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Factors Associated with Interest in Initiating Treatment for Hepatitis C Virus (HCV) Infection among Young HCV-Infected Injection Drug Users

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Objective. We sought to identify factors associated with interest in receiving therapy for hepatitis C virus (HCV) infection among HCV-infected injection drug users (IDUs) in 3 United States cities.

Methods. IDUs aged 18–35 years who were HCV-infected and seronegative for human immunodeficiency virus underwent surveys on behaviors, experience, and interest in treatment for HCV infection and readiness to quit drug use.

Results. Among treatment-naïve IDUs ($n = 216$), 81.5% were interested in treatment for HCV infection, but only 27.3% had seen a health-care provider since receiving a diagnosis of HCV infection. Interest in treatment for HCV infection was greater among IDUs with a high perceived threat of progressive liver disease, those with a usual source of care, those without evidence of alcohol dependence, and those with higher readiness scores for quitting drug use. Interest in treatment for HCV infection was 7-fold higher among IDUs who were told by their health-care provider that they were at risk for cirrhosis or liver cancer.

Conclusions. Improving provider-patient communication and integrating treatments for substance abuse and HCV may increase the proportion of IDUs who initiate treatment for HCV infection.

Worldwide, the incidence of hepatitis C virus (HCV) among injection drug users (IDUs) is 13–39 cases/100 person-years and appears to be highest among the susceptible pool of young IDUs [1–5]. The best available treatment for HCV infection, pegylated IFN- α and ribavirin, is effective for 40%–50% of patients [6, 7], and IDUs can achieve treatment responses comparable to those of patients who are not IDUs [8–10]. Treatment of acute HCV infection has been associated with better treatment responses [11, 12]. These observations underscore the need to target young IDUs for both prevention and treatment of HCV infection.

IDUs are significantly underrepresented among patients receiving treatment for HCV infection [13, 14]. In a community-based study in Baltimore, only 1 (0.06%) of 1667 HCV-infected IDUs reported having received IFN- α treatment for HCV infection between 1989 and 1998 [13]. Until recently, illicit drug use was listed as a contraindication for treatment for HCV infection [12]. However, the NIH Consensus Statement for Treatment of HCV Infection issued in June 2002 removed this stipulation, emphasizing that efforts should be made to increase the availability of treatment for HCV infection, in particular among IDUs [15]. It is not yet known to what extent these revised treatment guidelines will improve the uptake of treatment for HCV infection among IDUs.

Increasing the proportion of HCV-infected IDUs who receive available treatments is challenging, given that IDUs face multiple barriers to care. Barriers at the individual level often include a chaotic lifestyle related

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to drug or alcohol dependence; provider-level barriers may include reticence to prescribe a costly, potentially toxic therapy to an active drug user who is deemed to have a low probability of adhering to a complex therapeutic regimen and a high probability of becoming reinfected [14]. Moreover, because ribavirin is highly teratogenic, persons receiving therapy must diligently observe 2 forms of birth control during treatment and for 6 months after stopping [15]. Environmental barriers such as homelessness and lack of third-party reimbursement for treatment for HCV infection may further compromise a person's desire and ability to seek care. Factors such as these have been shown to impede use of antiretroviral treatments for HIV among medically eligible HIV-infected IDUs [16–18].

Data on willingness for and acceptance of treatment for HCV infection among IDUs are sparse. In a study of IDUs enrolled in a program of maintenance treatment with methadone, half reported that they were interested in receiving treatment for HCV infection [19]. In another study, of 44 HCV-HIV-co-infected persons who were deemed to be eligible for treatment for HCV infection (most of whom were IDUs), 64% chose not to initiate therapy [20]. Factors that influence the willingness of HCV-infected IDUs to initiate therapy have not been systematically studied. In 2002, we initiated a multisite, randomized, behavioral intervention trial to reduce injection-related risk behaviors and to improve use of care for HCV infection among young HCV-infected IDUs. Here, we describe the proportion of young HCV-infected IDUs who reported having received any treatment for HCV infection at baseline and identify factors associated with interest in receiving treatment for HCV infection. These findings have important implications for planning treatment for programs, education, and services regarding HCV for young HCV-infected IDUs.

