An Update on HIV-testing at a London Sexually Transmitted Diseases Clinic: long-term impact of the AIDS media campaigns

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Abstract

Trends in the number of tests for HIV-1 antibody at a London sexually transmitted diseases clinic showed substantial changes between September 1985 and June 1988. From an average of 100 tests per month between September 1985 and August 1986, the average increased to 365 tests per month for September 1986 to August 1987. This levelled off at 243 tests per month between September 1987 and June 1988. The average number of positive tests per month between September 1985 and June 1988 remained constant, though the number of seropositive tests in females increased. Male and female populations displayed similar temporal patterns. The greatest increase was seen in the tests generated by heterosexual males

and females with no other risk factors. This group generated 42% of the 8012 tests performed during the study period. The Clinic's catchment area predominantly included London and surrounding areas and temporal patterns were similar for residents from each of the Thames Regions. The temporal patterns observed coincided with periods of increased media attention on HIV infection/AIDS and involved campaigns by the popular press, television, Department of Health and Social Security and the Health Education Authority. The increase in tests during the time of maximum media exposure, the subsequent plateau at a level substantially higher compared with the period preceding the media campaigns and the large increase in heterosexual males and females tested, all suggest that the campaigns have contributed to increasing awareness of HIV infection/AIDS as a major contemporary public health problem.

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This paper describes long-term trends in HIV-1 tests performed at the Praed Street Clinic, the sexually transmitted diseases clinic of St Mary's Hospital an inner London teaching hospital and part of North West Thames Regional Health Authority. These trends have been monitored since September 1985 and the current study period extends to June 1988. The initial changes surrounding the 1986/1987 UK AIDS media campaigns have been reported earlier.¹

Methods

Individuals coming for HIV-1 testing were self-referred or referred by a medical practitioner. All received pre- and post-test counselling. Demographic and behavioural data were collected using standardised methods and stored while preserving strict confidentiality. The behavioural characteristics of 83% (n = 6685) of those tested were classified by criteria applied by clinicians at the time of pre-test counselling; for the remainder we depended on obtaining the data retrospectively from clinical records.

All data were checked and coded by one of the authors (CD) and entered on a database programme, using dBase III Plus[®]. Upon completion, the database files were transferred from dBase to SPSS.PC[®] and the analysis performed on an IBM micro-computer in the Department of Public Health. All HIV tests were performed by the Division of Virology. A competitive ELISA (Wellcome[®]) was used as an initial screening test, whilst all positive results were checked by using an antibody capture ELISA (Abbott[®]). All equivocal results were checked by Western blot technique. This procedure has been used by us for some time and is now being considered by other British laboratories.²

Results

Between September 1985 and June 1988, the Clinic recorded a total of 164 742 patient visits. Of these 66% (n = 108 918) were new visits and 34% were follow-up visits. Of all visits 58% (n = 95 008) were made by men and 42% (n = 69 734) by women. Sixty four per cent of the male visits and 69% of the female visits were first time attendances and the remainder follow-up visits.

Figure 1 HIV tests performed on the total population between September 1985 and June 1988 including the temporal relationship with the various HIV/AIDS media campaigns held during the study period:

1 = Department of Health and Social Security

2 = Popular press/TV

3 = Health Education Authority

(Shaded areas are positive tests).

During this period, 8012 HIV tests were performed. As each test incurs at least two Clinic visits, for pre- and post-test counselling, HIV-testing constituted 10% of the Clinic's total number of visits. These 8012 tests were performed on 6923 individuals and 1089 were therefore follow-up tests. Overall 91.5% (n = 7328) tests were negative and 684 (8.5%) positive.

From September 1985 to September 1986 the number of tests performed was relatively stable. An increase occurred between October 1986 and April 1987, peaking in March 1987. During the period May 1987 to June 1988, the number of tests performed stabilised again. For the first 12 month period an average of 100 tests were performed per month. This increased to an average of 365 tests per month for the period September 1986 to August 1987, and fell between September 1987 and June 1988 to 243 tests per month.

The average number of positive tests performed

Figure 2 Tests performed on intravenous drug users, homo- or bisexuals and heterosexuals with no other risk factors per month during the study period, September 1985 to June 1988.

(Shaded areas represent positive tests).

during each period was 16, 22 and 23 per month respectively. The changing trends coincided temporally with increased media activity devoted to AIDS/HIV infection (fig 1). Of all tests, 67% ($n = 5354$) were performed on men, and 2658 on women. Of the male tests, 630 (12%) were positive, compared with 2% ($n = 54$) in women. Though similar time trends were observed for men and women and the overall number of tests generated by males exceeded that for women, the rate of increase was found to be greatest among women.

