

# Substance Abuse Treatment as HIV Prevention: More Questions Than Answers

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This report examines associations between the availability of human immunodeficiency virus (HIV)-related health services in substance abuse treatment programs and characteristics of the programs and the patients they serve.

In a cross-sectional, descriptive design and via a validated survey, program administrators within the National Drug Abuse Treatment Clinical Trials Network provided information on program characteristics, patient characteristics (rates of risky sexual and drug behaviors and HIV infection), and the availability of 31 different HIV-related health services.

Of 319 programs, 84% submitted surveys. Service availability rates ranged from: 10% (pneumococcal vaccination) to 86% (drug testing) for the 6 HIV-related services offered to all patients, 13% (Pap smear for women) to 54% (tuberculin skin testing) for the 6 services offered to new patients, 2% (sterile injection equipment) to 64% (male condoms) for the 4 risk-reduction services, 37% (Pap smear for women) to 61% (tuberculin skin testing) for the 11 biological assessments offered to HIV-positive patients, and 33% (medical treatments) to 52% (counseling) for the 4 other services offered to HIV-positive patients. The availability of these HIV-related services was associated with clinical settings, the types of addiction treatment services, the rates of risky drug and sexual behaviors, and HIV infection rates among patients. Availability of such services was below published guidelines.

While the results provide another basis for the infection-related prevention benefits of substance abuse treatment, the variability in the availability of HIV-related health care deserves further study and has health policy implications in determining how to utilize substance abuse treatment in reducing drug-related HIV transmission.

**Keywords:** HIV/AIDS ■ substance abuse

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## INTRODUCTION

The intersection between substance use and transmission of the human immunodeficiency virus (HIV), the virus responsible for AIDS, remains a prominent component of the American landscape.<sup>1-4</sup> Access to substance users and evidence of reductions in HIV-related risk behaviors and/or infection rates among substance abuse treatment enrollees are among the reasons substance abuse treatment has received substantial attention regarding its role in addressing substance use-related HIV transmission.<sup>5-8</sup> The availability and utilization of infection-related services in many substance abuse treatment programs may provide the mechanisms to explain the infection-related benefits of this clinical care setting.<sup>9-13</sup> Collectively, these findings have led to pronouncements that substance abuse treatment represents an important component in comprehensive program to prevent substance use-related HIV transmission.<sup>14-19</sup>

Determining the benefit of any component of the health care delivery system requires an assessment of at least 4 measures: availability, utilization, effectiveness (or outcomes), and costs. Because effectiveness and costs are much more difficult to assess, determining the availability of services becomes an important prerequisite. This is no different for substance abuse treatment programs which vary in setting (inpatient, residential, or outpatient), mix of addiction services (such as individual or group counseling or pharmacotherapy), other health care and ancillary services, staffing, philosophy, available resources, and patient characteristics.<sup>9,19,20</sup> Because there are no published reports of the availability of the full spectrum of HIV-related

health services in substance abuse treatment programs or of the relationships between the availability of these services and features of substance abuse treatment programs, we examined this relationship as a component of a larger, hypothesis-generating, and previously published study.<sup>10,11</sup>

## METHODS

The Infections and Substance Abuse Study described the availability of health care for various infections among substance abuse treatment programs participating in the National Drug Abuse Treatment Clinical Trials Network, sponsored by the National Institute on Drug Abuse.<sup>21</sup> As a comprehensive overview of this cross-sectional, descriptive, and observational study has been