SUBJECTS AND METHODS

Study participants. Young adult IDUs in Baltimore, New York (East Harlem and the Bronx), and Seattle were recruited by use of community-based outreach, targeted sampling, and peer-driven referrals. Persons who had injected drugs at least once in the previous 6 months were invited to participate in a multicenter cross-sectional survey of sexual and injection risk behaviors and their associations with HIV and HCV infections, as described elsewhere [21].

This survey also served as a screening and baseline assessment for enrolling young IDUs into 1 of 2 behavioral intervention trials. Specifically, HCV-seropositive, HIV-seronegative IDUs aged 18–30 years were invited to join the present study, the Study to Reduce Intravenous Exposures (STRIVE), an ongoing multisite behavioral intervention trial designed to prevent secondary HCV transmission and facilitate entry into treatment for HCV infection. HCV- and HIV-seronegative IDUs were invited to join a parallel but separate intervention study testing

the efficacy of a behavioral intervention designed to decrease the risk of HIV and HCV infection (the Collaborative Injection Drug Users Study III/Drug Users Intervention Trial). Because treatment of HCV infection is complicated by HIV coinfection and because the number of coinfecting IDUs recruited for this study would be too small to analyze the effect of coinfection, HIV-seropositive participants were excluded from both studies and were referred to appropriate medical and social services.

Participants screened for either study completed a baseline survey on demographics and risk behaviors by use of audio computer-assisted self interview (ACASI). Subjects also underwent screening for antibodies to HIV and HCV and received pretest counseling, according to guidelines from the US Centers for Disease Control and Prevention [22]. Anti-HCV was evaluated by EIA (Ortho HCV EIA 3.0 or Abbott HCV EIA 2.0). HCV RNA testing was done with the qualitative COBAS Amplicor assay (Roche Diagnostic Systems). All subjects were asked to return in 2 weeks to receive posttest counseling and medical referrals when appropriate, at which point HIV-seronegative persons were invited to enroll in either of the 2 behavioral intervention studies on the basis of their HCV serostatus. In 2003, recruitment into STRIVE was extended to include IDUs ages 31–35 years. The institutional review boards at each study site approved this study.

After providing written informed consent, all STRIVE participants provided serum samples for liver function testing (e.g., alanine aminotransferase [ALT], aspartate aminotransferase, and alkaline phosphatase), as well as qualitative testing for HCV RNA. Subjects also completed an additional ACASI survey that included questions on health care use, experiences with treatment for HCV and prevention counseling, interest in initiating treatment for HCV infection (i.e., “Are you interested in getting any treatment for hepatitis C?” with response options “yes,” “no,” and “unsure”), perceived threat of HCV disease (i.e., “What do you think your chances are of developing cirrhosis or liver cancer within 20 years?”), and perceived efficacy and safety of available treatments.

We assessed readiness for quitting drug use by means of a scale modified by Henderson [23] from the Stages of Change Model of Prochaska et al. [24] and Booth et al. [25]. The 5 stages identified for substance users include precontemplation, contemplation, determination, action, and maintenance [26, 27]. Persons in the precontemplation phase are unlikely to realize that their drug use is problematic and have no desire to change. Those in the contemplation phase recognize that their drug use is a problem and are not currently willing to act but may be willing to do so within the next 6 months. In the determination phase, the user has made an action plan to modify their behavior, whereas the action and maintenance stages refer to those who have already begun to reduce or abstain from drug use.

We also assessed alcohol consumption and dependence (the

Alcohol Use Disorders Identification Test [AUDIT] scale) [28] and depression (the Centers for Epidemiologic Studies depression scale, or CES-D) [29]. An AUDIT score of 8 was used as the cutoff, because it is a well-established cutoff score for the identification of hazardous drinking [30]; we also examined a cutoff score of 10 as an indicator of more severe alcohol dependence. CES-D cutoff scores of 16 and 23 were used to classify mild and moderate-to-severe depressive symptoms, respectively [31].

