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What about money? Effect of small monetary incentives on enrolment, retention, and motivation to change behaviour in an HIV/STD prevention counselling intervention

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Objectives: We studied the effect of small monetary incentives and non-monetary incentives of similar value on enrolment and participation in clinic based HIV/STD prevention counselling. We examined incident STDs to try to assess whether participants offered money may be less motivated to change risky behaviours than those offered other incentives.

Methods: Patients from five US STD clinics were invited to enrol in a multisession risk reduction counselling intervention and, based on their enrolment date, were offered either \$15 for each additional session or non-monetary incentives worth \$15. The two incentive groups were compared on participants' enrolment, completion of intervention sessions, and new STDs over the 24 months after enrolment.

Results: Of 648 patients offered money, 198 (31%) enrolled compared with 160 (23%) of 696 patients offered other incentives ($p=0.002$). Enrollees in the two incentive groups had similar baseline characteristics, including condom use. Of the 198 participants offered money, 109 (55%) completed all sessions compared with 59 (37%) of the participants offered other incentives ($p < 0.0001$). Comparing those offered money with those offered other incentives STD rates were similar after 6, 12, and 24 months.

Conclusions: Small monetary incentives enhanced enrolment and participation compared with other incentives of similar value. Regardless of incentive offered, participants had similar post-enrolment STD rates, suggesting that the type of incentive does not adversely affect motivation to change behaviour. Money may be useful in encouraging high risk individuals to participate in and complete counselling or other public health interventions.

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Introduction

Although the effect of monetary incentives on enhancing recruitment and retention has been assessed in longitudinal research studies,^{1–2} little is published on their use in clinical or prevention programmes. Some authors suggest that monetary incentives may even counter effective behaviour change because the motivation driving intervention attendance may be the money rather than a true desire to change specific behaviours.^{3–4} Thus, while paid participants may be more likely than unpaid participants to accept and participate in an intervention, they may be less motivated to make the behaviour changes encouraged in the intervention.

As part of formative research for a randomised trial evaluating the efficacy of prevention counselling in reducing high risk behaviours and new sexually transmitted diseases (STDs) among patients attending public clinics, we examined the use of small monetary incentives on recruitment and intervention retention. We also collected information on new STDs diagnosed after enrolment, assuming incident STDs might measure "motivation" to fully participate in the intervention. If participants offered money were less motivated to change their behaviours than participants

offered other incentives, those given money might be less likely to adapt safe behaviours, and more likely to develop new STDs.

Methods

Study participants were men and women attending five inner city STD clinics located in Baltimore, Maryland; Denver, Colorado; Long Beach and San Francisco, California; and Newark, New Jersey. From August to the end of October 1992, patients awaiting STD examination were asked if they would be willing to enrol in a series of risk reduction counselling sessions held at the clinic. Eligible patients must have come for a full STD examination, have been HIV negative (to their knowledge), and willing to have an HIV test. Potential participants were told that they would be offered a small incentive after each additional session (not including the first session) as a "thank you" for enrolling. Depending on the visit date, the incentive described was either \$15 cash or goods or certificates valued at \$15.

The "intervention" consisted of an interactive, face to face counselling session with a trained HIV counsellor on the day of visit, one additional group session moderated by the counsellor, and either one (Baltimore and

Newark) or two (San Francisco, Denver, and Long Beach) additional face to face counselling sessions. Although the total number of sessions varied by site, the overall content of the intervention was similar.⁵ The first session was 20 minutes, the group session 90 minutes, and additional face to face sessions 60 minutes each; all sessions were done within 3 weeks. Before the first counselling session, participants were interviewed using a structured questionnaire.

