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Elena Pizzo, Michael Rayment, Alicia Thornton, Ann Sullivan



Cost effectiveness of HIV testing in non-traditional settings – the HINTS Study

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Authors:

Elena Pizzo PhD [1], Michael Rayment MRCP [2], Alicia Thornton MSc [3], Ann Sullivan [4]

1.Imperial College Business School

2.Directorate of HIV/GU Medicine, Chelsea and Westminster Hospital NHS, London

3.Health Protection Agency, London

4.Directorate of HIV/GU Medicine, Chelsea and Westminster Hospital NHS, London

Corresponding author:

Elena Pizzo PhD, Imperial College Business School, Healthcare Management Group, Tanaka Building, South Kensington Campus, London, SW7 2AZ
Tel. 00442075941233
Email e.pizzo@imperial.ac.uk

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ABSTRACT

Background: Routine HIV testing in healthcare settings is recommended by UK guidelines when the local diagnosed HIV prevalence >0·2%. This prospective study assessed the costs and cost-effectiveness of routinely offering HIV tests in four settings: Emergency Department, Acute Care Unit, Dermatology Outpatients and Primary Care.

Methods: As part of the HINTS study, HIV tests were offered to patients aged 16-65 over three months in 4 settings: Emergency Department, Acute Care Unit, Dermatology Outpatients and Primary Care Centre in London. We assessed the costs of screening in terms of costs per newly diagnosed HIV-infected patient using the data derived from the study. Additionally, national data from the Health Protection Agency's Survey of Prevalent HIV Infections Diagnosed (SOPHID) was used to estimate the number of undiagnosed individuals attending each setting over a one year period. A sensitivity analysis was run to simulate the costs and cost-effectiveness of HIV screening in different scenarios: applying the modelled undiagnosed HIV prevalence, and changing the HIV test offer and test uptake rates.

Results: Testing as per the HINTS Study cost £19,056 per newly diagnosed patient. Assuming all undiagnosed persons had been offered a test and applying the same test uptake rate as the study (67%), the cost per newly diagnosed patient becomes £4,460. In the best possible scenario, assuming 100% coverage and 100% test uptake, the cost per new diagnosis in the HINTS settings amounts to £2,940.

Discussion: The results of this **study** are encouraging and suggest that a screening programme in a high prevalence area could identify HIV-infected patients at a low cost per diagnosis. Earlier diagnosis of HIV infection may have further cost benefits in terms of early treatment and **aversion of incident infections.**

1. Introduction

In 2009, 26% of all adults living with HIV infection in the UK were estimated to be undiagnosed.[1] More than half of those newly diagnosed presented at a late stage, with a CD4 count of less than 350 per μl.[1] Late diagnosis of HIV infection is associated with poorer responses to antiretroviral therapy[2,3] and a worse prognosis.[4] A significant number of HIV-infected patients will present to health care providers with symptoms attributable to HIV infection in the period preceding their diagnosis, without the underlying diagnosis being made.[5]

Beyond the value to the individual, efforts to reduce the undiagnosed fraction may have public health benefits not only in epidemiological but also in economic terms.

Late diagnosis and consequent late treatments decrease life expectancy and are more expensive if compared to early ones.

An estimated 50% of new HIV infections in the US are transmitted by the 25% of HIV-positive individuals unaware of their status.[6] Knowledge of HIV status reduces risk behaviours[7] and effective antiretroviral therapy reduces transmission risk: thus earlier diagnosis is likely to reduce HIV transmission at a population level.[8] Reduction in transmission rates has certainly a huge impact in terms of avoided costs to treat newly diagnosed patients.

Routine HIV testing in antenatal care and sexual health clinics in the UK has greatly increased HIV testing rates.[1,13] Routine testing has been shown in an RCT to be acceptable to patients and to cause no undue anxiety.[14]

The HIV Testing in Non-traditional Settings (HINTS) study investigated the feasibility and acceptability, to patients and staff, of delivering routine HIV testing in non-specialist settings in areas of high HIV prevalence (reference). In this study we assess the costs and cost-effectiveness of the HIV testing programme.

