



NATIONAL

2018 RYAN WHITE

CONFERENCE ON HIV CARE & TREATMENT

PositiveLinks: mHealth shrinks distance and expands connections in Virginia

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Learning Objectives



By the end of the workshop, participants will be able to:

- Describe how PL can be used to reduce HIV-related health disparities, and improve access to HIV care and treatment without stigma within their own organization;
- Describe how PL can be adapted for implementation in diverse settings; and
- Describe how a state department of health can support a more coordinated response to ending the HIV epidemic at the local level.

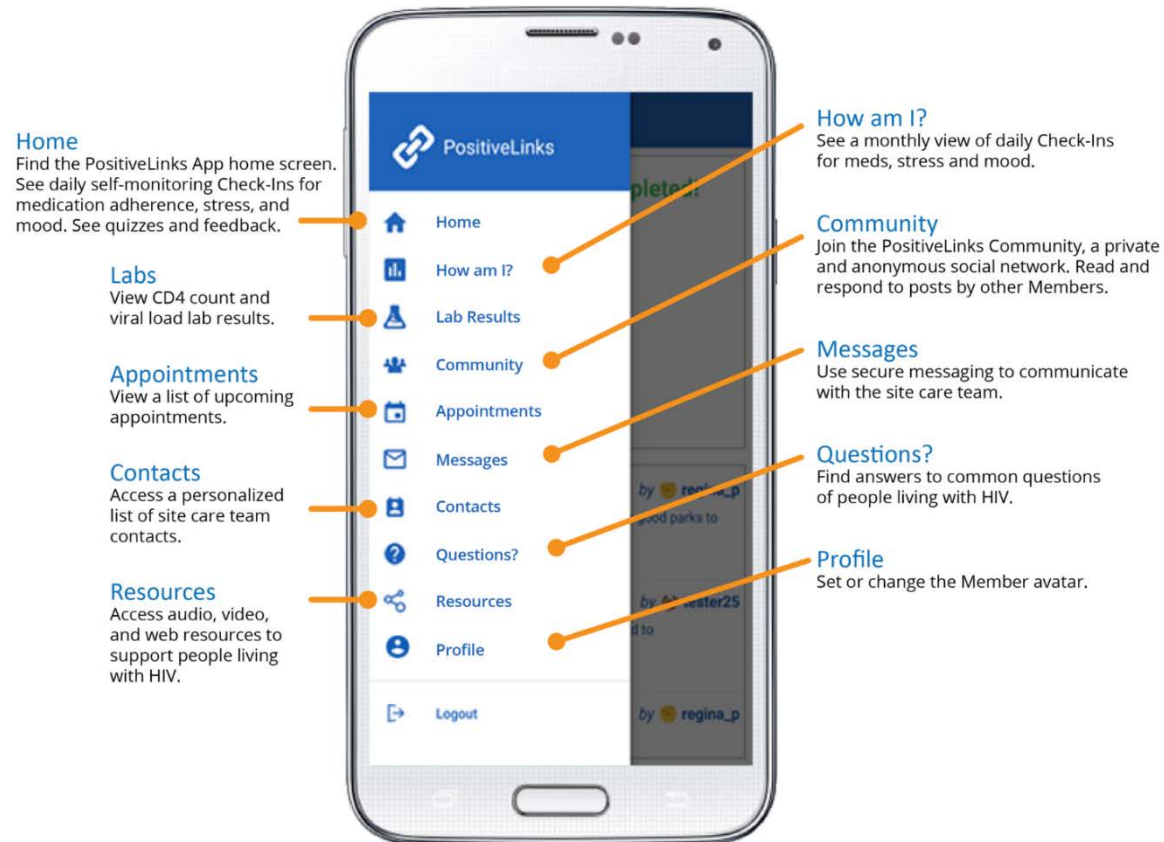
Disclosure of financial affiliation



Rebecca Dillingham, MD/MPH and Ava Lena Waldman, MHS/CHES/CCRP provide consulting services for Warm Health Technology, Inc.

Warm Health Technology is a wholly owned subsidiary of the University of Virginia Licensing & Ventures Group, a non-profit organization focused on the development of novel technology and research derived from the University of Virginia.

Design and Impact of *PositiveLinks*: A Mobile App to Support People Living with HIV in Virginia



With Gratitude



To the patients, staff, and providers at the UVa Ryan White Clinic for inspiring and supporting this work.



- PL Team:
 - Rebecca Dillingham, MD/MPH
 - Karen Ingersoll, PhD
 - Ava Lena Waldman, MHS/CHES/CCRP
 - Jason Schwendinger
 - Marika Grabowski MPH
 - Grace DiBari
 - Tabor Flickinger, MD
 - Sarah Knight, MPH/CHES
 - Freddie Jin
 - Chelsea Canan, PhD
 - Wendy Cohn, PhD
 - Mark Conaway, PhD
 - Liz Olmsted
 - Michelle Hilgart
 - Ben Taitelbaum
 - Derrick Stone

HIV Care Challenges in (Rural) VA



*Mobile technology (mHealth)
can facilitate interventions
addressing one or more
challenges to living well with HIV
when and where clients want
and need it.*

