Time to test for HIV: Expanding HIV testing in healthcare and community services in England

Final report, 2011

Acknowledgements

Contents

Overview

This report provides the final results from eight projects, in hospital (3), primary care (2) and community (3) settings funded by the Department of Health to examine models of HIV testing in these settings. All except one were in high prevalence areas (where diagnosed HIV prevalence is greater than two per thousand among 15-59 year olds). Projects ran for periods of 3-12 months between 2009 and 2010.

Key findings

- The routine offer and recommendation of an HIV test in primary care and hospital settings is feasible and acceptable to both staff and patients.

- More than 11,000 HIV diagnostic tests were performed across the pilots, the largest number in healthcare settings. A total of 51 HIV-infected persons were newly diagnosed, giving an overall positivity of four per thousand tests across the projects.

- The majority of settings found positivity rates of at least one per thousand tests, the threshold for cost-effectiveness. The highest positivity rates were reported in community based projects.

- The cost per test conducted within the pilots ranged from £3 to 12 in hospitals settings, from £6 to £8 in primary care settings and from £21 to £47 in community settings.

- Estimates of costs per newly diagnosed individual within pilots ranged from approximately £300 to £3,800 in medical admissions, from £1,200 to £4,600 in primary care settings and from £700 to £2,600 in community settings.

- The pilots demonstrated feasibility and acceptability of establishing HIV testing services in community based settings. Patients showed no preference for nurse-led or peer-led services but the pilots highlighted difficulties in recruiting and retaining staff and finding suitable venues for testing.

Recommendations

- The routine offer of HIV testing in medical admissions should be commissioned as a priority in areas with a high diagnosed prevalence (i.e. greater than two per thousand among 15-59 year olds). At an average of £8 per test and with coverage of 90%, the estimated cost of this expansion of testing is £1.6 million.

- HIV testing by general practitioners should be widely promoted. However, the exact model of testing should be further investigated since not all primary care facilities conduct new patient health checks.

- Efforts to increase the uptake of HIV testing among people attending sexually transmitted infection (STI) clinics and to maintain high uptake of HIV testing among women attending for antenatal care should be continued.

- Community HIV testing services need to be appropriately targeted and established with strong community representation. To be successful these initiatives require long term financial and political commitment.

- Strong links between HIV specialist services and primary care, hospital and community projects are essential for immediate continuity of care for newly diagnosed patients. Particular attention should be paid to prompt referral of patients newly diagnosed in primary care and community services to minimise loss to follow-up.

- Specific commissioning is required to ensure that: sufficient resources are available to implement expanded testing; all positive and indeterminate results are acted upon; all diagnosed patients access HIV care within two weeks; and to meet the costs of caring for these patients and to monitor and evaluate the long term impact of the expansion.

1 Background

1.1   Epidemiology of HIV in the UK

In 2009, there were an estimated 86,500 people living with HIV (both diagnosed and undiagnosed) in the UK and a quarter (26%) of HIV-infected people were thought to be unaware of their infection (1).

In 2010, 6,658 new HIV diagnoses were made in the UK. Half of these individuals are thought have acquired their infection heterosexually of which an estimated 66% were acquired abroad, mainly in sub-Saharan Africa. High numbers of new diagnoses (3,000 in 2010) continue to be reported in men who have sex with men (MSM), and the majority of these infections (85%) are thought to be acquired in the UK (2).

Late diagnosis of HIV is associated with increased morbidity and mortality. In 2009, an estimated 52% (3,450/6,630) of newly diagnosed patients had a CD4 count less than 350cell/mm^3 and were therefore considered to have been diagnosed late (after a point at which treatment should have commenced). The proportion of late diagnoses is higher among heterosexual men and women (66% and 59% respectively) than among MSM (39%) (1).

1.2   HIV testing in the UK

HIV testing has been routinely offered, and recommended to all patients attending antenatal clinics and sexually transmitted infection (STI) clinics since 1999 and 2001, respectively (3;4). In 2010, more than 1.5 million tests were conducted in these settings. In the UK the majority of diagnostic HIV testing occurs within these settings. For example, of all samples tested at one hospital laboratory in Leeds, 39% of tests were conducted as part of antenatal care and 38% were conducted at STI clinics. Only 3.8% of tests were conducted in GP surgeries and 0.4% in general medical and general surgical departments (5).

1.2.1 Antenatal services

The success of the universal offer of an HIV test as part of routine care is best illustrated in the antenatal setting. Since its introduction in late 1999, uptake of HIV testing among women in antenatal care has reached 96% (ranging from 92% to 98% across the regions) with 1.65 positive tests per thousand (table 1) (6). Nationally, the estimated proportion of women who remain undiagnosed after delivery has fallen from 27% in 2000 to 12% in 2009. Consequently the estimated proportion of newborns at risk of HIV infection who become infected has decreased from 8% to less than 2% between 2000 and 2009.

Table 1: Antenatal HIV screening positivity in England in 2010

Region	Positivity per thousand tests[1]
East Midlands	1.82
East of England	1.45
London	3.21
North East	1.36
North West	0.74
South East	1.31
South West	0.45
West Midlands	1.74
Yorkshire & Humber	1.29
National	1.65

1 This includes both women diagnosed prior to and during pregnancy.

1.2.2 STI clinics

Overall in 2010, 78% (1,174,228/ 1,469,503) of patients attending an STI clinic and not known to be HIV positive were offered an HIV test, and 78% of these (897,439/1,147,228) accepted testing. Uptake was higher among MSM than among heterosexual men or women and was higher in areas of high diagnosed HIV prevalence than in areas of low diagnosed prevalence. In both high and low prevalence areas, positivity in STI clinics far exceeded the threshold (one per thousand tests) deemed cost effective for routine testing (Table 2).

Table 2: Uptake and outcome of HIV testing in STI clinics in England, 2010

Diagnosed HIV prevalence[1]	Gender/ sexual orientation	Number offered HIV test[2]	Number tested for HIV[2]	Uptake	Number positive[2]	Positivity per thousand tests
High prevalence areas	MSM	35,959	33,029	92%	1010	30.58
	Heterosexual males	109,495	93,566	85%	403	4.31
	Females	197,611	162,142	82%	734	4.52
	Total[3]	387,901	327,127	84%	2502	7.65
Low prevalence areas	MSM	30,806	28,057	91%	640	22.81
	Heterosexual males	295,751	227,311	77%	481	2.12
	Females	401,005	288,060	72%	636	2.21
	Total[3]	759,327	570,312	75%	1921	3.37

1 Data source: Survey of Prevalent HIV Infection diagnosed.
2 Data souces: Genito-urinary clinical activity dataset.
3 Includes those patients where gender/ sexual orientation is not known
Excludes data from patients who are not resident in England but attended a clinic in England and data where patients PCT of residence is not known

1.2.3 Uptake of HIV testing in the general population

Behavioural surveys provide insight into HIV testing patterns in the general and in most at-risk populations. In a survey, conducted in 2000, among a nationally representative sample of the British population (Natsal), a third of men (32%) and women (32%) reported ever having had an HIV test, mostly due to pregnancy or blood donation (7). More recent community surveys among samples of black African populations estimate that between 47% and 61% had ever tested (8;9). Among MSM, surveys indicate that between 30% (10) and 50% (11) have tested in the past 12 months and between 12% (11) and 28% (12) have never tested.

1.2.4 HIV testing in general healthcare settings

In order to address the problem of late diagnosis and undiagnosed HIV infection in the UK, BHIVA/BASHH/ BIS issued national HIV testing guidelines in 2008. These guidelines recommended the expansion of HIV testing beyond the antenatal and sexual health clinic settings. Importantly, they advocated the routine offer of an HIV test to all adults registering in general practice and all general medical admissions where the local diagnosed HIV prevalence is greater than two per thousand among 15-59 year olds (13). At the time of the pilots, in 2009, 37/151 primary care trusts (PCTs) in England (49/325 local authorities) had a prevalence above this threshold, 26 of which were in London (1). This geographical targeting covers about a fifth of the English population (14).

The extent to which these guidelines have been implemented in general healthcare settings remains unknown. Responses from 17 medical royal colleges, faculties and professional organisations to a 2010 Health Protection Agency (HPA) survey showed that although 11 organisations reported awareness of the guidelines, only four knew of any work being conducted within their specialty to address HIV testing and only five had included HIV testing in any of their own clinical guidelines.

The National Institute for Health and Clinical Excellence (NICE) published guidance in March 2011 for increasing the uptake of HIV testing in black African communities and among MSM. These guidance documents also recommend more wide scale testing in primary, secondary and emergency care settings as well as the establishment of community testing for populations who are at increased risk of infection (15;16).

The cost-effectiveness of different HIV testing strategies has been evaluated in the USA and France. In the USA, testing for HIV is considered cost-effective as long as the positivity rate is more than one per thousand (17-20). Current UK guidelines are based on these findings. However, no UK specific cost effectiveness threshold exists. In France, for the general population, an HIV test undertaken in a lifetime is considered cost effective (21). Assessing the cost-effectiveness of HIV testing in various settings as well as establishing a UK specific threshold of positivity for routine offer of HIV testing will be critical in informing future testing policies.

2 HIV testing pilots

To assess ways in which the testing guidelines might best be implemented, the Department of Health (DH) funded eight demonstration projects to pilot the expansion of HIV testing outside traditional settings.

Each of the pilot projects was implemented between 2009 and 2010. Within the eight projects, 12 different models of testing were piloted. In hospitals HIV testing was piloted in an emergency department, three acute admissions units and a dermatology outpatients department. Testing in primary care was assessed by three pilots (one of which was primarily a hospital project with an additional primary care arm). Two of the primary care projects aimed to offer testing to newly registering patients within surgeries, while one aimed to offer testing to all patients attending the practice. Four models of testing were piloted in community/outreach settings (Table 3).

A summary of the project methods is available in appendix 1 and individual project abstracts are available in appendix 2. A number of other pilot projects, funded directly by PCTs or industry, are also underway but are not reported here.

