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Services Provided by a Homeless Intervention: Policy and Planning Implications

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Despite the acknowledged need for effective programs to serve persons who are homeless and mentally ill, few evaluations of these programs provide quantitative details on service provision. Such information can be useful to planners for replication and also for public policy concerning the need to mandate services most in demand. This report on a successful outreach intervention reports information on service amounts, duration, and types, as well as identifying predictors of service use. The overall amount of service provided to eligible participants varied substantially. While the median duration was only three months, repeat service episodes were common. For most clients, homeless project intervention included a variety of types of activities; most prevalent were housing, case management, mental health interventions and service entry, including engagement and assessment. Skill-building activities were relatively infrequent. Results from a cluster analysis, used to group clients based on patterns of services received, showed that groupings followed a focus on either: mental health, case management, housing, or a low overall level of total services. Surprisingly, no individual client descriptors or demographics related to cluster membership; only project site and recruitment source were significant predictors. The discussion suggests implications of these findings for other projects and sites and brings into question whether or not service participation and receipt by individuals who are homeless and mentally ill reflect characteristics of clients or of systems available to serve them.
Introduction

Given the prevalence of mental illness among homeless populations (Dennis, Buckner, Lipton & Levine, 1991; Fischer, et al., 1992), it is not surprising that calls for improved, innovative service models are increasingly voiced (Federal Task Force, 1992; Levine and Rog, 1990). However, while there is agreement on the need to provide mental health treatment in a supportive climate that also addresses basic needs, there is less understanding of how this should be done (Barrow et al., 1991). While several investigators have reported on the types of services clients say they want (Schutt, 1992; Mulkern & Bradley, 1986), how well this relates to actual service use is not known. Unfortunately, evaluation reports on many demonstration programs often fail to report service activities in sufficient detail for replication purposes (Chen, 1990) or for policy-making applications vis á vis standards for program operations.

Examination of service data through process evaluation can also address questions concerning predictors of type/amount of service use. Such information can be helpful in planning replications, in order to adjust service provision to the characteristics of the target recipient group and/or delivery system. Given the acknowledged heterogeneity of homeless populations within and across geographical areas (Bachrach, 1992), such predictions of service use should be considered critical. More so than others, with homeless populations, service prediction information is even more necessary, due to the frequent allegation that individuals refuse to accept services they need (Blankertz, Cnaan & Saunders, 1992). Thus, information which allows service planners and deliverers to examine client-level predictors of low service use may be helpful in improving interventions.

This article reports information on the types, amounts and duration of services provided to individuals who are homeless and mentally ill, as part of a two-site, federally-funded, service demonstration project. Other reports have presented positive evaluation outcomes for this project (see Bybee, Mowbray, & Cohen, 1994, 1995). Analyses are presented here on predictors of service use, relating client and setting characteristics. The results are intended to contribute to policy development, concerning service standards for homeless interventions. That is, by identifying service patterns and how they reflect client and setting
characteristics, policymakers may be more able to set appropriate minimums for service levels, while allowing local discretion above this threshold. The results reported can also be useful for planners to help assess the likely type, extent, and duration of services required by persons who are homeless and mentally ill, and how these may differ according to local conditions.

**Background**

**Program Description.** The Mental Health Linkage intervention model (Mowbray et al., 1992) was the basis for a research demonstration project, funded by the National Institute of Mental Health, and operated in Factorytown and Collegetown. In both sites, a team of mental health workers (4 to 5 FTE's) provided outreach to persons who were mentally ill and homeless or potentially homeless. Once deemed eligible for services, clients were approached by project staff to provide help; complete assessments of functioning, housing preferences, and support needs; and negotiate a plan of housing and services. These contacts and subsequent services were provided by the project staff in a variety of settings which might include the referral site, but could also include the street, temporary residence, the homeless project offices, or other places in the community (e.g., prospective apartment sites, Department of Social Services, CMH agencies, etc.). Clients were offered a variety of services in vivo: assistance in obtaining temporary or permanent housing in independent settings (that closely matched the client's needs and preferences); help in establishing income supports, including payee services; training or rehabilitation in daily living and interpersonal/social skills which might increase their ability to live independently; mental health clinical services; and short-term intensive case management. Once clients receiving project services were stabilized in their community functioning, the goal was to then integrate individuals within ongoing service systems. Based upon their consent, clients were referred from the project to community mental health (non-project) therapists and/or case managers. Project staff assisted clients in this transition, to try and make the referral “stick”, and thus discontinue clients’ homeless project involvement. However, clients could be re-referred to the project or could themselves request further services at any time.
Because the project placed a major emphasis on housing needs, staff resources were also utilized in locating and accessing independent housing sites and working with landlords to maintain housing opportunities. At the Factorytown site, the project operated a Transitional Boarding House (TBH), which was minimally staffed, to provide a temporary independent living setting. Such a residence would also have been desirable in Collegetown, but was unaffordable due to high rental costs.

