

Barriers to Providing Health Services for HIV/AIDS, Hepatitis C Virus Infection and Sexually Transmitted Infections in Substance Abuse Treatment Programs in the United States

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ABSTRACT. We sought to identify barriers to offering services for HIV/AIDS, hepatitis C virus, and sexually transmitted infections in substance abuse treatment programs. We surveyed treatment program administrators and clinicians within the National Drug Abuse Treatment Clinical Trials Network to evaluate the availability of medical and non-medical services for patients with or at risk for acquiring these infections. A substantial proportion of programs do not offer services (particularly medical services) for these infections. The most commonly cited barriers were funding, health insurance benefits, patient acceptance, and staff training. The findings highlight a missed opportunity to positively impact these infectious disease epidemics.

KEYWORDS. HIV/AIDS, hepatitis C virus, sexually transmitted infections, drug abuse, barriers

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INTRODUCTION

Human immunodeficiency virus (HIV), hepatitis C virus (HCV), and sexually transmitted infections (STI) are major public health problems worldwide. In the United States, there are more than 1 million individuals living with HIV/AIDS,¹ more than 4 million individuals who have been infected with HCV,² and even more (>15 million new STI cases each year) who have STI.^{3,4} However, the number of people with these infections is likely even higher due to under diagnosis and underreporting.

The use and abuse of illicit substances is also a major public health problem, and substance abuse is largely responsible for sustaining the epidemics of HIV/AIDS, HCV, and STI in the United States.^{2,5-12} In addition to being effective in reducing the use and abuse of illicit substances,¹³ substance abuse treatment programs have also been shown to be effective in reducing transmission of these infections.¹⁴⁻¹⁸ This is because behaviors and practices associated with substance use disorders are important modes of transmission of HIV/AIDS, HCV, and STI addressed by substance abuse treatment programs in the United States.

To reduce the epidemic of these infections, all substance abuse treatment programs should offer health services to diagnose, treat, and prevent transmission of HIV/AIDS, HCV, and STI.¹⁹ However, to date few studies have comprehensively evaluated the full range of HIV/AIDS, HCV, and STI health services offered by substance abuse treatment programs in the United States. The limited multicenter data that are available demonstrate that HIV/AIDS,²⁰⁻²² HCV,^{20,22-24} and STI^{20,22} health services are not available in all substance abuse treatment programs, but the reasons as to why these services are not offered are unknown. The primary aim of this article is to determine barriers to offering health services for HIV/AIDS, HCV, and STI within substance abuse treatment programs in the United States.

METHODS

Study Population

The target population for this study included 319 treatment program administrators

(program directors or managers), treatment program medical clinicians (physicians, physician assistants, nurse practitioners, registered nurses, licensed practical nurses, and medical technicians), and treatment program nonmedical clinicians (psychologists, social workers, counselors, educators, and case managers) in all substance abuse treatment programs within the National Drug Abuse Treatment Clinical Trials Network (NIDA CTN). At the time of this study, the NIDA CTN consisted of 17 nodes geographically distributed within the United States, and more than 100 community treatment programs located in 26 states and the District of Columbia. These programs were responsible for overseeing 319 individual treatment programs. The mission of the NIDA CTN is to improve the quality of drug abuse treatment using evidence-based medicine and science as the vehicle. A full description of the NIDA CTN is available at their web site (<http://www.nida.nih.gov/CTN/home.html>) and in previously published reports.²⁵

All eligible participants were provided information about the objectives of the study prior to participation, and individuals were only excluded if they refused to complete the survey. Approval of this study with waiver of informed consent was obtained from institutional review boards with jurisdiction over the participating substance abuse treatment programs.

Study Design

The Infections and Substance Abuse Study (NIDA CTN-0012) was a cross-sectional, descriptive, and exploratory examination of the range of available services associated with three infections (HIV/AIDS, HCV, and STI) in substance abuse treatment settings within the NIDA CTN. The study began in March 2003 and ended in January 2005, and a comprehensive description of the design of this study has been published previously.²⁰ Institutional review boards in all 17 nodes of the CTN individually reviewed the protocol and provided approval with waiver of informed consent.

The study data for this report involved surveys that were sent by mail to program administrators and clinicians at substance abuse treatment programs within the NIDA CTN. All participants were provided with an information sheet in lieu

of informed consent and a definition sheet to ensure uniformity of understanding by respondents in answering the survey questions.

All data management functions were conducted by a central Data Coordinating Center (DCC). The DCC mailed surveys to respondent and the surveys were returned to the DCC. All surveys were confidential and no identifying data was collected or entered into the survey database. Bar codes were used to uniquely identify each survey to maintain respondent confidentiality and to prevent avoid duplicate data entry.

Surveys were manually reviewed for completeness and general accuracy immediately on receipt by the DCC. A web-based online system specifically designed for survey data acquisition and management was used to enter, check, and store all data. Data editing or checking specifications were developed by senior data management personnel and approved by the principal investigator (LSB) and the executive study team. At the time of data entry, immediate checks for missing, out-of-range, and inconsistent values for each data element were performed, as well as inter-field logic checks to insure data consistency and accuracy. All data was stored in a secure Sequel Server relational database.

