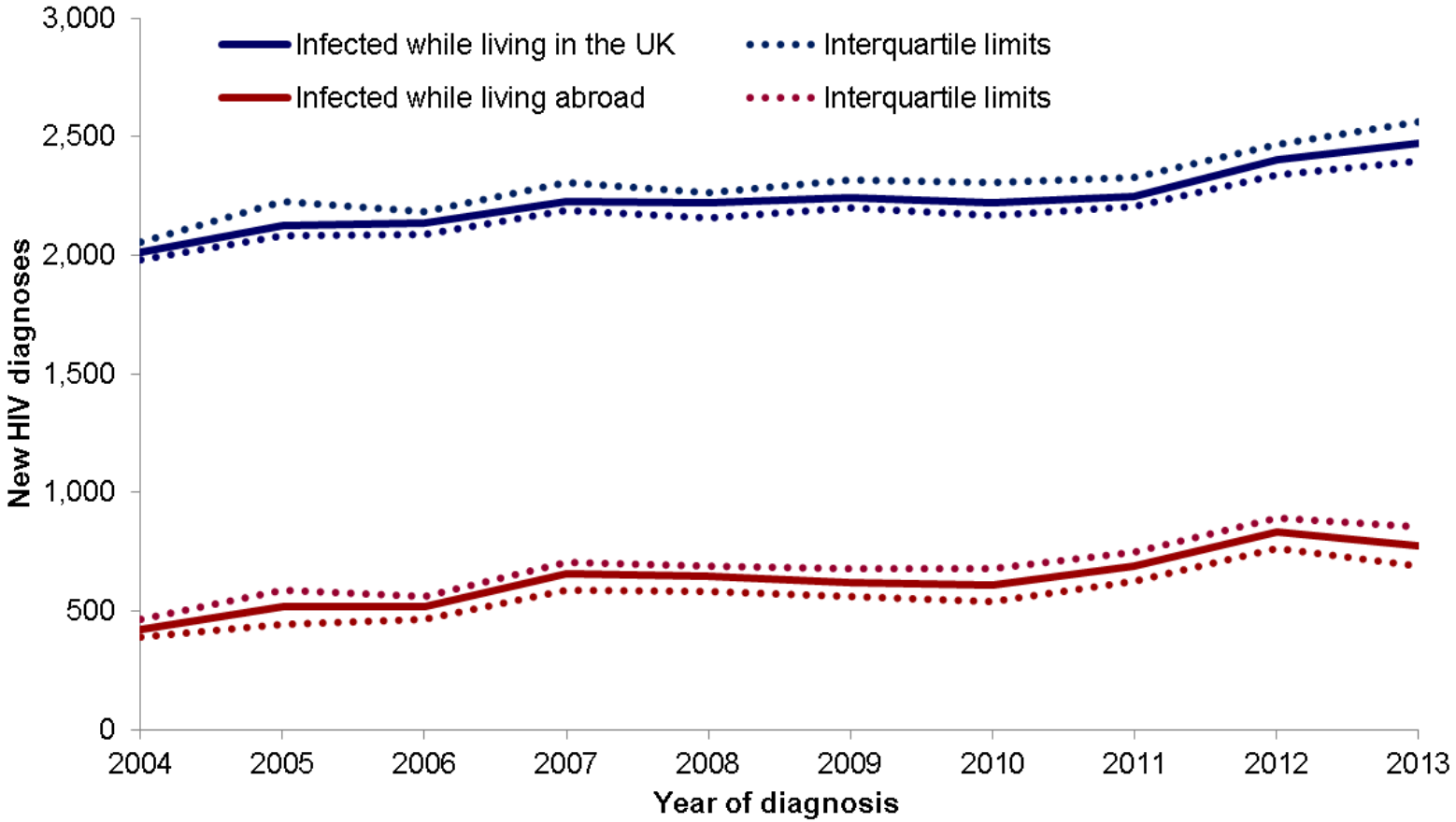
New HIV diagnoses[1] among MSM by probable country of infection: UK, 2004-2013



[1] Numbers have been adjusted for missing exposure category and region of birth.

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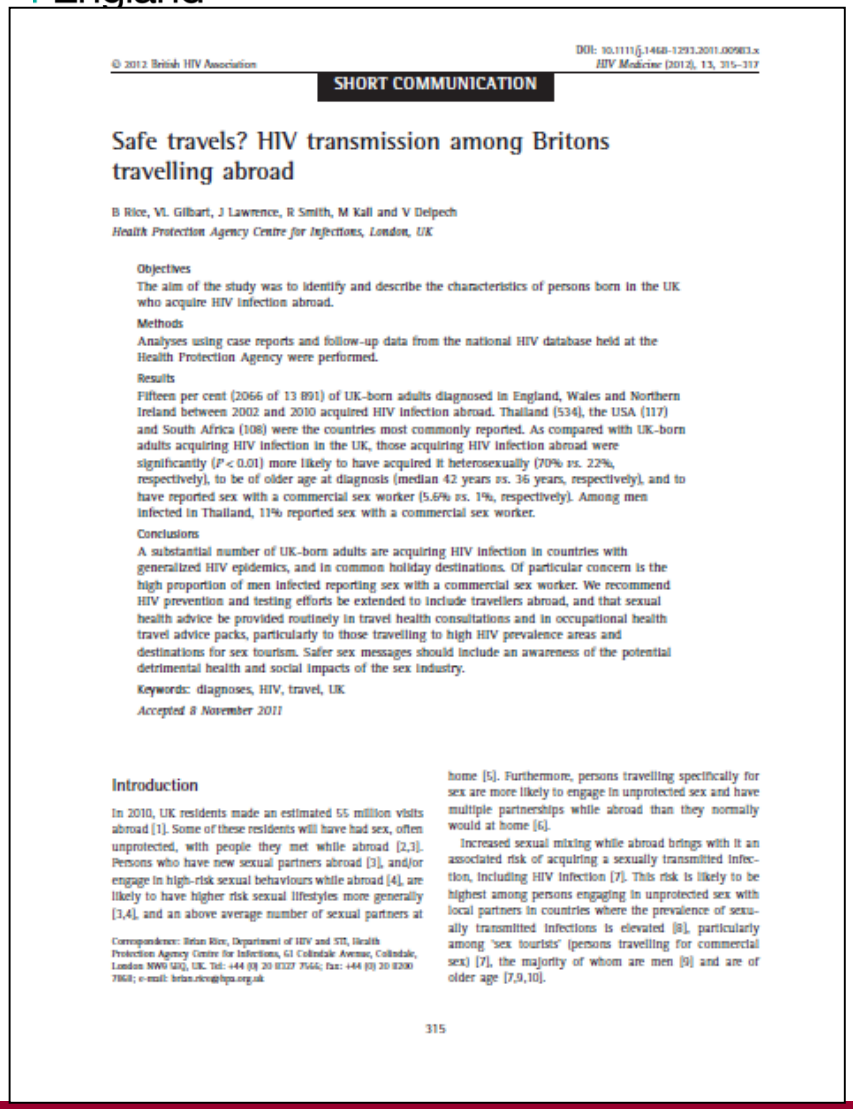
New HIV diagnoses acquired by UK-born heterosexuals through sex outside the UK



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DOI: 10.1111/j.1468-1293.2011.00983.x
HIV Medicine (2012), 13, 315–317

SHORT COMMUNICATION

Safe travels? HIV transmission among Britons travelling abroad

B Rice, VL Gilbart, J Lawrence, R Smith, M Kall and V Delpech
Health Protection Agency Centre for Infections, London, UK

Objectives
The aim of the study was to identify and describe the characteristics of persons born in the UK who acquire HIV infection abroad.

Methods
Analyses using case reports and follow-up data from the national HIV database held at the Health Protection Agency were performed.

Results
Fifteen per cent (2066 of 13 891) of UK-born adults diagnosed in England, Wales and Northern Ireland between 2002 and 2010 acquired HIV infection abroad. Thailand (534), the USA (117) and South Africa (108) were the countries most commonly reported. As compared with UK-born adults acquiring HIV infection in the UK, those acquiring HIV infection abroad were significantly ($P < 0.01$) more likely to have acquired it heterosexually (70% *vs.* 22%, respectively), to be of older age at diagnosis (median 42 years *vs.* 36 years, respectively), and to have reported sex with a commercial sex worker (5.6% *vs.* 1%, respectively). Among men infected in Thailand, 11% reported sex with a commercial sex worker.