Table 3: Summary of pilot projects and local diagnosed HIV prevlance at time of project initiation

Setting type	Abstract number	Pilot Project Location	PCT	2009 diagnosed HIV prevalence per thousend population for local PCT
Hospital	AB1	The HINTS Study: Chelsea and Westminster Emergency Department	Kensington and Chelsea	8.33
		Homerton Hospital Acute Care Unit	City & Hackney	8.25
		King College Hospital Dematology Outpatients Department	Lambeth	13.28
		North End Medical Centre - a GP surgery	Hammersmith & Fulham	8.15
	AB2	Brighton and Sussex University Hospitals: Acute general medical admissions unit	Brighton & Hove City	7.57
	AB3	University Hospitals Leicester: Acute medical admissions unit	Leicester City	3.22
Primary Care	AB4	Brighton and Hove GP surgeries (10 practices)	Brighton & Hove City	7.57
	AB5	Lewisham GP surgeries (18 practices)	Lewisham	7.03
Community	AB6a & AB6b	London GMI: Community testing for MSM for the black African community	Lambeth	13.28
			Southwark	10.39
			Islington	9.07
			Greenwich	5.58
			Hammersmith & Fulham	8.15
	AB7	London THT: Outreach and community testing for black African community	Lambeth	13.28
			Southwark	10.39
	AB8	Sheffield: Home sampling	Sheffield	1.40

2.1 Pilot evaluation

A number of common outcome measures were agreed by the project leads, the DH and the HPA. A proforma was developed for recording information about the projects and projects were encouraged to collect data so that the questions contained in the proforma could be answered (appendix 3).

For dissemination of best practice, we have evaluated local projects using comparable data. The projects have been assessed within the following five criteria: feasibility, acceptability, effectiveness, cost and sustainability.

A conference was held in December 2010 to disseminate data which had been collected thus far (appendix 4). This report provides final results from the pilot projects.

2.2 Findings from the Pilots

A summary of results from the pilots is shown in Table 4.

Table 4: Key Findings from the pilot projects

Abstract number	Setting	Number offered testing	Offer rate	Number tested	Uptake	Number newly diagnosed	Positivity per thousand
AB1	Emergency department	3433	62%	2121	62%	4	1.89
	Acute care unit	548	40%	384	70%	4	10.42
	Dermatology outpatients	884	50%	598	68%	0	-
	One GP surgery	1329	21%	1002	75%	0	-
AB2	Medical admissions unit	1553	40%	1413	91%	2	1.42
AB3	Medical admissions unit	-	-	984	-	10	10.16
AB4	Ten GP surgeries	2478	-	1473	59%	2	1.36
AB5	Eighteen GP surgeries	-	-	2713	62%	19	7.00
AB6a	Community clinics for MSM	-	-	191	-	4	20.94
AB6b	Community clinics for African communities	-	-	106	-	2	18.87
AB7	Outreach and community testing for African communities	-	-	459	-	4	8.71
AB8	Postal testing for MSM	-	-	59	-	0	-

2.2.1 Feasibility

All projects demonstrated that expanding HIV testing within the three different types of setting was feasible.

Offering HIV testing: In hospital and primary care settings, which aimed to make the offer of a test routine, the proportion of all patients attending who were offered a test ranged from 21% (AB1) to 62% (AB1) indicating that it is feasible to offer HIV testing to patients even when they are attending for other reasons.

The number of patients that were offered a test in each project varied due to the very different settings and operational environments. For example, 126 testing kits were distributed in the four-month home sampling project (AB8) compared to 3,433 tests offered in three months in an emergency department (AB1).

Across the projects a range of different staff offered and recorded patients consent for HIV tests. Testing rates varied greatly by clinician in hospital and primary care settings (AB4, AB2, AB3) emphasising the importance of staff engagement and support within the departments conducting the testing.

Logistics: The types of resources and staff required varied for each of the settings. In three community based projects (AB6a, AB6b, and AB7) the main factor limiting feasibility was the ability to develop partnerships with the appropriate community. These partnerships were required both to promote the testing service and to provide facilities to house the service. There were also challenges in identifying appropriate staff to run community based projects (AB6a, AB6b).

In the hospital and primary care settings the key aspect which impacted on feasibility was the use of existing staff to offer HIV testing and collect samples alongside other clinical tasks.

Transfer to care: All projects specified clear pathways to ensure results were returned to patients and that those patients testing positive or reactive were appropriately counselled and referred for HIV care in a timely manner. Rates of transfer to care for newly-diagnosed individuals were reported in all projects and ranged from 75% (AB7) to 100% (AB1, AB2, AB3, AB4, AB6). The results emphasise that when expanding testing, it is essential to create strong links between the testing service and specialist HIV services early in the planning stage of the project

2.2.2 Acceptability

Taking a test and clients positive responses to attitudinal questionnaires showed that all models of HIV testing carried out during the pilots were acceptable to patients.

A total of 11,503 tests were performed across the pilot projects. The greatest number of HIV tests (2,713 in nine months) was achieved in a primary care setting where all newly-registering patients were offered an HIV test as part of their new patient health check (AB5) while the smallest numbers were carried out in community based projects (for example, 59 tests over four months A B8).

Uptake of HIV testing: Uptake of testing   defined as the number of individuals accepting a test as a proportion of all those offered a test   was used as a measure of patient acceptability for the pilot studies in healthcare settings.

High levels of test uptake were seen in all primary care (59-75%) and hospital settings (62-91%) (Figure 1), indicating good patient acceptability of a routine offer and recommendation of an HIV test in these settings.
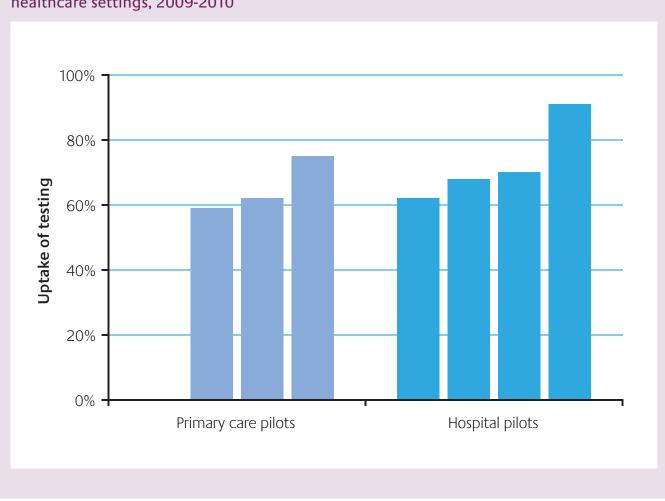
Figure 1: Uptake of HIV testing in DH funded HIV testing pilot projects conducted in healthcare settings, 2009-2010

Patient questionnaires and interviews: Evaluation of patient acceptability from questionnaires and interviews was collected by two pilots conducted in healthcare settings (AB1, AB4). Among patients attending an emergency department, an outpatients department, a medical admissions unit or seeing their GP, 92% of patients agreed with the statement: It is acceptable for me to be offered an HIV test (AB1). Among patients newly registering at one of nine GP surgeries, 88% of patients reported that the offer of the test was a good idea and 85% stated that they were happy to have an HIV test at their GP surgery (AB4).

In community settings, patient questionnaires and interviews were the primary method of evaluating patient acceptability. Uptake was not considered an appropriate measure of acceptability in these settings since clients were attending the service and requesting an HIV test. All models of testing were acceptable to clients accessing these services. Among MSM, there was no preference seen for nurse-led or peer-led clinics (AB6a) and positive feedback was received from MSM in social venues with regard to self-sampling and postal testing (AB8). Among African communities, a clear preference was seen for testing to occur in settings within the community as opposed to more general settings such as the offices of the test providers, but there was no preference for HIV testing alone versus more holistic healthcare

checks including an HIV test (AB6b). In a project targeting black African and Caribbean communities through outreach, 97% thought the service was appropriate, 88% stated that they would use the service again and 97% would recommend it to a friend (AB7).

Where patients declined an HIV test, the most common reasons given were a recent test or that they did not perceive themselves to be at risk of HIV (AB6b, AB5, and AB1).

Staff acceptability: Staff acceptability was assessed in four pilots using questionnaires, focus groups or reflective diaries. (AB1, AB4, AB6a, AB6b, AB7). In all settings the model of HIV testing was shown to be generally acceptable to staff. Reported barriers to offering HIV testing before initiation of the project included a need for additional training, concerns that patients would ask challenging questions and having insufficient time to gain informed consent for an HIV test (AB4, AB1).

During focus group discussions before the testing was introduced, staff in hospital settings expressed anxieties about the feasibility of the testing and the impact it would have on normal service delivery. However, once the testing had been implemented many of these worries were assuaged and staff did not report that there had been a detrimental effect on the department (AB1). Similarly in primary care, some clinicians had expressed anxieties about offering testing and managing reactive results. However, once implementation had taken place the staff reported that the practice was acceptable. Some concerns about the time taken to offer testing and the impact on total consultation time in primary care remained after the testing was implemented (AB4).

2.2.3 Effectiveness

In hospital and primary care based projects HIV tests were routinely offered to all people attending the services (within a designated age group). In contrast, the community projects focussed on targeting particular populations: two MSM projects and two projects serving individuals from black African communities.

Positivity: The 11,503 HIV tests conducted by the eight projects resulted in 51 new diagnoses a positivity rate of 0.4% (95% confidence interval (CI) 0.3-0.6%) (Figure 2).

The highest positivity rates were reported among community pilots: 0.9% (95% CI, 0.2%-2.8%) and 1.9% (95% CI, 0.2-6.6%) in services aimed at black African communities; and 2.1% (95% CI, 0.6%-5.3%) in services aimed at MSM (AB6a, AB6b, AB7).

Of the projects established in healthcare settings, the highest positivity, 1.0% (95% CI 0.3-2.7%), was reported in an acute care unit (AB1). For all but two healthcare settings (a GP surgery and an outpatients dermatology department) (AB1), the positivity was higher than the one per thousand threshold deemed as cost-effective in the USA.

A further component of one pilot investigated positivity among those patients who did not have an HIV test using an unlinked anonymous survey (AB2). In this study where patients may not have been offered an HIV test, four out of six HIV positive individuals were not diagnosed during their attendance at the hospital. This emphasises the need for a universal offer of the test.

