

Optimizing PrEP Uptake Among Youth In Los Angeles And New Orleans Via Telehealth Coaching, Online Peer Support And Automated Texting: Results From ATN 149

August 15, 2022

UCLA-CDU CFAR & CHIPTS HIV Grand Rounds
Dallas Swendeman, PhD, MPH



Acknowledgments & Disclosures

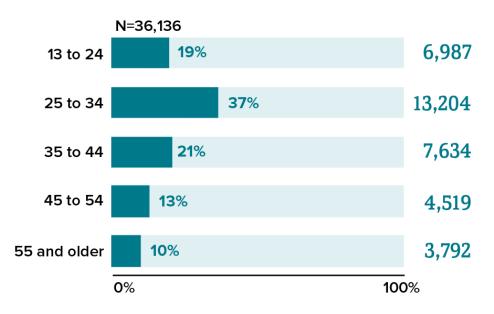
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We declare no conflicts of interest, financial or other

Background on HIV & PrEP among Youth & Young Adults

Differences in New HIV Diagnoses by Age

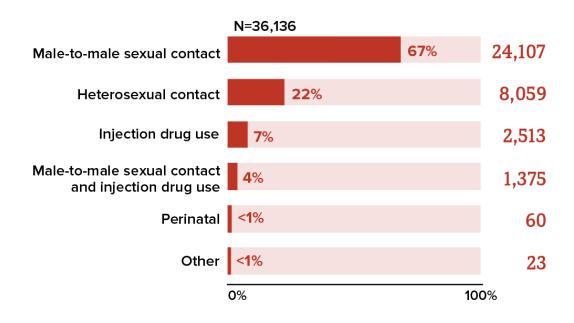
People aged 13 to 34 accounted for more than half (56%) of new HIV diagnoses in 2021.





Differences in New HIV Diagnoses by Transmission Category**

Gay, bisexual, and other men who reported male-to-male sexual contact are the population most affected by HIV.



^{*} Among people aged 13 and older.



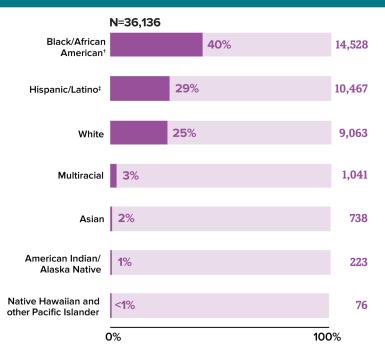
Source: CDC. Diagnoses of HIV Infection in the United States and Dependent Areas, 2021. HIV Surveillance Report 2023;34.

[†] Transmission category is classified based on a hierarchy of risk factors most likely responsible for HIV transmission. Classification is determined based on the person's assigned sex at birth. Data have been statistically adjusted to account for missing transmission category.

New HIV Diagnoses in the US and Dependent Areas by Race and Ethnicity, 2021*

Racial and ethnic differences in HIV diagnoses persist.





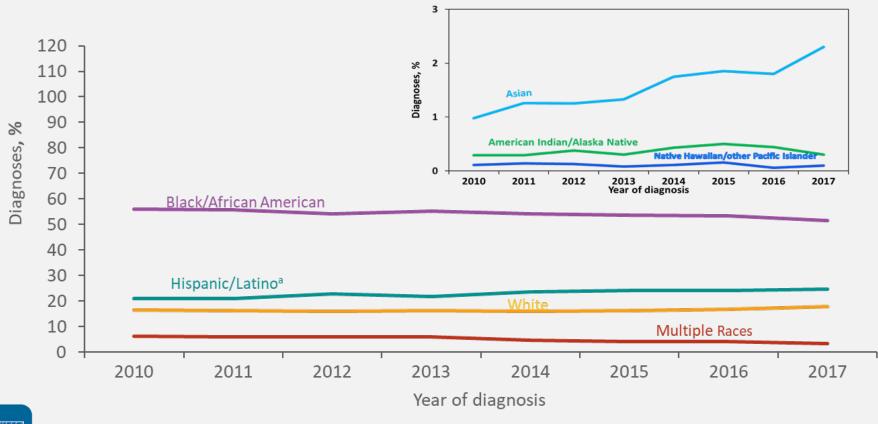
^{*} Among people aged 13 and older.

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2021. HIV Surveillance Report 2023;34.

[†] Black refers to people having origins in any of the Black racial groups of Africa. African American is a term often used for people of African descent with ancestry in North America.

† Hispanic/Latino people can be of any race.

Diagnoses of HIV Infection among Adolescents and Young Adults Aged 13–24 years, by Race/Ethnicity, 2010–2017—United States and 6 Dependent Areas



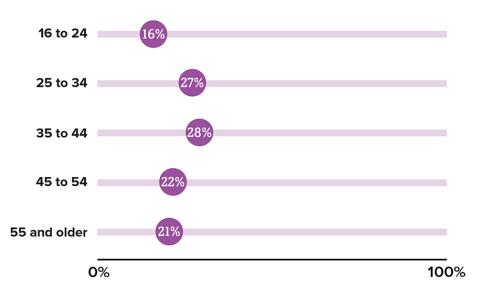


^a Hispanics/Latinos can be of any race.

PrEP Coverage in the US by Age, 2019*

PrEP is highly effective for preventing HIV from sex or injection drug use.

Overall, 23% of people who could benefit from PrEP were prescribed PrEP in 2019.

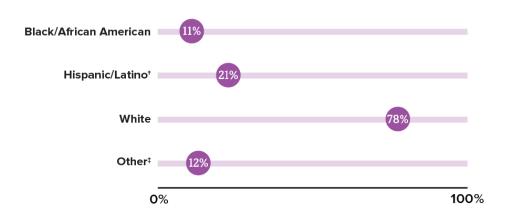


* Data not available for people aged 15 and under.

