HIV Care and Prevention for People Experiencing Homelessness

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Disclosures

- None

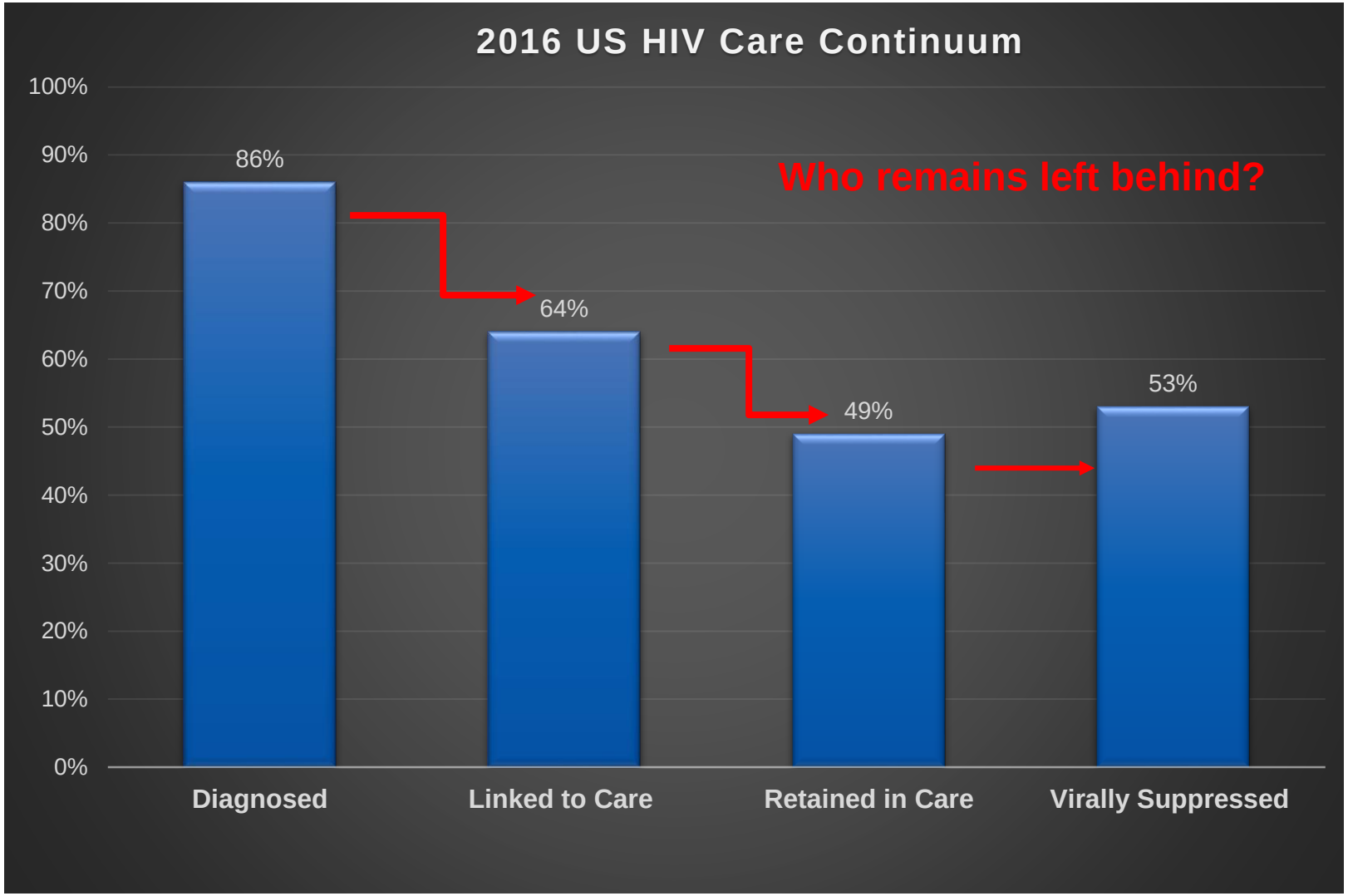
Learning Objectives

- Describe the relationship between homelessness, HIV transmission risk, and HIV morbidity and mortality
- Discuss core elements of Boston Health Care for the Homeless Program's model for delivering care to homeless people living with HIV/AIDS as well as to those at high risk for contracting HIV
- Offer strategies for how to tailor clinical practice to better serve homeless people with HIV/at risk for HIV
- Review data for housing as a health intervention for homeless people living with HIV/AIDS

A Case: Mr JT's story

Upon first presentation to BHCHP 10 years ago, Mr JT was 45 years old and had advanced AIDS (CD4 43), never successfully on ART due to adherence challenges. He had co-morbid hepatitis C, major depressive disorder and PTSD, an opioid use disorder, and was living in a shelter. He is originally from Puerto Rico and identifies as Latinx.

He presented to his first primary care appointment with profound depression and a recent suicide attempt, AIDS wasting, scabies, and extensive thrush. He was actively using IV heroin.


2016 US HIV Care Continuum
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
86%
64%
49%
53%
Who remains left behind?
Diagnosed
Linked to Care
Retained in Care
Virally Suppressed

CDC.gov

Consider who is left behind in your own practice…

Think about your own practice and about those patients who struggle to engage and do not have suppressed HIV viral loads….

Who are they?

What are their barriers to effective care?

What is their housing status?

How is our current care delivery system failing them?

