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Medical and Support Service Utilization in a Medical Program Targeting Marginalized HIV-infected Individuals

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Abstract

Background—One strategy to facilitate HIV health care services utilization is to incorporate support services with medical services. We developed a program that delivers HIV medical care and support services to marginalized people, and evaluated the association between support and medical services utilization.

Methods—We extracted data on 218 newly enrolled program participants 3 months prior to through 6 months after program enrollment, and analyzed associations between support and medical services.

Results—Case management visits (AOR=1.95, 95% CI 1.04–3.67) and group visits (AOR=2.59, 95% CI 1.30–5.16) were associated with greater odds of quarterly medical visits. Outreach visits were associated with greater odds of having a medical visit in a traditional medical setting (AOR=2.31, 95% CI 1.15–4.67).

Conclusion—Case management, support groups, and outreach were associated with HIV medical visits. Further research exploring how integration of support services into HIV medical programs can improve health care delivery is crucial for health policy and program development.

Keywords

HIV; health services utilization; outreach; case management; support groups; support services; vulnerable population

To benefit from recent advances in HIV treatment, people must access and use HIV health care services. Research has consistently shown that marginalized populations have poor access to and utilization of HIV ambulatory health services.^{1–6} Innovative ways to deliver care to marginalized populations such as substance users, the unstably housed, and ethnic/racial minorities have been developed to address disparities in health care. One strategy that programs have used to facilitate access to and utilization of health care services is incorporating support services with health care services.

Case management and mental health care are two types of support services that have been consistently associated with improved HIV ambulatory health care service utilization.^{7–13}

While outreach and support groups are services commonly provided by programs serving HIV-infected individuals, few studies have specifically examined the association of outreach and support groups with use of health care.^{12,14–19}

To address poor health care access and utilization in marginalized individuals in New York City, we developed a unique collaborative health care program that delivers comprehensive HIV medical care and support services to a predominantly minority, substance-using, unstably housed population. The objective of this analysis was to evaluate whether use of support services (case management, outreach, support groups, mental health care) is associated with subsequent use of HIV health services within our health care program.

Methods

We conducted a retrospective cohort study of individuals who were newly enrolled in our Health Services Program from January 1, 2004 to March 31, 2005. We extracted program data three months prior to Program enrollment through six months after Program enrollment, which included medical visits, support services visits, and sociodemographic data. Our analysis focused on the associations between support services and medical services.

Program description

The CitiWide/Montefiore Health Services Program—The Health Services Program is a collaborative program between CitiWide Harm Reduction, a grass-roots community based-organization, and Montefiore Medical Center, an academic medical center. Briefly, the Program provides a variety of medical and non-medical services to HIV-infected individuals living in single room occupancy (SRO) hotels in New York City²⁰ (see Box 1). Single room occupancy hotels are used by city agencies as transient emergency housing for homeless people with symptomatic HIV disease or AIDS. Qualified individuals are entitled to housing from the New York City Human Resources Administration's HIV/AIDS Services Administration, and are placed in one of several SRO hotels or transitional housing settings for a limited amount of time.

The Program provides acute care and comprehensive HIV primary care (including history and physical exams, prescriptions, vaccinations, gynecological care, and referral for specialty care). In addition, patients in the Program receive supportive counseling, accompaniment to appointments, and general health care coordination. Services are provided in three different venues: Montefiore's community health center, CitiWide's drop-in center, and the patient's SRO hotel room. A central goal of the Program is to deliver care to marginalized individuals by providing low-threshold services and reducing barriers to care. However, given the current resource-limiting environment, once individuals are engaged with the Program, they are encouraged to move their care to a traditional health care setting (e.g., local community health center).

Support services at CitiWide—In addition to the Health Services Program, CitiWide has other programs that provide support services that address the target populations' needs (see Box 1). At the time of this analysis, additional programs at CitiWide included outreach at SRO hotels, case management, holistic therapies, educational and support groups, mental health counseling and psychiatric care, peer education and training, syringe exchange, and basic respite care (safe space, nutritious meals, showers, self-care supplies). Once enrolled in CitiWide, individuals can enroll in any or all of the specific programs.

