Addressing Structural Barriers to Care through the Implementation of a Community Health Worker Program

National Ryan White Conference on HIV Care & Treatment

Innovative System-Level Models for HIV Service Delivery Meeting Track

August 13, 2020

Team Introductions

- **Allyson Baughman***, PhD, MPH
  Project Director
- **Melissa Davoust***, MSc
  PhD Student in Health Services Research
- **Hill Wolfe***, MPA
  PhD Student in Health Services Research
- **Serena Rajabiun**, PhD, MA, MPH
  Co-Principal Investigator
- **Mari-Lynn Drainoni**, PhD, MEd
  Co-Principal Investigator

*Presenting

Disclosures

The presenters have no relevant financial or non-financial interests to disclose.

Agenda

- Session Description and Objectives

- Project Background

- Methods

- Results

- Conclusions

Session Description

- **Community health worker (CHW)** programs are a strategy to **reduce inequities in HIV care**. This presentation will describe an evaluation of CHW program models across 10 Ryan White HIV/AIDS Program (RWHAP) sites.

Learning Objectives

1. Describe the characteristics of CHW program models and participants
2. Assess changes in unmet needs of CHW program participants
3. Describe the relationship between unmet needs, CHW/participant encounters, and clinical outcomes

Project Background

Project Background

- Efforts have successfully **increased the proportion** of people with HIV who are **in care** and **virally suppressed**; however, progress is **slowing** and **inequitable** across populations in the United States.

- Recently, **community health worker (CHW) programs** have received increased attention as a strategy for **improving HIV outcomes** and **reducing inequities in HIV**, especially among racial and ethnic minorities.

Who is a Community Health Worker?

"A CHW is a frontline public health worker who is a **trusted member of and/or has an unusually close understanding of the community served**. This trusting relationship enables the CHW to serve as a **liaison/link/intermediary between health/social services and the community** to facilitate **access to services** and improve the **quality** and **cultural competence** of service delivery. A CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy."

American Public Health Association. Community Health Workers. 2014; http://www.apha.org/membergroups/sections/aphasections/chw/.
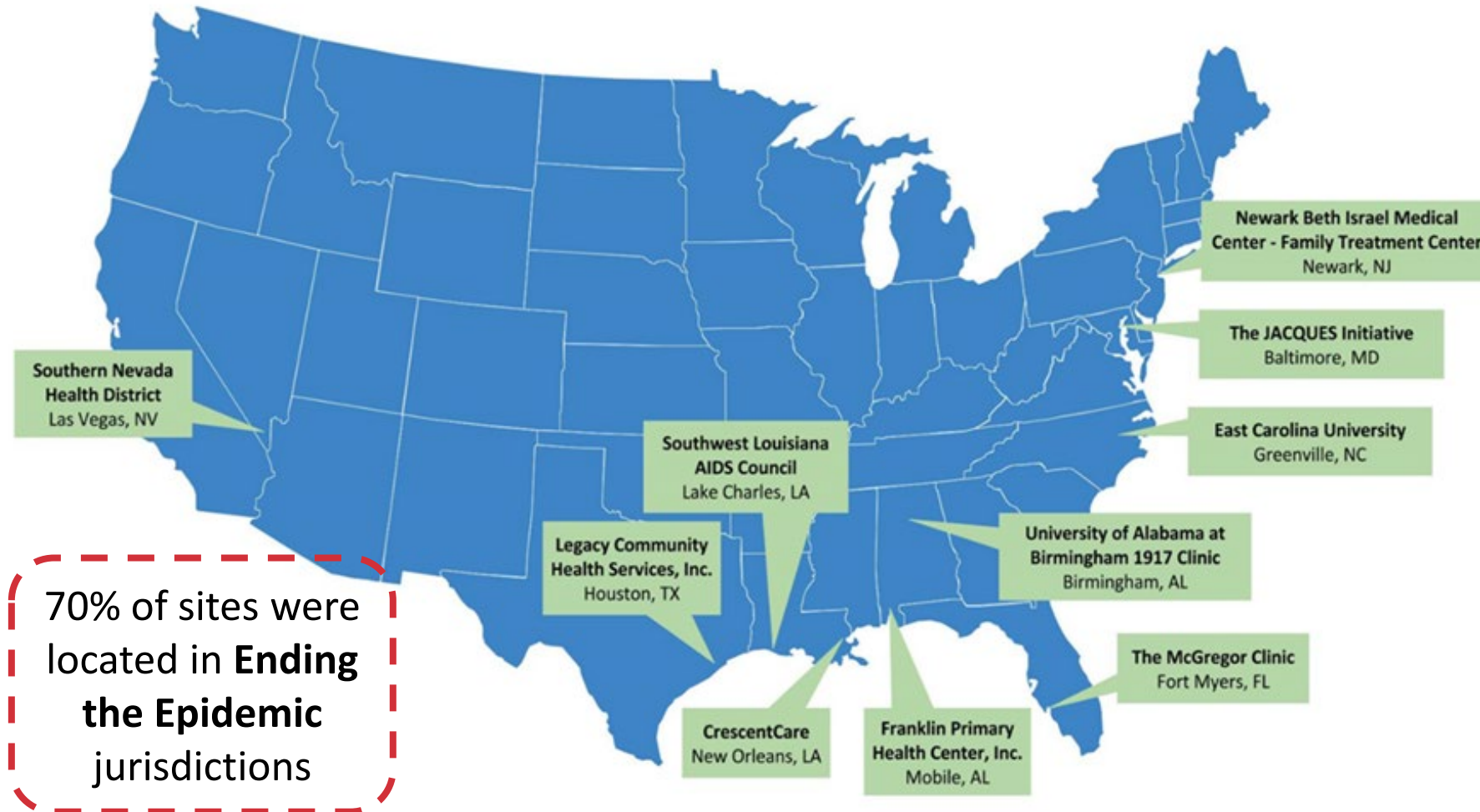
Project Background

