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Understanding Correlates of Hepatitis C Virus Infection among Homeless Recently Paroled Men

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Abstract

This cross-sectional study assessed predictors of Hepatitis C Virus (HCV) positivity with baseline data collected on recently-released male parolees ($N=157$) participating in a randomized trial focused on reduction of drug use, recidivism and risk for hepatitis and HIV infections. In this sample, the prevalence of HCV was 25%. The logistic regression analysis revealed that being an injection drug user (IDU) was significantly related to HCV infection. However, contrary to most of the current literature, being African American had significantly lower odds of contracting HCV than their Caucasian counterparts. Moreover, having lived on the streets, not being part of a close family in childhood and being older were also associated with HCV infection. These findings highlight the need for skilled assessments that target the vulnerabilities of homeless adults, especially those who have been incarcerated. Understanding drug use patterns, childhood networks, and family relationships, may assist in the design of interventions to reduce risky drug use and address behaviors derived from disadvantaged childhood.

Keywords

Hepatitis C virus; Homeless; IDU; Parolee

The United States (US) hosts the largest prison population in the world with over 2.2 million individuals behind bars International Centre of Prison Studies, (ICPS, 2012; Walmsley, 2009). Persons currently incarcerated and former inmates are at consistently high risk for Hepatitis C virus (HCV) transmission (Murray, Richardson, Morishima, Owens, & Gretch,

2003). In the state of California, recent data indicates that there are about 100,000 parolees California Department of Corrections and Rehabilitation (CDCR, 2012a), defined as persons who have completed their prison sentence, yet must report to a parole officer for a period of time (CDCR, 2012b). Nearly 40% of those on parole are returned to prison for drug-related offenses within two years (CDCR, 2009a). Injection drug use (IDU) practices (Alter et al., 1999) and non-IDU are associated with unsafe sexual practices and are the major risk factors for HCV in formerly incarcerated persons (Belenko, Langley, Crimmins, & Chaple, 2004).

Current parolees who are homeless may be at even greater risk for HCV infection than their non-homeless counterparts due to the added burden of uncertain and substandard living conditions (Hennessey, Bangsberg, Weinbaum, & Hahn, 2009), which may further potentiate IDU, unprotected sexual activity (Hudson et al., 2009) and illicit drug use (Seal et al., 2003). Currently, little is known about the prevalence and correlates of HCV infection among populations who face the dual vulnerabilities of being homeless and having a history of incarceration. Understanding the correlates of HCV infection among these populations is critical to developing patient profiles for targeted interventions to reduce risk for this preventable, yet highly transmissible infection.

HCV risk among homeless and previously incarcerated persons

Homeless populations and ex-inmates are at high risk for HCV (Stein, Nyamathi, Ullman, & Bentler, 2007). In a study of homeless adults (N=884) residing in 36 shelters and other locations in Los Angeles (LA), Nyamathi, Dixon et al., (2002) found that 22% were HCV-infected. Correlates of HCV infection in that study included older age, living on one's own before the age of 18 and chronic, recent alcohol use (Nyamathi, Dixon et al., 2002). Recent daily users of crack were more likely than non-users or less-frequent users of crack to be HCV-infected. Individuals who were homeless for greater than one year were also more likely to be HCV positive. IDUs had 25 times greater odds of being infected with HCV than their non-drug using counterparts (Nyamathi, Dixon et al., 2002).

In another study of HCV among homeless men (N=198) in LA, Stein & Nyamathi (2004) found that nearly half were HCV positive. HCV seropositivity was correlated with recent IDU, non-injection substance use, severity of homelessness, tattoos, sexually transmitted disease (STD), incarceration in jail/prison, and older age; such that older men were more likely to be HCV positive due to lifetime IDU (Stein & Nyamathi, 2004). Congruent with this work, among older homeless men on skid row (N=104; 18-65), HCV RNA presence in semen was found among older men when compared to their younger counterparts ($p = .06$). Further, drug related risk factors included being a lifetime methamphetamine user ($p = .01$), and those who used barbiturates ($p = 0.044$), cocaine ($p = 0.038$) and methadone ($p = .02$) (Nyamathi, Robbins et al., 2002).

In another Los Angeles based cross sectional study of homeless youth (N=156), unadjusted analysis showed that drug use (e.g. cocaine and methamphetamine) was related to older age (Nyamathi, Hudson, Greengold, & Leake, 2012). Data suggest that IDU use is a strong predictor for HCV transmission (Tompkins, Wright, & Jones, 2005).