Source: CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2019. HIV Surveillance Supplemental Report 2021;26(2).

Differences in PrEP Coverage in the United States by Race and Ethnicity*

More work is needed to ensure equitable prescribing of PrEP. Of the 1.2 million people in the United States who could benefit from PrEP, only 30% were prescribed PrEP in 2021, with substantial differences by race and ethnicity.



Abbreviation: PrEP = Pre-exposure prophylaxis.

* Among people aged 16 and older.

† Hispanic/Latino people can be of any race.

‡ Includes American Indian/Alaska Native, Asian, Native Hawaiian and other Pacific Islander, and multiracial people.

Source: CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2021.

HIV Surveillance Supplemental Report 2023;28(4).

ATN 149: Optimizing Prevention Continuum for Youth in L.A. and NOLA

Objective, Aim & Hypothesis

- Objective: Test efficacy of 3 "Disruptive Innovation" intervention modalities to support HIV prevention and related outcomes in a 4-arm factorial RCT:
 - Automated text-Messaging and Monitoring (AMMI)
 - Peer Support on private social media space
 - Coaching strengths-based, telehealth delivered by near peers, no manuals
- Aim: Evaluate independent and synergistic intervention effects:
 - Primary HIV prevention choices PrEP, condoms, partners, PEP
 - Secondary mental health, substance use, housing/economic security
- Hypothesis: Combination of 3 interventions will have largest impacts

Community-Based Recruitment L.A. & New Orleans





















Getting to Zero HIV Among Youth: Moving Beyond Medical Sites

Mary Jane Rotheram-Borus, PhD; Sung-Jae Lee, PhD; Dallas Swendeman, PhD

Abstract | Full Text

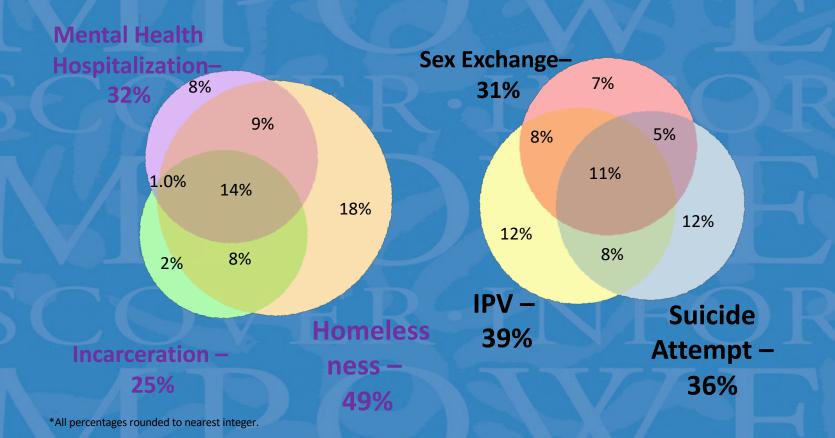
JAMA Pediatr. Published online October 15, 2018. doi:10.1001/jamapediatrics.2018.3672







Intersecting Challenges



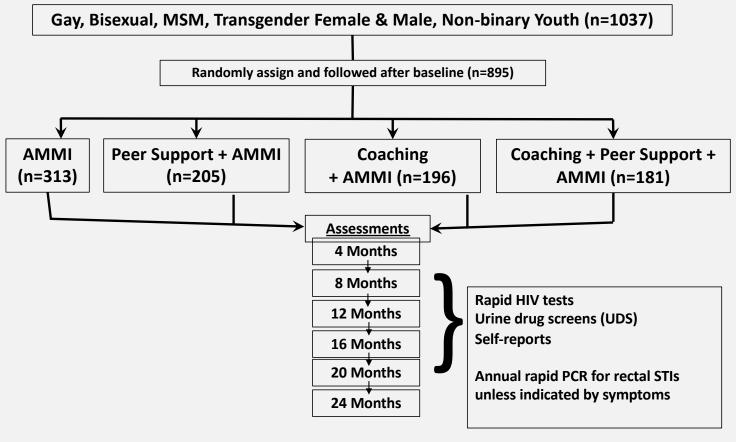
Diverse & Inclusive Participant Sample

	No.	Col %				
Age categories						
12-18	151	15				
19-21	421	41				
22-24	465	45				
Sex assigned at birth						
Male	969					
Gender identity						
Cis-gender	839	81				
Transgender	124	12				
Gender diverse/Non-						
binary	72					
Sexual orientation						
Gay/Homosexual/Same						
GenderLoving/Downe	572	55				
Bisexual	287 <i>28</i>					
Pansexual	76 7					
Heterosexual	50	5				
Queer	39 4					
Asexual/Other	8	1				
Unsure/questioning/DK	K 4 0					

	No.	Col %	
Race / Ethnicity			
Black/African American	387	37	
Latino	333	32	
White	211	20	
Asian/HPI/NA/AN/Other	106	10	
Education level			
Below high school	191	19	
High school / equivalent	239	24	
Some higher education	462	45	
Completed Higher ed.	125	12	
Employment status			
Employed	488	48	
Unemployed	240 2		
Student	285 <i>28</i>		
Insurance status			
Insured	773	75	
Uninsured	190	18	
Unsure	71	7	
Income <poverty level<="" td=""><td>692</td><td>67</td></poverty>	692	67	

	No.	Col %
HIV Prevention Program		
Experience	215	21
Consistent Condom Use	499	48
Lifetime PEP Use	61	6
Lifetime PrEP Use	190	18
Current PrEP Use	111	11
Lifetime Sex Exchange	257	25
Recent Sex Exchange	127	12
Lifetime sexual partners		
No partners	81	8
1-2 partners	111	11
3-10 partners	374	36
11 or more partners	465	45
Recent sexual partners		
No partners	157	15
1-2 partners	406	39
3-10 partners	397	38
11 or more partners	73	7
Condomless anal sex (12 m)	691	67