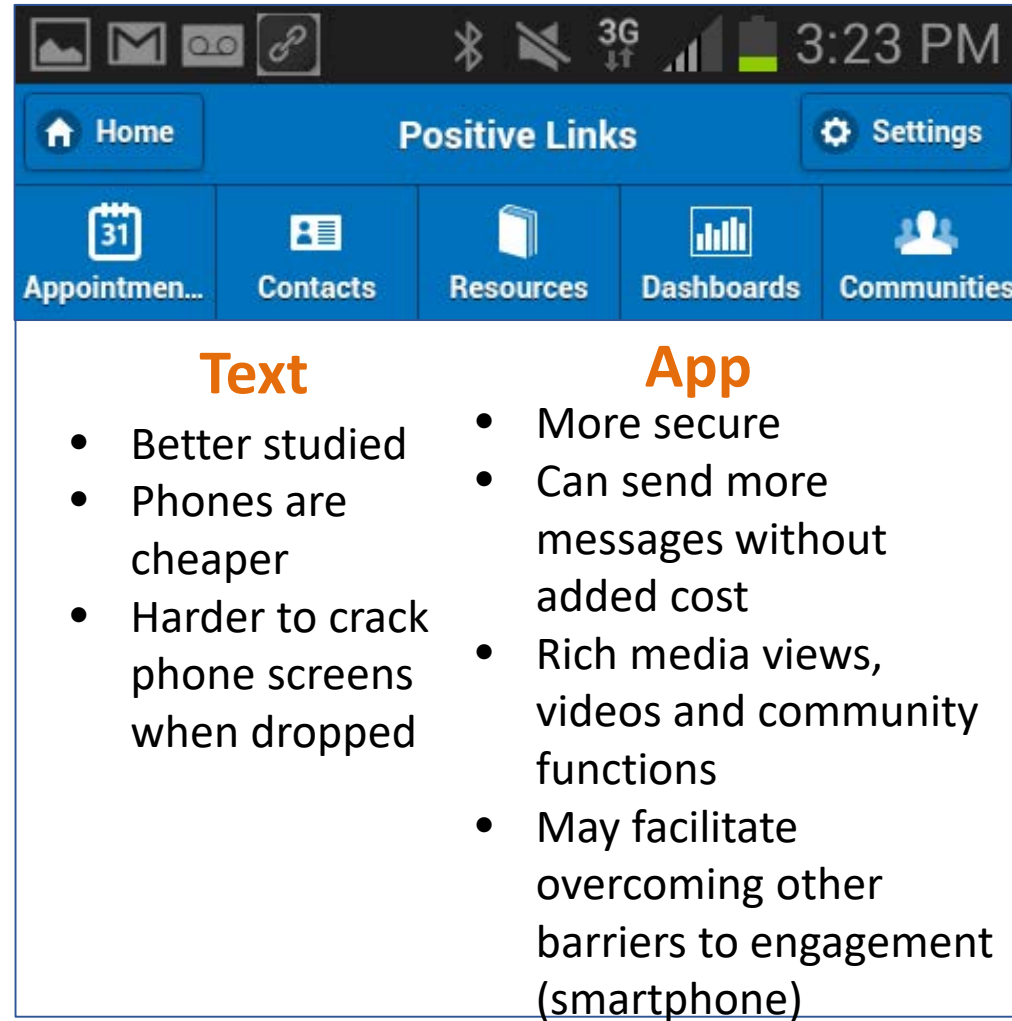
- Stigma
- Poor access to Transportation
- Poverty
- Isolation
- Alcohol/drug use
- Mental health challenges

Perspectives on Text - Medication



- “It feels good that I can actually talk to someone every day about it. Even if it’s a machine, its feels great to know that there's someone there to affirm to me that this is a good and right thing. “congratulations” sounds good, you know?”
- “It gave me more positive feeling about myself that I’ve done something good that day for me. Having somebody at your back is a positive thing.”

App vs Text Interventions



The image shows a smartphone screen with a blue-themed app interface. At the top is a status bar with icons for camera, email, calendar, and a link icon, along with Bluetooth, signal strength, and battery indicators. Below the status bar is a navigation bar with 'Home', 'Positive Links', and 'Settings'. Underneath is a row of five icons: a calendar (labeled 'Appointmen...'), a person (labeled 'Contacts'), a folder (labeled 'Resources'), a bar chart (labeled 'Dashboards'), and a group of people (labeled 'Communities'). The main content area is divided into two columns. The left column is titled 'Text' and lists three bullet points. The right column is titled 'App' and lists four bullet points.

Text	App
<ul style="list-style-type: none">• Better studied	<ul style="list-style-type: none">• More secure
<ul style="list-style-type: none">• Phones are cheaper	<ul style="list-style-type: none">• Can send more messages without added cost
<ul style="list-style-type: none">• Harder to crack phone screens when dropped	<ul style="list-style-type: none">• Rich media views, videos and community functions
	<ul style="list-style-type: none">• May facilitate overcoming other barriers to engagement (smartphone)

