

How can we use technology to support the sexual health of gender diverse youth?



Primary finding results for ATN 160: TechStep
Technology-Based Stepped Care to Stem HIV Transmission among Trans and Gender Expansive Youth

Trans youth are often less engaged in healthcare due to experiences or challenges with discrimination, stigma, and policies rooted in transphobia.

This is not only true when it comes to accessing gender-affirming care, but also HIV prevention. Trans and gender expansive (TGE) youth have a higher chance of HIV transmission than their cis peers, yet uptake of HIV prevention methods like PrEP remain low (<10%).

TGE youth cite mobile phones as a critical tool for finding health information, representing a chance to design mobile health (mhealth) tools where they can:

- Seek out trans-specific health information,
- Adopt and express new and different identities,
- Talk to other TGE youth, and
- Seek out resources.

This opportunity is especially salient considering the lack of mHealth tools developed and tested to support the sexual health of TGE youth.

The TechStep study developed and tested different digital strategies to support HIV prevention for TGE youth.

More specifically, TechStep sought to compare how two digital interventions (text message or webapp) in combination with eCoaching could ultimately help reduce behaviors associated with HIV acquisition (like condomless anal sex) in addition to promoting PrEP use. To inform the design and content of the intervention, researchers conducted focus groups and individual interviews with TGE youth.

Between October 2019 to September 2021, 254 TGE adolescents and young adults were enrolled through online ads, referrals, and in-person outreach at sites in 5 US states. Eligibility criteria were as follows:

- 15-24 years old,
- Identifying as TGE,
- Confirmed as HIV negative, and
- Reported recent penetrative sexual activity

Participant Demographics at Baseline

Over half of participants identified as nonbinary, with the remaining

34%

identifying as trans men

7%

identifying as trans women

Compared to nonbinary participants, trans men and trans women were more likely to have used hormones.

Just under half of people had condomless sex in the past 3 months, with

90%

having heard of PrEP

15%

having ever used PrEP in the past

In addition, only about 2 in 10 had conversations about PrEP with their provider prior to the study.

Other demographics include:

- Two-thirds of participants were 21 years or older
- Just over half identified as White
- The majority lived in their own apartment or house
- 90% had used alcohol or cannabis in their lives

After enrolling, participants were randomly assigned to receive one of the three following interventions:

- 1 **Daily text messaging** with education and tips for engaging in safer sex behaviors
- 2 **Webapp** with education, health trackers, and peer-to-peer forums
- 3 **Static, information-only website** that served as the “control” condition

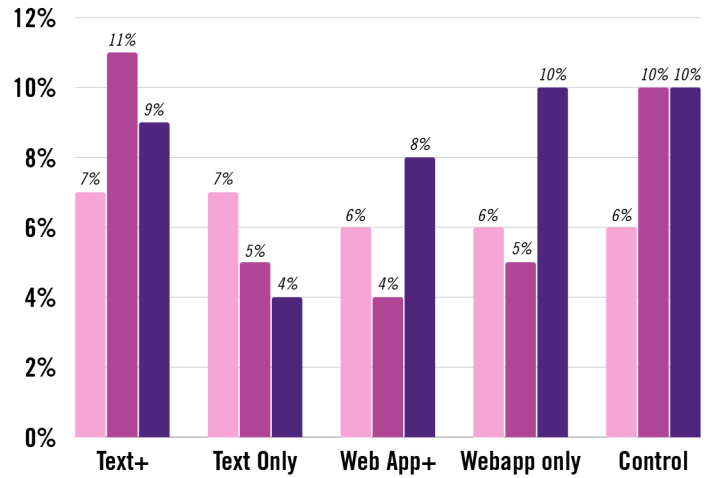
At the three month mark, participants who did not show improvements regarding safer sex behaviors or PrEP use had a random chance of being “stepped-up” to receive virtual eCoaching in addition to their original intervention. We call these groups Text+ and Webapp+. eCoaching consisted of up to 8 weekly sessions to offer tailored education and support via Zoom.

