

15th International Conference on  
**HIV TREATMENT AND  
PREVENTION ADHERENCE**



# **Enhancing Implementation Support for *PositiveLinks* Using the Consolidated Framework for Implementation Research**

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# Disclosure



- Nothing to disclose

# PositiveLinks Team

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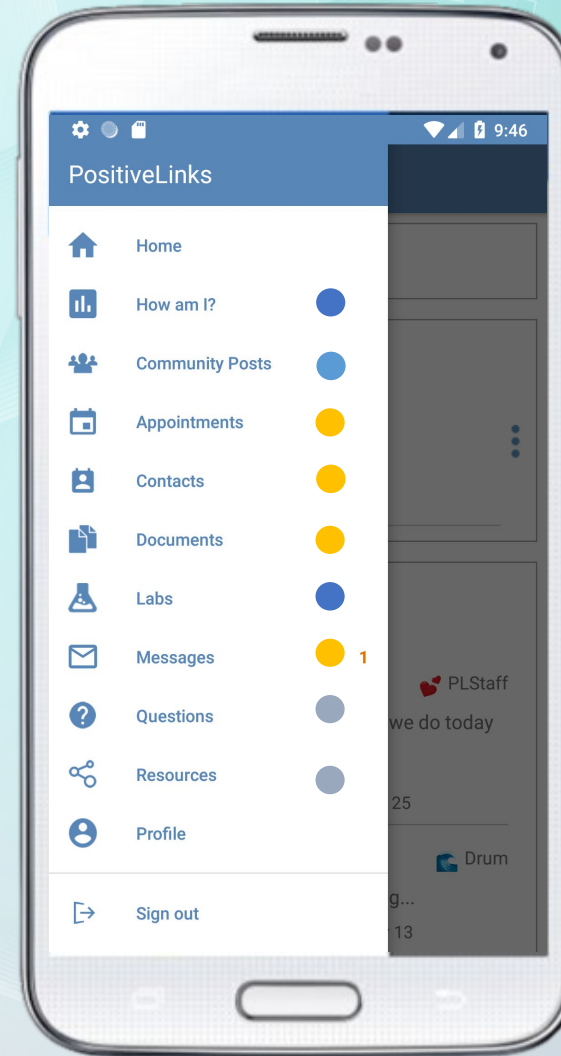


**With gratitude:** To the patients, staff, and providers at the UVA Ryan White Clinic for inspiring and supporting this work.

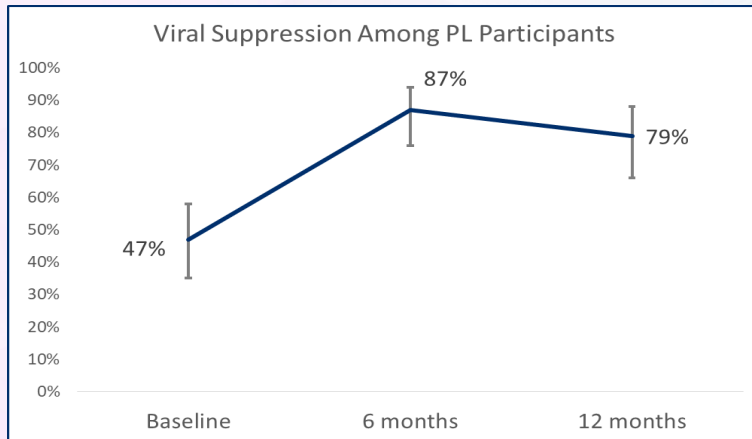
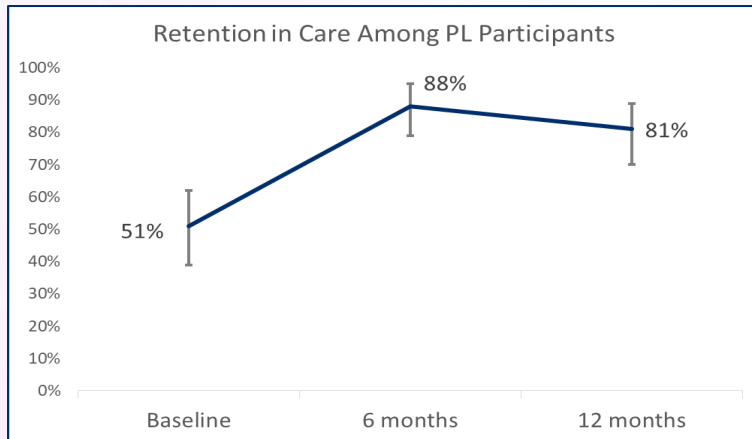
## Background: *PositiveLinks*

