PositiveLinks for Youth (PL4Y): Promising results of a pilot mHealth intervention for youth with HIV

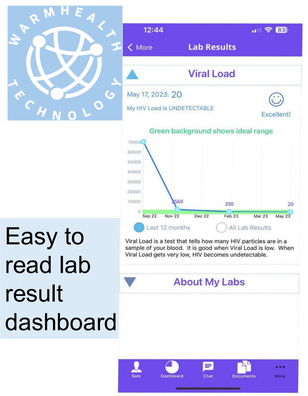
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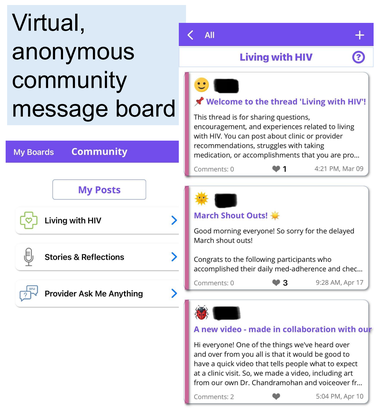
University Health — Thinking beyond

Background

- Youth and emerging adults 18-29yo with HIV (YWH) face challenges in engaging in care and achieving virologic suppression.
- We used human centered design to engage YWH in the development of PositiveLinks for Youth (PL4Y), an mHealth intervention encouraging empowerment and connection between YWH
- Components of PL4Y:
  - Daily adherence check-in and appointment reminders
  - Mood and stress assessments
  - Secure messaging to clinic/research staff and providers



Easy to read lab result dashboard



Virtual, anonymous community message board

Methods

- Enrolled YWH 18-29yo who met one of these inclusion criteria:
  - Diagnosed with HIV in the last 6 months
  - Viral load >1000 copies/ml in the past 12 months
  - Met DHHS criteria for care disengagement
- Randomized 2:1 to access to PL4Y (intervention) or usual care in clinic (control) for 12 months.
- Participants assigned to intervention group received training in PL4Y use and norms.
- Assessments included check ins every 3 months, surveys every 6 months, extraction of clinical data
- Primary outcome: viral suppression to <200 copies/mL at 12 months.
- Differences in the primary outcome assessed by an exact logistic regression model that assumed that lost to follow up or missing VL data were unsuppressed

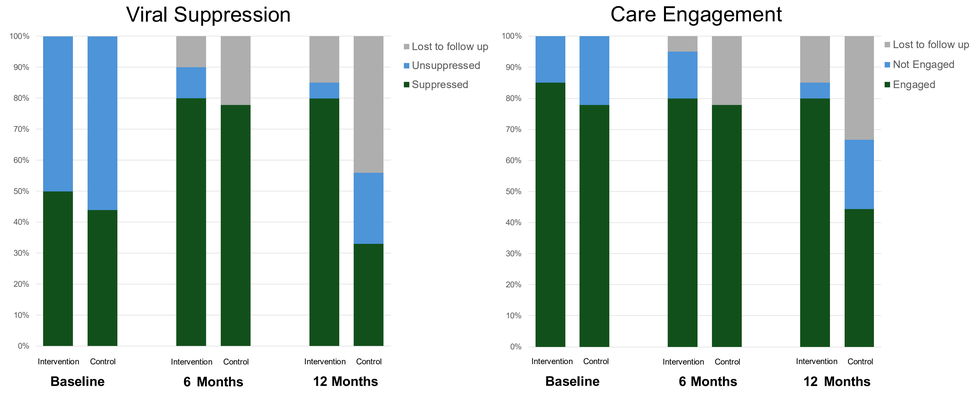
We pilot tested an mHealth intervention (App), adapted in partnership with and for emerging adults with HIV.
Users found PL4Y acceptable and feasible. 80% achieved viral suppression, compared with 44% in the control group.

Results

Characteristics		Intervention	Control
N		20	9
Age, median in years (IQR)		27 (23,29)	27 (23,28)
Gender	Female	3 (15%)	2 (22%)
	Male	17 (85%)	7 (78%)
Race	White	12 (60%)	6 (67%)
	Non-White	8 (40%)	3 (33%)
Hispanic	No	16 (80%)	7 (78%)
	Yes	4 (20%)	2 (22%)
Education	High school or less	9 (47%)	5 (56%)
	Some college/assoc. degree	10 (53%)	4 (44%)
Sexual orientation	Gay	12 (60%	4 (44%)
	Bisexual	7 (35%)	4 (44%)
	Straight	1 (5%)	1 (11%)
HIV Risk Category	Sexual Transmission	16 (80%	6 (67%)
	Other	4 (20%)	3 (33%)
HIV care status	Not engaged or not virally suppressed	10 (50%)	2 (22%)
	Recent Diagnosis	10 (50%)	7 (78%)
ART status, baseline	Not on ART	2 (10%)	0 (0%)
	On INSTI-based ART	18 (90%)	9 (100%)
CD4+ cell count, baseline	≤200 cells/mm^3	4 (20%)	1(13%)
	>200 cells/mm^3	16 (80%)	7 (87%)
Viral load, baseline	≤200 copies/ml	10 (50%)	4 (44%)
	>200 copies/ml	10 (50%)	5 (56%)

No statistically significant differences in baseline characteristics between intervention and control

Results



- Retention at 12 months was 79% with 3 YWH lost to follow up in each arm
  - 2 withdrawn due to incarceration
  - 1 withdrew consent at second visit
  - 3 lost to follow up
- Viral suppression to <200 copies/mL at 12 months occurred in 18 (80%) of intervention group participants and 4 (44%) of control group participants
  - OR 4.68 (95%CI: 0.66, 38.3)
- Notable survey metrics
  - Alcohol use was common and rose significantly over time in the control group
  - Depression was common (59% reporting at least moderate depression per PHQ-9) and similar between groups
  - Passive or active suicidality was noted in 8 (28%) participants at baseline
- Acceptability and feasibility data
  - mHealth adapted system usability surveys showed high usability (median score 87 (IQR: 77.7, 100)
  - 94% agreed that they would integrate the app into their everyday routine

Conclusions

- PL4Y use was associated with a non-significant but important increase in viral suppression among YWH. These data support further exploration of PL4Y as an intervention to improve virologic outcomes in emerging adults with HIV.
- Relational mHealth interventions, developed in collaboration with YWH that encourage self-efficacy and connection may improve HIV care outcomes in this demographic.

References

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