Proposing and Applying the Observational-Implementation Hybrid Approach

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Podcast: https://www.buzzsprout.com/2195469/13546638



Premise:

Incorporation of implementation science methods and measures into observational studies to collect information that would allow researchers to anticipate, estimate, or infer about the effects of interventions and implementation strategies

Observational researchers might currently not be collecting data relevant to the eventual implementation of programs or interventions



Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact

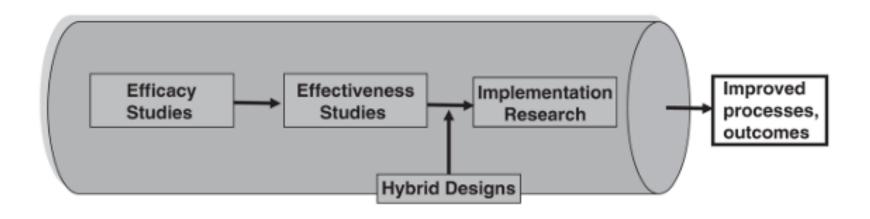
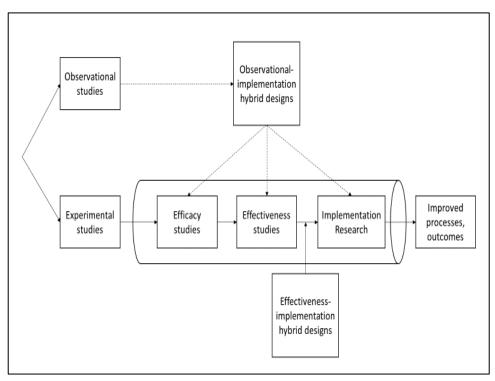
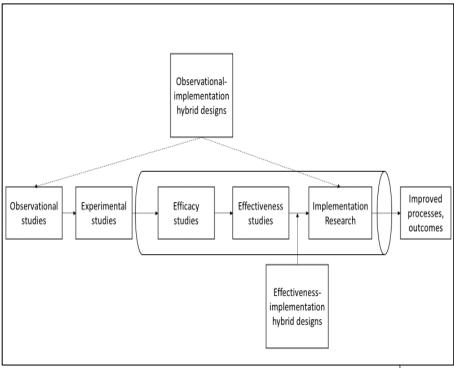


FIGURE 1. Research pipeline.



A practical approach to make the research pipeline more <u>efficient</u> and to <u>decrease time</u> from research to impact.





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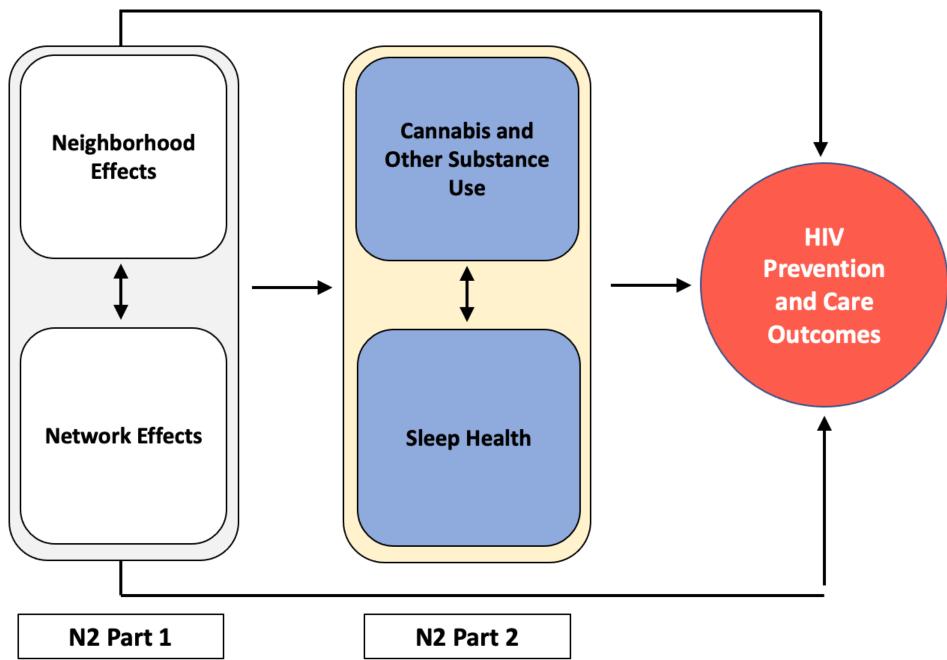
Contexts

- 1. Observational cohorts that individually enroll participants either for existing (to which implementation concepts could be added) or for newly planned studies.
- 2. Routinely collected program data, at either the individual or aggregate levels.
- 3. Collection of data from study participants enrolled in an observational cohort study who are also involved in interventions linked to that study (e.g., collecting data about their experiences with those interventions).