**Table 1.** HIV-Related Treatment Services of Substance Abuse Treatment Programs

HIV-Related Services	Percent of Programs Providing HIV-Related Services in Various Clinical Settings				
	In All Treatment Programs (n = 269)	Hospital/Medical School University (n = 37)	Mental Health/Family Health (n = 34)	Free Standing (n = 164)	Other (n = 34)
<b>For all patients</b>					
Basic HIV-related education	86%	81%	71%	91%	84%
Behavior risk assessment	86%	75%	79%	91%	82%
Drug testing	86%	86%	76%	89%	78%
HIV antibody testing	48% <sup>a</sup>	57%	35%	34%	50%
Influenza vaccination	18%	27%	15%	14%	31%
Pneumococcal vaccination	10%	16%	12%	8%	13%
<b>For new patients</b>					
Complete blood count	35%	35%	21%	35%	45%
Serum chemistries	33%	35%	19%	34%	39%
Liver function tests	35%	43%	16%	34%	45%
Tuberculin skin testing	54%	51%	36%	57%	59%
Pelvic exam for women	13%	16%	9%	11%	21%
Pap smear for women	13%	14%	10%	10%	23%
<b>Offer risk-reduction items</b>					
Sterile injection equipment	2%	3%	0%	3%	0%
Bleach kits	10%	8%	6%	9%	13%
Male condoms	64%	58%	61%	69%	53%
Female condoms	28%	11%	13%	35%	33%
<b>Biological Assessment for HIV-Infected Patients<sup>b</sup></b>					
Complete blood count	54%	74%	48%	51%	56%
Serum chemistries	50%	74%	38%	49%	50%
Liver function tests	54%	74%	41%	53%	53%
Lipid profile	45%	62%	34%	44%	50%
Tuberculin skin test	61%	76%	52%	60%	65%
Pelvic exams for women	38%	53%	31%	34%	50%
Pap smear for women	37%	50%	30%	33%	47%
HIV viral load testing	44%	62%	42%	39%	50%
T-cell monitoring	45%	62%	41%	41%	50%
HIV genotype testing	37%	44%	31%	35%	44%
Toxoplasma testing	37%	41%	31%	34%	52%
<b>Other Services for HIV-Infected Patients<sup>b</sup></b>					
Medical history/physical exam	44%	74%	42%	36%	55%
Counseling	52%	69%	53%	48%	53%
Medical treatment	33%	58%	35%	24%	44%
Medical monitoring	34%	61%	38%	26%	41%

Abbreviation: HIV, human immunodeficiency virus.

<sup>a</sup> Responses for this item were not mutually exclusive.

<sup>b</sup> Onsite or via contractual relationships with other providers.

published,<sup>10,11</sup> this report focuses upon the availability of HIV-related services within these settings.

### Study Population

The data for this report were derived from surveys submitted by the administrators of 84% of 319 treatment programs, participating in the National Drug Abuse Treatment Clinical Trials Network. These treatment

programs are distributed across 26 states. No portion of the country or the National Drug Abuse Treatment Clinical Trials Network was overrepresented among the 50 nonresponding programs. Approximately 80% of the treatment programs were private not-for-profit agencies, 6% private for profit, 13% public agencies, and 2% were reported as other. All the treatment programs treated a diverse patient population, and nearly three-quarters of the programs provided addiction services tailored for women. Approximately 43% of the programs reported addiction treatment services tailored for African Americans as opposed to 38% of the programs reporting addiction services for Latinos.<sup>22</sup> Hospitals, medical schools, or universities comprised the setting of approximately 14% of the treatment programs; 13% were colocated in mental health, family health, or child health centers; 61% in free-standing facilities; and 13% in other types of health care facilities. Most treatment programs offered 2 or more addiction treatment services (inpatient detoxification or residential services, outpatient pharmacotherapy services, other outpatient services, and outreach and support services).

The study participants, who were the addiction treatment program administrators, received the objectives of the study prior to the 1-time administration of the survey instruments and information that their personal and treatment program identities would be kept confidential. They were encouraged to complete their surveys at their own pace and to seek consultation from clinical leadership (both medical and nonmedical) for completeness and accuracy of the information. The institutional review boards with jurisdiction over the participating treatment programs approved the study with waiver of informed consent.

### Study Data

This report included the following data: treatment program clinical setting, types of addiction treatment services, HIV-related infection and risk behavior rates among patients, and HIV-related health services. Survey instructions guided the program administrators to choose only 1 of the various treatment program settings and to respond yes or no to their program's provision of each type of addiction service. Administrators also provided their best estimates of patient rates of HIV infection and risk behaviors. Program setting, types of addiction services, and patient rates of HIV infection and risk behaviors

**Percent of Programs Providing HIV-Related Services in Programs With Various Concurrent Addiction Treatment Services<sup>a</sup>**

