

Integrating Mental Health Care Services Into HIV Comprehensive Care

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HIV treatment adherence plays a critical role in the US National HIV/AIDS Strategy, which is ultimately aimed at reducing the number of new HIV infections by 75% within 5 years.¹ Adherence to antiretroviral therapy results in decreased likelihood of HIV-related morbidity and mortality and a 96% reduction in likelihood of viral transmission.^{2,3} However, of the 1.1 million people living with HIV (PLWH) in the United States, only an estimated 63% are virally suppressed (HIV RNA < 200 copies/mL), signifying decreased treatment adherence.^{4,5} The HIV integrated care model was developed to address these barriers to continued engagement in care and adherence. This system of care is developed to be individualized and community centered, which may leave PLWH without comprehensive treatment plans.⁶⁻⁸ Mental health care persists as a common need among PLWH, with limited service availability.⁹

Psychiatric disorders are more prevalent among PLWH; however, those who are able to initiate and engage in active treatment plans often manage their HIV effectively.^{10,11} Further, psychological distress symptoms are more common among PLWH who are not virally suppressed compared with those who are virally suppressed.¹² Thus, there are urgent needs to deliver mental health care services (MHCS) among this population. Identifying PLWH who are engaged in MHCS juxtaposed with populations who report needing but not receiving MHCS may help illuminate the role of repeated assessment across the HIV care network.

The aim of this study was to determine the association between reported MHCS need and medication adherence among PLWH to better understand how receipt of care may influence HIV management. Of particular interest were the PLWH who reported the need for MHCS yet did not receive such care.

METHODS

Data for this study utilized 2017 cross-sectional anonymous survey responses completed by PLWH who reside within a 12-county Midwestern region. This annual survey was developed by the region's Ryan White HIV/AIDS Program Planning Council and is distributed

ABSTRACT

OBJECTIVES: HIV prevention strategies prioritize medication adherence among people living with HIV (PLWH). Of the 1.1 million PLWH in the United States, more than two-fifths are not virally suppressed and thus experience increased morbidity and mortality as well as transmission risk. Integrated care models are meant to address these gaps and often cite the importance of mental health care services (MHCS). However, research into the impact of integrating MHCS has been limited to those in homogenous treatment.

STUDY DESIGN: This study used an analytic observational cross-sectional design to achieve the above objectives.

METHODS: This study utilized a cross-sectional survey aimed to identify needs among PLWH in the Midwestern region of the United States and to stratify by both MHCS need and receipt. The survey, administered throughout 2018 in 12 HIV service organizations, was completed by PLWH receiving different supportive services. Comparative logistic regression models were calculated to identify the likelihood of nonadherence based on both MHCS receipt and need.

RESULTS: Of the 537 survey respondents, 20% reported receiving integrated MHCS, 8% reported needing but being unable to receive MHCS, and 72% reported not needing or receiving MHCS. Overall, 50% of the sample reported missing at least some HIV medication within the past 30 days. Individuals who needed but did not receive MHCS were more likely to report treatment nonadherence. No significant difference in adherence was identified between those who received MHCS and those who did not need MHCS.

CONCLUSIONS: Results suggest that continued assessment of needs and integration of MHCS into HIV care improves the likelihood of medication adherence. Further, our study highlights how systematically asking PLWH about their needs and connecting them to services may critically affect HIV management.

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TAKEAWAY POINTS

Mental health care is cited as an important component of integrated HIV care. However, previous studies are often limited to respective samples in homogeneous treatment plans. Among a sample of people living with HIV, our study finds that:

- ▶ unique differences exist between those in need of mental health care services and those receiving mental health care services,
- ▶ receipt of mental health care services significantly improves likelihood of medication adherence, and
- ▶ developing and utilizing methods to identify gaps in integrated HIV care allows for more precise understanding of needs and service delivery.

by HIV case managers within the region. This survey assesses which support service needs are currently important to PLWH in the region.

Inclusion criteria for this study included having previously received a diagnosis of HIV, being 18 years or older at time of survey, and receiving comprehensive HIV case management services funded by the Ryan White HIV/AIDS Program at 1 of 12 case management locations throughout the region. Respondents complete a cross-sectional needs assessment survey annually; thus, they both are familiar with and play an integral role in developing the survey items and protocols. Surveys were conducted as program evaluation of the support services in the region; thus, informed consent was not sought. The data were shared without any identifying information.