Our App Development Strategies



User-based design

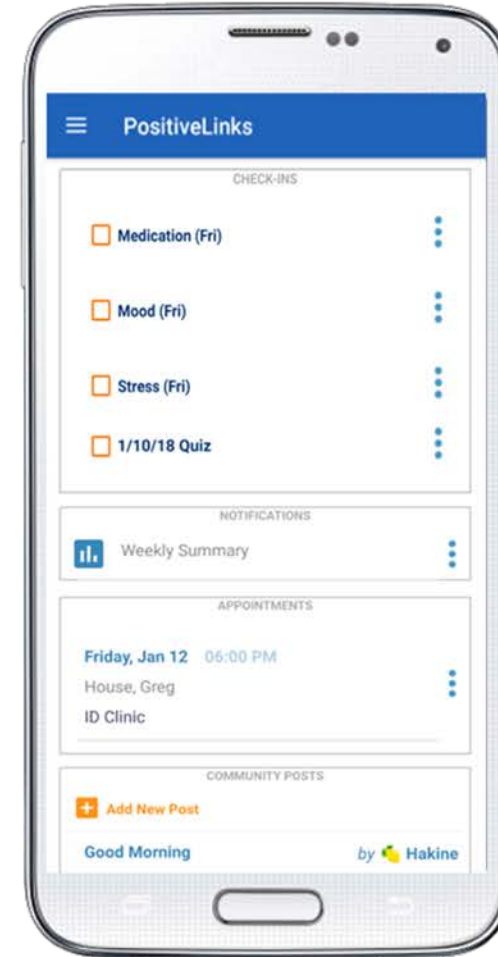
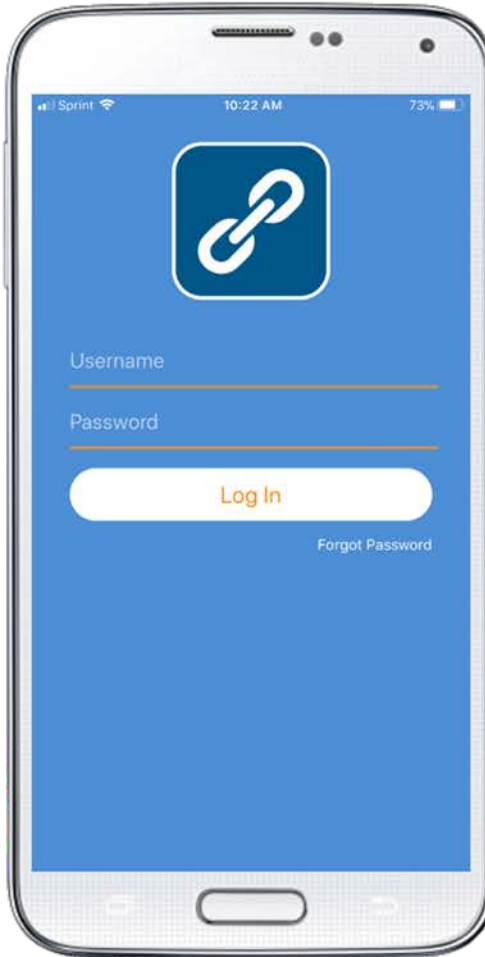


Self-monitoring

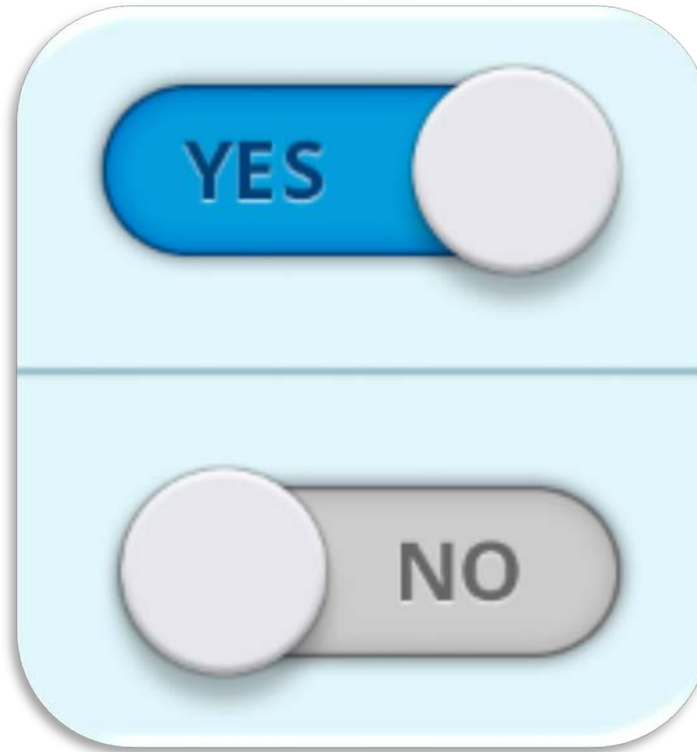


Shrink “distance”