mHealth\* platform that provides support for people living with HIV (PLWH) through:

- **Self-Monitoring Tools**
- **Care Coordination Tools**
- **Educational Resources**
- **Social Support**



# Evidence Base



## Linkage to, Retention in, and Re-engagement in HIV Care (LRC) Chapter

This chapter of the [Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention](#) provides details about the LRC intervention. More information can be obtained by [clicking here](#).

COMPENDIUM OF EVIDENCE-BASED INTERVENTIONS AND BEST PRACTICES FOR HIV PREVENTION

### POSITIVELINKS

Evidence-Informed for Retention in Care

#### INTERVENTION DESCRIPTION

##### Goal of Intervention

- Improve retention in HIV care
- Improve HIV viral suppression
- Decrease HIV viral load

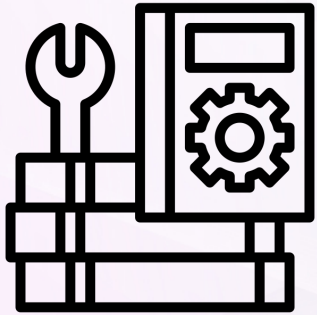
##### Target Population

- Clinic patients

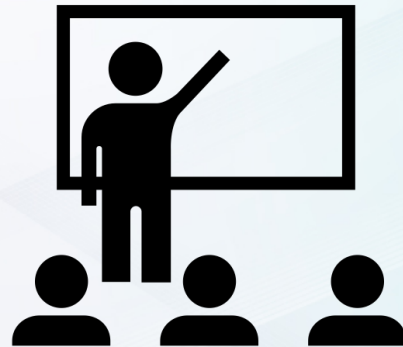
##### Brief Description

*PositiveLinks (PL)* is a clinic-based smartphone app that features tailored educational resources; daily queries of stress, mood and medication adherence; weekly quizzes; appointment reminders; and a community message board (CMB). The educational resources include an orientation to the clinic, information on HIV and health, and stress reduction techniques. For the CMB, participants select user names to protect anonymity and can start new conversations or respond to older conversations. The PL team intermittently introduces new conversation topics on HIV or general well-being, and the team can communicate with the participants privately to address technical issues and assist with care coordination on the CMB. Contact information for the clinic-affiliated PL team is also included in the app. Participants were given smartphones with the PositiveLinks app installed.

# Implementation Support



Implementation  
Manual



Onsite & Virtual  
Training Sessions

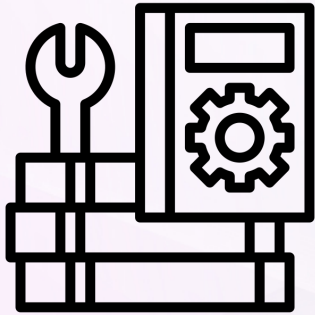


Online Learning  
Management  
System

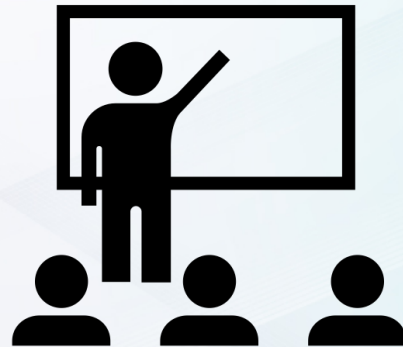


On Demand  
Support

# Implementation Support



Implementation  
Manual



Onsite & Virtual  
Training Sessions



Online Learning  
Management  
System



On Demand  
Support

**Objective:** Identify barriers to *PositiveLinks* implementation to allow refinement of implementation resources

## Methods



- Ryan White clinics adopting *PositiveLinks*
  - February 2018-July 2019
- Semi-structured interviews with *PositiveLinks* coordinators and providers
  - Interview guides & qualitative analysis informed by the Consolidated Framework for Implementation Research<sup>1</sup>
  - 22 factors were identified as salient to *PositiveLinks* implementation based on systematic review<sup>2</sup> and feedback from our Implementation Team