In three settings (a community pilot of home sampling, a primary care setting and an outpatient department) no HIV diagnoses were made (AB8, AB1).
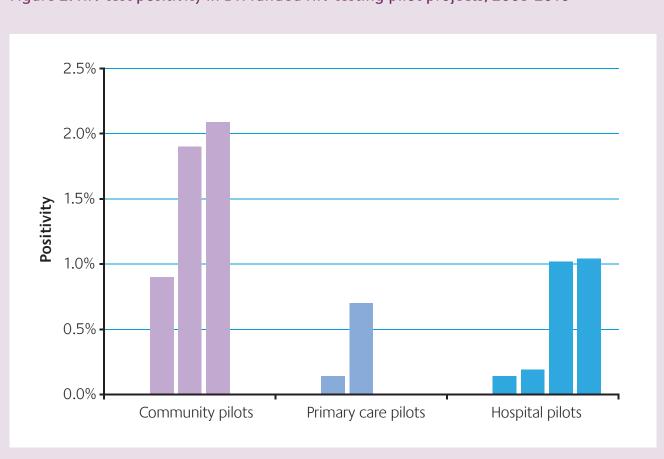
Figure 2: HIV test positivity in DH funded HIV testing pilot projects, 2009-2010

2.2.4 Cost analysis

Cost of testing within the pilots: The total cost of conducting an HIV test includes the cost of staff needed to consent a patient for testing and obtain a sample or carry out a rapid test, materials needed to collect the clinical sample, and the laboratory charge for processing the test (where laboratory testing was used) or the cost of a rapid test kit (where point of care testing was conducted) (Appendix 5). In all primary care pilots GPs received a payment for every test carried out. This ranged from £5 to £20. Given the high numbers of patients reached in primary care this had large cost implications. However, the inclusion of a payment was mainly due to the research element of the pilot. In two primary care settings HIV testing continued beyond the pilot phase but the payment was then removed.

Within the pilots, the total cost per HIV test carried out was calculated as:

- £3.11 to £12.15 in hospital pilots;
- £6.35 to £8.32 in primary care (£13.32 to £26.35 if a GP payment was included); and
- £20.93 to £46.72 in community pilots.

These calculations exclude set-up costs which may be particularly high in community settings.

Staff costs in community settings are substantially higher than in healthcare settings. In these settings patients had attended specifically for an HIV test and may be at increased risk of infection. Therefore, staff conducted more lengthy consultations with patients. For example, in a pilot offering HIV testing to

black African communities in the context of a number of other tests, a consultation of 45 minutes took place, and in a pilot offering HIV testing to MSM, a 30-minute consultation took place. In another pilot targeting members of the African community, assertive street outreach was used to promote testing. This involved an average of a 12-minute interaction with an outreach worker, which added staffing costs (AB7). In addition, in community settings, the service had to be staffed irrespective of the number of patients who attended and therefore there may have been periods of time when the services were staffed (thus incurring a cost) but very few patients attended.

There is substantial variability in the cost of the test itself. Where non-rapid testing was carried out the laboratory charge ranged from £2.50 to £9.00. Where laboratory charges were lower, this was due to negotiations between the laboratory and the pilot lead. Where it was higher, this was due to the research element of the pilot. Where rapid testing was carried out, projects paid between £5.00 and £11.00 per rapid test kit.

Cost per individual newly diagnosed: The cost-effectiveness of the strategy is dependent not only on the running costs of the pilot but also on the number of individuals who are newly diagnosed as HIV positive. Where new diagnoses were made, the cost per newly diagnosed individual (total cost of offering and conducting testing/number of new diagnoses made) were:

- £298 to £7,148 in hospital pilots;
- £1,187 to £4,673 in primary care (£1,901 to £19,404 if the GP payment was included); and
- £740 to £2,590 in community pilots.

2.2.5 Cost-effectiveness

In the UK, modelling suggests that changes in clinical practice which would lead to earlier diagnosis (this could include expansion of routine testing in primary, secondary and emergency care settings) could be cost saving - a discounted cost per life-year gained of -£11,146 and a discounted cost per QALY gained of -£7,504 (22). NICE estimate that implementing their guidance nationally would incur a cost of £15.8 million. However, implementation of the guidance would also lead to cost savings by reducing treatment costs as people are diagnosed earlier and reducing onward transmission. This effect will be cumulative and as a result savings will increase year on year (23).

Three pilot projects (AB4, AB1, and AB2) have sought further funding to conduct a formal cost-effectiveness component as part of the study. This work is ongoing. However, data on costs from the other projects can be used as part of the broader economic evaluation of establishing HIV testing initiatives in a range of settings.

2.2.6 Estimated costs of expanding HIV testing

The HPA has previously recommended that in high prevalence areas all general medical admissions and all new GP registrants should be offered and recommended an HIV test (24). Using the costs estimated from the pilot projects and the results of the pilot projects with regards to coverage of testing, we have estimated the cost implications of these recommendations (Table 5).

Hospital Episode Statistics were used to give the estimated number of general medical admissions. There are around 7.3 million admissions (25) to hospitals among 15-59 year olds annually. Of these around 974,000 are general medical admissions (25). Around 23% (224,020) of general medical admissions are in areas of high HIV prevalence. The number of new GP registrations per year in high prevalence areas

is estimated at 625,000 (23). Results from the pilots have shown coverage of 13-35%. However, this figure will increase as testing becomes more normalised and the offer becomes routine. In the pilots the average cost per test was £8 in general medical admissions and £7.60 in primary care (£18 in primary care where the cost of a GP payment was included). These estimates are less than the cost estimated by NICE (£13) which includes the cost of phlebotomy and post test counselling.

Table 5: Estimated costs of expanding HIV testing in high prevalence areas

Setting	Average cost per test	(Range)	Coverage[1]	Number of tests	Total cost	(Range)
General medical admissions	£8	(£3-£12)	35%	78,407	£627,256	(£235,221-£940,884)
			75%	168,015	£1,344,120	(£504,045-£2,016,180)
			90%	201,618	£1,612,944	(£604,854-£2,419,416)
Primary care (excluing cost of GP incentive)	£7.60	(£6-£8)	35%	218,750	£1,662,500	(£1,312,500-£1,750,000)
			75%	468,750	£3,562,500	(£2,812,500-£3,750,000)
			90%	562,500	£4,275,000	(£3,375,000-£4,500,000)
Primary Care (including cost of a GP incentive)	£18	(£13-£25)	35%	218,750	£3,937,500	(£2,843,750-£5,468,750)
			75%	468,750	£8,437,500	(£6,093,750-£11,718,750)
			90%	562,500	£10,125,000	(£7,312,500-£14,062,500)

1 Coverage in the pilots ranged from 12% - 35% of all patients. However, as roll out of testing continues coverage will likely increase as the offer becomes more routine.

Using the average cost per test (£8 in hospitals and £7.60 in primary care) and 75% coverage (range 35-90% coverage) we estimate that implementing the recommendations will cost:

• £1.3m (range £627k to £1.6m) in general medical admissions; and

• £3.6m (range £1.7m to £4.3m) in primary care

2.2.7 Sustainability

Results from the pilot projects have shown that with a high level of commitment from staff, HIV testing can be introduced into a range of settings and can be successful in diagnosing previously unrecognised HIV positive individuals and transferring them to care. However, it is important to ensure the sustainability of the HIV testing in these different settings outside of a research project.

Projects have employed a number of methods to ensure longer term sustainability:

- Inclusion of HIV testing in the medical admissions proforma and the general information leaflet given to patients on admission (AB3);

- Introduction of a local performance indicator (CQUIN com missioning for quality and innovation) for HIV testing among all acute admissions (AB2);

- Ongoing work investigating the feasibility of HIV testing in healthcare settings using existing staff to deliver the test as an additional part of their care. This has included HIV testing being included in departmental plans for altering the patient care pathway within the department (AB1).

- Including point of care HIV testing in primary care core contracts as a level one sexual health service and withdrawal of accompanying locally enhanced service payment (AB5).

3 Conclusions

This report provides the final results of eight DH funded pilots examining the feasibility and acceptability of expanding HIV testing outside of sexual health and antenatal clinics.

The results provide evidence that the 2008 BHIVA/BASHH/BIS guidelines recommending routine offer of an HIV test to new registrants in primary care and general medical admissions in high prevalence areas are feasible, acceptable and effective in newly diagnosing previously undiagnosed persons. Therefore, HIV testing in these settings should be prioritised.

Community based pilots, targeting most at risk populations, were shown to be highly acceptable and resulted in high numbers of individuals being newly diagnosed with HIV infection and transferred into care. However, the substantial set-up and staffing costs of these initiatives should not be under-estimated. It is encouraging, though, that clients at these settings showed no preference for testing being provided by nursing staff or by peers.

Establishing HIV testing in healthcare and community settings requires robust protocols to be developed for transfer of patients with reactive or positive test results into appropriate care and support services. In healthcare settings, training of staff will increase the number of tests offered and, as a result, the number of tests that are performed.

Appendix 1: Summary of Department of Health funded HIV testing pilot projects methods.

Abstract number	Project summary and key references
AB1	London (HINTS Study) - Routine offer of an HIV test to all 16-65 year olds in an emergency department (ED), an acute admissions unit (ACU), an outpatients department (OPD) and primary care was conducted for 3 months in each setting. Serological blood testing was used in the ACU and saliva testing was used in the other settings. **Key References:** Rayment et al. 2nd joint BHIVA/ BASHH conference, Manchester, 2010 Sullivan et al. XVIII Word AIDS conference, Vienna, 2010 Thornton et al. XVIII Word AIDS conference, Vienna, 2010 Rayment et al. BHIVA conference, Bouremouth, 2011
AB2	Brighton - Routine serological HIV testing as part of normal clinical investigations in medical admissions (aged 16-79). The testing was conducted for 6 months. At the same time, an unlinked anonymous seroprevalence survey of all admissions (aged 16-79) was carried out **Key References:** Perry et al. 2nd joint BHIVA/ BASHH conference, Manchester, 2010 Perry et al. XVIII Word AIDS conference, Vienna, 2010
AB3	Leicester R outine offer of HIV serological testing on patients who were having blood drawn in the medical admissions. Testing incorporated into normal clinical care pathways and data are presented for one year of testing.
AB4	Brighton R outine offer of rapid HIV testing to all new registrants (aged 16-59) at 9 GP surgeries. All patients were offered a rapid finger prick blood test. Data are presented for 6 months of testing.
AB5	London (Lewisham) R outine offer of rapid HIV testing by healthcare assistants to all patients aged 18-59 who were newly registering in 18 GP surgeries. Data are presented for 9 months of testing.
AB6a & AB6b	London GMI P artnership. Two community based pilots providing rapid HIV testing each running for 6 months: African community testing (ACT) and community clinics for men who have sex with men (MSM).
AB7	London T errence Higgins Trust. A pilot establishing community partnerships with black African communties to conduct health promotion and offer HIV testing in a range of community settings . Data are presented for 10 months of testing.
AB8	Sheffield, Time to Test H ome-sampling kits (for saliva) were made available through an established MSM website and peer outreach workers to MSM for a 4 month period. Samples were processed and results managed by the local genitourinary medicine department

Hospital Projects (AB1, AB2, AB3)

Primary care projects (AB4, AB5)

Community Projects (AB6a & AB6b, AB7, AB8)

Appendix 2: Project Abstracts

AB1: HIV Testing in Non-Traditional Settings t he HINTS Study

Michael Rayment[1], Alicia Thornton[2], Sundhiya Mandalia[3], Mark Atkins[3], Gillian Elam, Rachael Jones[1], Patrick Roberts[1], Anthony Nardone[2], Melinda Tenant-Flowers[4], Jane Anderson[5] and Ann Sullivan[1] on behalf of the HINTS Study Group*

[1]Chelsea and Westminster Hospital NHS Foundation Trust, [2]Health Protection Agency, [3]Imperial College, [4]Kings College Hospital NHS Foundation Trust, [5]Homerton University Hospital NHS Foundation Trust, London

Background: UK national guidelines recommend routine HIV testing in general healthcare settings when local diagnosed HIV prevalence >0.2%. This study assessed the feasibility and acceptability, to patients and staff, of HIV testing in four settings: an emergency department, an admissions unit, a dermatology outpatients clinic and primary care.

