

Can a tailored mobile app improve how young people take daily PrEP?

Primary finding results for ATN 142: PrEPared, Protected, emPowered (P3)
Testing the Efficacy of a Social Networking Gamification App to Improve Pre-Exposure Prophylaxis Adherence



Young SGM are more affected by HIV compared to other groups.

Pre-exposure prophylaxis (PrEP) has been proven to be an effective and safe way to prevent HIV among young sexual and gender minorities (YSGM), including sexual minority men (SMM) and trans women. Many people who could benefit from PrEP are not on PrEP or do not take the medication as prescribed. Not taking PrEP as prescribed reduces its effectiveness in preventing HIV.

However, current tools and programs meant to help young people to start and stay on PrEP use are limited and yet to be proven effective. Most interventions are not tailored to address young people's unique developmental needs and challenges.

With the increased use of smartphones, app-based strategies provide new ways to support the sexual health decisions of young sexual and gender minorities.

P3 (Prepared, Protected, emPowered) study aimed to build upon previous mobile app research to design an app that met the complex and unique needs of young SMM and trans women aged 16-24 years starting or taking PrEP.

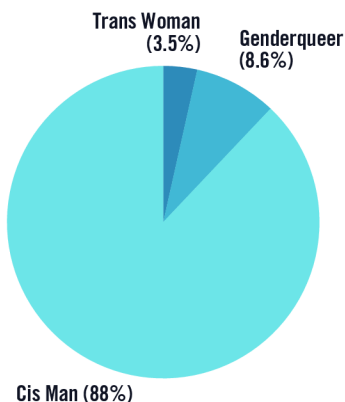
Researchers wanted to see if the P3 study would:

- Improve how youth followed their PrEP regimen
- Impact how they navigate sexual health, and
- Provide a positive experience.

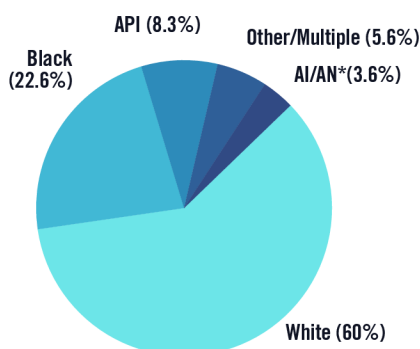
Who participated in P3?

Between 2019 and 2021, researchers recruit 246 sexual minority men and trans women aged 16 to 24 across 9 cities in the US. All participants were beginning PrEP or already on PrEP at the time of starting the study.

Sexual Identity



Racial Identity



*API: Asian and Pacific Islander; AI/AN: American Indian and American Native

Most participants had used PrEP before but faced challenges to stay adherent.

 **88%** took PrEP at least 60% of the time in the past month

 **44%** said forgetting was a top issue for taking PrEP

 **23%** were unable to attend appointments or continue seeing their PrEP provider

 **77%** started PrEP to take control of their sexual health

P3 Intervention Details

After enrolling, participants were randomly assigned to receive one of three intervention conditions for three months and then were asked to complete follow up assessments for 3 more months.

The P3 mobile health app offered:

- Medication reminders with personalized habit building suggestions
- Social wall with daily prompts to promote learning and sharing among peers
- Games and daily quests to set goals, build skills, and test knowledge
- Knowledge Center with information about HIV, safer sex, relationships and more

Researchers also tested another version of the P3 app called "P3+" which had the same features as the original app with the addition of in-app coaching.

P3+ users had access to one-on-one coaching sessions with a peer counselor to identify and troubleshoot challenges to taking PrEP.

Most participants enjoyed using the P3 app. The majority (88%) of people said that they were very satisfied with the app, and that (85%) would recommend it to their friends. A smaller group of participants who used P3 were interviewed at the end of the study to see what they liked and found helpful about the P3 app. Here are examples of what they said.



When I had that counselor I felt a bit better about myself... If I had a question, or I just need to talk a little bit about a situation it definitely made me feel better and less alone. Some things you don't want to tell a friend. you need someone else. (Boston participant)



At first, when I didn't know all of this information – all of the articles and the research studies – that was a little scary to undertake, but it's given me the opportunity and the information to learn more about it [PrEP]. (Chicago participant)



How did participants use the P3 app features?