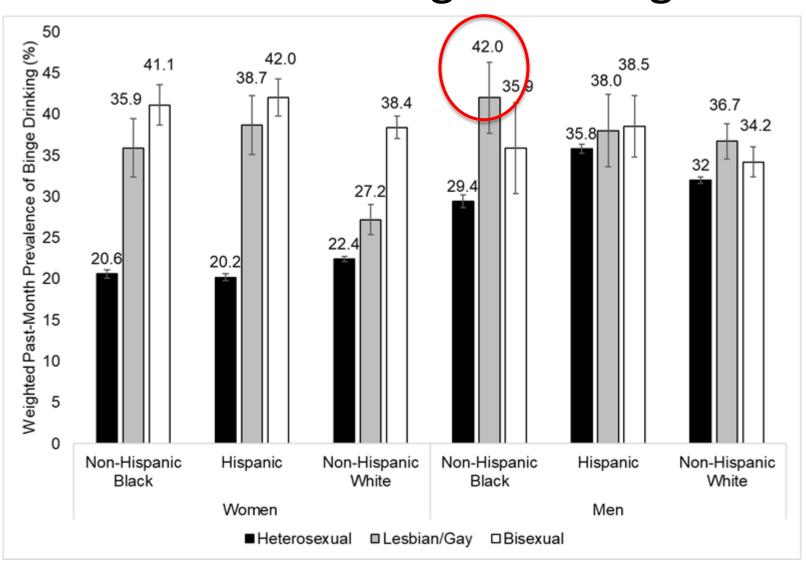


Methods

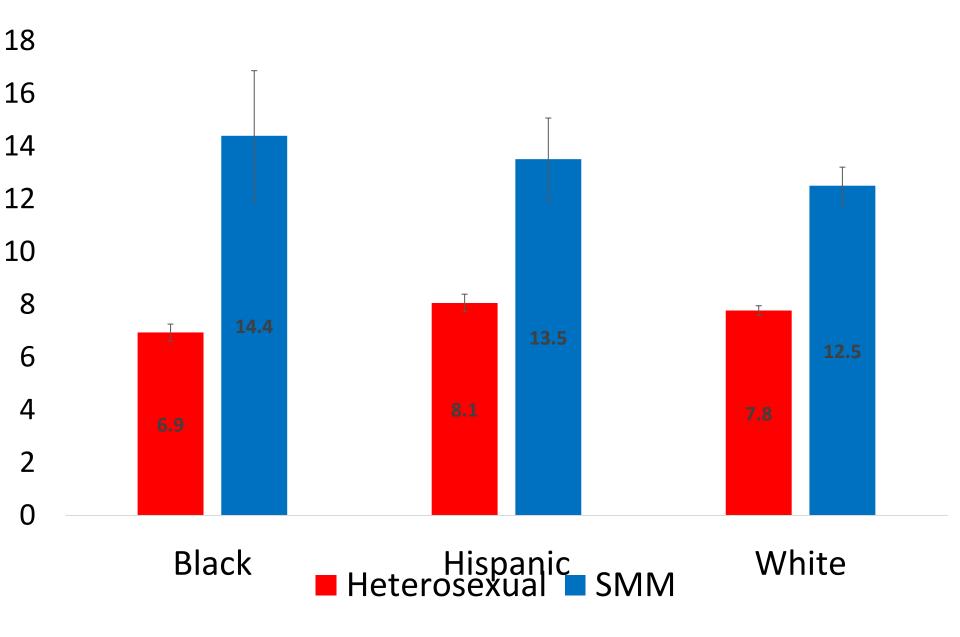
- IS theories and frameworks (e.g. CFIR)
- Transportability
- Willingness
- Acceptability
- Preference elicitation
- End-user perspectives