Conclusions
A substantial number of UK-born adults are acquiring HIV infection in countries with generalized HIV epidemics, and in common holiday destinations. Of particular concern is the high proportion of men infected reporting sex with a commercial sex worker. We recommend HIV prevention and testing efforts be extended to include travellers abroad, and that sexual health advice be provided routinely in travel health consultations and in occupational health travel advice packs, particularly to those travelling to high HIV prevalence areas and destinations for sex tourism. Safer sex messages should include an awareness of the potential detrimental health and social impacts of the sex industry.

Keywords: diagnoses, HIV, travel, UK
Accepted 8 November 2011

Introduction

In 2010, UK residents made an estimated 55 million visits abroad [1]. Some of these residents will have had sex, often unprotected, with people they met while abroad [2,3]. Persons who have new sexual partners abroad [3], and/or engage in high-risk sexual behaviours while abroad [4], are likely to have higher risk sexual lifestyles more generally [3,4], and an above average number of sexual partners at home [5]. Furthermore, persons travelling specifically for sex are more likely to engage in unprotected sex and have multiple partnerships while abroad than they normally would at home [6].

Increased sexual mixing while abroad brings with it an associated risk of acquiring a sexually transmitted infection, including HIV infection [7]. This risk is likely to be highest among persons engaging in unprotected sex with local partners in countries where the prevalence of sexually transmitted infections is elevated [8], particularly among 'sex tourists' (persons travelling for commercial sex) [7], the majority of whom are men [9] and are of older age [7,9,10].

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Data from 2002-2010:

15% of UK born adults newly diagnosed with HIV reported acquiring infection abroad

Countries most commonly reported:

Thailand, South Africa, Nigeria, Spain, Zimbabwe and the USA

Compared to adults who acquired HIV in the UK, more likely to be:

- Heterosexual
- Older
- Contact with sex workers

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How do we prevention HIV transmission

HIV is mostly transmitted from those unaware of their infection including those in acute infection

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Estimated number of people living with HIV in the UK, 2013

		Diagnosed	Undiagnosed	% unaware
Men	Black African ethnicity	8,400	5,250 (3,400-11,850)	38%
	Non-black African ethnicity	7,500	2,800 (1,600-4,800)	27%
Women	Black African ethnicity	17,200	7,850 (5,300-11,600)	31%
	Non-black African ethnicity	7,950	2,400 (1,500-3,700)	23%
MSM		36,300	7,200 (4,000-11,850)	16%
UK total		81,700	26,100 (20,300-33,800)	24%

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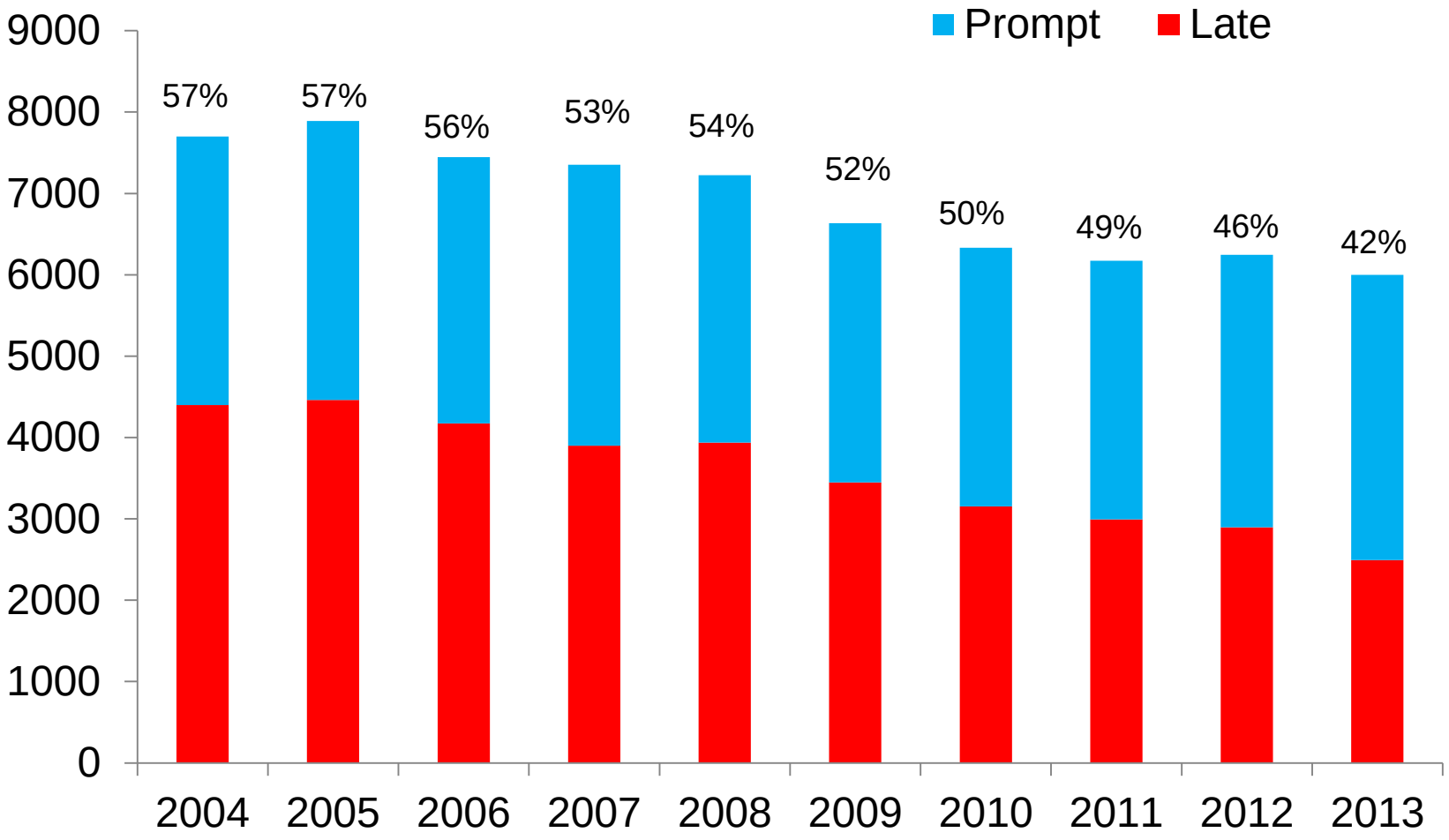
Number of new HIV diagnoses
Proportion with CD4 <350 cells, UK