ATN 149 Study Design



15

PrEP Barriers & Intervention Impacts

Diverse & Inclusive Participants

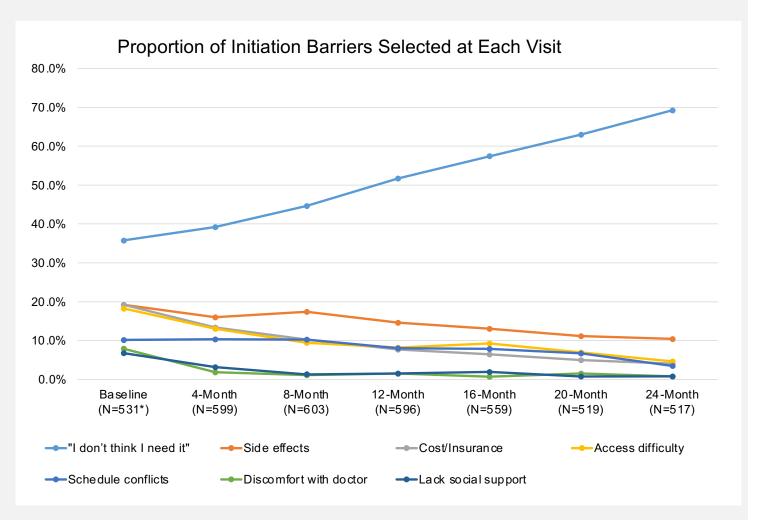
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PrEP Initiation Barriers Over Time

'I don't think I need it' most frequently reported barrier



Perceived Need for PrEP

- Reporting 'I don't think I need it' more common among SGMY who were:
 - Black or White (compared to Latino): OR=2.048, 95% CI [1.137, 3.690]; OR=2.143, 95% CI [1.176, 3.903]
 - Gender diverse or transgender male (compared to MSM): OR=2.247, 95% CI [1.035, 4.879];
 OR=6.870, [2.241, 21.062]
 - Incarcerated in lifetime: OR=3.618, 95% CI [1.786, 7.330]
- 'I don't think I need it' less common (i.e., higher perceived PrEP need) among SGMY who:
 - Had lifetime <u>suicide attempts</u>: OR=0.502, 95% CI [0.301, 0.838]
 - Lifetime <u>PEP use</u>: OR=0.066, 95% CI [0.008, 0.564]
 - 3+ recent sexual partners (compared to none): OR=0.398, 95% CI [0.194, 0.816]
 - Hazardous alcohol use: OR=0.571, 95% CI [0.360, 0.906]

PrEP Daily Adherence: Not the Primary Challenge

Table 3: PrEP frequency

	baseline	4months	8months	12months	16months	20months	24months
Every day	84.40	71.21	69.35	76.64	73.79	82.08	76.24
Almost every day	12.84	19.70	20.16	11.21	12.62	12.26	13.86
Several days per week	2.75	3.79	7.26	4.67	7.77	2.83	4.95
Only before having sex	0.00	2.27	2.42	4.67	1.94	0.00	0.99
Only if I know my partner's HIV status	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	3.03	0.81	2.80	3.88	2.83	3.96

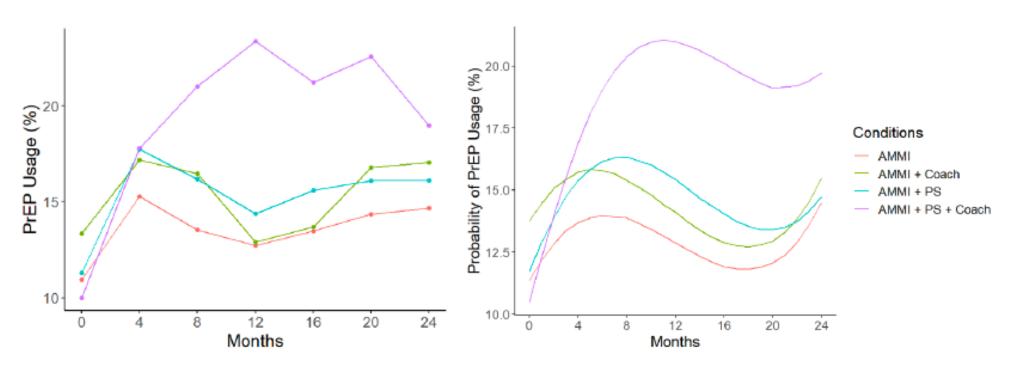
Intervention Effects on PrEP Use



3 Adaptable and Flexible Interventions



Intervention Effects: PrEP Use

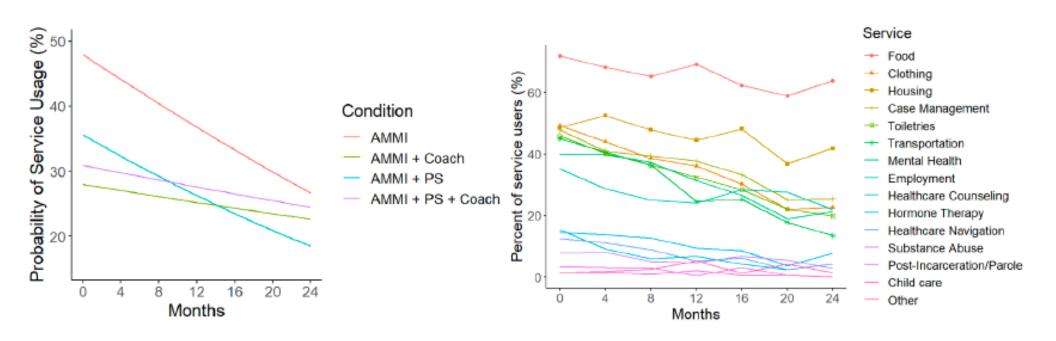


(OR 2.35; 95% CI:1.27-4.39 vs. AMMI control)