42%
of participants were stepped-up to receive eCoaching

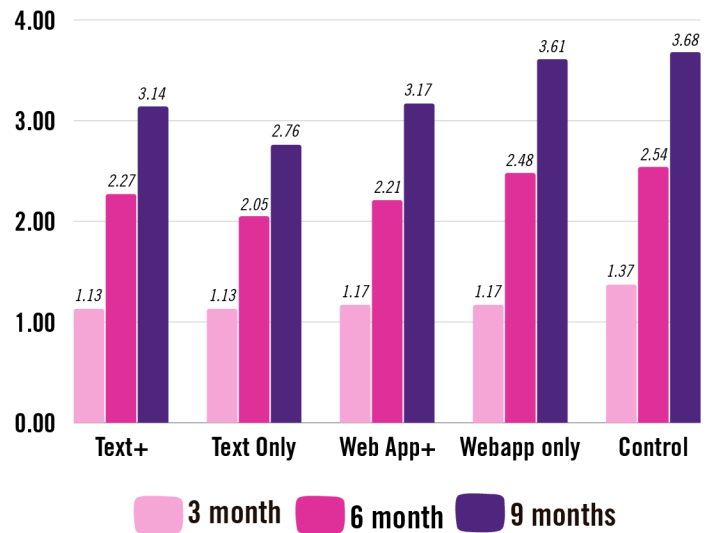
A stepped-care approach is unique because it recognizes that people sometimes need an extra “nudge.”

Rather than assuming that every person needs a lot of support from the start, a stepped-care model increases the intensity of an intervention over time if a person is struggling to adopt a behavior, either because of individual or environmental challenges. This approach can also help save agencies resources.

Proportion of Participants Taking PrEP Over 9 Months by Intervention Group (n=254)



Condomless Encounters Over 9 Months by Intervention Group (n=254)



3 month 6 month 9 months



Examples of TechStep Features

WebApp Design

In addition to tools like hormone or PrEP medication trackers, the Webapp also offered features like content warnings for posts, profile avatars by trans artists, and community walls where users could speak their minds with peers.

Text Messages

Participants received regular one-way messages like:

- “Trans Pride is taking care of yourself.”
- “Nothing compares to you, you can be safe.”
- “Keeping your doctor’s appointments? Keep up the good work!”



Researchers followed participants for 9 months and found mixed impact on condom and PrEP use.

While no intervention condition was superior overall to the information-only control condition, researchers found several trends at specific points of the studies:

- 1 Participants who only received texts showed a reduction in condomless sex** at the six and nine month mark. This impact was not seen among Text+ (with coaching). One explanation is that the extra interaction may have interfered with the more direct prevention-related text messages.
- 2 The Webapp+ (with coaching) group saw a reduction in condomless sex overall.** This was not seen in the Webapp-only group, potentially because being stepped up encouraged users to revisit and explore the webapp.
- 3 No single intervention had a significant impact on PrEP uptake.** However, PrEP uptake across the study was lower than expected, making it difficult to attribute differences with certainty.

Because of the high number of participants who were non-Hispanic White and trans masculine, the results should be interpreted with caution as they might not represent the entire spectrum of TGE youth or those who have the highest prevention needs. In addition, the COVID-19 pandemic impacted the original plan to conduct and analyze STI testing.

Key Takeaways

Select components of the TechStep study demonstrated a positive impact on reducing condomless sex; however, these approaches might not be enough to convince TGE youth that PrEP is a relevant HIV prevention option.

Unpacking How Components Interact

TechStep offered participants exciting tools, but it was hard to tease out how these tools work together. Future research need to consider how components interact to maximize impact with the fewest resources possible.

Narrowing the Criteria for Stepped Care

More participants were eligible to be stepped up at the three month mark than expected. Future studies might consider using stricter criteria to better balance the benefit of additional “nudges” against cost savings.

Understanding the Diversity of TGE Youth

Overall, research on how digital interventions can benefit TGE youth is limited. TechStep represents a step forward but we still need more tailored research to capture the unique needs and experiences of a greatly diverse group.

To read more about TechStep and other studies, you can visit atnconnect.org or follow us @atnresearch.

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