

## Background

Homeless or unstably housed people living with HIV (PLWH) may have low rates of retention in HIV care and viral suppression. Providing stable housing is complex. A randomized controlled trial of rapid rehousing, Enhanced Housing Placement Assistance, tested whether at-residence case management could improve housing stability and health outcomes among low-income, homeless PLWH in New York City (NYC).

## Study Design

Between April 2012 and April 2013, a total of 236 PLWH from 22 emergency housing facilities were randomly sampled and assigned to treatment group and control group.

Case managers visited treatment group persons at their emergency housing weekly up to 1 year, to help them find stable housing.

Control group persons received in-office supportive services up to 3 months, which was the standard for housing placement assistance.

Housing status and health outcomes of the 235 PLWH were tracked at each 6-month period up to 2 years after enrollment.

## Data analysis

### Outcomes

- In HIV care (Yes or No):** At least one CD4 count or viral load test during the period of interest.
- HIV viral suppression (Yes or No):** Last HIV viral load was  $\leq 200$  copies/mL during the period of interest. No documented viral load in the period was counted as virally unsuppressed for a conservative method.

### Exposures

- Group:** Treatment group or control group.
- Housing stability levels:**
  - High:** Person continuously resided in stable housing (independent housing or supportive housing) during the given period.
  - Medium:** Person in transit between stable housing and unstable housing (emergency housing, institutional program or missing housing status) during the given period.
  - Low:** Person continuously resided in unstable housing during the given period.
- Time:** Months post-enrollment.

### Statistical Analysis

- Chi square test.
- Multi-level logistic regression:
  - Level 1:** time(5 points), housing stability level; Time was treated as a continuous variable.
  - Level 2:** group, age, race/ethnicity, and gender.

### Data Sources

- Study questionnaire
- The NYC HIV surveillance registry
- An emergency housing database

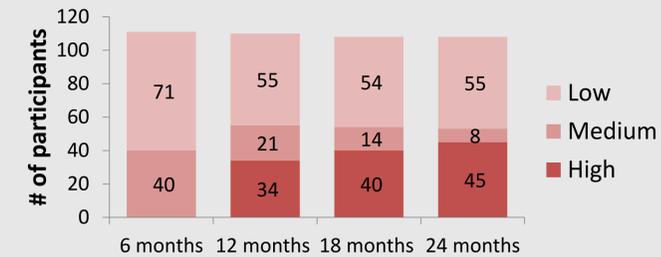
## Results

- Out of 236 participants, 74% were male, 93% Black or Latino, mean age was 46, 95% were disabled for work or unemployed, and 66% were chronically homeless.
- Most characteristics were balanced between treatment group and control group, except Supplemental Security Income/Social Security Disability Insurance enrollment status, incarceration history in past two years, and baseline viral suppression.

The treatment group had better housing stability than the control group. At 1 year post-enrollment, the treatment group had 34 (31%) participants with high housing stability while the control group had 17 (15%). Chi square test p-value  $< 0.01$  at 6 months and 1 year post-enrollment. (Figure)

Among people with high housing stability in the treatment group, 97% were in HIV care during 7-12 months post-enrollment, but the percentage decreased to 80% during 19-24 months.

Figure. Post-enrollment housing stability Treatment group (Total=116)



Control group (Total=117)

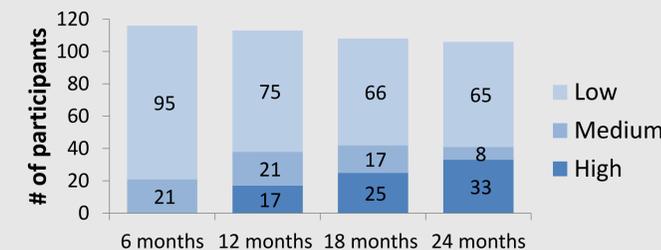


Table. HIV viral suppression percent by group and housing stability level, from baseline to 24 months post-enrollment

Group	Housing stability	% with viral suppression from baseline to 24 months post-enrollment				
		Baseline	1-6 months	7-12 months	13-18 months	19-24 months
Treatment	Low		41%	38%	33%	38%
	Medium	26%	50%	57%	43%	75%
	High		N/A <sup>1</sup>	47%	68%	53%
Control	Low		48%	43%	52%	46%
	Medium	48%	67%	67%	35%	63%
	High		N/A <sup>1</sup>	76%	56%	70%

<sup>1</sup> No participant had high housing stability at 1-6 months post-enrollment, since all participants were recruited from emergency housing at baseline.

## Results (Cont.)

- Results from multi-level logistic regression:
  - Compared with persons with low housing stability, persons with medium housing stability were 88% more likely to be virally suppressed (aOR<sup>2</sup> [95% CI]=1.88[1.12-3.15]), and persons with high housing stability were 55% more likely to be virally suppressed (aOR<sup>2</sup> [95% CI]=1.55[0.88-2.76]).
  - Compared with the control group, viral suppression among the treatment group increased by 4% more monthly (aOR<sup>2</sup>[95% CI]: 1.04 [1.01-1.07]).
  - 51% of variance in viral suppression was due to differences of housing stability level, i.e., within-subject differences. (Pseudo ICC=0.49).

<sup>2</sup> aOR: adjusted odds ratio by age, sex, race, and unbalanced baseline characteristics.

## Conclusions

Compared with standard housing placement services, enhanced housing stabilization services with at-residence case management were associated with improved housing stability and viral suppression for PLWH.

## Contact

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