The treatment program administrator surveys were sent to each of the administrators of the 319 treatment programs within the NIDA CTN. This comprehensive survey assessed the structure of the treatment program, staffing, funding, characteristics of the patients enrolled in the program, services offered for HIV/AIDS, HCV, and STI, barriers to offering services for these infections, and program administrator opinions regarding services for these infections. For each of the three infections, we assessed the availability of eight health services (offered either on-site or through contractual agreement with another provider), including four medical services (medical history/physical examination, biological testing, medical treatment, and medical monitoring) and four nonmedical services (provider education, patient education, patient risk assessment, and patient counseling). A definitions sheet was included with the survey that described in detail each of the eight services.

To assess barriers to delivering health services for the three targeted infections, program admin-

istrators were provided with a list of seven barriers and were asked to choose yes or no for each to delivering the four medical and four nonmedical services. There was an eighth choice ("other"), without provision to specify, and they were also asked to identify the barrier that was the biggest obstacle to delivering each of the medical and nonmedical services.

The treatment program clinician surveys were sent to 2,210 medical and nonmedical clinicians at each of the programs within the NIDA CTN. A maximum of 10 randomly selected clinicians were included from each treatment program, plus all clinicians identified by the program administrators as experts (both medical and nonmedical) based on training and experience in providing care for at least one of the infection groups. Although this survey collected a wide range of information from clinicians, only the data on barriers to providing each of the eight targeted medical and nonmedical services for HIV/AIDS, HCV, and STI and opinions regarding services for these infections will be presented in this article. The questions that assessed clinician barriers were identical to the questions in the program administrator survey.

Study Outcomes

Our primary goals were to identify and determine relative importance of barriers to providing services for HIV/AIDS, HCV, and STI. The types of barriers assessed in this study included government regulations, treatment program policies, staff training, funding (grants/contracts), patient/client health insurance benefits, patient/client acceptance, staff acceptance, and other barriers. Responses were provided by program administrators and clinicians, and these were analyzed separately.

We also collected data on the treatment program administrator opinions regarding services for HIV/AIDS, HCV, and STI, as well as clinician opinions about services for these infections.

Statistical Analysis

Continuous data are expressed as means \pm standard deviation (SD) for those variables that were normally distributed and medians and interquartile range (25th to 75th percentile) for those

with a non-normal distribution. Continuous variables were compared using an unpaired *t* test or the Kruskal-Wallis test as appropriate. Categorical variables were expressed as proportions and were compared using the Chi-square test when the sample size was sufficiently large or Fisher's exact test when the sample size was too small. Statistical analyses were performed using SAS software version 9.1 for Windows and a two-tailed *p* value of < 0.05 was considered statistically significant.

RESULTS

Characteristics of the Programs Surveyed

Of the 319 treatment program administrators surveyed, 269 (84.3%) individuals from geographically diverse locations in the United States returned completed questionnaires. As previously reported (Table 1),²⁰ the majority (78.7%) of substance abuse programs were private not-for-profit, free-standing facilities. A substantial number of programs offered outpatient (80.2), outreach and other support services (87.6%), but far fewer offered inpatient/residential services (55.0%) or outpatient pharmacotherapy (36.8%). In addition, program size and medical and nonmedical staffing patterns varied considerably. Programs reported a relatively high proportion of patients with one or more of the three infectious disease groups, with HCV as the most prevalent. HIV-positive rates $> 10\%$ were reported by 22.0% of programs, HCV-positive rates $> 10\%$ were reported by 60.7% of programs, and STI-positive rates $> 10\%$ were reported by 34.2% of programs.

Services for HIV/AIDS, HCV, and STI Not Offered by Treatment Programs

To determine the magnitude of the problem, we evaluated the proportion of substance abuse treatment programs that offered each of four medical services (medical history and physical examination, biological testing, medical treatment, and medical monitoring), and each of four nonmedical services (provider education, patient education, patient risk assessment, patient

TABLE 1. Characteristics of the Substance Abuse Treatment Programs ($N = 269$)

Characteristic	No. (%)
Corporate structure	
Private not-for-profit	211 (78.7%)
Private for-profit	15 (5.6%)
Government	36 (13.4%)
Other	6 (2.2%)
Program context	
Hospital/medical school/university	37 (13.9%)
Mental health/family/child services center	34 (12.7%)
Free standing	162 (60.7%)
Other	34 (12.7%)
Largest source of revenue	
County/local grants	45 (17.2%)
State funds	103 (39.3%)
Medicaid	46 (17.6%)
Federal grants	33 (12.6%)
Other	35 (13.4%)
Addiction services offered ^a	
Inpatient or residential services	148 (55.0%)
Outpatient pharmacotherapy	89 (36.8%)
Other outpatient services	206 (80.2%)
Outreach & support services	227 (87.6%)
Medical staff ^b	
0	55 (21.1%)
1-3	95 (36.4%)
4 or more	111 (42.5%)
Non-medical staff ^c	
0-7	79 (30.3%)
8-17	118 (45.2%)
18 or more	64 (24.5%)
Current patient census	
0	5 (2.0%)
1-500	145 (56.9%)
501-1,000	52 (20.4%)
1,000 or more	53 (20.8%)
Percent of patients infected with HIV ^d	
0	31 (12.4%)
1-10	165 (65.7%)
11-20	31 (12.4%)
21 or more	24 (9.6%)
Percent of patients infected with HCV ^d	
0	23 (9.2%)
1-10	75 (30.1%)
11-20	30 (12.1%)
21 or more	121 (48.6%)
Percent of patients infected with STI ^d	
0	20 (8.3%)
1-10	138 (57.5%)
11-20	36 (15.0%)
21 or more	46 (19.2%)

^aResponses were not mutually exclusive for this item.