Box 1

Citiwide Services		
Support service program	Location of services	Types of services delivered
Health services	CitiWide	Comprehensive HIV primary care
	SRO hotels	Acute care
	Community health center	Gynecological care
		Vaccinations
		Hepatitis C evaluation and treatment
		Referrals to medical specialty services
		Referrals to non-medical services
Case management	CitiWide	Assessment and referrals for:
		Housing
		Benefits
		Legal
		Education
		Relationships
		Health care
Outreach	SRO hotels	Drug treatment
		Harm reduction education
		Health education
		Harm reduction supplies
		Hygiene supplies
		Referrals for various services
Groups	CitiWide	Arrange transportation
		Men's group
		Women's group
		Hepatitis C group
		Buprenorphine group
		Health education group
Mental health	CitiWide	Latino/a group
		Mental health counseling
Holistic therapy	CitiWide	Pharmacologic treatment
		Auricular acupuncture
Housing	CitiWide	Massage therapy
		Housing seminars
Syringe exchange	CitiWide	Secure stable housing
		Exchange syringes
Peer program	SRO hotels	Structured classes
Peer program	CitiWide	Internship

Case management services occur with a designated case manager who addresses a variety of needs, including health, mental health, housing, substance use, benefits, relationships, education, and legal issues. All case management visits take place at CitiWide's drop-in center. The primary goal of case management is to ensure that all of participants' medical and social needs are addressed.

Outreach to SRO hotels occur daily—in the evenings and day time—and includes the provision of concrete supplies (condoms, personal care and hygiene supplies, emergency food); harm reduction education; syringe exchange; basic medical education, triage, and assessment; and referrals for services within and outside of CitiWide. Unlike case management visits, support groups, and mental health visits, all outreach visits occur at SRO hotels, not at CitiWide's drop-in center. The primary goal of outreach is to engage individuals, inform them of services provided by CitiWide, and provide concrete education and supplies.

Daily support groups occur at CitiWide's drop-in center, and include groups focusing on general health, Hepatitis C, buprenorphine, men's issues, women's issues, and Latino issues. The primary goal of these groups is to provide emotional support and education.

Mental health services occur at CitiWide's drop-in center and include assessment and treatment (pharmacologic and non-pharmacologic treatment) of psychiatric disorders with a clinical social worker and/or psychiatrist.

Program data

Data were extracted from a program database at CitiWide Harm Reduction and from Montefiore Medical Center's Clinical Information System. Individuals who were newly enrolled in the Health Services Program in the 15-month period between January 1, 2004 and March 31, 2005 were included in this analysis. Sociodemographic data extracted from CitiWide's program database included age, gender, Hispanic ethnicity, and annual income. Service utilization data extracted from both CitiWide's database (for support services described above) and Montefiore Medical Center (for services offered at the affiliated health center) included date, location, and type of visit. Visits occurred in three different locations: Montefiore's community health center, CitiWide's drop-in center, and SRO hotel rooms. Types of visits included (a) Health Services Program medical visits, (b) outreach visits, (c) case management visits, (d) group visits, and (e) mental health visits. Because we were interested in examining whether use of support services was associated with initiation of health services, we focused on CitiWide support service visits that occurred during the 3-month period prior to enrollment into the Health Services Program, and medical visits that occurred 6 months after enrollment into the Health Services Program.

Variable construction

Our primary dependent variable for these analyses was use of health services within the Health Services Program. We created two variables measuring health services utilization. The first variable measured whether or not a client had quarterly medical visits, defined as having at least one medical visit at any location in both quarters of the six-month period after enrollment into the Health Services Program. This variable definition is based on national guidelines^{5, 21} and widely used outcomes in HIV health services research that define optimal HIV ambulatory care as two or more medical visits within a six-month period. Our definition is more stringent, as we feel that it is particularly important for marginalized individuals to have consistent care over time. The second variable measured whether or not the client made a visit to the traditional health care setting (Montefiore Medical Center's community health center) during the six-month period after enrollment into the Health Services Program. This outcome is a marker of successful engagement into the health care system.