The present analysis focused on subjects enrolled in STRIVE between June 2002 and September 2003. Subjects were eligible if they were aged 18–35 years, reported injecting illicit drugs within the prior 6 months, had documentation of HCV-positive serostatus, and had completed the above-mentioned baseline assessment survey. Only IDUs who were positive for HCV RNA by PCR testing were included in these analyses, because only persons who had not cleared their infection would be potential candidates for treatment for HCV infection. These analyses focus solely on baseline data (i.e., before randomization).

Statistical analysis. The proportion of HCV-infected, RNA-positive IDUs who reported having received any treatment for HCV infection was calculated. Because our focus was to identify factors associated with interest in receiving treatment for HCV infection, subjects who completed treatment or were receiving treatment at their baseline interview were excluded from subsequent analyses. Two subjects who reported beginning treatment for HCV and who stopped therapy but expressed an interest in treatment for HCV infection at their baseline visit were included in subsequent analyses. Descriptive analyses were used to compare baseline characteristics of IDUs who reported being interested in treatment for HCV infection versus those who reported that they were not interested or unsure. χ^2 or Fisher's exact tests were used to compare categorical variables; Wilcoxon rank sum tests were used to analyze continuous variables. Logistic regression was then used to identify factors associated with interest in initiating treatment for HCV infection. Variables that were significant at the 10% level in univariate models according to Wald's statistic were offered into multivariate logistic regression models in a manual, step-wise fashion, retaining only those variables that were significant at the 5% level in the final model.

RESULTS

Of the 227 HCV-seropositive, RNA-positive IDUs who were eligible for analysis, the overall sample was 79.3% male. The majority (63.4%) were white, 22.9% were Latino, and 6.6% were African American. The median age was 26 years (interquartile range [IQR], 24–28 years), and median age at first injection drug use was 18 years (IQR, 16–21 years). About half (53.9%) had at least a high school education, and 53.7% perceived themselves as homeless during the prior 6 months. The

majority (87.6%) had injected at least once within the last week; the median time since last injection was 1 day (IQR, 0–2 days).

Almost two-thirds (63.0%) were already aware of their HCV serostatus before enrollment; the median duration since their first positive test result was 2 months (IQR, 5 days to 28 months). Among subjects for whom liver function test results were available, 65.0% had ALT levels more than twice the upper limit of normal. About one-fifth (21.7%) believed that they had a >50% chance of progressing to cirrhosis or liver cancer within 2 decades. Overall, 20 subjects (8.8%) had undergone a liver biopsy.

Of the overall sample of 227 subjects, only 62 (27.3%) reported having had a follow-up evaluation with a health-care provider after first testing positive for HCV, which did not substantially change when those who had discovered they were HCV seropositive <3 months ago were excluded (28.2%). Thirty-nine (17%) reported ever being offered treatment for HCV infection, of whom 11 (28.2%) reported initiating therapy (4.8% of the overall sample). Of the 28 persons who were offered but did not begin treatment for HCV infection, 22 (78.6%) were now interested in receiving treatment for HCV at their baseline interview.

Of the 11 subjects who reported receiving any treatment for HCV infection, 3 reported completing their treatment for HCV regimen and 5 reported that they were still receiving treatment for HCV infection; 3 subjects reported discontinuing therapy. Of the 218 remaining subjects, 2 did not answer the question about their interest in treatment for HCV infection and thus were excluded. Therefore, of 216 subjects, 176 (81.5%) indicated that they were interested in receiving treatment for HCV infection, 27 (12.5%) were not interested, and 13 (6.0%) were unsure.