Using participants' app data, researchers observed the following trends from the first 90 days of the study:



67

Average number of days individuals logged into P3



5.3

Average number of minutes spent using the app per login



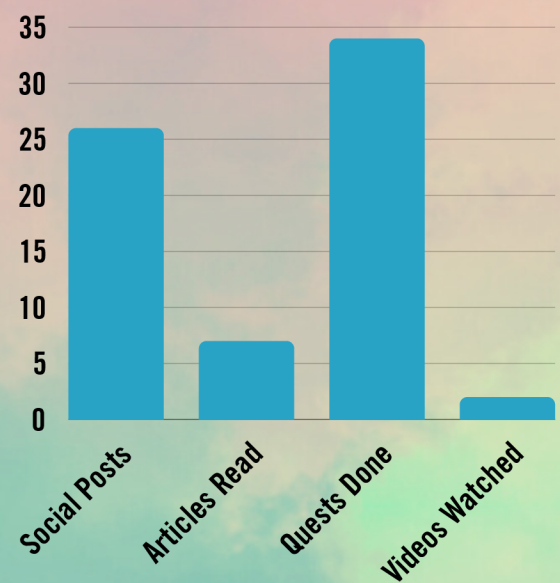
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Average number of days folks used the PrEP medication tracker

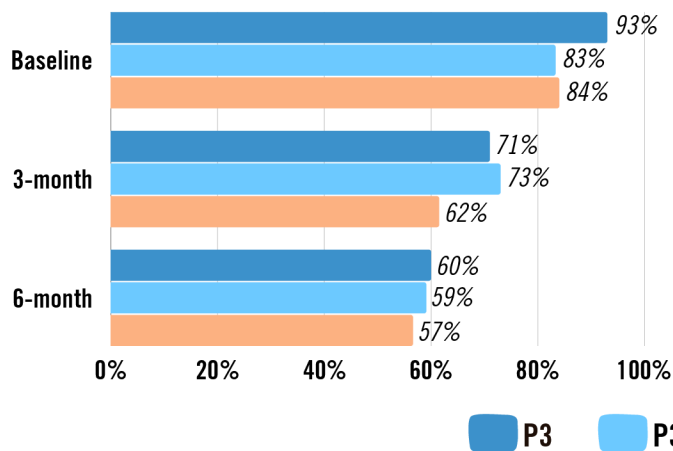
However not everyone used the medication tracker the same way. About 38% of people used the tracker with high consistency, or more than 7 times in a two week period.

Other popular features among users were the social wall and quests features. Quests encouraged users to learn about sexual health, often prompting users to read educational articles or watch videos.

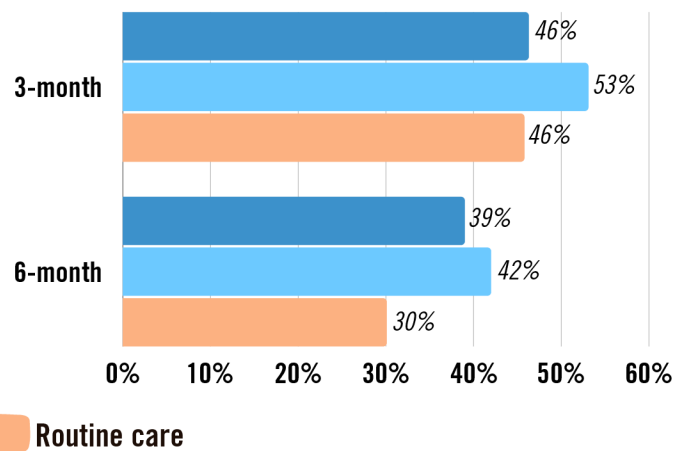
Average Number of Times Participants Used App Features



Reported taking PrEP at least 4 days in the past 7 days (n=246)



Had a PrEP medical visit in the past 3 months (n=246)



Overall, participants who received the P3 intervention saw short-term improvements in PrEP use.

Among participants who got P3 and P3+ with coaching, researchers found that:

- 1 After 3 months, participants who used P3 and P3+ with coaching reported **improved PrEP use compared to those who did not have access.**
- 2 Dried blood spot samples, which measure medication levels in a person's bloodstream at a specific point in time, **confirmed the reported increase in adherence.**
- 3 Participants who consistently **used P3's PrEP medication tracker feature were more likely to take PrEP over a 3-month period.**
- 4 Participants using P3 and P3+ with coaching were **more likely to have attended at least one PrEP medical visit in the past 3 months.**

However, participants using P3 did not see a significant improvement in their PrEP use after 6 months. There were a number of factors that could have affected the results of the study, including the diversity of participants, where they live, how they were recruited (e.g. online), and challenges related to COVID-19.

Key Takeaways

Collaboration is key

It is important to work with youth to make apps that actually engage and excite users. Features like virtual rewards and daily quests were added because of field testing feedback.

Thinking long-term

P3 had a positive impact on youth starting PrEP but we need more research on how to support youth who may want to stay on PrEP for longer periods of time.

Promoting mHealth to Providers

Apps are dynamic and useful resource, and providers should consider recommending the use of an app to help track PrEP adherence when discussing PrEP adherence with young patients.

To read more about P3 and other studies, you can visit atnconnect.org or follow us @atnresearch.

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[Clinicaltrials.gov # \(NCT03320512\)](https://clinicaltrials.gov/ct2/show/study/NCT03320512)

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