From 2017 to 2019, an initiative supported by the Minority HIV/AIDS Fund and administered by the Division of Community HIV/AIDS Programs funded **10 RWHAP sites across the United States** to implement CHW programs.

Project Goals:

- Increase the utilization of CHWs to strengthen the health care workforce, increase access to care, and improve health outcomes for racial and ethnic minorities living with HIV

- Assist RWHAP-funded medical provider sites with the support needed to integrate CHWs into an HIV multidisciplinary team model

- Develop tools, materials, and resources to facilitate the implementation and use of CHWs in HIV primary care teams

- **Evaluate the effectiveness of CHWs on linkage and retention in care for people with HIV and assess the effectiveness of TA activities on the quality of CHW providers**

Implementation Sites

70% of sites were located in **Ending the Epidemic** jurisdictions

Southern Nevada Health District
Las Vegas, NV

Southwest Louisiana AIDS Council
Lake Charles, LA

Legacy Community Health Services, Inc.
Houston, TX

CrescentCare
New Orleans, LA

Franklin Primary Health Center, Inc.
Mobile, AL

University of Alabama at Birmingham 1917 Clinic
Birmingham, AL

The McGregor Clinic
Fort Myers, FL

Newark Beth Israel Medical Center - Family Treatment Center
Newark, NJ

The JACQUES Initiative
Baltimore, MD

East Carolina University
Greenville, NC

Methods

Implementation Methods

- A multidisciplinary team from BU was funded as the Technical Assistance and Evaluation Center for the three-year multisite initiative.
  - The BU team provided training and technical assistance to the 10 RWHAP sites to integrate CHWs into their multidisciplinary care teams.
- The CHW program at each site was guided by a **training curriculum** and **implementation guide** that was based on the core constructs and common roles of CHWs from the Community Health Worker Core Consensus (C3) project.

C3 Project created a set of CHW **roles** and **competencies** across all fields (www.c3project.org)