PL Characteristics

Staff Characteristics

Inner Setting

Outer Setting

Process

<sup>1</sup>Damschroder LJ, Aron DC, Keith RE, et al. *Implement Sci.* 2009;4:50.

<sup>2</sup>Ross, J., Stevenson, F., Lau, R. *et al. Implement Sci.* 2016;11:146.



# Results



- Interviews included 8 participants from 4 large health systems
  - 3-VA; 1-TX
- Clinics reaching patient enrollment: 2
  - Most interviews ( $n=6$ ) came from these sites
- Common barriers identified: 7

PL Characteristics

Staff Characteristics

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Process

# *PositiveLinks* Characteristics



## 1. Need to adapt *PositiveLinks* content to clinics and their target populations

- Originally designed to meet the needs of the pilot site

“I think that most of our patients are the younger crowd as opposed to the older crowd. People like our Spanish-speaking only patients, I can’t put them in there because everything’s in English.” (Social worker)

## Inner Setting



### 2. Compatibility with existing IT infrastructure

- Wireless networks
- Level of possible electronic health record integration

“Sometimes I would have to install the application beforehand to kind of navigate the Wi-Fi wireless issues. It would also depend on the clinic I’m at. I sometimes have to travel to other clinics to do it.” (Coordinator)

## Inner Setting



### 3. Compatibility with existing workflows

- Concerns about patients seeing lab results prior to visit
- Patient messages usually triaged by nurses

“I feel after they see the provider, I should be able to put their labs in there so they can see it.” (Social Worker)

## Inner Setting



### 4. Available resources to support *PositiveLinks* use

- Provision of phones/cell service to support equitable *PositiveLinks* access
- Staffing to enact & sustain clinic coordinated mHealth intervention

“We have clients who utilize Sprint or another wireless service. And with those wireless providers because they don’t have a prepay service, we’re not able to support them as far as a phone.”  
(Coordinator)

# Outer Setting



## 5. Privacy concerns

- Client concerns regarding information security
- Information Privacy Officer review

“We thought that since it was an already approved program through VDH\* and UVA that we can literally just begin the program here. But we needed to get clearance through our compliance officer and their departments...It was like a security review that needed to be done to ensure that our consumers wouldn't be in jeopardy of their information being leaked out. And then we had to go through legal.” (Coordinator)

## Process

## 6. Unclear process for initiating mHealth approvals

- Concern over length of time needed to obtain approval
- Decision makers disconnected from *PositiveLinks* champions & users

# Process



## 7. Engaging stakeholders

- Physicians see *PositiveLinks* as “another thing to do”
- Coordinators need engagement strategies to keep patients and providers active on platform

“We realized we hadn’t done the best job of communicating to the clinicians what their role in PL\* was and that they had their own platform where they could use the PL resources. But even then, we didn’t see that clinicians were accessing it at the level we would like” (Coordinator)

## Discussion



- Variable time from adoption to implementation
  - Constant comparison enabled analysis and identification of new barriers after each interview
- Few barriers related to *PositiveLinks* design and function
- Inner Setting, Outer Setting, and Process barriers were the most common in early implementation
  - Need for health system standards for mHealth technologies, addressing interoperability, security and privacy<sup>1</sup>

<sup>1</sup>Ross, J., Stevenson, F., Lau, R. *et al. Implementation Sci* 2016;11:146.