^bMedical staff includes medical doctors, physician assistants, nurse practitioners, registered nurses, licensed practical nurses, pharmacists, and medical technicians.

^cNon-medical staff includes psychologists, social workers, counselors, educators, case managers, and aides.

^dThese percentages were estimated by the program administrator. HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

TABLE 2. HIV/AIDS, HCV, and STI Health Services Offered by the 269 Substance Abuse Treatment Programs

	HIV/AIDS Services Offered No. (%)	HCV Services Offered No. (%)	STI Services No. (%)	P-Value ^a
Patient medical history and physical exam	150 (59.8%)	135 (52.9%)	133 (51.6%)	0.14
Patient biological testing	131 (52.4%)	93 (36.8%)	109 (42.2%)	<0.01
Patient treatment	103 (41.5%)	78 (30.8%)	92 (35.8%)	0.04
Patient monitoring	117 (47.4%)	95 (37.5%)	105 (41.2%)	0.08
Provider education	186 (73.2%)	171 (67.3%)	155 (60.8%)	0.01
Patient education	225 (89.3%)	200 (78.4%)	205 (80.1%)	<0.01
Patient risk assessment	223 (88.5%)	194 (75.8%)	195 (76.5%)	<0.01
Patient counseling	178 (71.8%)	159 (62.4%)	163(63.7%)	0.06

^aThe *p* value is for the comparison between the 3 infection groups.

HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

counseling) for the three infection groups (Table 2). Program administrators reported that substance abuse treatment programs were more likely to offer health services for HIV/AIDS than for HCV or STI. We also found that there was a statistically significant difference in availability of medical or nonmedical services for each of the three infection groups (with HIV/AIDS services being more available for both medical and nonmedical services); and a difference in availability of medical versus nonmedical services, with nonmedical services being more available (Table 2).

The median number of health services offered was 6.0 (Interquartile Range [IQR] = 3.0–7.0) for HIV/AIDS, 4.0 (IQR = 2.0–7.0) for HCV, and 4.5 (IQR = 2.0–7.0) for STI ($p < 0.01$ for the comparison between the three infection groups). None of the eight health services related to HIV/AIDS, HCV, or STI were available in 4.3%, 13.6%, and 13.5% of the treatment programs, respectively ($p < 0.01$ for the comparison between the three infection groups).

The percentage of substance abuse treatment programs offering any of the four medical services for HIV/AIDS (70.2%), HCV (59.0%), or STI (60.2%) ($p = 0.02$ for the comparison between the three infection groups) was less than the percentage of substance abuse treatment programs offering any of the four nonmedical services for HIV/AIDS (95.3%), HCV (86.3%), or STI (86.4%) ($p < 0.01$ for the comparison between the three infection groups).

Program Administrator Barriers to Providing Services for HIV/AIDS, HCV, and STI at Substance Abuse Treatment Programs

We surveyed program administrators to determine barriers to providing health services for the three infection groups. As shown in Table 3, the barriers to providing health services for HIV/AIDS, HCV, and STI as reported by program administrators were similar for all three infections. Overall, the most common barriers identified by program administrators included funding, patient and client health insurance benefits, patient and client acceptance, and staff training.

When asked to identify the single biggest obstacle to providing each of the eight services for HIV/AIDS, program administrators overwhelmingly stated that funding was the biggest obstacle. In addition, they also identified funding as the biggest obstacle for each of the eight services for HCV as well as for STI (data not shown).

Program Administrator Opinions Regarding Services Provided

In addition to evaluating barriers for providing HIV/AIDS, HCV, and STI services, we also determined program administrator opinions regarding services for these infections

TABLE 3. Barriers to Providing HIV/AIDS, HCV, and STI Services Reported by the 269 Program Administrators^a