Hall, Charlebois, Hahn, Moss and Bangsberg (2004) studied HCV infection among homeless adults (N=249, 24-75) in San Francisco and after conducting bivariate analysis found that HCV viral load was not associated with age (Hall, Charlebois, Hahn, Moss, & Bangsberg, 2004). In bivariate analysis, other correlates of HCV infection were among those who were younger ($p = .01$), IDU users ($p = .014$), had higher ALT levels ($p = .001$); after conducting multivariate analysis, predictors of HCV infections were history of IDU ($p < .001$) and being younger than 35 ($p = .001$) (Hall et al., 2004).

Among a sample of 330 homeless and marginally housed HIV-positive adults, 65% were found to be HCV positive (Riley, Bangsberg, Guzman, Perry, & Moss, 2005), nearly 25% slept on the streets or in a shelter, while over 50% had been homeless for more than one year (Riley et al., 2005). Over 90% had used drugs in their lifetime; 54% currently used drugs, 64% had ever injected drugs, 36% were current IDUs, and 32% were current crack users (Riley et al., 2005).

Family and social support, incarceration and HCV infection

Currently, no data exists which reveals an association between social support and HCV infection. However, for many homeless parolees, family discord is apparent and poor familial relationships abound, as family and social support networks have been strained (Prendergast et al., 2011). Lengthy prison sentences also make it difficult for individuals serving time to restore, or develop and maintain family connections (Cooke, 2005). Positive social and familial support may deter a broad array of risk factors for transmission of HCV, including IDU, as well as, homelessness.

Mental illness, substance use, and risk for HCV among homeless and previously incarcerated persons

Co-occurring mental illness and substance abuse is common among homeless populations (Kushel, Hahn, Evans, Bangsberg, & Moss, 2005) and those who have been previously incarcerated (Greenberg & Rosenheck, 2008), placing them at increased risk for HCV infection (Hudson et al., 2009). In a study of veterans, the prevalence of HCV was higher among those with bipolar disorder as compared to those with schizophrenia or serious mental illness (SMI) (8.1% vs. 7.1% vs. 2.5%) (Himmelhoch et al., 2009).

In a national survey of US federal and state inmates (Greenberg & Rosenheck, 2008), substance abuse and mental health disorders were found among 45% to 81% of inmates (Greenberg & Rosenheck, 2008). Homeless individuals who had been hospitalized for mental illness and were previously incarcerated had over twice the odds of testing positive for HCV when compared to those who did not have these histories (Nyamathi, Dixon et al., 2002). The purpose of this study is to understand HCV risk factors among those who are homeless and on parole in Los Angeles. In this study, HCV seropositivity and HCV infection will be used interchangeably.

Comprehensive health seeking and coping model (CHSCP)

This study was guided by the CHSCP model (Nyamathi, 1989) originally adapted from the Lazarus & Folkman (1984) Stress and Coping Model and the (Schlotfeldt, 1981) Health Seeking Paradigm. The CHSCP allows us to better identify potential correlates of HCV among homeless men on parole which include antecedent variables such as socio-demographic factors, health history, family and mental health history, and health care socialization. Additional components assessed in this cross-sectional study included risky drug and sexual activity, social support and knowledge of HCV status.

Methods

Design

This study is cross sectional and utilizes baseline data collected on recently paroled men participating in a randomized clinical trial to reduce drug use and reincarceration rates among men on parole. The study was approved by the University of California, Los Angeles

University Human Subjects' Protection committee. Data were collected from February 2010 to September 2010.

Sample and site

This study utilized a convenience sample of 157 parolees who were released from prison within a month before recruitment. They were eligible for the intervention study if they a) had a history of drug use prior to their latest incarceration; b) were aged 18-60; c) entered the participating RDT program; and d) were labeled as homeless on their prison exit form. Participants were recruited from the Residential Drug Treatment (RDT) facility in southern California.

