



Published in final edited form as:

AIDS Care. 2013 ; 25(9): 1083–1091. doi:10.1080/09540121.2012.749337.

Service Priorities and Unmet Service Needs Among People Living with HIV/AIDS: Results from a Nationwide Interview of HIV/AIDS Housing Organizations

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Abstract

Housing for people living with HIV/AIDS has been linked to a number of positive physical and mental health outcomes, in addition to decreased sexual and drug-related risk behavior. The current study identified service priorities for people living with HIV/AIDS, services provided by HIV/AIDS housing agencies, and unmet service needs for people living with HIV/AIDS through a nationwide telephone survey of HIV/AIDS housing agencies in the United States. Housing, alcohol/drug treatment, and mental health services were identified as the three highest priorities for people living with HIV/AIDS and assistance finding employment, dental care, vocational assistance, and mental health services were the top needs not being met. Differences by geographical region were also examined. Findings indicate that while housing affords people living with HIV/AIDS access to services, there are still areas (e.g., mental health services) where gaps in linkages to care exist.

In the United States, 3.4-10.5% of the estimated 640,000 homeless are living with HIV/AIDS, with rates of HIV/AIDS higher in certain subsamples (e.g., men who have sex with men; National Alliance to End Homelessness, 2006/2012; National Coalition for the Homeless, 2009; Robertson et al., 2004). The rate of homelessness among people living with HIV/AIDS (PLWHA) is at least three times that of the general population (National Alliance to End Homelessness, 2006). Furthermore, about 50% of PLWHA are at risk for homelessness, which may be, in part, due to the financial costs of healthcare or unemployment due to HIV status (National Alliance to End Homelessness, 2006). Housing for PLWHA has been linked to better physical and mental health outcomes and proper use of health and social services (e.g., Kidder, Wolitski, Campsmith, & Nakamura, 2007a). To that end, current paper reports the results of a telephone-based nationwide survey of organizations that provide housing for PLWHA. The main foci of the current study were to identify: (a) service priorities for PLWHA, (b) services offered by HIV/AIDS housing organizations, (c) the percentage of residents who can access services not provided in-house by organizations, and (d) the percentage of agencies that report unmet service needs.

Homelessness has been related to a number of HIV risk behaviors in both HIV-negative (HIV-) and HIV-positive (HIV+) individuals. HIV- homeless individuals, compared to those who are housed, are more likely to have unprotected sex with a casual partner, share needles, and to have never used a sterile needle (Salazar et al., 2007). In addition, individuals who are unstably housed are more likely to contract HIV than those who are stably housed (Boileau, Bruneau, Al-Nachawati, Lamothe, & Vincelette, 2005). Centers for Disease Control and Prevention (CDC) surveillance data has shown that homeless PLWHA are more likely to have engaged in exchange sex, have a higher number of sex partners, and have unprotected sex with a HIV- or status unknown partner, compared to housed PLWHA (Kidder, Wolitski, Pals, & Campsmith, 2008). Homeless PLWHA were also more likely to screen positive for possible alcohol abuse, use illicit drugs, and inject drugs (Kidder et al., 2008), including injecting heroin daily (Palepu, Milloy, Kerr, Zhang, & Wood, 2011).

Homelessness is not only related to HIV risk behavior in PLWHA, but various health outcomes as well. Homeless PLWHA have higher rates of hepatitis, tuberculosis, and *pneumocystis carinii* pneumonia (Kidder et al., 2007a), diseases that are often comorbid with HIV/AIDS. Conversely, PLWHA who have stable housing report better physical health (Stewart, Cianfrini, & Walker, 2005) in addition to better mental health (Kidder et al., 2007a). Studies have found that homeless PLWHA are less likely to have ever taken, or to be currently taking, antiretrovirals (Kidder et al., 2007a; Leaver, Bargh, Dunn, & Hwang, 2007). Homeless PLWHA also report poorer adherence to antiretroviral therapy (Palepu et al., 2011) and poorer immune functioning (Kidder et al., 2007a). Finally, homeless PLWHA experience higher rates of mortality compared to housed counterparts (McMahon, Wanke, Terrin, Skinner, & Knox, 2011; Walley et al., 2008).