Project Structure

Project Structure
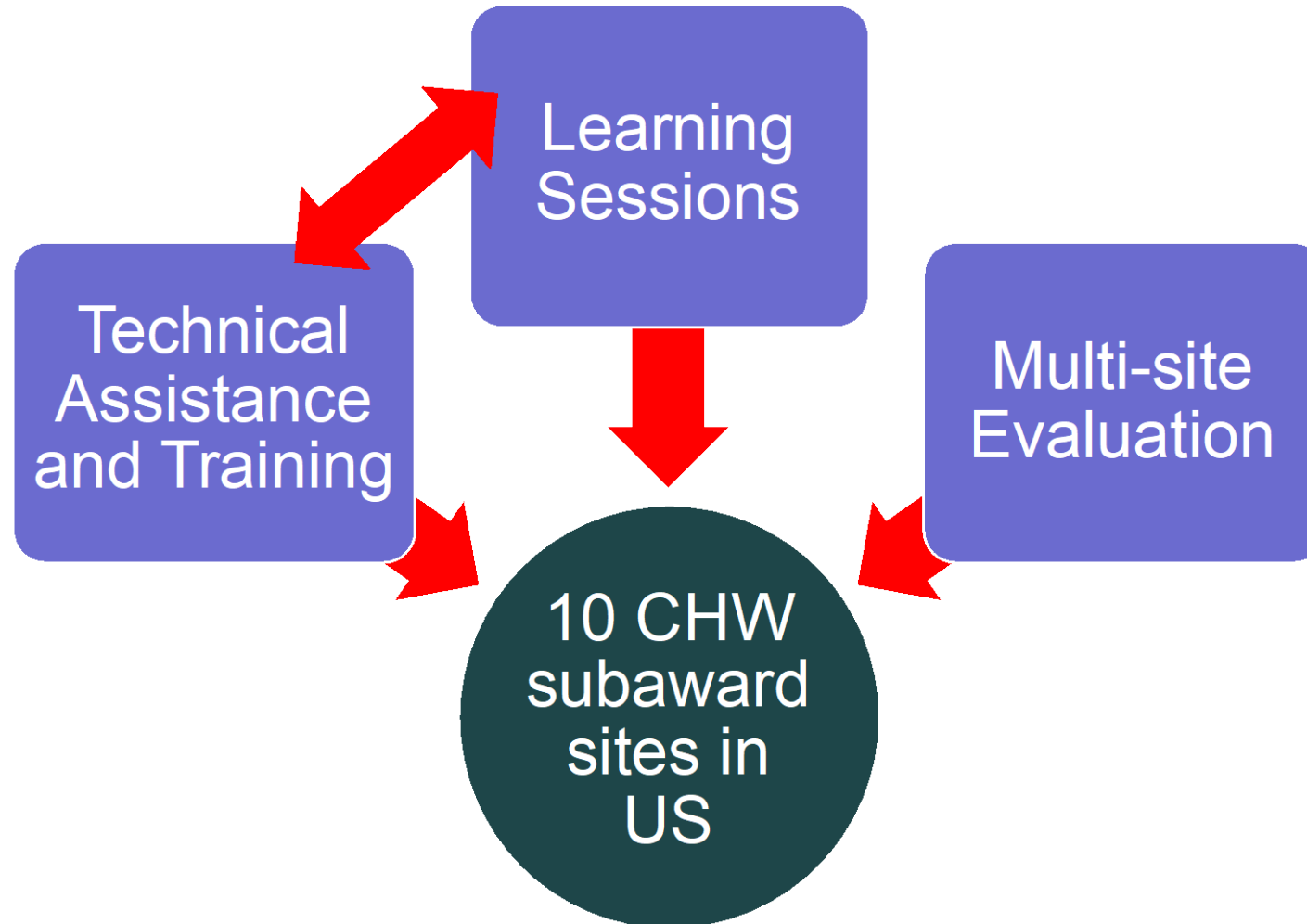
Multi-site Evaluation

Study the implementation of CHW programs

Examine the effectiveness of CHW programs

Evaluation Methods

Data Collection

- Process: Site team members (e.g. CHWs, supervisors, clinic staff) participated in individual interviews along with walk-the-process focus groups at baseline and 12 months.

- Process/Outcome: CHWs completed encounter forms over the course of the project.

- Outcome: Program participants completed questionnaires and had a chart review at baseline, 6 months, and 12 months.

Demographics

Interviewer Script: To start out, I would like to ask you some questions about yourself, ok?

Ask the following questions at baseline only:

What is your gender? (Select one)
☐ Male
☐ Female
☐ Other (please specify):_____
☐ No response

Are you transgender? (Select one)
☐ Yes, male to female
☐ Yes, female to male
☐ No
☐ No response

What is your race? (Check all that apply)
☐ Black or African American
☐ Asian
☐ American Indian or Alaska Native
☐ Native Hawaiian or Other Pacific Islander
☐ White
☐ Other (please specify): _____
☐ No response

Are you Hispanic or Latino/a? (Select one)
☐ Yes

	3. I referred the participant to an appointment (check all that apply):
☐	☐ 3a. Medical appointment for HIV healthcare (i.e. linking newly diagnosed clients to first HIV medical appointment).
	☐ 3b. Medical appointment for non-HIV health care

Evaluation Methods

Data Analysis

- Descriptive statistics

- Unadjusted analysis of changes in clinical outcomes (baseline to 6 months) with chi-squared tests

- Multivariable logistic regression to examine the impact of encounter days on changes in clinical outcomes (baseline to 6 months), adjusting for demographic and clinical covariates
  - The logistic regression used a generalized estimating equation (GEE) approach with an independent working correlation to account for clustering by study site

Implementation Methods

> The **intervention was the role and activities of the CHW**, which required fidelity across sites. From there, each site could **implement their program** in a manner **tailored to their organization and needs**.

Program Similarities

- CHWs used EHR for documentation
- CHWs saw clients in the clinic and community
- Activities were focused on the care continuum
- Care team dynamics
- CHW supervision
- Changes in referral process over time

Program Differences

- Target populations
- High enrollment numbers & lower touch interventions vs. low enrollment & higher touch
- Home visiting
- Referral sources (e.g. any provider in the clinic could refer versus certain providers)

Outcome Evaluation Research Questions

- Would implementing a CHW program intervention improve HIV clinical outcomes, including viral load suppression, prescription of ART, and appointment attendance?

- Would a participant's number of encounters with a CHW and level of unmet need at baseline be associated with improvements in HIV clinical outcomes?