2. Methods

2.1 Clinical Sites, Study Participants and Methods:

The HINTS study was a multi-site, observational study conducted across four sites in London, UK: an Emergency Department (ED), an Acute Care (medical and surgical admissions) Unit (ACU), a Dermatology Outpatient Clinic (OPD), and a Primary Care Centre (PC). All are located within areas of diagnosed HIV prevalence >2/1000.

During the study phase, HIV testing was delivered to patients. Inclusion criteria comprised all adults aged between 16 and 65 years: (i) not known to be HIV positive, (ii) accessing the healthcare setting for the first time over the testing period, and (iii) able to consent to a test.

The model of testing varied according to clinical sites (Table 1). Oral fluid-based HIV testing was used in the PC, ED and OPD arms, and was performed using a fourth-generation assay on a modified platform to detect HIV-1 antibodies (Duo test). In the ACU, fourth-generation HIV serology was performed on serum samples obtained during the inpatient admission.

The fourth generation tests provide accurate results after just 28 days after possible exposure to HIV.

Patients with a reactive HIV test were recalled to undergo confirmatory INSTI HIV test. An additional Abbot Determine test was performed to screen positives. A helpline number was provided, and sexual health counsellors were available to all patients upon request.

2.2 Data Capture:

Electronic patient records were used to capture age, sex, ethnicity, reasons for non-offer of HIV test (including ineligibility) and the outcome of the test offer. All data were anonymised prior to analysis. Data were held in line with the Data Protection Act 1998 and local Trust policies.

2.3 Primary outcomes:

The primary outcome measures of this quantitative arm of the study comprised:

- The number of patients undertaking the test, the results, the confirmatory tests (for each setting)
- The costs for testing, costs for confirmatory testing on false reactive
- The costs for testing positives
- The staff costs
- The promotional materials
- The total costs of the screening programme
- The effectiveness of the programme (in terms of new diagnosis)

2.4 The analysis

A cost analysis was done to calculate the cost of the HINTS screening programme in the four scenarios. The costs include the screening kit, the laboratory, the staff and the cost to run and promote the programme.

A cost-effectiveness analysis has been carried out using the cost data and the effectiveness outcomes (number of true positives new diagnosed) collected in the HINTS study for each setting.

The total costs of the screening programme (including the costs for tests, laboratory, staff and promotional costs) have been compared to the number of new diagnosed patients to obtain a cost-effectiveness ratio.

The Survey of Prevalence HIV Infection Diagnosed (SOPHID) was used to estimate the prevalence for the demographics in each setting and to estimate the number of undiagnosed individuals who potentially could attend in one year. A simulation of the cost-effectiveness results has been done using the data from the Survey to understand how the results change assuming the programme could potentially reach a higher rate of undiagnosed patients.

The analysis has been done assuming three different scenarios:

- the base case - HINTS study: using the data coming from the real study carried out in 4 settings
- the SOPHID scenario: using the SOPHID data we estimated the undiagnosed prevalence in each setting and run the analysis again with the new numbers assuming the same compliance rate as in the real study ;

- the SOPHID best scenario: using the SOPHID data we estimated the undiagnosed prevalence and the numbers of undiagnosed patients in each setting and we run the analysis assuming a 100% compliance.

3. Results

3.1 HIV Testing Data:

Across all four sites, there were almost 15 000 potential age eligible attendees, of those 13 855 were age eligible attendees for the study and offered the test. 7033 (51%) were approached by study personnel (Table 2). Of this number, 839 (11·6%) were subsequently considered ineligible to test. Of the 6194 patients offered an HIV test, 4105 accepted this offer, with a 66·8% compliance. The number of reactive tests was 15, of those 7 were false reactive. Eight individuals were newly diagnosed with HIV infection, and all were successfully transferred to care (two partners were subsequently diagnosed with HIV infection via partner notification). HIV seropositivity across the sites was 1.9/1000 (95% CI 0·6 – 3·2/1000).