Comparing the 176 subjects who were interested in treatment for HCV infection with those who were not or unsure ($n = 40$) (table 1), univariate analyses suggested that interest in receiving treatment for HCV infection was not influenced by demographic factors such as age, sex, race, study site, or being uninsured, although homelessness was associated with less interest in treatment for HCV infection. Interest in treatment for HCV infection did not differ with respect to age at first injection, history of alcohol treatment, or frequency of drug injection. However, subjects who had been previously enrolled in drug treatment or were in the determination stage or higher for quitting drug use were significantly more interested in treatment for HCV infection, as were those with AUDIT scores that did not reflect problem drinking. Interest in treatment for HCV infection was unaffected by depressive symptoms, having visited an emergency department, having been admitted to a hospital in the prior 6 months, or having experienced symptoms at the time of their first HCV test. Although interest in treatment for HCV infection was not significantly greater among IDUs who had first tested positive for HCV >6 months ago, those who had learned of their HCV serostatus before study enrollment were more likely

to be interested in treatment for HCV (86.0 vs. 60.0%; $P < .001$; data not shown). Believing that treatments for HCV would work or were safe and perceiving that they had ever been treated badly by a health-care provider were not significantly associated with interest in treatment for HCV infection.

Having an abnormal ALT level (i.e., twice the upper limit of normal or higher) was not associated with interest in treatment for HCV infection; however, because the blood sample for liver function testing was obtained on the same date as the baseline STRIVE interview, subjects were not aware of these results at the time. Interestingly, IDUs who were interested in treatment were more likely to perceive that they were at high risk of progressing to liver disease (48.0% vs. 30.8%; $P = .05$). IDUs who had been told by a health-care provider that HCV could cause liver damage or liver cancer were significantly more likely to be interested in receiving treatment for HCV infection than were those who had not (86.0% vs. 53.6%; $P < .001$). Subjects who were interested in receiving treatment for HCV infection were also more likely to report that they had felt a need to see a doctor in the last 6 months but had not sought care ($P = .005$); perceived need to see a doctor was most commonly a desire for drug treatment (58.9%), depression or another mental health problem (44.6%), or a chronic illness, such as diabetes, heart disease, or asthma (14.3%).

In multivariate analyses, factors independently associated with interest in receiving treatment for HCV infection (table 2) included having been told by a health-care provider that HCV can cause liver damage and/or liver cancer (adjusted OR [AOR], 7.08; 95% CI, 2.31–21.7), having a usual source of medical care (AOR, 5.95; 95% CI, 1.82–19.4), and having a perceived need to see a doctor in the previous 6 months but not having sought care (AOR, 4.36; 95% CI, 1.76–10.81). Persons who perceived that they had a $\geq 50\%$ chance of progressing to cirrhosis or liver cancer within the next 20 years were also more likely to express interest in receiving treatment for HCV infection. In addition, factors related to substance use that were independently associated with being interested in treatment for HCV infection included not having evidence of alcohol dependence (AOR, 0.24; 95% CI, 0.09–0.61) and being at the determination stage or higher for readiness to quit drug use (AOR, 7.53; 95% CI, 1.76–32.3). After these factors were adjusted for, women and older IDUs were marginally less likely to be interested in treatment for HCV infection. In particular, women were nearly 60% less likely to be interested in treatment for HCV infection (AOR, 0.34; 95% CI, 0.10–1.08).

DISCUSSION

In this multicenter study of young HCV-infected IDUs, most (95%) reported never initiating any treatment for HCV infection. Only one-quarter of our sample had followed up with a health-care provider since receiving the diagnosis of HCV in-

fection and, thus, were the few IDUs who were being closely monitored and had subsequently experienced opportunities for medical intervention. On the other hand, at time of enrollment into this study, $>80\%$ of IDUs who were not currently receiving treatment for HCV infection were interested in doing so, which is higher than the findings of previous studies [19, 20]. We also identified a number of modifiable factors that were independently associated with greater interest in receiving treatment for HCV infection, which provides insights into avenues for intervention.

Of note was our finding that factors reflecting quality of medical care appeared to affect the interest of young IDUs in receiving treatment for HCV infection. Participants who had a usual source of medical care were significantly more likely to be interested in receiving treatment for HCV infection, emphasizing the role of continuity of care among patients faced with decisions about complex treatment regimens for HCV. Interest in treatment for HCV infection was also several-fold higher among participants who had been told by a doctor that HCV could cause liver damage or liver cancer. This fact highlights the importance of good communication between doctors and their patients about the benefits and risks of treatments for HCV to inform the decision-making process [32]. In a recent study of female IDUs in France who were coinfecting with HIV and HCV, providers of care for HIV played a key role in providing these patients with information on HCV disease and treatments [33].

