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Improving Access and Adherence to Antiretroviral Therapy Through Coordinated Outreach and Care Linkage Model: A Collaborative Program Evaluation

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Conclusions

- Individuals enrolled in the linkage to care program (UCLP) program (intervention group) were more than 5 times more likely to be linked to outpatient HIV care compared to historical controls
- Factors associated with successful linkage included receipt of a new diagnosis of HIV during qualifying hospitalization, no intravenous drug use within the preceding 12 months, and low social needs as assessed by a Linkage to Care navigator on initial assessment
- Linkage to care programs can significantly increase participation in outpatient HIV care, despite the complexity of the inpatient visit and disadvantaged social determinants of health that many individuals present with
- In addition, people presenting to the ED or via hospitalization represent a unique opportunity to address the HIV care continuum

Plain Language Summary

- Various factors influence whether people access HIV treatment and care services
- While treatment for HIV is effective at reducing HIV-related morbidity and mortality, individuals must reliably engage in their care and take their antiretroviral therapy as instructed by their provider
- This study evaluated the impact of a linkage to care program in an urban setting for hospitalized people who had not been to an HIV clinic for over 12 months and offered them reconnection to HIV care after they left hospital
- People who used the UCLP program were 5 times more likely to attend a comprehensive HIV clinic visit and were more likely to become virally suppressed within 6 months
- Linkage to care programs are an important part of comprehensive HIV care, especially for individuals with disadvantaged social determinants of health

References: **1.** Nijhawan AE, et al. *AIDS Care.* 2020;32:1343-52. **2.** Ryscavage P, et al. *AIDS Care.* 2022;34:554-8. **3.** Giordano TP. *Top Antivir Med.* 2018;26:62-5.

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Introduction

- Vulnerable populations are particularly impacted by HIV and many factors influence access and retention to care
- Engagement and linkage to care, defined as person entry into specialty HIV care after diagnosis, are key components to successful living with HIV,[1] including success on antiretroviral therapy
- Hospital settings represent an important opportunity to engage and/or reengage people with HIV (PWH) through counselling, navigation, and transition facilitation[2,3]
- To improve linkage to care for hospitalized PWH, the University of Maryland, Baltimore (UMB), created a multidisciplinary inpatient to outpatient UCLP
- The UCLP consists of a) identification of PWH admitted to the hospital, b) enrollment to participate with informed consent, c) assessment of barriers to care including a social need intensity assessment, d) development of linkage to care plan, and post-discharge monitoring and support until linkage is established

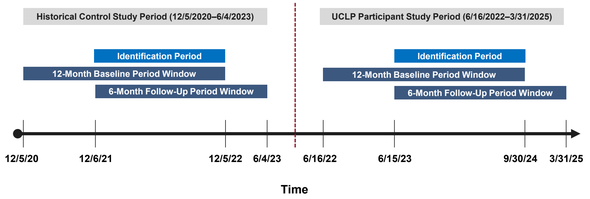
Objectives

- The primary objective of this study was to assess the impact of the UCLP upon successful linkage to outpatient HIV care, defined as two appointments with an HIV specialty clinic more than 90 days apart within 6 months post-discharge from the qualifying hospitalization
- The secondary objectives included:
  - Assess the impact of the UCLP upon viral suppression at 6 months and 30-day hospital readmission
  - Identify and characterize barriers to and facilitators of linkage to care

Methods

- This study was a retrospective comparative cohort study of hospitalized PLWH who enrolled in the UCLP and a historical comparator group who did not receive the program's services, coupled with a nested cross-sectional survey of linkage-to-care program participants
- Of the 93 program participants, 23 individuals participated in the survey (24.7%)
- Eligibility criteria
  - Qualifying hospitalization at UMB during participant identification period (Figure 1)
  - Newly diagnosed with HIV or with a pre-existing HIV diagnosis
  - Absence of outpatient HIV care during for a 12-month period prior to qualifying hospitalization
  - 18 years of age or older as of the qualifying hospitalization

Figure 1. Study Periods



Results

- During the case identification periods, 93 UCLP participants and 62 historical controls were eligible for the study
- There were no significant differences in demographics, mental health disorders, or rates of substance use disorder among UCLP participants and historical controls. UCLP participants were less likely to be newly diagnosed compared to controls (12.9% vs. 30.6%)
- Compared to historical controls, in the 6 months post-discharge, UCLP participants were significantly more likely to successfully link to HIV care (63.4% vs. 11.3%; $P < 0.05$), achieve viral suppression (48.4% vs. 17.7%; $P < 0.05$), and have lower rates of 30-day readmission (19.4% vs. 27.4%; n.s.)
- Factors associated with successful linkage included receipt of a new diagnosis of HIV during qualifying hospitalization, no intravenous drug use within the preceding 12 months, and low social need intensity as assessed by a linkage to care navigator on initial assessment