Two randomized controlled trials have examined the benefits of housing for PLWHA. Compared to PLWHA receiving only standard care (e.g., referrals to shelters, temporary housing assistance), those receiving permanent housing (Buchanan et al., 2009) or long-term rental assistance (Kidder et al., 2007b; Wolitski et al., 2010) were more likely to be housed and alive one year later, and have better immune functioning and mental health. Those receiving housing were marginally more likely to receive appropriate medical care, be on highly active antiretroviral therapy, and have fewer sexual partners and were marginally less likely to exchange sex and have sex with a HIV- or status unknown partner. The cost of the intervention, per participant, ranged from \$10,048-\$14,032 (Holtgrave et al., 2007). Given that the average PLWHA incurs \$221,365 in treatment costs alone, this intervention is estimated to be cost effective if one out of every 64 participants is prevented from transmitting HIV to a seronegative individual (Holtgrave et al., 2007).

Housing not only increases engagement in recommended HIV health care (Aidala, Lee, Abramson, Messeri, & Siegler, 2007; Rumpitz et al., 2007), housing increases the utilization of other health and social services. Housed PLWHA are more likely to receive myriad services, including case management, health care, transportation, food assistance, and HIV education and risk reduction information compared to PLWHA who are homeless (Kidder et al., 2007a). However, 35-83% of PLWHA report at least one need not being met (Pereyra et al., 2011; Wohl et al., 2011), with housing, health care (primary, dental, and mental), drug/alcohol treatment, and financial assistance being the most frequently unmet needs (Pereyra

et al., 2011; Reif et al., 2011; Wohl et al., 2011; Young et al., 2005). PLWHA who have unmet service needs are more likely to be homeless (Leaver et al., 2007; Pereyra et al., 2011; Wohl et al., 2011). Furthermore, those with unmet needs were less likely to have satisfactory medical care (Young et al., 2005), to take antiretroviral therapy, and to be adherent to antiretroviral therapy (Reif et al., 2011).

The current study expands upon past research by conducting a nationwide survey of HIV housing organizations in an effort to capture the full picture of services offered and needed in relation to housing for PLWHA. Past research has found regional differences in rates of HIV/AIDS and outcomes for PLWHA, and we conjecture that these differences may at least in part be related to differences in services offered or needed. For example, PLWHA in the South are less likely to be on antiretrovirals (Meditz et al., 2011), and have the highest rate of mortality compared to PLWHA in other regions of the United States (Hanna, Selik, Tang, & Gange, 2012). The South also has the highest rate of AIDS diagnoses since the beginning of the epidemic, while current statistics suggest that the rate of AIDS diagnoses is increasing the fastest in the Midwest (CDC, 2012). These trends led us to undertake a regional approach to our analysis.

Method

Housing Agency Identification & Interview Procedure

To be eligible to participate, agencies must have been directly providing housing (e.g., apartment building, single occupancy hotel) for PLWHA at the time of the interview and been able to provide information pertaining only to residents with HIV/AIDS. Agencies that only provided indirect housing assistance (e.g., housing vouchers, rental assistance) were not eligible to participate. Agencies were identified using three HIV/AIDS housing/social services databases: (1) Housing Opportunities for Persons with AIDS (HOPWA; 2011) programs, grantees, and reports, (2) the CDC's (2011) National Prevention Information Network organization search, and (3) The Body's (2011) list of HIV/AIDS organization. Agencies that were identified as potentially providing housing for PLWHA were emailed an invitation to participate in the interview. Follow-up emails were sent two weeks later to agencies that did not respond. Agencies that indicated they were eligible to participate were scheduled to complete the interview at a later date. Agencies that did not respond to the second email were called and scheduled for an interview if eligible and willing to participate. From the 275 agencies contacted, 89 agencies, representing 32 different states, completed the interview. Agencies were grouped according to the four regions outlined by the CDC (2012; Northeast, South, Midwest, West). For a breakdown of participating agencies by region and state see Table 1.

