

**HIV in Primary Care**  
*Joint RCGP/BHIVA Multidisciplinary Conference*

British HIV Association  
**BHIVA**

RCGP  
Royal College of  
General Practitioners

**Dr Anthony Nardone**  
Health Protection Agency, London


*Friday 25 January 2013, Royal College of General Practitioners, London*

**Setting the scene:  
HIV epidemiology in the UK**

BHIVA  
25<sup>th</sup> January 2013  
London

Dr Anthony Nardone  
Consultant Epidemiologist,  
HIV/STI Department,  
Health Protection Agency

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HIV and STI Department 

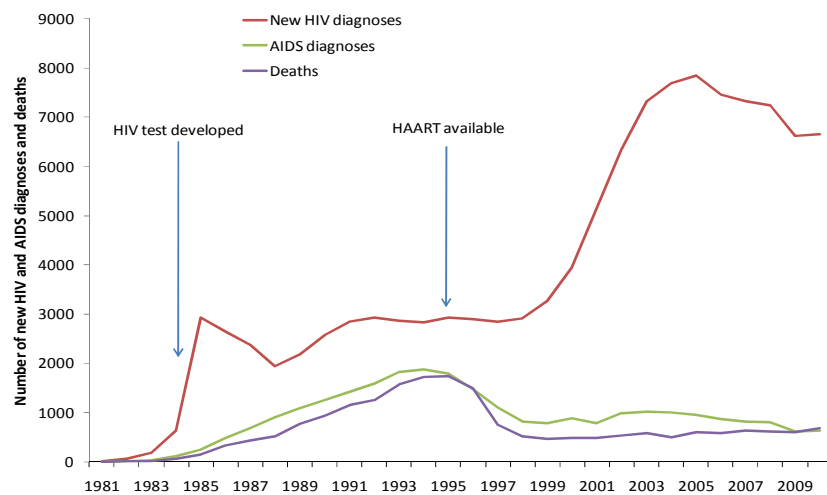
## Outline

- **HIV epidemiology in the UK**
  - Prevalence
  - Diagnoses of HIV
- **Why focus on HIV testing?**
  - Life expectancy
  - Public health implications
- **HIV testing in the UK**
  - National HIV testing guidelines
  - Expanded testing in general medical services

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## Annual new HIV and AIDS diagnoses and deaths: UK, 1981-2010



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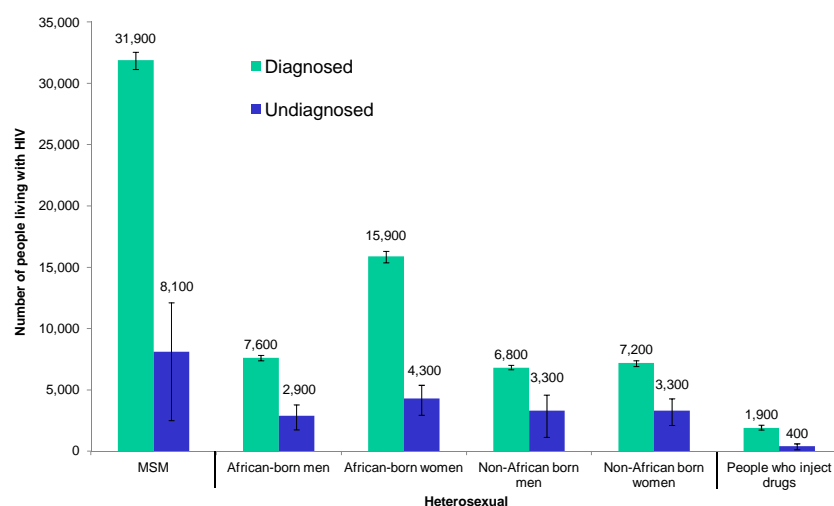
## Prevalence of HIV in the United Kingdom, 2011

- An estimated 96,000 (90,800-102,500) people were living with HIV.
  - The overall prevalence is 1.5 per 1,000 population
- 24% (18%-30%) were unaware of their infection.
- Prevalence much higher in some communities
  - 47 per 1,000 among MSM
  - 37 per 1,000 among black Africans
- HIV prevalence continue to be significantly higher in London than elsewhere in the UK.
  - The most deprived areas have the highest prevalence, especially in London.