Homelessness as an Upstream Determinant of HIV Risk and Outcomes

- Mounting data shows that housing is a critical social determinant of both risk for HIV transmission as well as HIV morbidity and mortality

- Inadequate housing is both cause and consequence of HIV

Homelessness and HIV Transmission Risk

- Homeless individuals are **16x** more likely to contract HIV
- Homelessness is associated with high rates of substance use disorder, mental health problems, needle sharing, high risk sexual encounters, sex work/sex for survival, sexual victimization and violence
- Behavior-change interventions may be less effective in homeless populations

(Miloy, M, et al. 2012; Aidala, A, 2008; Riley, 2008; Coady, et al., 2007; Henny, et al., 2007; Wenzel, et al., 2007)

Prevalence of Homelessness among PLWHA

At least 50% of PLWHA with lifetime risk of housing instability

- 9% of PLWHA in US were homeless in 2017
- 32% of US Veterans with HIV experience homelessness
- More than 50% of those recently released from incarcerated settings were homeless

The interlocking and mutually reinforcing structural vulnerabilities that predispose someone to contracting HIV are the very same as those that predispose someone to experiencing homelessness—structural racism, poverty, gender and sexuality-based discrimination, incarceration, trauma, mental illness and substance use disorder and related stigma, as well as other forms of systemic exclusion.

(DHHS NHAS Progress Report 2017; National Alliance to End Homelessness, 2006; and National AIDS Housing Coalition, 2008; National Low-Income Housing Coalition, 2008; HUD HIV Care Continuum, Moving Forward, Nov 2014; HUD 2020 Summary of Resources)

Policy Solutions to End Homelessness among PLWHA or Those at Risk for HIV Remain Inadequate

- There is not a single county in the US where an individual who relies on the max amount of SSI ($783/mo in 2020) can afford even a studio apartment

- The Federal Housing Opportunities for Persons With AIDS (HOPWA) serves approx. 55,000 low income households per year and is facing budget cuts
  - $45M dollar budget cut 2019-2020 ($330M from $375M in 2019)

Housing as a Key Determinant of HIV Outcomes

- Homeless people are 5-7 times more likely to die of HIV/AIDS
- Housing status is a stronger predictor of HIV health outcomes than
  - Gender
  - Age
  - Race
  - Drug and alcohol use
  - Mental health issues
  - Receipt of social services

(Aidala, A., 2008; Aidala 2012; Leaver, C. 2007))

Why are homeless individuals at risk for poor HIV outcomes?

- Less likely to have regular access to medical care (greater reliance on emergency and inpatient care)
- More likely to delay care
- More likely to be diagnosed with HIV at later stages
- More likely to experience discontinuous care
- Less likely to receive optimal ART
- Less likely to adhere to ART
- More likely to have low CD4 counts and detectable viral loads

(Wolitski, et al., 2007; Aidala, et al., 2007; Aidala et al 2012; Kidder, et al., 2007; Leaver, et al., 2007; Bamberger, D. 2000; US Housing and Urban Development: *HIV Care Continuum: The Connection Between Housing and Improved Outcomes Along the HIV Care Continuum* 2013.)

ORIGINAL INVESTIGATION

Mortality Among Homeless Adults in Boston

Shifts in Causes of Death Over a 15-Year Period

Travis P. Baggett, MD, MPH; Stephen W. Hwang, MD, MPH; James J. O'Connell, MD; Bianca C. Porneala, MS; Erin J. Stringfellow, MSW; E. John Orav, PhD; Daniel E. Singer, MD; Nancy A. Rigotti, MD

- Cohort of 28,033 adults seen at BHCHP in 2003-2008
- Drug overdose was the leading cause of death
- Opioids implicated in 81% of overdose deaths

(Baggett TP, et al. JAMA Internal Medicine 2013)