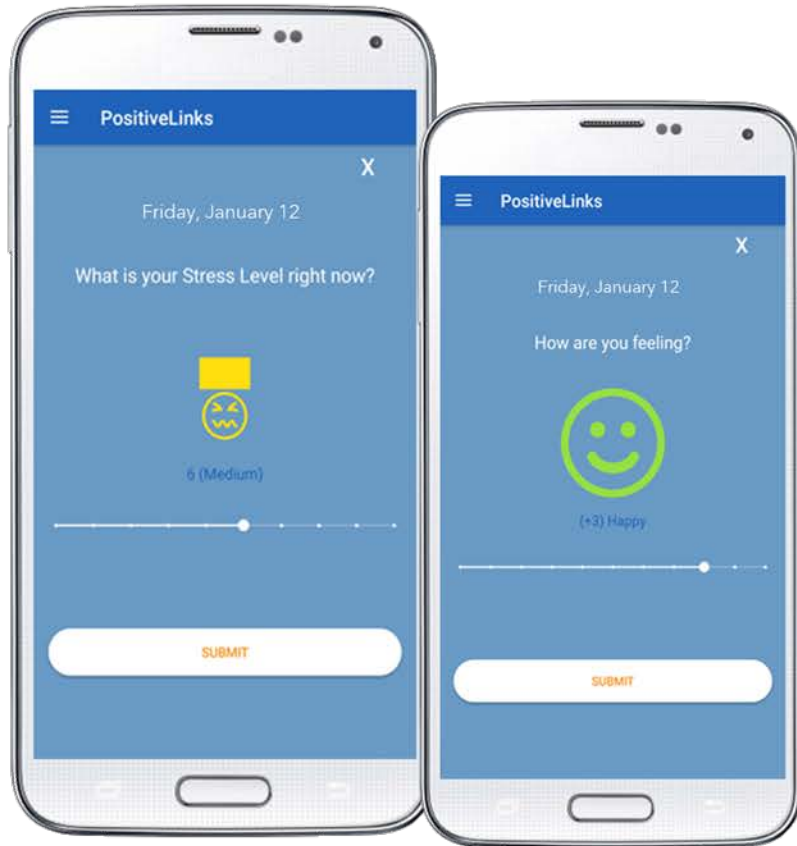
App Access and Home Screen



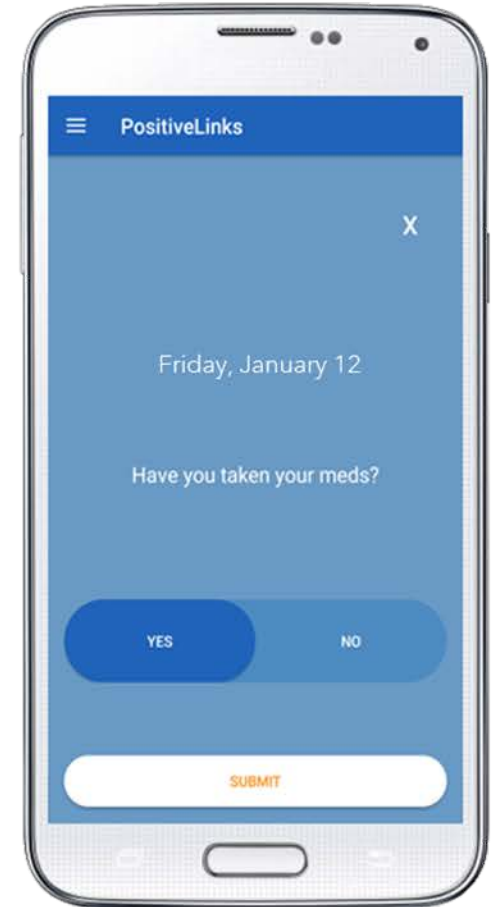
Self-Monitoring



Self-Monitoring Check-ins



"The questions make me focus on my mood and my stress and makes me more in touch with myself you can say. When it pops up, it makes me stop and think. I usually don't think about that kind of thing."
-PL Participant





How am I?



The check-in screen displays the date November 10, 2017. It features three input fields for Mood, Meds, and Stress, each with a corresponding icon and a text description of the value entered.

- Mood:** Value entered: 5. Mood level was high at the time of this checkin.
- Meds:** Value entered: YES.
- Stress:** Value entered: 1. Stress level was low at the time of this checkin.

The Weekly Summary screen displays a summary of the user's health data for the week of January 4th to January 10th. It includes a "Remove notification" button and an "Ok" button.

Weekly Summary

Jan 4th - Jan 10th
Meds Adherence: 42% (0% last week)
Average Mood: -2
Average Stress: 5
Are you reaching your health goals? If not, let the Positive Links Team know how we can help

Remove notification

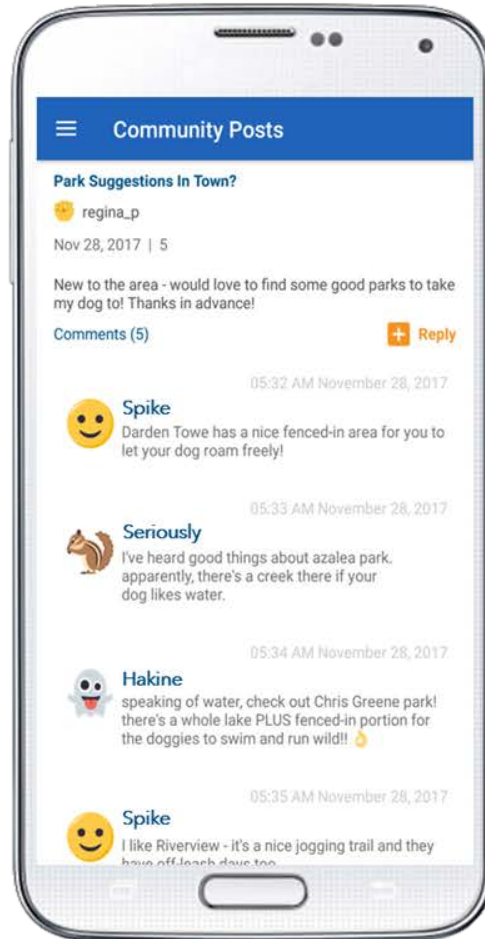
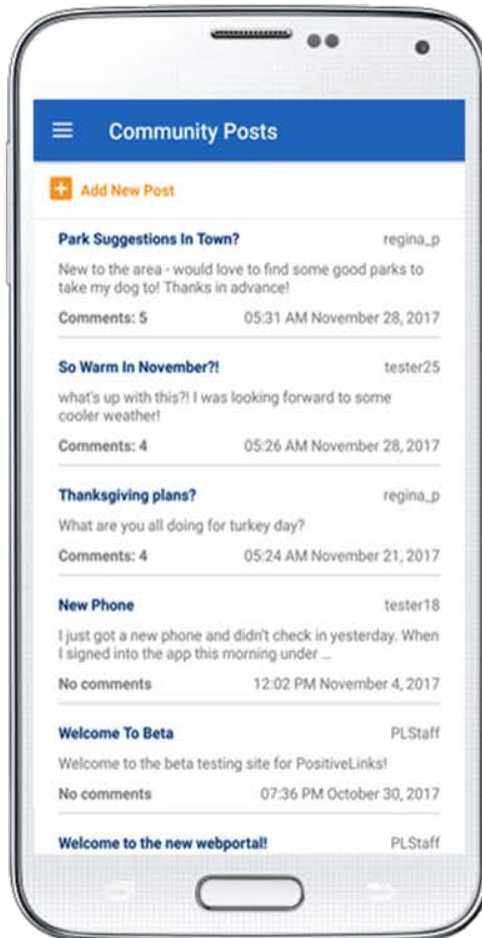
Ok