Methods: Patients aged 16-65 were offered an HIV test over a 3 month period. Demographic data on patients offered and accepting the test were collected. Multivariate analysis was used to identify factors associated with test uptake. Results of these analyses are presented as adjusted relative risks (ARR) with 95% confidence intervals (CI). A subset of patients completed a questionnaire. Staff completed questionnaires and participated in focus group discussions.

Results: Of 6194 patients offered a test, 67% accepted (62-75% across sites). Eight individuals were newly diagnosed with HIV and transferred to care. Those most likely to accept a test were: men (compared to women, ARR: 1.2, 95% CI: 1.07-1.33); those aged under 27 (compared to those aged 47 or older, ARR: 1.43, 95% CI: 1.23-1.67); and patients offered the test by a medical student (compared to a doctor, ARR: 1.46, 95% CI: 1.05-2.03). Those offered a test by a non clinical tester (compared to a doctor) were less likely to accept (ARR: 0.68, 95% CI: 0.55-0.84). Of 1003 patients who completed a questionnaire, the test offer was acceptable to 92% (97% of accepters and 85% of decliners, p<0.001). The most common reasons for declining a test were recent testing (54%) and patients not considering themselves at risk of infection (47%).

Of 146 staff who completed a questionnaire, 97% supported HIV testing outside of antenatal and sexual health clinics. However, only 63% (range, 57-75% across the sites) said that they would feel comfortable offering the test themselves. In focus groups, prior to the testing phase, staff had anxieties about the feasibility of delivering the service. After the testing phase staff reported a high level of satisfaction with no negative impact on the department.

Conclusions: HIV testing in these settings is acceptable to the majority of patients and staff, and is operationally feasible. The strategy was successful in identifying and transferring to care previously undiagnosed individuals. However, if HIV testing is to be included as a routine part of patients care, additional staff training will be required.

AB2: HIV testing in acute general medical admissions must be universally offered to reduce undiagnosed HIV

Miss N Perry[1], Miss L Heald[1], Prof J Cassell[2,3], Dr M Hankins[2], Dr Steve Barden[1], Dr M Cubbon[1], Dr J Quin[1], Dr Daniel Richardson[1], Dr Martin Fisher[1]

Affiliations: [1]Brighton and Sussex University Hospitals, [2]Brighton and Sussex Medical School, [3]Health Protection Agency

Background: A third of HIV infections in England are thought to be undiagnosed and consequent late presentation causes avoidable morbidity, mortality and onward transmission. HIV testing guidelines produced by BHIVA, BASHH and BIS, have addressed this issue by encouraging more widespread HIV testing strategies. Among recommendations is a routine offer of HIV testing in acute general medical (AGM) admissions in areas of high HIV prevalence (>2/1000).
Methods: Individuals aged between 16 and 79 years of age admitted under AGM not already known to the admitting team to be HIV positive were eligible to be offered an HIV test as part of routine investigations. In addition to offer and uptake rates and test results, demographic data and clinical information regarding the presenting admission was collected. A parallel anonymous sero-prevalence study was undertaken to assess effectiveness of the pilot in correctly identifying undiagnosed HIV and to determine the prevalence of HIV in all acute hospital admissions (medical, orthopaedic, surgical and obstetrics & gynaecology).
Results: From August to January 2010, 3913 patients were admitted through AGM. Of these, 1553 (39.7%) were offered a test, of whom 1413 (91%) accepted. 2 tested HIV positive; both were individuals from high prevalence countries although 1 (who was seroconverting) acquired her infection within the UK; both presented with a clinical indicator disease. I partner tested positive and was able to commence treatment and the other partner was negative, so onward transmission may have been avoided. The offering rate varied by Consultant from 35% to 61%. Those offered a test were more likely to be younger (median age 57 years v 62 years, p <0.001), and more likely to have a clinical indicator disease (59.6% versus 42.0%, p<0.001).
In the anonymous seroprevalence study, 6300 tests were performed; 3872 in AGM and 2416 in other specialties). 72 tests were positive; 52 in AGM (a prevalence of 13/1000), 12 in surgery (8/1000), 0 in O&G (0/1000), and 7 in orthopaedics (13/1000). In AGM, 46 were known to be HIV positive and therefore 2/6 (33%) of undiagnosed infections were identified and 4/6 (67%) not.
Conclusions: Whilst HIV testing is acceptable to the majority of patients in AGM, the rate of offering during this pilot was low, and varied substantially between medical teams as in previous antenatal testing research. The prevalence of HIV was higher than in the general population, and well above that recommended for routine testing in AGM, surgery and orthopaedics. Although recommended as routine, clinicians appear to be targeting testing, yet failing to identify the majority of undiagnosed infections. A local Trust performance indicator (CQUIN) has now been introduced by the PCT for offering HIV testing across all acute admissions.

AB3: Leicester acute medical admissions unit HIV testing pilot

Dr Adrian Palfreeman[1], Dr Helen Farn[1]

[1]University Hospitals Leicester

Background: Leicester city has a prevalence of diagnosed HIV infection of 3.12/1000, Leicester Royal infirmary has the only accident and emergency department in the county, patients requiring medical admission are all admitted via the acute medical admissions unit (AMU).

Method: We introduced Opt out HIV testing on the AMU in line with the 2008 National HIV testing Guidelines for 1 year as a pilot commencing August 2009. We looked carefully at the patient pathway for the AMU and had discussions with all the medical nursing and support staff working both on AMU and in A+E and with the lab staff in virology. Following these discussions we decided to integrate testing into the pathway by using the clinical aides who perform phlebotomy on all patients on the AMU to take an additional blood sample for HIV testing with a standard 4th generation test on all patients who are having blood drawn on the AMU for other investigations and who are less than 60 years old. Consent was obtained by a written information leaflet in English and 4 other languages given to each patient by the clinical aide. If the patient had any questions or concerns regarding this they were referred to a member of the nursing or medical staff. All consultants working on the unit were contacted by email and all junior staff working on the unit were informed about the new HIV testing policy at induction.

In order to normalise HIV testing as routine we modified all the medical admission clerking proformas to include the HIV test and issued a new poster and information sheet given to each new patient which included general information on visiting times, smoking , hand washing and HIV testing. These were finally delivered in May 2010.

Results: In the 12 months prior to the pilot the HIV testing rate was on average 15 per month with 4 new diagnoses made. For the period of the pilot the rate was on average 82 per month with 10 new positives diagnosed with one unconfirmed equivocal result. All patients were transferred into HIV care with none lost to follow up

The proportion of patients tested versus those eligible for testing remained disappointingly low varying between 6% and 22% month by month. This low figure was attributed to many patients within the age group having had all blood tests deemed necessary done in the emergency dept and therefore extra bloods were not needed on AMU. This does not however explain the variation over time, and we therefore looked at testing rates by individual consultants. This also exhibited variance between 3% and 22%.This was fed back to the consultants concerned.

Conclusion: We demonstrated that routine HIV opt out testing on a busy acute medical admissions unit was acceptable to patients, deliverable without significant extra resources and lead to the earlier diagnosis of HIV infection in several patients which would have otherwise been missed

AB4: A study to assess the acceptability, feasibility and cost-effectiveness of universal HIV testing with newly registering patients (aged 16-59) in primary care.

G Bryce[1]; A Jeffery[1]; M Hankins[2]; S Nicholson[1]; D Jackson[3]; P Wilkinson[1]

[1]NHS Brighton and Hove; [2]Brighton and Sussex Medical School; [3]University of Surrey

Background: New HIV testing guidance recommends introducing universal HIV testing in areas where diagnosed prevalence is 2 per 1000 or more. The acceptability, feasibility and cost-effectiveness of universal HIV testing with newly registering patients (aged 16-59) in the primary care setting was assessed in Brighton and Hove, where diagnosed prevalence is greater than 7 per 1000.

Methods: All newly registering patients (aged 16-59) attending for a new patient health check appointment (NPHC) were offered a point of care bioLytical INSTi H IV test. Patient acceptability was assessed through uptake of the test and through a self-completed questionnaire using Likert scales. Feasibility factors were assessed with clinicians through reflective diaries, regular working group meetings and a focus group. A cost-effectiveness analysis is being conducted and will be reported separately. For participating in the study practices received £500 plus £20 per completed questionnaire or HIV test. The study ran from May to November 2010.