Program Results. An implementation analysis conducted on the project indicated that in its fully operational period, it was serving the intended population by site and by referral source (Mowbray, Cohen & Bybee, 1991). The project achieved a relatively high success rate in engaging clients screened eligible for services, in that 73% overall accepted some form of project assistance (Mowbray, Cohen, & Bybee, 1993). This compares favorably to other reports in the literature (Barrow et al., 1989; Rife et al., 1991). The intervention was judged successful in that 87% of participants were provided with and accepted a permanent-type residence in the community over a 12-month period following initiation of project services, in contrast to their unhoused status at project entry. Furthermore, receipt of project services was found to relate significantly to positive residential outcomes at a 12 month follow-up (Bybee, Mowbray, & Cohen, 1994, 1995).1

Method

Sites

Factorytown was characterized by several large manufacturing firms, recent waves of plant closings, and high unemployment rates. Affordable housing was plentiful but often deteriorated or located in high crime or drug use areas. The second site, Collegetown, offered more acceptable but less affordable housing, reflecting the impact of two local universities and a disproportionately large white collar/professional population. Both communities had comprehensive, county-based community mental health (CMH) service boards that prioritized services to seriously mentally ill adults. These two CMH Boards operated the demonstrations. Each site employed a local service coordinator and staff for the project (7 part-time staff at Factorytown and 4 FTE's at Collegetown).
Sample

Each site recruited participants from three sources: homeless shelters, hospitals serving public mental health inpatients, and the existing community mental health (CMH) caseloads of aftercare clients. Once recruited, participants were screened (based on contact with the person and/or information from records, agency staff, etc.) and considered eligible if they presented serious mental illness, county residency, extreme residential instability (3 or more moves in the last year), were without housing or about to lose existing living arrangements, and if their next housing had not been determined. This definition is congruent with eligibility rules for homeless program services issued by the U.S. Department of Housing and Urban Development (National Resource Center, 1993). At project entry, all participants were either literally homeless, about to lose housing, or hospitalized with no suitable housing available upon discharge. Serious mental illness was defined as a diagnosis of psychotic, major mood, or severe personality disorder, coupled with multiple admissions to inpatient or community acute care settings within the last year.\(^2\)

All individuals accepting some help between 10/1/89 and 12/31/90 were included in this study. Of these 163 participants, 60.7% were from Factorytown and 39.3% from Collegetown. About equal numbers of the 163 were recruited from hospital psychiatric inpatient units (36.2%) and the CMH caseload (38.7%), with somewhat fewer recruited from shelters (25.2%) (Although it should be noted that individuals found at the shelter who were on the CMH caseload were assigned to the latter recruitment source.) The study participants were relatively young (mean age = 37.5, SD = 11.0), majority male (57.1%) and white (58.9%), with a substantial number (28.8%) identified at entry as having substance abuse problems.

Results from a cluster analysis carried out on this population (Mowbray, Bybee, & Cohen; 1993), indicated that about 36% could be characterized as depressed; half of these also had a substance abuse problem. Another 28% were labeled as “Functioning”, having fewer prior psychiatric hospitalizations and better current adjustment. The final and largest subgroup (35%) exhibited high levels of aggression and psychoticism.
Data collection

Measures of amount, type, and timing of Homeless Project service provision for all clients over the approximately 15-month period (from three months prior to eligibility determination to 12 months after the date on which he/she first accepted help in the community) were included in the management information systems maintained by the Community Mental Health agencies at the two sites. Both systems utilized daily self-report activity sheets routinely required of all agency staff. The project director and the second author provided initial training and ongoing monitoring to Homeless Project staff in order to optimize consistency of activity recording across sites.