Secondary Outcomes



Intervention Effects: Services Use



(OR=1.23, 95% CI 1.12-1.35)

How did we get here? Interventions Deep Dive

CHIPTS Family Tree of EBI for Youth

Small group primary HIV prevention trials:



- 1988 1992
- > Runaway adolescents in NYC
- > SGMY cohort NYC (no control)



- > NIMH Multi-site Trial 1991-1995
- Youth Trial
- Computer Light (Lightfoot)

CHIPTS Family Tree of EBI for Youth

Secondary HIV prevention trials with YLH:



- 1993 1997
- Small Group Format
 - > L.A., NYC, S.F., Miami



- > 1998**-**2002
- One-on-One vs. Telephone
- > L.A., NYC, S.F.

CDC Replication & Diffusion

Adaptation with CBO / ASO Staff & Clients



> 2002-2004

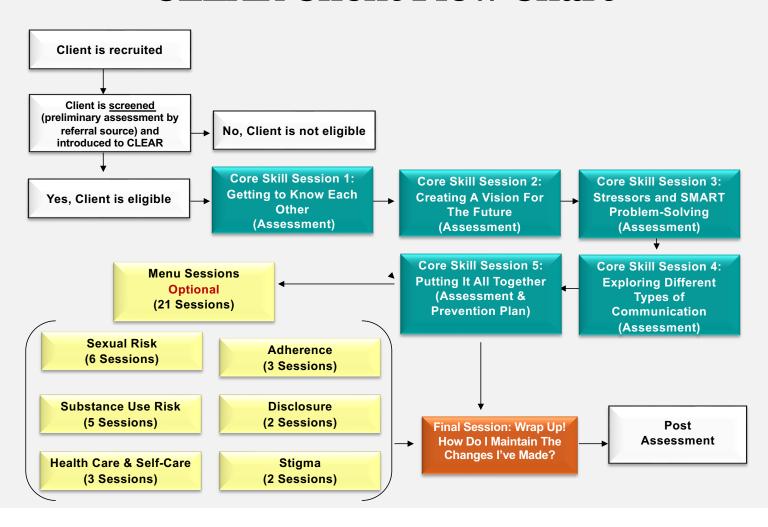


> 2004-2006

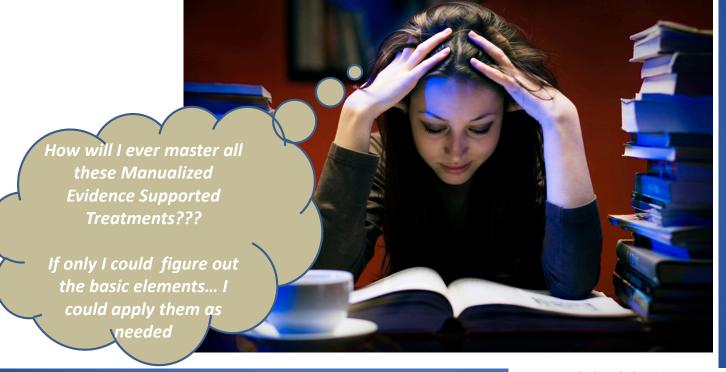


- > 2005 2007
- Adaptation incorporated high-risk negatives
- Most "popular" DEBI, per CDC
- Trained 900+ providers in 300+ agencies since 2008, with 25+ agencies for 2015-2020

CLEAR Client Flow Chart



Common Elements Approach



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National Center for Evidence Based Practice in Child Welfare

Presented at EUSARF Copenhagen, Denmark September 4, 2014

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EBI share COMMON

Theories, Functions, Principles, Practices,

Elements...

3 Adaptable and Flexible Interventions

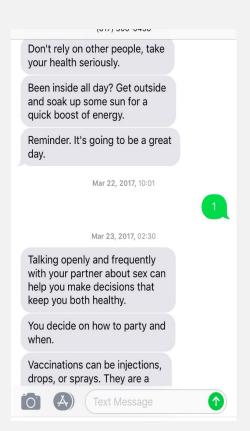


Automated text-Messaging and Monitoring Intervention (AMMI)

AMMI – Daily Text-Message "Nudges"

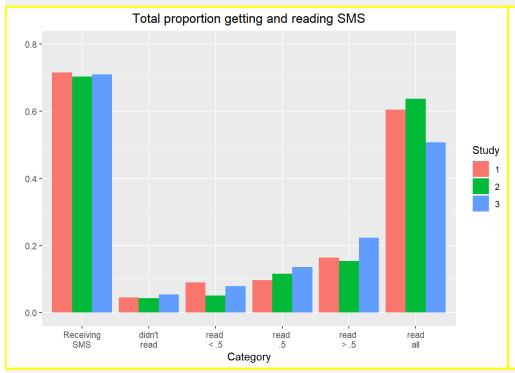
5 content streams Daily, 1 message from each:

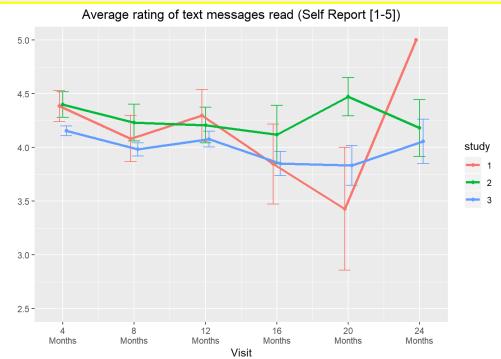
- Healthcare
- Wellness
- Medication/PrEP Adherence
- Thursdays to Saturdays:
 - Sexual Health
 - Substance Use
- ~100 unique messages per content stream
 - Adapted libraries from Cathy Reback, HRSA, etc.
 - Youth Advisory Boards, Co-Is, Staff vetted & adapted
 - Youth could opt-out at any time (<10% and many opted-in again)





>70% report receiving and reading all or most text messages - stable over time



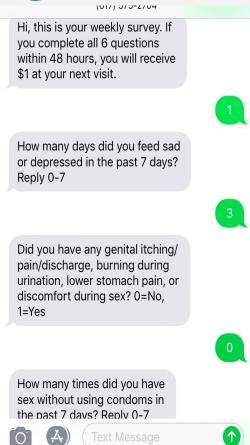


ATN

AMMI – Weekly Monitoring

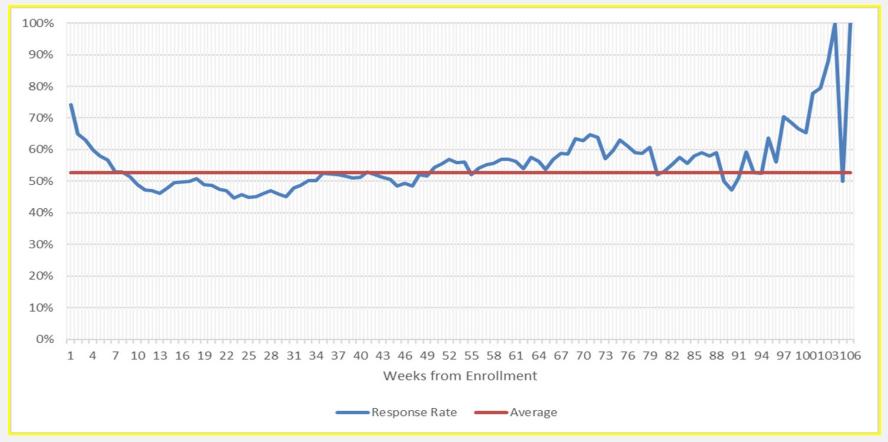
7-item "check-in" survey by SMS or email:

- STI Symptoms
- Acute HIV symptoms
- Depression
- Substance use
- Condomless sex
- Housing & food insecurity
- Medication/PrEP adherence
- \$1 incentive per survey





~50% respond to weekly surveys over time



Peer Support – online, private community

Peer Support – Private Online Spaces

- Private, anonymous, not on FaceBook, etc.
- \$10 incentives to post 3x each week
 - Up to 16 weeks
- Study Coaches reduced role over time
 - Moderate, blog content development
 - YAB feedback to reduce presence -> Youth-led











Peer Support Boards

- Peer norming is critical
- Coaches acting as peers, prompted conversations, answered questions, corrected misinformation, modeled best practices

Peer Support Board Conversation: Testing

Topic: How often do you get tested for STI/STD's? (P1)

It's been about a year since I've last tested, but I'm also in a monogamous relationship currently. (P2)

That makes sense! (P1)

I try to get tested every 4 months or so. (Coach with pseudonym)

Every 3 months (P3)

Peer Support Board Conversation: PrEP

Topic: My prep pills

I don't know wether i should take my prep pills or not because my friends tell me that its not worth taking them because of the side effects and the fact that there using us as ginnie pigs so i dont know what to do should i take them i should i stop. (P1)

Have you talked with your doctor about your concerns? I am planning on starting prep, but am waiting until I can get a reliable supply. But I am nervous about the side effects, and may stop taking it if they're too troublesome. (P2)

I have multiple friends using PREP who have never experienced negative side-effects. This pill is not using people as a test subject, it's here to help prevent the spread of HIV. If you're having sex, I definitely recommend it! (P3)

No I haven't talked to a doctor (P1)

Talk to your doctor or someone at the LGBT Center! Prep is changing and saving lives in my opinion. I've never experienced any side affects, and I've been taking it for 3 years. (P4)

Coaching – Strengths-based, telehealth, by near peers

Coaching: A novel approach to "evidence-based" intervention

- Strengths-based
 - Assess and build on youths' strengths, resilience
- Client-Centered hierarchy of needs
 - Housing, employment, relationships, mental health, substance use -> HIV
- Near-peer paraprofessionals
 - Frontline HIV prevention workers
 - Trained in Evidence-Based Practices
- Ongoing for 24-month follow-up period
 - Address needs in developmental transitions, crises
- Designed for Diffusion
 - Flexible for frontline workers roles, styles, language
 - Telephone, text-message, in-person delivery