Shrinking the “Distance”





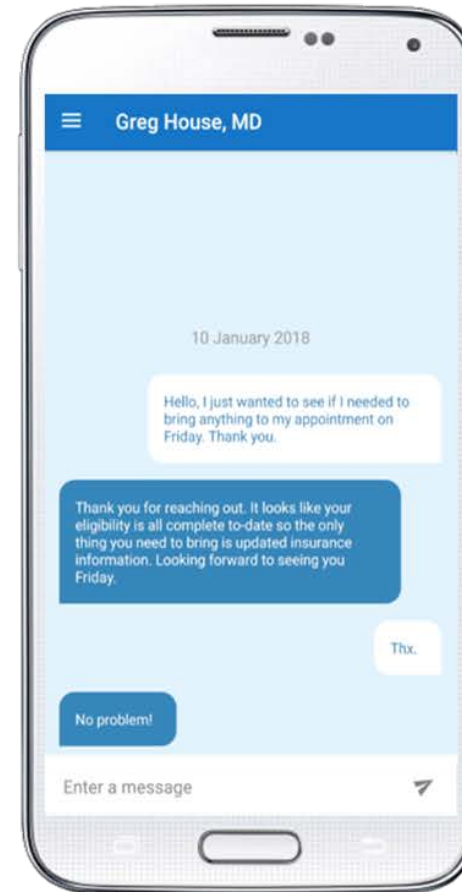
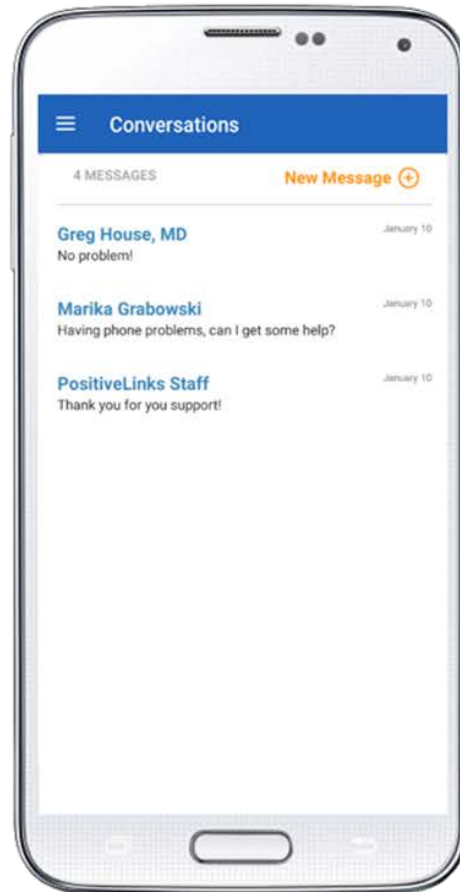
Community Message Board



“You get to talk to people who are going through exactly what you are going through. When you are down somebody uplifts you, when somebody else is down you can uplift them, it’s basically like one big family” (Participant 31295).