Barriers to Providing Services	Medical Services				Non-Medical Services			
	Patient Medical History and Physical Examination	Patient Biological Testing	Patient Treatment	Patient Monitoring	Provider Education	Patient Education	Patient Risk Assessment	Patient Counseling
HIV/AIDS								
Government regulations	27 (11.8)	37 (16.0)	42 (17.9)	33 (14.3)	22 (9.4)	21 (9.0)	13 (5.8)	25 (10.5)
Treatment program policies	33 (14.2)	42 (18.3)	45 (19.2)	43 (18.4)	19 (8.2)	17 (7.4)	16 (7.1)	27 (11.3)
Staff training	62 (27.0)	67 (29.2)	82 (34.9)	79 (34.0)	97 (41.5)	92 (39.4)	76 (32.8)	93 (39.5)
Funding	131 (56.7)	146 (63.8)	166 (70.4)	152 (64.9)	150 (64.2)	137 (58.4)	111 (47.9)	146 (62.0)
Patient/client health insurance benefits	112 (48.3)	119 (52.1)	138 (58.6)	126 (53.8)	81 (34.6)	99 (42.3)	83 (35.8)	122 (51.9)
Patient/client acceptance	76 (32.8)	85 (37.3)	98 (41.4)	92 (39.3)	40 (17.1)	90 (38.6)	78 (33.8)	101 (43.3)
Staff acceptance	25 (11.0)	38 (16.5)	34 (14.3)	37 (16.0)	31 (13.3)	30 (13.0)	26 (11.3)	37 (15.9)
Other barrier	11 (4.8)	8 (3.4)	19 (8.2)	15 (6.5)	8 (3.4)	13 (5.4)	5 (2.1)	16 (6.7)
HCV								
Government regulations	27 (13.2)	29 (14.2)	32 (15.7)	33 (16.3)	15 (7.4)	14 (7.0)	12 (5.7)	18 (8.7)
Treatment program policies	24 (11.8)	42 (20.7)	47 (22.9)	42 (20.6)	17 (8.3)	14 (7.0)	17 (8.3)	26 (12.3)
Staff training	57 (27.6)	65 (31.7)	82 (39.6)	75 (36.8)	85 (41.3)	92 (44.7)	76 (36.2)	91 (43.9)
Funding	114 (55.3)	133 (65.1)	148 (71.7)	129 (63.4)	134 (65.2)	127 (61.5)	101 (48.5)	125 (60.3)
Patient/client health insurance benefits	101 (49.1)	117 (57.1)	122 (59.4)	110 (53.9)	71 (34.3)	87 (42.1)	74 (35.6)	101 (48.7)
Patient/client acceptance	70 (33.8)	82 (39.8)	98 (47.8)	89 (43.7)	27 (13.0)	70 (33.8)	65 (31.0)	83 (39.7)
Staff acceptance	24 (11.8)	34 (16.4)	35 (17.0)	36 (17.5)	25 (12.2)	26 (12.4)	27 (12.7)	30 (14.2)
Other barrier	17 (8.3)	21 (10.3)	18 (8.8)	18 (8.6)	14 (6.9)	16 (7.6)	9 (4.1)	17 (8.2)
STI								
Government regulations	24 (11.7)	30 (14.7)	30 (14.2)	25 (12.3)	17 (8.1)	22 (10.3)	17 (8.2)	23 (10.8)
Treatment program policies	28 (13.7)	42 (20.3)	34 (16.4)	37 (17.8)	21 (10.2)	28 (13.2)	20 (9.4)	25 (12.0)
Staff training	66 (31.8)	65 (31.9)	75 (36.1)	66 (31.9)	89 (42.2)	94 (45.1)	71 (33.8)	86 (41.3)
Funding	110 (53.4)	121 (59.2)	133 (63.8)	119 (57.8)	131 (62.3)	125 (59.7)	106 (50.8)	123 (59.0)
Patient/client health insurance benefits	98 (47.4)	109 (53.0)	115 (55.2)	104 (50.4)	68 (32.3)	87 (41.6)	76 (36.4)	104 (49.8)
Patient/client acceptance	70 (33.8)	74 (36.2)	78 (37.4)	81 (39.5)	31 (14.8)	73 (34.8)	74 (35.5)	85 (40.9)
Staff acceptance	24 (11.7)	34 (16.5)	33 (16.0)	33 (15.8)	28 (13.3)	30 (14.2)	22 (10.3)	32 (15.5)
Other barrier	14 (6.6)	14 (6.6)	14 (6.6)	13 (6.5)	14 (6.7)	10 (4.8)	11 (5.2)	17 (7.9)

^aAll data are presented as no. (%).

HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

TABLE 4. Opinions of the 269 Program Administrators Regarding Services for HIV/AIDS, HCV, and STI^a

Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Full abstinence from illicit drugs or alcohol is not necessary for patients in drug treatment programs to succeed in reducing their involvement in:					
High-risk injection or other drug use practices	64 (24.5)	82 (31.4)	13 (5.0)	39(14.9)	63 (24.1)
High-risk sexual behaviors	61 (23.5)	86 (33.1)	18 (6.9)	41.(15.8)	54(20.8)
It would be worth re-allocating existing program funds if we could prevent or reduce					
HIV infection	84 (32.3)	85 (32.7)	49 (18.8)	33 (12.7)	9 (3.5)
HCV infection	84 (32.3)	86 (33.1)	48 (18.5)	32 (12.3)	10 (3.8)
STI	70 (27.5)	78 (30.6)	63 (24.7)	34 (13.3)	10 (3.9)
I believe that providing medical care within a substance abuse treatment program distracts patients from focusing on their substance abuse disorder	4 (1.5)	2 (0.8)	22 (8.5)	88 (34.0)	143 (55.2)

Question	Very Important	Important	Neither Important nor Unimportant	Unimportant	Very Unimportant
How important do you feel each of the following areas are:					
Prevention of substance abuse	209 (80.4)	48 (18.5)	2 (0.8)	0 (0.0)	1 (0.4)
Treatment of substance abuse	237 (90.8)	20 (7.7)	1 (0.4)	0 (0.0)	3 (1.1)
Prevention of communicable diseases	222 (85.4)	33 (12.7)	2 (0.8)	2 (0.8)	1 (0.4)
Treatment of communicable diseases	222 (85.4)	31 (11.9)	4 (1.5)	0 (0.0)	3 (1.1)

^aAll data are presented as no. (%)

HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

(Table 4). More than half of the program administrators agreed or strongly agreed that full abstinence from illicit drugs or alcohol was not necessary for patients to succeed in reducing their involvement in high-risk behaviors and stated that it would be worth reallocating program funds to reduce HIV/AIDS, HCV, and STI risk.