Data were also available for analysis from comprehensive assessments of client functioning completed initially by outreach workers (using the Client Level Assessment Measure; Hazel, Herman & Mowbray, 1991); from residential history data obtained by trained research assistants; through interviews and record reviews of community mental agencies, psychiatric hospitals, and shelters; and from mental health service utilization data, obtained from agency management information systems. (For a complete description, see Cohen, Mowbray, Bybee, Yeich, 1993; Mowbray, et al., 1993.)

Results

Of the total 163 individuals who received project help, 114 fully enrolled in the project (participating in assessments and accepting a wide range of assistance); the remaining 49 declined to participate in assessments but accepted varying degrees of project assistance. Both groups were included in the following analyses.

Amount and type of services provided by homeless project staff

The median total amount of contact was 14.5 hours (Mean = 25.0, S.D. = 26.9) with a highly skewed distribution. Nearly 40% received ten or fewer hours, and the remaining received up to 141 hours of contact. Analysis of the total number of months with contacts (calibrated from the date of first help accepted in the community) indicated a median of 3 months, with 75% of participants' contacts lasting less than 6 months. Nearly all participants (86%) had only one or two episodes of service during the
12-month follow-up period (e.g., periods of service separated by at least one 30-day period with no in-person contacts). However, intervention patterns showed substantial variability, with about a quarter of the participants being served in one episode lasting less than a month, another 30% served in a longer single episode (two to twelve months duration), about 30% served in two episodes (up to twelve months duration), and another 14% served in three or four separate episodes.

Table 1 displays information on the types of services clients received. Contacts were categorized as: 1) identification and eligibility screening, usually involving shelter, hospital or other agency staff or record reviews; 2) service entry: once clients were identified as eligible, they were approached and attempts made to engage them in service; this included assessment of client needs and housing preferences; 3) case planning included activities pursued with or on behalf of specific clients, e.g., at team meetings (clients were not necessarily present for these contacts). Direct services were provided with clients present and involved: 4) housing contacts, locating housing options, going out with clients to view these, making arrangements to obtain the housing, and moving; 5) mental health interventions included counseling, provision of emotional support, and crisis intervention; 6) skill building included guidance, practice, or role modeling activities of daily living (such as grooming, housekeeping, cooking, etc.) and community living skills (such as accessing public transportation, setting up a checking account, going shopping); and 7) case management included initiatives to secure entitlements, obtain CMH services (like medications, day program or vocational access) or non-CMH services (such as substance abuse counseling or medical treatments), and arranging for payee services. These groupings roughly paralleled the expected client service activities and definitions provided by the NIMH funding source.

For most clients, intervention from the Homeless Project included a variety of types of activities. For nearly half the clients, no identification or screening activity was recorded; this varied by site and by recruitment source. In contrast, considerable time was spent on service entry, reflecting the emphasis on assessing individual client needs and preferences for specific types of housing. As might be expected, housing activities were frequent
Table 1

*Homeless Project Service Activities*  (N = 163 in follow-up cohort)

<table>
<thead>
<tr>
<th>Service Activity</th>
<th># Getting any</th>
<th>Raw # Hours$^a$</th>
<th>Proportion of Total Effort$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Identification/</td>
<td>83</td>
<td>1.5</td>
<td>1.75</td>
</tr>
<tr>
<td>eligibility screening$^b$</td>
<td>137</td>
<td>4</td>
<td>6.14</td>
</tr>
<tr>
<td>Service entry$^b$</td>
<td>135</td>
<td>2.5</td>
<td>4.34</td>
</tr>
<tr>
<td>Case planning$^b$</td>
<td>126</td>
<td>6</td>
<td>9.78</td>
</tr>
<tr>
<td>Housing$^c$</td>
<td>126</td>
<td>4</td>
<td>7.62</td>
</tr>
<tr>
<td>Case management$^c$</td>
<td>100</td>
<td>2.38</td>
<td>5.18</td>
</tr>
<tr>
<td>Mental health intervention$^c$</td>
<td>69</td>
<td>2.75</td>
<td>5.83</td>
</tr>
<tr>
<td>Skill building$^c$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Summary statistics reflect only those clients who received any of the specified type of service.

$^b$ Hours include all staff time spent in these types of activities with or on behalf of a particular client; clients were not necessarily present for these activities.