In a study of HIV-seropositive IDUs, Altice et al. [34] found that trust in both their health-care providers and their HIV medications was closely associated with initiation of and adherence to antiretroviral therapy for HIV. In our study, beliefs about the efficacy or safety of treatments for HCV or negative experiences with health-care providers did not significantly influence interest in treatment for HCV infection. Although we assessed doctor-patient trust, these questions were limited to subjects who had a regular health-care provider (25% of our sample), which precluded investigation into the importance of this relationship. Clearly, efforts to increase uptake of treatment for HCV infection among young IDUs will first need to increase use of health care in this vulnerable population.

In contrast to an earlier report [19], we found that HCV-infected IDUs who perceived that there was a $\geq 50\%$ chance that they would develop cirrhosis or liver cancer within 2 decades expressed greater interest in treatment for HCV infection. Despite a chaotic lifestyle associated with active drug and alcohol use, the perceived threat of progressive HCV disease may be an important motivator in the decisions of young IDUs to initiate treatment for HCV infection.

Surprisingly, IDUs who had perceived a need to visit a health-care provider in the preceding 6 months but who had not done so were significantly more likely to be interested in treatment

Table 1. Frequencies and unadjusted ORs comparing 18–35-year-old, hepatitis C virus (HCV) RNA–positive injection drug users who are interested in treatment for HCV with those who are not.

Factor	Not interested in treatment for HCV (n = 40)	Interested in treatment for HCV (n = 176)	Unadjusted OR (95% CI)
Age, years			
<26	17 (43)	95 (54)	Reference
≥26	23 (57)	81 (46)	0.63 (0.32–1.26)
Race			
White	25 (63)	114 (65)	Reference
Nonwhite	15 (37)	62 (35)	0.91 (0.45–1.85)
Sex			
Male	32 (80)	140 (80)	Reference
Female	8 (20)	36 (20)	1.03 (0.43–2.42)
City			
Baltimore	18 (45)	99 (56)	Reference
New York City (East Harlem/Bronx)	11 (28)	44 (25)	0.73 (0.31–1.67)
Seattle	11 (28)	33 (19)	0.55 (0.23–1.27)
Have health insurance			
No	31 (78)	116 (66)	Reference
Yes	9 (22)	60 (34)	1.78 (0.80–3.98)
Homeless			
No	13 (32)	87 (50)	Reference
Yes	27 (68)	88 (50)	0.49 (0.24–1.01)
Age at first injection, years			
<18	15 (37)	61 (35)	Reference
≥18	25 (63)	115 (65)	1.13 (0.56–2.30)
Drug injection frequency			
Less than daily	8 (21)	40 (23)	Reference
At least once daily	31 (79)	134 (77)	0.86 (0.37–2.03)
AUDIT score of ≥8			
No	19 (50)	117 (67)	Reference
Yes	19 (50)	57 (33)	0.47 (0.23–0.99)
Ever undergo treatment for alcohol abuse			
No	29 (74)	112 (64)	Reference
Yes	10 (26)	63 (36)	1.63 (0.75–3.57)
Ever undergo treatment for drug abuse			
No	22 (55)	56 (32)	Reference
Yes	17 (43)	120 (68)	2.77 (1.37–5.62)
Refused to answer	1 (2)
Stage of readiness to quit drug use			
Precontemplation	7 (18)	14 (8)	Reference
Contemplation	25 (64)	92 (53)	1.84 (0.67–5.05)
Determination	7 (18)	69 (39)	4.93 (1.49–16.3)
CES-D score of ≥16			
No	15 (38)	56 (33)	Reference
Yes	24 (62)	115 (67)	1.28 (0.62–2.64)
Tested positive for HCV >6 months ago			
No	21 (57)	97 (57)	Reference
Yes	16 (43)	74 (43)	1.00 (0.49–2.05)
ALT level >50 U/L			
No	12 (32)	62 (37)	Reference
Yes	25 (68)	107 (63)	0.83 (0.39–1.76)

(continued)

Table 1. (Continued.)