Procedure

A collaborative association was established with the director of the RDT program prior to study design and grant funding. This procedure resulted in a study informed by the realities of the RDT setting. Subsequent to approval by the UCLA institutional review board, approved flyers were posted at the RDT site and the research staff provided group sessions presenting details of the study periodically. Interested parolees residing at the site met with a research staff who provided further details about the study. If interest continued, the informed consent process was initiated in a confidential area of the site. Prospective subjects who signed the consent form were then screened for eligibility by the staff using a brief two-minute structured questionnaire on socio-demographic characteristics and knowledge of hepatitis. If determined eligible, the potential participant then completed an additional informed consent that led to the administration of a baseline questionnaire and completion of a detailed locator guide which allows individuals to include contact information. In addition, pretest counseling was provided by a research nurse and a sample of blood collected to assess for antibodies against Hepatitis B virus (HBV) and HCV and HIV, followed by posttest counseling and provision of the results several days later. All respondents who had completed the baseline questionnaire received \$20.

Instruments

Sociodemographic Information were collected by a structured questionnaire covering age and date of birth, race/ethnicity, educational and family background, marital status, history of homelessness, history of arrests and gang affiliation, juvenile hall (detention facility for youth), history of child abuse, and history of hospitalization.

Childhood Parental and Family Relationships were assessed using Likert-scale items, developed by the Texas Christian University (TCU) assesses: 1) Relationship with parents (one item measured on a 6-point scale ranging from "Excellent Relationship" to "No Relationship"); 2) Closeness of Family (measured on a 5-point Likert scale ranging from "Very Close" to "Not Close at All"); and 3) Supportiveness of the Mother and/or the Father (measured on a 5-point scale ranging from "Very Supportive" to "Not Around". Alpha coefficient in a male sample is .76 (TCU, 2011).

Social Support was measured using the 18-item Medical Outcomes Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). The 18 items consisted of 4 subscales that included: emotional support (8 items, reliability .95), tangible support (3 items, reliability .86), positive support (4 items, reliability .91) and affective support (3 items, reliability .88).

Coping behaviors were measured using the 12-item Brief Cope (Carver, 1997). It consists of six separate subscales namely self-blame coping (reliability .61), denial coping (reliability .66), disengagement coping (reliability .76), instrumental support coping (reliability .80),

religious coping (reliability .84), with each subscale having two items. A 4-point Likert scale was used to rate these items with options ranging from “not at all” to “a lot.”

Drug and alcohol use behaviors that occurred six months prior to the participant's latest imprisonment were measured using a modified version of the Texas Christian University (TCU) Drug History form (Simpson & Chatham, 1995). This form allowed us to review participant history of drugs used by injection and orally during that period, as well as extract information about lifetime drug and alcohol use during a series of yes/no items. (Anglin et al., 1996) have verified the reliability and validity of this format. Cronbach's Alpha coefficients were computed for the entire sample as well as subgroups (Knight, Simpson, Morey, & Texas Christian University, 2002). The scale's overall reliability was good (coefficient alpha = .89), with item-total correlations ranging from .37 and .58, and individual item “yes” responses ranged from 10% to 39% (Knight et al., 2002).

Lifetime serious depression and serious anxiety was measured by asking the following: “Not counting the effects from alcohol or other drugs, in your lifetime, have you ever experienced.” This was followed by nine items where were coded as yes/no responses.

Data analysis

The study variables were described by frequencies and percent or means and standard deviations; continuous variables were assessed for normality. Length of time homeless, numbers of close friends and relatives, sex partners in the six months prior to the most recent incarceration, and lifetime arrests all had highly skewed distributions that transformations couldn't mitigate. Thus, these variables were dichotomized at their medians for analysis with the exception of number of sex partners, which was dichotomized at the upper quartile to assess the prevalence of HCV seropositivity among those most likely to engage in risky sexual activity. Associations between HCV seropositivity and most of the socio-demographic and background characteristics in Table 1 were examined with chi-square tests. Associations involving age and education were examined with two-sample t tests.

Variables that were associated with HCV seropositivity at the .10 level in these preliminary analyses were used as predictors in a logistic regression model for HCV seropositivity. To avoid overfitting, predictors that were not significant at the .10 level were sequentially removed from the model, starting with those with the highest p values. The predictors in the final model were examined for multicollinearity; the Hosmer-Lemeshow test was used to assess model goodness of fit (p value = .270).

Results

Sociodemographic characteristics

The prevalence of HCV in this sample was 25%. The average age of the participants was 41.9 (SD:10.1) and the majority were either African American (47%) or Latino (29%) (See Table 1). Almost a third (29%) lived on the streets prior to incarceration and more than half (51%) were homeless at least three months total prior to their latest incarceration.