The majority of program administrators reported that prevention and treatment of substance abuse and communicable diseases were very important. Only a small proportion of program administrators (2.3%) expressed concern that providing medical care within a substance abuse treatment program would distract patients from focusing on their substance abuse disorder.

Clinician Barriers to Providing Services for HIV/AIDS, HCV, and STI

In addition to surveying program administrators, we also surveyed 2,210 randomly selected clinicians working in the substance abuse treatment programs in the NIDA CTN. We received a completed questionnaire from 1,723 (78.0%) clinicians.

Similar to the program administrators, the barriers to providing health services for HIV/AIDS, HCV, and STI reported by clinicians were comparable across all three infection groups (Table 5). Overall, the two most common barriers identified by program clinicians included funding and patient and client health insurance benefits. In addition, a substantial

TABLE 5. Barriers to Providing HIV/AIDS, HCV, and STI Services Reported by the 1,723 Program Clinicians^a

Barrier	Medical Services				Non-Medical Services			
	Patient Medical History and Physical Examination	Patient Biological Testing	Patient Treatment	Patient Monitoring	Provider Education	Patient Education	Patient Risk Assessment	Patient Counseling
HIV/AIDS								
Government regulations	430 (28.5)	542 (35.8)	560 (37.0)	533 (35.6)	422 (27.5)	411 (26.9)	376 (24.7)	373 (24.5)
Treatment program policies	420 (27.8)	553 (36.5)	507 (33.5)	531 (35.5)	391 (25.5)	377 (24.7)	361 (23.7)	385 (25.3)
Staff training	506 (33.5)	603 (39.8)	648 (42.8)	669 (44.7)	712 (46.4)	690 (45.2)	630 (41.4)	661 (43.4)
Funding (grants/contracts)	911 (60.4)	1,042 (68.8)	1,086 (71.7)	1,033 (69.0)	1,119 (73.4)	1,060 (69.4)	921 (60.5)	995 (65.3)
Patient/client health insurance benefits	934 (61.9)	1,026 (67.8)	1,089 (71.9)	1,012 (67.6)	844 (55.0)	904 (59.2)	851 (55.9)	949 (62.3)
Patient/client acceptance	644 (42.7)	752 (49.7)	783 (51.7)	756 (50.5)	517 (33.7)	738 (48.3)	705 (46.3)	749 (49.2)
Staff acceptance	376 (24.9)	472 (31.2)	453 (29.9)	455 (30.4)	456 (29.7)	435 (28.5)	437 (28.7)	445 (29.2)
Other barrier	311 (20.6)	347 (22.9)	345 (22.8)	343 (22.9)	310 (20.2)	313 (20.5)	309 (20.3)	311 (20.4)
HCV								
Government regulations	369 (29.9)	431 (34.9)	446 (36.1)	433 (35.2)	355 (28.4)	341 (27.4)	329 (26.1)	332 (26.5)
Treatment program policies	393 (31.8)	487 (39.5)	474 (38.4)	485 (39.5)	373 (29.8)	372 (29.9)	384 (30.5)	389 (31.1)
Staff training	438 (35.5)	523 (42.4)	561 (45.4)	565 (46.0)	631 (50.5)	644(51.8)	565 (44.9)	598 (47.8)
Funding (grants/contracts)	751 (60.8)	853 (69.1)	889 (72.0)	849 (69.1)	896 (71.7)	857 (68.9)	781 (62.0)	829 (66.3)
Patient/client health insurance benefits	766 (62.0)	849 (68.8)	874 (70.8)	816 (66.4)	675 (54.0)	720 (57.9)	703 (55.8)	778 (62.2)
Patient/client acceptance	510 (41.3)	644 (52.2)	706 (57.2)	622 (50.6)	406 (32.5)	562 (45.2)	550 (43.7)	603 (48.2)
Staff acceptance	287 (23.2)	360 (29.2)	346 (28.0)	360 (29.3)	343 (27.4)	316 (25.4)	335 (26.6)	342 (27.3)
Other barrier	238 (19.3)	252 (20.4)	261 (21.1)	267 (21.7)	239 (19.1)	239 (19.2)	248 (19.7)	238 (19.0)
STI								
Government regulations	346 (28.3)	391 (32.1)	380 (31.2)	394 (32.4)	314 (25.6)	336 (27.2)	312 (25.1)	317 (25.8)
Treatment program policies	361 (29.5)	446 (36.6)	433 (35.6)	434 (35.7)	360 (29.3)	351 (28.4)	350 (28.1)	364 (29.6)
Staff training	425 (34.7)	480 (39.4)	510 (41.9)	519 (42.7)	604 (49.2)	616 (49.8)	525 (42.2)	549 (44.7)
Funding (grants/contracts)	731 (59.7)	797 (65.4)	832 (68.4)	799 (65.8)	836 (68.1)	818 (66.1)	735 (59.1)	793 (64.5)
Patient/client health insurance benefits	723 (59.1)	784 (64.3)	806 (66.2)	757 (62.3)	620 (50.5)	674 (54.5)	652 (52.4)	721 (58.7)
Patient/client acceptance	515 (42.1)	564 (46.3)	607 (49.9)	593 (48.8)	414 (33.7)	584 (47.2)	556 (44.7)	587 (47.8)
Staff acceptance	278 (22.7)	319 (26.2)	316 (26.0)	337 (27.7)	316 (25.7)	314 (25.4)	311 (25.0)	334 (27.2)
Other barrier	233 (19.0)	250 (20.5)	246 (20.2)	245 (20.2)	239 (19.5)	234 (18.9)	233 (18.7)	231 (18.8)