NSDUH 2015-19: Prevalence of Past-Month Binge Drinking



NSDUH 2015-19: Prevalence of Past-Year AUD



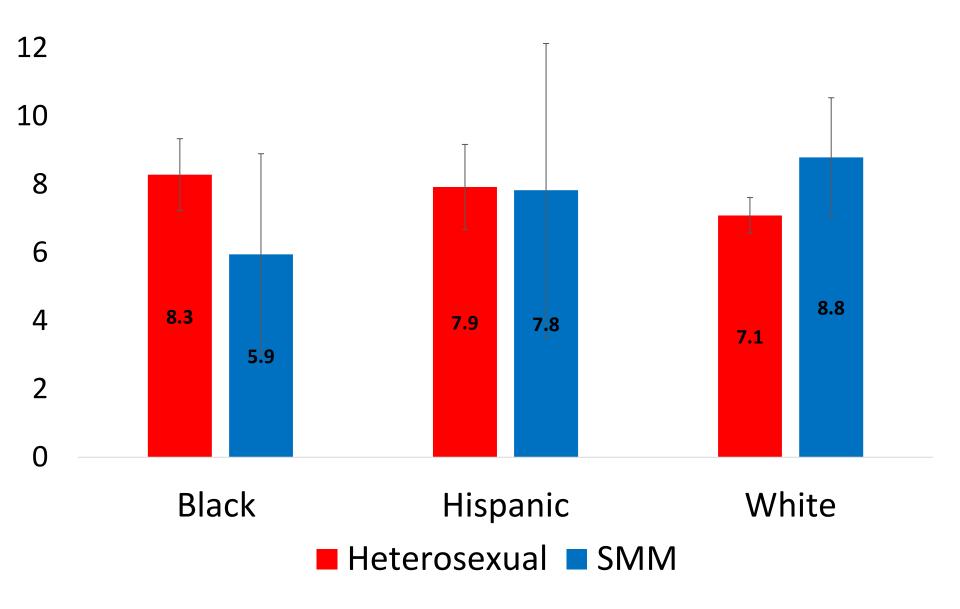
THE LANCET Psychiatry

Prevention, screening, and treatment for heavy drinking and alcohol use disorder

Justin Knox, Deborah S Hasin, Farren R R Larson, Henry R Kranzler

- Heavy drinking and alcohol use disorder are major public health problems.
- Practitioners not specializing in alcohol treatment are often unaware of the guidelines for preventing, identifying, and treating heavy drinking and alcohol use disorder.
- We reviewed existing information and recent developments in clinically useful and valuable tools to prevent, screen and treat heavy drinking and alcohol use disorder.

NSDUH 2015-19: Prevalence of Past-Year AUD Treatment



Alcohol use negatively impacts HIV care outcomes

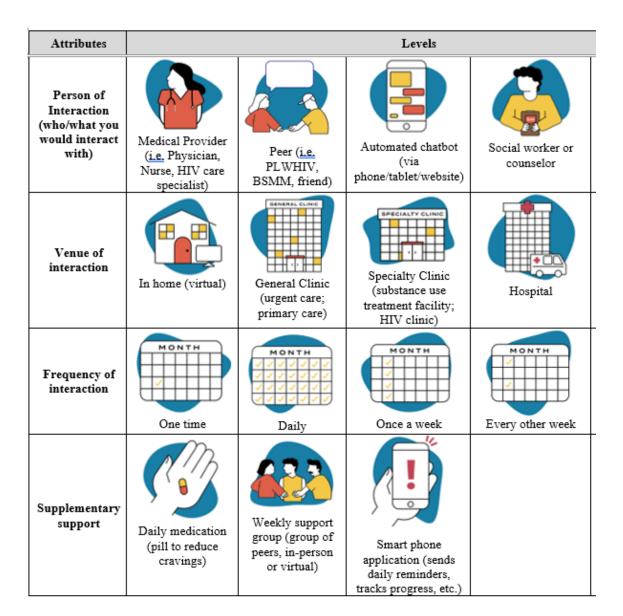
Williams et al. AIDS Behav. 2019

Percent of VA Patients Living with HIV (n=33,224)) Meeting Three HIV Care Continuum Targets Across Level of Alcohol Use