Results: Ten GP practices holding locally enhanced service contracts for the general medical care of patients with HIV introduced universal HIV testing. One practice later withdrew both from offering testing and from the study. This practice had seen only 7 patients for a NPHC and the data are not included in this analysis. Across the remaining nine practices, there were 5196 eligible new patient registrations of whom 2651 (51%) patients attended for a NPHC (range 30-89%). Of the 2478 patients eligible for an HIV test, 1473 (59%) opted to be tested. The uptake of the test varied significantly by practice from 17% to 82% (p<0.001). Questionnaire data from 1391 patients who opted for testing and 471 patients who declined testing were analysed. Patients aged 20-29 years were more likely to accept testing (p<0.05) and patients aged 50-59 years were more likely to decline testing (p<0.05). Patients who had never had an HIV test or who tested more than a year previously were more likely to accept a test (p< 0.05). No significant association was found between testing and gender, ethnicity or sexual identity. Three patients had reactive results of which two were later confirmed HIV positive. Overall, 88% of patients agreed that the offer of HIV testing as part of the NPHC was a good idea, with 79% agreeing that they had enough time to make the decision to test. Patients agreed to being happy to have an HIV test at their GP s surgery (85%), and only 8% agreed that they would prefer to have a test at a specialist sexual health clinic. Regardless of whether they accepted or declined testing the majority of patients agreed that the experience of being offered a test was helpful and useful (88% and 76% respectively). Clinicians views regarding the acceptability and feasibility of offering HIV testing were positive overall. Clinicians had been surprised by their patients responses to being offered testing. Offering testing routinely increased clinicians confidence regarding HIV and helped to build rapport with new patients and to discuss sexual health issues. Clinicians remained concerned about the impact of offering testing on consultation times.

Conclusion: These results suggest that universal HIV testing in primary care is both acceptable and feasible. Extending the provision of genuinely universal coverage depends on several factors including adapting to practices different approaches to new patient registrations and the provision of training and support for clinicians to be confident in offering HIV testing.

*We are grateful to all the practices that took part in the study and for the contributions of members of the study working group and joint advisory group.

AB5: Primary care HIV screening in a high prevalence area

Ruth Hutt[1], Sheila Bell[1]

NHS Lewisham, Public Health

Background: Lewisham is an inner city London borough with a large Black African community. HIV prevalence in 2008 was 5.88 per 1,000 in males and 3.91 per 1,000 in females. Fifty-seven percent of infections are acquired through heterosexual sex, and 41% of new cases are late diagnoses. Late diagnosis in heterosexuals was even higher, at 51%.
A proposal was submitted to the Department of Health in late 2008 to pilot HIV screening for new patients registering in primary care in line with the BHIVA guidance for high prevalence areas. The preparation and training for the pilot occurred in August   December 2009. HIV screening began in January 2010.

Methods: An expression of interest was sent to all GP practices in Lewisham, to invite them to participate in a pilot of HIV testing for newly registering patients. Of 48 practices in Lewisham 18 went on to participate in the pilot. One of the practices is also a GP walk in centre. Initially practices favoured a mix of serology and point of care (rapid) testing (POCT). However, following a demonstration of the INSTI rapid test at a GP training event all opted to use point of care testing. A universal approach was adopted where the test would be offered to all patients on an opt out basis. All patients aged 18-59 were provided with information about HIV testing when registering with the participating practices, and the test was performed as part of the new patient health check, usually by a practice nurse or healthcare assistant. Any reactive (positive) point of care tests were referred to the local HIV clinic for confirmatory testing. Practices were given a Local Enhanced Service payment of £250 for participating in the pilot plus £5 per test.

Results: Between January and September 2010 just over 2,713[1] patients had HIV tests in primary care. In addition to this some practices also did serology on a small number of patients having bloods taken for other reasons. There have been 19 positive test results up to the end of September. Five of these are from the GP walk in centre. There has been one false positive result, where 2 POCTs were assessed as weak positives in the practice but serology was HIV negative. All reactive POCTs were referred to specialist HIV services for confirmatory testing. Four of the 19 patients with a positive result in primary care failed to attend the HIV clinic appointment. It is not known whether these patients sought HIV care elsewhere. Across 13 practices where data was available on uptake, 62% of patients offered an HIV test chose to have one. Uptake ranged from 26% to 97%. CD4 counts were available on 7 patients. Only 2 had a CD4 count of less than 200.
Although data was not collected on the reasons why tests were declined, feed back from practices suggests the majority of patients refusing a test do so because they have previously had one (usually through antenatal screening) although a small number refuse as they do not perceive themselves to be at risk or because they know they are HIV positive.

Conclusions: The HIV point of care test is highly acceptably to both patients and staff using the test. Point of care testing is particularly helpful in primary care, as it makes results management much less of an administrative burden on the practice, particularly for the negative results. Routine screening appears to help normalise testing and is estimated to add 1-5mins to a consultation. There have been substantial problems with data collection for the pilot as there are no appropriate READ codes for rapid HIV testing in primary care. The high proportion of patients failing to attend the HIV clinic is a cause for concern and warrants some further investigation. Few practices have seen patients again following a positive HIV test. It is not clear whether this is because most of their care is then taken over by specialist services or whether patients choose to avoid the practice once they receive their diagnosis for other reasons.

1   This number is an underestimate due to issues with extracting data from GP practice systems. Work is underway to improve remote extraction of testing data as part of the sustainability of the project.

AB6a: The MSM Comparative Community HIV testing pilot

Dr Greg Ussher[1], Karen Randall[2], Steve Worrall[3]

[1] The Metro Centre, [2]West London Gay Men s Project, [3]Positive East colle ctively representing the GMI Partnership.

Aim: The aim of the MSM Comparative Community HIV testing pilot will be to set up, evaluate and directly compare two different models of community based rapid HIV testing targeting MSM in London.

Pilot Objectives:

a) To complete the set up of 3 sites offering rapid HIV testing clinics. These will be in Greenwich, Fulham and Islington.

b) To target men most at risk of HIV transmission and those who have never tested, aiming to reduce undiagnosed infection

c) To compare 2 different models of testing -peer led and nurse led

d) To strengthen processes for the more effective follow-up of reactive and non-reactive results, including partner notification

e) To provide an evaluation of both models and determine if one is more successful, appropriate or cost effective for this group of men

f) To contribute to the body of research and make recommendations for future work in this field.

Background: Three rapid HIV testing clinics in different areas of London were utilized for this pilot between June and December 2009, in Fulham, Greenwich and Islington. Each clinic catered specifically for MSM, and operated out of office hours. The clinics were of various levels of establishment, with one longstanding (several years), one established for 6 months and one a new set up. Each clinic advertised its services in the Gay press London wide and locally, and each clinic s advertising stated which model the clinic was run under, i.e. Either by a nurse, or by trained peers.

Data collected: Data collected included patient database, client satisfaction surveys and staff surveys.

Methods: Type of test used   Abbotts Determine rapid HIV test (nurse-led) and Insti r apid HIV test (peer-led).

Provision of the tests n urse-led or peer-led

Target population - MSM

Results:

Staff and patient acceptability - MSM indicated no clear preference for nurse-led or peer-led clinics, and staff found both models acceptable.

Uptake 1 91 attendances, including Greenwich (90), Fulham (30), and Islington (41)

Positivity - Greenwich (2), Fulham (1), Islington (1)

False positives - zero

Costs per test - information not yet available

Conclusions: Key challenges included seeding a new community clinic in a 6 month period, and up-skilling two existing community clinics, identifying appropriately trained nursing staff to work at irregular hours at the nurse-led clinics, building appropriate community partnerships to support and promote the clinics, defining and making the test offer in the community context, and collecting and analysing relevant cost-effectiveness data. Key successes included demonstrating the efficacy of community clinics in reaching high risk MSM communities and therefore identifying HIV positive clients, high attendances at all three community clinics, setting up a new clinic with appropriate care and referral pathways in a short period, designing and implementing a number of methods to promote the clinics and creating templates and processes for extensive and varied data collection

All three clinics have been sustained beyond the Pilot period.

AB6b: African Community Testing (ACT) Pilot

Dr Greg Ussher[1], Karen Randall [2], Steve Worrall[3]

Affiliations: [1]The Metro Centre; [2]West London Gay Men s Project; [3]Positive East colle ctively representing the GMI Partnership.

Pilot aim: The African Community Testing Pilot aimed to assess the acceptability, feasibility and cost-effectiveness of improving HIV diagnosis rates in African communities in Lewisham, Southwark and Lambeth (LSL) through the provision of embedded rapid HIV tests in the context of a holistic primary health screen (including Abbotts Determine rapid HIV test, Body Mass Index (BMI) , estimation of cardiovascular risk - including screening for lipid abnormalities, diabetes and hypertension - plus screening for sexually transmitted infections including chlamydia and gonorrhoea) in both African and non-African settings, and with the specific and targeted promotion of the Clinics through dedicated outreach and community mobilisation workers.

Pilot Objectives:
Measure the acceptability of providing rapid HIV testing, in the context of a holistic health screen in a community setting, to African communities in LSL;
Assess the feasibility of providing rapid HIV testing, in the context of a holistic health screen in a community setting, to African communities in the high prevalence boroughs of LSL;
Measure the cost-effectiveness of all aspects of the Pilot against designated outputs and outcomes;
Compare the effectiveness of providing rapid HIV testing in African and non-African settings; and
Assess the impact of recruiting and embedding culturally specific, measurable access/outreach workers providing clinical support and outreach.

Hypothesis: That holistic community health clinics that included a rapid HIV test would be more acceptable, feasible and cost-effective than stand-alone community HIV testing clinics for African and other BME communities in Lewisham, Southwark and Lambeth. Additionally, that African settings would be more acceptable than non-African settings, and targeted outreach including an offer would be more feasible than generic promotional outreach.

Background: The ACT Pilot was conducted at two separate sites in South London between 31/11/09 and 31/5/10. ACT clinics sites were at UAAF offices in Brixton and at Metro Centre offices in Vauxhall. During this period, clinics were conducted on Saturdays between 10-1pm, Tuesdays between 5-8pm, Wednesdays between 1-4pm and Thursdays between 10-1pm. Data from these clinics was compared with data from the Peckham Pulse stand-alone Clinic.

Data collected: Data collected included patient database, client satisfaction surveys, outreach evaluations, outreach weekly reports, outreach schedules and staff surveys

Methods: *Type of test used*: Abbotts Determine rapid HIV test, Body Mass Index (BMI), estimation of cardiovascular risk (including screening for lipid abnormalities, diabetes and hypertension) plus screening for sexually transmitted infections including Chlamydia and Gonorrhoea
Provision of the tests: tests were conducted by nursing staff
Target population: The ACT Pilot focused on African communities in the LSL boroughs, for whom current epidemiology indicates an increased risk of HIV.

Results: *Staff and patient acceptability -* Staff were frustrated by the low uptake of these clinics, but found the community settings flexible. African communities had a clear preference for African settings, but indicated no clear preference for holistic clinics as opposed to HIV stand-alone clinics.
Uptake   54 attendances, including Brixton (37) and Vauxhall (17) and Peckham Pulse (52)
Positivity   Brixton (0) and Vauxhall (0) and Peckham Pulse (2)
False positives - zero

Conclusions: Key challenges included seeding and concluding two new community clinics in a 6 month period, identifying appropriately trained nursing staff to work at irregular hours, building appropriate community partnerships to support and promote the clinics
(specifically with UAAF and the Safer Partnership) that were guided by formal Memoranda of Agreement , defining and making the test offer in the community context, and collecting and analysing relevant cost-effectiveness data.