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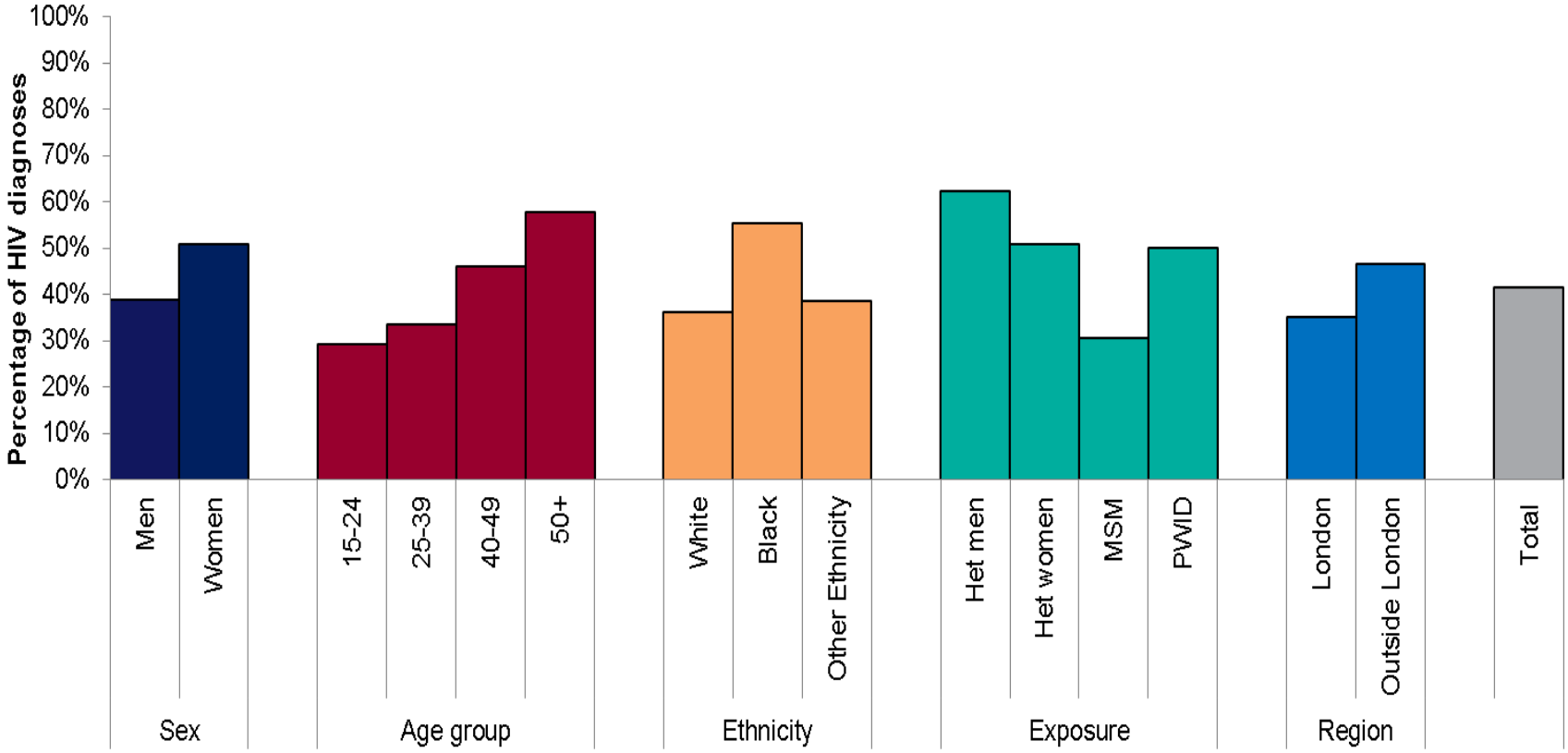
Late diagnoses[1]: proportion of adults diagnosed with a CD4 count <350 cells/mm^3: UK, 2013



[1] CD4<350 cells/mm^3 within three months of diagnosis.

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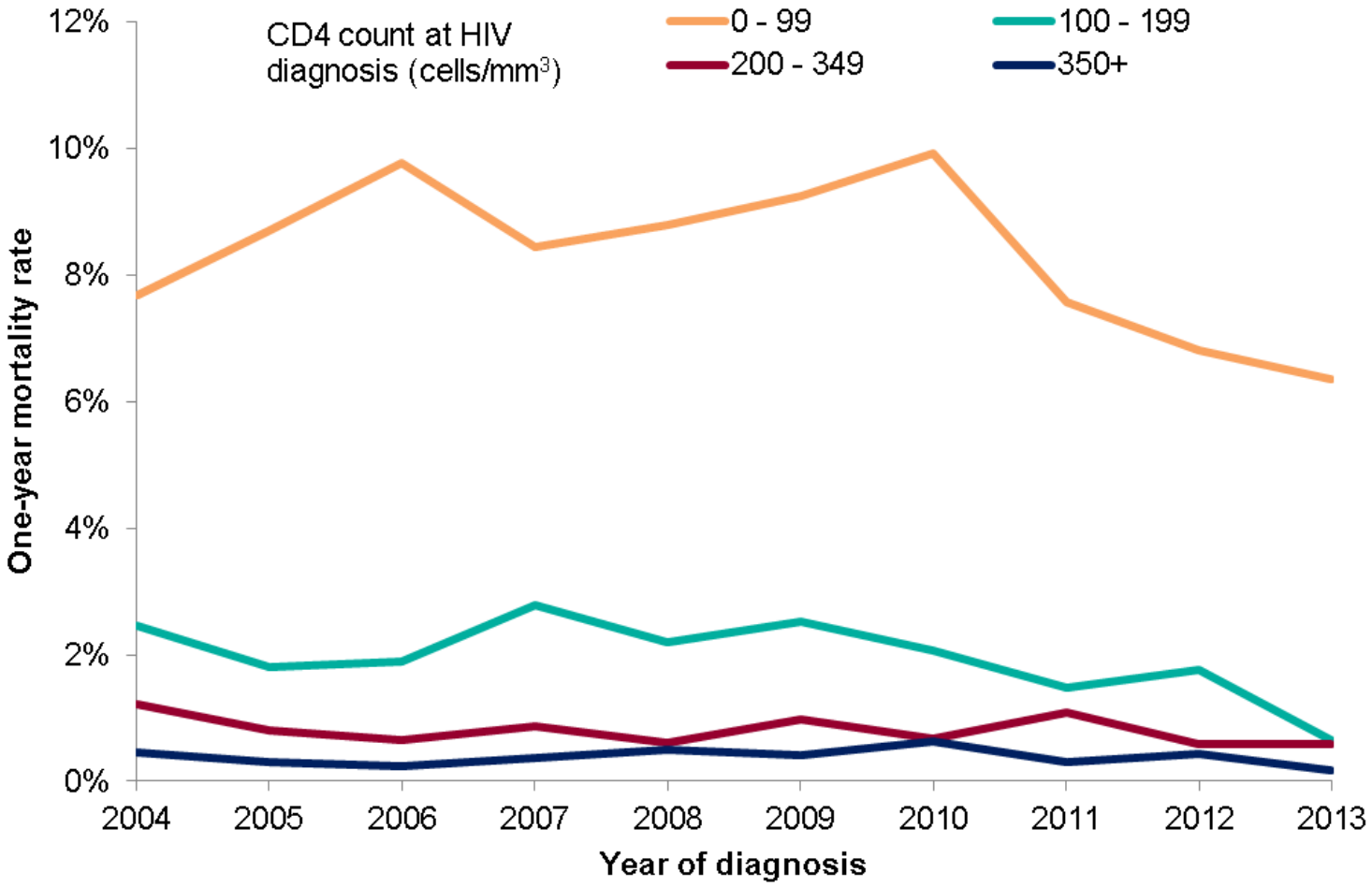
One-year mortality trend among adults newly diagnosed with HIV by CD4 count strata at diagnosis: UK, 2004-2013



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Primary Prevention

whole system approach
wide range of effective biomedical and behaviour interventions

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Tackling HIV transmission: Challenges and opportunities

- Role primary infection
- Improving testing uptake at GUM, GP and other settings
- Earlier diagnosis leads to improved survival and lower transmission
- improving partner notifications
- Use of novel technologies (testing/prep)
- Role of faith leaders
- Condom uptake remains too low – serosorting is not safe
- Changing social networks with wide use of apps to find casual partners
- Increase in chemsex
- Role of TasP

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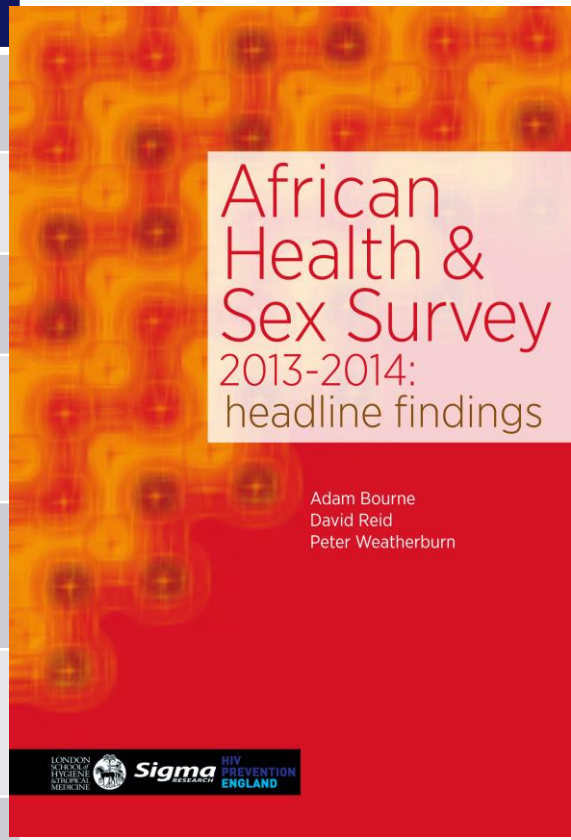
African Health and Sex Survey- SIGMA