Table 1. Characteristics of UCLP Participants and Historical Controls Were Similar at Baseline

	UCLP Participants n = 93	Historical Controls n = 62	*P* Value[a]
Age, years, mean (SD)	50.2 (13.0)	49.0 (12.3)	n.s.
Gender identity, n (%)			
Male	54 (58.1)	41 (66.1)	n.s.
Female	35 (37.6)	21 (33.9)	
Other (trans man, trans woman, genderqueer, other)	4 (4.3)	0 (0)	
Race, n (%)			
Black	82 (88.2)	52 (83.9)	n.s.
White	8 (8.6)	10 (16.1)	
Other	3 (3.2)	0 (0)	
Insurance, n (%)			
Medicaid	64 (68.8)	50 (80.6)	n.s.
Medicare	13 (14.0)	9 (14.5)	
Other	16 (17.2)	3 (4.8)	
HIV care status at qualifying hospitalization, n (%)			< 0.05
Newly diagnosed	12 (12.9)	19 (30.6)	
Out of care	81 (87.1)	43 (69.4)	
Opportunistic infection present on admission, n (%)	20 (21.5)	9 (14.5)	n.s.
IVDU in last 12 months, n (%)			
Yes	25 (26.9)	22 (35.5)	n.s.
No	66 (71.0)	40 (64.5)	
Unknown	2 (2.2)	0 (0)	

[a]Comparison statistically significant, $P < 0.05$.
IVDU, intravenous drug use; SD, standard deviation.

Figure 2. Linkage to Care, Viral Suppression, and 30-Day Readmission Were Significantly Better for UCLP Participants

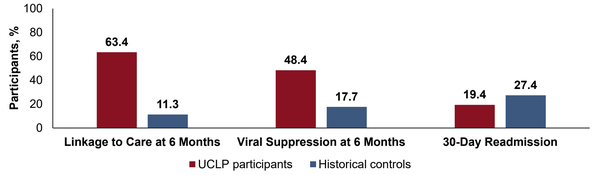


Table 2. Low Social Needs and a New HIV Diagnosis Were Associated With Successful Linkage to Care

	Linked n = 59	Failed to Link n = 34	*P* Value
Age, years, mean (SD)	49.9 (12.6)	50.6 (14.0)	n.s.
Race, n (%)			
Black	54 (91.5)	28 (82.4)	n.s.
White	2 (3.4)	6 (17.7)	
Other	3 (5.1)	0 (0)	
HIV care status at qualifying hospitalization, n (%)			< 0.05
Newly diagnosed	12 (20.3)	0 (0.0)	
Out of care	476 (79.7)	34 (100.0)	
Opportunistic infection present on admission, n (%)	20 (21.5)	9 (14.5)	n.s.
IVDU in last 12 months, n (%)			
Yes	9 (15.3)	16 (47.1)	n.s.
No	49 (83.1)	17 (50.0)	
Unknown	1 (1.7)	1 (3.0)	
Social need intensity, n (%)			
Low	25 (42.4)	5 (14.7)	< 0.05
Medium	18 (30.5)	20 (58.8)	
High	14 (23.7)	8 (23.5)	
Unknown	2 (3.4)	1 (2.9)	

IVDU, intravenous drug use; SD, standard deviation.

- Most survey respondents felt positive about their healthcare and self-efficacy
- Fear of disclosure and negative perceptions of public attitudes towards individuals with HIV were reported by most respondents

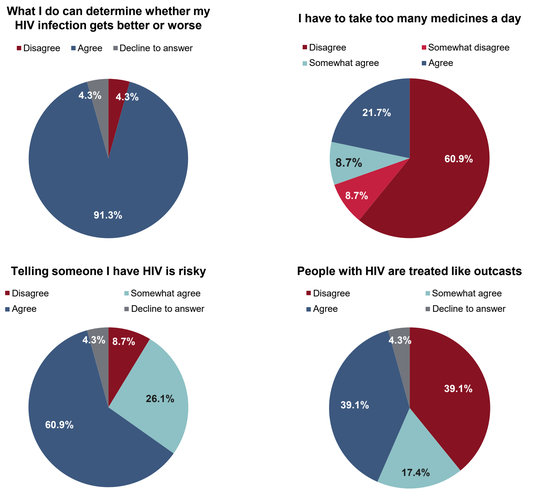



Figure 3. Survey Responses