Coaching: Strengths-Based and Youth-Centered

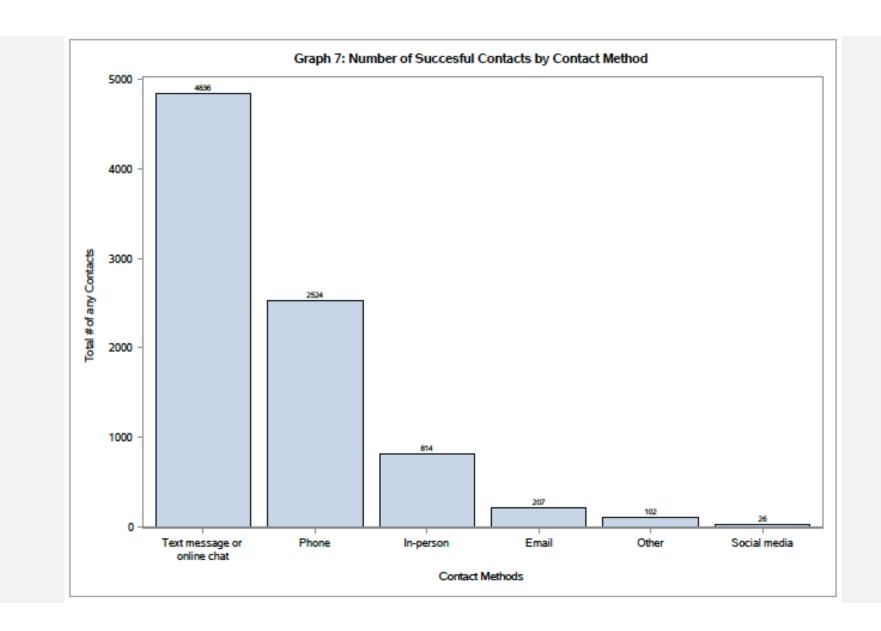
Core Elements

- Evidence-based practice training
- Assess strengths
- Hierarchies of needs
- Youth priorities+HIV/STI
- Link to services in cmty.
- Goal-setting, problem solving, follow-up



Flexible / Adaptable

- Coaches: near-peer CHWs or others
- Phone, video, text, inperson
- Weekly to monthly follow-ups
- Ongoing support for "seasons of risk"



Training on Common Elements

Practitioner Guide Problem Solving

To provide children with a systematic way to negotiate problems and to consider alternative solutions to situations.



Objectives:

· to teach a method of problem solving that involves clearly defining the problem, generating possible solutions, examining the solutions, implementing a solution and evaluating its effectiveness

Stone:

Steps:	
Normalize problems	 Discuss the fact that we all have problems, every day. Note that solving them can make us feel good, and not solving them can make us feel bad. Discuss with the child the types of problems that people in general experience daily, and more specifically, those problems that the child might be dealing with. Appropriate self-disclosure may be useful. Ask the child to begin thinking about a particular problem he/she has experienced lately.
Teach 5 steps to problem solving	 Say what the problem is Think of solutions Examine each one (what good and bad things would happen if he/she tried this solution?) Pick one and try it out See if it worked. If so, great! If not, go back to the list of solutions and try another one.
Practice using the problem solving steps	 Familiarize the child with this problem-solving process by starting with your own problem and allow the child to help you in working through the problem solving steps. Keep your example brief (e.g., use only 2 or 3 possible solutions, and move through them quickly; the goal is to illustrate the process). Use questioning to make sure he/she understands the steps.
Elicit personal example from child and practice	After you have disclosed your problem, work with the child to identify a problem from his/her life that the two of you can work on using the problem solving steps. Do this in more detail than your example above. If the child is not ready to discuss his/her problems, use a story or a problem of someone the child is close to (i.e., a friend or family member).
Review problem solving technique	Ensure that the child (a) knows when it might be helpful to use the steps, (b) understands how to use this strategy, and (c) knows each of the five steps.
Practice assignment	Ask the child to practice the problem solving process on his/her own, and to record his/her steps (with caregiver, as needed), and bring the record back to the next session for discussion and review.



Practitioner Guides

Common Practice Elements in Adolescent Prevention Programs

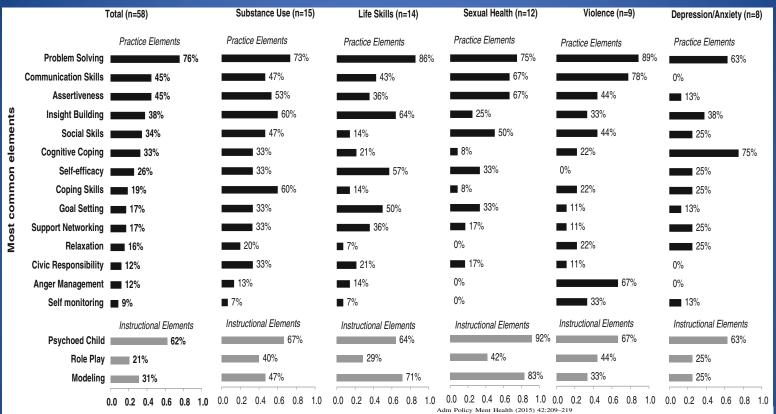


Fig. 1 Common elements by category

DOI 10.1007/s10488-014-0541-9

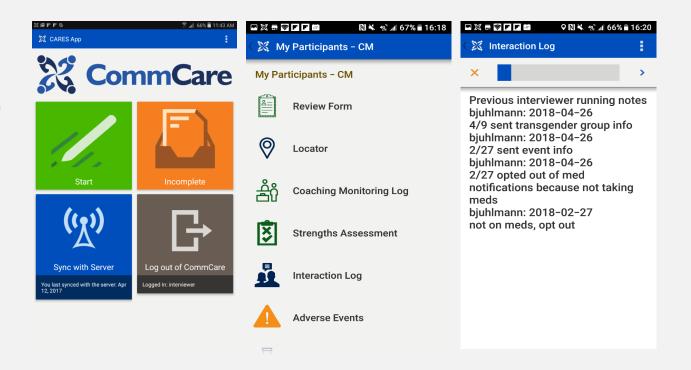
ORIGINAL ARTICLE

Common Elements of Adolescent Prevention Programs: Minimizing Burden While Maximizing Reach

Maya M. Boustani · Stacy L. Frazier · Kimberly D. Becker · Michele Bechor · Sonya M. Dinizulu · Erin R. Hedemann · Robert R. Ogle · Dave S. Pasalich