Total respondents	**1026**
Male	393 (38.3%)
Female	633 (61.7%)
Mean age (range)	33.8 (16-101)
Ethnicity	62.1% Black African; 22.1% Black African British
Time living in England	Mean = 8.8 (range 1 month – 52 years)
Country of Birth	Zimbabwe 21.2%; UK 17.9%; Nigeria 23.9%
Area of residence	London: 41.5%; Midlands 21.5%; North 17.7%; South 12.1%
Educational attainment	77.9% University or college; 17.7% secondary



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African Health and Sex Survey- SIGMA

Preferred setting for HIV testing %	All those not HIV positive	Last test negative	Not tested
At a GP surgery/local doctor	30.2	29.7	31.0
At a GUM or sexual health clinic	29.0	36.4	17.6
At home with self-testing kit	18.0	16.3	20.5
At a private health clinic	7.2	5.2	10.2
At an HIV or African organisation	6.6	5.8	8.0
At home using a self-sampling kit	5.8	3.7	9.1

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African Health and Sex Survey- SIGMA

31.3% (321) had a casual sexual partner within previous 12 months

Number of sex partners	All sexually active rspd %	Regularity of condom use	All rspd with casual partners %
None	27.2	Never	21.7
One	46.7	Rarely	9.6
Two	7.3	Sometimes	14.7
Three	6.9	Often	8.0
Four	3.3	Very often	11.8
Five	2.2	Always	34.2
Between 6 and 10	3.4		
Between 11 and 20	1.2		
21 or more	1.9		

African Health and Sex Survey- SIGMA

HIV Knowledge indicator	% Knew this	% Not Known	% Not sure	% Do not understand	% in need
At least 1-in-20 of all Africans living in England have HIV infection (n=1012, missing 14)	27.4	20.4	50.0	2.3	72.7
Effective treatment of HIV, using medication, significantly reduces the risk of HIV being passed on to others (n=1011, missing 15)	55.9	19.7	22.1	2.4	44.2
HIV medication is available free of charge to anyone in the UK who has diagnosed HIV (n=1012, missing 14)	64.1	12.6	22.3	0.9	35.8
HIV medicines work better if people with HIV start taking them early (before they start getting ill) (n=1009, missing 11)	78.7	8.2	12.0	1.1	21.3
There are HIV medicines that can help people with HIV to stay healthy. (n=1010, missing 16)	90.2	4.5	4.3	1.1	9.9
There is no cure for HIV infection once someone has it. (n=1014, missing 12)	91.9	4.5	2.0	1.6	8.1

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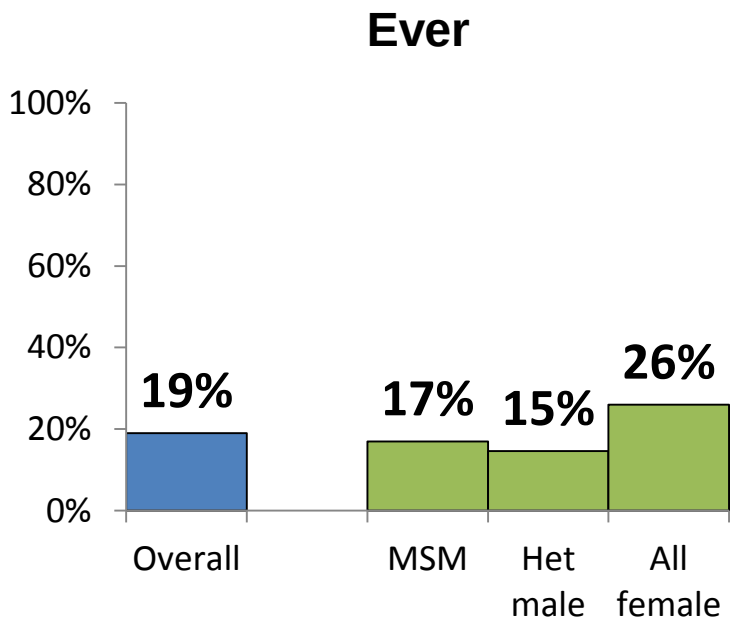
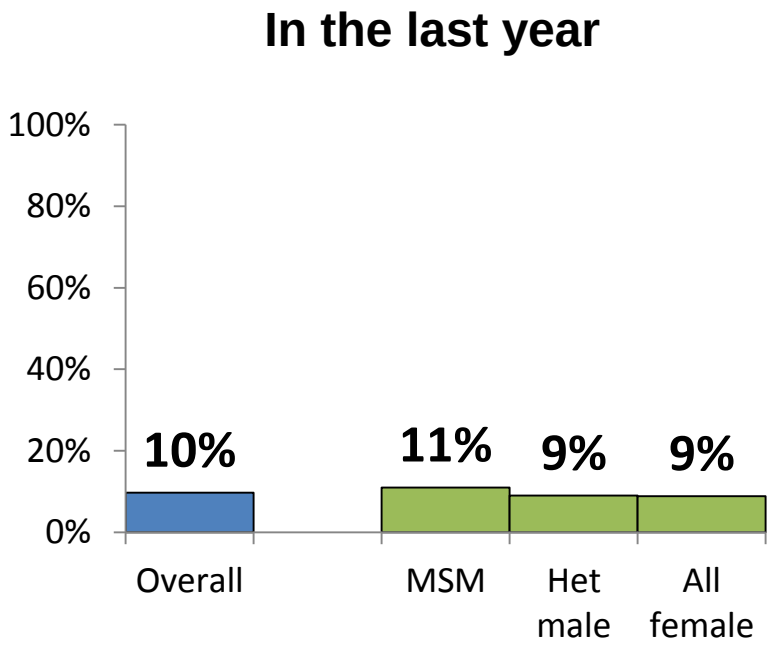
Positive Voices: Stigma and discrimination

*"Have you ever been refused health care or been treated differently because of your HIV, **in the UK**?"*





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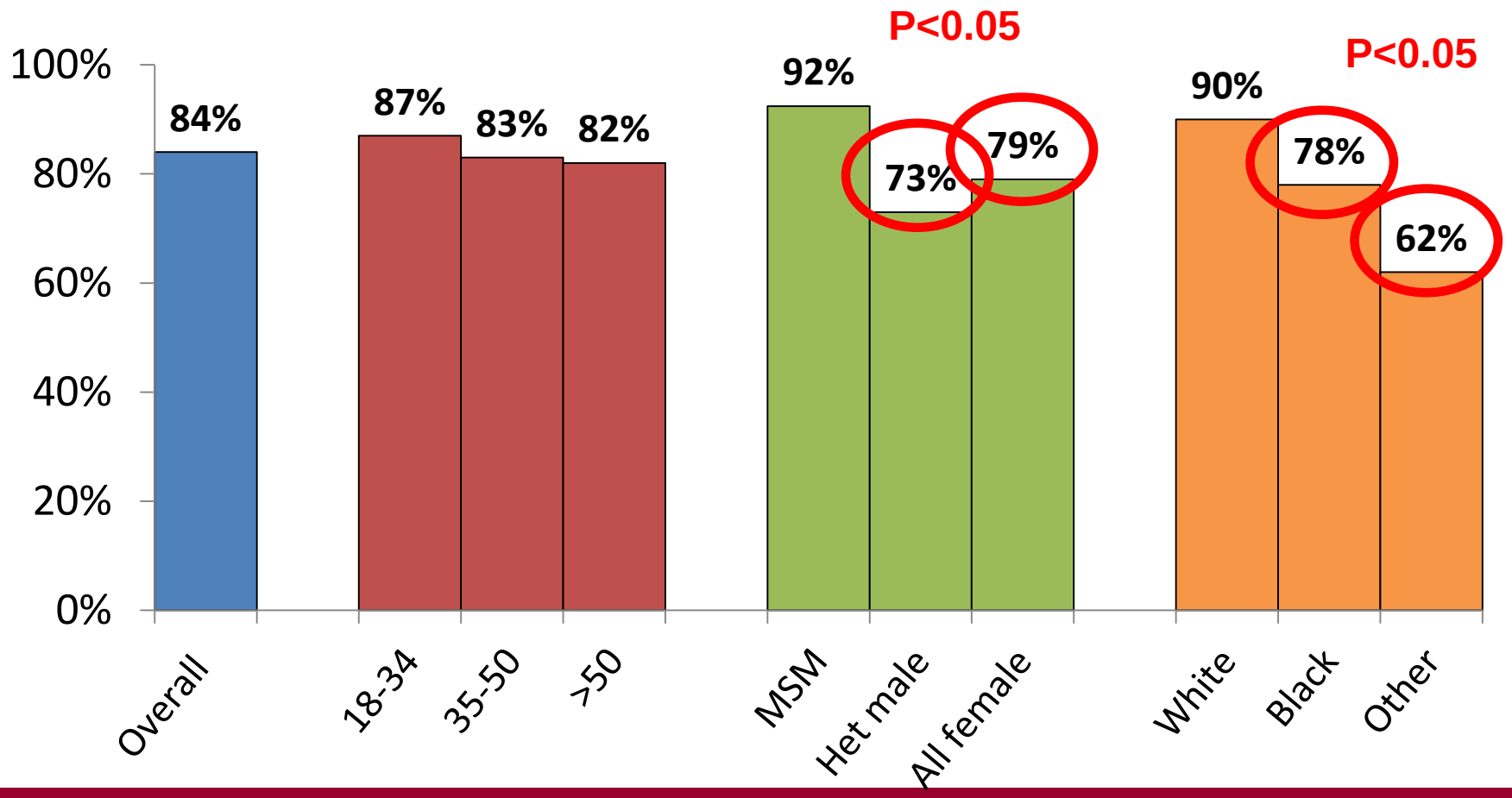
Disclosure