The interviews were conducted between April and August 2011 and took 60-90 minutes to complete. One of eight interviewers called the agency at the scheduled time and completed the interview. Representatives from the agencies who completed the interview were those most knowledgeable about the agency's housing program (e.g., executive director/CEO [21.3%], case manager/program coordinator [68.5%], direct service staff [5.6%]). Interviews, on average, were completed within three weeks of eligibility screening. Agencies that completed the survey were sent a \$75 gift card to a national office supply

chain store. Agencies that did not qualify for the study participated in a brief survey that asked the respondent to rank service priorities for PLWHA (see description of measure below). As this paper focuses on service housing agencies provided, these responses were not included in the present analyses. See Figure 1 for a flowchart of agency selection.

Measures

The interview covered several areas of the agency's functioning as well as the demographic composition of residents and staff; only areas relevant to the present analyses are described below. Areas assessed in the interview but not described below include sources of funding, changes in the funding environment, policies and procedures (e.g., curfew, drug testing), facility characteristics (e.g., type of housing), and resident and staff member characteristics (e.g., sex, race). No information that could identify individual residents was collected.

General agency information—Agencies were asked the number of staff, residents, residents required for funding, and individuals on the wait-list for housing.

Services priorities for PLWHA—Agencies were asked whether various needs (e.g., housing, health care, employment) were a low, moderate, or high (scale of 0-2) priority for PLWHA in their community.

Service provision, access, and needs for PLWHA—Agencies were asked if they provided various services (e.g., primary health care, alcohol counseling, transportation) in-house to residents (Yes/No), if resident had access to the service (Yes/No), and if the need for that service was being met (Yes/No). Finally, organizations were asked if they offered medication adherence assistance to their residents (Yes/No).

Analyses

Agency characteristics by region were examined using one-way ANOVA. Due to positive skew and large standard deviations, agency variables were transformed using \log_{10} transformation in order to provide more reliable estimates of the F -statistic (Tabachnick & Fidell, 2007). Means and standard deviations for the untransformed variables and transformed F -statistic results are presented in Table 2. To analyze service priorities by region, one-way ANOVAs were conducted (Table 3). Percent of agencies that offer services in-house, percent of residents that can access services, and percent of unmet service needs by region, and countrywide, are presented in Table 4; chi-square was used to examine if agency responses differed by region on any of these variables.

Results

Agency Characteristics

Agency characteristics by region can be found in Table 2. On average, agencies employed 57 staff members ($Mdn = 14$) and housed about 110 residents ($Mdn = 25$), with an average of 25 individuals ($Mdn = 5$) on the waiting list for housing. The average capacity for agencies was 124 residents ($Mdn = 37$), with 24 residents ($Mdn = 0$, or no minimum number

of residents) required to receive funding. The only regional difference was that the Northeast employed a higher number of direct services staff than the Midwest and South.

HIV/AIDS Service Priorities

Overall and regional rankings of service priority can be found in Table 3. Across regions, the five highest service priorities were: (1) housing, (2) alcohol/drug treatment, (3) mental health care, (4) primary health care, and (5) accessing HIV treatments, followed by: (6) social support, (7) accessing food, (8) employment, (9) child care, and (10) legal aide. Some regional differences did emerge. Agencies in the Midwest ranked health care as a lower priority compared to the West, Northeast (marginal), and South (marginal). The Midwest also ranked employment as a lower priority than the South. Finally, the West ranked legal aid as a lower priority than the South and Northeast.

HIV/AIDS Service Provision, Access, and Need

The percent of: (a) agencies providing each service in-house, (b) residents who can access each service, and (c) unmet service needs by region can be found in Table 4. Overall, physical health care services (primary, dental, and eye care), religious services, and legal services were not typically offered in house. Other services, such as mental health services, alcohol and drug related services, support groups, evidenced-based interventions (DEBIs), transportation, vocational/employment assistance, domestic violence intervention, and crisis counseling were more commonly offered-in house. In all cases, almost 100% of residents had access to each of the services.

The highest percent of agencies reporting unmet service needs were in the following areas: assistance finding employment (44.9%), dental care (42.5%), vocational assistance (37.9%), mental health services (34.5%), DEBIs (32.9%), eye care (28.0%), transportation (23.9%), alcohol counseling (22.7%), and domestic violence interventions (22.6%). Service needs were almost completely met in regards to Alcoholics Anonymous (97.8%) and Narcotics Anonymous (95.5%) meetings, religious/spiritual services (94.9%), and primary health care (92.0%).