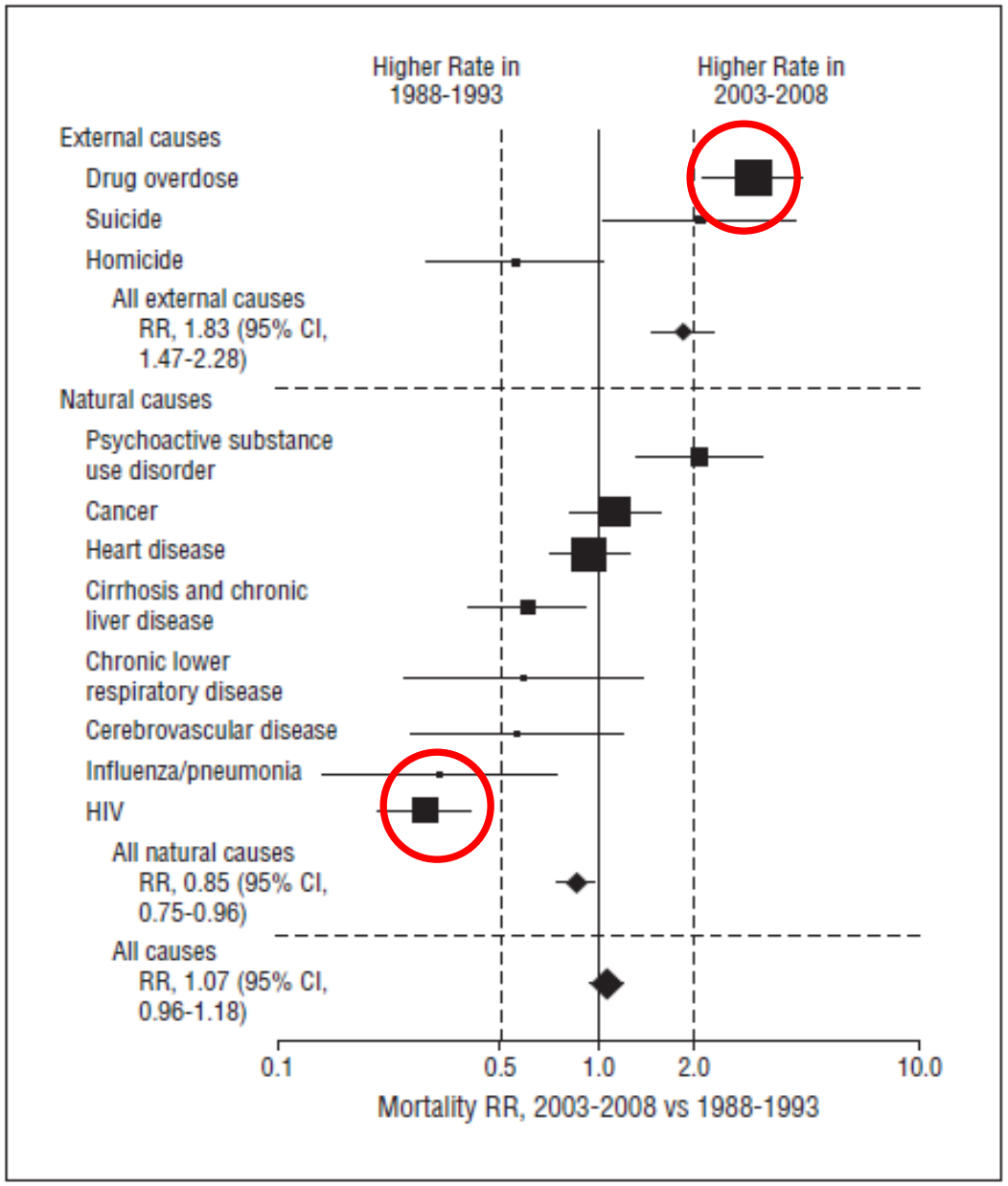

Higher Rate in 1988-1993
Higher Rate in 2003-2008
External causes
Drug overdose
Suicide
Homicide
All external causes
RR, 1.83 (95% CI, 1.47-2.28)
Natural causes
Psychoactive substance use disorder
Cancer
Heart disease
Cirrhosis and chronic liver disease
Chronic lower respiratory disease
Cerebrovascular disease
Influenza/pneumonia
HIV
All natural causes
RR, 0.85 (95% CI, 0.75-0.96)
All causes
RR, 1.07 (95% CI, 0.96-1.18)
0.1
0.5
1.0
2.0
10.0
Mortality RR, 2003-2008 vs 1988-1993

Table 3. Leading Causes of Death and Race-Adjusted Mortality Rate Ratios (RRs) by Age Group and Sex

Cause	No.	CR[a]	Race-Adjusted RR[b] (95% CI)
Men 25-44 Years			
Drug overdose	92	346.9	16.0 (12.6-20.3)
Heart disease	24	90.5	5.1 (3.1-8.4)
Psychoactive substance use disorder	24	90.5	22.1 (14.0-34.9)
HIV	21	79.2	17.3 (10.1-29.8)
Suicide	15	56.6	7.1 (4.2-11.8)
All causes	252	950.1	8.6 (7.4-9.9)
Women 25-44 Years			
Drug overdose	28	172.6	23.6 (15.2-36.6)
Heart disease	8	49.3	3.6 (1.2-11.1)
HIV	7	43.1	9.7 (2.9-32.4)
Psychoactive substance use disorder	7	43.1	33.0 (13.0-83.7)
Liver disease	6	37.0	21.3 (8.4-53.9)
All causes	95	585.6	9.6 (7.4-12.4)

Financial Barriers to Appropriate Health Care

- Lack of insurance
  - Lack of a usual source of care
- Lack of transportation
- Lack of funds for medication co-pays
- Unable to afford lost time away from remunerating activities

Non-Financial Barriers to Appropriate Healthcare

- Competing priorities and need to secure conditions for basic survival
- Social isolation, discrimination, stigma and mistrust
- Mental illness including complex trauma
- Substance use disorder
- Lack of provider and institutional knowledge about the special needs of the population
  - Unrealistic physician expectations
  - Inadequate systems of care

(Gelberg,L. 1997)

Behavioral Health Problems are Common among Homeless People

- **Mental illness**- prevalence 15-90% (Martens, 2001)
- **Substance use disorders (SUD)**
  - Alcohol Use Problem 63%, Drug Problem 58% (Burt et al 1999)
- **Violence and trauma-** prevalence of PTSD 20-36% (Jainchill et al. 2000)
  - DV leading cause of homelessness for women and families
  - High rates of physical and sexual abuse suffered by both men and women experiencing homelessness

(SAMHSA, TIP 55 Behavioral Health Services for People who are Homeless: A Review of the Literature)

BOSTON HEALTH CARE FOR THE HOMELESS PROGRAM

A Tailored Model for Addressing the Healthcare Needs of Homeless Individuals Living with HIV and Those at Risk for HIV