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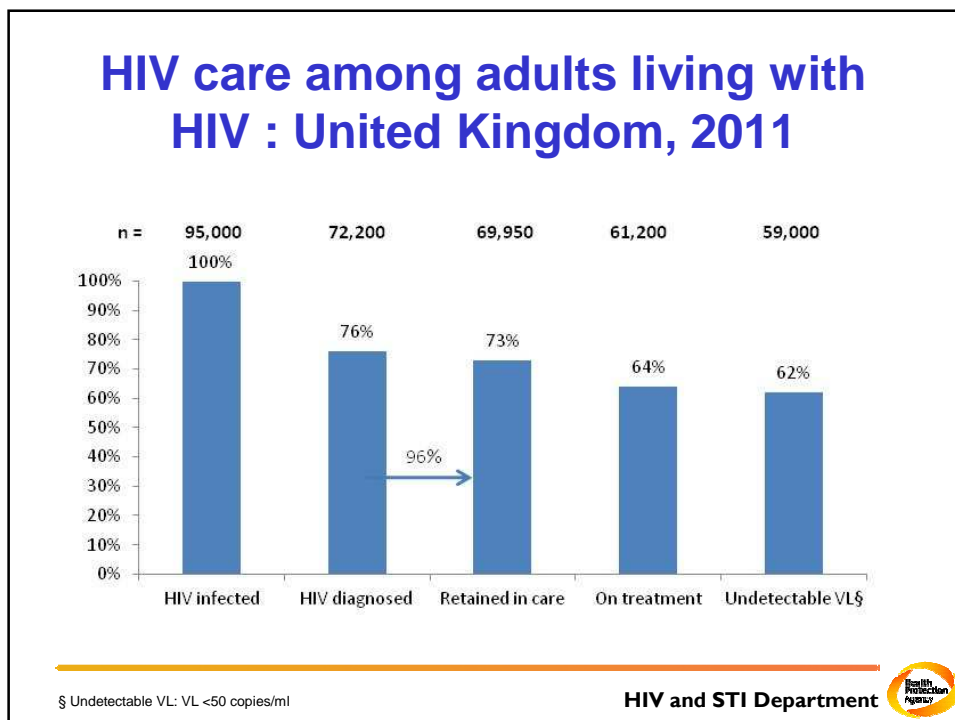
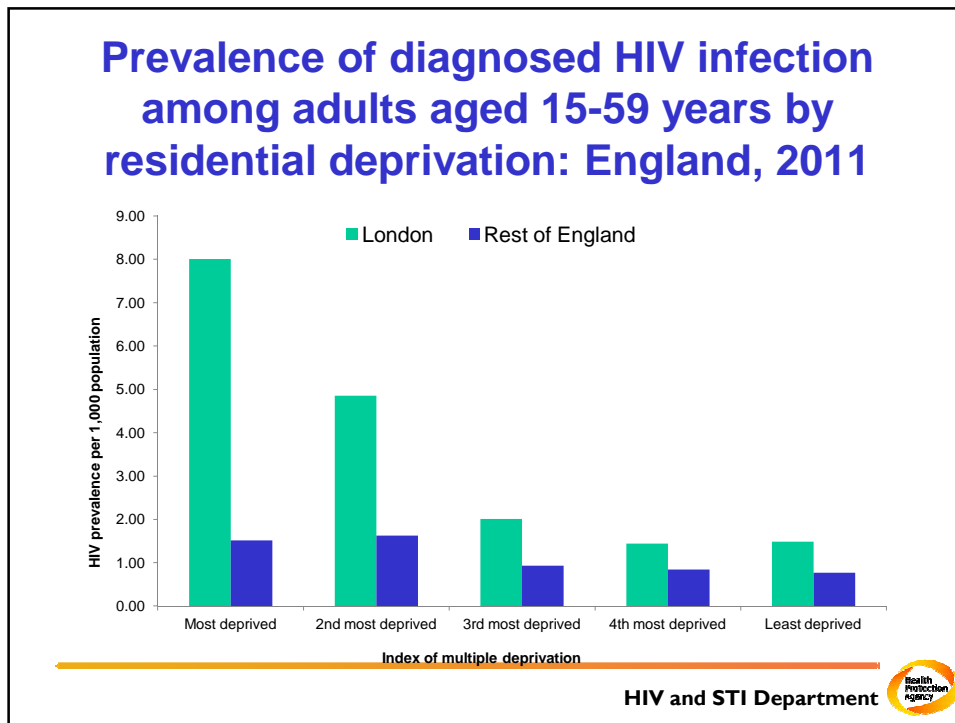