Key successes included demonstrating the efficacy of community clinics in reaching high risk African communities and therefore identifying HIV positive clients, setting up two new clinics with appropriate care and referral pathways in a short period, designing and implementing concrete, staggered and measurable outreach interventions to promote the clinics, supporting and training a range of African community mobilisation workers to promote, support and work in community HIV testing clinics and creating templates and processes for extensive and varied data collection.

The ACT clinics were not sustained beyond the Pilot period due to lack of funding.

AB7: Community HIV testing: the feasibility and acceptability of assertive outreach and community testing to reduce the late diagnosis of HIV

M Brady[1,2], C Harrison[1], J Warriner[1], C Skinner[3], N Larbalestier[4], P Ward[1]

[1]Terrence Higgins Trust (THT); [2]King s College Hospital NHS Foundation Trust; [3]Barts and the London NHS Foundation Trust; [4]Guys and St Thomas NHS Foundation Trust

Background: THT piloted assertive outreach of health promotion and HIV testing in community settings to assess the feasibility and acceptability of this model as a strategy to increase the uptake of HIV testing and reduce rates of late diagnosis.

Methods: Trained outreach workers used a variety of venues to engage with black African communities. They undertook HIV health promotion interventions and offered HIV testing. 32 community partnerships were formed; primarily in areas of South and East London with high HIV prevalence. Some were with community organisations (e.g. African and migrant refugee community groups) and some with specific locations (e.g. money transfer shops, churches and community centres). All tests were carried out using the Determine 4th generation HIV POCT. Referral pathways were agreed with local HIV centres for confirmatory HIV testing and on-going care. A standardised questionnaire was issued to staff at the venues and clients accepting testing. Information on demographic details, acceptability, HIV knowledge and testing history were collected. Clients who declined a test were asked to complete a similar questionnaire which also included their reasons for not testing. The pilot ran from 19th January 2 3rd November 2010.

Results: 3789 people were approached and 459 (12.1%) tested. 272 / 3300 who declined a test completed the questionnaire (8.3%). The mean age of those testing was 33. 61% were men and 90.2% were heterosexual. 77.0% were black African or Afro-Caribbean. 52.4% had never tested before. 97.4% thought the service was appropriate, 88.2% said they would use the service again and 97.2% would recommend it to a friend. 4 clients tested positive for HIV (0.87%). Despite considerable efforts by both THT and the local NHS HIV service, one client failed to attend following his positive result. The other three accessed care.

Of those declining an HIV test 50.0 % said it was because they had recently tested, 28.2% didn t think they were at risk and only 5.3% said it was because they didn t want testing in this setting. 83.6% had tested in the last year. 90.3% felt the setting was appropriate and 73.5% said they were likely to recommend the service to a friend. Similar opinions on acceptability were elicited from the staff survey. Cost per test was £176.49, which includes set up and the cost of health promotion interventions.

Conclusions: We have demonstrated both the feasibility and acceptability of assertive outreach to increase the uptake of HIV testing. We found high levels of acceptability and tested a high proportion who had either never tested or not tested recently. We were able to deliver HIV health promotion to over 3,000 individuals. The challenges encountered were mainly around developing the partnerships with community organisations; many of whom wanted payment for testing in their premises. This affected both the set up time as well as the overall cost per test. Developing these relationships is key to the sustainability of the model: as we normalise the concept of community testing we should see the uptake of testing increase and the cost per test go down.

AB8: Outreach HIV testing using home sampling kits in Men who have Sex with Men(MSM) in Sheffield   The Time 2 Test   pilot project

C A Bowman [1], S Slack[3], G Bell[1], H Ellam[2], A Pryce[1], A Bains[3], T Atkin[3], M Harrison[3], E Formby[4], J Hirst[4], G Kudesia[2]

[1]Sheffield Teaching Hospitals NHS Foundation Trust, Department of Genitourinary Medicine; [2]Sheffield Teaching Hospitals NHS Foundation Trust, Department of Virology; [3]Centre for HIV & Sexual Health; [4]Sheffield Hallam University.

Background: This MSM community HIV testing pilot project was conducted in Sheffield from June to September 2009. Self-taken oral swabs, accessed via the internet and from outreach venues were used at home, then posted to virology for HIV testing. We aimed to validate the use of salivary collection kits for self sampling as an option for increasing uptake of HIV testing in hard to reach MSM.

Methods: Access to home sampling kits was linked to an established MSM website /postal condom distribution scheme and also via outreach workers. A local media publicity campaign promoted the project. Care pathways were developed for results management and rapid access to specialist HIV services. Kit usability was assessed in patients attending GUM before use in the community. Vironostika HIV Uniform II Ag/Ab (Biomerieux) and Detect-HIV (v4) (Adaltis) tests were validated for use with the Oracol collection device in our virology laboratory using samples from GUM patients known to be HIV positive or negative. Sensitivity of both tests was 100%, specificity was 97% and 91% respectively. Reliability of the system incubated for 7 days at room temperature (25-30°C) prior to being processing was assured.

Results: 126 kits were distributed. 60 (47.6%) were returned, 59 with user-completed request forms giving contact details: All MSM, 28% bisexual. Median age 24 years (range 17-59 years). 75% of samples were received from patients less than 30 years of age. 39% of participants disclosed a new MSM partner in the preceding 3 months. 38% of participants had no previous HIV testing. Only 30% had tested for HIV in the last 12 months. Previous HIV testing patterns were similar in gay and bisexual men. Only 15% had accessed local GUM in the last 12 months. 29 participants were advised to re-test because of postal delays or sampling within the w indow period (i. e. unprotected sex in the last 3 months).

59 samples were screened using the Vironostika HIV antigen/antibody assay. 52 were negative. 7 samples initially gave equivocal result in the Vironostika EIA screening test. All 7 were negative on the repeat testing in both Vironistika and Adaltis HIV assays and were considered as negative.

Discussion: Positive feedback was received from MSM and outreach workers in local commercial gay venues and public sex environments. The oral kit was highly acceptable. Users valued the privacy of internet availability and home sampling.

Virology testing of the samples avoided unnecessary distress associated with equivocal results and ensured access to fast-tracked HIV care pathways.

The pilot facilitated validation of local laboratory systems for HIV testing on oral samples, expanded opportunities for wider MSM outreach work and informed further collaborative work in Sheffield including Gilead UK & Ireland Fellowship funded outreach HIV testing in African Communities

The study is limited by its short duration. No new HIV infections were detected in the small sample of MSM tested.

Conclusions: This pilot project demonstrates the feasibility and acceptability of home sampling, using oral swabs accessed via the internet and outreach services, as an option for increasing HIV testing. It may be especially beneficial in hard to reach MSM.

Appendix 3: Proforma used for collection of data from pilot projects

	Public Health Question	Sub-sections	Proforma sections
	Where are HIV testing projects being carried out and with what populations?	Target population	Project details
		Setting for testing	
		Geographic location	
		Local SOPHID HIV prevalence	
	What are the characteristics of the clients offered testing using this strategy?	Sex	Core data
		Sexual orientation	
		Ethnicity	
		Age	
		Area of residence	
	What are the characteristics of the clients who are HIV tested using this strategy?	Sex	Core data
		Sexual orientation	
		Ethnicity	
		Age	
		Area of residence	
	Is this an effective method of reaching undiagnosed HIV infected individuals?	Positivity = Total Diagnoses/Total number of tests	Core data
		Diagnoses among high risk populations	
		Diagnoses among individuals with clinical indicator diseases	
		Linkage to HIV care for newly diagnosed individuals	
	Is this method of offering HIV testing acceptable to the clients?	Uptake of testing= Number of tests conducted/ Number of tests offered	Core data
		Test type (saliva, blood, rapid etc)	Additional outcome measure
		Results provision	Additional outcome measure
	Is this method of testing acceptable to staff within the setting?	Test offer	Core data
		Test type (saliva, blood, rapid etc)	Additional outcome measure
		Results provision	Additional outcome measure
		Referral pathways	Additional outcome measure
	What resources are required to implement HIV testing in this setting?	Personnel	Core data
		Patient information	
		Staff information	
		Advertising	
	Is this a cost effective method of testing for HIV?	Testing costs	Costs, resources produced, project staff
		Staff costs	
		Costs of promotional and information resources	
	Could the HIV testing in this project be easily sustained beyond the project period?	Staff	Costs, staff perspectives, sustainability
		Patients	
		Costs	
		Facilities	

Project ID (to be assigned by HPA):	
Project location:	
Location type (circle one): General practice / Hospital / Non-medical	
Local Diagnosed HIV prevalence (SOPHID data)	
Date of site visit:	
Project lead:	
Contact details for project lead:	

	In the space below please provide a summary of the aims, objectives and methods of your project:
	Please also attach a copy of any relevant documentation such as study protocols.

	Is HIV testing in this project targeting a population groups considered to be high risk for infection or does it aim to test the general population in a particular area (do not include residence in a high prevalence area as high-risk)?	
	If this project targets a specific population subgroup, which subgroup is	
	What age range of individuals are included in testing as part of the project?	
	What are the inclusion criteria for entry into the study?	

What date did this study commence?			
Is the data collection phase of the project complete?			
If yes, when was data collection completed?			
If no, when is data collection expected to be complete?			
What is the estimated total duration of the project?			
When do you expect to have completed analysis of data collected as part of the project?			

		Please tick which type of HIV testing you are using in your project:	Conventional serology	
			Rapid finger prick test	
			Saliva	
			Other, please specify:	
		Who carries out HIV testing in your project (please tick)?	Specialist project staff	
			Staff who usually work in that setting providing another service	
			Other, please specify:	
		Who is responsible for linking newly diagnosed HIV positive patients into HIV care?	Specialist project staff	
			Staff who usually work	
			Other, please specify:	
		Are you carrying out any work investigating patient attitudes as part of this project (please circle?	Yes No	
		If yes, what kind of data are you collecting? Please give details of data collection methods	Quantitative:	
			Qualitative:	
			A combination of the above:	
		Are you carrying out any work investigating staff attitudes as part of this project (please circle)?	Yes No	
		If yes, what kind of data are you collecting? Please give details of data collection methods	Quantitative:	
			Qualitative:	
			A combination of the above:	

	Please tick which of the following variables you are collecting as part of your project	Number of tests offered	
		Number of tests accepted	
		Number of tests refused	
		Number of initial positive results	
		Number of confirmed positive results	
		Number of positive patients effectively referred into specialist	
		Demographic information about patients being tested (please list which variables being	

	Please list your key outcome measures for the project:	
	Please explain how you plan to report on the results of your project	

How many staff are working on this project?		
Please list the roles of the project staff		
How many staff hours are dedicated to HIV testing during the project as a whole?		
For staff carrying our HIV testing, what training was provided?		