Results

Demographics, Health Status, Unmet Needs, CHW/Program Participant Encounters, and Clinical Outcomes

Demographics of CHW Program Participants at Baseline

(n=397)

Characteristics	n	%
Age (years) (M, SD)		41 (12.4)
Range		18-70
Sex		
Male	273	68.8
Female	119	30.0
Other/Unknown	5	1.2
Transgender	13	3.3
Race		
Black	303	76.3
White	46	11.6
Hispanic	30	7.6
Other/Unknown	18	4.5
Born in United States (including territories)	370	93.4
English as Primary Language at Home	379	95.5
Currently Employed	118	29.7
Currently Housed	339	85.4

Health Status of CHW Program Participants at Baseline

(n=397)

Clinical Characteristics	n	%
HIV Primary Care Visit (past 6 months)	198	49.9
Prescribed ART	265	66.9
Viral Suppression	89	22.4
Mental Health Diagnosis	127	32.0
Substance Use Disorder Diagnosis	115	29.0
Hepatitis C Diagnosis	52	13.0

Unmet Needs of CHW Program Participants at Baseline

(n=397)

Number of Unmet Needs (past 6 mo.)	n	%
None	105	26.5
1-2	127	32.0
3 or more	165	41.6

Unmet Needs of CHW Program Participants at Baseline

At Least One Unmet Need, Past 6 Months

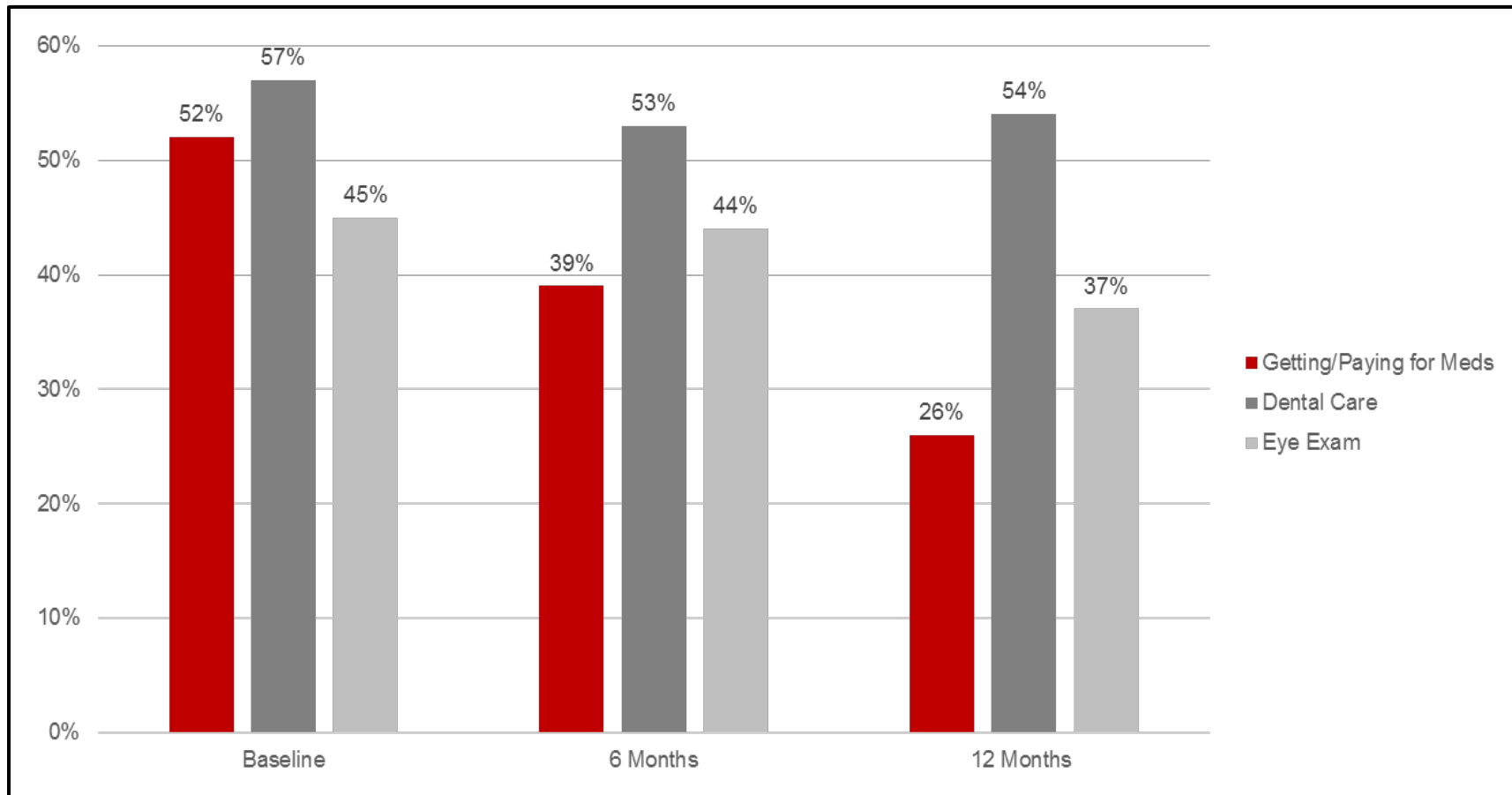|	Baseline	6 Month	12 Month
At Least One Unmet Need	73.6%	65.0%	64.4%
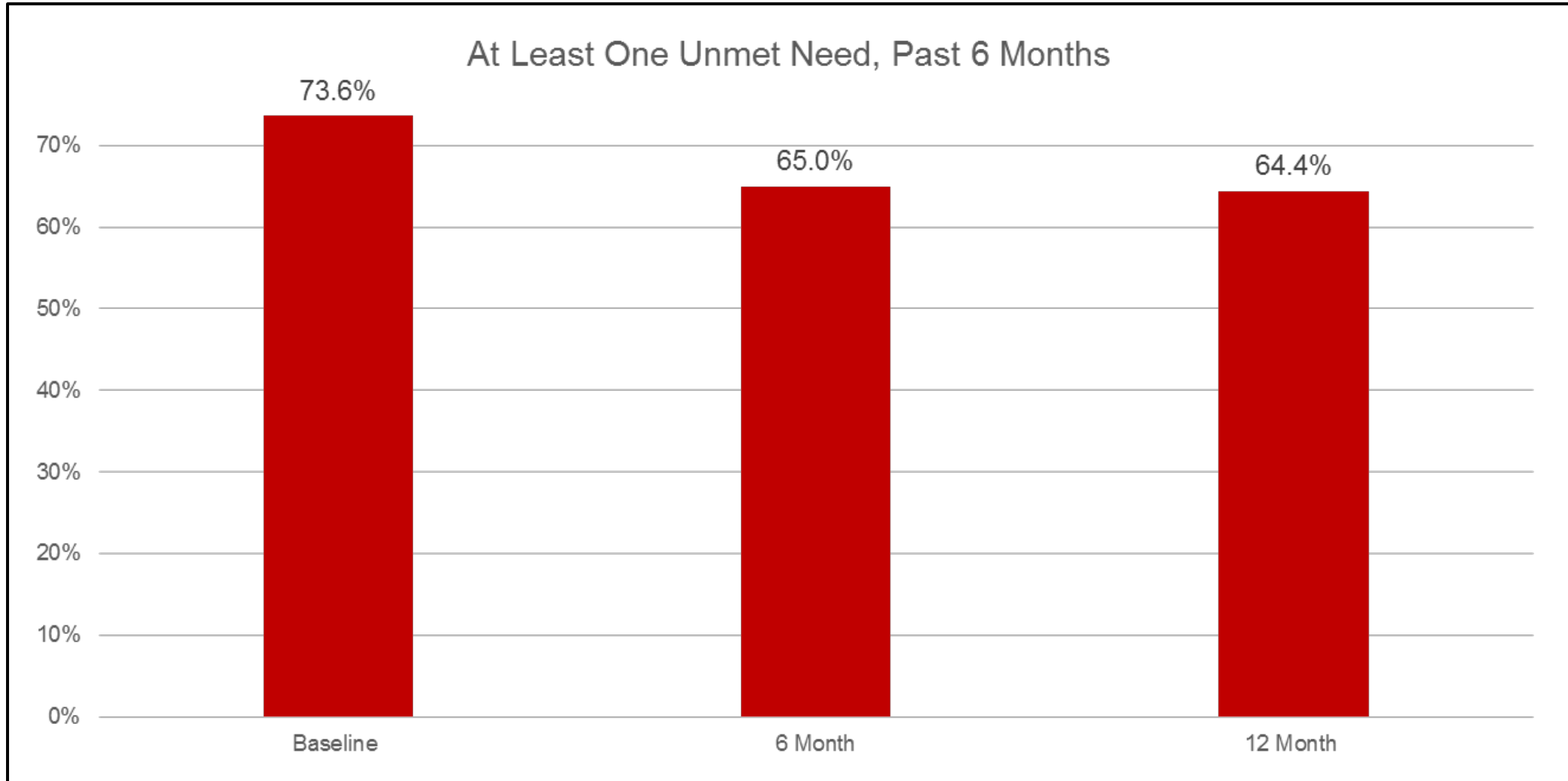
Unmet Needs of CHW Program Participants