Adjusted* 100 79.4 90 77.8 75.1737 80 69.1 70.470 60.1 57.3 _{56.6} 60 50.5 47.2 50 38.3 40 30 20 10 0 Engaged in HIV Medical Care Treated with ART Virally Suppressed P<0.001 P<0.001 P<0.001

^{*}Adjusted for race, ethnicity, gender, fiscal year of AUDIT-C screening, age, and any mental health and non-alcohol substance use disorders

N2 Discrete Choice Experiment



N2 Human-Centered Design (HCD)

HCD is a product development technique that focuses on the user perspective in order to optimally meet their needs

We are conducting IDI's with N2 participants on their emotional states as they access HIV prevention & care services

Data used to develop *journey maps*: a visual tool of Black SMM physical and emotional journey through HIV clinical encounters

Journey maps can be used to understand: where, when, by whom alcohol screening and treatment can be integrated into HIV service settings





Implications:

- Increase public health impact
- Expanding collaborations
 - Funding?
 - Support
- Expansion of epidemiological training
- Inequities
- Limitations
 - What scenarios would it not make sense (e.g., interventions not ready or not enough certainty about the harms of an exposure?)



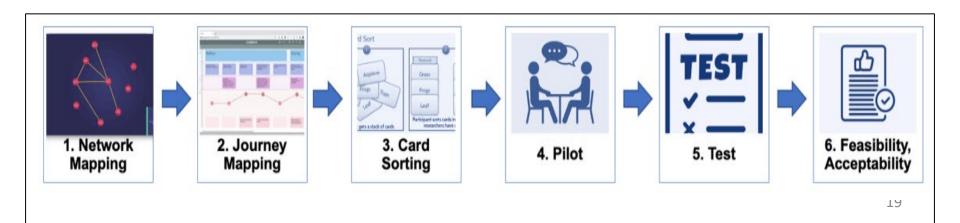
Future Directions

- Dissemination
- Grants (e.g., EHE, Asenze)
- Further papers
 - economists [qual]
 - examples [AJPH]
 - guidelines [types]
 - epi training
 - inequities

Extra Slides: Social Network Intervention

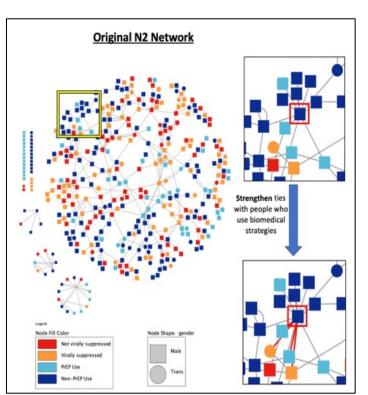
Aim 1: Human-Centered Design (HCD) Workshops

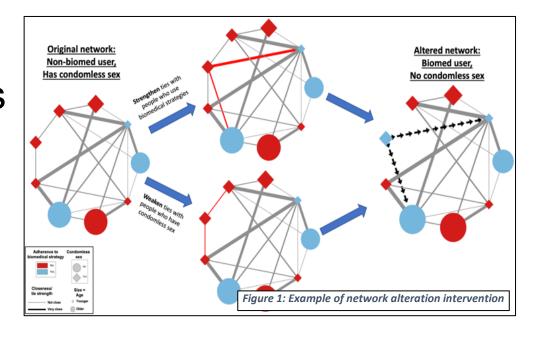
- HCD is a product development technique that focuses on the user perspective in order to optimally meet their needs
- Conduct 6 HCD workshops among diverse stakeholders using HCD methods to inform how to update and adapt the WiLLOW program social network alteration intervention to meet the unique needs of Black SMM



Phase 1: Discover

Workshop 1: Network visualizations





Workshop 2: Journey Mapping

Workshop 3: Card Sorting

Phase 2: Review and Revise

- Identify desired benefits reflecting community priorities and principles for intervention format
- Rapid prototyping
 - Leverage data from phase 1
 - Develop a discrete choice experiment (DCE)

Phase 3: Design and Build

Figure 5. Implementation Research Logic Model (IRLM) for the Updated and Adapted WiLLOW Program