Which of the following were produced as part of the project (Please tick)?	Patient/client	
	Staff information leaflets	
	Posters	
	Adverts in magazines	
	Internet adverts	
	Adverts on local TV/radio	
	Training programme for staff	
	Other (please specify)	

Cost per negative test	
Cost per reactive test	
Where additional staff time was required to carry out the HIV testing what were the costs incurred?	
What was the total cost spent on promotional and information resources	

		Total Number		
		Sex	Male	
			Female	
		Median Age (range)		
		Total Number MSM		
		Break down of numbers by ethnicity		
		Total patients resident in another PCT		
		Total Number		
		Sex	Male	
			Female	
		Median Age (range)		
		Total Number MSM		
		Break down of numbers by ethnicity		
		Total patients resident in another PCT		
		Total Number		
		Sex	Male	
			Female	
		Median Age (range)		
		Total Number MSM		
		Break down of numbers by ethnicity		
		Total patients resident in another PCT		
		Total number reactive results		
		Total number confirmed positive results		
		Sex	Male	
			Female	
		Median Age (range)		
		Total Number MSM		
		Break down of numbers by ethnicity		
		Number of newly diagnosed patients with HIV indicator diseases		
		Total Number of newly diagnosed patient referred into care		
		Total number of newly diagnosed patients lost to follow-up		

	Was any data collected on previous HIV testing behaviour of clients (please provide findings where possible)?	Yes	No
	Was any data collected on previous healthcare seeking behaviour of clients (please provide findings where possible)?	Yes	No
	Please provide initial results of any key outcome measures stated in 7.1 which have not been included above		

Appendix 4: Time to Test for HIV, December 1 2010, conference proceedings

Aim of the conference D r Ian Williams, BHIVA and Sir Richard Thompson, RCP: To review existing evidence for implementation of wider HIV testing in the UK and to disseminate the message of wider HIV testing to a range of physicians and health care professionals.

Each of the 8 DH funded pilot project presented their results to date. All presentations from the conference are available at: http://www.bhiva.org/TimeToTestForHIV2010.aspx

Setting the Scene

Epidemiology of HIV infection D r Anthony Nardone, HPA
An estimated quarter of the 86,500 people infected with HIV in the UK are undiagnosed. Men who have sex with men (MSM) and heterosexuals from sub-Saharan African countries are the populations with the greatest burden of disease. Overall more than 50% of individuals are diagnosed late (CD4 count of < 350 cells/mm3) and around 30% of individuals are diagnosed at a v ery late s tage (CD4 count < 200 cells/mm3). Uptake of HIV testing has reached 77% in sexual health clinics and 95% in antenatal care. However, community surveys show that a proportion of individuals from most-at-risk populations have never tested. There is a need to expand HIV testing and to monitor and evaluate the impact of expanded testing at local and national level.

Patient acceptability of HIV testing G us Cairns, UK community advisory board
A number of studies have shown good acceptability of HIV testing from patients when they are offered it. However, there are recurring themes in reasons that people decline a test: people do not consider themselves as at risk of HIV infection; needle phobia; previously having tested (often during pregnancy); and fear of a knowing. There are a number of common misperceptions about HIV and HIV testing among both healthcare workers and the general population. For example: if you have previously tested negative, you must be negative; if I am positive, I would have symptoms; if I am positive I will be deported; t he window period is 3 months ; t here is no treatment for HIV. To encourage testing we need to work to dispel myths and address HIV related discrimination. The overall message should be e arly testing saves lives.

Primary care settings Dr P hilippa Matthews (moderator)

Primary care provides a unique opportunity for offering HIV testing as 98% of the populations sees their GP within 3 years. However, challenges exist to implement change in general practice as it is huge in size, with systems in place that can be very difficult to make changes to (for example QOF and READ coding). Sexual health is low on the list of priorities for GPs and staff misconceptions may be barriers to implementing testing.

Common themes/discussion topics:
Staff training: Good training for staff is essential as staff often have reservations about HIV testing in primary care. Experience from the pilots has shown that short training sessions will suffice but that close liaison with sexual health specialists is important.

Choice of HIV testing model: In implementing routine testing in primary care it is important to consider whether a rapid or standard testing will be most appropriate. It is also important to ensure that doctors continue to conduct diagnostic testing where there is a clinical or behavioural indication. It should be noted that new patient health checks at GP surgeries are no longer part of the GP core contract and therefore are not carried out at all surgeries. Therefore other models of offering testing should be considered.

Payment: All pilots initially offered payments to GPs for tests that they conducted (£5-20). However, these have now been removed and the practices have continued to offer the test in response to the pilot results and the new diagnosis of patients within the practice.

Communication: GPs require very clear care pathways to be established and maintained if they are to introduce more routine HIV testing. For example GPs need to know if newly diagnosed patients have been seen in specialist care and if processes such as partner notification have been completed.

Hospital settings Dr A ndy Ustianowski (moderator)

Antenatal HIV testing D r Pat Tookey

The antenatal experience provides lessons for expanding HIV testing in hospital settings. The routine offer of an HIV test was introduced in high prevalence areas first. However, this had little impact until it became national policy to recommend the test to all pregnant women, alongside other routine antenatal screening tests, (including an uptake target). As the national screening policy was implemented advocates for the policy conducted a road show in collaboration with the Royal College of Midwives. At regional and local meetings for antenatal staff, they explained the rationale for normalising the test, and the importance and ease of offering the test. Successful implementation was dependent on the commitment of the regional antenatal screening coordinators in ensuring that all trusts complied with the policy.

Common themes and discussion topics

- Staff: There is great variability in testing rates by clinician. It appears that younger more junior doctors are more likely to offer the test, especially if it is embedded in normal care pathways f or example where it is included on the medical admissions proforma. Identifying local champions for testing within department may increase the offer of the test. Many doctors are not aware that a long pre-test counselling session is no longer required to gain consent.

- Defining effectiveness: There is no UK specific cost-effectiveness threshold and only one pilot reports the number of patients who would have been newly diagnosed if testing had been truly universal. For the purposes of monitoring it is essential that we decide how we can define whether a strategy is effective.

- Strategic changes: the previous antenatal experience suggests that successful implementation could be improved by introduction of a target or by high level endorsement of the BHIVA guidelines. For example by Royal colleges and Department of Health. Chief Executives of hospital trusts can provide important leadership. One method of encouraging testing is to include HIV testing as a local performance indicator (e.g. CQUIN in Brighton).

- Frequency of testing: Some studies have shown that a common reason for declining HIV testing is having had a previous test. Therefore there is a need to define an appropriate time period for re-testing and a need to communicate this to staff and importantly to patients so that they do not refuse a test on this basis.

- Onward care: It is important that all patients newly diagnosed are referred for appropriate care (both medical and psychosocial).

- Model of testing: current guidelines recommend testing only in acute medical admissions but the survey in Brighton has shown that surgical admissions should also be included. This could also be broadened to all acute settings. This would have the dual advantage of reaching more individuals while also making the offer truly universal and therefore contributing to a change in testing culture.

-

Community settings Dr Y usef Azad, National AIDS Trust (moderator)

The evidence to support community based testing strategies is limited. Therefore community testing is not mentioned in the current National Strategy for sexual health and is included only as an appendix in the BHIVA guidelines. New evidence from the pilot projects has shown that these services are highly acceptable to patients and can result in high positivity rates. It is important that we decide how to assess the evidence of community pilots. Do these initiatives reach people who would not otherwise have an HIV test or do they provide an additional service and give more choice to those who might attend a traditional sexual health service?

Developing NICE guidance on increasing the Uptake of HIV testing in men who have sex with men and black Africans in England D r Kay Nolan
NICE have conducted an evidence review and an economic analysis for development of public health intervention guidance for increasing the uptake of HIV testing in the two populations most at risk of infection in the UK. Challenges in developing the guidance included a lack of evidence, how to address cultural barriers in discussing HIV, variation across black different black African and SMS sub-populations, how to reach men identify as MSM, tackling stigma among healthcare workers, addressing the costs effectiveness of universal testing strategies. Completed guidance was published subsequent to the conference in March 2011 and is available at:
http://guidance.nice.org.uk/PH33 (black African guidance) and
http://guidance.nice.org.uk/PH34 (MSM guidance).

Common themes and discussion topics

- HIV testing and prevention services: community projects in particular target most-at risk populations. The majority of people testing at these facilities have negative test results (despite high positivity). Therefore in these services it is important that prevention messages are included as a component of the post-test discussion for negative patients. It is worth considering inclusion of testing for other sexually transmitted infection within these services

- Defining effectiveness: This could be aided by information on the immune status of those individuals who are newly diagnosed in community projects compared to those newly diagnosed in healthcare settings. The question of additionality needs to be addressed: are these services providing an element of choice for patients or are they serving an otherwise unreached population? There is evidence from at least one pilot showed that clients attending community services were not in contact with primary care.

- Safety: There are very few guidelines for conducting HIV testing in community settings. There is scope for a framework for voluntary organisations which provide HIV testing services. In the case of the pilots these services have been set up in collaboration with the local sexual health service who were responsible for clinical governance and training of staff.

- Funding: Currently community based testing services are either funded entirely from the voluntary sector, or from local PCTs / commissioners. However if NICE guidelines include community settings will further funding be made available for these initiatives?

Looking forward Dr K eith Radcliffe (moderator)

The H alve-It c ampaign R uth Lowbury, MedFASH
This is a lobbying campaign which will call on government to make a number of commitments (as set out in the Halve-It campaign paper) with the aim of halving the proportion of people who are diagnosed late and halving the proportion of people living with undiagnosed HIV within 5 years.