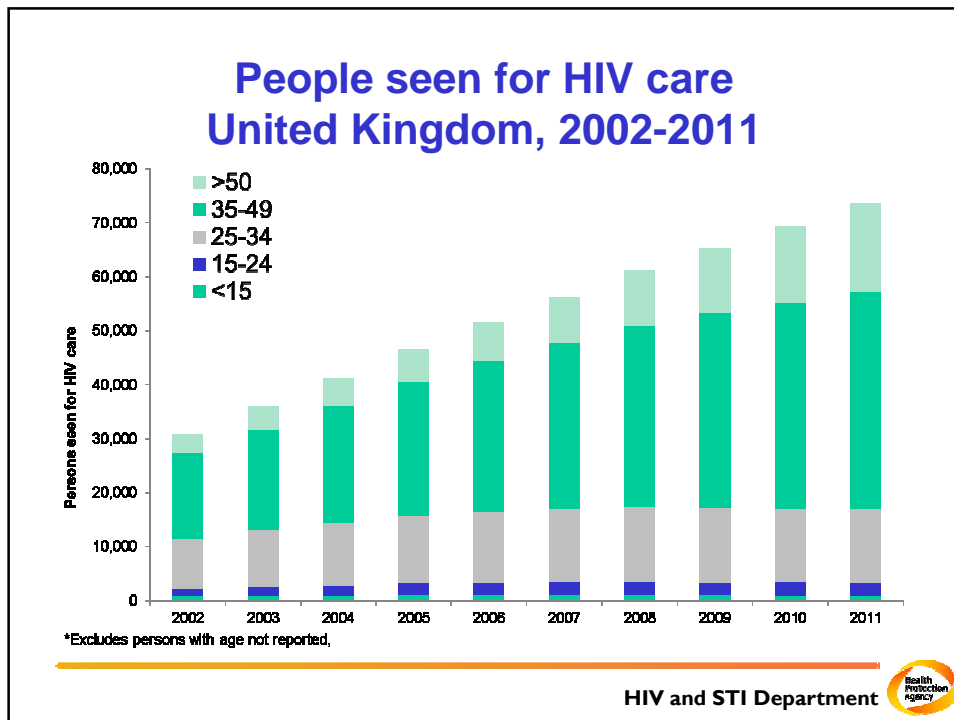
## People living with HIV infection in 2011, UK



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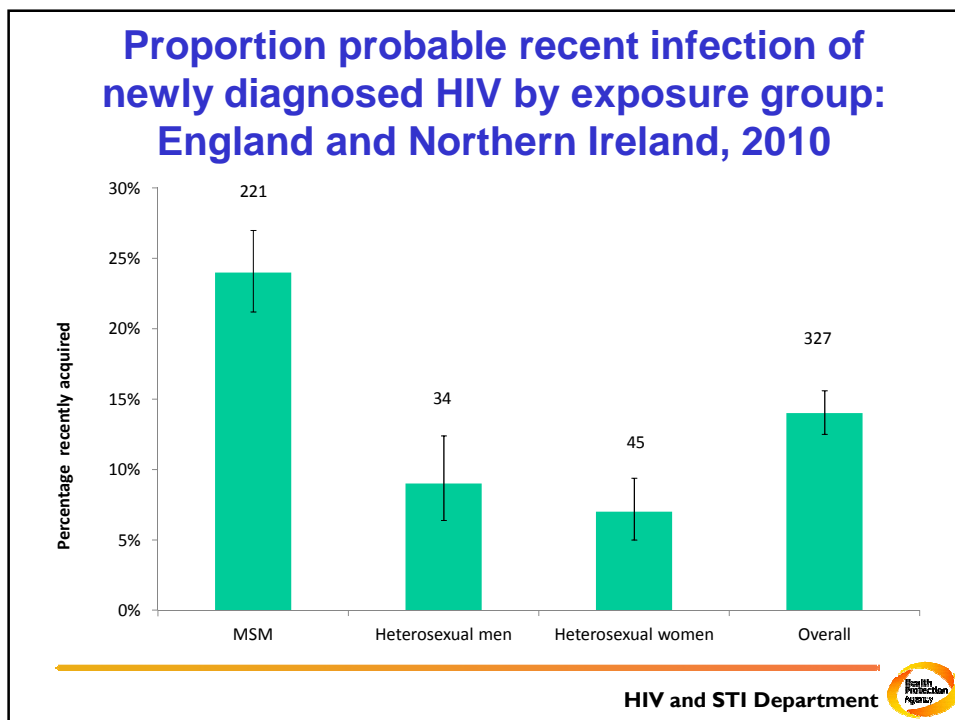
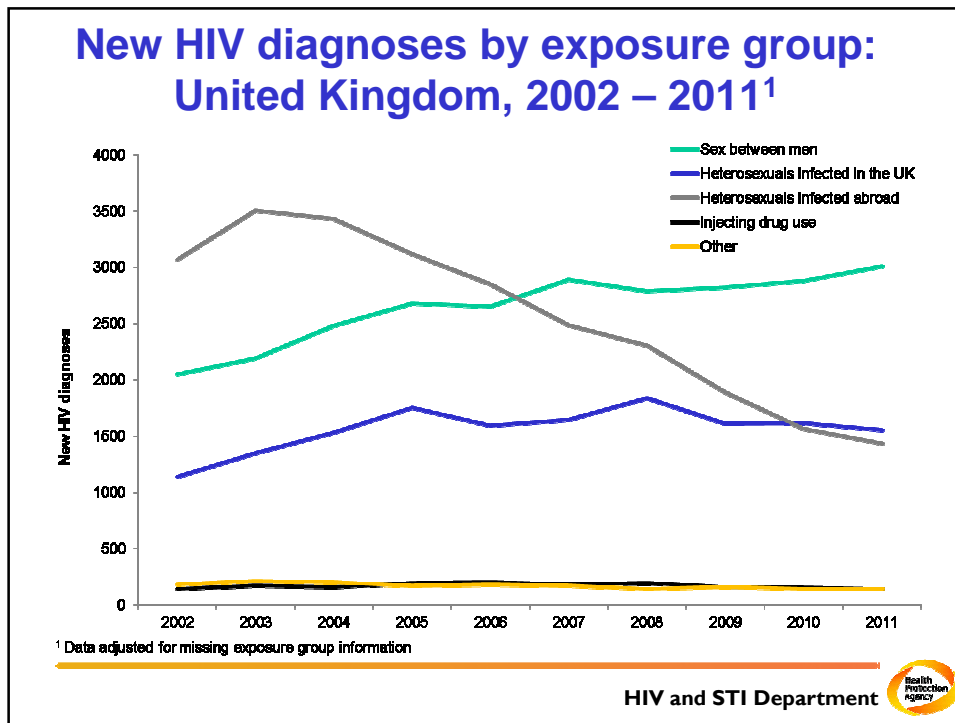