3.2 Cost Data:

Test costs

The costs for screening differ across the four sites, according to the testing method. It includes the kit and the laboratory. In the ED the oral fluid sample costs £5.60, in the AC the whole serum costs £2.50, whereas in the PC and OPD it is more expensive, costing £6.98 and £ 10.30 respectively (table 3).

The cost for carrying out confirmatory testing on false reactive is estimated, based on local cost for serology and it also includes the cost to repeat the screening and £6 for the Insti test.

The cost for screening positives is estimated based on local cost for serology and it includes the £6 for Insti and the £7.36 for the Abbot Determine.

According to the unitary costs and the screening results, the total costs for screening negatives were £25,906.86, the total costs of screening false reactive patients were £143.06 and £181.52 for true positive patients.

Staff cost

We assessed the costs for the staff involved in each site for the screening programme.

Two researchers have been employed for 12 months for 0.5 WTE, at a B7 equivalent salary spine to work across the all settings.

In the Emergency Department (ED) a testing team was employed for 3.5 months at 1.00 WTE to work 98% of the time, a research nurse was employed for 3 months for 1.0 WTE at a B6 equivalent salary spine). In the Acute Setting a research nurse was employed for 3 months for 1.0 WTE at a B6 equivalent salary spine. In the OPD a research nurse was employed for 3 months for 1.0 WTE at a B7 equivalent salary spine. In the Primary Care setting a testing team was employed for 3.5 months at 1.00 WTE to work 2% of the time, one GP was employed for 5 months, for 0.2 WTE. In the Primary Care setting an additional incentive of £10.00 for test carried out was offered to the GP.

The total staff costs for the entire programme was £ 124,219, including £ 64,199 for staff, £ 50,000 for the study coordinators and £ 10,020 for the GP incentive (table 3)

Other costs

Promotional materials, including leaflets, patient's info sheets and posters have been estimated £2,000, equally spread across each site (table 3).

Total cost

In conclusion, the total cost for the screening programme across the four sites was respectively £56,339.56 in ED, £31,659.40 in OPD, £ 25,034 in AC and £39,386.06 in PC, for a total cost of £152,439.02 for the entire programme (table 3).

3.3 Cost-effectiveness results in the base case HINTS scenario

The testing programme detected new 8 undiagnosed infected patients over 7033 participants in four months.

The total cost of the programme was £152,439.02. If we compare the costs with the effectiveness data, the testing costs £19,054.88 for a newly diagnosed HIV infected (table 3).

If on one hand it is quite expensive to diagnose a new HIV case, the cost is on line with the threshold suggested by NICE and do not take into account the costs saved due to avoided transmission.

4. Sensitivity analysis.

4.1 The simulation using SOPHID data

The Survey of Prevalence HIV Infections Diagnosed (SOPHID) was used to estimate the prevalence for the demographics across each setting and to estimate the number of undiagnosed individuals who will attend (per year and per quarter). According to the prevalence modelled for the demographics of each setting, we estimated that 77,700 undiagnosed individuals would attend the 4 settings in one year. The estimated undiagnosed prevalence would be 0.47% (table 4).

Assuming that the staff would be able to approach the same rate of patients as in the HINTS scenario almost 48,000 patients will be asked to have a test. Assuming in each setting we will have the same compliance rate than in the HINTS, almost 26,000 patients will have a diagnostic test. According to the specificity and sensitivity of the test almost 120 patients will be diagnosed HIV positive. The false positives will be around 44.

The total cost for screening tests will be £ 155,993 (table 4).

We assumed that the staff employed for the HINTS scenario could work in the 4 settings according to the new numbers and for an entire year (instead of 3 months). Except for the study coordinators, who were already working for 12 months, the cost of the staff was recalculated assuming a work load of 12 months.

The total cost for staff in this new scenario increased to £ 373,220 (including 301,985 for staff, £ 50,000 for coordinators and £ 21,235 for GP incentives, according to the new tests intake).