HIV Programs at BHCHP

HIV Care Team

- Multidisciplinary primary care for 300 people living with HIV, experiencing homelessness or unstable housing in the Greater Boston Area

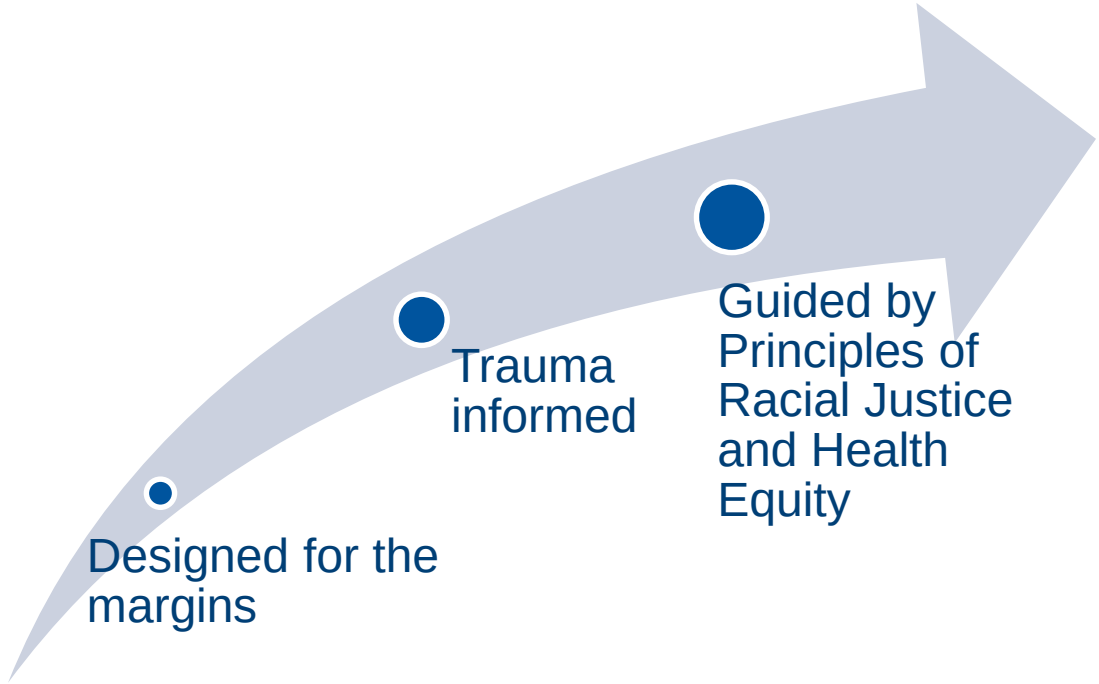
HIV Prevention Team

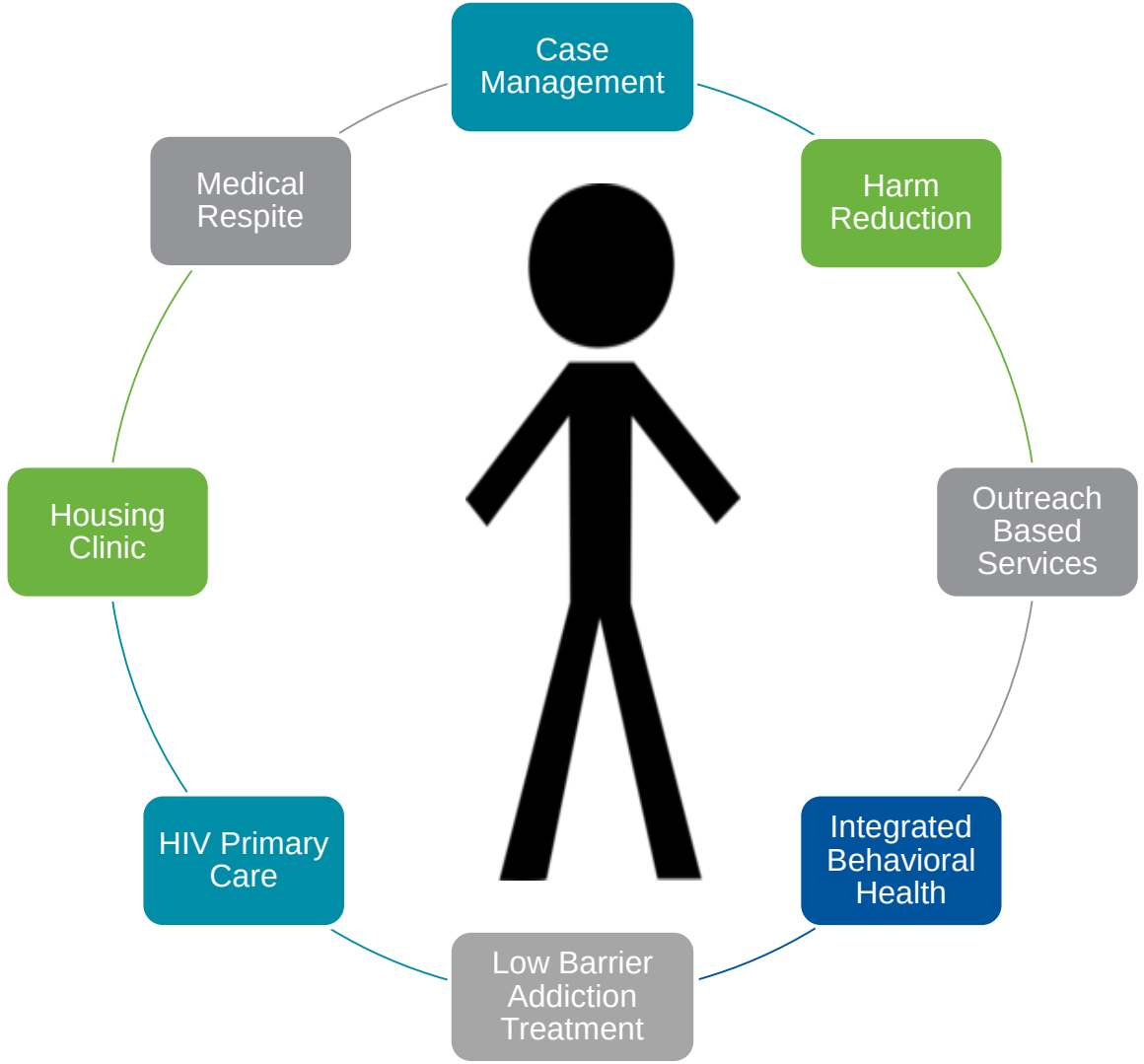
- HIV screening and prevention prioritizing homeless people who inject drug (PWID) in Boston
  - Outreach based screening (HIV/HCV/STIs) and harm reduction counseling
  - Linkage to care and short-term health navigation
  - HIV Pre-Exposure Prophylaxis (PrEP) Navigation Program