Almost half of the sample reported belonging to a gang at some time in their life. Health was reported as a common problem as over half (51%) were hospitalized for a physical health problem. Social support from drug-using friends was reported by over two-thirds (69%) and over a quarter reported having four or more sexual partners in the six months prior to incarceration. In terms of childhood history, over one-third (37%) reported that their family relationships were not close. Over half of the parolees (53%) reported a history of juvenile hall, and over two-thirds (68%) had spent time in jail by the age of 18. More than 15% reported childhood sexual abuse, and 31% reported childhood physical abuse.

Substance use was pervasive among the sample. Drinking more than four drinks per day was reported by nearly 40%. The most prevalent drugs used were marijuana (88%), cocaine (65%), and methamphetamine (49%). IDU was reported by nearly 40%.

Associations with HCV seropositivity

Race/ethnicity was found to be significantly associated with HCV (Table 2). Living on the street before incarceration was also associated with HCV infection as was having a family in childhood that the participant felt was not close, ever having been hospitalized for a physical health problem, and having had four or more sex partners. In addition, having being arrested greater than 20 times, and heroin use and having been an IDU were strongly related to HCV infection as seen in Table 2. A number of variables were not associated with HCV as seen in Table 2.

Multivariate results

In the logistic regression model (Table 3), African American subjects were found to have much lower odds of contracting HCV than their White counterparts. Having lived on the streets and not growing up in a close family and having been in juvenile hall were also found to be important factors associated with HCV seropositivity. While heroin use did not have an important effect, IDU remained highly significant. Ever having been hospitalized for physical health problems was no longer important, nor was having been arrested 20 or more times.

Discussion

Over the last several decades, researchers have identified correlates of HCV infection among homeless adults (Nyamathi, Dixon, Wiley, Christiani, & Lowe, 2006; Stein, Andersen, Robertson, & Gelberg, 2012; Tsui, Bangsberg, Ragland, Hall, & Riley, 2007), as well as homeless youth (Noell et al., 2001; Steensma, Boivin, Blais, & Roy, 2005). However, few studies have highlighted the correlates of HCV infection among persons who are both homeless and on parole. Our findings point to the fact that homeless parolees have unique correlates for HCV infection which are often rooted in high risk behaviors and disadvantaged social environments.

We found that homeless parolees who were HCV-infected were more likely to have a history of IDU. However, the strong association between as IDU and HCV positivity in this study is supported by the well-documented link between IDU and HCV infection in the general population. Furthermore, the role of IDU and HCV positivity has been corroborated by other authors who study homeless adults (Neale & Stevenson, 2012; Nyamathi et al., 2006), and street-involved homeless youth (Miller, Kerr, Fischer, Zhang, & Wood, 2009; Rosenthal, Mallett, Myers, & Rotheram-Borus, 2003; Stein & Nyamathi, 2004).

We also found a statistically significant negative association between being HCV positive and being African American as compared to Whites. The negative association between HCV positivity and African American race/ethnicity does not reflect current epidemiologic data on the prevalence of HCV infection in the US. The Fourth National Health and Nutrition Examination Survey showed a 2-fold greater prevalence of HCV antibodies among African Americans as compared to non-Hispanic Whites and Hispanics (Franciscus, 2009; Rosen et al., 2007). Our sample perhaps reflects unique pockets of HCV-positive individuals living in urban settings. Further studies are warranted to gain a better understanding of whether our sample was simply a statistical anomaly or that we have identified meaningful subgroups that deviate from the national trend.

HCV positivity was also significantly correlated with living on the street. Other studies in Los Angeles have demonstrated that longer periods of time homeless have been found to be independently associated with HCV seropositivity (Stein & Nyamathi, 2004). Riley et al. (2005) found that among homeless and marginally-housed populations (N=330), 65% were HCV seropositive at baseline and 57% had been homeless for more than one year. One common and important thread among homeless and marginally-housed groups, which includes many paroled adults, is their exposure to and engagement in unsafe drug use and sex practices, (e.g., needle sharing and failure to use condoms). These behaviors are often influenced by the social and structural circumstances. Most homeless individuals, including homeless parolees, experience extreme socioeconomic disadvantage; poverty in itself places them at risk for participating in high-risk behaviors e.g. IDU.