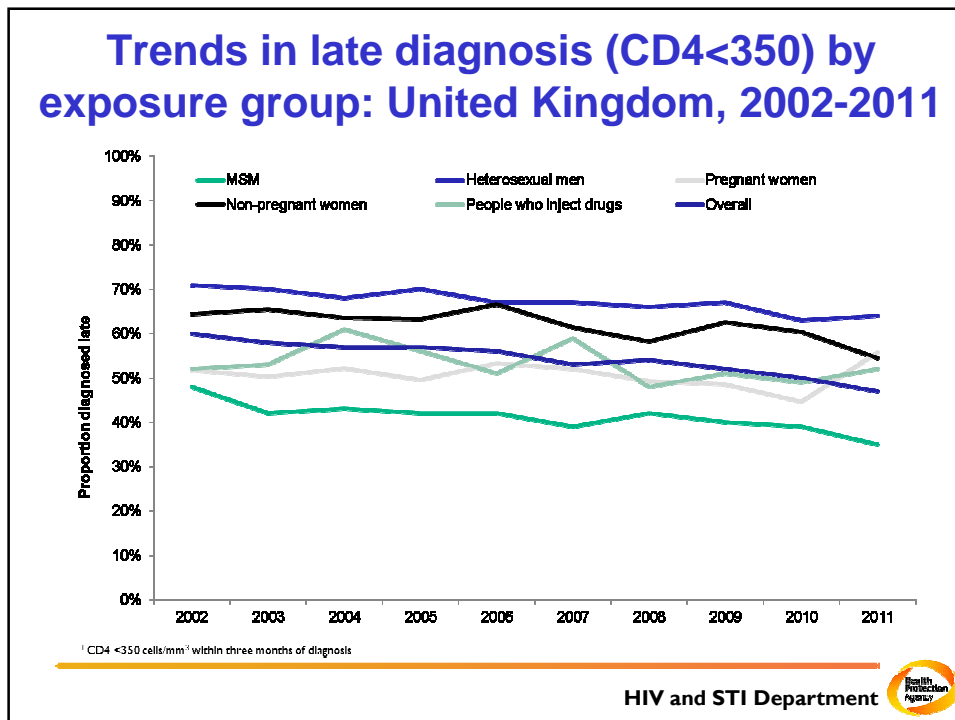
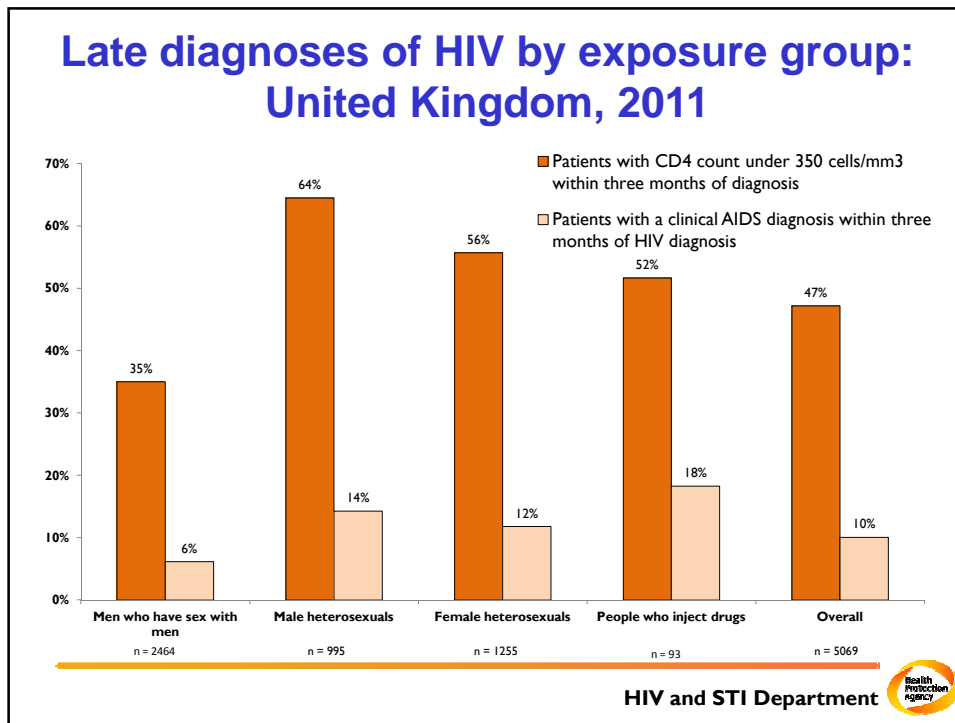
### New HIV diagnoses in the United Kingdom, 2011