Some regional differences did emerge. Dental care was more likely to be offered in-house in the West (21.1%), $\chi^2(3) = 11.12, p = .01$; the need for eye care was cited as not being met by 46.7% of agencies in the West, $\chi^2(3) = 6.90, p = .08$; Alcoholics Anonymous was most likely to be offered in-house in the Northeast (50.0%) and least likely to be offered in the West (5.3%), $\chi^2(3) = 10.10, p = .02$. Furthermore, the Northeast (26.1%) was most likely to offer legal services in-house, and in-house legal services were not offered at all in the Midwest, $\chi^2(3) = 6.40, p = .09$; residents were less likely to be able to access transportation (88.6%), $\chi^2(3) = 6.35, p = .096$ and vocational assistance (82.9%), $\chi^2(3) = 7.17, p = .067$ in the South. Assistance finding employment was more likely to be offered in-house in the Midwest (81.8%), $\chi^2(3) = 7.42, p = .06$. Finally, 68.5% of agencies monitored medication adherence, with no differences emerging by region, $\chi^2(3) = 2.98, p = .40$.

Discussion

The current study aimed to identify service priorities and needs, by region, among a national sample of housing agencies that provide housing for PLWHA. Overall, the top five service priorities identified by agencies were: (1) housing, (2) alcohol/drug treatment, (3) mental health care, (4) primary health care, and (5) accessing HIV treatments. Consistent regional patterns were not identified, suggesting that these priorities may be national priorities. Mental health care, alcohol/drug counseling, support groups, DEBIs, transportation, vocational/employment, domestic violence, and crisis counseling were services most often offered in-house by agencies. Besides mental health care and alcohol/drug counseling, most services offered in-house were not identified as service priorities. Service priorities were services that are not offered in-house by agencies and therefore the extra step of linkage to care is necessary. Finally, the most common unmet service needs among housed PLWHA included employment/vocational assistance, dental care, mental health services, DEBIs, eye care, transportation, alcohol counseling, and domestic violence interventions.

Despite general agreement across regions as to the highest service priorities and unmet service needs, the highest priorities were not the top unmet needs. Top priorities were related to basic life needs (e.g., housing, primary health care) whereas unmet needs were related to rehabilitative services (e.g., employment/vocational assistance) and mental health (e.g., mental health services, alcohol counseling). Despite housing, unmet needs for some services (e.g., 44.9% for employment assistance) were still high and on par with findings from past studies (35-83%; Pereyra et al., 2011; Wohl et al., 2011). Medication adherence was monitored by over two-thirds of the agencies, which may explain why housed populations report better adherence outcomes (e.g., Palepu et al., 2011; Reif et al., 2011). Furthermore, now that basic life needs (e.g., access to primary health care and food) are met, individuals may be able to focus on adhering to medication regimens.

Housing may be a first step in linking PLWHA to medical care. In the present survey, almost 100% of agencies reported that residents have access to primary health care services. Housing does not just provide a roof over the head of residents, but provides linkage to other valuable services such as health care, substance use treatment, support groups, and transportation. However, despite reports that almost all residents had access to all services assessed, some service needs were still not met, suggesting a breakdown in linking residents to services that are available. For example, across regions, 97.70% of agencies report that residents have access to mental health services; however, over one-third of the agencies report mental health services as an unmet need. Future research could examine barriers to care for individuals in housing organizations and factors unique to housing organizations (e.g., being around similar others in a supportive environment) that may be related to better health outcomes for PLWHA in housing organizations.

The present study is the first of its kind, to our knowledge, to present data from a nationwide survey of agencies that provide housing for PLWHA. The survey was extensive in nature, covering several aspects of how the agency functions, and conducting phone interviews allowed for very low levels of missing data. Despite these strengths, the limitations of this study should be noted. Not all states were included in the survey and less than half of

potentially eligible agencies completed the interview. To that end, sample size was low in some regions (e.g., N = 11 in the Midwest) limiting power to detect significant differences by region. Reporting bias may also be present. Agencies may not have disclosed the true extent of unmet service needs or may have inflated the percent of residents that have access to services in order to downplay the number of residents not linked to services. Finally, agencies were interviewed, not individual PLWHA; therefore, we are not able to draw conclusions about service priorities or needs of PLWHA, only those cited by the agencies that serve them.