^aAll data are presented as no. (%)

HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

number of clinicians identified patient and client acceptance and staff training as being important barriers to delivering health services for these infections.

Clinicians identified funding as the single biggest obstacle to providing each of the eight services for HIV/AIDS, HCV, and STI (data not shown). Compared to program administrators, a higher proportion of clinicians perceived there to be barriers to providing each of the health services.

Clinician Opinions Regarding Services Provided

In addition to assessing barriers to providing HIV/AIDS, HCV, and STI services, we also determined clinician opinions regarding services for these infections (Table 6). In contrast to program administrators, clinicians were less likely to agree or strongly agree with the statement that full abstinence from illicit drugs or alcohol was not necessary for patients to suc-

ceed in reducing their involvement in high-risk behaviors.

The majority of clinicians reported that prevention and treatment of substance abuse and communicable diseases were very important. Few clinicians (8.5%) were concerned that providing medical care within a substance abuse treatment program might distract patients from focusing on their substance abuse disorder.

The most important finding from the opinions data (Tables 4 and 6) is that both treatment program administrators (97.7%) and clinicians (91.5%) overwhelmingly believed that providing medical care within a substance abuse treatment program is not a distraction (barrier) to substance abuse treatment.

DISCUSSION

In the current study, we found that although a majority of substance abuse treatment programs within the NIDA CTN offered health services for

TABLE 6. Opinions of the 1,723 Clinicians Regarding Services for HIV/AIDS, HCV, and STI^a

Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Full abstinence from illicit drugs or alcohol is not necessary for patients in drug treatment programs to succeed in reducing their involvement in:					
High-risk injection or other drug use practices	306 (18.6)	351 (21.4)	80 (4.9)	284 (17.3)	621 (37.8)
High-risk sexual behaviors	286 (17.4)	393 (23.9)	103 (6.3)	295 (18.0)	564 (34.4)
I believe that providing medical care within a substance abuse treatment program distracts patients from focusing on their substance abuse disorder	61 (3.7)	80 (4.8)	128 (7.8)	466 (28.3)	913 (55.4)

Question	Very Important	Important	Neither Important nor Unimportant	Unimportant	Very Unimportant
How important do you feel each of the following areas are:					
Prevention of substance abuse	1,399 (84.6)	190 (11.5)	25 (1.5)	5 (0.3)	34 (2.1)
Treatment of substance abuse	1,488 (90.0)	116 (7.0)	12 (0.7)	4 (0.2)	33 (2.0)
Prevention of communicable diseases	1,448 (87.7)	151 (9.1)	13 (0.8)	5 (0.3)	34 (2.1)
Treatment of communicable diseases	1,453 (88.0)	146 (8.8)	15 (0.9)	4 (0.2)	33 (2.0)

^aAll data are presented as no. (%)

HIV = human immunodeficiency virus; HCV = hepatitis C virus; STI = sexually transmitted infections.

HIV/AIDS, HCV, and STI, a substantial percentage did not, particularly for medical services, representing a missed opportunity to positively affect these infectious disease epidemics. These findings are particularly striking because substance abuse program administrators were asked about services provided either onsite or by contractual agreement with another provider. Therefore, the percentage of programs that offered only onsite services was even lower. In view of the fact that treatment programs within the NIDA CTN generally have closer linkages with university settings than non-NIDA CTN treatment programs, NIDA CTN treatment programs might be expected to offer more evidence-based services than non-NIDA CTN treatment programs. This means that services offered by non-NIDA CTN treatment programs, which comprise the vast majority of treatment programs in the United States, might be expected to be lower still.

More importantly, this report categorized and confirmed what had previously been assumed to be the barriers to offering specific medical and nonmedical health services for these infections in substance abuse treatment programs. These findings have important implications for the estimated 19.1 million current illicit drug users in the United States²⁶ and represent missed opportunities to diagnose, treat, and prevent further transmission of these infections.