- 6,280 people were newly diagnosed with HIV in the UK.
  - All time high in MSM (3010)
  - 52% of heterosexuals probably acquired their HIV infection in the UK.
- The proportion of late diagnoses remained high (47%) in spite of a slow but significant decline over the last decade.

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## Why focus on HIV testing?

- Individual prognosis
- Public health impact
- Cost
- Opportunity

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## Impact of late HIV diagnosis on mortality

- Late diagnosis of HIV major predictor of morbidity and short-term mortality:
  - Late diagnoses have a significantly reduced life expectancy
  - 2/3 HIV deaths were among those diagnosed late
- HIV if diagnosed early can lead to near-normal life expectancy<sup>1</sup>:
  - 75 years for those diagnosed with median CD4 430
  - 70 years for those diagnosed with median CD4 140

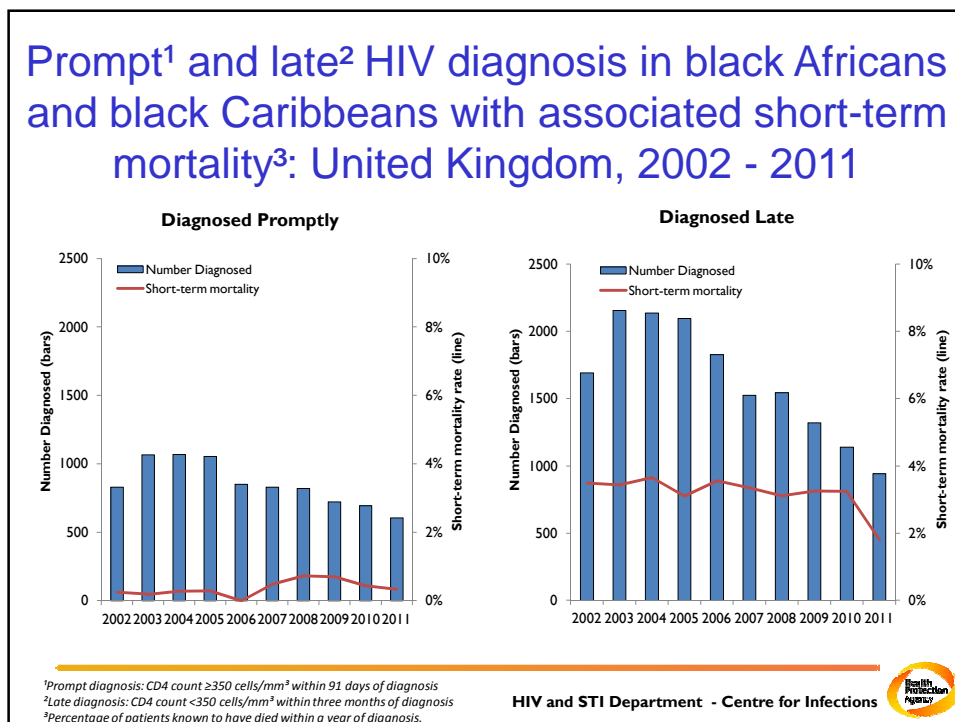
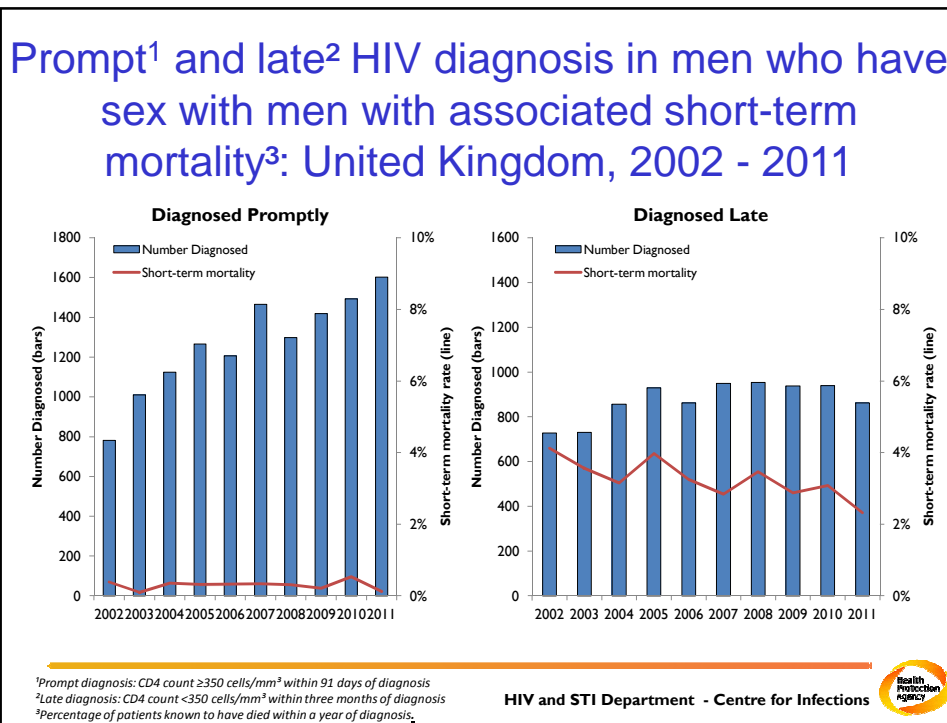
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<sup>1</sup> Nakagawa *et al* AIDS 2012