Ninety six per cent ($n = 7819$) of the 8012 tests performed could be assigned to individuals of a known risk group. For the remaining 4%, behavioural data were unavailable. Heterosexuals with no other risk factor generated 42% of all tests, homosexual or bisexual individuals generated 37% of the tests and 4% were intravenous drug users. The

Figure 3 Tests performed on residents of various English Regional Health Authorities per month during the study period, September 1985 to June 1988. (Shaded areas are positive tests).

majority (80%) of the seropositive tests were in male homosexual or bisexual individuals. Of the heterosexuals with no other risk factor ($n = 3263$) 11 tests were positive: 5 in men ($n = 1652$) and 6 in females ($n = 1611$). Differences over time were also observed between the various risk groups. Between September 1985 and August 1986 an average of 67 tests per month were performed on homosexual or bisexual individuals. This increased to 109 tests between September 1986 and August 1987, which subsequently declined to a monthly average of 75 between September 1987 and June 1988. The average number of positive tests in this group per month rose from 14, 16 to 17 respectively for the three periods (fig 2). Similar, though less pronounced, trends were observed for tests on intravenous drug users (fig 2). The greatest increase in tests was seen among heterosexuals with no other risk factor. An average of 28 tests per month were generated by these individuals between September 1985 and August 1986. This increased to an average of 164 per month between September 1986 and August 1987 and declined to 80 tests per month between September 1987 and June 1988. Of the 11 seropositive tests in this group four were observed in the first period, three in the second and a further four during the third period (fig 2).

Ninety seven per cent ($n = 7745$) of tests were performed on individuals whose reported area of residence was known. Of these 49% resided within

North West Thames Regional Health Authority (NWT) (table 1), 31% within North East Thames Regional Health Authority (NET), 10% within South East Thames Regional Health Authority (SET) and 6% within South West Thames Regional Health Authority (SWT). Altogether 96% of tests were generated by Thames residents. The distribution of seropositive tests by area of residence was

Table 1 Tests generated for total, male and female population by residential area. (UK specified according to Regional Health Authorities)

		Total		Male		Female	
		n	(+)ve	n	(+)ve	n	(+)ve
Inner	London NWT	2333	176	1439	161	894	15
Outer	London NWT	962	66	615	58	347	8
	Shires NWT	460	43	333	34	127	9
	NWT	3755	285	2387	253	1368	32
Inner	London NET	1532	128	965	118	567	10
Outer	London NET	718	64	488	63	230	1
	Shires NET	118	9	92	8	26	1
	NET	2368	201	1545	189	823	12
Inner	London SET	645	69	475	64	170	5
Outer	London SET	15	1	11	1	4	—
	Shires SET	90	2	69	2	21	—
	SET	750	72	490	67	195	5
Inner	London SWT	165	24	118	21	47	3
Outer	London SWT	147	24	105	24	42	—
	Shires SWT	170	15	133	15	37	—
	SWT	482	63	356	60	126	3
	Wessex	54	3	36	3	18	—
	Oxford	140	6	116	5	24	1
	East Anglia	34	1	27	1	7	—
	South Western	27	—	20	—	7	—
	West Midlands	27	2	21	2	6	—
	Trent	12	1	7	1	5	—
	Mersey	9	—	8	—	1	—
	North Western	5	—	2	—	3	—
	Yorkshire	8	—	4	—	4	—
	Northern	3	2	3	2	—	—
	Rest of UK	19	3	15	3	4	—
	Rest of Europe	26	3	22	3	4	—
	North America	5	—	4	—	1	—
	South America	1	1	1	1	—	—
	Africa	6	2	6	2	—	—
	Middle East	10	—	6	—	4	—
	Asia	4	—	3	—	1	—
	Unknown	7745	645	5144	592	2601	53
		267	39	210	38	57	1

Table 2

	Inner London	Outer London	Thames Shires	Other English Regions	Rest of UK	Total
(a) Distribution of tests generated by all UK residents by gender and residential area						
Male	2997 (64.1)	1219 (66.2)	627 (74.8)	244 (76.5)	15 (78.9)	5102 (66.3)
Female	1678 (35.9)	623 (33.8)	211 (25.2)	75 (23.5)	4 (21.1)	2591 (33.7)
	4675	1842	838	319	19	7693
	$\chi^2 = 53.5$, DF4, P = 0.0000					Unknown 319
(b) Distribution of tests and tests results generated by all UK males by residential area						
Negative	2633 (87.8)	1073 (88.0)	568 (90.6)	230 (94.3)	12 (80.0)	4516 (88.5)
Positive	364 (12.2)	146 (12.0)	59 (9.4)	14 (5.7)	3 (20.0)	586 (11.5)
	2997	1219	627	244	15	5102
	$\chi^2 = 13.2$, DF4, P = 0.01					Unknown 252
(c) Distribution of tests and tests results generated by all UK females by residential area						
Negative	1645 (98.0)	614 (98.5)	201 (95.3)	74 (98.7)	4	2538 (98.0)
Positive	33 (2.0)	9 (1.5)	10 (4.7)	1 (1.3)	—	53 (2.0)
	1678	623	211	75	4	2591
	$\chi^2 = 9.1$, DF4, P = 0.06					

