

# eSTAMP (EVALUATION OF RAPID HIV SELF-TESTING AMONG MSM PROJECT)

## Evidence-Based Structural Intervention

### INTERVENTION DESCRIPTION

#### Goal of Intervention

- Increase HIV testing

#### Target Population

- HIV-negative (or unknown status) men who have sex with men (MSM) in the United States

#### Brief Description

*eSTAMP (Evaluation of Rapid HIV Self-testing Among MSM Project)* examines the effectiveness of distributing HIV self-test kits via the Internet to MSM in the United States. Intervention participants are mailed two oral fluid and two finger-stick HIV self-tests and can order additional HIV self-tests to replace those that have been used or given away over 12 months. Online videos on how to use HIV testing materials are also provided. Additionally, intervention participants have phone access to speak with an HIV counselor to discuss their HIV test results. Finally, intervention participants are provided a link to [AIDSvu.org](http://AIDSvu.org) that includes HIV prevention information and locations of local HIV testing services; comparison participants also received the link.

#### Theoretical Basis

- None reported

#### Intervention Duration

- Up to 12 months

#### Deliverer

- HIV self-test kit provider
- HIV counselor

#### Delivery Methods

- Counseling (upon request)
- Distribution of HIV self-test kits

#### Intervention Setting

- Internet
- Residence of participants

- Online videos
- Website ([AIDSvu.org](http://AIDSvu.org))

- Online video
- Web-based information

#### Structural Components

- Access
  - Increased access to HIV testing through mailing of HIV self-tests to residence and mechanism to reorder tests
- Physical Structure – Service provided in a non-traditional setting
  - Services (counseling, test kits and reordering of test kits) and information provided to residents in their homes or via the web

## INTERVENTION PACKAGE INFORMATION

**An intervention package is not available at this time.** Please contact **Robin MacGowan**, Centers for Disease Control and Prevention, 1600 Clifton Road, Mailstop US8-5, Atlanta, GA 30329.

Email: [rmacgowan@cdc.gov](mailto:rmacgowan@cdc.gov) for details on intervention materials.

## EVALUATION STUDY AND RESULTS

### Study Location Information

The original evaluation study was conducted across the United States between 2015 and 2016.

### Key Intervention Effects

- Increased HIV testing
- Increased newly identified HIV infections

### Recruitment Settings

- Advertisements placed on social network, media, and dating websites frequented by MSM

### Eligibility Criteria

Participants were eligible if they were born male, currently identified as male, at least 18 years old, resided in the United States, reported having anal sex with at least one male in the past 12 months, reported being HIV negative or unknown HIV status, had never been diagnosed with a bleeding disorder, had never participated in an HIV-vaccine trial, were not taking PrEP, and had not participated in eSTAMP formative activities.

### Study Sample

The analytic study sample of 2,665 men is characterized by the following:

- 58% non-Hispanic white, 23% Hispanic, 10% non-Hispanic black, 9% other/mixed
- 57% 18-29 years old, 43% ≥ 30 years old
- 89% homosexual/gay, 11% bisexual, 1% heterosexual/other
- 83% high school education or higher, 16% ≤high school/GED
- 85% employed, 15% unemployed
- 17% never tested for HIV

### Assignment Method

Participants were randomly assigned to one of two study arms: the self-testing (ST) intervention arm (n = 1325) or the control arm (n = 1340).

### Comparison

Comparison participants received a link to AIDSvu.org, which provides HIV prevention information and resources to locate local HIV testing services.

## Relevant Outcomes Measured

- HIV testing was defined as the frequency of testing and the mean number of times tested over 12 months
  - HIV testing was assessed as either provider-based HIV testing, HIV self-testing, or both
- Diagnoses of HIV infection were defined as the number of newly identified HIV infections among participants
- Linkage to care was defined as having a scheduled appointment or attended HIV care
- Sexual behaviors were defined as:
  - the number of male anal sex partners in the past three months
  - the number of male anal sex partners without using condoms in the past three months
  - the number of sex partners (e.g., men and women, men with a positive HIV status, men with an unknown HIV status, men with a negative HIV status) since enrollment, and
  - serosorting defined as first getting a negative HIV result and then engaging in sex with a person of the same serostatus

Note: Sexual behaviors were not considered primary outcomes but measured due to the concern that participants may increase the number of sex partners or engage in serosorting when using self-tests.

## Participant Retention

Because participant retention is not a criterion for the Structural Interventions (SI) chapter, the Prevention Research Synthesis (PRS) project does not evaluate that information.

## Significant Findings on Relevant Outcomes

### *HIV Testing*

- HIV testing (number of any type of testing over 12 months) was significantly higher among intervention participants than comparison participants (Mean [SD]: 5.29 [3.59] vs. 1.50 [1.76];  $p < 0.001$ ).
- A significantly greater proportion of intervention participants than comparison participants reported the following HIV testing activities:
  - Tested  $\geq 3$  times (76.6% vs. 22.0%;  $p < 0.001$ )
  - Tested on at least 3 follow-up surveys (50.9% vs. 17.2%;  $p < 0.001$ )
  - Had at least 1 HIV test since last survey:
    - 3 months (93.1% vs. 37.4%;  $p < 0.001$ )
    - 6 months (87.7% vs. 41.8%;  $p < 0.001$ )
    - 9 months (76.7% vs. 35.5%;  $p < 0.001$ )
    - 12 months (75.4% vs. 38.0%;  $p < 0.001$ )
- Among the 443 participants who had never tested for HIV, a significantly greater proportion of intervention participants than comparison participants tested for HIV at least once over 12 months (95.8% vs. 46.0%;  $p < 0.001$ ) and tested for HIV  $\geq 3$  times over 12 months (68.1% vs. 7.3%;  $p < 0.001$ ).