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## Public health impact of HIV testing

- Approximately 1 in 4 people with HIV unaware of their HIV infection:
  - Estimated that 50-75% of transmissions from individuals of unknown HIV status<sup>1</sup>
- Adoption of safer behaviour subsequent to diagnosis
- Reduced transmission from individuals on treatment
  - Treatment as prevention
- Adoption of late HIV diagnoses as an indicator for the Public Health Outcome Framework

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<sup>1</sup>Marks *et al AIDS* 2006



## Treatment as Prevention

- HTPN052 RCT demonstrated efficacy of treatment in preventing HIV
  - 1,750 discordant couples randomised to early (CD4 350-500) or standard treatment (CD4<350)
  - Trial stopped early due to benefit as 27 HIV transmission in control and 1 in intervention group
- Meta-analysis demonstrated effectiveness of treatment in prevention of HIV in HIV discordant couples
  - Rate ratio of 0.16 (95%CI 0.07-0.35) for those with partners on treatment



## Cost-effectiveness expanded HIV testing

- Shown to be cost-effective in:
  - USA<sup>1</sup>: testing every 3 years cost \$63,000 per QALY
  - France<sup>2</sup>: test everyone once cost €56,000 per QALY
  - Absence of published data in the UK
- Cost-effective threshold for expanded HIV testing in USA
  - 1 new HIV diagnosis/1,000 tests in general medical services<sup>3</sup>
- Cost of late HIV diagnosis:
  - The costs of a late HIV diagnosis (CD4≤75) are x3 those of an early HIV diagnosis (CD4 >500)<sup>4</sup>
  - Similar results in the UK –if treatment initiated at CD4<200 costs were £6.5k ppy compared to £2.5k<sup>5</sup>

<sup>1</sup> Paltiel et al *N Engl J Med* 2006; <sup>2</sup> Yazdanpanah et al *Plos One* 2011;  
<sup>3</sup> MMWR 2006; <sup>4</sup> Krentz et al *HIV Med* 2008; <sup>5</sup> Beck et al *Plos One* 2011



## Opportunity

- 76% of HIV diagnoses seen in health services in previous year<sup>1</sup>
  - 76% attended General Practice
  - 38% attended 2° care
  - 15% attended 3° care
- 2012 audit of commissioned routine HIV testing
  - Little routine testing in general medical admissions and general practice settings
- Unlinked anonymous HIV testing of samples from primary care in SE London submitted for a glandular fever screen
  - 0.9% (6/694) positivity<sup>2</sup>

<sup>1</sup> Burns et al *AIDS* 2008; <sup>2</sup> Hsu et al *HIV Medicine* 2013



## HIV Testing in the UK

- **General Population<sup>1</sup>**
  - 1/3 had had an HIV test (no major difference by sex)
  - 9% of males and 5% of females had VCT in <5 years
- **STI clinics**
  - Estimated 70% coverage among clinic attendees in 2011
- **Antenatal Services**
  - >95% coverage of HIV testing in pregnant women
- **Other health services<sup>2</sup>**
  - Data collected from a single Trust (Leeds)
  - 77% HIV tests performed by STI or antenatal services

<sup>1</sup>NATSAL 2000/01 survey; <sup>2</sup>Tweed et al STI 2010

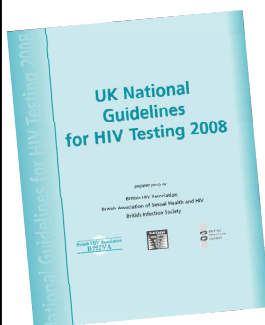
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## UK National Guidelines for HIV Testing