Independent variables included in analyses were gender (male vs. female), race/ethnicity (Hispanic vs. black vs. other), annual income (<\$10,000 vs. ≥\$10,000), outreach visits in the SRO hotels (0 vs. ≥1), case management visits at CitiWide (0–1 vs. ≥2), group visits at CitiWide (0 vs. ≥1), and mental health visits at CitiWide (0 vs. ≥1). All support visits occurred during the 3-month period prior to enrollment in the Health Services Program.

Analyses

We examined whether use of CitiWide support services (outreach, case management, group, and mental health visits) before enrollment into the Health Services Program was associated with either quarterly use of health services or use of health services in a traditional medical setting. We conducted separate analyses for each of these two outcomes. To examine the associations between each type of support service and each outcome we used chi square tests for bivariate analyses and logistic regression for multivariate analyses. We adjusted for age, gender, and Hispanic ethnicity on multivariate analyses examining each support service type with each outcome.

Results

A total of 218 people were newly enrolled in the Health Services Program between January 2004 and March 2005. Most were male (61.8%), over 40 years of age (61.5%), Black (56.4%) or Hispanic (35.8%), and had an annual income below \$10,000 (80.7%). These patients had a total of 580 medical visits in the six-month period after enrollment into the Program, with a median of one medical visit per person. Sixty-one (28.0%) patients had medical visits in both quarters of the six-month period after enrollment. Forty-five (20.6%) patients had at least one medical visit in a traditional health care setting (see Table 1).

On bivariate analyses, quarterly visits were associated with having more than one case management visit (2 or more vs. 0–1 case management visits = 34.6% vs. 21.6%, $p<.05$) and having at least one group visit (1 or more vs. 0 group visits = 42.3% vs. 23.5%, $p<.05$). Medical visits in a traditional medical setting were associated with race/ethnicity (Hispanic 32.1% vs. Black 14.6% vs. other 11.8%, $p<.05$).

On multivariate analyses, both case management visits (AOR=1.95, 95% CI 1.04–3.67) and group visits (AOR=2.59, 95% CI 1.30–5.16) were associated with greater odds of having quarterly medical visits (see Table 2). Outreach visits were associated with greater odds of having a medical visit in a traditional medical setting (AOR=2.31, 95% CI 1.15–4.67).

Discussion

This study, which examined the relationship between use of support services and use of HIV medical services offered in a unique collaborative program serving marginalized HIV-infected individuals, found that case management and support groups were positively associated with subsequent quarterly medical visits and outreach was positively associated with subsequent medical visits in a traditional health care setting.

Several studies have reported similar findings regarding the relationship between case management and increased use of HIV ambulatory care.^{7–9,11–13,22} Of the two randomized trials of case management, one found that individuals randomized to a case manager after recently testing positive for HIV were more likely to have ambulatory HIV medical visits over 6 and 12 months than those randomized to the control arm who received standard of care.²² The other study that randomized HIV-infected substance users to a case manager versus brief contact found no differences in service utilization between groups.²³ Consistent with many

studies, our study strengthens the notion that the use of case management services is an important element in the care of HIV-infected individuals.

In addition to case management, we found that support groups and outreach were also associated with medical visits. We are aware of only one other study that specifically examined the association between use of support groups and use of HIV health care services. Kang and colleagues found that attending HIV support groups was associated with taking antiretroviral medications among Hispanic drug users.¹⁷ Although support groups are nearly routinely offered in programs serving marginalized populations, it is surprising that the effect of such groups on HIV care has not been explored in more detail. Clearly, additional research is needed.

While outreach has been one strategy to address HIV infection and prevention for many years, few studies have examined the association between outreach and utilization of medical care. One multi-site study of HIV outreach programs revealed that having nine or more outreach contacts over a 3-month period was associated with fewer gaps in medical care.¹⁴ In addition, an evaluation of the addition of physicians to an outreach program targeting HIV-infected individuals demonstrated that after medical outreach was established, more individuals reported having a regular health care provider.²⁴ One outreach program that focused on youth who were HIV-infected or at risk for HIV infection also found that outreach was associated with retention in care.¹⁶ Finally, another outreach/case management program that focused on recently released HIV-infected prisoners found that after 12 months, 98% of ex-offenders in their program remained in medical care.²⁵ Our findings are consistent with these studies.