HIV Patient Demographics

- 70% men, 25% women, 5% transgender
- 76% People of Color
  - 24% non-Hispanic White; 48% Black; 37% Hispanic
  - 20% monolingual Spanish speakers
- Most common mode of transmission: injection drug use (42%)
- 84% with prior or active SUD
- 75% with diagnosed mental illness
- 10% with incarceration of >30 days in last 12 months

HIV Care Model





HIV Primary Care:
Adapting Care for Homeless/Unstably Housed People

Adapting HIV Primary Care

- **Screen for homelessness and take a social determinants of health history (over time)**
- **Build trust and let patient set pace**
  - Consider using longer time slots or more frequent visits
  - Consider holding off on full physical exam at first visit
  - Ask patients about how they identify in terms of racial/ethnic/gender/sexual orientation and other important identities and whether they have experienced discrimination in health care
    - Patient-provider relationship and "knowing your patient as a person" are associated both with engagement in care and medication adherence (Flickinger, et al.2013; Westergaard, et al. 2013; Kavesary, etl al. 2009; Knowlton, et al. 2010)

Adapting HIV Primary Care

- **Consider patient's priorities and goals**
  - Try to address survival needs as well as medical needs when possible
  - Simplify medication regimes, avoid meds with intolerable side effects
  - Set appointment times to avoid conflicts with accessing shelter beds
- **Set realistic expectations**
  - Consider limited food choices and food security
  - How many times daily can a patient realistically take a medication, or return for lab follow up, etc.
- **Use joint decision making**
- **Elicit patient's resiliency factors and use these to achieve and build on early successes**

Adapting HIV Primary Care

- **Screen for common conditions**
  - Mental illness, trauma, SUD
- **Contingency planning** (try to have plan for urgent needs other than the ER)
- **Get contact information at every visit**, know hang out locations, emergency contact information, obtain permission to approach on outreach
- **Ally with other homeless providers** (shelter staff, case managers, etc.)
- Offer **on demand screening and preventive health services**
- Consider offering **on demand treatment for SUD (especially buprenorphine).**

Nurse Case Management

- Enhanced patient education/counseling
- Intensive care coordination/case management
- Nurse Adherence Group Intervention
  - Intensive program with subset of patients to provide medication adherence monitoring, education and support via frequent visits
    - Pill boxes/blister packed medications
    - Directly observed therapy (DOT) both in clinic and in ***outreach settings*** (Altice, et al. 2007)

Outreach Based Services

- Patients with detectable viral loads/not engaged in care are prioritized for intensive outreach-based clinical and case management services
  - Staffed by full time **Outreach Social Worker**
  - All **HIV nurse case managers** have outreach capacity
  - 5 full time **Medical Case Managers** with outreach capacity for activities including accompaniment to housing, legal, social service appointments. (Kushel, et al. 2006; Rajabiun, et al. 2018)
    - Includes full time re-entry case manager to address needs of patients cycling through criminal justice system (Loeliger, et al. 2018)
    - Bicultural/bilingual nursing, social work and case management staff