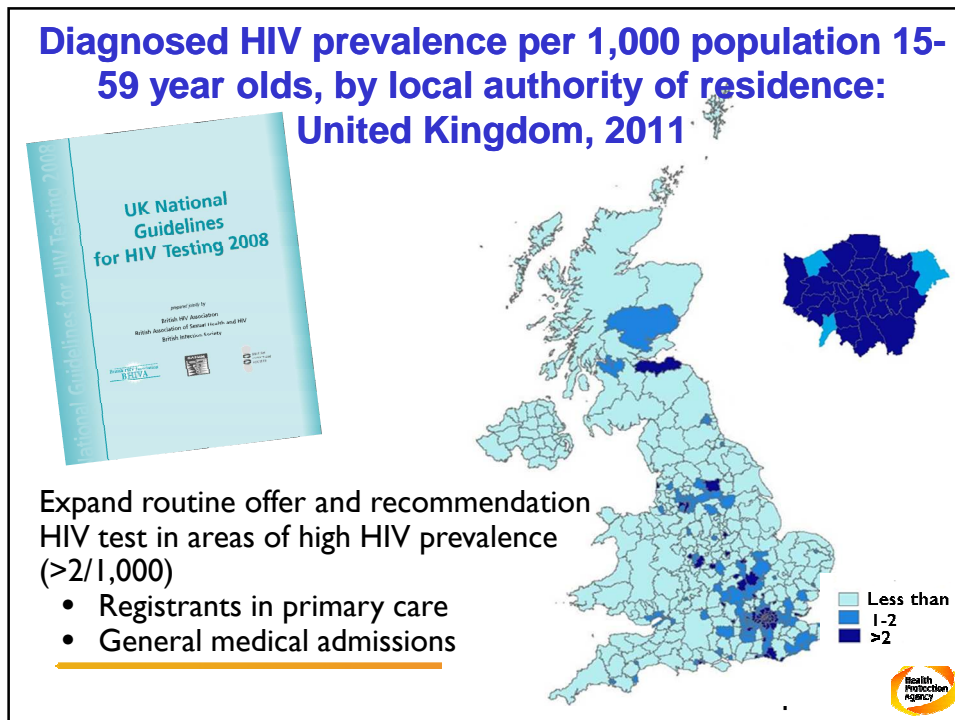
Reinforced routine offer and recommendation of HIV test to attendees of:

- Specified services:
  - STI clinics
  - Antenatal
  - Termination of Pregnancy
  - Drug dependency services
  - Healthcare services for patients with tuberculosis, HBV, HCV and lymphoma
- Patients at higher risk, such as:
  - from a high prevalence country,
  - MSM,
  - reporting history of IDU,
  - diagnosed with an STI
- Patients with clinical indicator diseases



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## Overview of Department of Health Pilots

- 8 pilot projects to evaluate models of expanded HIV testing in general medical services in 2010
- A total of 10,688 HIV tests performed with 41 new diagnoses (3.8/1,000).
- Positivity rates ranged from 0 to 10.4/1,000
  - 4.8/1,000 in primary care
  - 3.1/1,000 in hospitals
- Pilot projects demonstrated:
  - high levels of acceptability among patients
  - feasibility of routine testing in different medical services
  - 6 of 8 projects exceeded cost-effective threshold (1/1,000)<sup>1</sup>

<sup>1</sup>HPA Time to test for HIV report 2011

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### Primary Care Pilot Projects

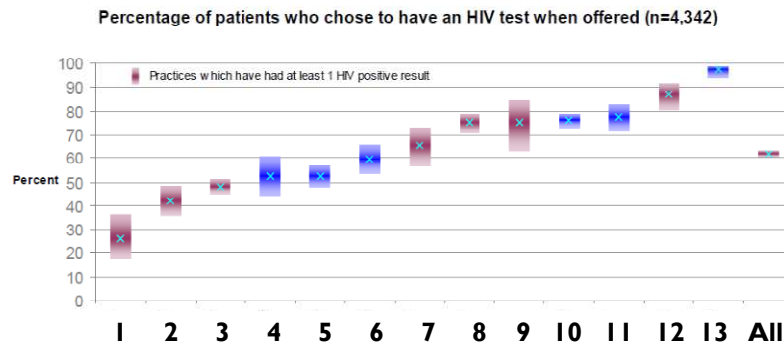
<u>London (Lewisham)</u>	<u>London (West London)</u>	<u>Brighton &amp; Hove</u>
<b>Setting:</b> <ul style="list-style-type: none"> <li>• 18 of 48 practices</li> </ul>	<b>Setting:</b> <ul style="list-style-type: none"> <li>• 1 practice</li> </ul>	<b>Setting:</b> <ul style="list-style-type: none"> <li>• 10 of 26 practices with LES</li> </ul>
<b>Method:</b> <ul style="list-style-type: none"> <li>• Routine offer</li> <li>• 18-59 year olds</li> </ul>	<b>Method:</b> <ul style="list-style-type: none"> <li>• Routine offer</li> <li>• 16-65 year olds</li> </ul>	<b>Method:</b> <ul style="list-style-type: none"> <li>• Routine offer</li> <li>• 16-59 year olds</li> </ul>
<ul style="list-style-type: none"> <li>• New patient health check</li> <li>• £5 research incentive</li> <li>• INSTi® test</li> </ul>	<ul style="list-style-type: none"> <li>• Offered to all patients on list of 3/4 GPs</li> <li>• Saliva tests</li> </ul>	<ul style="list-style-type: none"> <li>• New patient health check</li> <li>• £20 research incentive</li> <li>• INSTi® test</li> </ul>
<b>Time:</b> <ul style="list-style-type: none"> <li>• 9 months</li> </ul>	<b>Time:</b> <ul style="list-style-type: none"> <li>• 3 months/settings</li> </ul>	<b>Time:</b> <ul style="list-style-type: none"> <li>• 4 months</li> </ul>