Despite the major public health importance of HIV/AIDS, HCV, and STI epidemics among substance abusers, few studies have comprehensively evaluated the range of health services offered for these infections in substance abuse treatment programs in the United States. Although estimates vary widely, these studies showed that a disappointingly high proportion of substance abuse treatment programs did not offer any testing for HIV (14.0% to 69.3%),^{20–22} HCV (22.7% to 76.7%),^{20,22,24} or STI (57.8% to 78.4%).^{20,22} In addition to confirming the suboptimal availability of HIV/AIDS, HCV, and STI services in substance abuse treatment programs, our study also provides more definitive insight into the barriers to providing these health services.

Program administrators and clinicians identified funding and patient and client health insurance benefits as the biggest barriers to pro-

viding medical and nonmedical services for HIV/AIDS, HCV, and STI in substance abuse treatment programs. Given the high prevalence of these infections among substance abusers, combined with the fact that these individuals are largely responsible for sustaining transmission of these infections in the United States, it would be prudent to improve integrated delivery of these health services. Possible solutions include reallocating existing substance abuse treatment program funds, increasing state and federal funding, evaluating more cost-effective strategies for providing care, or a combination of these approaches.

Another published report from this study, which included information from a survey of state health and substance abuse department administrators, showed that there was a substantial mismatch between availability of funding from states and knowledge of these funding sources at the program administrator level,²⁷ indicating that funding was often more available than was recognized. This could be remedied simply through better communication between state agencies and the treatment programs that they oversee and fund. The optimal solution to this public health problem is uncertain at this time, but it is clear that health services research studies to evaluate the feasibility, effectiveness, and cost-effectiveness of these strategies in clinical practice are a logical next step.

In addition to funding and patient and client health insurance benefits, we also identified patient and client acceptance and staff training as being important barriers to delivering health services for these infections. Therefore, it is important that program administrators, clinicians, and patients be educated on screening, diagnosis, treatment, and risk-reduction measures so that transmission of these infections can be reduced. Even if funding were available, there are still other barriers that need to be overcome.

The strengths of the current study include the large number of substance abuse treatment programs surveyed, the geographic diversity of these programs, inclusion of both program administrators and clinicians, the high response rates from treatment program administrators (84.3%) and clinicians (78.0%), and the collection of comprehensive information about health

services offered for HIV/AIDS, HCV, and STI. In addition, our study is unique because we are unaware of any previous studies that have comprehensively evaluated barriers to providing care for HIV/AIDS, HCV, and STI in substance abuse treatment programs across the United States.

There are several limitations of this study to consider when interpreting our findings. First, we surveyed only substance abuse treatment programs within the NIDA CTN, and the services provided by these programs and barriers identified may differ from those associated with substance abuse treatment programs that do not participate in this network. However, this is unlikely because the distribution of the size and structure of the 269 programs that returned completed questionnaires were, to a large extent, similar to the distribution of the 13,454 programs in the National Survey of Substance Abuse Treatment Services study.^{22,28} As noted above, the barriers to offering these services in non-CTN settings are likely to be even more pronounced due to presumably less connection with university centers and the latest evidence-based practices.

Second, we evaluated program administrator and clinician barriers to providing HIV/AIDS, HCV, and STI services but did not survey the substance abusers that would actually use these services. It is possible that the perspectives of the patients differ from that of program administrators and clinicians.

Third, given that HIV treatment is life-long and HCV treatment is prolonged, there may be significant incongruity between length of stay in substance abuse treatment and ability to treat these infections. Our study did not address these and other logistical issues. However, from the outset this study was intended to be exploratory and hypothesis generating, which is what this limitation highlights. Despite these limitations, our findings shed light on the challenges that substance abuse treatment programs face regarding delivery of infection-related services in the context of limited funding.

We found that there was less than robust availability of comprehensive health services for HIV/AIDS, HCV, and STI in substance abuse treatment programs within the NIDA CTN, and by extension, the entire United States. We have categorized and confirmed what had previously

been assumed to be the specific barriers to providing these services. Because substance abuse treatment programs are an important point of contact to provide risk-reduction counseling, testing, and treatment for these infections, these identified shortcomings provide opportunities for public health intervention.

