

Characteristics of HIV-Infected Homeless Individuals Who Do Not Receive HAART

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BACKGROUND

- The use of highly active antiretroviral therapy (HAART) has been shown to significantly delay mortality among HIV-infected individuals (Palella 1998; Detels 1998; Pezzotti 1999; Ledergerber 1999; Bing 1999).
- However, barriers such as drug use, non-Caucasian race, lack of education, and lack of insurance exist to receiving it (Cook 2002).
- In San Francisco, the use of HAART among persons living with AIDS increased from 41% in 1996 to 72% in 1999 (Hsu 2001). Delayed initiation of HAART after AIDS was more likely to occur among homeless persons, African Americans, injection drug users, those with public insurance, and those with higher CD4 counts (Hsu 2001).
- While homelessness has been associated with a delayed initiation to HAART in San Francisco, few studies have been conducted to examine barriers to receiving medication specifically among the homeless. Understanding these barriers could help structure interventions or target services for the homeless.
- We determined characteristics of individuals who received HAART among homeless and marginally housed individuals participating in the “Research in Access to Care in the Homeless” (REACH) project.

METHODS

Project Operations

- Between July 1996 and October 2001, a community-based study site and mobile outreach were used to interface and follow-up with participants.
- Systematic sampling was conducted from the largest homeless shelters, low-income single room occupancy hotels, and free meal programs in San Francisco.
- All English-speaking individuals who tested positive for HIV were invited to participate in the REACH study.
- Study participants completed a consent procedure and standardized baseline questionnaire; thereafter making quarterly visits.
- Questionnaires were interviewer-administered quarterly and asked about sociodemographics, residential history, health services utilization, health status, HIV medications, mental health treatment history, drug use, and sexual behavior.
- Blood samples were obtained quarterly to assess CD4 count and viral load.

Analysis

- The dependent variable for the current study was ever having received HAART, either before or after study entry.
- Analyses were restricted to eligible individuals, defined as those whose lowest CD4 count was <500 before July 2000 or <350 during or after July 2000.
- Independent variables regarding sociodemographics, drug use, health, and health care characteristics included baseline and prospective information collected during the study period. All independent variables represented baseline data, except “lowest CD4 cell count,” which represented the nadir during the study period. Continuous independent variables were categorized at the median to create dichotomous variables.
- Simple logistic regression, using a 95% confidence interval, was used to assess associations between dependent and independent variables.
- Inferences for ever having received HAART were based on simultaneous adjustment for independent variables using multiple logistic regression. All significant bivariate associations were considered. Using a backward stepwise approach, independent variables were deleted from the logistic regression model if they did not improve the fit of the model. Goodness of fit was determined by log likelihood ratio tests. Interaction terms were tested for all models.

RESULTS

- 269/330 (81.5%) REACH participants were eligible to have received HAART
- 84.0% were male
- 56.5% were of non-Caucasian ethnicity
- The median age was 40 years (Inter-Quartile Range = 34-46)
- 26.8% had ever been incarcerated
- 37.2% were current injection drug users
- Individuals spent most nights sleeping on the streets or in a shelter (26.9%), in low-income hotels (34.3%), in jail or prison (29.1%)
- The median baseline CD4 cell count in this population was 312 cell/mm³ (Inter Quartile Range [IQR] = 187-441)
- The median nadir (lowest) CD4 cell count was 160 (IQR=80-273)
- 80.7% (217/269) of eligible participants had ever received HAART

Associations between receiving HAART and participant characteristics among clinically eligible* homeless and marginally housed individuals with HIV infection (n=269)

Characteristic	Received HAART (n=189)	Did Not Receive HAART (n=80)	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)
Female sex	29 (15.3%)	14 (17.5%)	0.85 (0.42-1.72)	
Age >40	94 (51.1%)	36 (46.8%)	1.19 (0.70-2.03)	
Non-white ethnicity	104 (55.0%)	48 (60.0%)	0.82 (0.48-1.34)	
High school graduate	127 (67.2%)	54 (67.5%)	0.99 (0.56-1.72)	
Homeless >1 year	97 (51.9%)	54 (67.5%)	0.52 (0.30-0.90)	0.45 ξ (0.25-0.81)
Uninsured	49 (25.9%)	29 (36.3%)	0.62 (0.35-1.08)	
Receive SSI	122 (64.6%)	40 (50.0%)	1.82 (1.07-3.09)	1.71 (0.94-3.10)
Mental health inpatient ever	45 (23.8%)	19 (23.8%)	1.00 (.54-1.85)	
“Drinking problem” ever	64 (34.0%)	25 (31.3%)	1.14 (0.65-1.99)	
Injection drug use ever	68 (36.0%)	32 (40.0%)	0.93 (0.52-1.67)	
Crack use ever	138 (73.8%)	69 (86.3%)	0.45 (0.22-0.92)	0.48 (0.23-1.01)
Able to identify a regular health care provider	153 (81.0%)	53 (66.3%)	2.17 (1.20-3.90)	2.37 ξ (1.26-4.42)
Lowest CD4 cell count	Median=144	Median=223	0.99 (0.98-0.99)	0.99 ξ (0.98-0.99)
Entered REACH study	104 (55.0%)	36 (45.0%)	1.50 (0.89-2.52)	

* Lowest CD4 count was <500 before July 2000 or <350 during or after July 2000; ξ Variables included in final model

CONCLUSIONS

- The majority of eligible HMH living in San Francisco have accessed HAART.
- Among individuals transitioning in and out of homelessness, those who have experienced more than one year of street or shelter living are less likely to receive HAART, even after adjusting for lowest CD4 cell count and a regular health care provider.
- Race, drug use, and mental inpatient history were not significantly associated with ever receiving HAART.
- While reaching the remaining 20% of untreated homeless and marginally housed individuals will likely be a challenge, developing methods to introduce and keep the long-term

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