similar to that of the total population. The Thames residents also generated the bulk (96%) of the seropositive tests. Over time, trends in the number of tests from the various regions displayed a pattern similar to that described for the total population (fig 3). The number of seropositive tests remained fairly constant for residents of all regions.

Considering tests generated by UK residents ($n = 7693$), the number of tests performed decreased, as the distance of residence from the Clinic increased (table 2a), with most tests generated by London residents. This inverse relationship existed for the total, the male and female populations. However, the proportion of tests generated by males compared to females increased with increasing residential distance from the Clinic. Thus inner London males generated 64% of tests which increased to 77% for the other English regions. All risk groups displayed the inverse relationship between number of tests performed and residential distance from the Clinic, but heterosexuals with no other risk factors accounted for most of the male-female differences observed in the total population.

Significant differences in residential area were observed by test-result. This was, however, more apparent for the seropositive males compared to the seropositive women (tables 2b and 2c). No significant differences were observed between the various risk groups, for residential area and test result. Finally, the number of HIV tests performed is governed by both patient "demand" and staff "supply". Conceivably the increase in tests performed could be secondary to altered tests ordering behaviour by the medical staff. This, however, was not borne out during informal discussions with them.

Discussion

The initial increase in the number of HIV tests performed during the British media campaigns has already been reported by us.¹ Similar changes have been reported by other clinics in London,³ Sheffield,⁴ Liverpool,⁵ Leeds,⁶ and Scotland⁷ though to date no long-term follow-up studies have been published. In the months subsequent to the period of maximum media exposure on HIV infection/AIDS there was a fall in the number of tests performed, but the average during this period remained well above that for the period preceding the media campaigns. Both males and females generated increased number of tests; the absolute number of tests performed on males exceeded those on women, whilst the rate of increase for the latter was greater than for the former. Males continued to generate the greatest number of seropositive tests and these remained relatively constant over the total study period. This is in contrast to national trends, where the overall increase in the number of HIV tests performed during the early part of 1987 was accompanied by an increase in sero-

positive tests, especially among homosexual or bisexual men.⁸ This discrepancy suggests that referral and self-referred patterns to this Clinic among homosexual or bisexual men during the study period were already at near maximum levels. Whilst all groups displayed similar temporal patterns, the rate of increase in tests performed since October 1986 has been greatest for the heterosexual males and females, especially when compared to the homosexual or bisexual groups (fig 2).

The sustained increase in tests following the October 1986-March 1987 media campaigns suggests a greater public awareness of HIV infection and its causes. This can also be inferred from the increased number of heterosexual males and females with no other risk factors who came for testing to the Clinic, and by opinion polls on this topic around the time of the media campaigns.⁹ The media campaigns seem to have contributed to the awareness of HIV infection/AIDS as a major contemporary public health problem.

Some aspects of the initial mass-campaigns, both in Britain and elsewhere, have recently been criticised. One criticism has been that the campaigns were directed at mass audiences rather than targeted on specific groups.¹⁰ The first British Government advertisements appeared in March 1986. By September 1986 the popular press had picked up the story of heterosexual transmission, partly from the Second International Conference on AIDS in Paris, whilst the Government follow-up campaigns occurred in November 1986 and January 1987. Since these campaigns and AIDS week in March 1987, a number of targeted campaigns have reinforced some of the earlier messages in a more sophisticated format. The implications of the prevention paradox¹¹ are that if educational campaigns are to be successful they need to operate at two levels. In short, the principle states that small changes in a larger number of individuals will effect greater population changes than large changes in a smaller number of individuals. In this context, the strategy of commencing with a general mass campaign, to put the topic on the "health agenda", complemented by targeted campaigns and reinforcement seems very reasonable. Both mass and targeted campaigns, however, need to be effective both in their educational message and their delivery.

Finally, whilst HIV-tests can currently be used as indicators of the consultative process which takes place between professionals and those seeking their advice, they underestimate the actual number of HIV-related Clinic consultations¹ and form only a part of this process. The resource implications of an increased workload and the specific effects of publicity campaigns are evident. Though the majority of the individuals tested were seronegative, this consultative process must remain an integral part

of the overall educational process, whereby the general message can be discussed and evaluated within the context of the worried individual seeking professional advice.

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