Conclusion

The present study has implications for future research, interventions, and funding allocations. Future research should continue to explore housing provision as an intervention. However, particular attention should be paid to other needs, besides housing, that are being met through these interventions (e.g., medication adherence assistance, primary health care) and which services are most beneficial in increasing positive health outcomes (e.g., raising CD4 cell counts) and decreasing risk behaviors (e.g., unprotected sex). Future research can also explore how to fill unmet services needs, either through integration of these needs into interventions or exploring how to close gaps in linkages to care. Funding for service gaps should not only focus on housing, but on meeting unmet service needs to maximize the benefits of housing provision. By supporting rehabilitative services (e.g., job training), funders can provide the stepping stone necessary for formerly homeless PLWHA to become fully integrated into society.

Acknowledgements

This research was supported by Institutional National Research Service Award T32-MH074387 (PI: Seth C. Kalichman).

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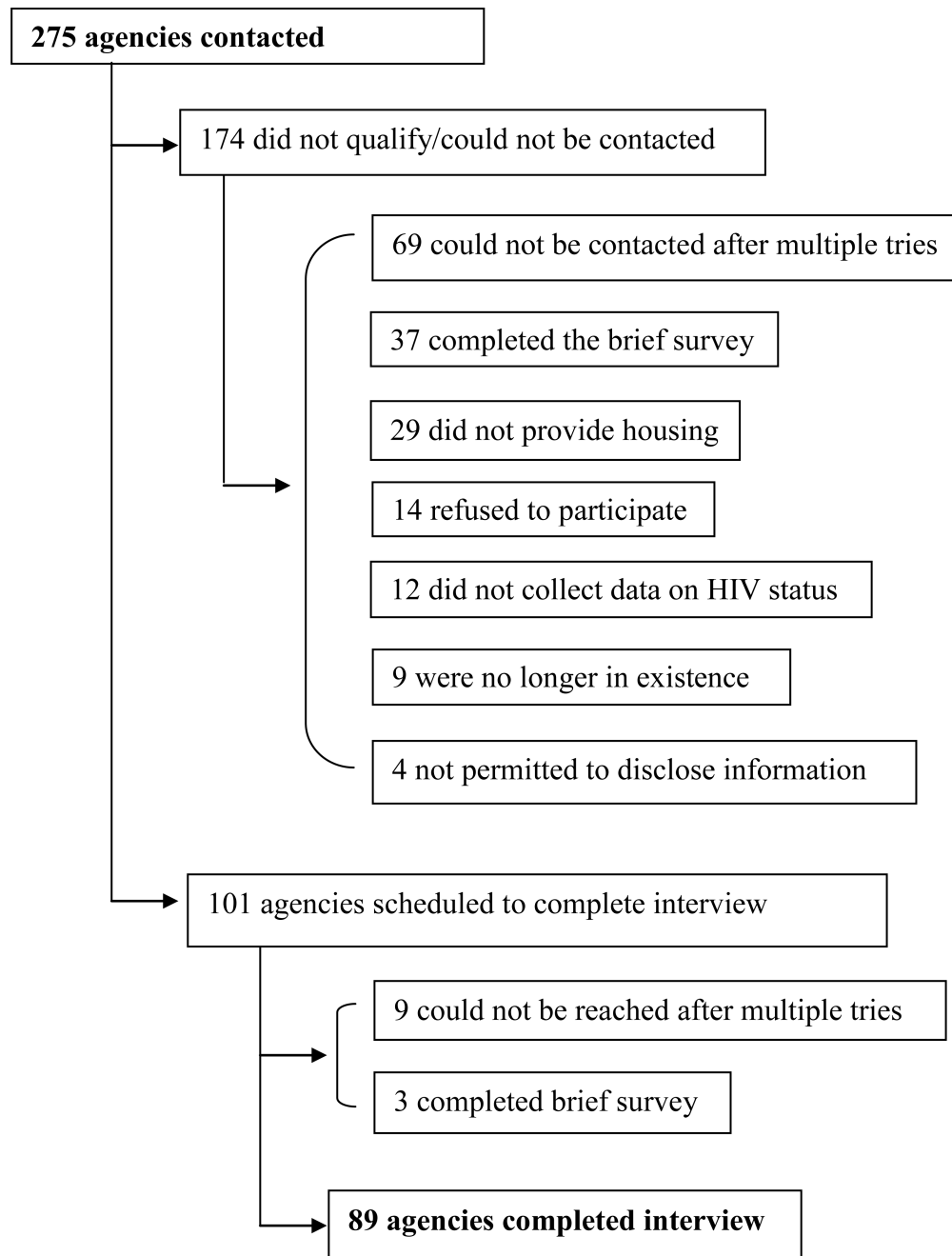