### Interim results of primary care projects

Pilot project	Number offered	Number of tests	% Uptake	Number Positive	Positivity (/1000)
Lewisham	4,342	2,713	62%	19	7.0
Brighton	799	596	75%	2	3.4
West London	1,489	1,001	67%	0	0
<b>TOTAL</b>	-	4,310	-	21	4.8


  
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## Uptake of HIV testing in primary care, Lewisham, 2010



Hutt et al 2010

**NHS**  
Lewisham

## Acceptability among patients in primary care

### Preliminary Results

Questionnaire items	% agreeing		
	Accepted	Declined	Total
It was a good idea to offer me an HIV test today during my new patient health check*	97.8	93.5	96.7
I think I may be at risk of HIV*	6.5	2.5	5.5
I had enough time to decide whether or not to have an HIV test today*	85.3	71.1	81.7
I would like to receive my HIV test result straight away*	93.9	51.1	84.1
I am happy to have an HIV test at my doctor's surgery*	98.6	73.3	92.3
I would prefer to have an HIV test at a specialist sexual health clinic*	8.6	10.0	9.0
Overall I would rate my experience of being offered an HIV test as helpful and useful*	94.1	86.2	92.1

\* Indicates significant difference by chi-squared test (p<0.05)

**NHS**  
Brighton and Hove

## Cost per HIV diagnosed, UK, 2011

Pilot Site	Service	Number HIV diagnosed	Number HIV tests	Cost per HIV diagnosed
Brighton	10 GPs	2	1,473	£4,673
London	18 GPs	19	2,713	£787
London	1 GP	0	1,002	-
London	ACU	4	384	£299
Brighton	ACU	2	1,413	£3,780
Leicester	ACU	10	984	£818
London	ED	4	2,121	£5,200
London	OPD	0	598	-

- Cost effectiveness threshold of 1 new diagnosis per 1,000
- Costs per HIV detected compare well with other studies:
  - USA<sup>1</sup>: varied from \$1,980 (UCC) to \$9,724 (ED)

<sup>1</sup> Mehta et al *Pub Health Rep* 2008; <sup>2</sup>YBos JM et al *AIDS* 2001;



## Further Policy Developments

- NICE published guidance on increasing HIV testing among:
  - Men who have sex with men; and
  - Black African communities
- Reinforced many of recommendations from UK national guidance:
  - Geographic targeting of routine HIV testing in high prevalence areas;
- House of Lords Report (2011) recommended expanded HIV testing
- Public Health Outcomes Framework (2012)
  - Late diagnosis of HIV is one of indicators





## Conclusions

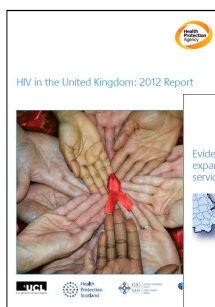
- Increased HIV testing needed to reduce late diagnosis and proportion undiagnosed
  - Individual and public health benefits
- HIV testing among most-at risk populations
  - Specialist services (e.g. GUM/STI clinics)
  - Community testing
- Expansion of HIV testing in high prevalence areas
  - Hospital general medical admissions
  - New registrations in general practice
- 3Cs & HIV project to promote sexual health offer (including HIV test) in general practice
  - Expand routine offer of an HIV testing

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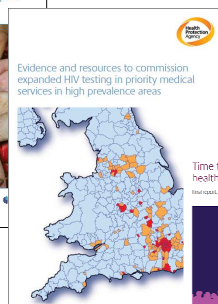


## Thank you

- HIV/STI Department and contributors of HIV data



<http://www.hpa.org.uk/Publications/InfectiousDiseases/HIVAndSTIs/121/HIVintheUK2012/>



<http://www.hpa.org.uk/expandedhivtesting2012>



<http://www.hpa.org.uk/timeto testhiv2011>

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