Detoxification/ Residential (n = 150)	Outpatient Pharmacotherapy (n = 90)	Other Outpatient (n = 208)	Outreach Support (n = 229)
88%	91%	87%	85%
89%	96%	90%	88%
86%	97%	90%	86%
35%	56%	41%	42%
19%	31%	20%	20%
10%	16%	11%	12%
34%	59%	36%	35%
33%	58%	35%	33%
33%	60%	37%	34%
57%	79%	53%	53%
14%	20%	14%	14%
13%	17%	12%	13%
1%	4%	2%	2%
8%	14%	10%	10%
56%	83%	69%	67%
26%	39%	30%	29%
54%	72%	57%	57%
48%	68%	53%	52%
53%	69%	57%	55%
43%	59%	46%	46%
59%	82%	63%	63%
33%	51%	38%	38%
33%	49%	36%	37%
42%	58%	44%	44%
44%	60%	45%	46%
36%	48%	38%	38%
34%	48%	36%	37%
41%	62%	46%	46%
48%	70%	55%	54%
30%	49%	33%	34%
30%	51%	35%	35%

served as the independent variables.

Program administrators responded yes or no to questions about the availability of 16 HIV-related health care services for patients whose HIV status was unknown and 15 HIV-related services for HIV-positive patients (Table 1). The survey included definitions of the 31 services, which served as the dependent variables. Six of the questions focused on all patients, 6 questions involved services for new program admissions, and 4 questions focused on the availability of risk-reduction items. For HIV-positive patients, program administrators were asked if the 15 services were provided on site or via contractual arrangements.

### Statistical Analysis

For the yes/no or multiple-choice questions, the number and proportion of respondents providing a given answer were used to summarize responses. For questions requiring numerical answers, we calculated the mean, median, and standard deviation. Some responses were collapsed into a broader set of categories (eg, medical school, university, and hospital were collapsed to university/hospital).

The independent variables of patient rates of HIV infection and drug and sex risk behaviors were subdivided into 3 groups. The *low infection rate group* was defined as programs with patient infection rates of 0% to 5%, the *medium infection rate group* as 6% to 10%, and the *high infection rate group* as greater than 10%. The *low drug behavior risk group* was defined as programs

**Table 2.** Mean Number of HIV-Related Treatment Services By Program and Patient Characteristics of Substance Abuse Treatment Programs<sup>a</sup>

Program and Patient Characteristics	Mean No. of HIV-Related Services				
	For All Patients (n = 6)	For New Patients (n = 6)	Offer Risk-Reduction Items (n = 4)	Biological Assessments for HIV-Positive Patients (n = 11)	Other Services for HIV-Positive Patients (n = 4)
Treatment settings					
Hospital/school/university	3.4	1.9	0.78	6.7	2.6
Mental health/family	2.8	1.1	0.79	4.1	1.7
Free standing	3.2	1.8	1.1	4.7	1.3
Other	3.2	2.2	0.97	5.6	1.9
p Value	NS	NS	NS	NS	.003
Addiction services					
Detoxification/residential	3.1	1.8	0.89	4.74	1.47
Outpatient pharmacotherapy	3.8	2.9	1.37	6.56	2.31
Other outpatient	3.4	1.84	1.09	5.07	1.67
Outreach support	3.3	1.78	1.05	5.08	1.68
p Value	<.0001	<.0001	.0003	.0017	<.0001
Reported % of patients with multiple sex partners among programs					
0-10	2.9	1.4	0.8	3.8	1.2
11-30	3.3	1.7	1.1	5.3	1.9
>30	3.58	2.4	1.3	6.5	2
p Value	.0024	.007	.0065	.0003	.001
Reported % of patients sharing injection equipment among programs					
0-10	3.2	1.7	0.92	4.5	1.5
11-30	3.4	2.1	1.2	6.3	2
>30	3.1	1.9	1.2	5.8	1.7
p Value	NS	NS	NS	.03	NS
Reported patient HIV rates among programs, %					
0-5	3.1	1.4	0.9	4.6	1.3
6-10	3.2	2.3	1.2	6.1	1.7
>10	3.6	2.6	1.3	5.8	2.6
p Value	.03	.004	NS	NS	<.0001

Abbreviations: HIV, human immunodeficiency virus; NS, nonsignificant.

<sup>a</sup> n is the total number of different services assessed within each category of services.

with patient sharing injection equipment rates of 0% to 10%, the *medium drug behavior risk group* as 11% to 30%, and the *high drug behavior risk group* as greater than 30%. The *low sex behavior risk group* was defined as programs in which the patient rate of engaging in sexual relationships with multiple sex partners without a condom was 0% to 10%, the *medium sex behavior risk group* rate was 11% to 30% of patients, and the *high sex behavior risk group* was greater than 30% of patients.