"Apart from health care staff, have you told anyone that you have HIV?"



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Stigma and discrimination

"If you wish, please use the space below to tell us about when you have experienced discrimination because of your HIV status."

"I had a nurse recommend to another nurse to double-glove because of my status in front of me…"

- Man, 24, diagnosed 2013

"When I registered with a GP, the doctors said "Oh great another POS person", I left and complained to the practice manager still not had a response."

- Man, 33, diagnosed 2008

"[At the] dental clinic, I was put last on list to be attended to that day."

- Woman, 52, diagnosed 2007

"I have had issues with GPs - they often have little or no experience with HIV+ patients and don't have a clue about how to approach you. Its not discrimination, but a lack of experience…"

- Man, 42, diagnosed 2012

"My dentist left me in agony for over a year as she didn't want to do the extractions because of the blood."

- Man, 46, diagnosed 2010

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Secondary Prevention
HIV Testing

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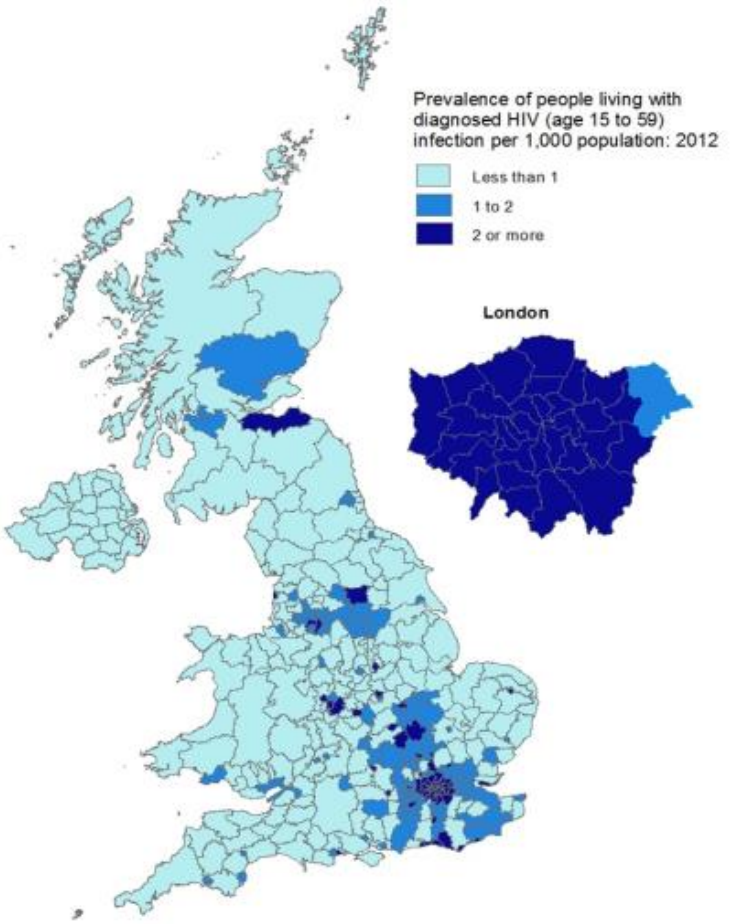
Testing

- Undiagnosed remains too high
- Poor implementation testing guidelines
- NICE guidelines under review

  - low uptake in key populations
  - geographical testing ‘hot spots’ not implemented
  - how frequent does testing need to be?
  - Novel testing technologies – home testing and sampling
  - Use of apps for recall etc..