At each site, there were two 2 week enrolment periods. Participants enrolled during one enrolment period were offered \$15 for each additional counselling session. During the other enrolment period, participants were offered goods or certificates (for example, grocery or restaurant gift certificates; movie tickets; subway or bus tokens) worth \$15 for each additional session. Non-monetary incentives varied by site and were chosen from items suggested as being important in patient surveys and focus groups

Table 1 Sex partner and condom use characteristics reported by participants at baseline, by incentive group

Characteristic	Incentive group		p Value*
	Money (n=198)	Other (n=160)	
Male	59%	59%	
Female	41%	41%	0.38
Number of sex partners past 3 months (median)	2	2	
Vaginal sex in past 3 months	97%	95%	0.48
Any condom use with vaginal sex†	53%	56%	0.32
% condom use:			
None	47%	44%	
<50%	25%	30%	
>50%	11%	20%	
100%	17%	7%	0.22
Anal sex in past 3 months‡	9%	7%	0.79
Had a main partner (MP)§ in past 3 months	78%	71%	0.32
Any condom use with MP	33%	38%	0.54
How easy was it to use condoms with MP?			
Very easy	41%	47%	
Fairly easy	26%	17%	
Fairly hard	19%	23%	
Very hard	14%	14%	0.49
Had non-main sex partners (OP)¶ in past 3 months	49%	56%	0.23
Any condom use with OP	55%	52%	0.72
How easy was it to use condoms with OP?			
Very easy	65%	49%	
Fairly easy	23%	32%	
Fairly hard	10%	15%	
Very hard	3%	4%	0.52

*By Mantel-Haenszel χ^2 test (for 2 categories) or test for trend (if more than 2 categories).

†Overall condom use and proportionate condom use were similar among men and women.

‡Anal sex during past 3 months was reported similarly among men (8%) and women (8%).

§Women reported a main partner more often than men (77% women v 69% men, p=0.12).

¶Women reported non-main sex partner(s) less often than men (35% women v 69% men, p<0.001)

Table 2 Enrolment and participation in interventions, by incentive arm, by study site

Site	Incentive	Invited No	Enrolled No (%)	Participants attending:	
				1 extra session No (%)	All sessions No (%)
Baltimore	Money	67	29 (43)	13 (45)	8 (28)
	Other incentives	95	36 (38)	9 (25)	9 (25)
Denver	Money	262	26 (11)	14 (54)	13 (50)
	Other incentives	292	30 (10)	19 (63)	19 (63)
Long Beach	Money	122	50 (41)	20 (60)	29 (58)
	Other incentives	98	33 (34)	16 (48)	13 (39)
Newark	Money	49	41 (84)	30 (73)	30 (73)
	Other incentives	88	35 (40)	13 (37)	8 (23)
San Francisco	Money	148	52 (35)	46 (88)	29 (56)
	Other incentives	122	26 (21)	17 (65)	10 (38)
Total	Money	648	198 (31)	133 (67)	109 (55)
	Other incentives	696	160 (23)	74 (46)	59 (37)
			p=0.002	p<0.0001	p<0.0001

conducted at the clinics. At two sites, San Francisco and Denver, payment was offered during the first enrolment period; at the other sites payment was offered during the second period. The non-random study design was used to avoid patients enrolled on the same day finding out that other patients had received a different, and perhaps more desirable, incentive.

We reviewed participants' STD clinic records for the 24 months following enrolment to assess new STDs diagnosed at the clinics, comparing rates among those offered money with those offered non-monetary incentives. At all clinics, patients undergoing examination had urethral or cervical culture for *Neisseria gonorrhoeae* and serological tests for syphilis. Women had a wet mount for trichomonas, and men with urethral discharge had a Gram stain assessing presence of white cells and Gram negative intracellular diplococci. Tests were collected using standard procedures,⁶ and symptomatic patients or those who had sex partners with STDs were treated according to standard recommendations.⁷ (Chlamydia testing was not routinely done at the clinics.) We calculated proportions and used χ^2 or two tailed Fisher's exact tests to test differences between categorical variables.⁸

Results

Of 1344 patients offered the intervention, 358 (27%) agreed to participate. Participants comprised 211 (24%) of the eligible men and 147 (32%) of the eligible women and ranged in age from 15 to 55 years (mean 26.7 years). Patients refusing the study were more likely than participants to be men but were similar in age and race/ethnicity. The most common reasons for refusal were not wanting an HIV test (28%), job or school conflict (24%), or being "too busy" (17%); transportation problems, lack of child care, and belief that one was not at risk for HIV infection were uncommonly cited (<1% each).