$^c$ Hours include all contacts of the specified types in which the client was involved (in-person and telephone).
and provided to nearly all clients. In other direct client service areas, great variation was apparent; after housing, case management involved the most time, followed by mental health interventions. Skill building activities were relatively rare, not reported at all for 60% of the clients, and consuming 10 or fewer hours for another 32%.

Clusters of service types received

Cluster analysis was used to group clients on the patterns of services they received from the Homeless Project. Individuals’ scores on four variables—number of hours of direct service in housing, case management, mental health intervention, and skill building—were used to derive clusters in a hierarchical agglomerative analysis, using average linkage criteria for assignment of cases to clusters. Pearson correlation coefficients were used to define distances between cases, in order to avoid confusing total amount of service with relative proportions of different types of services received. The number of clusters was determined by an inspection of the plot of fusion coefficients and a review of the meaningfulness of the clusters.

Examination of mean differences between the four clusters suggested their labels.\(^4\) Clients in the Mental Health Focus Cluster received, on average, more than four times as many hours of mental health intervention as those in other clusters, coupled with moderate levels of other types of service. Those in the Case Management Focus Cluster received nearly four times as much case management service as those in other clusters, plus low levels of mental health and moderate levels of housing service. Individuals in this cluster received significantly more of three types of case management services: arranging entitlements and obtaining both mental health and non-mental health services. Clients in the Housing Focus Cluster received more than twice as much housing service, coupled with low levels of mental health and moderate levels of case management service. The Low Total Service Cluster received the lowest levels of mental health, case management, and housing service but somewhat higher levels of skill development. They received significantly fewer total hours of service and were in contact with project staff over fewer total months; they also received less assessment than those in the Mental Health and
Table 2

*Multinomial Logistic Regression Predicting Service Cluster*  \( N = 163 \)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Global Wald Test</th>
<th>Mental Health Intervention Focus</th>
<th>Case Management Focus</th>
<th>Housing Focus</th>
<th>Low Total Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Site (Factorytown)</td>
<td>10.99***</td>
<td>-0.28</td>
<td>0.17</td>
<td>0.17</td>
<td>-0.05</td>
</tr>
<tr>
<td>Recruitment Source</td>
<td>8.93**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter vs. Hospital</td>
<td>5.47*</td>
<td>0.26</td>
<td>0.13</td>
<td>-0.43</td>
<td>0.04</td>
</tr>
<tr>
<td>CMH vs. Hospital</td>
<td>8.62**</td>
<td>0.26</td>
<td>-0.10</td>
<td>-0.06</td>
<td>-0.11</td>
</tr>
<tr>
<td>Prediction Success Index</td>
<td>.21</td>
<td>.08</td>
<td>.11</td>
<td>.02</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* McFadden's \( R^2 = .15 \).

* \( p < .05 \).  \( ** \ p < .01 \).  \( *** \ p < .001 \).
Case Management clusters. Only 56% of the individuals in this cluster fully enrolled in project services; the other 44% declined to participate in assessments and accepted only limited help. This differed significantly from the other three clusters, in which 75% to 80% were fully enrolled ($\chi^2_{(3, N=163)} = 9.00, p < .03$).

Covariates of service cluster membership

Multinomial logistic regression was used to identify covariates of membership in the four service clusters. As can be seen in Table 2, project site and recruitment source were significant predictors of cluster membership, although the magnitude of the relationship was small (McFadden's $\rho^2 = .15$). The prediction success indices at the bottom of the table show that knowledge of project site and recruitment source led to the greatest improvement in prediction of Mental Health cluster membership; no improvement was seen in predicting membership in the Low Total Service cluster.

The regression results indicate that, compared with the Collegetown site, more individuals at the Factortown site were found in the Case Management and Housing clusters and fewer in the Mental Health cluster. At both sites, those recruited from shelters or CMH caseloads (in contrast to those from inpatient psychiatric facilities) were more likely to receive mental health focused intervention. Individuals recruited in shelters were also somewhat more likely to receive case management and much less likely to receive housing interventions. Those recruited through CMH vs. psychiatric hospitals were somewhat less likely to receive low total service. These effects did not significantly differ by site.

