Longitudinal Effects of Home-Based Self-HIV Testing on Attitudes, Norms, and Motivation among Men who have Sex with Men in the United States

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Background

In the United States (US), high incidence rates for HIV among men who have sex with men (MSM) are in part attributable to estimated 20% of MSM who are unknowingly infected[1]. Home-based self-tests (HBST) for HIV could help increase testing rates among MSM by making testing easier[2,3]. HBST may also increase regular HIV testing both through HBST and clinics by generally improving MSM's attitudes, norms, and motivation towards testing[4].

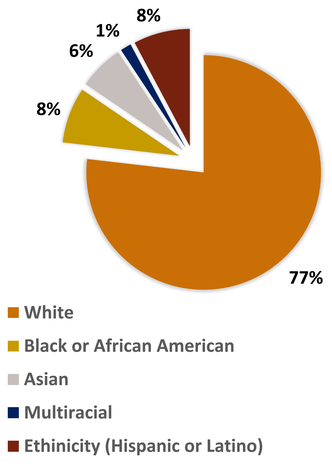
Objective

To evaluate whether the HIV testing attitudes, norms, and motivation of MSM who used HIV self-test kits that were sent to their homes improve more over time, compared to those who did not use a self-test kit.

Method

- This study analyzed data on 65 high-risk MSM from a previously conducted RCT.
- Participants were assigned to receive either three HBST kits by mail or letters encouraging them to test at a local clinic over seven months sent to their home.
- Additionally, we sent monthly online questionnaires to assess HIV testing type and use, and attitudes, norms, and motivation to test for HIV.
- **Exposure variable: HBST use.**
- **Outcome variable: Changes in attitudes, norms, and motivation.**
- Linear regression models were performed to test whether outcome change scores differed across participants who used an HBST, versus those who did not.
- Generalized estimating equation models were performed to test whether participants' attitudes, norms, and motivations in a given month significantly changed in months when they used an HBST versus months in which they did not.
- Each model adjusted for relationship status and lifetime history for HIV testing.
- Analysis was performed using STATA 16.

Figure 1: Demographic and Behavioral Characteristics of the Study Sample (N = 65)



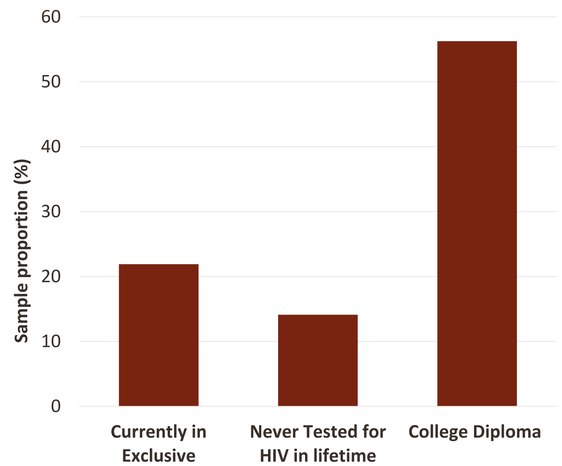


Table 1: Generalized estimating equations (GEEs) of attitudes, norms, and motivation outcomes, comparing HBST and no testing in a given month

	Attitudes				Norms				Motivation			
	B	SE	p	CI (95%)	B	SE	p	CI (95%)	B	SE	p	CI (95%)
Month	.01	.01	.602	[-0.02,0.03]	.04	.02	.105	[-0.01,0.08]	**.06**	**.02**	**<.001**	**[0.03,0.10]**
Single	-.07	.11	.518	[-0.28,0.14]	-.65	.42	.120	[-1.48,0.17]	.03	.29	.929	[-0.54,0.59]
Any lifetime HIV test	-.08	.06	.192	[-0.21,0.04]	.15	.25	.537	[-0.34,0.64]	.27	.17	.119	[-0.07,0.61]
eTest group assignment	.06	.12	.647	[-0.19,0.30]	.10	.47	.838	[-0.83,1.03]	.48	.33	.146	[-0.17,1.11]
HBST vs. no test	.02	.13	.614	[-0.19,0.31]	-.29	.44	.516	[-1.16,0.58]	-.36	.31	.242	[-0.96,0.24]

*p <.05

Results

- The mean age was 35 years (IQR=18-72), 56% reported having some college education or more, 22% reported being in an exclusive relationship, and 14% reported never tested for HIV in their lifetime.
- Change scores for HIV Testing attitudes, norms, and motivation were not significantly different in those who used an HBST verses those who did not.
- Using an HBST in a given month was not associated with appreciable changes in attitudes, norms, and motivation in the same month, when compared with months in which participants did not test.
- Each month was positively associated with HIV testing motivation (95% CI [0.03,0.10]).

Discussion

- While this study did not find changes in attitudes, norms, and motivation for HIV testing with HBST use, the literature suggests that HBST use may inform user's perception of risk and behavior to test.
- Independent of HBST use, motivation in each month increased over the course of the study.
- This suggests that a key motivation for testing among MSM may be receiving scheduled reminders to test for HIV.

Limitations

- The study's generalizability is limited due to a small sample size and under-representation of ethnic & racial minorities and transgender individuals.
- Our analysis cannot establish directionality or causality from testing whether two variables co-vary. These results do not suggest that providing HBST testing definitively does not result in changes in the determinants of testing we explored.

Acknowledgments

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