Determinants

Evidence strength (+++), Relative advantage, Staffing, Intervention source, Adaptability (+++), Cost (++), Low complexity (+++), Design quality and packaging, Using non-stigmatizing approaches which address syndemic factors and provide supportive services

inner

Structural characteristics, Long history of collaboration of academic researchers and community partners, Experience of communitypartner, Network and communication, Culture (nonstigmatizing, (gender-affirming, equitable), Implementation climate, Leadership engagement

Community needs and resources, Community perception of intervention, External policies and incentives, Non-stigmatizing, Gender affirming, Community partner able to overcome structural racism and homophobia in addition to other syndemics to provide equitable care

Experience with intersecting discrimination and syndemics, Knowledge/beliefs about intervention, Self-efficacy to communicate with social network members, Need for confidentiality Medical mistrust

Planning; Engaging a long-standing collaboration between academic researchers, community partners, community members, and FQHC service providers; Implementing; Reflecting and evaluating; Maintaining

Implementation Strategies

- Promote adaptability and finalize HCD/DCE
 Develop stakeholder interrelationships
- Involve stakeholders as advisory board in adaptation of WiLLOW to capture and share local knowledge
- Implement HCD workshops according to plan
- Operationalize proposed strategy for analysis of the HCD workshop activities
 Assess for readiness and identify barriers/facilitators
- Intervene with clients to enhance uptake and adherence
- Disseminate findings through local HIV meetings, academic conferences, and scientific journals
- Receive ongoing consultation from available resources such as the HIV Center and CCHE

Mechanisms

- Provide social skills training, with skills and interactions identified using HCD
- Environmental restructuring, with focus on chancing the social environment or restructuring social life to facilitate status neutral biomedical HIV prevention and care, and safe sex behaviors
- Using tailored personalized message to Black SMM which consider their intersecting discrimination and syndemics (i..e, cultural similarity and arguments)
- Shaping knowledge on status neutral biomedical HIV prevention and care, and safe sex behaviors (i.e., consciousness raising)
- Modeling through social network members
 Persuasive communication

Outcomes

Reach: Participation rate of N2P2 participants in the HCD workshops/DCE

Adoption: # of CBOs that offer the adapted WiLLOW, # of Black SMM that receive the adapted WiLLOW

Feasibility/acceptability: CBOs feasibility to deliver adapted WILLOW; Black SMM acceptability of adapted WILLOW

- Updated and adapted WiLLOW available to Black SMM
- Appropriate non-stigmatizing, and equitable care

Clinical Intervention

Adapted and updated WiLLOW program, addressing Black SMM in Chicago through community-partnerships for HIV status neutral care using 6 human-centered design (HCD) workshops and a discrete choice experiment (DCE)

- WillOW a social network alteration intervention which helps Black SMM identify & maintain supportive relationships to promote status neutral biomedical HIV prevention and care, and safe sex behaviors
- Adapted = congruent with the experiences, values, and culture of Chicago SMM
- Updated introduction of digital technology
- HCD = addresses social determinants of health, syndemics, and intersectional stigma that Black SMM face through 6 workshops (1. network mapping, 2. journey mapping, 3. card sorting, 4. pilot, 5. test, 6. feasibility and acceptability of adapted/updated WilLOW) and a DCE
- HIV status neutral care provide HIV testing, PrEP, ART, and other ancillary services to promote uptake and adherence

and % Black receive HIV test

and % Black SMM linked to PrEP/ART

and % clients who receive prescription for PrEP/ART

and % clients who begin PrEP/ART

and % clients adherent to PrEP or virally suppressed

Black SMM have non-stigmatizing, and equitable care (all)

DIE CATE

Implementation

Clinical/Patient

Aim 2: Discrete Choice Experiment

Attributes	Levels			
Person of Interaction (who/what you would interact with)	Medical Provider (i.e. Physician, Nurse, HIV care specialist)	Peer (<u>i.e.</u> PLWHIV, BSMM, friend)	Automated chatbot (via phone/tablet/website)	Social worker or counselor
Venue of interaction	In home (virtual)	General Clinic (urgent care; primary care)	Specialty Clinic (substance use treatment facility; HIV clinic)	Hospital
Frequency of interaction	One time	Daily	Once a week	Every other week
Supplementary support	Daily medication (pill to reduce cravings)	Weekly support group (group of peers, in-person or virtual)	Smart phone application (sends daily reminders, tracks progress, etc.)	