We collapsed the responses as “yes” to providing these services onsite or offsite via contractual relationships into a category labeled as “yes” to providing these services. For those responses of only providing these services via a referral to a community agency or “no” (meaning they do not provide access to these services), we collapsed these responses into a “no” category.

## RESULTS

### Range of HIV-Related Services

Eighty-six percent of the programs provided basic education, risk-behavior assessments, and drug testing to all their patients (Table 1). Only 48% of programs provided HIV testing onsite or via offsite contractual relationships. Eighteen percent and 10% of the programs, respectively, provided vaccinations to all their patients for influenza and pneumococcal infections. HIV-related assessments for newly admitted patients varied from 13% of programs providing pelvic and Pap smear examinations to 54% of programs providing tuberculin skin testing. The provision of risk-reduction items ranged from sterile injection equipment by 2% of the programs to male condoms by 64% of the programs.

For HIV-infected patients, 40% of the programs provided medical history and physical examination onsite with an additional 4% via contractual arrangements with other agencies. The corresponding rates of onsite services vs via contractual arrangements with other agencies was 49% vs 3% for counseling, 27% vs 6% for medical treatments, and 29% vs 5% for HIV-related medical monitoring.

Among the 11 biological assessments provided onsite or via contractual arrangements for HIV-infected patients, 61% of the programs provided tuberculin skin testing, and more than a third provided pelvic and Pap smear examinations. Table 1 provides the rates of the other 8 biological assessments for HIV-infected patients.

### HIV-Related Health Services by Treatment Setting

Compared to programs in other clinical settings, programs located in hospitals, medical schools, and universities provided HIV antibody testing to all patients and serum chemistries to HIV-infected patients at a higher rate ( $p < .05$ ) and provided medical history and physical examinations, medical treatment, and medical monitoring

to HIV-infected patients at a substantially higher rate ( $p < .005$ ) (Table 1). This was consistent when we calculated means of the 4 “other services for HIV-positive patients” among the 4 different clinical settings (Table 2).

On the other hand (Table 1), free-standing programs offered risk behavioral assessments and basic education to all their patients at rates significantly higher ( $p < .05$ ) than other settings in which treatment programs are colocated. While female condoms were offered at a lower rate than male condoms, irrespective of clinical setting of the treatment program, the provision of female condoms was reported by 35% of free-standing programs as compared to 11% of programs in hospitals, medical schools, or universities, and 13% of programs in mental health or family health institutions ( $p = .004$ ). When we calculated the mean number of the 4 risk-reduction services, there was no significant difference between the different clinical settings (Table 2).

Liver function testing for new patients was provided at a higher rate in treatment programs colocated in the other health clinical settings category ( $p < .05$ ) (Table 1), and this difference may explain, in part, the higher mean of the 6 clinical services for new patients among the 4 categories of clinical settings even though the difference was not statically significant (Table 2).

### HIV-Related Health Services by the Types of Addiction Services

Compared to programs that do not provide addiction-related outpatient pharmacotherapy, addiction treatment programs providing outpatient pharmacotherapy were significantly more likely to provide drug testing and HIV antibody testing for all patients (Table 1), 4 of 6 HIV-related services for new patients, male condoms among risk-reduction services, and 7 of 15 services targeted for HIV-infected patients ( $p < .05$ ).

This finding was consistent with the calculations of the mean number of services in each of the 5 groups of HIV-related services. Programs providing addiction-related outpatient pharmacotherapy provided a mean of 3.8 of the 6 HIV-related services for all patients, a mean 2.9 of the 6 HIV-related services for new patients, a mean 1.37 of the 4 risk-reduction items, a mean of 6.56 of 11 biological assessments for HIV-positive patients, and a mean of 2.31 of the 4 other services for HIV-positive patients. These mean calculations were significantly higher than the means of programs providing 1 of the 3 other addiction treatment modalities (all at least  $p < .005$ ) (Table 2).

### HIV-Related Health Services by Patient HIV Infection and Risk Behavior Rates

We assessed the association between patient HIV infection and the availability of the 31 health care services under 2 separate circumstances: (1) comparing the

rates of 6 select services provided to newly admitted patients whose infection status may be unknown with rates of these same services to known HIV-infected patients; and (2) calculating the mean number of HIV-related services in association to the estimated HIV infection rates of patients enrolled in substance abuse treatment.