The total cost for the screening programme will be £ 531,214 and compare to the newly diagnosed patients, the cost effectiveness will decrease to £ 4,460 for patient (table 4).

4.2 The best case scenario using the SOPHID

The analysis was run assuming the best scenario ever, where all the undiagnosed patients could be reached and tested. Assuming the staff could reach all the patients who attended the 4 settings and assuming a compliance rate of 100%, all the undiagnosed patients were found positive.

We also assumed that the specificity and sensitivity of the test remain the same.

In this scenario all the 77,700 patients attending the settings accept to have a test. Of those, 367 are found positive and 132 false positive (table 5).

According to these outcomes the costs of the screening tests are £ 472,892 (table 5).

Again we assume that the staff will be employed as in the previous scenario, for 12 months, but this time the work load will reflect the higher coverage, so the cost will increase of the same proportion needed to reach the 100% coverage. So for example, if in the ED the cost for the staff to cover 73.45% of the patients was £183,776, in the best scenario it was increased of 26.55%, increasing up to £ 232,564.

The total cost for the screening program in the best scenario will be around £ 1,077,635, with 367 new HIV diagnosed patients, so the cost effectiveness will improve to £2,940.34 for one new patient diagnosed (Table 5).

5. Discussion

A previous study has assessed that HIV testing in these settings is acceptable to the majority of patients and staff, and is operationally feasible. According to this study the costs for testing in the four settings are quite high if we compare them to the number of newly diagnosed patients with HIV. The cost to diagnose a patient is almost £ 19,120. However if we take into account the costs for testing in a period of one year according to the SOPHID data, the cost to detect a new HIV positive decrease to £4.460. These results are really encouraging and suggest that a screening programme in a high prevalence area could potentially diagnose new patients at a very low cost, with a great impact in terms of early treatments, reduction of transmissions and avoided future costs. If HIV testing is to be included as a routine part of patients' care, additional staff training and infrastructural resources will be required, so these costs should be taken into account too.

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Table 1: ***HINTS Study Sites***

l setting)	Primary Care Trust	Diagnosed HIV Prevalence per 1000 individuals 15-59 years (ranking in UK) [1]	Model of routine HIV testing service delivery Composition of HIV testing team (TT) Delivery model (DM)	Testing phase (weeks)	HIV testing method Sample (S) Assay (A) Platform (P) Confirmation (C)
tminster **rtment (ED)** es/annum	Kensington and Chelsea	8·33 (4th)	***TT:*** *seconded staff from ED, Sexual Health, non-clinical testers* ***DM:*** *two testers per testing shift on a rolling rota; planned coverage of all time periods and days*	15	**S:** Oral fluid (whole saliva sample) **A:** Bio-Rad Genscreen Ultra HIV Ag- **P:** Biokit Best 2000 **C:** Abbott Determine HIV 1/2 test
sity Hospital **gical** **(ACU)** s/annum	City and Hackney	8·25 (5th)	***TT:*** *seconded staff from mixed backgrounds (ED, Sexual Health, non-clinical testers, research nurse)* ***DM:*** *single tester reviewed electronic bed state once daily and approached all age-eligible patients admitted in the preceding 24 hours, still present in the ACU*	12	**S:** Whole serum **A:** Abbott Architect HIV Ag/Ab 4th g **P:** Abbott Architect ci8200 Integrat **C:** Confirmation on repeat
pital **tpatient** **D)** s/annum	Lambeth	13·28 (1st)	***TT:*** *seconded staff from mixed backgrounds (dermatologists, Sexual Health, non-clinical testers, medical students)* ***DM:*** *Two testers present in each Clinic. Patients offered HIV test prior to Dermatology consultation*	12	**S:** Oral fluid (sample collection with Malvern Medicals PLC, UK) **A:** Bio-Rad Genscreen Ultra HIV Ag- **P:** TECAN RMP200 **C:** Confirmation on repeat
l Centre **)** patients 010)	Hammersmith and Fulham	8·15 (6th)	***TT:*** *all GPs and nurses in the practice who had received focussed training* ***DM:*** *testing introduced to routine consultations in a staggered fashion*	14	**S:** Oral fluid (sample collection with Malvern Medicals PLC, UK) **A:** Bio-Rad Genscreen Ultra HIV Ag- **P:** Biokit Best 2000 **C:** Abbott Determine HIV 1/2 test