REFERENCES

- Centers for Disease Control and Prevention. Twenty-five years of HIV/AIDS: United States, 1981-2006. *MMWR Morb Mortal Wkly Rep* 2006; 55:585-9.
- Armstrong GL, Wasley A, Simard EP, McQuillan GM, Kuhnert WL, Alter MJ. The prevalence of hepatitis C virus infection in the United States, 1999 through 2002. *Ann Intern Med* 2006; 144:705-14.
- Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2004. Atlanta, GA: U.S. Department of Health and Human Services, 2005.
- Weinstock H, Berman S, Cates W. Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspect Sex Reprod Health* 2004; 36:6-10.
- Anderson JE, Wilson RW, Barker P, Doll L, Jones TS, Holtgrave D. Prevalence of sexual and drug-related HIV risk behaviors in the U.S. adult population: results of the 1996 National Household Survey on Drug Abuse. *J Acquir Immune Defic Syndr* 1999; 21:148-56.
- Bachmann LH, Lewis I, Allen R, Schwebke JR, Leviton LC, Siegal HA, Hook EW. Risk and prevalence of treatable sexually transmitted diseases at a Birmingham substance abuse treatment facility. *Am J Public Health* 2000; 90:1615-18.
- Battjes RJ, Pickens RW, Brown LS. HIV infection and AIDS risk behaviors among injecting drug users entering methadone treatment: an update. *J Acquir Immune Defic Syndr Hum Retrovirol* 1995; 10:90-6.
- Centers for Disease Control and Prevention. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. *MMWR Morb Mortal Wkly Rep* 1998; 47:1-39.
- Francis H. Substance abuse and HIV infection. *Top HIV Med* 2003; 11:20-4.
- Kral AH, Blumenthal RN, Booth RE, Watters JK. HIV seroprevalence among street-recruited injection drug and crack cocaine users in 16 US municipalities. *Am J Public Health* 1998; 88:108-13.
- Plitt SS, Garfein RS, Gaydos CA, Strathdee SA, Sherman SG, Taha TE. Prevalence and correlates of chlamydia trachomatis, neisseria gonorrhoeae, trichomonas vaginalis infections, and bacterial vaginosis among a cohort of young injection drug users in Baltimore, Maryland. *Sex Transm Dis* 2005; 32:446-53.

12. Santibanez SS, Garfein RS, Swartzendruber A, Purcell DW, Paxton LA, Greenberg AE. Update and overview of practical epidemiologic aspects of HIV/AIDS among injection drug users in the United States. *J Urban Health* 2006; 83:86–100.
13. Hubbard RL, Craddock SG, Anderson J. Overview of 5-year follow-up outcomes in the drug abuse treatment outcome studies (DATOS). *J Subst Abuse Treat* 2003; 25:125–34.
14. Metzger DS, Navaline H, Woody GE. Drug abuse treatment as AIDS prevention. *Public Health Rep* 1998; 113 Suppl 1:97–106.
15. Metzger DS, Navaline H. HIV prevention among injection drug users: the need for integrated models. *J Urban Health* 2003; 80:59–66.
16. Reback CJ, Larkins S, Shoptaw S. Changes in the meaning of sexual risk behaviors among gay and bisexual male methamphetamine abusers before and after drug treatment. *AIDS Behav* 2004; 8:87–98.
17. Schroeder JR, Epstein DH, Umbricht A, Preston KL. Changes in HIV risk behaviors among patients receiving combined pharmacological and behavioral interventions for heroin and cocaine dependence. *Addict Behav* 2006; 31:868–79.
18. Woody GE, Gallop R, Luborsky L, Blaine J, Frank A, Salloum IM, Gastfriend D, Crits-Christoph P. HIV risk reduction in the National Institute on Drug Abuse Cocaine Collaborative Treatment Study. *J Acquir Immune Defic Syndr* 2003, 33: 82–87.
19. Substance Abuse & Mental Health Services Administration. SAMHSA Action Plan: HIV & Hepatitis FY 2006 and FY 2007. Rockville, MD, 2006.
20. Brown LS, Kritz SA, Goldsmith RJ, Bini EJ, Rotrosen J, Baker S, Robinson J, McAuliffe P. Characteristics of substance abuse treatment programs providing services for HIV/AIDS, hepatitis C virus infection, and sexually transmitted infections: the National Drug Abuse Treatment Clinical Trials Network. *J Subst Abuse Treat* 2006; 30:315–21.
21. Pollack HA, D'Aunno T, Lamar B. Outpatient substance abuse treatment and HIV prevention: an update. *J Subst Abuse Treat* 2006; 30:39–47.
22. Substance Abuse & Mental Health Services Administration (SAMHSA). 2004 National Survey of Substance Abuse Treatment Programs (N-SSATS): data on Substance Abuse Treatment Facilities, DASIS Series: S-28, DHHS Publication No. (SMA) 05–4112; 2005a. Rockville, MD.
23. Strauss SM, Falkin GP, Vassilev Z, Des Jarlais D, Astone J. A nationwide survey of hepatitis C services provided by drug treatment programs. *J Subst Abuse Treat* 2002; 22:55–62.
24. Strauss SM, Astone JM., Des Jarlais D, Hagan H. A comparison of HCV antibody testing in drug-free and methadone maintenance treatment programs in the United States. *Drug Alcohol Depend* 2004; 73:227–36.
25. Rotrosen J, Leshner A, Tai B, Greenlick M, Pencer E, Trachtenberg R, et al. The National Drug Abuse Treatment Clinical Trials Network: challenges and opportunities. NIDA Research Monograph Series 2002; 182:12–7.
26. Substance Abuse & Mental Health Services Administration. Results from the 2004 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NSDUH Series H-28, DHHS Publication No. SMA 05-4062) 2005b. Rockville, MD.
27. Kritz SA, Brown LS, Goldsmith RJ, Bini EJ, Robinson J, Alderson D, Novo P, Rotrosen J. States and substance abuse treatment programs: funding and guidelines for infection-related services. *Am J Public Health* 2008; 98:824–6.
28. National Treatment Center Study. Clinical Trials Network Summary & Comparison Report. NTCS Report No. 10. Athens, GA: Institute for Behavioral Research, University of Georgia 2005.