Figure 1.
Flow chart of HIV/AIDS housing agencies selected for interview.

Table 1

Participating agencies by region and state.

Region/State	Number of Agencies	Region/State	Number of Agencies
Northeast	24	Midwest	11
Connecticut	6	Illinois	4
Massachusetts	4	Indiana	1
New Jersey	3	Michigan	1
New York	11	Minnesota	1
South	35	Missouri	1
Alabama	1	Ohio	2
District of Columbia	4	Wisconsin	1
Delaware	2	West	19
Florida	5	Alaska	1
Georgia	3	Arizona	2
Louisiana	2	California	6
Maryland	2	Colorado	1
Mississippi	1	Hawaii	1
North Carolina	3	Nevada	2
Tennessee	2	Oregon	3
Texas	5	Washington	3
Virginia	2		
West Virginia	3		

Table 2

General characteristics of participating agencies.

	Overall		Northeast		South		Midwest		West		Result
	M	SD	M	SD	M	SD	M	SD	M	SD	
# of Direct Service Staff	57.07	129.34	90.78*	177.38	40.82*	93.67	10.00*	5.68	73.44	148.64	$F(3, 82) = 4.037, p = .010$
Capacity (# of possible residents)	124.33	217.60	184.60	258.68	126.03	234.87	29.27	21.95	112.50	193.26	$F(3, 76) = 1.713, p = .171$
# of Current Residents	109.56	205.12	135.13	236.79	104.41	203.56	25.18	21.26	136.68	224.20	$F(3, 83) = 1.242, p = .300$
# of Resident Required for Funding	23.81	87.01	30.25	43.44	8.43	32.33	12.89	31.13	58.54	178.23	$F(3, 58) = 1.844, p = .149$
# of People on Wait List	25.34	67.06	28.00	81.88	23.89	58.33	4.40	4.86	37.24	83.22	$F(3, 69) = 1.876, p = .142$

Note: F-values represent logio transformed values, M and SD represent raw values.

* significant difference between groups.

Table 3
Service priorities for people living with HIV/AIDS by region, organized from highest to lowest overall priority.

Service	Overall		Northeast		South		Midwest		West		F-test	
	M	SD	Rank	M	Rank	Rank	M	Rank	Rank	M		SD
Housing	1.85	0.41	1	1.92	1	1.86	1	1.64	1	1.89	0.46	$F(3, 85) = .13, p = .29$
Alcohol/Drug Treatment	1.65	0.59	2	1.67	2	1.69	1	1.64	1	1.58	0.69	$F(3, 85) = 0.14, p = .94$
Mental Health Care	1.56	0.66	3	1.58	5	1.51	3	1.45	3	1.68	0.58	$F(3, 85) = 0.38, p = .77$
Health Care	1.53	0.68	3	1.58 ⁺	3	1.56 ⁺	6	1.00 ⁺⁺	2	1.74 [*]	0.56	$F(3, 84) = 3.12, p = .03$
Accessing HIV Treatments	1.48	0.69	5	1.54	4	1.53	5	1.09	5	1.53	0.77	$F(3, 84) = 1.31, p = .28$
Social Support	1.33	0.69	6	1.42	7	1.31	7	0.91	6	1.47	0.51	$F(3, 85) = 1.84, p = .15$
Accessing Food	1.26	0.69	7	1.22	8	1.29	7	0.91	6	1.47	0.61	$F(3, 83) = 1.65, p = .18$
Employment	1.17	0.72	8	1.04	6	1.44 [*]	4	1.18 [*]	8	0.84	0.69	$F(3, 83) = 3.44, p = .02$
Child Care	0.78	0.79	10	0.75	10	0.80	7	0.91	9	0.72	0.83	$F(3, 84) = 0.14, p = .93$
Legal Aide	0.77	0.61	9	0.88 [*]	8	0.91 [*]	10	0.82	10	0.37 [*]	0.50	$F(3, 82) = 3.94, p = .01$