Within the survey, MHCS were defined per service guidelines outlined by the Health Resources and Services Administration and the HIV/AIDS Bureau.¹³ This includes “psychological and psychiatric treatment and counseling services...provided by a mental health professional licensed or authorized within the State to render such services.” Respondents were asked whether (1) they had received MHCS within the past 12 months and (2) mental health care was a service they needed but had not received within the past 12 months. Based on responses, individuals were stratified into 1 of 3 groups by MHCS need and enrollment: group 1, receiving MHCS within the past year; group 2, needing MHCS but have not received them; or group 3, not needing nor receiving MHCS within the past year. Individuals who chose contradictory responses were excluded from analysis. In final predictive modeling, included sociodemographic characteristics were age, gender, race/ethnicity, history of chronic homelessness, and history of incarceration, based on their previously identified modification of HIV medication adherence within current literature.^{14,15} In addition, respondents were asked to identify from a list of 26 other medical and social services listed on the survey which services they needed and whether they were receiving them. The numbers of services chosen by each participant were summed and incorporated into the adjusted model to differentiate MHCS from overall gaps in integrated care.

An adapted form of the Basel Assessment of Adherence Scale was used to assess HIV medication adherence. The single-item question is shown to be accurate and reliable among participants who manage chronic disease medication.¹⁶ Further, self-reporting adherence among PLWH is correlated with viral load measurements.^{17,18}

Respondents were asked to estimate how often they missed doses of prescribed HIV medication during the past 30 days with choices ranging from “none” to “daily.” Responses were then dichotomously coded as (1) adherent (no missed doses) or (2) nonadherent (some missed doses). Although a continuous measurement of adherence typically explains a higher proportion of variability, dichotomization is appropriate when categorical data (eg, responses) are skewed and is consistent with similar research.¹⁹

Descriptive statistical tests of sociodemographics were conducted among the total sample along with each stratified group by MHCS need and receipt to better understand how the groups may differ. Three logistic regression models were completed to determine the crude likelihood of reporting nonadherence based on MHCS group. Models 1 and 2 compared individuals in group 1 and group 2 with group 3, respectively, and model 3 compared adherence differences between groups 1 and 2. A final adjusted model was developed to account for the sociodemographic characteristics previously identified to be associated with adherence. Significance was reported at $\alpha = 0.05$.

RESULTS

Of nearly 6000 PLWH receiving services within the region, 599 participants attempted the survey.²⁰ Of the total, 55 (9.2%) surveys were excluded from analysis because of missing or incomplete responses. A small portion ($n = 7$; 1.2%) were excluded because of contradictory responses regarding receipt of mental health care in the past 12 months. A total of 537 (89.6%) participants completed surveys that were included in analysis.

The mean (SD) age among the sample was 43.8 (11.4) years. Most of the sample identified as male ($n = 372$; 69.3%) and as a racial/ethnic minority ($n = 382$; 71.1%). One in 5 participants reported ever having experienced chronic homelessness ($n = 106$; 20%), and 12.5% reported ever having been incarcerated ($n = 68$). Participants chose a mean (SD) of 2.2 (2.5) services that they needed but were not receiving. Half the sample ($n = 269$; 50.5%) reported missing 1 or more doses of HIV medication within the past 30 days.

Among the sample, 105 participants reported receiving MHCS within the past year (19.6%), 43 participants reported needing but not receiving MHCS (8.0%), and 389 individuals reported not needing nor receiving MHCS within the past year (72.4%). Additional sample characteristics by MHCS need are detailed in [Table 1](#).

Logistic predictive model details and comparisons are depicted in [Table 2](#). Crude results reveal no significant difference in medication adherence between group 1 and group 3 (odds ratio [OR], 0.96; 95% CI, 0.62-1.48). Individuals in group 2 were significantly more likely to report nonadherence compared with individuals in group 3 (OR, 3.08; 95% CI, 1.51-6.29) and group 1 (OR, 3.2; 95% CI, 1.46-7.04).

TABLE 1. Sample Characteristics of People Living With HIV According to Mental Health Care Service Need and Receipt

	Group 1 ^a (n = 105; 19.6%)	Group 2 ^b (n = 43; 8.0%)	Group 3 ^c (n = 389; 72.4%)	Total (N = 537)
Number of unmet service needs, mean (SD)	2.1 (1.8)	4.9 (4.8)	2.0 (2.1)	2.2 (2.5)
Age in years, mean (SD)	45.3 (10.3)	39.4 (10.8)	43.9 (11.7)	43.8 (11.4)
Current gender male, n (%)	58 (55.2)	37 (86.0)	277 (71.2)	372 (69.3)
Racial/ethnic minority, ^d n (%)	76 (72.4)	26 (60.5)	280 (72.0)	382 (71.1)
History of chronic homelessness, n (%)	27 (25.7)	15 (34.9)	64 (16.5)	106 (19.7)
History of incarceration, n (%)	17 (16.2)	7 (16.3)	44 (11.3)	68 (12.7)
Missed \geq 1 dose of HIV medication in the past 30 days, n (%)	49 (46.7)	32 (74.4)	188 (48.3)	269 (50.1)

^aReceived mental health care services within the past year.