HIV testing and prevention strategies: the UK perspective D r Valerie Delpech, HPA
The pilots have shown that HIV testing is acceptable in a range of settings but there are still a number of unanswered questions on cost effectiveness, creating sustainable, acceptable and safe services in community settings, and how to further refine current guidelines for hospital testing (with regard to geographic targeting and age limits). Now that the information from the pilots has been gathered it is important to move on from the pilot stage, disseminate the information, roll-out testing and monitor the progress of this.

HIV testing and prevention strategies: the US perspective D r Kevin Fenton, Centres for Disease Control, USA
In the USA, like the UK, the populations most at risk are MSM and BME communities. The majority of HIV testing occurs in private doctors services or in hospitals. CDC guidelines, recommending expanded HIV testing, were published in 2006. In addition, the CDC produced an implementation guidance document, provided training where necessary and aided states in modifying legislation which discouraged testing. Communication between CDC, professional organisations and the public to encourage testing has been vital in implementing the guidelines. Monitoring has shown signs of progress with increases in reported testing and decreased proportions of late diagnosis.

Common themes and discussion topics

- Cost effectiveness: The results of cost effectiveness work will be essential to engaging commissioners and hospital trust Chief Executives. It will inform which settings in which to prioritise testing as well as how sustainable expanded HIV testing will be.

- Communication of the message: Royal College endorsement of guidelines and promotion of the guidelines to their members is essential for communication with non-HIV specialists. A clear message needs to be developed for communication to non-HIV specialists. This message needs to be conveyed from t op down a nd from b ottom up emphasising the need for leadership at all levels.

- Roll out of testing: It is clear from the results of the pilots that there are some settings in which roll-out of testing will be logistically simple and effective in diagnosing undiagnosed HIV-infected individuals. Therefore testing should be encouraged in these settings as a priority. In particular, routine HIV testing in ACU should be considered as effective ways of identifying infections.

Appendix 5: Running costs of HIV testing within the pilot projects

Estimated running costs of HIV testing in healthcare settings

Setting	Project	Cost of offering testing			Cost of conducting testing					Total Cost (including offering and conducting testing)		Cost of newly diagnosing one individual	
		Staff costs per test offered (a)	Number tests offered (b)	Total costs of offering tests[4] (a x b)	HIV test cost (c)	Additional costs (d)	Total resource cost per test (c + d)	Total number of tests conducted (e)	Estimated cost for total tests (c + d) x e	Total cost of offering and conducting testing (a x b)+(c + d) x e)	Cost per test ((a x b)+(c + d) x e))/e	Number of new diagnoses (f)	Cost per new diagnosis ((a x b)+(c + d) x e))/f
Hospital projects	HINTS - ED	Registrar (5 mins)[1] £1.55 Band 5 nurse/peer tester (5 mins)[1] £0.80	3433	Registrar £5321.15 Band 5 nurse/peer tester £2746.40	Laboratory charge £5.42	Oracol device £1.30	£6.72	2121	£18,067.72	£20,817.12-£23,388.87	£9.81-£11.03	4	£5204.28-£7148.29
	HINTS - ACU	Band 6 nurse (2 mins) £0.40	548	£233.60	Laboratory charge £2.50	None	£2.50	384	£960.00	£1,193.60	£3.11	4	£298.40
	HINTS - OPD	Band 7 staff (5 mins) £1.25	884	£1,105	Laboratory charge £9.00	Oracol device £1.30	£10.30	598	£6,159.40	£7,264.40	£12.15	0	-
	Brighton - ACU	Band 5 HCA (2 mins) £0.32	1553	£496.96	Laboratory charge £5.00	None	£5.00	1413	£7,065.00	£7,561.96	£5.35	2	£3,780.98
	Leicester - ACU	Band 5 HCA (2 mins) £0.32	-	£314.88	Laboratory charge £8.00	None	£8.00	984	£7,872.00	£8,186.88	£8.32	10	£818.69
Primary care projects	HINTS - PC	GP (2 mins) £1.08	1329	£1,435.32	Laboratory charge £5.42	Oracol device £1.30 GP incentive per test £10	£16.72	1002	£16,753.44	£18,188.76	£18.15	0	-
	Brighton	Band 5 HCA (5 mins) £0.80	2478	£1,982.40	Rapid test kit £5.00	GP incentive per test £20[2]	£25.00	1473	£36,825.00	£38,807.40	£26.35	2	£19,403.70
	Lewisham	Band 5 HCA (2 mins) £0.32	4376[3]	£1,400.32	Rapid test kit £7.80	GP incentive per test £5	£12.80	2713	£34,726.40	£36,126.72	£13.32	19	£1,901.41

1 Costs are given for a range of staff from registrars to non-clinical peer testers who offered testing and consented patients
2 This costs was due to the research element of the project and would not be included in long term plans to roll out testing
3 Estimated from a 62% uptake measured in 13 practices
4 Where number of tests offered was not available, number of tests conducted was used to calculate the staff costs of offering testing

Estimated running costs of HIV testing in community settings

Project	Cost of offering testing		Cost of conducting testing			Total Cost[1]		Cost of newly dianosing one individual	
	Costs Elements of offering testing service	Total cost of offering tests	HIV test	Total number of tests conducted	Estimated cost for total tests	Total cost of offering and conducting testing	Total cost per test	Number of new diagnoses	Cost per new diagnosis
		a	b	c	b x c	a + (b x c)	(a + (b x c)) / c	d	(a + (b x c)) / d
GMI -ACT	144 hours of band 5 non-nursing staff 144 hours of band 6 nursing staff	£3,147.88	Rapid test kit £11.00	106	£1,166.00	£4,313.88	£40.70	2	£2,156.94
GMI - MSM	204 hours band 5 non-nursing staff 56 hours of band 6 nurseing staff	£2,680.48	Rapid test kit £8.00	191	£1,528.00	£4,208.48	£22.03	4	£1,052.12
THT	491.5 total session hours requiring: 1 x band 6 nurse 2 x band 4 outreach worker 1 x band 4 receptionist	£17,910.26	Rapid test kit £7.70	459	£3,534.30	£21,444.56	£46.72	4	£5,361.14
Sheffield	Staff required to assemble and mail out test kits as requested. Total costs of test kit including oral sampling device and staff time (£5 per kit), 129 kits sent out.	£645	Laboratory charge £10	59	£590	£1,235	£20.93	0	-

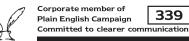1 Include costs of offering tests and conducting tests but excludes set up costs of the project

References:

1   Health Protection Agency. HIV in the United Kingdom: 2010 Report. 2010.

2   Health Protection Agency. New HIV Diagnoses data to end December 2010. Tables No. 2:2010. 8-3-2011.

3   Department of Health. Better prevention, better services, better sexual health - The national strategy for sexual health and HIV. 2001.

4   Department of Health. HSC 1999/183: Reducing mother to baby transmission of HIV. 1999.

5   Tweed E, Hale A, Hurrelle M, Smith R, Delpech V, Ruf M et al. Monitoring HIV testing in diverse healthcare settings: results from a sentinel surveillance pilot study. Sex Transm Infect 2010; 86(5):360-364.

6   Health Protection Agency. Summary of antenatal screening for infectious diseases in England: 2010 update. Health Protection Report 2011; 34(5).

7   McGarrigle CA, Mercer CH, Fenton KA, Copas AJ, Wellings K, Erens B et al. Investigating the relationship between HIV testing and risk behaviour in Britain: National Survey of Sexual Attitudes and Lifestyles 2000. AIDS 2005; 19(1):77-84.

8   Sadler KE, McGarrigle CA, Elam G, Ssanyu-Sseruma W, Davidson O, Nichols T et al. Sexual behaviour and HIV infection in black-Africans in England: results from the Mayisha II survey of sexual attitudes and lifestyles. Sex Transm Infect 2007; 83(7):523-529.

9   Sigma Research. Bass Line 2008-09: assessing the sexual HIV prevention needs of African people in England. 2009.

10   Sigma Research. Multiple chances: findings from the United Kingdom Gay Men s Sex Survey 2006. 2008.

11   University College London. Gay men s sexual health survey, London 2008. Provisional report. 2010.

12   Sigma Research. Tactical dangers Findings from the United Kingdom Gay Men s Sex Survey 2008. 2010.

13   British HIV Association, British Association for Sexual Health and HIV, British Infection Society. UK National Guidelines for HIV Testing. 2008.

14   Chadborn T, Delpech V, Evans B, Gill ON. HIV testing in the UK. Lancet 2009; 374(9687):376-377.

15   National Institue for Health and Clinical Excellence. Increasing the uptake of HIV testing to reduce undiagnosed infection and prevent transmission among men who have sex with men. 2011.

16   National Institue for Health and Clinical Excellence. Increasing the uptake of HIV testing to reduce undiagnosed infection and prevent transmission among black African communities living in England.

17   Walensky RP, Weinstein MC, Kimmel AD, Seage GR, III, Losina E, Sax PE et al. Routine human immunodeficiency virus testing: an economic evaluation of current guidelines. Am J Med 2005; 118(3):292-300.

18   Paltiel AD, Weinstein MC, Kimmel AD, Seage GR, III, Losina E, Zhang H et al. Expanded screening for HIV in the United States--an analysis of cost-effectiveness. N Engl J Med 2005; 352(6):586-595.

19   Sanders GD, Bayoumi AM, Sundaram V, Bilir SP, Neukermans CP, Rydzak CE et al. Cost-effectiveness of screening for HIV in the era of highly active antiretroviral therapy. N Engl J Med 2005; 352(6):570-585.

20   Centers for Disease Control. Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Helath-care Settings. Morbidity and Mortality Weekly Report 2011.

21   Yazdanpanah Y, Sloan CE, Charlois-Ou C, Le Vu S, Semaille C, Costagliola D et al. Routine HIV screening in France: clinical impact and cost-effectiveness. PLoS One 2010; 5(10):e13132.

22   The public health and economic impact of early diagnosis and early HARRT treatment for HIV in the UK: 2011.

23   National Institue for Health and Clinical Excellence. Increasing the uptake of HIV testing among black Africans in England and Increasing the uptake of HIV testing among men who have sex with men. Costing tool. Implementing NICE Guidance. 2011.

24   Health Protection Agency. New NICE guidance supports HPA advice and BHIVA/BASHH/BIS guidelines on expanding HIV testing. Health Protection Report 2011; 5(12).

25   The Health and Social Care Information Centre. HES online. Hospital Episode Statistics . 2011. 8-8-2011.

**Corporate member of
Plain English Campaign
Committed to clearer communication**

339

This publication is also available in large print