* significant difference ($p < .05$)

+ marginal difference ($p < .10$)

Table 4

Service provision, access, and need for PLWHA by region and across the United States.

	Primary Care	Dental Care	Eye Care	Mental Health Services	Alcohol Counseling	AA Meetings	Drug Counseling	NA Meetings	Support Groups	Religious/Spiritual Services
Northeast	Offered in-house	8.30	0.00	58.30	66.70	50.00	70.80	33.30	83.30	30.40
	Residents can access	100.00	95.70	100.00	95.80	100.00	95.80	100.00	95.70	100.00
	Need not being met	4.30	26.10	9.10	30.40	4.20	8.30	4.20	8.70	9.10
South	Offered in-house	20.00	2.90	40.00	42.90	31.40	47.10	28.60	73.50	25.70
	Residents can access	100.00	97.10	100.00	97.10	97.10	97.10	97.10	91.20	100.00
	Need not being met	2.90	44.10	29.40	20.60	2.90	24.20	5.70	14.70	3.30
Midwest	Offered in-house	0.00	0.00	36.40	54.50	27.30	54.50	27.30	63.60	18.20
	Residents can access	90.90	100.00	94.40	100.00	100.00	100.00	100.00	100.00	100.00
	Need not being met	9.10	36.40	36.40	31.60	0.00	18.20	0.00	10.00	0.00
West	Offered in-house	21.10	21.10	52.60	47.40	5.30	42.10	5.30	52.60	10.50
	Residents can access	97.80	88.20	97.70	100.00	100.00	100.00	100.00	94.40	100.00
	Need not being met	8.00	63.20	44.40	22.70	0.00	21.10	5.30	22.20	6.30
Total	Offered in-house	14.60	5.60	47.20	51.70	30.30	53.40	24.70	70.50	22.70
	Residents can access	97.80	95.30	97.70	97.70	98.90	97.70	98.90	94.20	100.00
	Need not being met	8.00	42.50	28.00	22.70	2.20	18.40	4.50	14.10	5.10

Region	DEBIs	Legal Services	Transportation	Vocational Assistance	Assistance Finding Employment	Domestic Violence Interventions	Crisis Counseling
Northeast	Offered in-house	45.80	26.10	54.20	37.50	45.80	62.50
	Residents can access	72.70	100.00	95.80	87.50	100.00	95.80
	Need not being met	31.80	13.00	29.20	37.50	8.70	8.30
South	Offered in-house	48.50	11.40	25.70	40.00	26.50	51.40
	Residents can access	72.70	94.10	82.90	82.90	90.90	94.10
	Need not being met	34.40	21.90	51.50	54.30	28.10	20.60
Midwest	Offered in-house	54.50	0.00	36.40	81.80	36.40	81.80
	Residents can access	90.00	100.00	100.00	100.00	100.00	100.00
	Need not being met	20.00	9.10	18.20	27.30	18.20	10.00
West	Offered in-house	21.10	5.30	21.10	36.80	31.60	57.90

Region		DEBIs	Legal Services	Transportation	Vocational Assistance	Assistance Finding Employment	Domestic Violence Interventions	Crisis Counseling
	Residents can access	73.30	100.00	100.00	100.00	100.00	89.50	94.70
	Need not being met	40.00	27.80	22.20	36.80	47.40	33.30	21.10
Total	Offered in-house	42.50	12.50	68.50	29.20	43.80	34.10	59.60
	Residents can access	75.00	97.70	95.50	92.10	89.90	94.30	95.50
	Need not being met	32.90	19.00	23.90	37.90	44.90	22.60	16.10