### *HIV Infection*

- A significantly greater proportion of newly identified HIV infections were identified among intervention participants than comparison participants over the first 3 months of the study (0.91% vs. 0.15%;  $p = 0.007$ ) and over the full 12-month reporting period (1.88% vs. 0.82%;  $p = 0.02$ ).

## Strengths

- None identified

## Considerations

### *Additional significant positive findings on non-relevant outcomes*

- None reported

### *Non-significant findings on relevant outcomes*

- There were no significant effects on the following outcomes:
  - Newly identified HIV infections:
    - Between 3 and 6 months (0.23% vs 0.07%;  $p = 0.37$ )
    - Between 6 and 9 months (0.38% vs 0.37%;  $p = 0.99$ )
    - Between 9 and 12 months (0.38% vs 0.23%;  $p = 0.50$ )
  - Linkage to care (64% vs 91%;  $p = 0.13$ )
  - Number of male sex partners in the past 3 months:
    - 3 months (Mean [SD]: 2.96 [5.81] vs 2.86 [4.73];  $p = 0.72$ )
    - 6 months (3.01 [5.03] vs 2.68 [4.35];  $p = 0.18$ )
    - 9 months (2.68 [5.02] vs 2.49 [5.81];  $p = 0.51$ )
    - 12 months (2.70 [4.81] vs 2.29 [4.52];  $p = 0.09$ )
  - Number of male sex partners without condoms in the past 3 months:
    - 3 months (Mean [SD]: 1.58 [4.29] vs 1.62 [3.46];  $p = 0.81$ )
    - 6 months (1.70 [2.94] vs 1.65 [3.22];  $p = 0.80$ )
    - 9 months (1.62 [3.95] vs 1.46 [3.91];  $p = 0.41$ )
    - 12 months (1.63 [3.45] vs 1.41 [2.51];  $p = 0.17$ )
  - Number of sex partners since enrollment:
    - Men and women (Mean [SD]: 9.01 [16.93] vs 9.72 [19.75];  $p = 0.45$ )
    - Male with positive HIV status (0.42 [2.22] vs 0.44 [2.80];  $p = 0.88$ )
    - Male with unknown HIV status (2.24 [7.47] vs 2.56 [7.01];  $p = 0.39$ )
    - Male with negative HIV status (6.08 [12.06] vs 6.59 [17.48];  $p = 0.50$ )
  - Serosorting among HIV-negative participants:
    - 3 months (22.7% vs 20.7%;  $p = 0.54$ )
    - 9 months (21.7% vs 16.3%;  $p = 0.08$ )

### *Negative findings*

- None reported

### *Other related findings*

- Healthcare provider-based HIV testing was significantly lower among intervention participants than comparison participants (Mean [SD]: 0.85 [1.49] vs. 1.50 [1.76];  $p < 0.001$ ).
  - A significantly smaller proportion of intervention participants than comparison participants reported any healthcare provider-based HIV testing since last survey:
    - 3 months (16.3% vs. 37.3%;  $p < 0.001$ )
    - 6 months (25.7% vs. 41.8%;  $p < 0.001$ )
    - 9 months (22.3% vs. 35.5%;  $p < 0.001$ )
    - 12 months (21.8% vs. 37.8%;  $p < 0.001$ )
    - over 12 months (40.1% vs. 63.5%;  $p < 0.001$ )

Note: The significantly smaller proportion of intervention participants tested with healthcare providers compared to comparison participants is not considered a negative finding given the main finding that any type of HIV testing was significantly higher among intervention participants than comparison participants.

Additionally, the number of newly identified HIV infections was significantly greater among intervention participants than comparison participants over the 12-month trial.

- A significantly greater proportion of HIV-negative intervention participants than HIV-negative comparison participants reported serosorting since their last survey at 6 months (22.9% vs. 13.2%;  $p < .001$ ) and at 12 months (22.8% vs. 16.5%;  $p = 0.04$ ).

Note: Serosorting was not considered a primary intervention outcome but was measured due to the concern that participants might increase serosorting when using self-tests. Study findings suggested that there was no increase in serosorting among the intervention group. According to the study authors, the potential for HIV transmission exists if a false-negative result is obtained when the HIV self-test is used during acute HIV infection when viremia is high, or if the test is performed incorrectly. They discourage using the HIV self-test as a point-of-sex test.

#### *Implementation-related findings*

- None reported

#### *Adverse events*

- None reported

#### **Funding**

Centers for Disease Control and Prevention contract number 200-2011-41989

## REFERENCES AND CONTACT INFORMATION

MacGowan, R. J., Chavez, P. R., Borkowf, C. B., Owen, S. M., Purcell, D. W., Mermin, J. H., . . . eSTAMP Study Group. (2020). [Effect of internet-distributed HIV self-tests on HIV diagnosis and behavioral outcomes in men who have sex with men: A randomized clinical trial](#). *JAMA Internal Medicine*, 180(1), 117–125.

#### **Researcher: Robin J. MacGowan, MPH**

Centers for Disease Control and Prevention  
1600 Clifton Road, NE  
Mailstop US8-5  
Atlanta, GA 30329

**Email:** [rmacgowan@cdc.gov](mailto:rmacgowan@cdc.gov)