Table 2: ***Coverage, uptake and seropositivity of routine offer of HIV test across the four sites***

	ED	ACU	PC	OPD
Age eligible attendees *(n=15 042)*	**5541**	**1388**	**6337**	**1776**
Total study eligible attendees (first offer of test; not known HIV-positive) (%) *(n=13 855)* **[95% CI]**	**5505 (99·3%)** **[99·1%-99·6%]**	**1298 (93·5%)** **[92·2%-94·8%]**	**5352 (84·5%)** **[83·6%-85·4%]**	**1700 (95·9%)** **[94·8%-96·7%]**
Coverage = eligible attendees approached (%) *(n=7033)* **[95% CI]**	**4070 (73·9%)** **[72·7%-75·1%]**	**623 (48·0%)** **[45·3%-50·8%]**	**1442 (26·9%)** **[25·8%-28·1%]**	**898 (52·8%)** **[50·5%-55·2%]**
Clinically ineligible (% of all approached) *(n=839)* **[95% CI]**	**637 (15·7%)** **[14·5%-16·8%]**	**75 (12·0%)** **[9·5%-14·6%]**	**113 (7·8%)** **[6·5%-9·2%]**	**14 (1·5%)** **[0·8%-2·4%]**
Total tests offered *(n=6194)*	**3433**	**548**	**1329**	**884**
Uptake = total tests accepted (%) *(n=4105)* **[95% CI]**	**2121 (61·8%)** **[60·2%-63·4%]**	**384 (70·1%)** **[66·2%-74·0%]**	**1002 (75·4%)** **[73·1%-77·7%]**	**598 (67·6%)** **[64·6%-70·7%]**
Reactive HIV tests *(n=15)*	**6**	**4**	**5**	**0**
False reactive HIV tests *(n=7)*	**2**	**0**	**5**	**0**

Newly diagnosed individuals; **HIV seropositivity (per 1000) *(n=8)*** **[95% CI]**	**4** **1·9 [0·05 – 3·8]**	**4** **10·1 [0·3 – 20·5]**	**0**	**0**
Proportion transferred to care	**100%**	**100%**	**n/a**	**n/a**

Table 3: ***Coverage, uptake, seropositivity and costs of routine offer of HIV test across the four sites***

HINTS SCENARIO	ED	OPD	AC	PC	TOTAL
A. Total number of attendances in the study period	5541	1776	1388	6337	15042
B. Total number of interactions	4070	898	623	1442	7033
C. Coverage/interactions over potential eligibles [B/A] (%)	73.45%	50.56%	44.88%	22.76%	46.76%
D. Number of compliant patients who accepted the test	2121	598	384	1002	4105
E. Compliance [D/B] (%)	52.11%	66.59%	61.64%	69.49%	58%
F. Number of confirmatory tests carried out	6	0	4	5	15
G. Number of true positives	4	0	4	0	8
H. Number of false positives	2	0	0	5	7
I. Number of negatives [D-G]	2117	598	380	1002	4097
J. Number of true negatives [I*SPECIFICITY]	2113.4	4784.0	0.0	0.0	6897.4
K. Unitary cost for screening negatives	£ 5.60	£ 10.30	£ 2.50	£ 6.98	
L. Unitary cost for carrying out confirmatory testing on false reactives[1]	£ 17.02	£ 24.00	£ 21.00	£ 18.40	
M. Unitary cost for screening positives[2]	£ 24.38	£ 30.92	£ 21.00	£ 25.76	
N. Total cost for screening negatives [K*I]	£ 11,844.00	£ 6,159.40	£ 950.00	£ 6,959.06	£ 25,912.46
O. Total cost for screening false reactives [L*H]	£ 34.04	£ -	£ -	£ 92.00	£ 126.04
P. Total cost for screening true positives [M*G]	£ 97.52	£ -	£ 84.00	£ -	£ 181.52
Q. Staff costs (see sheet 3)	£ 31,384.00	£ 12,500.00	£ 11,000.00	£ 9,315.00	£ 64,199.00
R. Study coordinators (x2 0.5 WTE)	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 50,000.00
S. Incentives to GPs for testing [£10 for test]				£ 10,020.00	£ 10,020.00
T. Promotional material (patient info sheets and posters)	£ 500.00	£ 500.00	£ 500.00	£ 500.00	£ 2,000.00
U. TOTAL COST OF HIV SCREENING PROGRAMME HINTS [N+O+Q+R+S+T]	£ 56,359.56	£ 31,659.40	£ 25,034.00	£ 39,386.06	£ 152,439.02
V.Cost for a newly diagnosed HIV patient in HINTS [U/G]	£ 14,089.89		£ 6,258.50		£ 19,054.88

