

# Intervention IP-092: Keep It Up (KIU)! eHealth HIV Risk Reduction Intervention

## Summary

The intervention Keep It Up (KIU)! was designed to reduce condomless anal sex acts and sexually transmitted infections among young men who have sex with men. The intervention is an interactive online multimedia HIV prevention project that was conducted in 5 major US cities. The multimedia addresses HIV knowledge, importance of HIV testing, and skills for negotiating condom use within relationships. The intervention produced significant decreases in condomless anal sex acts with casual male partners and sexually transmitted infections 12 months post-intervention.

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## Overview

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### **Purpose of Intervention:**

Keep It Up (KIU)! is an online sexual health program designed by and for diverse, young gay, bisexual, and queer men to maintain negative HIV/STI status. KIU! has been updated over time and is intended to be scalable for delivery by community organizations or directly to consumers.

### **Intervention Type:**

Research-Tested — *Interventions with strong methodological rigor that have demonstrated short-term or long-term positive effects on one or more targeted health outcomes to improve minority health and/or health disparities through quantitative measures; Studies have a control or comparison group and are published in a peer-review journal; No pilot, demonstration or feasibility studies.*

## Intervention Details

### **Intervention was Primarily Driven, Led, or Managed by:**

Both Community and Academic/Clinical Researchers

### **Citations:**

- Mustanski B, Parsons JT, Sullivan PS, Madkins K, Rosenberg E, Swann G. Biomedical and Behavioral Outcomes of Keep It Up!: An eHealth HIV Prevention Program RCT. *American journal of preventive medicine*. 2018 Aug;55(2):151-158. Epub 2018 Jun 28.  
Relevance: Post-Intervention Outcomes, Main Intervention
- Greene GJ, Madkins K, Andrews K, Dispenza J, Mustanski B. Implementation and Evaluation of the Keep It Up! Online HIV Prevention Intervention in a Community-Based Setting. *AIDS education and prevention*

: official publication of the International Society for AIDS Education. 2016 Jun;28(3):231-45.

Relevance: Evaluations and Assessments

- Mustanski B, Saber R, Jones JP, Macapagal K, Benbow N, Li DH, Brown CH, Janulis P, Smith JD, Marsh E, Schackman BR, Linas BP, Madkins K, Swann G, Dean A, Bettin E, Savinkina A. Keep It Up! 3.0: Study protocol for a type III hybrid implementation-effectiveness cluster-randomized trial. Contemporary clinical trials. 2023 Apr;127:107134. Epub 2023 Feb 24.

Relevance: Evaluations and Assessments

### **Adaptation of Another Research-based Intervention:**

No

## **Contact Information**

### **Primary Contact Name:**

Brian Mustanski

### **Primary Contact Affiliation:**

Northwestern University

### **Intervention URL:**

<https://kiu.northwestern.edu/>

### **Primary Contact Email:**

brian@northwestern.edu

### **Primary Contact Phone Number:**

312-503-5421

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## **Results**

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### **Intentions**

**Improve minority health or the health of other populations with health disparities (e.g. rural populations, populations with low SES)**

### **Intervention Primary Outcome:**

Incident gonorrhea or chlamydia and condomless anal sex (CAS) acts

### **Intervention Secondary Outcome:**

HIV knowledge, HIV motivation and behavioral skills, condom errors, health protective communication, PrEP intentions and use

### **Key Findings:**

KIU! resulted in significantly lower STI incidence and reduction in CAS with a casual male partner. Among those with specimens at month 12, STI rates increased for the control and decreased for the KIU! arms. The primary endpoint of any STI at month 12 was 40% (95% CI=5%, 63%,  $p=0.01$ ) lower in the KIU! arm. Secondary models that considered effect modification by strata did not find statistically significant differences by age, enrollment location, race/ethnicity, or sexual orientation, although, point estimates suggested higher efficacy in YMSM who were Black, aged 18–24 years, or lived in the South. Additionally, at baseline, 69% of control and 68% of KIU! participants reported any CAS with a casual male partner in the prior 3 months, with declines seen over time in both groups. At month 12, 44% of control and 37% of KIU! participants reported CAS prevalence ratio=0.83, 95% CI=0.70, 0.99,  $p=0.04$ ; The estimated average effect over follow-up was 11% (prevalence ratio=0.89,  $p=0.07$ ).