Factor	Not interested in treatment for HCV (n = 40)	Interested in treatment for HCV (n = 176)	Unadjusted OR (95% CI)
Had HCV-like symptoms when first tested positive for HCV			
No	35 (92)	154 (89)	Reference
Yes	3 (8)	19 (11)	1.44 (0.40–5.13)
Aware of existence of treatment for HCV infection			
No	14 (36)	21 (12)	Reference
Yes	25 (64)	152 (88)	4.05 (1.83–9.00)
Believe that treatments for HCV infection can work			
No	4 (16)	39 (26)	Reference
Yes	21 (84)	109 (74)	0.53 (0.17–1.65)
Perceived safety of treatments for HCV infection			
Very safe	7 (27)	32 (21)	Reference
Safe, but make people slightly sick	3 (12)	31 (21)	2.26 (0.54–9.54)
Safe, but make people very sick	7 (27)	27 (18)	0.84 (0.26–2.71)
Not safe/not sure	9 (35)	59 (40)	1.43 (0.49–4.21)
Followed up with doctor after first HCV-positive test result			
No	31 (84)	127 (73)	Reference
Yes	6 (16)	48 (27)	1.95 (0.77–4.97)
Told by doctor that HCV can cause liver damage or cancer			
No	13 (33)	15 (9)	Reference
Yes	26 (67)	160 (91)	5.33 (2.28–12.5)
Have usual source of medical care			
No	34 (85)	124 (70)	Reference
Yes	6 (15)	52 (30)	2.38 (0.94–6.00)
Been to emergency department in past 6 months			
No	20 (51)	86 (49)	Reference
Yes	19 (49)	89 (51)	1.09 (0.54–2.18)
Hospitalized in past 6 months			
No	29 (74)	121 (69)	Reference
Yes	10 (26)	54 (31)	1.29 (0.59–2.84)
Had a health problem in past 6 months but did not go to doctor			
No	27 (69)	78 (45)	Reference
Yes	12 (31)	97 (55)	2.80 (1.33–5.88)
Treated badly by a medical provider in the past			
No	28 (70)	120 (68)	Reference
Yes	12 (30)	56 (32)	1.09 (0.52–2.30)
Ever told of having chronic liver disease by a doctor			
No	34 (89)	132 (77)	Reference
Yes	4 (11)	40 (23)	2.58 (0.86–7.70)
Perceived chance of developing cirrhosis or liver cancer in the next 20 years			
<50% or do not know	27 (69)	90 (52)	Reference
50%	6 (15)	43 (25)	2.15 (0.83–5.59)
>50%	6 (15)	40 (23)	2.00 (0.77–5.22)

NOTE. Data are no. (%) of subjects, except where noted. ALT, alanine aminotransferase; AUDIT, Alcohol Use Disorders Identification Test; CES-D, Centers for Epidemiologic Studies depression scale.

Table 2. Factors independently associated with interest in treatment for hepatitis C virus (HCV) infection among 18–35-year-old, HCV RNA-positive injection drug users (n = 208).

Factor	Adjusted OR (95% CI)
Age, years	
<26	Reference
≥26	0.45 (0.19–1.07)
Sex	
Male	Reference
Female	0.34 (0.10–1.08)
AUDIT score of ≥8	
No	Reference
Yes	0.24 (0.09–0.61)
Have a usual source of medical care	
No	Reference
Yes	5.95 (1.82–19.40)
Had a health problem in past 6 months but did not go to a doctor	
No	Reference
Yes	4.36 (1.76–10.81)
Told by doctor that HCV can cause liver damage or cancer	
No	Reference
Yes	7.08 (2.31–21.70)
Perceived chance of developing cirrhosis or liver cancer in next 20 years	
<50% or do not know	Reference
50%	2.24 (0.73–6.85)
>50%	3.73 (1.09–12.70)
Stage of readiness to quit drug use	
Precontemplation	Reference
Contemplation	1.77 (0.52–5.98)
Determination or higher	7.53 (1.76–32.3)