Our findings revealed that older age was associated with HCV seropositivity; this has also been corroborated by other authors. In 2012, Stein et al. studied the impact of HBV/HCV infection on health services utilization among 534 adults. HBV/HCV serostatus was significantly associated with age ($p<.001$); and about one third did not know that they were infected

It is also important to note that among our sample those found to be HCV infected reported not having a close family in childhood which is a novel finding that is not well-documented in current literature. Much of the research with correctional populations and the family has focused on the detrimental effect of incarceration on the family unit, especially the child (Foster & Hagan, 2009; Geller, Garfinkel, Cooper, & Mincy, 2009; Modecki & Wilson, 2009). The relationship between family relations and health, specifically HCV, has not been explored. This is an important area of research for formerly incarcerated individuals as the family unit can provide critical stability and support and therein, enhance health. It is important to note that the family unit can also exacerbate health risks and unsafe behaviors, particularly if substance use disorders pervade this network.

Homeless parolees may often have low familial support when compared to the general population, as well as, family discord, a troubled childhood and past experiences with abuse. Data suggest that abuse is a significant life event. In fact, Stein et al. (2012) found that among homeless adults, childhood abuse was indirectly associated with poorer health. These findings indicate that social services need to be tailored to providing comprehensive mental health services for those who have experienced childhood trauma which may encompass physical and sexual abuse. Future interventions need to explore these associations in an effort to provide appropriate bundled services.

Upon reentry into the community, several distinct challenges may continue to confront parolees, especially those who are homeless; in particular, this population may have co-occurring mental health and addiction disorders (Marlow, White, & Chesla, 2010), in addition to being HCV positive. They may be unfamiliar with accessing health care systems beyond the emergency room and have limited knowledge of how infectious diseases are transmitted (Belenko, Shedlin, & Chaple, 2005; Jacob Arriola, Braithwaite, Holmes, & Fortenberry, 2007). Additionally, many paroled adults are suspicious of the health care system and have experienced significant provider bias when accessing services both in prison and in the community (Henderson, Stacey, & Dohan, 2008). Researchers have argued that understanding the impact of incarceration upon individuals who are paroled is imperative to provide needed health services and access to care (Marlow & Chesla, 2009). Further, it is imperative that researchers working with these populations understand the influence of family/ childhood relationships and incorporate these into future interventions.

Health care providers working with this population should develop an awareness of the limited knowledge and distrust of the health care system experienced by paroled adults. By understanding the barriers and challenges faced by homeless parolees, health care providers can provide direct linkage to care and services post HCV screening.

Limitations

This study has several limitations which are important to note. First, the entire sample included men; therefore, the results do not reflect correlates of HCV among recently paroled, homeless women. However, even though the sample size was small, findings may still be applicable to homeless parolees in other parts of the country. Additional limitations are a result of the sample size originating from a convenience sample, and the fact that many of the assessments were from self-report data. Finally, severe mental illness and tattoos, potential correlates of HCV were not included as variables in the analyses.

Conclusions

Homeless parolees face a significant array of challenges, reintegrating into the community, learning and utilizing life skills, as well as, having to manage a high prevalence of HCV seropositivity. Within our correctional system, data suggests that the prevalence of HCV seropositivity is nearly 40% (Ruiz et al., 1999); however, there are a multiplicity of challenges in providing HCV seropositive inmates with appropriate treatment, if warranted, within correctional systems. This may be due to length of stay and lack of completion for treatment. For many homeless parolees, health care post prison release is not a reality. (Stein et al., 2012) that it is an imperative to link homeless persons with health care in order to manage HCV seropositivity. Our research team further echoes this sentiment and encourages the establishment and strengthening of health care linkage with homeless parolees who have been placed in a RDT facility.

The placement of homeless parolees in RDT provides a window of opportunity to effectively provide clients with necessary health care resources post HCV screening especially if they are seropositive. In fact, health education and counseling can further promote locating a medical home, addressing risk factors for HCV transmission, providing adequate facilitation of transportation and care post HCV screening. However, for clinical providers, provision of services needs to be tailored for this community because they may lack knowledge regarding potential short and long term consequences of substance abuse, along with HCV seropositivity and health care access. The ability of nurses to be present in an RDT facility and engage clients in discussions to demystify HCV risk factors is important. Our study findings provide opportunities to promote HCV risk reduction among clients post prison release.