As shown in Table 1, the availability of complete blood counts, serum chemistries, liver function testing, tuberculin skin testing, and pelvic examination and Pap smear testing for women was greater for HIV-infected patients as compared to newly admitted patients whose infection status was unknown, irrespective of the clinical setting of the program or the types of concurrent addiction-related treatment services offered.

The mean patient HIV infection rate for all treatment programs was  $9.1\% \pm 0.9$  (with a range of 0%-100%). Sixty-two percent of programs met criteria for the low infection rate group (0%-5% HIV infection rates), 16% for the medium infection rate group (6%-10% HIV infection rates), and 22% for the high infection rate group (>10% HIV infection rate). As Table 2 indicates, the mean number of HIV-related services was greater for the high HIV infection rate group than the low and medium rate groups for all patients ( $p = .03$ ), for new patients ( $p = .004$ ), and for other services for HIV infected patients ( $p < .0001$ ).

Treatment programs reported that mean rates ( $\pm$  standard error) of sharing injection materials and having multiple sex partners among their patients to be  $19.1\% \pm 1.5$  (range, 0%-95%) and  $38.5\% \pm 1.9$  (range, 0%-100%), respectively. We then explored the existence of any relationships between the availability of HIV-related health services in treatment programs and: (1) sexual risk behavior rates, and (2) HIV-related drug behavior rates.

For the sexual risk behavior of engaging in sexual relationships with multiple sex partners without a condom, 32% of programs met criteria for the low sexual behavior risk group (0%-10% of patients), 18% for the medium sexual behavior risk group (11%-30% of patients), and 50% for the high sexual behavior risk group (>30% of patients). Compared with programs meeting the criteria of low or medium sexual behavior risks (Table 2), treatment programs meeting the criteria for high sexual behavior risks were associated with a greater number of HIV-related services for all patients ( $p = .0024$ ), for new patients ( $p = .007$ ), of risk-reduction services ( $p = .0065$ ), of biological assessments for HIV-infected patients ( $p = .0003$ ), and of the other services for HIV-infected patients ( $p = .0001$ ).

Overall, 56% of programs met criteria for the low drug behavior risk group (0%-10% of patients), 25% for the medium drug behavior risk group (11%-30% of patients), and 19% for the high drug behavior risk group (>30% of patients). While programs in the medium- and high-risk groups generally reported a higher frequency

of the availability of HIV-related services, the differences were not significant.

## DISCUSSION

Approximately 22 million Americans aged 12 years or more carry a diagnosis of a substance use disorder<sup>23</sup> associated with substantial social, clinical, economic, and public health manifestations.<sup>20,24-27</sup> The HIV/AIDS pandemic has magnified both the significance of substance use<sup>28-30</sup> and the treatment of substance use disorders.<sup>31</sup> While the research agenda has included investigations evaluating the value of addiction treatment as an ingredient in the American response to HIV/AIDS,<sup>5-8,27,30,31</sup> answers to many questions remain elusive. Answers to some questions are reflected in the 4 key findings of this report.

The first major finding of this study was the wide spectrum of and variation in the rates of availability of HIV-related health care provided to patients enrolled in substance abuse treatment programs. The overwhelming majority of programs offer basic HIV-related education, behavioral risk assessment, and HIV antibody testing at rates higher than reported in another nationwide federally conducted annual survey of programs,<sup>32</sup> but lower than guidance from recognized authorities.<sup>3,27,29-31</sup>

With respect to HIV antibody testing, this is especially disappointing as the evidence for universal HIV antibody testing is overwhelming and demonstrates that risk-based testing has diminishing effectiveness,<sup>33,34</sup> that earlier knowledge of HIV infection can lead to earlier availability of clinical and prevention services, that the majority of persons who know their HIV infection status substantially reduce their risky sexual behaviors with uninfected persons,<sup>35</sup> and that HIV screening can lower health care costs by preventing high-risk practices and decreasing virus transmission.<sup>36-38</sup> These are the rationale for a nationwide, multisite clinical trial to assess the relative effectiveness of various strategies for HIV testing in the same clinical trials network that sponsored the current investigation.<sup>39</sup>

Risk-reduction items such as male and female condoms, bleach kits, and sterile injection equipment are available at even lower rates than HIV testing. Although these services are among the best practices to reduce HIV transmission,<sup>3,28,30,31,33</sup> these findings may reflect gender bias (given a disproportionately lower rate of female condoms as compared to male condoms) and philosophical challenges some programs have with providing tools for continued drug use.