[1] estimated based on local cost for serology and £6 for Insti

Table 4: ***Coverage, uptake, seropositivity and costs of routine offer of HIV test across the four sites in the SOPHID scenario***

"SOPHID" SCENARIO	EMERGENCY DEPT	OPD	ACUTE CARE	PRIMARY CARE	TOTAL
Diagnosed prevalence modelled for the demographics of each setting (SOPHID)	290	292	42	109	733
Estimated undiagnosed individuals who will attend per year (from SOPHID)	145	146	21	55	367
Total number of attendances in one year	55171	4864	4235	13430	77700
Estimated undiagnosed prevalence (SOPHID) (%)	0.26%	3.00%	0.50%	0.41%	0.47%
Estimated number of undiagnosed that will have a test per year (SOPHID)	56	49	6	9	119
A. Total number of attendances in the study period	55171	4864	4235	13430	77700
B. Total number of interactions [A*C]	40524.45	2459.39	1900.87	3056.03	47941
C. Coverage/interactions over potential eligibles (%)[3]	73.45%	50.56%	44.88%	22.76%	61.7%
D. Number of compliant patients who accepted the test [B*E]	21118.51	1637.77	1171.64	2123.54	26051
E. Compliance (%)[4]	52.11%	66.59%	61.64%	69.49%	58.37%
F. Number of confirmatory tests carried out [G+H]	91	52	8	12	163.31
G. Number of true positives[5]	56	49	6	9	119.09
H. Number of false positives [I-J]	36	3	2	4	44.22
I. Number of negatives [D-G]	21063	1589	1166	2115	25932.37
J. Number of true negatives [I*SPECIFICITY]	21027	1586	1164	2111	25888.15
K. Unitary cost for screening negatives	£ 5.60	£ 10.30	£ 2.50	£ 6.98	
L. Unitary cost for carrying out confirmatory testing on false reactives[1]	£ 17.02	£ 24.00	£ 21.00	£ 18.40	
M. Unitary cost for screening positives[2]	£ 24.38	£ 30.92	£ 21.00	£ 25.76	
N. Total cost for screening negatives [K*I]	£ 117,952.86	£ 16,362.64	£ 2,914.58	£ 14,762.14	£ 151,992.23
O. Total cost for screening false reactives [L*H]	£ 611.31	£ 65.01	£ 41.75	£ 66.36	£ 784.44
P. Total cost for screening true positives [M*G]	£ 1,353.18	£ 1,520.02	£ 122.01	£ 221.99	£ 3,217.19
Q. Staff costs (see sheet 3)	£ 183,776.00	£ 50,000.00	£ 44,000.00	£ 24,209.57	£ 301,985.57
R. Study coordinators (x1 1 WTE)	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 50,000.00
S. Incentives to GPs for testing [£10 for test]				£ 21,235.38	£ 21,235.38
T. Promotional material (patient info sheets and posters)	£ 500.00	£ 500.00	£ 500.00	£ 500.00	£ 2,000.00
U. TOTAL COST OF HIV SCREENING PROGRAMME SOPHID [N+O+Q+R+S+T]	£ 316,693.35	£ 80,947.68	£ 60,078.34	£ 73,495.44	£ 531,214.81
V.Cost for a newly diagnosed HIV patient in SOPHIS [U/G]	£ 5,705.82	£ 1,646.62	£ 10,340.86	£ 8,528.64	£ 4,460.59