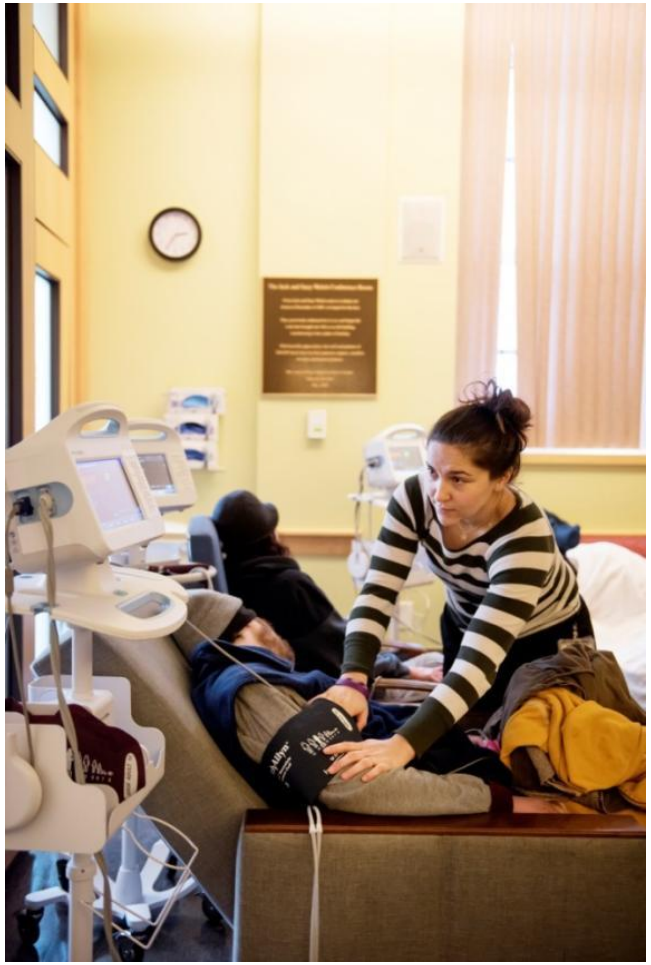
Low Barrier Addiction Treatment

- Expanded capacity for same day buprenorphine inductions for patients with opioid use disorder (Altice, et al. 2011)
  - All HIV team providers have buprenorphine waivers, 3 providers with Addiction Board Certification
  - HIV Nurses cross trained to support buprenorphine follow up care
- Care Zone Mobile Unit provides buprenorphine, syringe services, PrEP, HIV testing, and HIV treatment for homeless people with SUD.

Integrated Harm Reduction Services

- Program-wide cultural sensitivity/trauma informed care trainings for all staff around SUD
- Naloxone at on site pharmacy by standing order
- Safe Place for Observation and Treatment (SPOT)
- Reverse motion detectors in bathrooms to prevent overdoses

SPOT Program



Services Offered

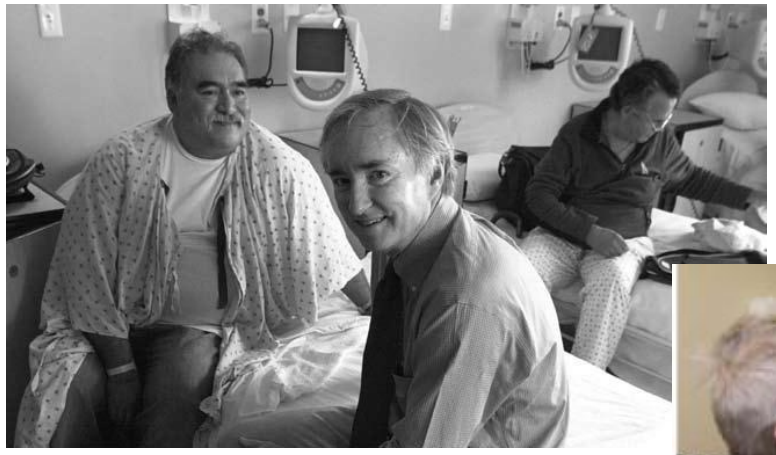
- Medical monitoring
- Treatment of overdose (oxygen, IV fluids, naloxone)
- Counseling about safer injection techniques
- Connection to primary care, behavioral health services, and addictions treatment
- Naloxone rescue kit distribution
- PrEP/PEP and ART DOT and med storage
- HIV screening

Staffing Model

- Registered nurse specializing in addiction
- Harm reduction specialist builds relationships and links people to treatment
- Peers who are in recovery offer support
- Rapid response clinician (MD/NP/PA) available for emergency

The Barbara McInnis House: **Medical Respite** for Homeless People with HIV

Provides 104 medical respite beds for homeless patients who are too ill to go back onto the street, but too well to remain in the hospital or go to rehabilitation centers.



How Medical Respite Can Be Used for Homeless People

- (Re)engage in HIV primary care (including newly diagnosed patients)
- Adherence support for ART for HIV and PEP
- Short term DOT for HIV ,OIs
- Psychiatric stabilization and reconnection to behavioral health care
- Stabilization of SUD in setting of medical comorbidty, with bridge to residential substance use treatment programs
- Medical stabilization following hospitalization, or to prevent hospitalization
- Expedite intensive outpatient work ups
- Provide supportive care peri-operatively/peri-procedurally
- Provide supportive care during chemotherapy/XRT
- Coordination of complex specialty care/diagnostic testing
- Provide palliative care, advance care planning, bridge to hospice
- Opt out HIV testing, and PrEP initiation

Evidence for Medical Respite in Homeless PLWHA

RCT done of a medical respite program in Chicago showed that for homeless patients with HIV, respite admissions decreased hospital LOS, re-hospitalization rates, and lowered healthcare costs.