#### **Statistical Method Used:**

The statistical methods used were unconditional generalized estimated equation, unconditional logistic regression model for primary behavioral outcome, logistic regression of STI at 12 months, and negative binomial regression evaluated number of casual CAS acts and of CAS partners.

## **Evaluations and Assessments**

### **Were Any of the Following Assessments Conducted (Economic Evaluation, Needs Assessment, Process Evaluation)?:**

Yes

- **Economic Evaluation:** We used a mixed methods micro-costing approach to assess KIU! expenses. Structured interviews and expense reports identified three categories of expenditure: start-up, variable, and time dependent. We estimated wages and material costs from staff reports and Bureau of Labor Statistics data. After quantifying and valuing all resources, we multiplied costs and unit utilization to derive cumulative cost of resource consumption. Sensitivity and post hoc analyses addressed bias and cost predictors.
- **Needs Assessment:** The results of the needs assessment found in our article, “Internet use and sexual health of young men who have sex with men: a mixed-methods study” - <https://link.springer.com/article/10.1007/s10508-009-9596-1>, suggested that the Internet fills an important and unmet need for sexual health education for young men who have sex with men (YMSM).

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## **Demographic and Implementation Description**

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### **Diseases, Disorders, or Conditions:**

Chlamydia, Gonorrhea, HIV/AIDS

### **Race/Ethnicity:**

African American or Black, Hispanic or Latino, White, Unspecified

### **Populations with Health Disparities:**

Racial and Ethnic Minority Populations

### **Age:**

Young Adults (18 - 39 years)

## Socio-demographics / Population Characteristics

### **Community Type:**

Suburban, Urban / Inner City

### **Other Populations with Health Disparities:**

None

### **Geographic Location:**

All U.S. States

### **Socio-Economic Status:**

Unspecified

## Minority Health and Health Disparities Research Framework

|                          |                                     | Levels of Influence |               |           |          |
|--------------------------|-------------------------------------|---------------------|---------------|-----------|----------|
|                          |                                     | Individual          | Interpersonal | Community | Societal |
| <b>Determinant Types</b> | <b>Biological</b>                   |                     |               |           |          |
|                          | <b>Behavioral</b>                   | ✓                   | ✓             |           |          |
|                          | <b>Physical / Built Environment</b> |                     |               |           |          |
|                          | <b>Sociocultural Environment</b>    |                     |               |           |          |
|                          | <b>Health Care System</b>           |                     |               | ✓         |          |

## Community Involvement

The community's role in different areas of the Intervention (Choices are "No Role", "Participation", and "Leadership"):

### **Design:**

Leadership

### **Dissemination:**

Participation

### **Evaluation:**

Participation

### **Implementation:**

Participation

**Outreach:**

Participation

**Planning :**

Participation

**Recruitment:**

Participation

**Sustainability:**

Participation

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## **Characteristics and Implementation**

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**Intervention Focus Area:**

Behavior Change

**Disease Continuum:**

Primary Prevention

**Delivery Setting:**

Online

**Mode of Delivery:**

Online/e-Health

**Who delivered the Intervention?:**

Self-administered

## **Conceptual Framework**

**Intervention Theory:**

Information-Motivation-Behavioral Skills Model of Change

**Intervention Framework:**

IM-ADAPT (Intervention Mapping – Adapt) for KIU! 3.0

## **Implementation**

**Intervention Study Design:**

Individual Randomized Controlled Trial/Comparative (requires random assignment, a control/comparison group, and pre and post intervention outcome assessments), Pilot, feasibility, or demonstration study design