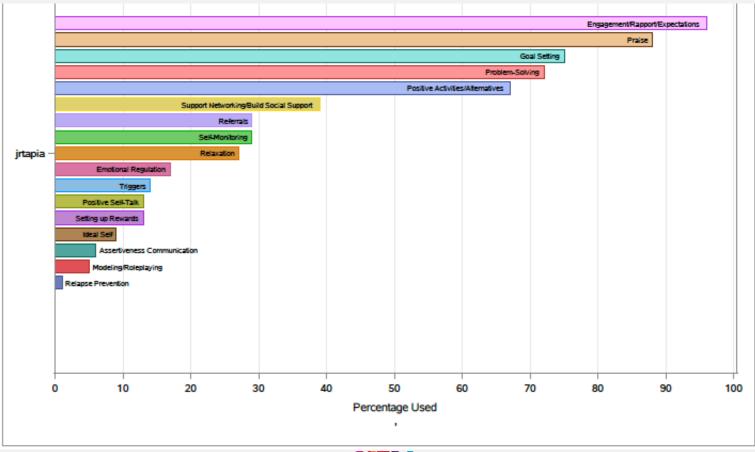
Mobile-Web Data Collection, Intervention, & Supervision

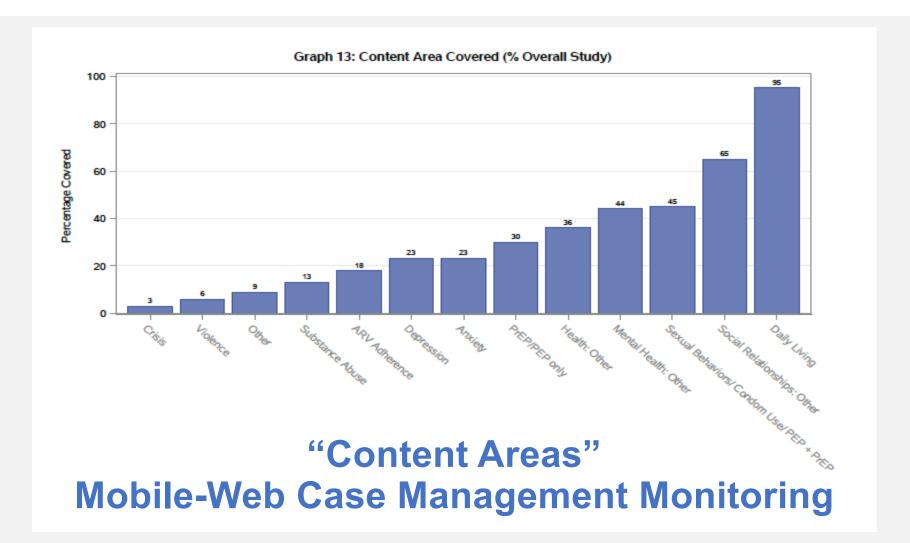
- Dimagi
 CommCare on mobiles, tablets,
 PCs
- Assessments, interactions, interventions, prompted & logged in realtime





Case Management Monitoring: Practice Elements





Frontline Workers Can Adapt to their Local Contexts & Individual Clients

Local Adaptation

Content Tailoring

Foundation al Skills

Cultural Tailoring Ethnicity, Language, Income, Education

Shared processes
Frame issue
Knowledge
Build skills
Remove barriers
Build social
support

Domains (e.g., Anxiety)
Situations
Entering a new school
Developmental
challenges

Evidence-Based Practice Elements

Strengths Assessment: PrEP Barriers

[Participant] has heard of PrEP and wants to be on it but is worried that his medical information will be disclosed somehow to his mother since he is under her insurance and currently not out to her. [The participant said,] "I feel like if I get on PrEP there will be a way for her to find out. I don't know if it's super discreet."

(PID: 110180030)

[Participant] was on PrEP starting February 2019 and got off it once he started reading about potential side effects...now that he's in a monogamous relationship and they both got tested together he doesn't feel the need to be on it. (PID: 110660097)

- Strengths
 assessment captured
 baseline PrEP
 preferences, barriers,
 and experiences
- Context of HIV risk and PrEP opportunities also captured across multiple domains (healthcare, relationships, physical health, etc.)



Strengths Assessment: Mental Health

- Strengths Assessment administered at first coaching session
- Descriptions, strengths, and challenges described for 6 domains of functioning:
 - Daily living, social relationships, physical health, healthcare, mental health, risks (sexual health and substance use)
- Strengths leveraged to reach health-related goals

"Realistically I have moments where I am down, but it has made me resilient and I'm able to bounce back." (Non-Binary, pansexual participant, White, age 20, Los Angeles)

"Having my medication is a strength. But having it NOT work perfectly is also a strength because it has pushed me to develop tools for my mental being. If Zoloft was perfect, I wouldn't have discovered the techniques in managing my depression and anxiety. That alone also helps me help others in discovering their own techniques to manage their anxiety and depression." (Cisgender gay male, White, age 20, Los Angeles)





Coaching: Strengths-Based and Youth-Centered

Goal-Setting

- Identify long and shortterm goals
- Support on 3 goals, always sexual health
- Problem-solve SMART goals
- Follow-up on goal progress
- Ongoing supportive accountability



Goal Setting

- Participants set goals with coaches
- Coaches follow up on goal progress and problem-solve
- 1 goal must be related to sexual health, others can be for other domains

I did meet with [my coach] really consistently over the two years. My goal, my personal goals that we had set together basically were all having to do with securing very basic needs...[My coach] helped me navigate a lot of like youth services...(Youth Advisory Board Session 4)

Participants' Goals: Diverse priorities

Goals were made across a variety of domains including:

Housing

Participant would like to "get off the streets." He would like to secure housing for himself and his dogs.

Finances

To open a bank account and set-up direct deposit to save money

Work

Apply to 10 job applications in the next two weeks and follow up.