(Buchanan, D. et al, 2006)

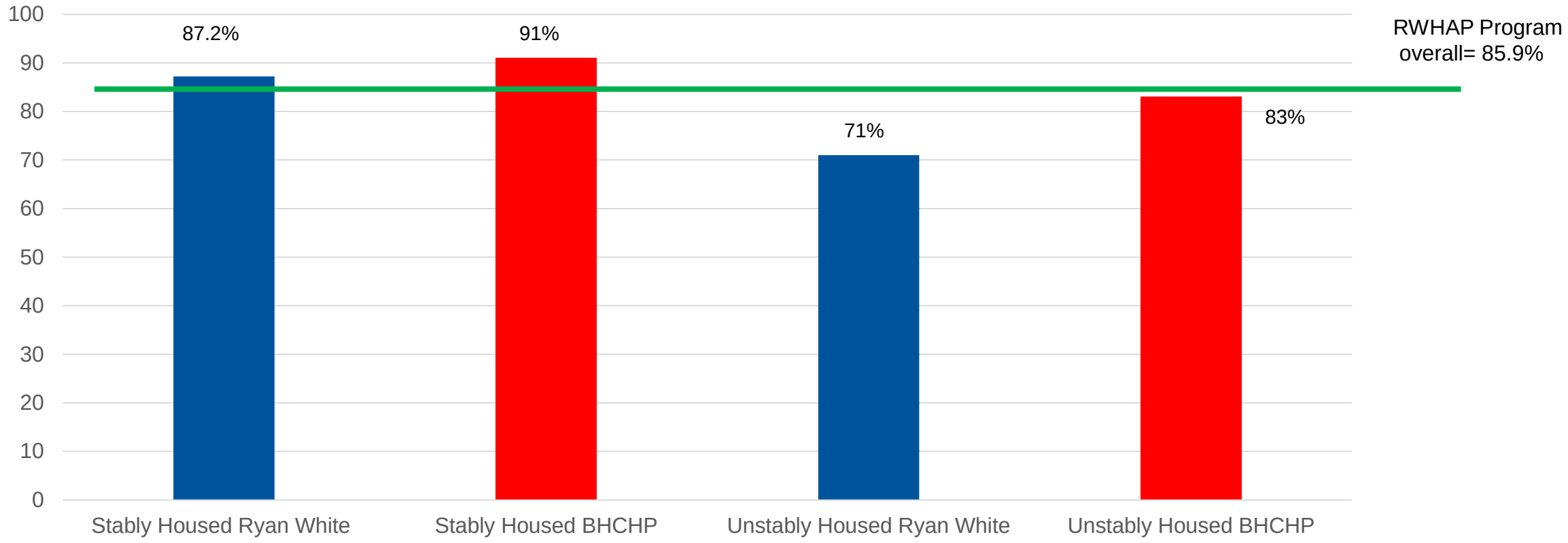
HIV Program Outcomes

How effective is all this?

BHCHP HIV Outcome Measures 2019

- **97%** of patients on ART
- **91%** with HIV viral load suppression
- **93%** retained in care

HIV Viral Suppression by Housing Status: Ryan White HIV/AIDS Program Nationally Compared with Boston Healthcare for the Homeless Program



Viral Load Suppression among clients served by Ryan White HIV/AIDS Program by Housing Status 2017
N= represents the total number of clients in the specific population.
Viral suppression: ≥1 OAHS visit during the calendar year and ≥1 viral load reported, with the last viral load result <200 copies/mL.
[a] Guam, Puerto Rico, and the U.S. Virgin Islands.

(HRSA, RWHAP, Dec 2018)

Housing as HIV Treatment and Prevention

- Research studies (including 2 RCTs) have shown that provision of housing to PLWHAs:
  - Improves likelihood of receiving and adhering to ART
  - Improves HIV specific health outcomes (preserved CD4 counts, fewer OIs, improved virologic suppression, improved survival)
  - Decreases ER visits and hospitalizations
  - Decreases annual medical costs
  - Leads to a reduction in high risk sexual and drug use behaviors

(Aidala, et al. 2016; Buchanan et al., 2009; Wolitsky, et al. 2010; Kidder, et al. 2008; Schwarcz, et al. 2009: Aidala and Sumartojo, 2007; Des Jarlais, et al., 2007; Geman et al., 2007; Stanic, et al. 2019)

Co-located Housing Clinic at BHCHP

- Invited existing partner agencies already conducting housing search and advocacy locally in Boston to meet with patients at BHCHP on a weekly basis
- Complete housing applications/housing histories onsite
- BHCHP case managers assist with all follow up and work with patients to retain housing, set up home visits once housed
- Housed 36 people in first 2 years of this intervention

Boston HIV Cluster

- Rise in cases of HIV among homeless PWID in Boston beginning in November 2018
- BHCHP has diagnosed/been linked to 16 newly HIV infected homeless PWID since 2018 (12 in last 2 months).
- Many diagnoses occurred during hospital admissions for drug related health care issues (not via screening programs)
- Demographics
  - universal HCV exposure, poor health care engagement, recent or current incarceration, drugs used include opioids and methamphetamines

(*Photo: Boston Globe*)

BHCHP Strategic Response

Prevention

- Aggressive ramp of low threshold same day PrEP for PWID with adherence support in all parts of BHCHP program
- Syringe services integration
- Ongoing expansion of medication for OUD (including in shelters and jail)

Early Diagnosis (Seek and Test)

- Opt out, frequent, HIV testing of homeless PWID, including in outreach settings