National HIV Testing Week 2014

NHTW 2014

HIV PREVENTION ENGLAND

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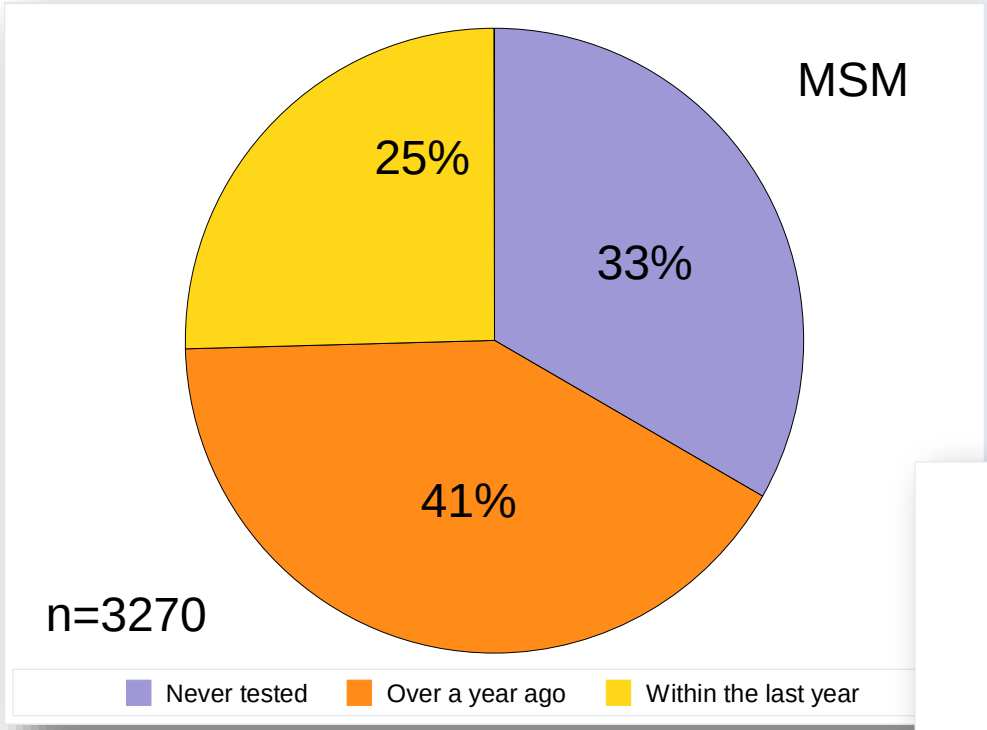
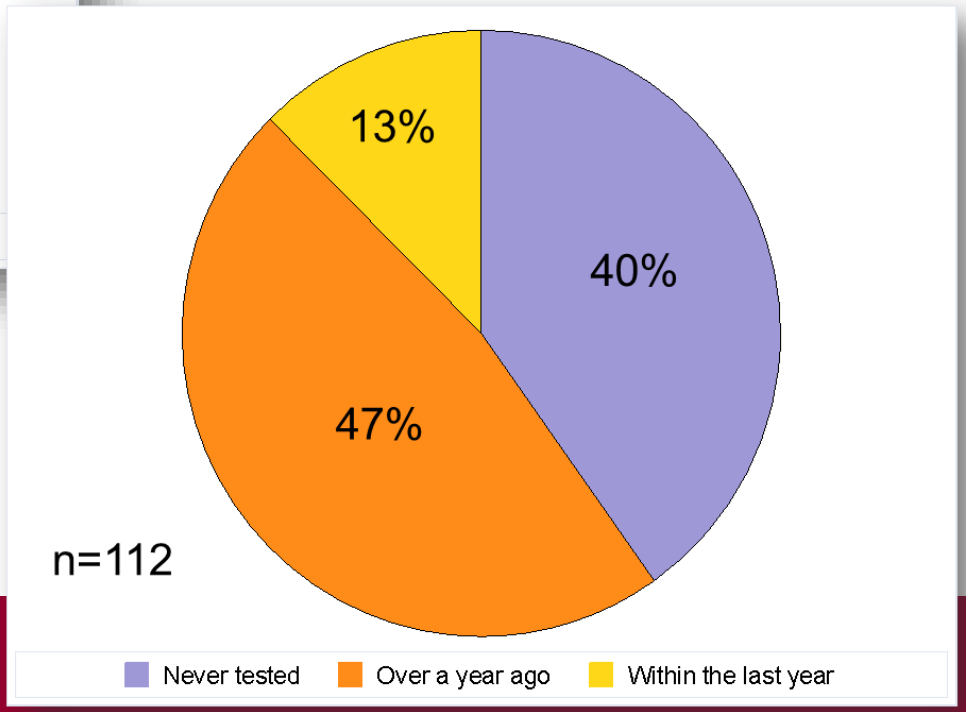
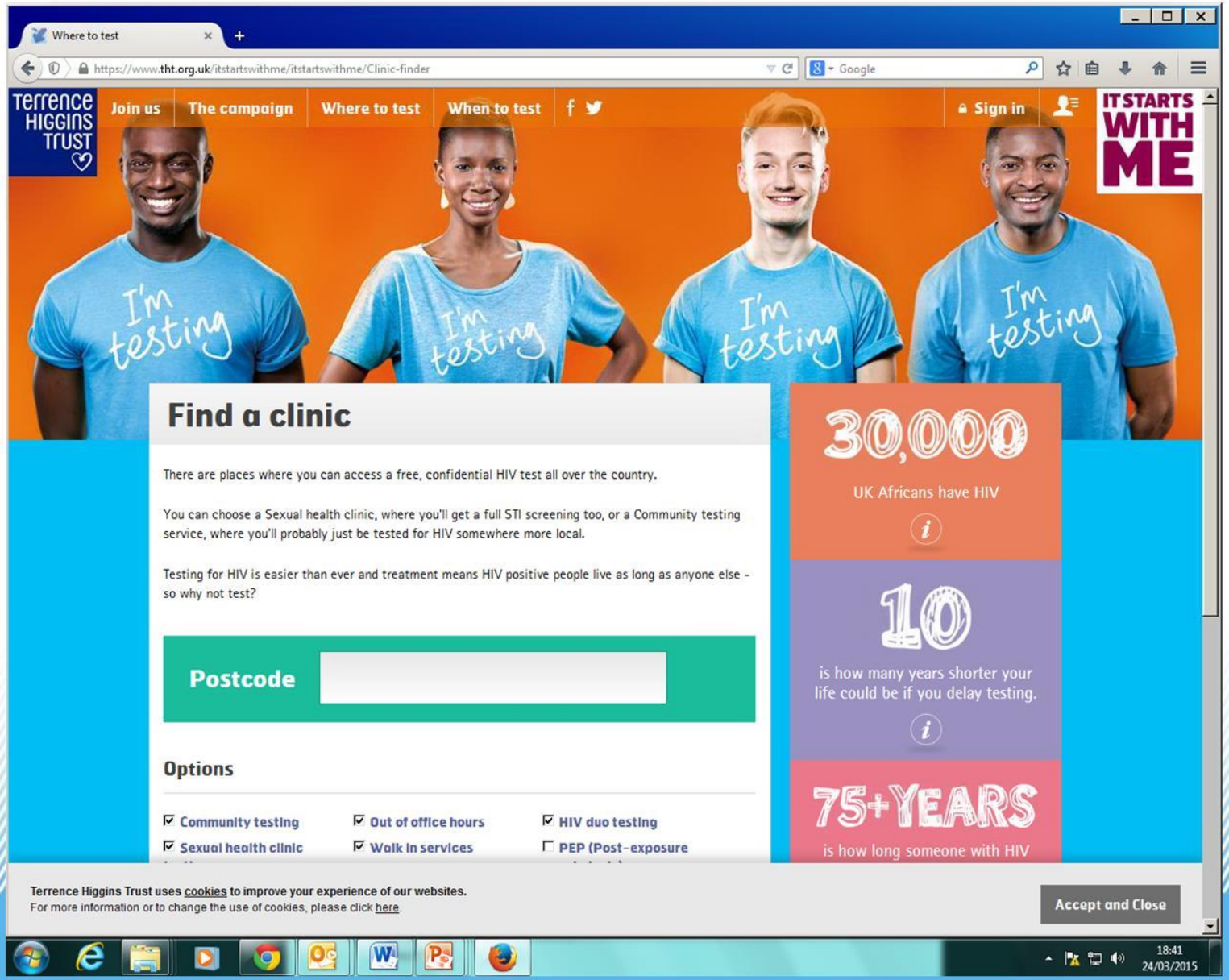
Reaching out to key populations
Self-reported HIV testing history: HIV self-sampling kits






Where to test
https://www.tht.org.uk/itstartswithme/itstartswithme/Clinic-finder
Google
Terrence Higgins Trust
Join us
The campaign
Where to test
When to test
Sign in
IT STARTS WITH ME
I'm testing
I'm testing
I'm testing
I'm testing
Find a clinic
There are places where you can access a free, confidential HIV test all over the country.
You can choose a Sexual health clinic, where you'll get a full STI screening too, or a Community testing service, where you'll probably just be tested for HIV somewhere more local.
Testing for HIV is easier than ever and treatment means HIV positive people live as long as anyone else - so why not test?
Postcode
Options
Community testing
Out of office hours
HIV duo testing
Sexual health clinic
Walk in services
PEP (Post-exposure
30,000
UK Africans have HIV
10
is how many years shorter your life could be if you delay testing.
75+YEARS
is how long someone with HIV
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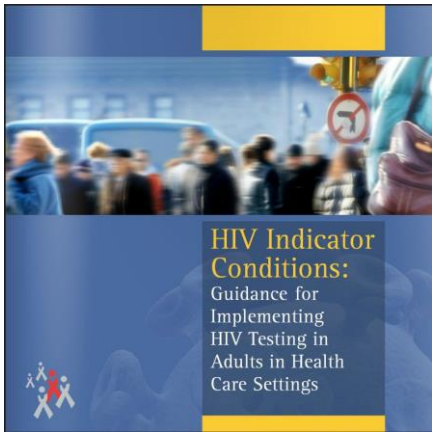
Overcoming barriers

Indicator condition guided HIV testing
Feasibility and effectiveness



- Indicator condition guided testing is an effective method of targeting HIV testing

	Individuals having HIV test (number)	HIV positive (number)	Prevalence (95% CI)
Total	3588	66	1.84 (1.42 – 2.34)
Indicator condition			
Sexually transmitted infection (STI)	764	31	4.06 (2.78 – 5.71)
Malignant lymphoma (LYM)	344	1	0.26 (0.006 – 1.61)
Cervical or anal dysplasia or cancer (CAN)	542	2	0.37 (0.04 – 1.32)
Herpes zoster (HZV)	207	6	2.89 (1.07 – 6.21)
Hepatitis B or C (HEP)	1099	4	0.36 (0.10 – 0.93)
Ongoing mononucleosis-like illness (MON)	441	17	3.85 (2.26 – 6.10)
Unexplained leukocytopenia/thrombocytopenia (CYT)	94	3	3.19 (0.66 – 9.04)
Seborrheic dermatitis/exanthema (SEB)	97	2	2.06 (0.25 – 7.24)

Sullivan et al. Feasibility and Effectiveness of Indicator Condition-Guided Testing for HIV: Results from HIDES I (HIV Indicator Diseases across Europe Study). PLOS ONE 2013.