**Targeted Intervention Sample Size:**

901

**Actual Intervention Sample Size:**

901

**Start Year:**

2013

**End Year:**

2017

**Intervention Exposures****Duration of Intervention/How Long it Lasted:**

4-6 months

**Frequency of Intervention Delivery:**

5 total sessions including 2 booster sessions

**Number of Sessions/Meetings/Visits/Interactions:**

5-6 Sessions

**Average Length of Each Session/Meeting/Visit/Interaction:**

1-2 Hours

**Format of Delivery:**

Individual

**Highest Reading Level of Intervention Materials Provided to Participants:**

Grade 8-9

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**Impact, Lessons, Components**

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**Produced an impact or change beyond the primary or secondary outcome:**

Yes

Some CBOs were able to connect more with participants about various services that they provided because of our intervention. We integrated service forms throughout the intervention in KIUI 3.0 and participants were made aware of services that the CBOs can offer them related to the content that was just provided to the participants. Depending on what the CBOs select, some service forms were informational whereas others triggered a notification to the CBO that the participant was interested in a specific service that they offered.

### **Essential Aspects for Success:**

Some of the many aspects that are essential to the success of KIUI include: Establishing a team to implement KIUI to integrate with the agency’s HIV prevention program workflow/testing infrastructure and develop a plan for participant retention activities.

### **Intervention Impact:**

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## **Lessons Learned**

### **Key Lessons Learned and/or Things That Could be Changed or Done Differently:**

Our findings from implementation in CBO settings illustrated the importance of compelling messaging highlighting benefits to participating in KIUI, CBO staff monitoring participant completion of KIUI, and sending routine reminders as needed to participants.

## **Insights Gained During Implementation**

| <b>Insight Category</b>            | <b>Insight Description</b>   |
|------------------------------------|--|
| Cost of Implementing or Sustaining | Paying participants sufficiently to incentivize complete the intervention is highly preferred and may be cost-saving compared to other efforts that require more staff time. Additionally, CBOs need to be paid sufficiently to properly staff the intervention. |
| Logistics                          | The time between intervention modules was reduced.   |
| Administrative Resources           | CBOs can benefit from having structured To-Do lists for participant retention.   |
| Training / Technical Assistance    | Implementation would benefit from continued and personalized technical assistance for CBOs and availability of on-going training for new staff.  |
| Staffing                           | It is recommended to hire people from the community being served.  |
| Recruitment                        | It is recommended not to be too restrictive with eligibility criteria and aim to allow as many people as possible into the program if it addresses client’s needs.   |

## **Intervention Components**

### **Intervention Has Multiple Components:**

Yes

### **Assessed Each Unique Contribution:**

No

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## Products, Materials, and Funding

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### Expertise, Partnerships, and Funding Sources

|  | Used for Implementation | Needed for Sustainability |
|--|-------------------------|---------------------------|
| <b>Expertise</b>   |                         |                           |
| Health Education / Health Literacy   | Yes                     | Yes                       |
| Clinical Care  | Yes                     | Yes                       |
| Technology   | Yes                     | Yes                       |
| <b>Partnerships</b>  |                         |                           |
| Partnerships are not required, but users can partner with CBOs for implementation. | Yes                     | No                        |
| <b>Funding Sources</b>   |                         |                           |
| Public funding (e.g., federal, state or local government)                          | Yes                     | No                        |

### Product/Material/Tools

|                                      | Tailored For Language | Language(s) if other than English | Material  |
|--------------------------------------|-----------------------|-----------------------------------|---|
| <b>Outreach/Recruitment Tools</b>    |                       |                                   |   |
| Implementation Guide                 | No                    |                                   | <a href="https://kiu.northwestern.edu/deliver/">https://kiu.northwestern.edu/deliver/</a> |
| <b>Participant Educational Tools</b> |                       |                                   |   |
| Implementation Guide                 | No                    |                                   | <a href="https://kiu.northwestern.edu/deliver/">https://kiu.northwestern.edu/deliver/</a> |
| <b>Measurement Tools</b>             |                       |                                   |   |
| Implementation Guide                 | No                    |                                   | <a href="https://kiu.northwestern.edu/deliver/">https://kiu.northwestern.edu/deliver/</a> |