Rapid, Effective Linkage to HIV Care

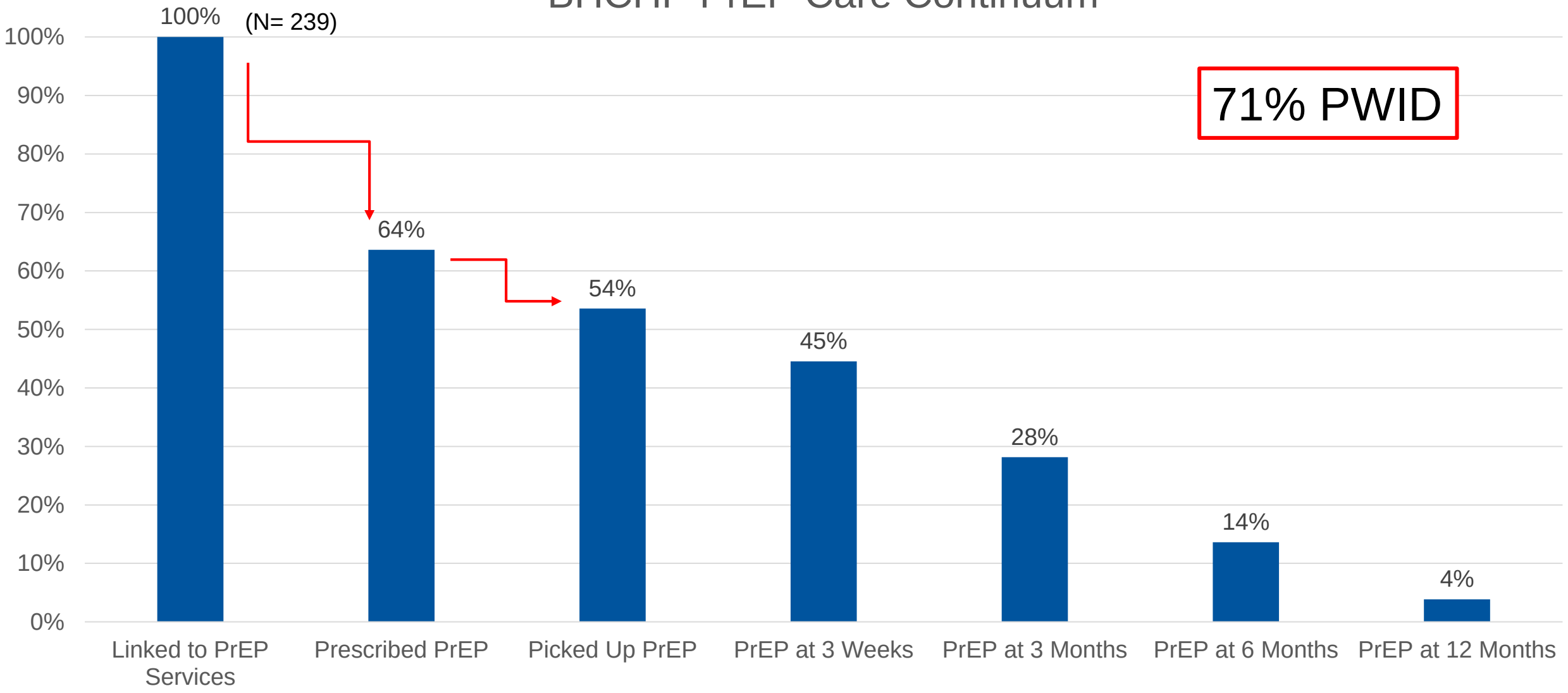
- Rapid ART starts + same day buprenorphine starts in those with OUD
- Medical respite for new HIV diagnoses to stabilize and bridge to SUD residential treatment, connect to HIV team

Retention in PrEP/HIV Care

- Collaboration with harm reduction partners (i.e. syringe service programs) for DOT coordination, medication storage and engagement

Low Threshold PrEP for Homeless PWID

BHCHP PrEP Care Continuum



71% PWID

Low Threshold PrEP Model

PrEP Navigator or **PrEP Nurse** identifies PrEP candidates and contacts PrEP Provider Champion

Is a **PrEP Provider Champion** available in real time for brief face to face visit?

Yes

No

Brief face to face visit takes place with **PrEP Provider** and baseline labs drawn

Phone encounter with **PrEP Provider** occurs and labs drawn

Option for 7-day Truvada prescription ***BEFORE*** baseline labs are resulted

PrEP Navigator assists with adherence

Mr. JT's story now…

Mr JT has been a patient at BHCHP for 10 years, we initially admitted him to our medical respite program for stabilization, connected him with HIV primary care, case management, behavioral health and our on-site office-based buprenorphine program, as well as to our nurse adherence group program.

He is now stably on HIV medications with the ongoing support of our nursing team. His CD4 count is 500 and his viral load is undetectable. His HCV has been cured. He has been housed since 2013. His opioid use disorder is stable on buprenorphine and he is fully engaged in maintaining his recovery. He has had no overdoses. He is in a long-term relationship and re-connected to family.

Take Home Points

- Housing is a key upstream determinant of HIV risk and HIV health outcomes
- Care delivery systems can be successfully adapted to improve HIV care and prevention for homeless people and other vulnerable populations, but will require a re-centering of care to include those at the margins
- Individual clinicians can adapt their own practice, regardless of healthcare setting, to improve care for this population
- Ending HIV among homeless people will require not only innovations to ensure the equitable delivery of biomedical interventions (ART, PrEP, and buprenorphine) but ***also*** sustained interventions to address the upstream structural determinants of HIV transmission including homelessness itself

Thank you!

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