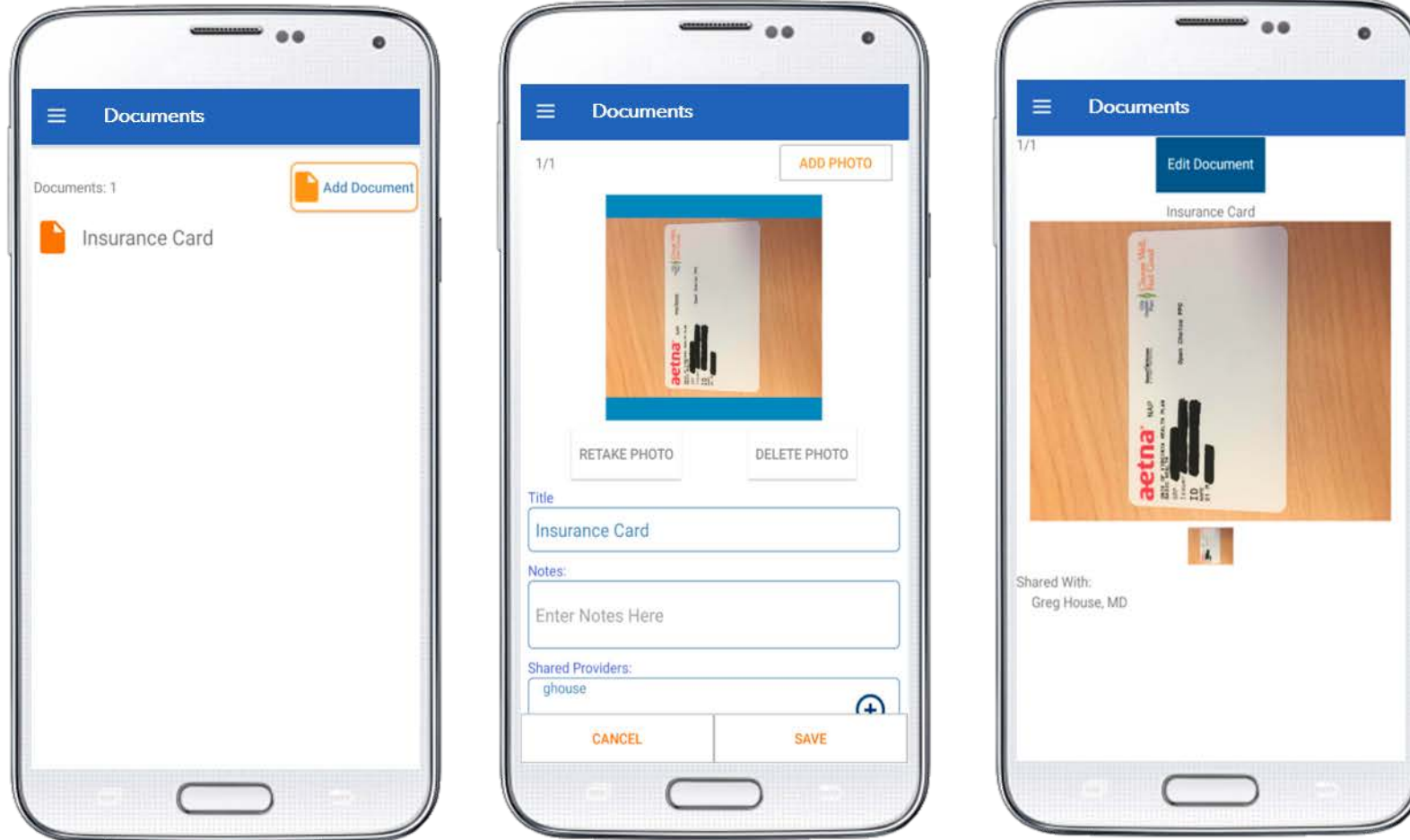


Secure Messaging





Document Upload





“Communication with the docs would be the main thing. It’s easier to get a hold of them. I can shoot them a text instead of call them because I work an opposite schedule that the clinic does. And that’s the one I use the most. So it helps me stay in communication more than I usually would if I have to call this person.”





Medication Adherence Tracking – majority of the patients that I work with have med. Adherence problems. This feature on the app allows me to gauge where they are personally in the action plan and if we need to address any barriers/concerns.

(PL Care Provider)

PL helps all providers have a common view of a patients progress, or their struggles. Providers can have a better understanding of some issues patients are going through and provide help before some situations get to later stages.

(PL Care Provider)

PL Enrollment Process



111 Approached

- Referred by Clinic Providers; Participating ASOs; Testing sites
- Top specified reasons for disinterest: already have a cell phone; not enough time to enroll

87 Interested

- 4 with Literacy Level below threshold
- 6 did not complete enrollment

77 Enrolled

- Provided with Android Phone and Voice/Data Plan
- Assessments at 6/12/18 months