^bNeeded but did not receive mental health care services within the past year

^cReported not needing or receiving mental health care services within the past year.

^dNonwhite, non-Hispanic.

TABLE 2. Likelihood of Missing HIV Medication Within Past 30 Days Based on Mental Health Care Service Need and Receipt^a

	Model 1 Crude OR ^b	Model 2 Crude OR ^b	Model 3 Crude OR ^b	Model 4 Adjusted OR ^b
Group 1 ^c	0.96 (0.62-1.48)		Reference	0.99 (0.62-1.58)
Group 2 ^d		3.08 (1.51-6.29)	3.21 (1.46-7.04)	3.09 (1.37-6.97)
Group 3 ^e	Reference	Reference		Reference
Number of unmet service needs				0.95 (0.88-1.03)
Age in years				0.97 (0.95-0.98)
Current gender male				1.12 (0.75-1.69)
Racial/ethnic minority				1.23 (0.84-1.92)
History of chronic homelessness				1.84 (1.14-2.97)
History of incarceration				1.61 (0.90-2.91)

OR, odds ratio.

^aBold entries indicate significance at $\alpha < 0.05$. Model 1 indicates no significant difference in medication adherence between group 1 and group 3. Model 2 indicates group 2 is significantly more likely to report nonadherence compared with group 3. Model 3 indicates group 2 is significantly more likely to report nonadherence compared with group 1.

^bOR calculated from exponentiated β and 95% CIs.

^cReceived mental health care services within the past year.

^dNeeded but did not receive mental health care services within the past year.

^eReported not needing or receiving mental health care services within the past year.

Upon adjusting for age, gender, race/ethnicity, history of homelessness, history of incarceration, and overall unmet service need, individuals in group 2 were significantly more likely to report nonadherence (adjusted OR, 3.09; 95% CI, 1.37-6.97). In addition, older individuals were less likely to report being nonadherent for every year of age increase (adjusted OR, 0.97; 95% CI, 0.95-0.98), and individuals who reported experiencing chronic homelessness were significantly more likely to report nonadherence (adjusted OR, 1.84; 95% CI, 1.14-2.97).

DISCUSSION

These findings suggest the importance of routine assessment and linkage to supportive services to achieve HIV viral suppression. This study identified that PLWH who report needing but not receiving MHCS are significantly more likely to report nonadherence with HIV medication compared with both individuals who received MHCS

and individuals who reported not needing MHCS. This increased likelihood of nonadherence among group 2 remained even after adjusting for sociodemographic characteristics and history of homelessness and incarceration. Whereas MHCS need and receipt were found to be significantly associated with medication adherence, other documented unmet service needs were not associated with medication adherence in the adjusted model.

Although HIV integrated treatment plans are meant to address adherence challenges, a large portion of PLWH remain virally unsuppressed.²¹ These results identify the importance of routine assessment and integrating an MHCS component into HIV care models. Further, this study found that MHCS need was more relevant to medication adherence than other unmet needs. This highlighted the unique need for MHCS among PLWH, one that will require additional support from integrated care providers to implement. Although our findings are aligned with those of similar studies, we

believe our research is unique and adds to the discourse because of the emphasis on routine assessment and referrals in integrated care models.^{22,23}

Limitations

Limitations and alternative explanations were explored in an effort to more effectively contextualize our findings. Although self-reported data are commonly utilized in similar research, more vigorous methods of clinical data collection are available, yet not available to the study team.¹⁹ However, by utilizing these self-reported data, we were able to capture and empower the voices and unique experiences of PLWH.²⁴ Future studies would benefit by comparing our findings with additional sources of data. Further, this study did not distinguish between types of mental health care treatment. However, these findings offer a novel introduction that effectively argues for the inclusion of routine assessments for the need for MHCS and their provision within integrated care models. Insights could be gained from additional research that examines the efficacy of different types of mental health care treatment and the association of those treatments' effectiveness with HIV outcomes.

CONCLUSIONS

Many PLWH continue to struggle with complex challenges and needs that contribute to increased transmission rates among populations.²⁵ Continuing to identify more effective components of integrated care models will aid in addressing these inequities. This study identifies that MHCS is one of those components. ■

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