In the Past 6 Months Have You Needed Help With…

Unmet Needs of CHW Program Participants

In the Past 6 Months Have You Needed Help With…

Chart showing percentages for Getting/Paying for Meds, Dental Care, and Eye Exam at Baseline, 6 Months, and 12 Months:

- Baseline: Getting/Paying for Meds 52%, Dental Care 57%, Eye Exam 45%
- 6 Months: Getting/Paying for Meds 39%, Dental Care 53%, Eye Exam 44%
- 12 Months: Getting/Paying for Meds 26%, Dental Care 54%, Eye Exam 37%
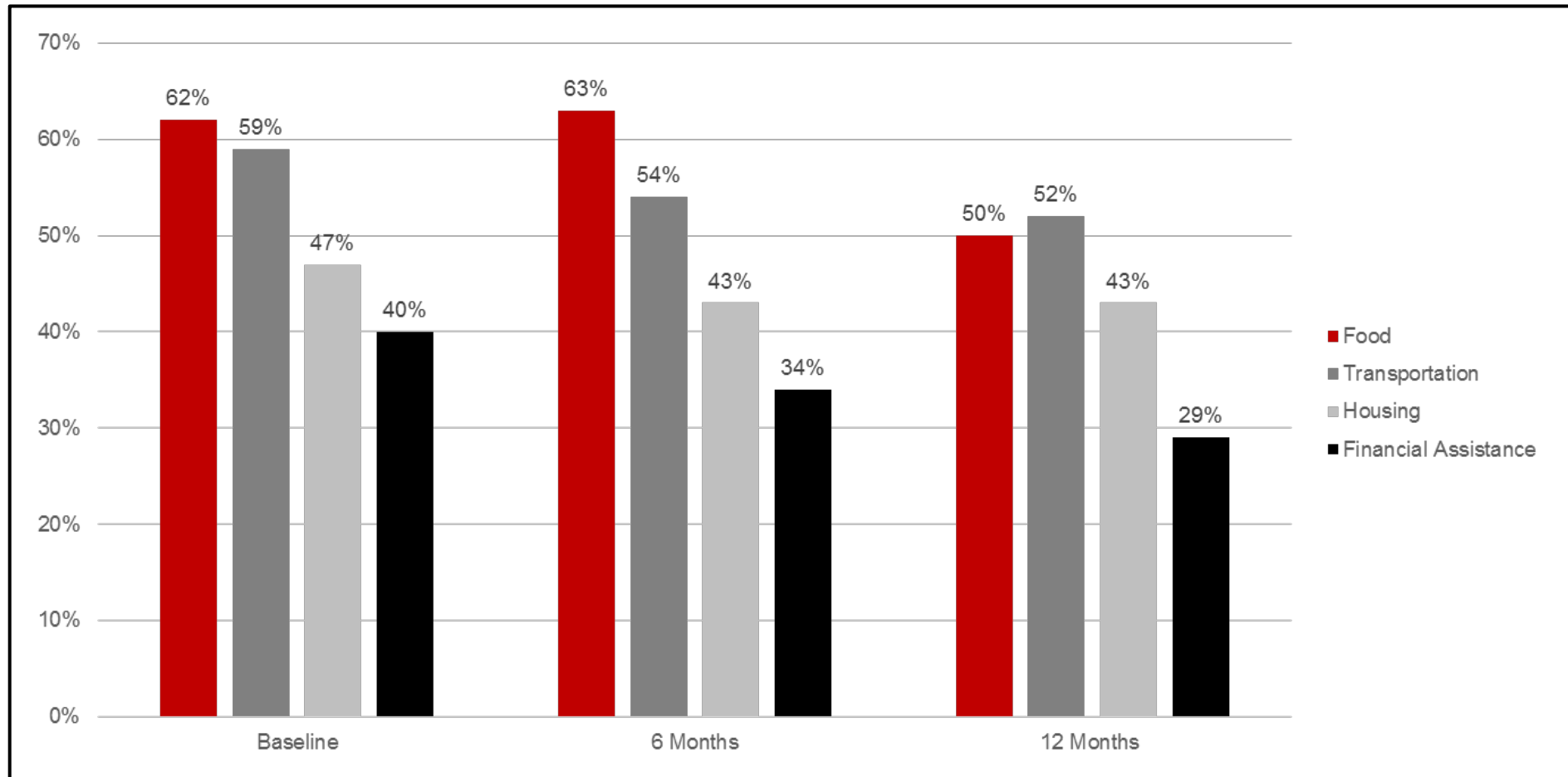
CHW and Program Participant Encounters

Encounter Types (Number of Activities Documented: 8,859)

| Communication Method	n	%
Electronic (e.g. email, social media, text, phone call)	5552	62.7
Face-to-face	3118	35.2
Client not present for/involved in the activity	189	2.1

CHW and Program Participant Encounters

Of the 3,118 activities that were categorized as face-to-face...

Location	n	%
Program site	2251	72.2
Medical, social service, or community-based organization (other than program site)	398	12.8
Client residence	217	7.0
Other community setting (e.g. café, restaurant, etc.)	189	6.1
Streets, parks, open space	55	1.8
Correctional setting	8	0.3

CHW and Program Participant Encounters

VIRTUAL
30 YEARS
2020 NATIONAL
RYAN WHITE
CONFERENCE ON
HIV CARE & TREATMENT
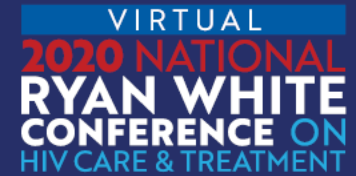
CHWs reported collaborating with others in 22% of encounter activities (1,949)

CHWs collaborated with...