Among those variables not found to covary with service-type cluster were demographics, functioning at intake, diagnosis, and most descriptors of residential history. Only measures of pre-project shelter use and pre-project CMH service receipt (both of which were highly redundant with recruitment source) showed significant relationships with cluster membership. Although substance abusers received significantly more hours of service than those without substance abuse problems, they did not disproportionately constitute any of the four service clusters. Differences on specific service activities were not significant at Bonferroni-
adjusted probability levels, but it appeared that individuals with substance abuse problems received more hours of contact across all types of service: they received, on average, more than one additional hour of mental health intervention, about two hours more of both housing services and skill building intervention, and over three hours more of both assessment and case management service.

Discussion

Descriptive data on service amounts

The results concerning service duration were as expected for our short-term, intensive, linkage-type model: most participants had contact with the project for five months or less. The pattern of repetitive service utilization found, however, indicated that about half of participants had recurring needs. For planning purposes, these results suggest that in serving persons who are homeless and mentally ill, providers will need to allow clients to flexibly enter, exit, and re-enter project services. We also found that amounts of project services showed substantial variation in total hours of contact. The acknowledged heterogeneity in the characteristics of the target population also appear evident in their service use. Similar to other programs serving persons who are homeless and severely mentally ill, of concern is a subgroup characterized by extremely low levels of service use (Rosenheck & Gallup, 1991). That is, we found that about 36% of participants were in a low service-use cluster. Since this cluster was not distinguished in terms of client characteristics, we have no reason to believe that low service use reflected low service need.

Our descriptive data on types of services found, as expected, high levels of service activity in the areas of housing, case management and case planning—all previously identified as necessary to serve homeless persons with a mental illness (Bachrach, 1992; Barrow et al., 1989). We also found a relatively high proportion of time associated with service entry activities, congruent with our emphasis on involving clients in planning and addressing client preferences. Interestingly, what did not take much time was skill-building activities. Service plans, based on assessment data, indicated that, for the most part, HMI participants already
possessed necessary skills; what they needed were opportunities to apply them through environmental changes.

Predictors of service use analyses

A surprising result from the present study was that the predominant type of service (cluster) for participants had no relationships with any variables reflecting client demographics or other client variables. The only predictors of service type cluster were county site and referral source. The Collegetown site had a significantly greater proportion of clients in the Mental Health Intervention cluster. This is congruent with other results from this project, wherein more of the staff at this site had mental health training or experience and reported utilizing interventions more focused on personal relationships than on control mechanisms, disconnecting strategies, or rule orientations (see Mowbray, Thrasher, Cohen, & Bybee; 1996).

Concerning referral source, clients recruited from shelters or CMH were more likely to be in the Mental Health Focus cluster than those recruited from hospital inpatient sources; those from hospitals, compared to shelter-recruited clients, were more likely to be in the Housing Focus cluster. While perhaps at first counter-intuitive, this finding makes more sense when interpreted in the context of the treatment provided to these clients in their recruitment setting. Hospitalized clients should be receiving intensive psychiatric services, thus rendering the delivery of mental health services unnecessary or redundant by project staff. The results imply that hospitalized clients in the homeless project had not received much attention from the inpatient staff on their housing needs post-discharge. Thus, this was the area which required the attention of the project staff. Indeed, the implementation analysis on the project (Mowbray, et al.; 1991) indicated that hospital staff typically advocated that clients go to dependent care placements, rather than independent settings, which most consumers prefer and on which this project concentrated (Yeich et al., 1994). Implementation analysis also identified barriers to engaging eligible clients in the hospital, caused by negative hospital staff attitudes towards supported independent living arrangements. The somewhat greater representation of hospital versus CMH clients in the low service cluster from the current study may reflect this; that is,
clients used the project to get out of the hospital, but then didn’t follow through post-discharge. Scanlan and Brickner (1992) have noted that in delivery of health services, staff attitudes towards homeless patients in hospitals may oftentimes compromise the quality of patient care delivery.

In contrast, it seems likely that clients recruited from shelters received proportionately more mental health- and case management-focused interventions because the shelter staff, as opposed to hospital staff, provided few of these services; project staff were the only mental health professionals with which many shelter clients had contact. Those recruited from CMH were also disproportionately in the Mental Health cluster (compared to those from the hospital). This may reflect the fact that their referral to the project was oftentimes due to an impending or actual housing crisis and that therefore they were more likely to need mental health services from the project to promote stabilization. It may also indicate that CMH-recruited clients requested or were more willing to accept mental health services.