While drug testing is not typically viewed as an HIV-related practice, we included it in this report because the results of drug testing may highlight behavior placing the patient at risk for HIV transmission and offer another opportunity for clinical interventions. It was interesting that less than 90% of the programs overall offered drug testing, despite guidance stipulating that monitoring drug use is an important component of effective

substance abuse treatment.<sup>31</sup> The reasons for the absence of this service in some programs are unclear.

Because the risk for tuberculosis has received increased attention during the HIV pandemic, tuberculosis screening among persons who inject and who do not inject drugs is an important component of many comprehensive tuberculosis control plans.<sup>3,41-44</sup> Although more than 50% of the programs offered tuberculosis screening, the variation in rates among programs may be due to differences in background tuberculosis disease rates in the communities served by these programs in this nationwide study and is congruent with published comprehensive tuberculosis control plans.<sup>43,44</sup>

The second major finding was the relationship between the availability of these HIV-related health services and important characteristics of these treatment programs. The mean number of the HIV-related services was higher among programs in hospitals, medical schools, or universities. This is consistent with the few other published reports<sup>13,32</sup> and intuitive, as these settings tend to have more robust medical staffing and resources and are better able to provide care consistent with published guidelines.<sup>33,43-46</sup> While only 37% of the treatment programs in this study provided addiction-related pharmacotherapy, these treatment programs offered a substantially higher number of the HIV-related health services than programs in which addiction-related pharmacotherapy was not available. This finding also has high face validity, as these programs were more likely to have more robust medical staffing and the provision of medical services was not as challenging as it would be for treatment programs without the same level of human resources. This may also explain the mechanism underlying the association between opiate agonist therapies and reduced infection-related drug use risk behaviors, reduced HIV transmission and a lower probability of HIV disease progression.<sup>47-50</sup>

The third and equally important finding was the relationship between the availability of an array of HIV-related services and important patient characteristics. The number of different HIV-related health services was greater among treatment programs in which the rates of risky sexual and drug behaviors were higher. Treatment programs whose patient populations had higher HIV infection rates also contained a greater number of HIV-related health services. These findings are similar to the results published by D'Aunno and colleagues<sup>13</sup> and suggest that treatment programs align their services with the needs of their patients.

The fourth key finding was the observation that the availability of many HIV-related services was inconsistent with published guidelines. Previously, we reported that many treatment programs listed funding as the greatest barrier;<sup>11</sup> however, there is also some evidence that the absence of state guidelines and information about funding sources also influences the availability of

services.<sup>51</sup> Obviously, other equally important reasons may exist and deserve further study.

Admittedly, the findings from this report must be considered in the context of the limitations of this study. This investigation did not include information about the costs, effectiveness, or utilization of HIV-related services; or patient satisfaction with these services. Also, the study did not include data validating the information provided by treatment program administrators. Because the participating treatment programs were not selected randomly and because of other study design issues, the findings may not be generalizable to all substance abuse treatment programs.

While these limitations are undeniable, many components of this study mitigate their significance. First, this study was designed to assess the availability of these services as a prerequisite to further investigations of costs, effectiveness, utilization, and satisfaction. It is noteworthy that the findings from this study stimulated another investigation, examining the effectiveness of strategies for implementing more widespread HIV testing in treatment programs.<sup>40</sup> Also, respondents were assured of their confidentiality and that of their programs to reduce the potential to misrepresent information. As for the nonrandom study design, many contextual factors critical to informing clinical practice or public health policy are not always captured by randomized controlled clinical trials,<sup>52</sup> and the findings in this report are consistent in areas where the current study and previous multisite treatment program studies sought similar information.<sup>9,12,13</sup>

In summary, the contributions of this study include an investigation of a wider array of HIV-related health services compared to its predecessors, demonstrating that substance abuse treatment programs can provide comprehensive HIV-related services. Just as importantly, these HIV-related services are associated with the clinical setting of the treatment program, the addiction-related treatment services provided, and HIV-related characteristics of the patient populations served. Nonetheless, the rates of the provision of many HIV-related services are well below published guidelines.

Collectively, these results warrant further study of the factors influencing the variability of HIV-related services in substance abuse treatment and the impact of this variability in achieving infection-related benefits so that the role of substance abuse treatment in HIV-related prevention can be properly positioned in health policy discussions.

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