Collaborators	n	%
Case manager	546	28%
HIV primary care provider	292	15%
Nurse	292	15%
Behavioral health provider	233	12%
CHW supervisor	233	12%
Other social services	195	10%
Social worker	175	9%
Pharmacist	136	7%
Office support	97	5%
Other medical services	58	3%
Other CHWs	39	2%
Family	39	2%

CHW and Program Participant Encounters

Encounter Activities (Number of Activities Documented: 8,859)

| Activity Type	n	%
Provided COACHING to the participant	2937	33.2
Provided the client with EMOTIONAL SUPPORT	1905	21.5
REMINDED THE CLIENT about an upcoming health care (HIV or non-HIV), non-medical, or behavioral health appointment	1199	13.5
Updated the client's medical and/or case management RECORDS	690	7.8
Assisted the client with obtaining CONCRETE SERVICES	588	6.6
Arranged TRANSPORTATION for the client for an upcoming health care (HIV or non-HIV), non-medical, or behavioral health appointment	395	4.5
REFERRED the client to an appointment	313	3.5
ACCOMPANIED the client to an appointment	235	2.7

Encounter Activity Details

Coaching Details	n	%
Provided coaching to the participant regarding:	2937	33.2
HIV disease management and/or HIV health services	1153	13.0
Non-HIV disease management and non-HIV health services	334	3.8
Education about harm reduction	333	3.8
HIV disclosure	87	1.0
Safer sex	187	2.1
Life skills	843	9.5

Clinical Outcomes for CHW Program Participants
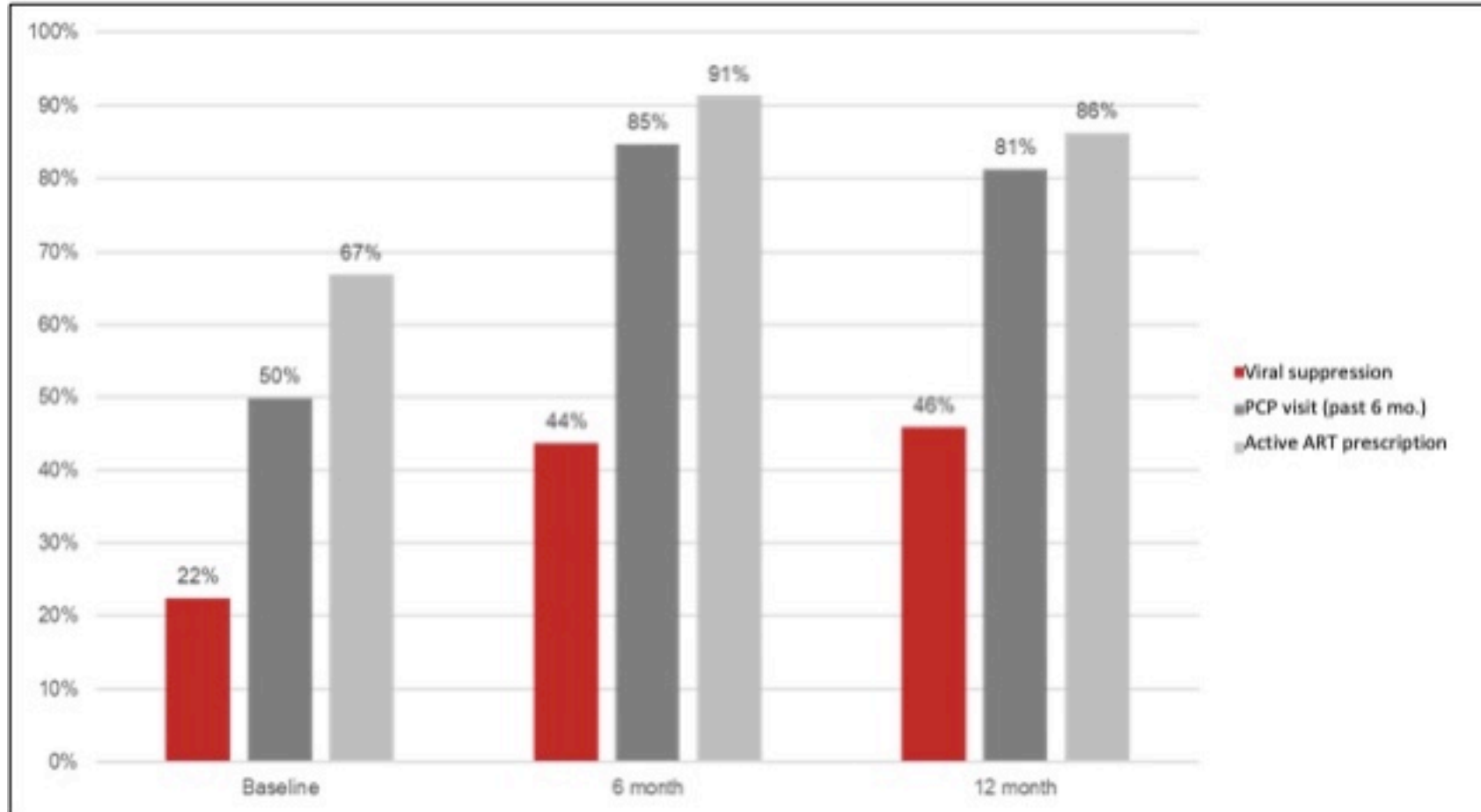
(Baseline n=397,
6-month n=391,
12-month n=246)