## Discussion



- Findings led to revised implementation support:
  - Assisting sites to adapt platform content
  - Offering guidance on health system positions typically involved in mHealth review and approval processes
  - Sharing internal reference documents outlining available cellular service providers and steps for purchasing phone service as 3rd party payer
  - Aiding realistic goal setting for provider participation as this may differ by provider type

## Limitations



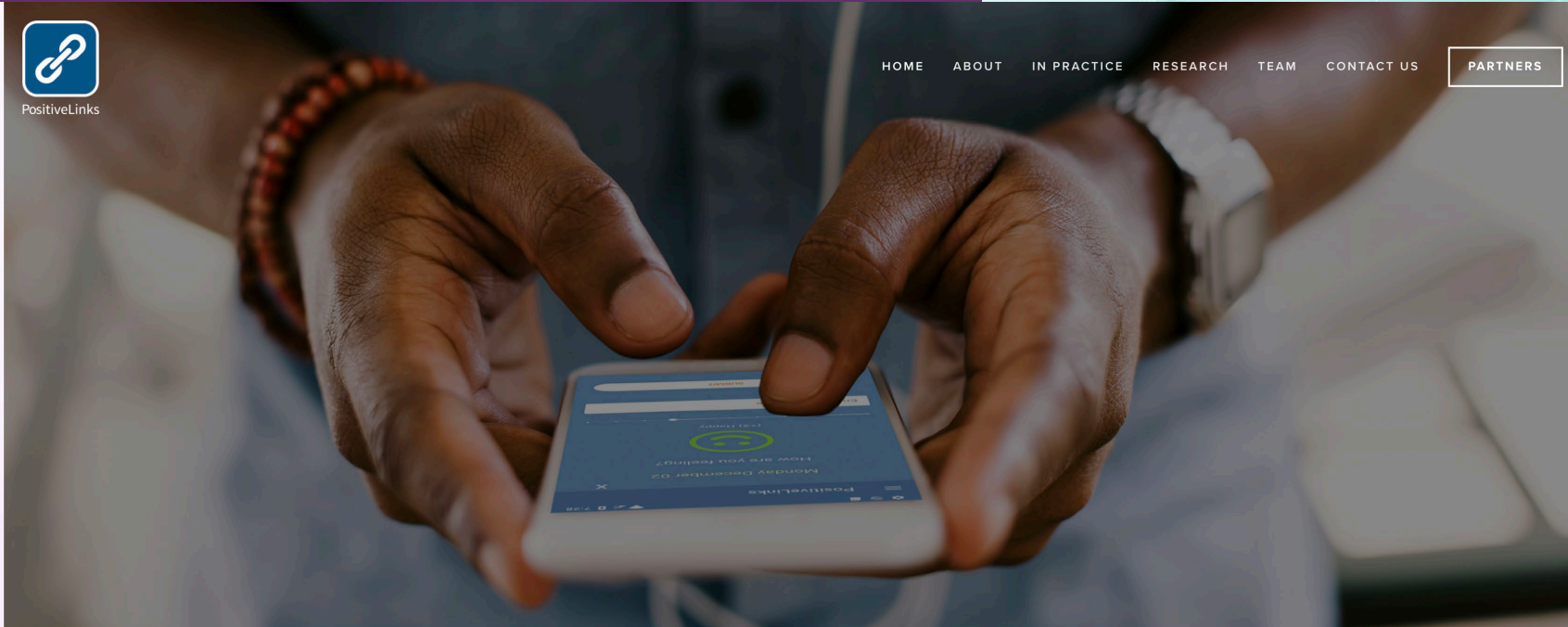
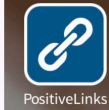
- Small number of interviews, particularly from sites who did not progress to enrolling patients in the PL program
- Difficulty recruiting providers
- Patient perspective limited to original *PositiveLinks* site

## Conclusion



- CFIR enabled efficient, broad evaluation of PL implementation barriers in early adopting sites
- Standards and infrastructure to support mHealth technologies needed
  - Will be essential to promoting implementation of evidence-based mHealth technologies across healthcare systems and other organizations that provide services for PLWH
- Emerging role of PL as case management and care coordination tool

# Contact



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