We were surprised that use of mental health services was not associated with use of medical services. Mental illness is common among HIV-infected individuals,^{26–28} and several studies have demonstrated that mental health services utilization is associated with improved HIV ambulatory health care utilization.^{8,10–12} However, one study examining co-location of mental health services and HIV services found that co-location was not associated with higher utilization rates.²⁹ This last study differed from others in that patients were identified via mental health facilities, rather than HIV medical facilities. It is possible that with severely mentally ill HIV-infected patients simple co-location of services may not suffice. In our study, we did not collect data to measure mental illness severity. It is possible that individuals entering our medical program have severe mental illness and require more intensive services to improve their HIV health care utilization pattern.

Our study is unique in several ways. First, it evaluates a program that was designed to provide care for an exceptionally marginalized population that would not access the traditional health care system without intervention. Thus, support services are even more important for this population than other marginalized groups. Second, our study demonstrates that use of support services is associated with *subsequent* use of ambulatory medical services, indicating that the availability and use of support services may lead to better HIV care for this population. Although there are limitations to reliance on program and health services databases, it is noteworthy that our findings are generally consistent with patterns reported from interview data and health services databases from other studies, strengthening their validity.

We acknowledge that our study has limitations. It is possible that patients in this study received services from other providers or community-based organizations. If so, this information would not be included in our databases, and therefore would not be measured in this study. In addition, we had limited data on individual-level factors that may have confounded observed associations. Although we adjusted for sociodemographic factors in our analyses, we did not include measures of drug use or illness severity in our analyses, which could have affected our findings. Finally, our non-randomized design does not account for the possibility of unmeasured confounding variables, and does not allow one to determine causality. Despite

these limitations, however, findings from this study are important, and may inform further HIV policy and program development for effective engagement and retention in care.

In summary, this study examining the association between support services and HIV ambulatory health services found that case management, support groups, and outreach were associated with subsequent medical visits. Ongoing research exploring how the integration of support services into health care programs for disadvantaged and underserved populations can improve HIV health care delivery and patient outcomes is crucial for both health policy and program development.

Notes

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Table 1
Bivariate Analyses of Having Quarterly Medical Visits and Medical Visits at a Traditional Health Care Setting by Sociodemographic Characteristics and Support Services

Sociodemographic characteristics	Quarterly medical visits N (%)	≥1 medical visit in a traditional health care setting N (%)
Total	61 (28.0)	45 (20.6)
Age		
>40 years	43 (32.1)	26 (19.4)
≤40 years	18 (21.4)	19 (22.6)
Gender		
Male	39 (29.8)	27 (20.6)
Female	19 (23.5)	18 (22.2)
Race/ethnicity		
Hispanic	27 (34.6)	25 (32.1) *
Non-Hispanic Black	29 (23.6)	18 (14.6)
Non-Hispanic other	5 (29.4)	2 (11.8)
Annual income		
<\$10,000	52 (29.6)	35 (19.9)
≥\$10,000	9 (21.4)	10 (23.8)
Support service utilization		
Case management		
≥2 visits	37 (34.6) *	26 (24.3)
0-1 visits	24 (21.6)	19 (17.1)
Outreach		
≥1 visit	26 (29.2)	24 (27.0)
0 visits	35 (27.1)	21 (16.3)
Groups		
≥1 visit	22 (42.3) *	7 (13.5)
0 visits	39 (23.5)	38 (22.9)
Mental health		
≥1 visit	35 (32.7)	26 (24.3)
0 visits	26 (23.4)	19 (17.1)

* p<.05

Table 2
Multivariate Analyses of Having Quarterly Medical Visits and Medical Visits at a Traditional Health Care Setting by Support Services^a

Service type	Quarterly medical visits AOR (95% CI)	≥1 medical visit in a traditional health care setting AOR (95% CI)
Case management	1.95 (1.04–3.67) *	1.74 (.87–3.46)
Outreach	1.11 (.59–2.08)	2.31 (1.15–4.67) *
Groups	2.59 (1.30–5.16) *	.48 (.19–1.17)
Mental health	1.53 (.82–2.83)	1.62 (.82–3.21)

^aEach analysis is adjusted for age, gender, and ethnicity.

*
p<.05