Clinical Outcomes for CHW Program Participants

Changes in Clinical Outcomes from Baseline to 6 Months (Unadjusted)

Variables	At Enrollment N=397		6 Months Post-Enrollment N=391		Chi-square test
	N	%	N	%	
HIV Primary Care Visit (past 6 months)	198	49.9	331	84.7	p<0.000
Prescribed ART	265	66.9	357	91.3	p<0.000
Viral Suppression	89	22.4	171	43.7	p<0.000

Clinical Outcomes for CHW Program Participants

Logistic Regression Examining the Relationship Between Encounters and HIV Clinical Outcomes (Adjusted)

Variables	HIV Primary Care Visit Adjusted Odds Ratio (95% CI)	Prescribed ART Adjusted Odds Ratio (95% CI)	Viral Suppression Adjusted Odds Ratio (95% CI)
Encounter Days (5 categories treated as continuous)	1.16 (0.88, 1.52)	1.11 (0.87, 1.42)	1.07 (0.70, 1.63)
Age (continuous)	1.00 (0.97, 1.03)	0.99 (0.97, 1.01)	0.99 (0.97, 1.02)
Gender (ref. Male)			
Female	0.81 (0.56, 1.19)	1.00 (0.72, 1.39)	1.17 (0.85, 1.62)
Race (ref. White)			
Black or African American	0.50 (0.24, 1.02)	1.14 (0.31, 4.19)	1.58 (0.48, 5.18)
Hispanic	0.71 (0.25, 2.02)	0.35 (0.02, 7.90)	3.85 (0.43, 34.4)
Other/Unknown	0.74 (0.26, 2.09)	0.82 (0.19, 3.58)	0.38 (0.03, 4.33)
Primary Language (ref. Non-English)			
English	7.46 (0.89, 62.4)	-	0.44 (0.20, 0.96)
Housing Status (ref. Not Housed)			
Currently Housed	0.73 (0.50, 1.07)	1.00 (0.52, 1.95)	0.89 (0.27, 2.95)
Mental Health Diagnosis (ref. Yes)			
No	1.71 (1.09, 2.66)	2.21 (1.52, 3.22)	1.46 (0.78, 2.71)
Substance Use Diagnosis (ref. Yes)			
No	0.88 (0.49, 1.57)	0.60 (0.25, 1.40)	0.52 (0.17, 1.56)
Hepatitis C Diagnosis (ref. Yes)			
No	1.13 (0.39, 3.23)	0.63 (0.27, 1.48)	0.64 (0.38, 1.07)
Employment Status (ref. Not Employed)			
Employed	0.81 (0.39, 1.68)	1.01 (0.51, 2.00)	0.95 (0.43, 2.11)
Unmet Needs (ref. None)			
1-2	0.96 (0.53, 1.75)	1.47 (0.87, 2.46)	1.09 (0.68, 1.75)
3 or more	1.71 (0.76, 3.85)	3.20 (2.01, 5.10)	1.01 (0.47, 2.18)

Conclusions

Conclusions

- Research Questions:
  - Would implementing a CHW program intervention improve HIV clinical outcomes, including viral load suppression, prescription of ART, and appointment attendance?

  Yes!

  - Would a participant's number of encounters with a CHW and level of unmet need at baseline be associated with improvements in HIV clinical outcomes?

  In this case, only unmet needs were significantly associated!

Learning Objectives

1. Describe the characteristics of CHW program models and participants
2. Assess changes in unmet needs of CHW program participants
3. Describe the relationship between unmet needs, CHW/participant encounters, and clinical outcomes

Implications

- Our findings reveal several program and policy implications for HIV care teams interested in adopting CHW program models to address unmet needs, linkage to care, and clinical outcomes for PLWH.

- Evaluation results also show the importance of addressing behavioral health.

Acknowledgements

- Brian Fitzsimmons, HRSA Project Officer

- Boston University Team

- Training Team: Alicia Downes, Maurice Evans, Rosalia Guerrero, Precious Jackson, LaTrischa Miles, Simone Phillips, and Beth Poteet

- Site Coaches: Jodi Davich and Durrell Fox

- Learning Session Facilitator: Lori DeLorenzo

- Project Sites: 1917 Clinic, UAB; CrescentCare, ECU Adult Specialty Care, Franklin Primary Health Center, the JACQUES Initiative, Legacy Community Health, the McGregor Clinic, NBI Family Treatment Center, Southern Nevada Health District, and SW Louisiana AIDS Council

Questions and Feedback

Project Contact Information:

Allyson Baughman PhD, MPH

Project Director

Boston University

allysonb@bu.edu

617-358-1251

Project Resources:

https://targethiv.org/searches/CHW

https://ciswh.org/project/chw