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3. Treatment as Prevention

81,512 living with diagnosed HIV infection

- 97% linked to care within 3 months
- >95% retained in care annually
- 92% in need of treatment are on treatment (87% of all diagnosed)
- 95% on treatment achieve VL<200 copies/ml

African leaflet (male version): cover

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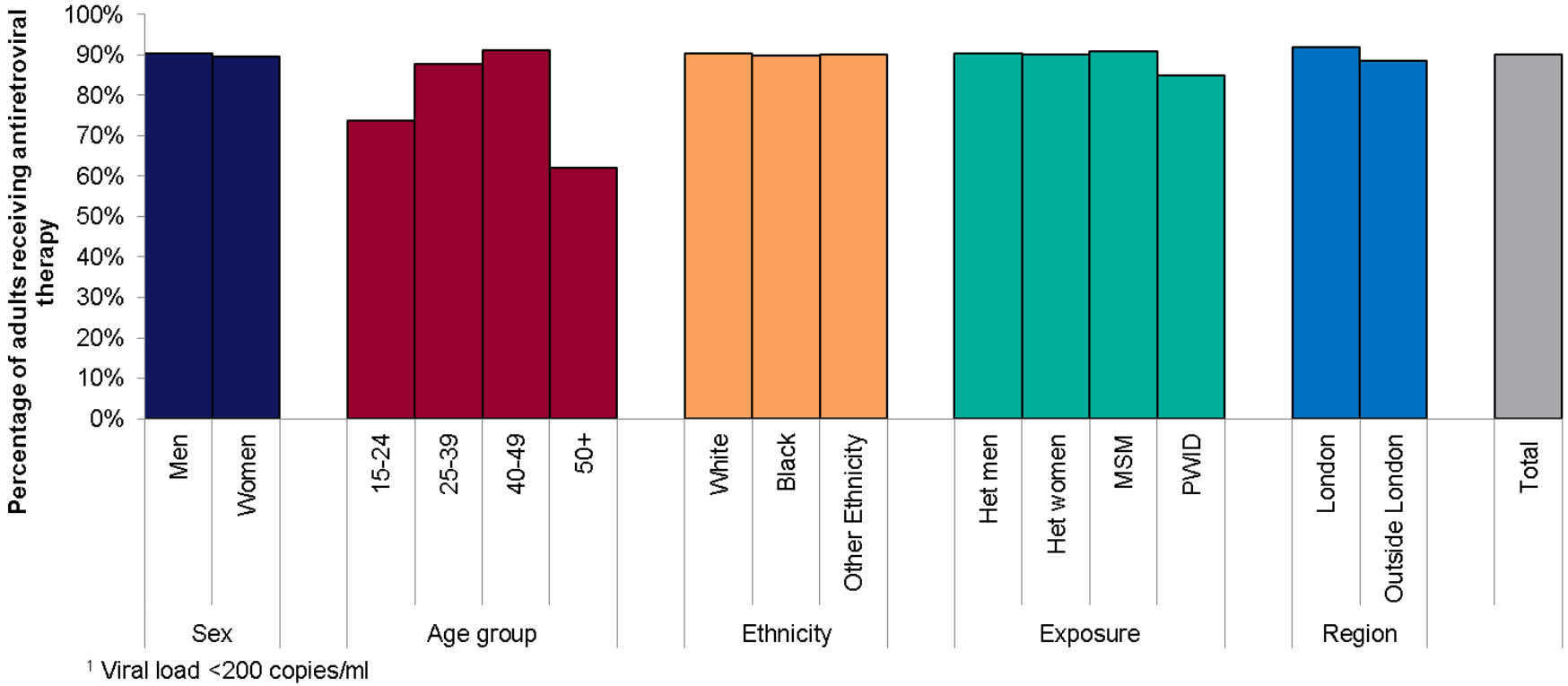
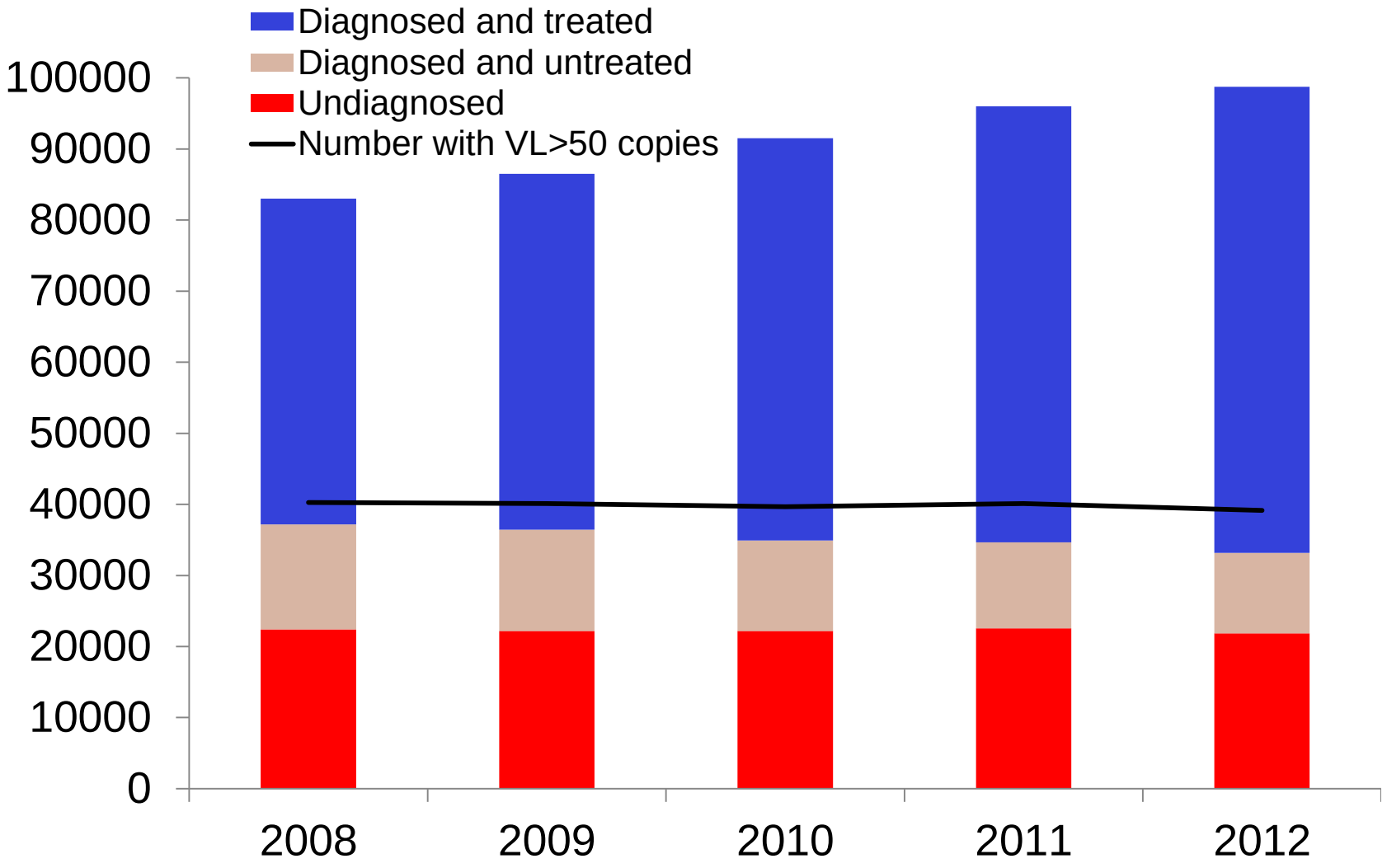
Effectiveness of treatment: proportion of adults achieving viral suppression[1]: UK, 2013