The significant effects of recruitment source and service type cluster relate to the question of whether service receipt by individuals who are homeless and mentally ill reflects client characteristics or system characteristics. Scanlan and Brickner (1992) have commented that provider attitudes, the locus of care, and delivery system characteristics all affect health care for homeless persons. Calsyn and Morse (1991) suggest the need for more research to determine whether chronic homelessness is better predicted by individual-difference variables (such as social support, substance abuse, psychiatric pathology, demographics, or SES) or by societal level variables (such as entitlement levels, service availability, employment levels, or housing costs). A previous analysis of this intervention project found that engagement rates related more to referral source than to client characteristics (Mowbray, et al.; 1993). This suggested that findings from other studies relating client characteristics to engagement (such as being young, male, minority status, substance abusing, etc.) might be explained more in terms of the success of the connections a given program establishes with homeless referral sources, rather than differential client responses to offers of service; that is, if a program has a difficult relationship with the local shelter which serves young,
male substance abusers, it may be unlikely that these kinds of individuals will be successfully engaged in project services. If contextual variables (e.g., referral source) are not examined, analyses may incompletely conclude that client characteristics determine engagement success.

The current analysis also suggests strong contextual effects. Types and amounts of project services related more to the settings from which clients were drawn than to characteristics of the clients themselves. These results may be interpreted as the project concentrating its services in those areas where settings were deficient. It may also reflect the fact that settings can subsume client characteristics. That is, certain types of clients are more likely to be found in certain settings; however, if the variables reflecting these client differences were not included in our data collection (such as treatment motivation, service venue preferences, etc.), we cannot differentiate between setting effects and effects due to client characteristics. Thus, based on our experiences, we would recommend that future research investigations need to include contextual and a wide array of individual characteristic variables to select among competing hypotheses about service processes and outcomes and to optimize the number and appropriateness of clients served by homeless demonstration projects.

From a public policy perspective, the implication is that not only should local service providers assess client characteristics and needs, they should place equal attention on the service provision environment; that is, the existing relationships with homeless and housing providers, the strengths and deficits, and the overall resources available to clients who are homeless and mentally ill. Since such assessments are likely to vary substantially from one locality to another, state or federal funding mandates for specific levels of service provision seem unwise; rather, there should be requirements for service provision plans to follow from comprehensive assessments. Finally, we need to be concerned about the percentage of eligible clients who are very minimally served. These individuals may require more resources for engagement than the project could invest. Or, they may represent social structural problems that this micro-level intervention cannot address. For instance, the fact that safe and affordable housing simply does not exist in sufficient quantity for all who need it; or that some
human service agencies themselves compound the problem of homeless individuals by refusing services to those who are "difficult" or residentially unstable, or discharging them to unwanted placements. As others have noted, such systemic problems deserve as much if not more public attention than efforts to "fix" their casualties.

References


Notes

1. Under the extreme assumption that all individuals who could not be located at the follow-up point (that is, 17%) were homeless, it can still be asserted that at least 71% of the entire group were not homeless at 12 months.
2. Clinical diagnoses determined by psychiatric staff, based on hospital or CMH assessment protocols, were used to determine psychiatric eligibility for individuals referred from inpatient and CMH settings. For those recruited from shelter settings, historical diagnoses from CMH records were used, where available, supplemented by observational ratings developed in earlier research and found to produce reliable discrimination of mentally ill individuals when used by shelter staff trained on videotaped vignettes (Cohen, 1988). Diagnoses for individuals recruited from shelter settings were later verified through formal CMH intake assessments.

3. Attrition from the interview data collection portion of this study was relatively minor (17% of participants could not be located at 12 months) and has been reported in detail elsewhere (Bybee, Mowbray, & Cohen, 1994; 1995). While the current report utilizes management information system data which was theoretically available on all project clients and could therefore be considered comprehensive, it is plausible that some of the nonlocatable participants were receiving homeless services elsewhere. However, this percentage should be small (and would not exceed the 17% attrition rate).

4. Due to the positive skew observed on most service descriptor variables, all subgroup comparisons were examined with both parametric (ANOVA) and nonparametric (Kruskal-Wallis ANOVA on ranks) statistics. In all cases, results converged. For ease of interpretation and consistency with multivariate analyses, only the parametric results are presented here.

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