## **Implementation Materials and Products**

|  | <b>Material</b>   |
|--|---|
| <b>Implementation/Delivery Materials</b> |   |
| Intervention implementation guidelines   | <a href="https://kiu.northwestern.edu/deliver/">https://kiu.northwestern.edu/deliver/</a> |
| <b>Implementation/Output Materials</b>   |   |
| Websites (include URL/link)              | <a href="https://kiu.northwestern.edu/deliver/">https://kiu.northwestern.edu/deliver/</a> |

## **Articles Related to Submitted Intervention**

|  | <b>Article</b>  |
|--|---|
| <b>Reports/Monographs</b>              |   |
| No Reports/Monographs provided.        |   |
| <b>Additional Articles</b>             |   |
| Validation                             | <a href="https://doi.org/10.1007/s10461-016-1525-4">https://doi.org/10.1007/s10461-016-1525-4</a>       |
| Background Information                 | <a href="https://doi.org/10.1007/s13178-017-0312-y">https://doi.org/10.1007/s13178-017-0312-y</a>       |
| Background Information                 | <a href="https://doi.org/10.1521/aeap.2018.30.4.335">https://doi.org/10.1521/aeap.2018.30.4.335</a>     |
| Evaluation, Qualitative findings       | <a href="https://doi.org/10.1007/s10461-013-0507-z">https://doi.org/10.1007/s10461-013-0507-z</a>       |
| Evaluation                             | <a href="https://doi.org/10.1097/OLQ.0000000000000636">https://doi.org/10.1097/OLQ.0000000000000636</a> |
| Evaluation                             | <a href="https://doi.org/10.2196/resprot.5740">https://doi.org/10.2196/resprot.5740</a>                 |
| Evaluation                             | <a href="http://dx.doi.org/10.1007/s10461-016-1480-0">http://dx.doi.org/10.1007/s10461-016-1480-0</a>   |
| Methodology                            | <a href="https://doi.org/10.1007/s11904-020-00491-5">https://doi.org/10.1007/s11904-020-00491-5</a>     |
| Methodology                            | <a href="https://doi.org/10.1007/s11904-019-00455-4">https://doi.org/10.1007/s11904-019-00455-4</a>     |
| Methodology                            | <a href="https://doi.org/10.1016/j.cct.2023.107134">https://doi.org/10.1016/j.cct.2023.107134</a>       |
| Needs Assessment, Qualitative findings | <a href="https://doi.org/10.1007/s10508-009-9596-1">https://doi.org/10.1007/s10508-009-9596-1</a>       |
| Evaluation                             | <a href="https://doi.org/10.1080/00224499.2011.558645">https://doi.org/10.1080/00224499.2011.558645</a> |
| Evaluation, Qualitative findings       | <a href="https://doi.org/10.1521/aeap.2016.28.3.231">https://doi.org/10.1521/aeap.2016.28.3.231</a>     |
| Evaluation, Qualitative findings       | <a href="https://doi.org/10.1521/aeap.2019.31.4.287">https://doi.org/10.1521/aeap.2019.31.4.287</a>     |
| Methodology                            | <a href="https://doi.org/10.1007/s10508-018-1253-0">https://doi.org/10.1007/s10508-018-1253-0</a>       |
| Evaluation, Qualitative findings       | <a href="https://doi.org/10.1016/j.amepre.2018.04.026">https://doi.org/10.1016/j.amepre.2018.04.026</a> |

|                                  | <b>Article</b>  |
|----------------------------------|---|
| Evaluation                       | <a href="https://doi.org/10.1080/10538720.2018.1408519">https://doi.org/10.1080/10538720.2018.1408519</a> |
| Evaluation, Qualitative findings | <a href="https://doi.org/10.1521/aeap.2017.29.1.1">https://doi.org/10.1521/aeap.2017.29.1.1</a>           |