[1] estimated based on local cost for serology and £6 for Insti

Table 5: ***Coverage, uptake, seropositivity and costs of routine offer of HIV test across the four sites in the SOPHID best scenario***

"THE BEST" SCENARIO	ED	OPD	ACUTE CARE	PRIMARY CARE	TOTAL
Diagnosed prevalence modelled for the demographics of each setting (SOPHID)	290	292	42	109	733
Estimated undiagnosed individuals who will attend per year (from SOPHID)	145	146	21	55	367
Total number of attendances in one year	55171	4864	4235	13430	77700
Estimated undiagnosed prevalence (SOPHID) (%)	0.262819235	3.001644737	0.495867769	0.405807893	0.471685972
Estimated number of undiagnosed that will have a test per year (SOPHID)	56	49	6	9	119
A. Total number of attendances in the study period	55171	4864	4235	13430	77700
B. Total number of interactions [A*C]	55171	4864	4235	13430	77700
C. Coverage/interactions over potential eligibles (%)[3]	100%	100%	100%	100%	100%
D. Number of compliant patients who accepted the test [B*E]	55171	4864	4235	13430	77700
E. Compliance (%)[4]	100%	100%	100%	100%	100%
F. Number of confirmatory tests carried out [G+H]	239	154	28	77	498
G. Number of true positives[5]	145	146	21	55	367
H. Number of false positives [I-J]	94	8	7	23	132
I. Number of negatives [D-G]	55026	4718	4214	13376	77334
J. Number of true negatives [I*SPECIFICITY]	54932	4710	4207	13353	77202
K. Unitary cost for screening negatives	£ 5.60	£ 10.30	£ 2.50	£ 6.98	
L. Unitary cost for carrying out confirmatory testing on false reactives[1]	£ 17.02	£ 24.00	£ 21.00	£ 18.40	
M. Unitary cost for screening positives[2]	£ 24.38	£ 30.92	£ 21.00	£ 25.76	
N. Total cost for screening negatives [K*I]	£ 308,145.60	£ 48,595.40	£ 10,535.00	£ 93,360.99	£ 460,636.99
O. Total cost for screening false reactives [L*H]	£ 1,597.03	£ 193.09	£ 150.90	£ 419.67	£ 2,360.69
P. Total cost for screening true positives [M*G]	£ 3,535.10	£ 4,514.32	£ 441.00	£ 1,403.92	£ 9,894.34
Q. Staff cost to reach 100% coverage[6]	£ 232,564.03	£ 74,718.47	£ 68,250.72	£ 42,910.19	£ 418,443.42
R. Study coordinators (x1 1 WTE)	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 12,500.00	£ 50,000.00
S. Incentives to GPs for testing [£10 for test]				£ 134,300.00	£ 134,300.00
T. Promotional material (patient info sheets and posters)	£ 500.00	£ 500.00	£ 500.00	£ 500.00	£ 2,000.00
U. TOTAL COST OF HIV SCREENING PROGRAMME SOPHID [N+O+Q+R+S+T]	£ 558,841.76	£ 141,021.28	£ 92,377.62	£ 285,394.78	£ 1,077,635.44
V.Cost for a newly diagnosed HIV patient in SOPHIS [U/G]	£ 3,854.08	£ 965.90	£ 4,398.93	£ 5,236.60	£ 2,940.34

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Imperial College Business School
Tanaka Building
South Kensington Campus
London SW7 2AZ
United Kingdom

T: +44 (0)20 7589 5111
F: +44 (0)20 7594 9184

www.imperial.ac.uk/business-school