Optimal Strategies to Improve Pre-Exposure Prophylaxis Uptake among Youth at Risk for HIV: A Randomized Controlled Trial (ATN 149)

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Objective, Aim & Hypothesis

**Objective:** Test efficacy of 3 “Disruptive Innovation” intervention modalities to support HIV prevention and related outcomes in a 4-arm factorial RCT:
- Automated text-Messaging and Monitoring (AMMI)
- Peer Support - on private social media space
- Coaching – strengths-based, telehealth delivered by near peers, no manuals

**Aim:** Evaluate independent and synergistic intervention effects:
- Primary HIV prevention choices – PrEP, condoms, partners, PEP
- Secondary - mental health, substance use, housing/economic security

**Hypothesis:** Combination of 3 interventions will have largest impacts
ATN 149 Study Design

Gay, Bisexual, MSM, Transgender Female & Male, Non-binary Youth (n=1037)

Randomly assign and follow (n=895)

AMMI (n=313)  Peer Support + AMMI (n=205)  Coaching + AMMI (n=196)  Coaching + Peer Support + AMMI (n=181)

Assessments

4 Months  8 Months  12 Months  16 Months  20 Months  24 Months

Rapid HIV tests
Urine drug screens (UDS)
Self-reports

Annual rapid PCR for rectal STIs unless indicated by symptoms
Community-Based Recruitment in L.A. & New Orleans

Getting to Zero HIV Among Youth: Moving Beyond Medical Sites

Mary Jane Rotheram-Borus, PhD; Sung-Jae Lee, PhD; Dallas Swendeman, PhD

Abstract | Full Text

## Participant Characteristics

### Age categories
<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Col %</th>
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<tbody>
<tr>
<td>12-18</td>
<td>151</td>
<td>15</td>
</tr>
<tr>
<td>19-21</td>
<td>421</td>
<td>41</td>
</tr>
<tr>
<td>22-24</td>
<td>465</td>
<td>45</td>
</tr>
</tbody>
</table>

### Sex assigned at birth
- Male: 969 (93%)
- Other: 8 (1%)

### Gender identity
- Cis-gender: 839 (81%)
- Transgender: 124 (12%)
- Gender diverse/Non-binary: 72 (7%)

### Race / Ethnicity
<table>
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<th>No.</th>
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<tbody>
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<td>Black/African American</td>
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<td>37</td>
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<tr>
<td>Latino</td>
<td>333</td>
<td>32</td>
</tr>
<tr>
<td>White</td>
<td>211</td>
<td>20</td>
</tr>
<tr>
<td>Asian/HPI/NA/AN/Other</td>
<td>106</td>
<td>10</td>
</tr>
</tbody>
</table>

### Education level
- Below high school: 191 (19%)
- High school / equivalent: 239 (24%)
- Some higher education: 462 (45%)
- Completed Higher ed.: 125 (12%)

### Employment status
- Employed: 488 (48%)
- Unemployed: 240 (24%)
- Student: 285 (28%)

### Insurance status
- Insured: 773 (75%)
- Uninsured: 190 (18%)
- Unsure: 71 (7%)

### Income < poverty level
- No: 692 (67%)

### Sexual orientation
- Gay/Homosexual/Same GenderLoving/Downe: 572 (55%)
- Bisexual: 287 (28%)
- Pansexual: 76 (7%)
- Heterosexual: 50 (5%)
- Queer: 39 (4%)
- Asexual/Other: 8 (1%)
- Unsure/questioning/DK: 4 (0%)

### HIV Prevention Program Experience
- 215 (21%)

### Consistent Condom Use
- 499 (48%)

### Lifetime PEP Use
- 61 (6%)

### Lifetime PrEP Use
- 190 (18%)

### Current PrEP Use
- 111 (11%)

### Lifetime Sex Exchange
- 257 (25%)

### Recent Sex Exchange
- 127 (12%)

### Lifetime sexual partners
- No partners: 81 (8%)
- 1-2 partners: 111 (11%)
- 3-10 partners: 374 (36%)
- 11 or more partners: 465 (45%)

### Recent sexual partners
- No partners: 157 (15%)
- 1-2 partners: 406 (39%)
- 3-10 partners: 397 (38%)
- 11 or more partners: 73 (7%)

### Condomless anal sex (12 m)
- 691 (67%)

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6/22/23
3 Adaptable and Flexible Interventions

- Automated Text Messaging & Monitoring
- Online Peer Support
- Strengths-Based Telehealth Coaching
Automated Text Messaging & Monitoring

**Daily Messaging**
- 3 daily content streams: healthcare, wellness, medication/PrEP adherence
- 2 weekend content streams: sexual health, substance use

**Weekly Monitoring**
- Check-in surveys: STI symptoms, condom use, adherence, mental health
- Monitoring and follow-up by coaches
Peer Support: Private, Online Community

**Private Space**
- Anonymous posts on online chat space
- Social norming and demystifying sexual health (ex: PrEP experiences, side effects)

**Monitoring & Responses**
- Coaches moderate posts and provide accurate information
- $10 incentives for youth to post 3x per week to support each other
**Coaching: Strengths-Based and Youth-Centered**

**Core Elements**
- Evidence-based practice training
- Assess strengths
- Hierarchies of needs
- Youth priorities+HIV/STI
- Link to services in cmtgy.
- Goal-setting, problem solving, follow-up

**Flexible / Adaptable**
- Coaches: near-peer CHWs or others
- Phone, video, text, in-person
- Weekly to monthly follow-ups
- Ongoing support for "seasons of risk"
Coaching: Strengths-Based and Youth-Centered

**Goal-Setting**
- Identify long and short-term goals
- Support on 3 goals, always sexual health
- Problem-solve SMART goals
- Follow-up on goal progress
- Ongoing supportive accountability

- Daily Living
- Social Relationships
- Physical Health
- Healthcare
- Mental Health
- Sexual Health
Case Management Monitoring: Practice Elements
Topics Addressed
Community Engagement: Youth Advisory Board

YAB Discussion Topics

- Intervention feedback
- PrEP barriers and opportunities
- Sharing study results
- LGBTQ+ labels, terms, and inclusion in research
- Trusted health information sources

"I really needed someone to keep me accountable to myself at that time in my life, and [my coach] was like my rock those first two years of being homeless...It was really important for me to feel like I had value, and [she] really grounded me and a lot of feelings I was having, experiences I was having...[She] became super important in my life because I didn't have anybody at that point" (P4, YAB4)

Feedback on coaching intervention, hierarchy of needs
Intervention Effects: PrEP Use

(OR 2.35; 95% CI:1.27-4.39 vs. AMMI control)
Intervention Effects: Services Use

(OR=1.23, 95% CI 1.12-1.35)
Conclusions & Next Steps

Need to address youths’ diverse needs and priorities with complementary interventions to support HIV prevention.

Rapidly adaptable and implementable “disruptive innovation” interventions can be efficacious.

Cost-effectiveness and post-hoc sub-group analyses in progress.

Implementation science needed to support scale-up and sustainment.

Chatbot exploration to support coaches’ caseload bottlenecks and more interactive automated messaging.
Thank you!
To our team, youth & many more