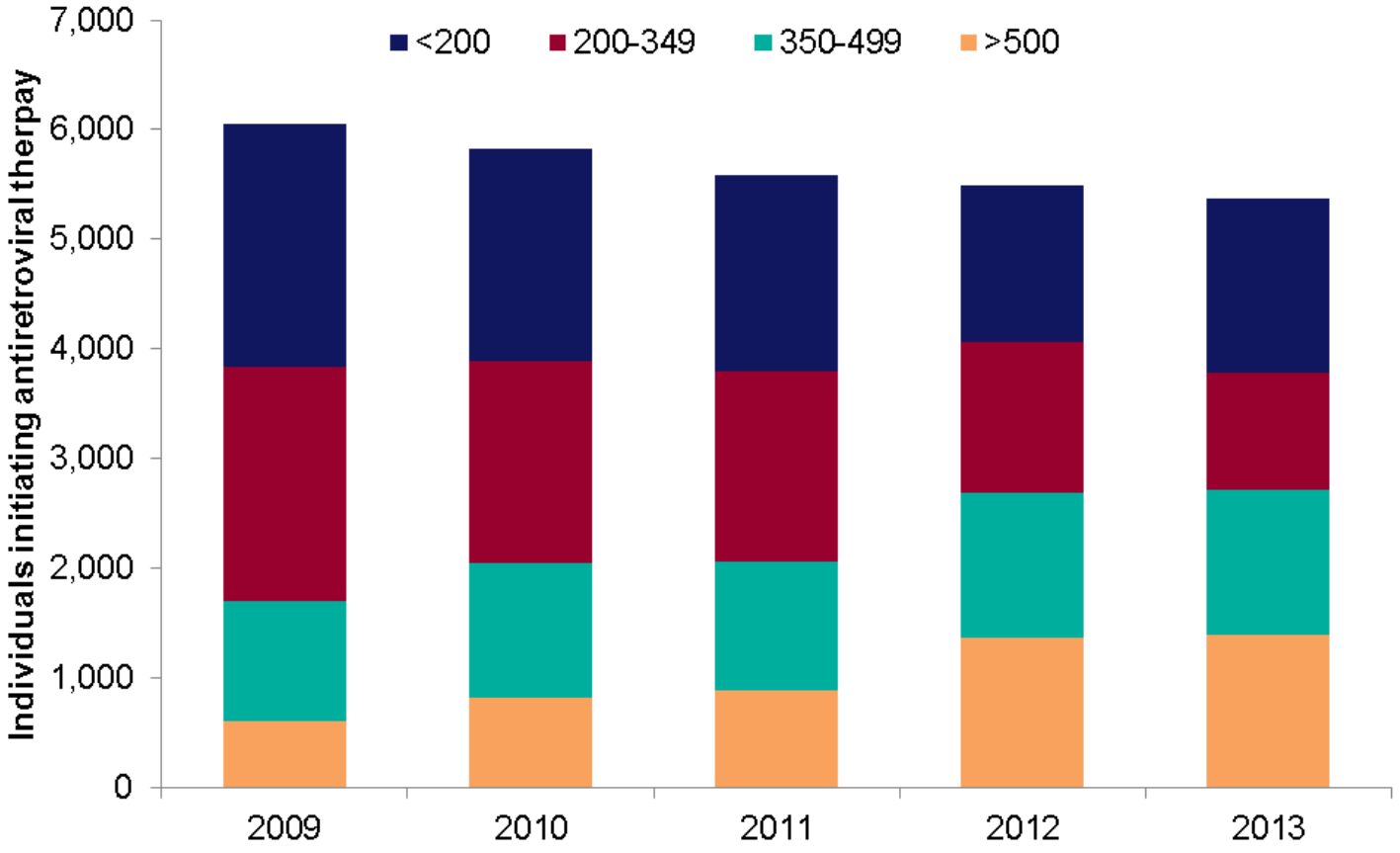
[1] Viral load <200 copies/ml

People living with HIV by diagnostic and treatment status, and number with detectable viral load, UK, 2006-2012



Public Health England

Number[1] of patients starting ART by CD4 count at initiation[2]: UK, 2009-2013



[1] Adjusted for CD4 count not reported.
[2] CD4 count available up to 9 months before ART intiation

HIV clinical dashboards

Public Health

METHODS

NHS

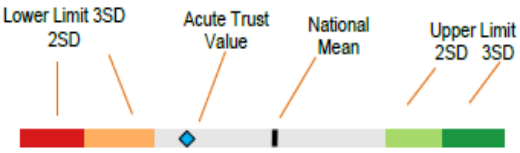
Maintained by Methods Insight for the Specialised Service National Transition Team

HIV Specialised Service Quality Dashboard

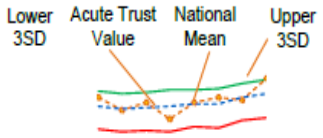
[redacted] NHS FOUNDATION TRUST

Spring 2013/14

Spine Charts



SPC Sparklines



Annual Indicators (2011)		Num	Denom	Exclusions	Value	National Mean	Chart	Trend
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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Conclusions

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Conclusions

- Evidence of ongoing HIV transmission among BME heterosexual communities in the UK with high rates of undiagnosed and late diagnoses
- Expand and target testing with novel diagnostics could be scale up. HIV testing can be a gateway for more tailored approach, and access to, behavioral and biomedical interventions
- Integrate HIV testing into routine care, eg GP, indicator diseases
- Efforts to Identify persons in primary infection. Once diagnosed, they should be offered earlier treatment and prioritise for partner notification.
- Other prevention strategies such as sex education and increased awareness or HIV, condom use must be sustained and strengthened
- Mental health and non-harmful use of drugs and alcohol remain critical in the control of HIV and other STIs epidemic.
- These need to be individualised with greater engagement of peers and community groups in their delivery.

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Key findings: HIV in the United Kingdom, 2013

Implications for prevention II

HIV testing coverage in STI clinics continued to improve in 2013; 83% (180/216) of STI clinics achieved a coverage of 80% or more among MSM attendees, in line with British Association for Sexual Health and HIV (BASHH) guidelines [1] (including 43 clinics with a coverage rate above 90%). HIV test coverage among heterosexual attendees was lower: overall 67% coverage in England with only 35 clinics achieving coverage of 80% or more. To further improve HIV testing rates and achieve optimal coverage, clinics could:

a) Review local policies and training protocols;
b) Consider innovative approaches, which may include active recall and fast-track pathways to increase the frequency of HIV testing of MSM clinic attendees;
c) Work with local authority commissioners to decide upon the need to implement innovative testing services such as HIV self-sampling.

Local authority commissioners and service providers together could consider investing in innovative HIV testing activities delivered through clinical, community and outreach services. This could include the intensification of partner notification following the diagnosis of HIV infection. This is a highly effective way to detect undiagnosed HIV infections: in 2013, 7.3% of MSM sexual partners and 3.3% of heterosexual male partners of people diagnosed with HIV were also positive for HIV infection. STI clinics could review the performance of this service to see how improvements can be achieved.

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Key findings: HIV in the United Kingdom, 2013

Implications for prevention III

Important new evidence for the role of pre-exposure prophylaxis (PrEP) in the prevention of HIV has emerged in 2014, leading to the decision to offer PrEP to the control group in the UK PROUD trial for MSM at risk of HIV infection. Research on the cost-effectiveness and affordability of PrEP for people most-at-risk needs to be accelerated to allow relevant policy decisions to be taken at the earliest opportunity.

National and international treatment guidelines recommend early treatment to prevent onward transmission. People living with HIV and their health care providers can discuss starting ART to reduce their risk of transmitting HIV to their sexual partners. In 2013, 3,710 people who started ART had a CD4 count above 500 cells/mm^3 compared to 3,330 in 2012. Reassuringly, adherence levels among those initiating ART early are high, improving and in 2013, in line with adherence among those initiating ART at <350 cells/mm^3.

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PHE's messages

Early diagnosis of HIV enables better treatment outcomes and reduces the risk of onward transmission. Have an HIV test if you think you may have been at risk. Get tested regularly for HIV if you are one of those most-at-risk:

Men who have sex with men are advised to have an HIV and STI screen at least annually, and every three months if having unprotected sex with new or casual partners.

Black-African men and women are advised to have an HIV test and a regular HIV and STI screen if having unprotected sex with new or casual partners.

Always use a condom correctly and consistently, and until all partners have had a sexual health screen.

Reduce the number of sexual partners and avoid overlapping sexual relationships. Unprotected sex with partners believed to be of the same HIV status (serosorting) is unsafe. For the HIV positive, there is a high risk of acquiring other STIs and hepatitis. For the HIV negative, there is a high risk of HIV transmission (over 7,000 of MSM and 13,000 black African heterosexuals were unaware of their HIV infection) as well as of acquiring STIs and hepatitis.

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