PL Demographics

enrolled between 9/2013 and 5/2015

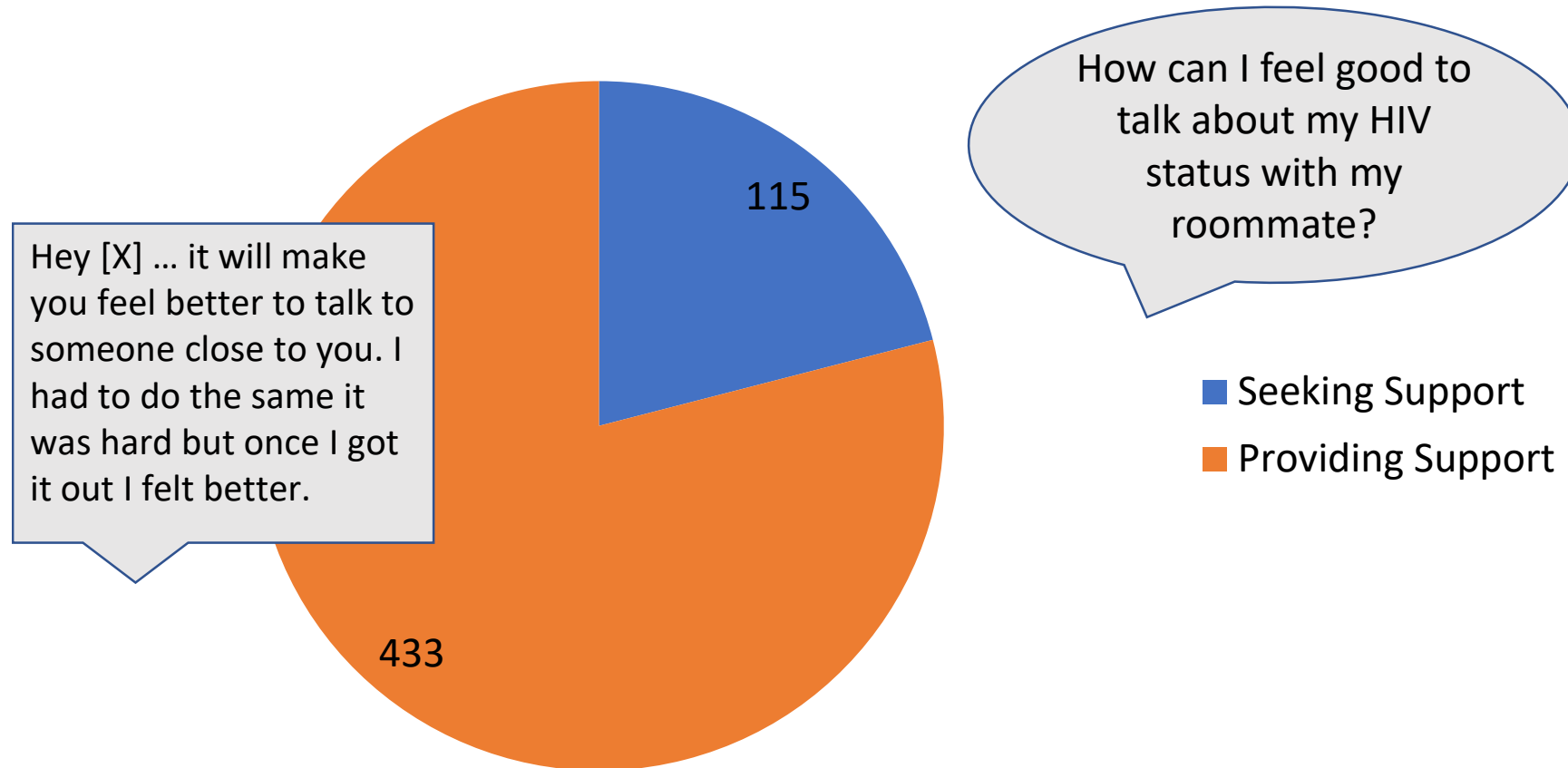


Participant Characteristics	N (%)
Male	49 (64)
MSM (Men who have sex with men)	31 (40)
Incomes below 100% FPL	56 (72)
Unemployed	34 (44)
Homeless or unstably housed	20 (26)
Food insecure	28 (33)
Poor transportation access	17 (23)

Social Support on the CMB



Distribution of CMB Posts Seeking and Providing Support



Flickinger, Debolt et al. AIDS and Behavior. Nov. 2016


Overcoming Stigma

AIDS and Behavior (2018) 22:3395–3406
<https://doi.org/10.1007/s10461-018-2174-6>

ORIGINAL PAPER



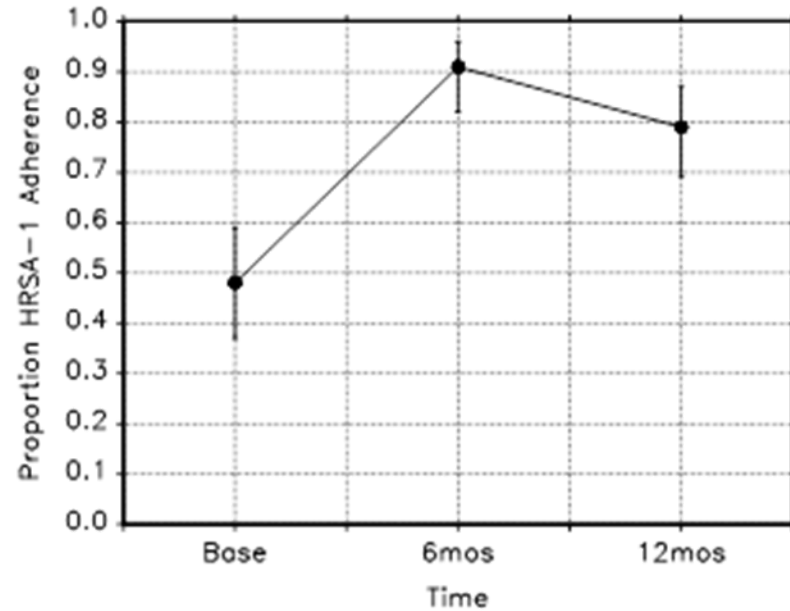
Addressing Stigma Through a Virtual Community for People Living with HIV: A Mixed Methods Study of the PositiveLinks Mobile Health Intervention

Tabor E. Flickinger¹ · Claire DeBolt² · Alice Xie³ · Alison Kosmacki² · Marika Grabowski¹ · Ava Lena Waldman¹ · George Reynolds⁴ · Mark Conaway⁵ · Wendy F. Cohn⁵ · Karen Ingersoll⁶ · Rebecca Dillingham^{1,7} 

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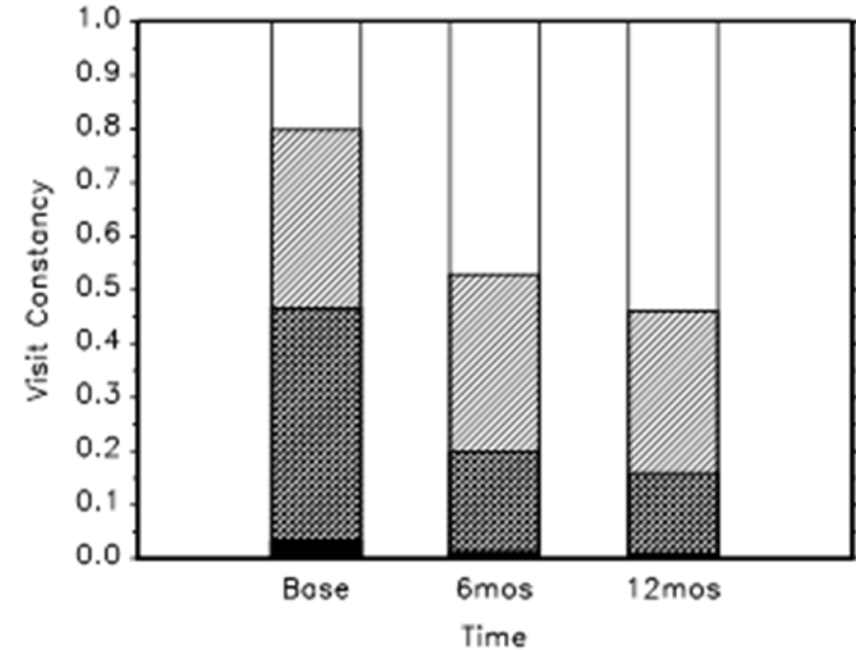
Participation in PL Improved Engagement in Care