School

Go to office hours for math and English

Government Services

Obtain her certificate of naturalization

Relationships

To reach out to friends at least once a week

Physical Health

Begin working out at home 2x a week

Healthcare

Finding a doctor to update immunizations

Mental Health

The participant would like to build coping skills for anxieties he experiences for trusting other people

Sexual Health

Wants PrEP before transferring to University in September

Substance Use

Limiting alcohol to every 2 weekends

Youth Advisory Board



Youth Advisory Board

Coaching Intervention Feedback

"...I really needed someone to keep me accountable to myself at that time in my life and [my coach] was my rock those first two years of being homeless...that was really special in that time in my life, because I felt like everybody who was important to me disappeared." (YAB Session 4)

PrEP Discussions

"...I weigh the chance of getting HIV is more dangerous than the potential side effects. And so, in my instance, I do take PrEP...I use also the reasoning [that] I would probably get in a more monogamous relationship eventually in the future...And so I figured that my time on PrEP would be limited." (YAB Session 9)

Youth Advisory Board

Inclusion of trans masculine and gender-diverse youth

"I like studies that involve trans men, because a lot of them don't, so when I can be there and show up for my community, especially my masculine-identified community, I want to do that so there can be more studies. I mean we need that so other people can...look at [it] and make that decision [about PrEP use], because I was able to be a part of that." (YAB Session 4)

Community Inclusion

"...you all have been doing an excellent job with including the community and getting-gathering feedback, and I've definitely seen you all's evolution with, you know, keeping us, keeping the population, and their voice kind of centered and being open to feedback...It's been great to watch this develop." (YAB Session 11)

Conclusions, Limitations, Next Steps

Conclusions

PrEP Use

- Modest increases is PrEP use with Coaching + Peer Support + AMMI
 - New and continued use over 12 to 20 months, but is it enough to bend the curve?
- How do the interventions function?
 - Peer Support social norming, sharing experiences, demystifying
 - Coaching goal setting (personal & sexual health), navigation, follow-up
 - AMMI nudges, reminders (little emphasis on PrEP use
 - Results support hypothesized synergistic effects

Services Utilization

Coaching, with & without Peer Support, supports referral, linkage, navig.

Conclusions

- Need to address youths' diverse needs and priorities with complementary interventions to support HIV prevention
- Rapidly adaptable and implementable "disruptive innovation" interventions can be efficacious

Next Steps in Progress

- Cost-Effectiveness analyses
- As-treated / post-hoc analyses
 - Who did intervention work for or not?
 - Other outcomes for sub-groups? Mental health, substance use, condom use?
- Intervention Innovations
 - Chatbots interactive AMMI, coaching scalability & consistency
 - Implementation with real-world navigators, peer counselors, outreach workers? Or "Direct-to-youth" with centralized staff?

CHIPTS EHE Supplement for Implementation Preparation

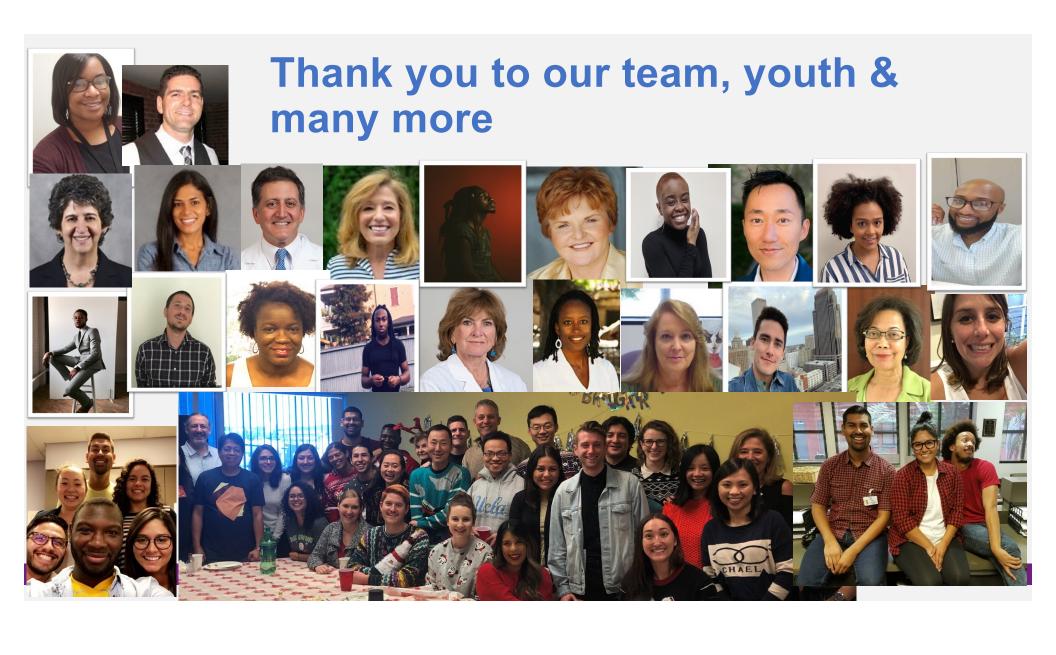
Implementation research project for scale-up of ATN 149 interventions for youth at-risk for HIV in LA

- Phase 1: Mixed Methods Data Collection and Networking
- Phase 2: Intervention Package Update, Implementation Strategy Development, & Type 2 Hybrid Implementation-Effectiveness Trial Preparation

Partners:

- Friends Research Institute and Community Center in Hollywood
- TruEvolution in Riverside
- Loma Linda University Health's Institute for Community Partnerships

Interested in collaborating? Contact us!



Thank you! Questions? Collaboration? dswendeman@mednet.ucla.edu