NOTE. AUDIT, Alcohol Use Disorders Identification Test.

for HCV infection. One interpretation of this finding is that these persons were concerned that their symptoms or underlying health problem were related to HCV infection. However, when asked about the reason they needed to visit a doctor, more than half indicated that the reason was a desire for treatment for drug abuse. Patients presenting to physicians with a request for treatment for drug abuse represent an opportunity for screening for HCV infection or monitoring of their infection and ongoing education about prevention of and treatments for HCV infection.

Our study identified an important relationship between interest in treatment for HCV infection and readiness to quit drug use. When we applied a theory-driven, stages-of-change model that has been validated among IDUs [23, 25], IDUs who were in the determination stage or higher in terms of their readiness to quit drug use were significantly more likely to be interested in initiating treatment for HCV infection, after we controlled for other factors. In addition, IDUs who demon-

strated signs of alcohol dependence were significantly less likely to be interested in treatment for HCV infection. These observations indicate that an integrated model of care that simultaneously addresses drug and/or alcohol dependence may serve to increase the proportion of young IDUs who accept treatment for HCV. The feasibility of offering treatment for HCV infection within the context of a program of maintenance treatment with methadone has been promising [35].

After we controlled for other factors, female HCV-infected IDUs and younger IDUs in this study were less interested in treatment for HCV infection. Some studies investigating barriers to care for HIV infection among IDUs found that female IDUs and younger IDUs were less likely to receive therapy [16–18]. These findings bear further study.

Our study was limited by the fact that experience with treatment for HCV infection and health-care providers were self reported. However, the proportion of HCV-infected IDUs being treated was also similar to other reports, some of which included older persons and those without injection drug use as a risk factor [13, 19, 36, 37]. Although the survey itself was not accompanied by messages about the risks and benefits associated with treatment for HCV infection, our baseline survey followed posttest counseling about HCV by trained counselors, which may have influenced responses.

Although most of the IDUs in our study expressed interest in receiving treatment for HCV infection, intentions do not necessarily translate into action. Of the 39 subjects who claimed to have been offered treatment for HCV infection by a health-care provider, fewer than one-third reported initiating therapy. Because our survey instruments were administered by ACASI, rather than being administered by an interviewer, these observations likely reflect additional barriers encountered before initiating therapy rather than socially desirable responding. Although this analysis was cross sectional, STRIVE is a prospective study design; future studies will determine whether interest in treatment for HCV infection is associated with higher levels of acceptance, which types of barriers operate at both the attitudinal and behavioral levels, and whether our behavioral intervention is successful in increasing health care use in this population.

Because therapy is not indicated for all HCV-infected persons [15], we cannot infer that the relatively low proportion of HCV-infected IDUs who had been offered treatment for HCV infection and were receiving care was due to provider reticence. On the other hand, several studies have noted that many providers are reluctant to prescribe treatment for HCV infection to active IDUs [13, 14, 35] and that primary care providers are often conservative in their management of HCV infection [37–39].

Generalizability of our findings may be compromised, because our eligibility criteria excluded HIV-infected IDUs. Among studies of older IDUs, 25%–30% are often coinfecting with HCV and HIV [11, 35], and our sample size was relatively

small. Because participants were required to attend a screening visit and 2 baseline interviews to be included in this study, it is possible that we selected for a sample that had greater health care-seeking tendencies. On the other hand, only one-quarter of our sample had a usual source of care, and our sample included young IDUs from 3 large US cities, which strengthens the external validity of our findings.

Despite the low proportion of chronically HCV-infected IDUs who had received treatment for HCV infection in our study, a higher proportion was interested in receiving treatment for HCV infection than reported in previous studies. Our findings suggest that increasing health care use among young IDUs and encouraging physicians to initiate and maintain an open dialogue about the values of treatment for drug and alcohol abuse and treatment for HCV may increase the proportion of IDUs willing to initiate treatment for HCV infection.

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