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Table 1*Sample Characteristics (N = 157)*

Characteristics	Mean	SD	Range
Age	41.9	10.1	22-60
Education	11.6	1.8	3-20
	N	%	
Race/Ethnicity:			
African-American	73	46.5	
Latino	46	29.3	
White	23	14.7	
Other	15	9.6	
Lived on Street ^a	46	29.3	
Homeless 3 months or more ^b	78	51.3	
Serious Depression ^c	47	29.9	
Serious Anxiety/Tension ^c	44	28.0	
Drug-Using Friends ^d	108	69.2	
Five Close Friends/Relatives ^e	74	47.1	
Four Sex Partners ^f	46	29.3	
Ever in Gang	77	49.4	
Ever Hospitalized for Physical Health	80	51.0	
Arrested 20 times	83	52.9	

Characteristics	N	Percent
Childhood:		
Two-parent Family	66	42.0
Family Not Close	58	36.9
Physical Abuse	48	30.6
Sexual Abuse	25	15.9
In Juvenile Hall ^h	83	52.9
Jailed by Age 18	107	68.2
Substance Use Lifetime		
4 Drinks/day	61	39.9
Marijuana	134	87.6
Cocaine	99	64.7
Heroin	60	39.2
Methamphetamine	75	49.0
Injection Drug Use	53	33.8

^aUsual living place six months prior to last incarceration, includes parks and public or Abandoned buildings

^bCounting all times homeless

^cLifetime, not due to alcohol or drug use by self-report

^dMain source of social support six months prior to last incarceration

^eSix months prior to last incarceration

^fSex partners six months prior to last incarceration

^hDetention site for youth

Table 2Unadjusted Associations with Positive HCV Test Results ($N=157$)

HCV Positive (n = 44)		
	<i>N</i>	%
Race/Ethnicity		**
African-American	11	15.1
Latino	17	37.0
White	12	52.2
Other	4	26.7
Lived on Street ^a		**
Yes	21	45.7
No	23	20.7
Homeless 3 Months ^b		
Yes	25	32.1
No	18	24.3
Drug-Using Friends ^c		
Yes	29	26.9
No	15	31.3
5 Close Friends/Relatives ^d		
Yes	17	23.0
No	27	32.5
Four Partners ^e		*
Yes	7	15.2
No	37	33.3
Ever in a Gang		
Yes	20	26.0
No	23	29.1
Ever Hospitalized ^f		**
Yes	30	37.5
No	14	18.2
Arrested 20 Times		*
Yes	29	34.9
No	15	20.3
Childhood		
Two-Parent Family		
Yes	19	28.8
No	25	27.5
Family Not Close		
Yes	23	39.7*

HCV Positive (n = 44)		
	<i>N</i>	%
No	21	21.2
Physical Abuse		
Yes	15	31.3
No	29	26.6
Sexual Abuse		
Yes	6	24.0
No	38	28.8
In Juvenile Hall		
Yes	28	33.7
No	16	21.6
Jailed by Age 18		
Yes	31	29.0
No	13	26.0
Substance Abuse, Lifetime:		
4 drinks/day		
Yes	20	32.8
No	24	26.1
Marijuana		
Yes	38	28.4
No	6	31.6
Cocaine		
Yes	32	32.3
No	12	22.2
Heroin		
Yes	32	53.3 ^{***}
No	12	12.9
Methamphetamine		
Yes	27	36.0
No	17	21.8
Injection Drug Use		

Yes	32	60.4
No	12	11.5
Serious Depression		
Yes	13	27.7
No	31	28.2

^aUsual living place in six months prior to last incarceration

^bCounting all times homeless

^cMain Source of social support for six months prior to last incarceration

^dSix months prior to last incarceration

^eSex partners in six months prior to last incarceration

^fFor physical health problem

* p < .05, chi-square test

** p < .01, chi-square test

*** p < .001, chi-square test

Table 3

Logistic Regression Results for Testing Positive for HCV

Measure	HCV Positive (n=155)		
	B	s.e.	p value
Race/Ethnicity (vs. White)			
African-American	-1.84	0.77	.017
Latino	0.52	0.75	.485
Other	-0.32	0.94	.735
Age	0.15	0.04	.001
Lived on Street ^a	1.10	0.52	.034
Family Not Close ^b	1.06	0.52	.041
In Juvenile Hall as a Child	1.25	0.53	.017
Injection Drug Use	1.74	0.52	.001

^aUsual living place in six months prior to last incarceration

^bIn Childhood