HRSA-1: % With at least 2 visits separated by 90 days within one year

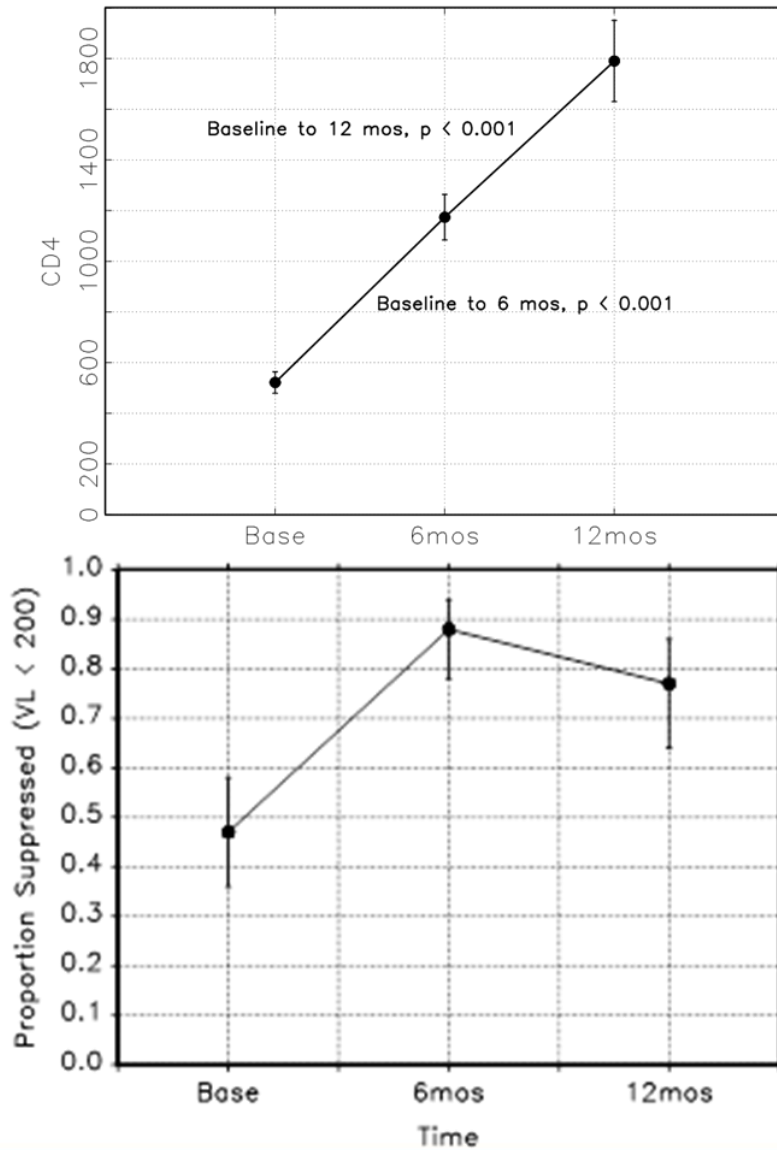


$P < 0.001$ (McNemar's)

Visit Constancy (per 4 month period)



- No visits
- 1 visit
- 2 visits
- 3 visits



The Positive Links Program resulted in significant *increases* in CD4 count (top) and in HIV viral load suppression (bottom) over one year of follow-up. (n=56)

PL Recipe for *Warm Technology*

- Design Strategies
 - Secure!
 - Evidence-based
 - User-based design and participant ownership
 - Anticipated low literacy
 - Rigorous Evaluation
- Main Features
 - Coordination of Care
 - Self-monitoring
 - Social Support

Warm Technology

Personal
Recognizes feelings and emotions
Facilitates human contact



I don't know if many of you realize it, but each and every one of us who uses this app is making a difference in someone else's life battling every day of this new journey... We all are making a difference together one day, one app, and one click at a time.

(PL Participant)

PositiveLinks@Inova Juniper

- Fits with retention-in-care goals
 - Incentive for clients with high likelihood of becoming disengaged
- Improves access to HIV care without stigma
 - Community board feature serves as an anonymous support group
 - Allows clients to engage without disclosing
 - May lead to further participation and engagement with other services

Challenges

- Internal approval process was longer than expected
 - Compliance and IT
- Enrollment strategy impact on member utilization
 - Initial roll-out focused on the reminders, provider communication, and response aspects of the platform
 - Delay in activating community board feature
- Providers recognized the benefits to clients but not always their role
 - Need for one-on-one training for clinicians to access the platform

Successes

- Integration into other services
 - Initial referrals came from programs serving high-acuity clients
- Referrals often come from support services
 - Community Health Workers
 - Health Educators
- Integration into multidisciplinary clinical program
 - Allowed multiple disciplines to identify need and make referrals
 - Additional resource and access point for clients

Achieving 90-90-90 in Virginia

- Statewide needs assessment
- A “layered cake” of data sources
- Infrastructure investment for statewide systemized approach
- Challenges to address:
 - How to meet retention-in-care and SVL goals
 - How to ensure accurate and timely tracking
 - How to track the continuum of all –even those in private practice

Unique opportunities to advance state health department goals

- Turn key approach
- Commitment to technical assistance
- Improve data exchange between surveillance and care
- Partnership with University of Virginia
- EMR bridge
- Telemedicine
- Role of phone in overcoming barriers to HIV care

Pilot Project Dissemination

Barriers and Solutions

- Barriers:
 - Organizational readiness
 - Funding
- Solutions:
 - Graduated funding: support for one year, then match requirement in subsequent years
 - Program Income if available
 - Infrastructure development as goal

Pilot Project Dissemination Opportunities

- Care marker data base integration
- Direct ADAP
- Shifting insurance coverage
- No wrong door
- Patient needs shift as they move from high acuity to lower acuity
- Care Passport

Strategies to support successful pilot projects

- Graduated funding approach
- Infrastructure development
- Explore corporate and private partnerships
- Chronic care billing
- Continue to think outside the box!

PositiveLinks

Questions?

Discussion