Enrolment was higher among the group offered money: 198 (31%) of the 648 patients offered money enrolled as against 160 (23%) of the 696 offered other incentives (p=0.002). Participants in the two incentive groups were similar in sex (59% male each group), age (mean 27 and 25 years respectively), and racial/ethnic background (67% and 63% African-American respectively). Participants offered money and those offered other incentives reported similar demographic, sex partner, and condom use characteristics (table 1).

Intervention participation rates differed: compared with those offered other incentives, those offered money were more likely to attend at least one additional session (67% money v 46% other incentives; p<0.0001) and to complete all the scheduled intervention sessions (55% v 37%; p<0.0001). This was true for men and women and for all study sites except Denver (table 2).

In the 24 months after enrolment, 85 (40%) of the 211 men and 68 (46%) of the 147 women who enrolled returned to the clinic (range 1-18 visits). Among the 358 enrolled, participants offered money and those offered

other incentives had similar rates of new STD diagnoses at 6, 12, and 24 months (10% at 24 months). Considering an STD event to include either an STD diagnosis in the participant or a presumptive STD in a sex partner, those offered money were slightly less likely to have an event than those offered other incentives (20% *v* 29%, $p = 0.051$) at 24 months.

Discussion

The results suggest that small monetary incentives were more effective than non-monetary incentives of equal cost in enhancing enrolment and participation in clinic based, HIV/STD prevention counselling interventions. Rates of new STDs were similar among participants offered money and those offered other incentives. To the extent that incident STDs measure motivation to change behaviour, the results suggest that money does not adversely affect motivation more than other types of incentives.

Regardless of incentive strategy used, the acceptance rates for this study were low. We were encouraged to observe that in subsequent pilot studies (using \$15 per session), enrolment was as high as 90% at some sites and 50% overall, and intervention completion was 82%.⁹ We believe these higher enrolment and participation rates over time were related to a combination of staff experience and improved study operations.

This study has some limitations. We did not randomly assign participants to incentive strategies. That participants offered money and those offered other incentives were similar on measured demographic and behavioural variables suggests the two groups were similar; however, they may have differed on some unmeasured conditions. A potential limitation was use of post-enrolment STDs to measure motivation to change behaviour; we are not sure if STD outcomes are a good measure.

Although new STDs are probably underestimated, this is not likely to affect our results unless underestimation occurred differentially among incentive groups. However, the small number of new STDs may have limited our power to detect a true difference between the two groups.

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- 1 Capaldi D, Patterson GR. An approach to the problem for recruitment and retention rates for longitudinal research. *Behavioral Assessment* 1987;9:69–177.
- 2 Rudy EB, Estok PJ, Kerr ME, et al. Research incentives: money vs gifts. *Nursing Research* 1994;43:253–5.
- 3 Crano WE. Pitfalls associated with the use of financial incentives (and other complex manipulations) in human social research. *Basic and Applied Social Psychology* 1991;12:369–90.
- 4 Folger R. Money, methods, and theory: on taking Crano seriously. *Basic and Applied Social Psychology* 1991;12:391–404.
- 5 Kamb ML, Dillon BA, Fishbein M, et al for the Project RESPECT Study Group. Quality assurance of HIV prevention counseling in a multi-center randomized controlled trial. *Public Health Rep* 1996;(Suppl 1)111:99–107.
- 6 Centers for Disease Control. *Sexually transmitted disease clinical practice guidelines*. Atlanta, Georgia: US Department of Health and Human Services, Center for Prevention Services, CDC, Public Health Service, 1991.
- 7 Centers for Disease Control. *1989 Sexually transmitted diseases treatment guidelines*. *MMWR* 1989;38(no S-8).
- 8 SAS user's guide: statistics. SAS Institute Inc, 1985.
- 9 Graziano S, Berringer L, Douglas JM, et al for the Project RESPECT Study Group. Will STD clinic patients enroll in multiple session HIV/STD prevention counseling? Xth International Society for Sexually Transmitted Disease Research, Helsinki, Finland, 29 August–1 September 1993 (No135).